RICHARD CROOKES
CONSTRUCTIONS

SMALLS ROAD PUBLIC SCHOOL RYDE
NO:1144

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

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1 Introduction

1.1 Project Overview

The Project consists of the construction of a new Primary School for School Infrastructure NSW, of which RCC is the principal contractor

The project is located at 3 Smalls Rd Ryde. The site is surrounded by residential dwellings, and is neighboured by Smalls Park and a Cerebral Palsy Support & NDIS service providers.

Access to site is off Smalls Rd

The works are the design and construction of a new Primary School. The School is to be constructed from reinforced Concrete, masonry, Steel and CFC Cladding. The steel structure is a portal frame which is clad with CFC, roof and ceiling linings. Below the CFC cladding is masonry construction. The building is 2 levels tall with the exception of various sections that are below the natural ground level.

Design & Construction of a new public school at Smalls Road Ryde for 1000 students including but not limited to:

- Complete all design elements required for a fit for purpose building which conforms to the intent of the Principal's documents.
- Construction of a new school which complies with the Educational Facilities and Guidelines (EFSG) and includes:
    - 43 learning spaces
    - Ancillary/Support Spaces
    - Hall
    - Library
    - Administration & Staff Spaces

The works are to be carried out within the operating hours of 7am to 6pm Monday – Friday, and 8am to 1pm Saturday.

The works are planned for a 13 week design period and 64 week construction period. All being 64 weeks in total.

Contract type GC21 Milestones No 1

24 Hour Site Contact – Richard Crookes Site Manager – Andrew Lindop 0401582847

1.2 CEMP Objectives

This document is considered to be an operational CEMP which provides the framework necessary to implement the required management measures associated with the proposed excavation and construction works. Once implemented the objective of the management measures will be to ensure that the excavation of materials present at the site can be carried out without significant adverse impact on the environment or the health of the site workers and neighbouring residence. The management and monitoring aspects and Principal Contractor responsibilities covered in this CEMP include air quality, sediments, surface water, waste, noise, vibration, traffic, site security and emergencies.

RCC notes that this CEMP will focus on mitigating and managing environmental and human health issues associated with the excavation works proposed at the site. The appointed Civil Works Contractor will provide task specific (i.e. operational hours, noise mitigation, traffic control, environmental management, erosion sediment control plan) measures for the proposed construction works.

The primary objective of the CEMP is to provide a management framework to mitigate potential environmental and human health risks associated with excavation and early construction works. The objectives can be summarised as follows:

- Prevent, reduce and effectively manage potential impacts to the environment resulting from excavation works, material handling and associated spoil disposal;
- Ensure that environmental management is undertaken in accordance with relevant legislative and policy requirements;
- To ensure the Site is suitable for the proposed landuse, in reference to contamination; and
- Promote environmental awareness amongst employees and contractors.

1.3 Reports Relied Upon in Preparing this EMP

The CEMP framework provided in this document has relied upon information provided in the following reports;

- Demolition/Refurbishment Hazardous Material Risk Assessment (Greencap) :Ref C107471 : J154351
- Soil Contamination Investigation (Greencap) : Ref J146932-01
- Geotechnical Investigation (JK Geotechnics) : Ref 30275LBrpt
- Hazardous Materials Risk Assessment (Greencap) : C120920 : J146932-02
- Tree Hazard Assessment Report (Urban Arbor) : Rev 1 18.1.2017
- Arboricultural Impact Assessment Report (Priority Tree Services) : 17/08/11/3BSRR
- Noise impact report Rev 1(TTM) : Ref Smalls Road Ryde
- Architectural Drawings of the proposed development prepared by Projects Design Team.

2 Roles and Responsibilities

The following sections set out the organisational structure for the project:

2.1 Project Organisational Structure

All personnel including the Consultants, Contractors, Subcontractors and all other personnel associated with undertaking excavation and construction works on the project at 3 Smalls Road, Ryde, ultimately report to the Principal Contractor.

The Principal Contractor will be responsible for implementing this CEMP. This will specifically involve monitoring the environmental performance of the works and ongoing compliance with legislative requirements, this CEMP, and all other associated environmental management documentation, development of a construction management plan (CMP), operational and post-construction monitoring and reporting.

2.2 Parties and Responsibilities

The parties involved with, and their responsibilities during, the environmental management of the works are provided in Table 1.

Table 1: Project Parties and Responsibilities

Party	Responsibilities	Reports to
The Principal Contractor ***Richard Crookes Constructions***	- Ensure all works are implemented in accordance with the CEMP. - Promote awareness of appropriate environmental management and occupation health and safety (OHS) practices to the Project Manager. - Ensure the Project Manager is aware of the CEMP and site specific issues. - Review risks and identify potential opportunities and issues with the project. - Monitor and inspect activities for compliance with relevant environmental requirements, including ensuring suitable management plans have been submitted and approved prior to undertaking works. - Ensure environmental incidents and non-compliances are reported promptly and investigated. - Undertake environmental audits on the project at a frequency deemed appropriate to the length of the project. - Periodically review the performance of the Project Manager in meeting the objectives of their CEMP via regular audits. The audits will review the Project Manager's activities to ensure that environmental hazards have the appropriate mitigation controls in place. Improvement requests and non-compliances will be monitored and corrective action undertaken. - Maintain an environmental audit register to record close out of any actions issued.	The Contract Administrator/Project Manager (Coffey as a Representative of NSW Government)

The Clients/Developers Project Manager contract administrator ***Coffey***	- The Project Manager is appointed by the Client (NSW Government) as a primary contact overseeing the day to day operations at the Site. - Primary contact for all personnel in relation to site works and environmental management. - Review risks and identify potential opportunities and issues with the project. - Monitor and inspect activities for compliance with relevant environmental requirements, including ensuring suitable management plans have been submitted and approved prior to undertaking works. - Ensure environmental incidents and non-compliances are reported promptly and investigated.	The NSW Government
Environmental Specialist / Engineer ***Environmental Strategies***	- Comply with this CEMP. - Provide advice where required to the Principal Contractor in relation to environmental issues associated with the works, if requested. - Responsible for implementing this CEMP and all required environmental controls. - Undertake onsite and offsite air monitoring. - Conduct environmental incident investigations, if requested by the Project Manager. - Demonstrate an understanding and management of the potential environmental impacts associated with the project. - Review risks and identify potential opportunities and issues with the project. - Ensure all Subcontractors under their control are appropriately informed of the relevant components of environmental management documentation. - Report all environmental incidents, hazards, non-compliances and near misses to the Project Manager immediately. - Implement corrective action responses to environmental incidents and non-compliances in consultation with the Project Manager. - Provide a validation report at the end of the project for review of the Site Auditor.	The Principal Contractor
Sub-Contractors	- Implement and comply with relevant components of this CEMP. - Report all environmental incidents, hazards, non-compliances and near misses to the Principal Contractor immediately. - Implement corrective action responses to environmental incidents and non-compliances as required by the Contractor.	The Principal Contractor

3 Implementation of CEMP

3.1 Site Inductions and Training

All personnel including the Principal Contractors staff and subcontractors who will be working on the project or will require regular access to the sites will be required to undertake training and site inductions including environmental requirements as required by the Principal Contractor. All personnel should demonstrate an understanding of potential environmental issues and the measures that will be implemented to protect the environment and local community, as detailed in this document.

3.2 CEMP Induction

The CEMP awareness induction will cover:

1 Outlining the objective and purpose of the works; and

2 Contents of the CEMP and their (the workers) responsibility.

All site workers will sign the CEMP induction register acknowledging receipt and understanding of this CEMP. All induction sessions will be recorded in the induction register.

In addition to this, the civil contractor managing the works will provide their own Construction Management Plan (CMP), which will be adhered to for the duration of the works.

3.3 Daily Toolbox Meetings

The Principal Contractor will also conduct daily toolbox meetings with all personnel to review management procedures and identify / discuss daily site conditions and potential hazards. Site inductions and toolbox talks will highlight specific environmental requirements and activities being undertaken at the worksite each day.

A record of issues covered in daily toolbox meetings should be maintained for future audit.

3.4 Personal Protective Equipment

All site personnel will be provided with, utilise, and be appropriately trained in the requirements of personal protective equipment (PPE). PPE requirements will depend on the activity or situation, but may include the following:

- High visibility clothing;
- Protective clothing and footwear;
- Eye protection;
- Respirable (half-face) masks as required;
- Hard hat as required (i.e. in the vicinity of the working excavator or other overhead plant); and
- Sun protection as required (long sleeves, sunscreen, hat or hard hat fitted with wide brimmed sun protection).

Personnel will be trained in the requirements and use of PPE to an appropriate level according to responsibilities.

PPE requirements should be detailed in the Safe Work Method Statements (or similar) which will be provided to the Principal Contractor for review and endorsement. Additional PPE will be required to carry out some aspects of the construction process and the PPE outline above should only be considered as the basic requirements. Additional PPE will be required if works are to be conducted in asbestos work environs.

3.5 Responsibility and Reporting

The Principal Contractor is responsible for ensuring that all personnel under their jurisdiction have been provided with adequate training in the areas outlined in this document.

The Principal Contractor will maintain records of all personnel who have undergone training in relation to the CEMP and general environmental responsibilities. Records of trained personnel will be maintained in a log to be kept on site. A record of issues covered in daily toolbox meetings should be maintained.

The Principal Contractor will ensure that anyone who appears to lack an understanding in the above areas undergoes adequate retraining.

4 Legislation

The following is a summary of statutory requirements to be satisfied by RCC. Table 2 includes the required permits, licenses and consents under the relevant acts, regulation or policy.

Table 2: Summary of Acts, Regulations and Guidelines Applicable to Project

Act/ Regulation / Planning Policy	Key Project Requirements	Jurisdiction
Protection of the Environment Operations Act 1997 (POEO Act) and Regulations	Undertake all activities so as to minimise harm to the environment (in particular pollution of air and water and noise emissions) and not cause an offence under the Act. Discharge to stormwater may require a license under the Act. Some transporters of waste are required to be licensed under the Act. Some waste disposal/processing facilities are required to be licensed under the Act.	State
Protection of the Environment Operations (Waste) Regulation 2014	Requirements in relation to transportation, collection, storage or disposal of waste including asbestos waste.	State
Protection of the Environment Operations (Clean Air) Regulation 2010	Requirements in relation to emission from vehicles and general obligations that the occupiers of non-residential premises do not cause air pollution by failing to operate or maintain plant, carry out work or deal with materials in a proper and efficient manner.	State
Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2014	Requirement for the removal / in-situ abandonment of Underground Storage Tanks.	State
Environmental Protection and Biodiversity Conservation Act 1999	Requirements in relation to protection and management of nationally and internationally important flora, fauna, ecological communities and heritage places.	Commonwealth
Work Health and Safety Act 2011	Requirements in relation to ensure work safety that are enforceable by law.	Commonwealth
Roads and Rail Transport (Dangerous Goods) Act 1997	Transport of waste classified as Dangerous Goods in accordance with Regulations	State

Roads and Rail Transport (Dangerous Goods) (Road) Act 1997		
NSW EPA Asbestos and Waste Tyres Guidelines (2015).	Outlines the legal requirements that consignors, transporters, and occupiers of premises must meet in addition to their obligations under the Waste Regulation.	State
The Waste Avoidance and Resource Recovery Act 2001	Minimise the amount of waste for disposal, where possible recycle	State
Environmental Planning and Assessment Act 1979	Compliance with Development Consent Conditions issued by Consent Authority (Cumberland Council) to manage effects on the environment.	State
Sydney Water Act (NSW) 1994	Written agreement of Sydney Water is to be obtained if discharge of certain substances to sewer is required. Approval required for any works that will affect Sydney Water's sewer, water mains, stormwater and or easements.	State
NSW ASMAC Acid Sulfate Soil Manual (August 1998)	Outline a stepwise process for site assessment and management of proposals in areas containing acid sulfate soils	State
NSW EPA (2014) Waste Classification Guidelines	Requirements in relation to permits required-soil/water that may need to be transported to landfill and appropriate waste classification will be required.	State
NSW Heritage Act 1977.	Requirements in relation to Protection of heritage listed items	State
Environmentally Hazardous Chemicals Act 1985	Requirements in relation to a legal framework capable of regulating priority/high-risk chemicals throughout their entire life cycles	State

All work shall be conducted, as appropriate, in accordance with (but not limited to) the following environmental codes of practice:

- Australian Standard (AS) 2436-1981: Guide to Noise Control on Construction, Maintenance and Demolition Sites;
- AS 2601 - 2001: Demolition of Structures;
- AS 2436- 1981: Guide to Noise Control on Construction, Maintenance and Demolition Sites;
- AS 2986.1-2003 Workplace air quality - Sampling and analysis of volatile organic compounds by solvent desorption;
- AS 2986.2-2003 Workplace air quality – Part 2: Diffusive sampling method;
- AS NZS ISO 19011-2003 Guidelines for quality and or environmental management systems auditing;

- AS/NZS 3012-2003: Electrical Installations- Construction and Demolition sites;
- BS6472 -1992: Evaluation and Human Exposure to Vibration in Buildings (1 to 80Hz);
- BS7385 Part 2-1993: Evaluation and measurement of Vibration in Buildings Part 2;
- DEC (now EPA), NSW (2005): Approved Methods for the Modelling and Assessment of Air Pollutants in NSW;
- DEC (now EPA), NSW (2007): Approved methods for the Sampling and Analysis of Air Pollutants in NSW;
- Department of Conservation and Land Management, CALM (1992): Urban Erosion Control and Sediment Control;
- National Environmental Protection Measure (NEPM) on Ambient Air Quality;
- National Environment Protection Council (1998): National Environment Protection NSW DEC (2007): Noise Guide for Local Government;
- NEPM (1999) *Assessment of Site Contamination,* as amended 2013;
- National Occupational Health and Safety Commission, 2nd Edition [NOHSC: 2002 (2005)]: Code of Practice for the Safe Removal of Asbestos;
- NSW Department of Housing (1998): Managing Urban Stormwater- Soils and Construction;
- Safework, NSW (1993). Code of Practice: Safe Work on Roofs, Part 1, Commercial and Industrial Buildings;
- Safework, NSW (1997). Code of Practice: Amenities for Construction Work;
- Safework, NSW (1997). Code of Practice: Cutting and Drilling of Concrete and Other Masonry Products;
- Safework, NSW (1992). Code of Practice: Electrical Practices for Construction Work;
- Safework NSW (July 2014): Code of Practice: Excavation Work;
- WorkCover NSW (March 2014): Managing asbestos in or on soil; and
- Other NSW EPA endorsed relevant guidelines.

In addition to any regulatory compliance required by the above mentioned Acts and Guidelines, the contractor will be responsible to carry out the site works with all due care to ensure that the following conditions are complied with:

- Practical minimization of all wind-borne dust leaving the confines of the site;
- No water containing any suspended matter or contaminants is to be allowed to leave the confines of the site in such a manner that it could pollute any nearby waterway;
- Material originating from onsite is not to be tracked outside the site boundary and any material present on road surfaces must be removed immediately;
- Noise levels at the site boundary are to comply with the legislative requirements;
- Odour levels at the site boundary are to comply with the requirements as per this CEMP.

The CEMP will be explained to all contractors and a copy will be maintained on site during the course of excavation and future construction works.

5 Occupational Health and Safety

The following Health and Safety plan contains procedures and requirements that are to be implemented as a minimum during the site works.

The objectives of the health and safety plan are:

- To apply standard procedures that reduces risks resulting from the above works;
- To ensure all employees are provided with appropriate training, equipment and support to consistently perform their duties in a safe manner; and
- To have procedures to protect other site workers and the general public.

These objectives will be achieved by:

- Assignment of responsibilities;
- An evaluation of hazards;
- Establishment of personal protection standards and mandatory safety practices and procedures; and
- Provision for contingencies that may arise while operations are being conducted at the site.

This health and safety plan does not provide safety information specific to construction and other demolition or excavation activities carried out by contractors, such as the safe operation, maintenance and inspection of plant, etc. Contractors will be required to prepare their own Safe Work Method Statements for their work activities. All parties working on the site shall comply with all applicable Work Health and Safety legislation, regulations, codes and guidelines.

5.1 Responsibilities

Principal Contractor

RCC is responsible for ensuring that the work is carried out in accordance with the health and safety plan. This will include:

- Ensuring a copy of the health and safety plan and CEMP is available at the site during the excavation/construction activities;
- Confirming individuals are competent in performing assigned tasks;
- Liaison with the contractor representatives, as appropriate, regarding safety matters; and
- Investigation and reporting of incidents and accidents.

Every individual worker is responsible for conducting their allocated tasks in a safe manner and in accordance with their training and experience. They must give due consideration to the safety of all others in their proximity and cooperate in matters of health and safety. All workers must leave their work areas in such a condition that the location will not be hazardous to others at any time.

5.2 Hazards

The known or potential hazards associated with the work activities described are listed below:

- Potential chemical hazards;
- Physical hazards, including;
- Work in or near excavations;
- Operating machinery;
- Heat stress and UV exposure;
- Underground or overhead services;

- Manual handling; and
- Noise.

In the event of the discovery of any condition that would suggest the existence of a situation more hazardous than anticipated, or of any new hazard that could potentially cause serious harm to personnel or the environment, work will be suspended until the Project Manager has been notified and appropriate instructions have been provided to field personnel.

5.3 Potential Chemical Hazards

The main potential chemical hazards associated with the excavation/construction works is petroleum hydrocarbons, PAHs, heavy metals, asbestos and soil gasses.

When working with identified contaminated materials in general, care needs to be taken to ensure that the contamination is not introduced to the worker via ingestion, inhalation or dermal contact. The personal protective equipment (PPE) and decontamination requirements outlined in Section 3.4 shall be followed to control the risks posed by chemical hazards at the site.

Potential hazards associated with working with asbestos or asbestos containing material (ACM) are addressed in detail in the Asbestos Management Plan (AMP) and should be read in conjunction to this document (refer to ***Appendix B***).

5.4 Physical Hazards

Operating Machinery

Heavy plant and equipment operating in the vicinity of field personnel presents a risk of physical injury. Personnel should be cognisant of their position in relation to operating machinery at all times.

Never walk behind or to the side of any operating equipment without the operator's knowledge. Do not assume that the operator knows your position. Personnel should stay at least 2 m from the operational area of heavy equipment and should not stand directly below any load or piece of equipment (eg. excavators).

Working in or Near Excavations

All excavations shall be shored, sloped or otherwise constructed so as to comply with SafeWork Authority safety regulation to minimise the potential for collapse.

Geotechnical advice given to the slopes and treatment of batters should be adhered to at all times. All batters to be 1H:2V for temporary and permanent.

Cuts and Abrasions

The manual work associated with the site works gives rise to the risk of cuts and abrasions to personnel working in the area. As well as the direct consequences of any cut or abrasion, such injuries can lead to the possibility of exposure to contaminants through the wound as well as diseases such as tetanus. To minimise the risk of direct or indirect injury, personnel will wear the personal protective equipment described.

Heat Stress and UV Exposure

Site personnel may experience heat stress due to a combination of elevated ambient temperatures and the concurrent use of personal protection equipment; this depends in part on the type of work and the time of year.

There are four main types of heat stress related problems:

- Heat Rash - caused by continuous exposure to heat and humid air and aggravated by chafing clothes. Decreased ability to tolerate heat, as well as being a nuisance.
- Heat Cramps - caused by profuse perspiration with inadequate fluid intake and chemical replacement. Signs: muscle spasms and pain in the extremities and abdomen.
- Heat Exhaustion – is caused by increased stress on various organs as they meet the increasing demand to cool the body. Signs: shallow breathing; pale, cool, moist skin; profuse sweating; dizziness, and lassitude
- Heat Stroke - result of overworked cooling system. Heat Stroke is the most severe form of heat stress. Body must be cooled immediately to prevent severe injury and/or death. Signs: red, hot, dry skin; no perspiration, nausea; dizziness and confusion; strong, rapid pulse and coma. Medical help must be obtained immediately.

In addition to the above, overexposure to UV radiation in sunlight can result in sunburn to exposed skin. The use of a high protection sunscreen (SPF15 or greater) on all exposed skin is recommended. Hats (including hard hats in specified areas) will also provide additional sun protection during the peak (i.e. 10:00 am to 3:00 PM) sun period. Sunglasses should be worn (where appropriate) to protect eyes from effects of UV exposure.

5.5 Underground Services

There is the potential for underground services (electricity, natural gas lines, water, telephone, sewer, and stormwater) to be present beneath the work area. The remediation contractor shall ensure that appropriate procedures will be taken to minimise the risk associated with excavation near services. This should include but not be limited to dial before you dig plan review, service provider notification and work clearance, service location by an approved contractor, manual test pitting, adherence to safe excavation distances (for overhead and below ground services), spotting during excavation, assessment of structural considerations etc.

5.6 Aboveground Electrical Hazards

All electrical plant and equipment must comply with the requirements of Australian Standard AS 3000. Hand held portable tools shall comply with AS/NZS 3160 "hand-held portable electric tools" and shall be double insulated. A Residual Current Device (RCD) shall protect plug-in portable equipment, which is connected to a supply above Extra Low Voltage - 12-24 Volts (including equipment supplied from a generator or welding set). RCD protection shall be provided during maintenance of portable electrical equipment at all times while the equipment is connected to a power supply above Extra Low Voltage, irrespective of whether power is switched ON or OFF. RCD's shall comply with AS 3190 and shall be type II units, rated to trip at or below 30 milliamps within 40 milliseconds.

No excavator may work within 2 m of overhead distribution power lines.

5.7 Manual Handling

When lifting or handling heavy objects, use correct lifting techniques, bending the knees not the back. If the item to be lifted is too heavy or awkward for one person to lift, seek assistance from other employees or use mechanical help.

5.8 Noise

Long-term exposure to high levels of noise is unlikely. However, operating machinery may cause significant noise exposures for short periods. Earplugs or earmuffs should be worn in any situation where noise levels make normal conversation difficult.

6 Environmental Management

The remaining sections of this document set out the environmental management activities and management measures, which will be implemented during the Excavation works at 3 Wentworth Point Rd, Wentworth Point NSW. The Principal Contractor will ensure that personnel responsible for undertaking the works are aware of their roles and responsibilities detailed in this CEMP.

6.1 Potential Environmental Issues

The potential environmental issues associated with the proposed construction works include:

- Air emissions from contaminated soils and groundwater;
- Impact of noise and air emissions from plant, equipment and vehicles used in the project and associated transport of infrastructure;
- Disturbance of acid sulfate soil, or potential acid sulfate soil during construction, including dewatering activity's;
- Potential impacts to terrestrial and aquatic ecology within close proximity to the work area and the surrounding areas;
- Disturbance to, and release of potentially contaminated soil and groundwater to the local environment; and
- Disruption to amenity of any residents and other land users in the vicinity of the site.

6.2 General Structure of Environmental Management

Individual management measures have been prepared to address the issues listed in Environmental Elements 1 to 9. The numbering order should not be considered as a ranking of priority of each element as each element will have some over laps in procedures and monitoring requirements. Each plan is comprised of a number of elements, each with an overall associated management policy, mechanisms of policy implementation, proposed monitoring programs and potential corrective actions as described in Table 3.

Table 3: Structure of CEMPs

EMP Element	Description of Content
Element	The environmental aspect of construction or operation requiring management consideration.
Potential Impacts	The potential impacts in relation to the environment.
Management Actions	The procedures to be undertaken to avoid or minimise potential impacts
Performance Objectives	The target or strategy to be achieved through the specific management actions.
Performance Indicator	The criteria against which the implementation of the actions and the level of achievement of the performance objectives will be measured, as well as the success of the implementation of the policy.
Monitoring	The intended monitoring program and the process of measuring actual performance.
Responsibility	The entity assigned responsibility for carrying out each action.
Reporting	The process of documenting actual performance, or how well the policy has been achieved, including the format, timing and responsibility for reporting and auditing of the monitoring results.
Corrective Action	The action to be implemented and by whom in the case where a performance requirement is not met.

7 Environmental Management Measure Element 1: Air Quality

7.1 Summary of Potential Impacts

Potential impacts to air quality resulting from the works include emissions from exposed soils, asbestos dust, groundwater, plant and equipment and dust generated during earthworks and land clearance and demolition work. Since Asbestos has not been observed in any soil samples contained within Soil Contamination Investigation (Greencap) : Ref J146932-01, asbestos air monitoring is not required and is discussed in Element 2.

Potential odour / vapour impacts may also occur as a result of the release of odours from impacted soils / groundwater / gases and exposure from unexpected finds, hydrocarbon hotspots and soil gas pathways within any uncontrolled fill.

The main volatile chemicals of concern are from volatile petroleum hydrocarbons which are not evident in the soil investigation report. Potential risk is present in the areas not tested underneath the buildings being demolished and these areas will be dealt with through UFP protocol as recommended with Soil Contamination Investigation (Greencap) : Ref J146932-01.

Ambient Air Levels will likely vary as earth works proceed. Earth works will also be conducted up to the site boundaries in some areas and odour / soil gas will be subject to changes in wind direction and weather conditions. The application and effectiveness of odour suppressant mitigation will need to be well managed under the discretion of the Principal Contractor and the environmental consultant.

7.2 Procedures

A summary of the minimum plan requirements is provided in Table 4.

Table 4: Summary of Air Quality Management Procedures

Element	Air Quality
Performance Objectives	The objective of this management measure is not to generate any odours or gasses and to adopt the necessary management strategy and PPE if presented with the occurrence to minimise the impacts of odours and/or vapours if encountered. Avoid or minimise the potential for odour and/or vapour emissions during the handling of exposed soils. Maintain plant and equipment such that exhaust emissions are minimised. Avoid or minimise disruption to amenity of residents and other land users in the vicinity of site works.
Management Actions	Use of surfactant spray (onsite in close proximity of the earth works and at the site boundary/fences) is required for odour suppressant during works (this is up to the discretion of the Project Manager and the environmental consultant). Heavy equipment and vehicles will be appropriately maintained to minimise exhaust emissions. Appropriate methods of dust suppression will be implemented, such as ensuring earthworks materials remain moist to ensure dust is minimised during works. Evaluate weather conditions prior to works commencing and during any change in wind direction. Cease works if dust or odour generation is excessive. Covering of any stockpiles that are to remain for greater than two days (Waste reclassification or ENM stockpiles, ACM demolition stockpiles),

	or if weather forecasts predict strong winds; with plastic or Hessian material. All dust/odour control measures will be kept in good operating condition and functional at all times, with regular maintenance. All loads are to be covered and appropriately fitted with tarpaulins to contain dust and/or odour during transport. A complaints register will be established and maintained to receive and address complaints from the community regarding the detection of nuisance odour during the works. Residents in the vicinity of the proposed works will be informed of potential dust/odour impacts prior to the commencement of works.
Performance Indicator	No complaints from location residents, surrounding businesses or site personnel. Goal of nil complaints relating to dust quality issues. Vapour emissions (Chlorinated VOCs) are likely to occur however the number of complaints should be kept to a minimum. All complaints will be responded to within 2 business days No onsite observation of dust generation during excavation works by Project team. No visual evidence of exhaust smoke during idle of equipment. No visual evidence of tracked material on public roads. A reduction in the number of complaints received in relation to air quality each month.
Monitoring	Implementation of visual monitoring of dust, material tracking, truck tarping, water spray use, exhaust plumes and stockpile covering. If unexpected finds protocal detects contaminants a review of air born testing is to be undertaken.

Responsibility	The Principal Contractor is responsible for ensuring that if a monitoring program is required to be implemented by appropriately trained/qualified staff. This program may be sub-contracted out to a specialist sub-consultant as required. The Principal Contractor is to ensure responsible personnel are suitably qualified.
Reporting	Maintenance of records on site of visual, PID and Asbestos monitoring undertaken if required.
Corrective Action (as required)	If required replace or repair emission control devices. Provide equipment to enable wetting of exposed soils if required. Should excessive dust be generated during works will also cease, until weather conditions improve and/or additional dust suppression measures have been implemented. The use of PPE with appropriate filters, inside the works zone will be mandatory, in the event that PID readings exceed the limits set by the environmental consultant for the Site/area. The level set by the environmental consultant is exceeded the following action shall be undertaken: ▪ Backfill any excavation or cover with plastic sheeting; ▪ Temporarily cease works until levels drop; and ▪ Increase the use of suppressant near the excavation. In the event that boundary monitoring exceeds the daily works shall be stopped immediately. The earthworks shall be quickly backfilled and the situation reassessed if odour / gasses are identified and deemed excessive by the environmental consultant, the application of odour suppressants should be used / increased and then works can recommence once suitably qualified environmental consultant has assessed ambient air quality to be satisfactory.

8 Environmental Management Measure Element 2: Asbestos Dust

8.1 Summary of Potential Impacts

Possible asbestos dust-generating activities include the mechanical removal of building materials, demolition and earth disturbance works along with vehicle movement over asbestos impacted soils. The generation of asbestos dust should be minimised and meet relevant air quality standards as specified in the NOHSC:1003 (1995) *Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment*. Additional information is outlined in detail in the Asbestos Management Plan attached in **Appendix B**.

Air monitoring when disturbing contaminated soils across the site should be implemented. Any air monitoring of asbestos should be performed in accordance with the NOHSC:3003 (2005) *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres*.

8.2 Procedures

A summary of the minimum Asbestos Air Monitoring plan requirements is provided in Table 5 with addition measures for asbestos removal air monitoring covered in Section 7.1.2 in the Asbestos Management Plan in **Appendix B.** As the demolition and removal of known asbestos is to occur prior to site possession a clearance certification needs to be undertaken to ensure the soil classification and contamination has not changed since the reviewed investigations. The below will be required if the classifications change.

Table 5: Summary of Asbestos Dust Management Procedures

Element	Air Quality
Performance Objectives	The objective of this management measure is not to generate any asbestos dust and to adopt the necessary PPE if presented with the occurrence of asbestos dust and to minimise the impacts of dust levels encountered. Avoid or minimise the potential for dust emissions during the handling of exposed soils and asbestos containing material (predominantly located within the existing buildings as identified in the hazardous building materials survey). Maintain plant and equipment such that decontamination procedures are followed and cross contamination outside the impacted work areas are minimised. Avoid or minimise disruption to amenity of residents and other land users in the vicinity of site works.

Management Actions	Use of water spray (onsite in close proximity of the earthworks and at the site boundary/fences) is required for dust suppressant during earthworks. Water sprays might be used during demolition works on the removal of ACM within the current buildings on the site (this is up to the discretion of the Project Manager and the environmental consultant). Once the earthworks of each area is finished, this area of the site should be covered with plastic sheeting or the use of water spray to minimise dust generation (this to the discretion of the Project Manager and the environmental consultant). Use of enclosed and over-pressurized cabins on excavation equipment and trucks entering the site or work area (if staged). This should prevent ambient air (potentially contaminated with asbestos dust) and dust to intrude into the cabin.

	Appropriate methods of dust suppression will be implemented, such as ensuring earthwork and material removal. Soils and materials are to remain moist to ensure dust is minimised during works. Evaluate weather conditions prior to works commencing and during any change in wind direction. Cease works if dust generation is excessive. Covering of any stockpiles that are to remain for greater than two days (Waste reclassification stockpiles), or if weather forecasts predict strong winds; with plastic or Hessian material. All dust control measures will be kept in good operating condition and functional at all times, with regular maintenance. All loads are to be covered and appropriately fitted with tarpaulins to contain dust during transport. Were asbestos soils and materials are to be removed offsite, loads are to be encapsulated in black plastic, prior to tarpaulins covering being fitted. A complaints register will be established and maintained to receive and address complaints from the community regarding the detection of nuisance dust during the works. Residents in the vicinity of the proposed works will be informed of potential dust impacts prior to the commencement of works.
Performance Indicator	No complaints from location residents, surrounding businesses or site personnel. Goal of nil complaints relating to dust quality issues. All complaints will be responded to within 2 business days No onsite observation of dust generation during excavation works by Project team. No visual evidence of tracked material on public roads. A reduction in the number of complaints received in relation to air quality each month.
Monitoring	The air quality will be evaluated by the Project Manager and assessed by a suitably qualified environmental consultant. Continuous exclusion zone boundary monitoring during excavation works using asbestos air monitoring equipment is required. The air pumps should be calibrated to the required flow rate in accordance with Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003(2005)]. ▪ Fence line sampling for Asbestos. Four (1) samples/day, airborne fibres testing in accordance with the NOHSC: 3003 (2005) method. Action level is 0.1 fibres/mL (with air monitoring filters to be situated within 10m of the location of asbestos removal work) Implementation of visual monitoring of dust, material tracking, truck tarping, water spray use, exhaust plumes and stockpile covering.
Responsibility	The Principal Contractor is responsible for ensuring that the monitoring program is implemented by appropriately trained/qualified staff. This program may be sub-contracted out to a specialist sub-consultant as

	required. The Principal Contractor is to ensure responsible personnel are suitably qualified.
Reporting	Maintenance of records on site of visual dust and Asbestos monitoring must be undertaken by a suitably qualified environmental consultant. Daily asbestos air monitoring results should be made available 24hr after collection and notification of the results made available at the site lunch shed.
Corrective Action (as required)	Replace or repair dust control devices. Provide equipment to enable wetting of exposed soils and materials if required. Should excessive dust be generated works will also cease, until weather conditions improve and/or additional dust suppression measures have been implemented. The use of PPE with appropriate filters, inside the works zone will be mandatory, in accordance with the requirements outlined in the AMP. The level presented in the CEMP prevails. When the 0.1 f/mL (Fibres per millilitre of air) level with the work area is exceeded the following action shall be undertaken: ▪ Backfill any excavation or cover ground surface with plastic sheeting; ▪ Temporarily cease works until levels drop; and ▪ Increase the use of suppressant near the excavation. In the event that boundary monitoring exceeds the 0.1 f/mL (Fibres per millilitre of air) works shall be stopped immediately. The earth works shall quickly backfill any excavation and the area cover with black plastic and the situation reassessed if by the Principal Contractor, the application of dust suppressants should be used/increased and then works can recommence once suitably qualified environmental consultant has assessed ambient air quality to be satisfactory.

9 Environmental Management Measure Element 3: Sediments

9.1 Summary of Potential Impacts

Potential impacts from sediments resulting from the works include dust emissions (Refer to Element 1: Air Quality) and storm water (Refer to Element 3: Surface Water) generated during earthworks/land clearance and construction.

The following potential impacts from sediments may occur as part of the works program:

- Complaints from local residents;
- Breaches in Regulatory requirements;
- Increased turbidity and sediment concentrations due to accidental release;
- Increased sediment load on storm water drains and infrastructure;
- Damage to local ecological receptors.

Any impacts would be expected to be temporary only in nature and generally localised to the area of adjoining active works and transport routes, but may have longer term impacts to local ecological communities.

9.2 Procedures

A summary of the minimum plan requirements is provided in Table 6.

Table 6: Summary of Sediment Management Procedures

Element	Sediments
Performance Objectives	The objective will be to avoid an impact on water quality in surface water and drains which eventually discharge offsite by implementing prevention measures to control any sediment that is generated. Avoid or minimise soil migration and loss to surface waters and drains. Avoid or minimise pollution of creeks and waterways. Avoid or minimise increased sediment load on storm water drains and infrastructure.
Management Actions	Prior to the start of the works a stormwater and sediment control plan should be prepared by the Principal Contractor. This Plan should be in accordance with Councils regulations. Site contractors will be required to observe any increases in sediment load in storm water drains when excavations are close to surface drains or waterways. Sediment control structures (i.e. silt fencing and/or hay bales) should be implemented in accordance with the Stormwater and Sediment Control Plan prior to the commencement of works. Evaluate weather conditions prior to works commencing and during any change in wind direction. Cease works if dust generation is excessive (by visual assessment). Covering of any stockpiles that are to remain for greater than two days, or if weather forecasts predict strong winds; with plastic or Hessian material.

	All sediment control measures will be kept in good operating condition and functional at all times, with regular maintenance. Strategic placement of such structures down-gradient of stockpiles and slopes to minimise sediment entrainment. These measures should also be placed on the up-slope side of any storm water collection channels. If a significant rain event occurs, fieldwork will cease. There will be sediment control measures available for placement down gradient of the work area; and Works will also be conducted in a manner to minimise the potential for sediment and soil migration, whereby excavated material will be hauled offsite as soon as practicable and/or reinstated and compacted.
Performance Indicator	The prevention of sediment runoff is the best approach. Site contractors will be required to observe any increases in sediment load in storm water drains when excavating close to surface drains and site boundaries. No complaints from location residents, surrounding businesses or site personnel. Goal of nil complaints relating to sediment issues. No onsite observation of dust generation during excavation works by Project team. No visual evidence of tracked material on public roads.
Monitoring	Regular observations will be made by the Site Manager and mitigation measures put into place if sediment loaded runoff is likely to occur or a rainfall event is predicted. Records of all corrective actions and known sediment releases will be kept. Implementation of visual monitoring of dust, material tracking, truck tarping, water spray use, exhaust plumes and stockpile covering.
Responsibility	The Project Manager is responsible for ensuring that the monitoring program is implemented by appropriately trained/qualified staff.
Reporting	Maintenance of records on site of visual monitoring undertaken
Corrective Action (as required)	Clean-up of sediment. Installation of sediment and erosion controls. Additional storm water control measures. Altered excavation works. Cease works if a major storm event is likely to occur. Replace or repair sediment and erosion control devices. Should excessive dust be generated excavation works will also cease, until weather conditions improve and/or additional dust suppression measures have been implemented.

10 Environmental Management Measure Element 3: Surface Water

Works must comply with requirements for storm water management in accordance with Managing Urban Storm water – Soils and Construction (Landcom, 2004) to minimise direct or indirect un-authorised release of surface water during site works to minimise impacts to surface water quality of surrounding environs. A written agreement of Sydney Water is to be obtained if discharge of certain substances to sewer is required.

In the event groundwater is intercepted during excavation works, a temporary water collection pit shall be excavated in the bottom of the excavation pit or graded surface. Water samples should be collected and tested for chemical of concern prior to discharge/disposal. The principal contractor should assess if the volume of expected groundwater requires relevant authority approval. Excavation pump out water (if any) shall be pumped from the excavation by a licensed contractor and disposed of off-site as "liquid waste" in accordance with NSW EPA (2014). The Principal Contractor will need to obtain the relevant approvals (from discharge authorities like Sydney Water etc.) should be obtained prior to the commencement of dewatering.

10.1 Summary of Potential Impacts

The following potential impacts from surface water may occur as part of the works program:

- Complaints from local residents;
- Breaches in Regulatory requirements;
- Increased turbidity and sediment concentrations due to accidental release;
- Increased sediment load on storm water drains and infrastructure;
- Ruts and gullies in soil surfaces;
- Unsuitable conditions for construction works;
- Safety and Health related issues; and
- Damage to local ecological receptors.

Any impacts would be expected to be temporary only in nature and generally localised to the area of adjoining active works, but may have longer term impacts to local ecological communities.

10.2 Procedures

A summary of the minimum plan requirements is provided in Table 7.

Table 7: Summary of Water Quality Management Procedures

Element	Water Quality
Performance Objectives	Avoid or minimise the disturbance to, and release of potentially contaminated soil or sediment laden water to the surrounding environs. Prevent increased water flows causing erosion damage to drainage infrastructure and water ways. Prevent safety related incidents associated with wet or slippery work conditions.
Management Actions	Assessment of weather during excavation operations and consideration of temporarily halting works until more favorable conditions are encountered. Install sediment control structures (i.e. silt fencing and/or hay bales) should be implemented in accordance with Managing Urban Storm water

	– Soils and Construction (Landcom, 2004) prior to the commencement of works. This would include strategic placement of such structures down-gradient of temporary stockpiles and slopes to minimise sediment entrainment. These measures should also be placed on the up-slope side of any storm water collection channels. Control of drainage on the site by interception and redirection of clean storm water in a controlled manner. Collection of storm water on-site in trenches and sumps for appropriate management. Provide inlet protection to be provided for any potentially impacted locations. Site contractors will be required to observe any sediment control and/or storm water control measures to ensure that they are working at a satisfactory level. Provision of a Spill cleanup kit on all sites where bulk fuel is stored or is being transferred. Maintain a hardstand or lined and bunded area for the refueling and storage of equipment. Cease works if excessive surface water makes conditions unsuitable for construction works. Cease works if excessive surface water makes creates safety concerns.
Performance Indicator	The prevention of increased storm water runoff is the best approach. Site contractors will be required to observe any increases in sediment loads and volumes in storm water drains when working close to surface drains and report any discharges beyond the site boundaries. Site contractors will be required to observe any sediment control and/or storm water control measures to ensure that they are working at a satisfactory level. Zero records of near miss or injury in relation to wet conditions
Monitoring	Regular observations will be made by the Site Contractors and the Project Manager and mitigation measures put into place if sediment loaded runoff is likely to occur or a rainfall event is predicted. Monitoring requirements from a pump-out-permit or other required license shall be adhered to at all times.
Responsibility	The Project Manager is responsible for ensuring that each of the monitoring programs is implemented by appropriately trained/qualified staff. These programs may be sub-contracted out to a specialist sub-consultant as required.
Reporting	Records of all corrective actions and known sediment releases will be kept. Records of Near Miss and Injuries will be kept. The Project Manager will immediately report to the Contract Administrator any incidents of water discharging off site.

11 Environmental Management Measure Element 4: Waste Management

Excess soils requiring offsite disposal will require additional assessment and should be stockpiled onsite prior to sampling and any additional assessment by a suitably qualified environmental consultant.

All excavated material removed from site will need to have appropriate Waste Tracking Certificates and **no material is permitted to leave site prior to receiving a waste classification letter**. Each truckload should be completely filled before leaving the site. A transportation form (**Appendix C**) shall accompany each truckload and should be handed back to the Environmental Specialist upon return to the site. The waste docket should be attached to this transportation form.

Storm water and/or groundwater collected on-site in trenches and sumps will be subject to waste management if offsite disposal is to take place. Disposal via the storm water system may be undertaken subject to relevant authorities discharge license conditions.

Should excavations require dewatering, water samples will be collected by the Environmental Specialist and analysed prior to pump-out and offsite disposal. Waste liquid disposal dockets should be maintained onsite for inspection.

If during any site earthworks or excavation, asbestos, evidence of gross contamination or unknown type of material not previously detected is observed (Unexpected Finds), site works are to cease until the Project Manager has been notified and appropriate instructions have been provided to field personnel. Further works in such a location should be conducted under the supervision of a suitably qualified environmental consultant after a formal notification to the Site Auditor. All additional work would be documented and detailed in a validation report prepared by the Environmental Specialist and reviewed by the Site Auditor.

Other waste, excluding soils and groundwater, generated during the redevelopment works may include:

1. Domestic waste generated by site workers;
2. Asbestos contaminated waste to follow recommendations of UFP;
3. Concrete Slab;
4. Liquid waste; and
5. Inert building materials

Asbestos waste and decontamination disposal waste should be conducted as per consultants adivice and site auditors requirements.

Each outbound truck should be logged as clean prior to dispatch along with information pertaining to the amounts of loads and number of trucks leaving the site in addition to copies of all waste classifications certificates, waste tracking certificates, weigh bridge dockets, and any council approvals should be maintained onsite for inspection.

11.1 Summary of Potential Impacts

The following potential impacts from waste management may occur as part of the works program:

- Complaints from local residents;
- Breaches in Legislative/Regulatory requirements; and
- Damage to local ecological receptors.

Any impacts would be expected to be temporary only in nature and generally localised to the area of adjoining active works, but may have longer term impacts to local ecological communities.

11.2 Procedures

A summary of the minimum plan requirements is provided in Table 8.

Table 8: Summary of Waste Management and Minimisation Procedures

Element	Waste Management and Minimisation Quality
Performance Objectives	The objective will be to minimise and control any wastes and waste categories that are generated, and ensure that they will be appropriately disposed of. Avoid or minimise environmental impacts related to waste management and handling of potentially contaminated soils. Avoid or minimise impacts due to unexpected finds. Avoid or minimise health risks associated with potentially contaminated soil exposure and dust generation.
Management Actions	Provision of a Spill cleanup kit on all sites where bulk fuel is stored or is being transferred. Maintain a hardstand or lined and bunded area for the refueling and storage of equipment. Visual assessment of excavated material by the Environmental Specialist. The Environmental Specialist shall direct the Excavator Operator if the soil has to re-assessed onsite or disposed off-based on the in-situ waste classification. Trucks to be used for transport of soil are to be fitted with cover tarpaulins to contain the load. Each truck prior to exiting site, shall be inspected prior to dispatch and either logged out as clean (wheels and chassis), or hosed down within a wheel wash down bay. Provide waste receptacles for all waste types and ensure that personnel use these correctly. All trucks leaving the site should be accompanied with a waste transportation form (Appendix B). Cease site works until the Project Manager has been notified of any unexpected finds and appropriate instructions have been provided to field personnel to address the issue. Project Manager to inform the Contract Administrator of any unexpected finds.
Performance Indicator	All waste materials are handled and stored in a safe and appropriate manner Material for off-site disposal is transported to an appropriate landfill facility. A completed transportation form and waste dockets shall be returned to the Environmental Specialist who shall maintained a record No environmental impact on, and disturbance to, the surrounding area from waste, no leaks or spills of oil or fuel. No waste is to be disposed of in the surrounding environment.

Monitoring	Regular observations will be made by the Project Manager and measures put into place if sediment loaded runoff is likely to occur or a rainfall event is predicted. Records of all corrective actions and known sediment releases will be kept. An up to date record of waste tracking shall be kept by the Environmental Specialist.
Responsibility	The Principal Contractor is responsible for ensuring that the monitoring program is implemented by appropriately trained/qualified staff. This program may be sub-contracted out to a specialist sub-consultant (the Environmental Specialist) as required. The Principal Contractor is to ensure responsible personnel are suitably qualified.
Reporting	Maintenance of records on site of equipment inspections undertaken and landfill disposal/waste tracking and weigh bridge dockets, and any council approvals should be maintained onsite for inspection.
Corrective Action (as required	Revision of the works strategy including relocation and alteration to the operating procedure if waste is shown to be entering the surrounding environment.

12 Environmental Management Measure Element 5: Noise Management

The Principal Contractor may wish to undertake a noise management study by a suitably qualified consultant prior to undertaking a detailed Noise Management Plan. The findings and recommendations in the Noise Management Plan will supersede the minimum requirements outlined below.

Site works will be conducted from 7:00 a.m. to 6:00 p.m. Monday to Friday, with work on Saturdays between 8:00 a.m. and 1:00 pm if required. Work outside these hours will be in accordance with local council regulations and approvals.

12.1 Summary of Potential Impacts

The following potential impacts from Noise may occur as part of the works program:

- Complaints from local residents;
- Breaches in Regulatory requirements; and
- Safety and Health related issues.

Any impacts would be expected to be temporary only in nature and generally localised to the area of adjoining active works and transport routes, but may have longer term impacts to Safety and Health related issues.

12.2 Procedures

A summary of the minimum plan requirements is provided in Table 9.

Table 9: Summary of Environmental Noise Management Procedures

Element	Noise Management
Performance Objectives	Avoid or minimise the impact of noise emissions from plant, equipment and vehicles used in the works.
Management Actions	Plant and equipment will not be permitted to 'warm-up' before the nominated working hours. Where possible, plant and equipment will be located / orientated to direct noise away from the closest sensitive receivers. Undertake regular maintenance of plant and equipment to minimise noise emissions. All machinery will be kept in good working order and will comply with noise attenuation standards. Other noise control measures, including acoustic barriers, will be examined and put in place should the need arise. Maximum operating noise of equipment is to be 85 db(A). Selection of the quietest suitable machinery reasonably available for each work activity. All plant and equipment to have efficient low noise muffler design and be well-maintained. Offset distance between noisy items of plant/machinery and nearby sensitive receivers to be maximized were possible. Where practicable, ensure that noisy plant/machinery are not working simultaneously in close proximity to sensitive receivers.

	Queuing of trucks is not to occur adjacent to any residential receiver. Where queuing is required engines are to be switched off. Trucks to be fitted with efficient low noise mufflers and be well maintained. Trucks will follow the designated haulage route between locations. Trucks will adhere to the designated speed limits. Trucks will refrain from using compression breaking where possible. Any pumps or generators used will be encapsulated or appropriately encased to ensure noise generation is minimised and emissions are muffled.
Performance Indicator	No complaints from surrounding residents.
Monitoring	Noise generation is considered to be minimal if no complaints are received from the neighbours and areas of excavator use are in isolated areas away from any onsite facilities or neighbours.
Responsibility	The Principal Contractor is responsible for ensuring that the monitoring program is implemented by appropriately trained/qualified staff. This program may be sub-contracted out to a specialist sub-consultant as required. The Principal Contractor is to ensure responsible personnel are suitably qualified.
Reporting	Maintenance of records on site of equipment inspections undertaken, and results of noise surveys.
Corrective Action (as required	Revision of the works plan including revision to working hours as necessary or staggering use of noisy equipment to minimise impacts.

13 Environmental Management Measure Element 6: Vibration

Due to no structures within close proximity to the site boundaries the Principal Contractor will not be undertaking a structural integrity assessment by a suitably qualified engineer or specialised consultant of the buildings and structures. As such the below minimum requirements outlined in Table 10 will be followed.

13.1 Summary of Potential Impacts

The following potential impacts from Vibration may occur as part of the works program:

- Complaints from local residents;
- Breaches in Regulatory requirements;
- Safety and Health related issues; and
- Damage to local infrastructure.

Any impacts would be expected to be temporary only in nature and generally localised to the area of adjoining active works and transport routes, but may have longer term impacts to local infrastructure and Heritage listed buildings.

13.2 Procedures

A summary of the minimum plan requirements is provided in Table 10.

Table 10: Summary of Vibration Management Procedures

Element	Vibration Management
Performance Objectives	Minimise the effects of the project has on adjacent public utilities, structures and buildings from vibration.
Management Actions	Prior to activities that may pose a risk to adjacent public utilities, structures and buildings a visual inspection will be undertaken to access potential damage associated with vibration impacts including cracks and other indications of settlement. Select appropriately sized machinery and equipment and design procedures for use in order to comply with vibration limits and to reduce vibration generation. Establish communication with relevant authorities and local residents. Ensure machinery used is appropriately sized to prevent over-loading and over-revving.
Performance Indicator	Goal of nil complaints relating to vibration issues during the project. Zero damage to adjacent public utilities, structures and residential buildings from vibration. Zero detrimental health problems to personnel in the vicinity of the vibration source.
Monitoring	Vibration monitoring to be adopted upon receiving a complaint or under direction from a government agency.
Responsibility	The Principal Contractor is responsible for ensuring that vibration control is implemented. The Principal Contractor is to ensure

	responsible personnel are suitably qualified to inspect buildings and infrastructure for structural integrity.
Reporting	Inspection, monitoring and surveillance by the project manager and contractors. Maintenance of records relating to any complaints received, including subsequent non-compliance forms and corrective actions.
Corrective Action (as required	Where vibration results in damage to structures, temporary protection/ rectification works will be completed prior to recommencement of site works. Work practices will be reviewed and modified as appropriate to ensure ongoing damage is minimised.

14 Environmental Management Measure Element 7: Traffic Management

The Principal Contractor may wish to undertake a traffic management study by a suitably qualified consultant prior to completing a detailed Traffic Management Plan. The findings and recommendations in the Traffic Management Plan will supersede the minimum requirements outlined below. A summary of the minimum plan requirements is provided in Table 11. These requirements are a minimum and are in addition to the TMP.

14.1 Summary of Potential Impacts

The following potential impacts from Traffic may occur as part of the works program:

- Complaints from local residents;
- Breaches in Regulatory requirements;
- Safety and Health related issues; and
- Damage to local infrastructure.

Any impacts would be expected to be temporary only in nature and generally localised to the area of adjoining active works and transport routes, but may have longer term impacts to Safety and Health related issues.

14.2 Procedures

A summary of the minimum plan requirements is provided in Table 11.

Table 11: Summary of Traffic Management Procedures

Element	Traffic Management
Performance Objectives	Minimise the effect project related traffic movements (including parking availability and pedestrian movement) has on the local area and chosen haulage routes.
Management Actions	Truck loading to be provided for on-site where possible. Truck movements to and from the site to be restricted to designated truck routes through the area. The management of the site works will be the responsibility of the site contractor. Pedestrian warning signs to be utilised in the vicinity of the site access points. Pedestrian arrangements, construction activity and erection of safety fencing will be provided in accordance with Safework requirements.
Performance Indicator	Goal of nil complaints relating to traffic issues during the project
Monitoring	Low potential for impacts, however a log of all truck and other heavy equipment (cranes etc.) movement to be retained by the Principal Contractor.
Responsibility	The Principal Contractor is responsible for ensuring that the traffic management plan is implemented by appropriately trained/qualified staff. The Principal Contractor is to ensure responsible personnel are suitably qualified.

Reporting	Maintenance of records relating to any complaints received, including subsequent non-compliance forms and corrective actions. A log of all truck and heavy equipment movements to be retained by the Principal Contractor.
Corrective Action (as required	Revision of the traffic plan including revision to working hours as necessary, staggering truck access or adopting alternate haulage routes.

15 Environmental Management Measure Element 8: Unexpected Finds

Ground conditions between sampling points can vary, and further hazards may arise from unexpected sources once remediation commences. To manage the potential for unexpected occurrences of contamination, an unexpected finds protocol has been prepared.

The nature of any undiscovered hazards which may be present at the site are generally expected to be detectable through visual or olfactory means, for example:

- Additional hydrocarbon contaminated soils (staining / discolouration visible);
- Additional excessive VOC contaminated soils (odorous (sweet/chemical);
- Fragments of asbestos-containing materials (visible) or potential friable material;
- Significant ash and/or slag contaminated soils / fill materials (visible); and
- Additional USTs or uncovering of an existing UST that have not been previously identified or location approximated precisely.

As a precautionary measure to ensure the protection of the workforce and surrounding environment, should any unexpected potentially hazardous substance be encountered the works should cease immediately before being assessed by a suitably qualified environmental consultant. In addition, Ryde City Council and other relevant regulator (i.e. Safework) should also be informed of any potential immediate risk to either human health or the environment (except for issues relating to UPSS or groundwater impacts where the NSW EPA should be informed).

The Site Auditor should be notified in relation to any unexpected finds to discuss the assessment, remediation and validation procedures required.

The sampling strategy for each 'unexpected find event' and remediation works shall be designed by a suitably qualified environmental consultant. The strategy will, however, be aimed at determining the nature of the substance, that is, is it hazardous and, if so, does it exist at concentrations which pose an unacceptable risk to human health or the environment. The sampling frequency of the identified substance / materials meeting the minimum requirements the listed in the NEPM ASC 2013, Australian Standard AS4482.1-2005, AS4482.2-1999 and NSW EPA Sampling Design Guidelines (1995).

The Principal Contractor will ensure that in the event that an unexpected find is of cultural or historical nature, a nominated archaeologist would be available to attend the site, to ensure that there are no extended delays to the program. Should an unexpected relic, archaeological feature or deposit is exposed during works, where an archaeologist is not already on site, work should cease in that area and a suitably qualified archaeologist should be contacted for advice. Depending on the level of integrity and/or significance of the relic, the relic/feature would be assessed and recorded and, if relevant, excavated manually to ensure that important information is not lost, and monitor adjacent works. If the relic/feature is assessed as having state significance the archaeologist would consult with the Heritage Council to develop an appropriate strategy to manage the relic.

Where an unexpected find is of a potential acid sulphate soils (PASS) or acid sulphate soils (ASS) material matter, then an Acid Sulfate Soil Management Plan, in alignment with NSW Acid Sulfate Soils Management Advisory Committee (August 1998) guidelines, must be prepared.

15.1 Procedures

A summary of the minimum requirements is provided in Table 12.

Table 12: Summary of Traffic Management Procedures

Element	Unexpected finds Management
Performance Objectives	Avoid or minimise impacts related to management and handling of potentially contaminated soils. Avoid or minimise impacts due to unexpected cultural finds. Avoid or minimise health risks associated with potentially contaminated soil exposure.
Management Actions	Visual assessment of uncovered unexpected finds by the Environmental Specialist. The Environmental Specialist shall direct the Excavator Operator if the soil has to re-assessed onsite or disposed off-based on the waste classification. In the event that an unexpected find is of cultural or historical nature, a nominated archaeologist would be available to attend the site. Cease site works until the Project Manager has been notified of any unexpected finds and appropriate instructions have been provided to field personnel to address the issue. Project Manager to inform the Contract Administrator of any unexpected finds.
Performance Indicator	All unexpected finds are to be disclosed to the Site Auditor for advisement on the suitability of the management and any sampling regime prior to remediation / validation works proceeding. All unexpected finds are to be handled and stored in a safe and appropriate manner Unexpected finds for off-site disposal is classified and transported to an appropriate landfill facility. A completed transportation form and waste dockets shall be returned to the Environmental Specialist who shall maintained a record No environmental impact on, and disturbance to, the surrounding area from waste, no leaks or spills of oil or fuel. No waste is to be disposed of in the surrounding environment.
Monitoring	Regular observations of the earth work surface and excavations will be made by the Project Manager and Excavator Operator or spotter. Records of all unexpected finds will be kept (any asbestos burial pits uncovered during earth works should be surveyed and a geotextile warning layer placed on it). An up to date record of waste tracking and / or PASS/ASS treatment rates (if treated onsite) shall be kept by the Environmental Specialist.
Responsibility	The Principal Contractor is responsible for ensuring that appropriately trained/qualified staff. This program may be sub-contracted out to a specialist sub-consultant (the Environmental Specialist and archaeologist) as required. The Principal Contractor is to ensure responsible personnel are suitably qualified.

Reporting	All unexpected Finds are to be documented, and included into the validation report. Maintenance of records on site of equipment inspections undertaken and landfill disposal/waste tracking and weigh bridge dockets, and any council approvals should be maintained onsite for inspection. A survey of any asbestos burial pits discovered on site should be recorded.
Corrective Action (as required	Revision of the works strategy including relocation and alteration to the operating procedure if waste/leachate is shown to be entering the surrounding environment from the disturbance of the unexpected find.

16 Additional Construction Requirements

16.1 Soil Gas Mitigation System.

No requirement at this stage for Hazardous Ground Gases (HGG) mitigation system. If UFP findings may require a suitable report and management system to be developed to address the effective prevention of HGG intrusion.

16.2 Capping Design

No approved method to cap contamination onsite at this point. If UFP detects contamination the principal is to agree on management strategy with client and suitably qualified consultants.

17 Monitoring Requirements

17.1 Auditing and Records

The Project Manager will conduct regular audits of the Principal Contractors implementation of the CEMP (including the AMP). Audits will involve a review of all environmental documents, records and reports to ensure compliance with the requirements of the CEMP. If non-compliance is detected, the Principal Contractor will initiate to the satisfaction of the Project Manager the appropriate corrective action.

Key environmental and procedural issues to be covered by the audit will include, but may not be limited to:

- Environmental management measures presented in Environmental Elements 1 to 9;
- Environmental management measures presented in the AMP;
- Adherence to reporting procedures;
- Complaint and incident management; and
- Legislative requirements.

Records of auditing and reporting will be maintained to demonstrate compliance with environmental requirements.

Environmental and construction records will include, but may not be limited to:

- Complaint records;
- Incident, non-conformance and corrective action reporting;
- Communications with stakeholders;
- Monthly waste management reporting;
- HGG monitoring if required;
- Daily asbestos monitoring if required; and
- CEMP audit documentation.

18 Emergency Preparedness and Response

Specific and immediate responses to emergencies and environmental incidents will be determined by the Principal Contractor.

Table 13: Emergency Contacts

Organisation	Contact Number
Police, Fire, Ambulance	000
Emergency call service - International standard[1]	112
Text Emergency Call	106
Ryde Hospital **North Ryde Medical Centre**	Denistone Road, Eastwood. NSW 2122 (02) 9858 7888 Mon-Sun = 24/7 Shop 2, 199 Coxs Rd, North Ryde NSW 2113 (02) 8999 3393 Mon-Fri = 8am-6pm Sat = 8am-12pm
City Of Ryde – Council	1 Pope Street, Ryde NSW 2112 (02) 9952 8222 Mon-Fri = 8:30am-5:00pm (02) 9952 8222
State Emergency Service (SES)	24Hrs 132-500
NSW EPA Pollution Hotline	(24 hours) Phone: 131 555
Ausgrid (Electricity Supply)	13 13 88
Ausgrid (Gas Supply)	13 19 09
Sydney Water (faults, leaks and water quality enquiries)	13 20 90
WIRES (Wildlife Information and Rescue Service)	24Hrs (02) 4323-2326

19 Security and Public Safety

19.1 Restriction to Access

Perimeter fencing and/ barricades that restrict access to the proposed work zone and stockpile area should be installed. Only authorised persons wearing the appropriated PPE will be able to enter the excavation/construction and stockpile/staging areas during works.

Whilst excavations remain open, the site is unattended and works are not active, high visibility fencing will be placed around the boundary of the excavation to alert any people on site to the presence of the excavation.

19.2 Pedestrian and Traffic Control

Relevant signage will be in place during the excavation works to warn and protect pedestrians and other traffic of the potential exposures in the vicinity of the work area.

Signage shall also be erected to inform the public whom to contact in case of any complains

20 Reporting

Environmental Elements 1 to 8 of the Project include Performance Objectives to be applied to specific aspects of the works and Corrective Actions that may be adopted should non-conformances or environmental incidents occur.

20.1 Non-compliance

A non-conformance is defined as a failure to fulfill a requirement of this CEMP or other associated environmental document. All non-compliances must immediately be reported to the Contract Administrator, and the appropriate details of the non-compliance should be submitted (in writing via email) within 24 hours of the occurrence of the non-compliance.

The Project Manager or Subcontractors may identify and report a non-conformance.

20.2 Environmental Incident

An environmental incident is defined as an unplanned event that occurs that impacts, or has the potential to impact, on the environment (including natural or built). In the event of an environmental incident, the Contract Administrator should be notified immediately. The details of the environmental incident will be supplied to the Project Manager on reporting of any incident.

20.3 Reporting and Corrective Actions

When reporting a non-compliance or environmental incident, all immediate corrective actions which have been taken to rectify the situation will be documented. Further corrective action should be recommended if required at the time of reporting. Relevant agencies which require notification should also be identified.

The Principal Contractor will maintain a register of all non-compliances and environmental incidents, along with the corrective and preventative actions which have been implemented to mitigate and/or prevent further recurrences. The Principal Contractor must ensure and verify that corrective actions to control environmental impacts, and avoid future non-compliances have been undertaken by the appropriate personnel.

Table 14 details the general procedures to be undertaken when non-compliances and environmental incidents occur.

Table 14: Corrective and Preventative Action Procedures

Element	Management
Objective	To implement a system to identify, document, analyse and implement corrective and preventative actions for environmental non-conformance issues
Management Actions	When a non-conformance or environmental incident occurs the Principal Contractor is to ensure corrective and preventive actions are implemented by: ▪ Assigning personnel to undertake investigation as per 'Environmental Incident Investigation Report' Form or 'Non-Compliance Report' Form and designate lead investigator. ▪ Maintain documentation of Investigation Report Forms and their corrective/preventive actions on site; ▪ Report environmental non-conformances identified that cause or have the potential to cause a significant environmental impact immediately to the Contract Administrator.

	▪ Provide a summary of environmental non-conformances with outstanding corrective actions to the Contract Administrator as requested. ▪ Utilise corrective/preventative actions to revise and update CEMP and/or CEMP objectives, operational controls, and other aspects as required. ▪ Review outstanding corrective action status.
Responsibility	All Staff and Subcontractors are: ▪ Responsible for informing their immediate manager of environmental non-conformances. ▪ Responsible for undertaking corrective/preventative actions and effectiveness determinations as assigned.
Reporting	Maintenance of records of '*Environmental Incident Investigation Report*' Forms and '*Non-Compliance Report*' Forms completed for the duration of the project.

Appendix A

Figure 1 – Site Location

3B Smalls Road, Ryde,NSW. Lot 1 DP830420

Figure 2 – Well Locations

Soil Contamination Investigation (Greencap) : Ref J146932-01

Referencing soil contamination investigation by Greencap, while no ground water wells have been established during testing the soil contamination investigation undertook 9 boreholes to depths ranging from 1.5m – 2.8m and no ground water was discovered. Given the proposed development has no underground levels and foundation systems have been design to a depth of 2m below ground the water table will unlikely be disturbed. Based on geotechnical core samples the water tested within this samples registered no contaminates above acceptable benchmarks.

Ground Water

Geotechnical Investigation (JK Geotechnics) : Ref 30275LBrpt

Borehole	Depth and Level of the Start of Each Class of Shale					
	Class V		Class IV		Class III or better	
	Depth	≈RL (AHD)	Depth	≈RL (AHD)	Depth	≈RL (AHD)
1	1.6m	73.9m	5.0m	70.5m	Not Encountered	
2	1.7m	73.8m	8.3m	67.2m	8.8m	66.7m
3	2.2m	71.8m	7.2m	66.8m	8.3m	65.7m
4	2.0m	69.0m	4.2m	66.8m	Not Encountered	
5	0.8m	76.4m	4.5m	72.7m	Not Encountered	
6	2.1m	71.7m	5.5m	68.3m	Not Encountered	
7	2.0m*	68.7m*	4.1m*	66.6m*	9.7m	61.0m
8	3.8m	65.1m	5.0m	63.9m	Not Encountered	
9	2.0m	73.8m	5.5m	70.3m	8.9m	66.9m
10	4.2m	74.2m	5.5m	72.9m	Not Encountered	
11	3.5m	69.9m	5.4m	68.0m	Not Encountered	
12	1.5m	75.5m	3.5m	73.5m	Not Encountered	

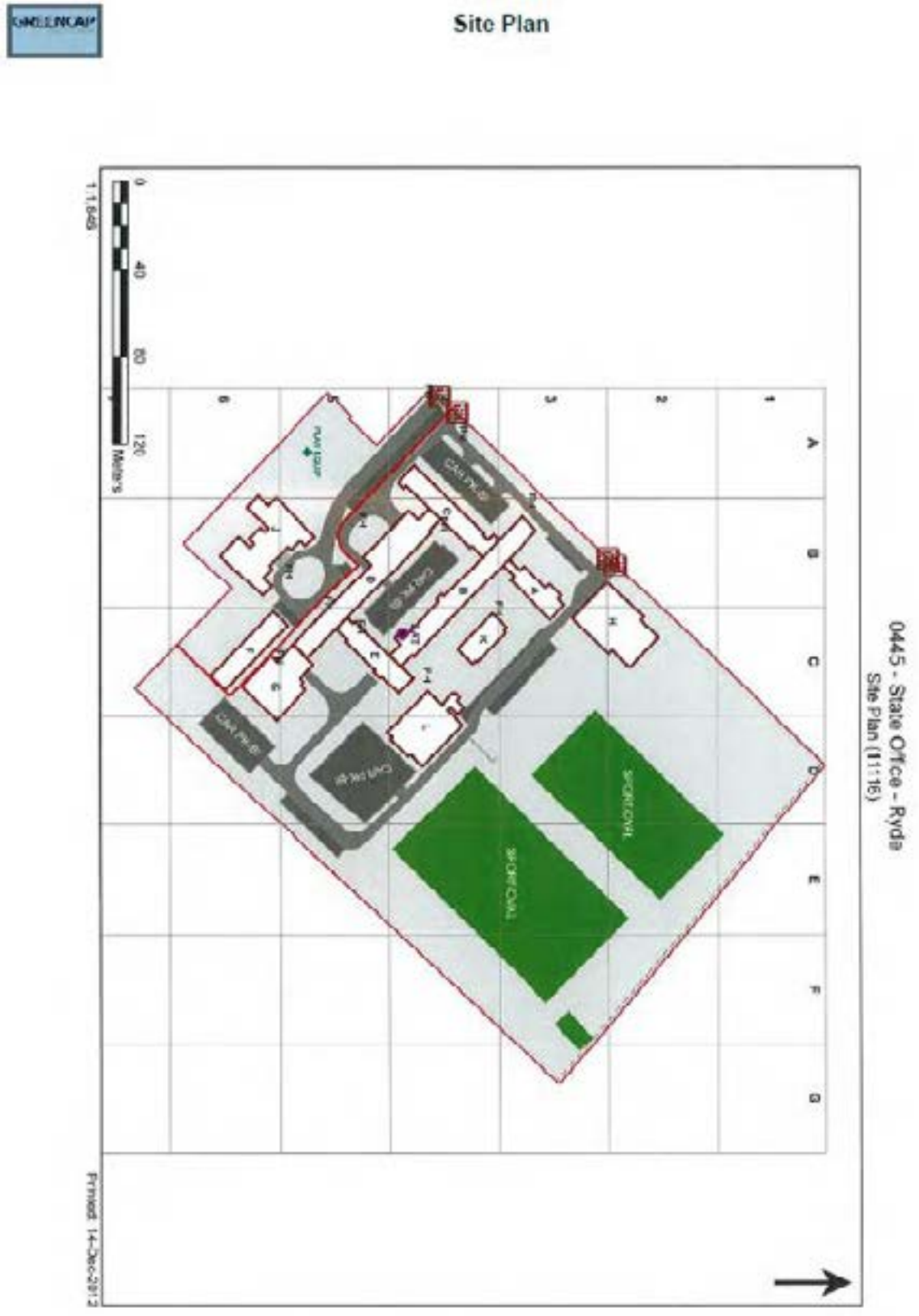
* In BH7 we note that Class V shale was once again encountered below a depth of 7.4m and the classification for design of footings will depend on the type and founding level of any footings.

Groundwater

No groundwater seepage was encountered during auger drilling of the boreholes. BH1 and BH4 were left open for 2 hours and 2.5 hours following completion of drilling and no groundwater was measured within those boreholes. Some water was measured on completion of the cored boreholes, but this would have been influenced by the water added to the boreholes for core drilling.

Figure 3 – Asbestos Detection – Findings

- Hazardous Materials Risk Assessment (Greencap) : C120920 : J146932-02



Summary of Identified Items

The following table provides a general overview of the types of Hazardous Materials identified on site; specific findings are presented in the Hazardous Materials Register.

Building / Level	Asbestos		Hazardous Materials				
	Friable	Non Friable	SMF	PCBs	Lead Paint	Lead Dust	ODSs
B00A - Ground Level		YES	YES				YES
B00A - Sub-Floor		YES					
B00B - All Levels		YES					
B00B - Ground Level		YES					YES
B00B - Level One		YES	YES				
B00D - All Levels		YES					
B00D - Ground Level		YES	YES				YES
B00D - Level One		YES	YES				
B00K - Ground Level		YES	YES				YES
B00E - All Levels		YES					
B00E - Ground Level		YES	YES				YES
B00E - Sub-Floor		YES					
B00E - Level One	YES	YES	YES				

Site Demolition plan – Conrad Gargelt A1100 Rev A

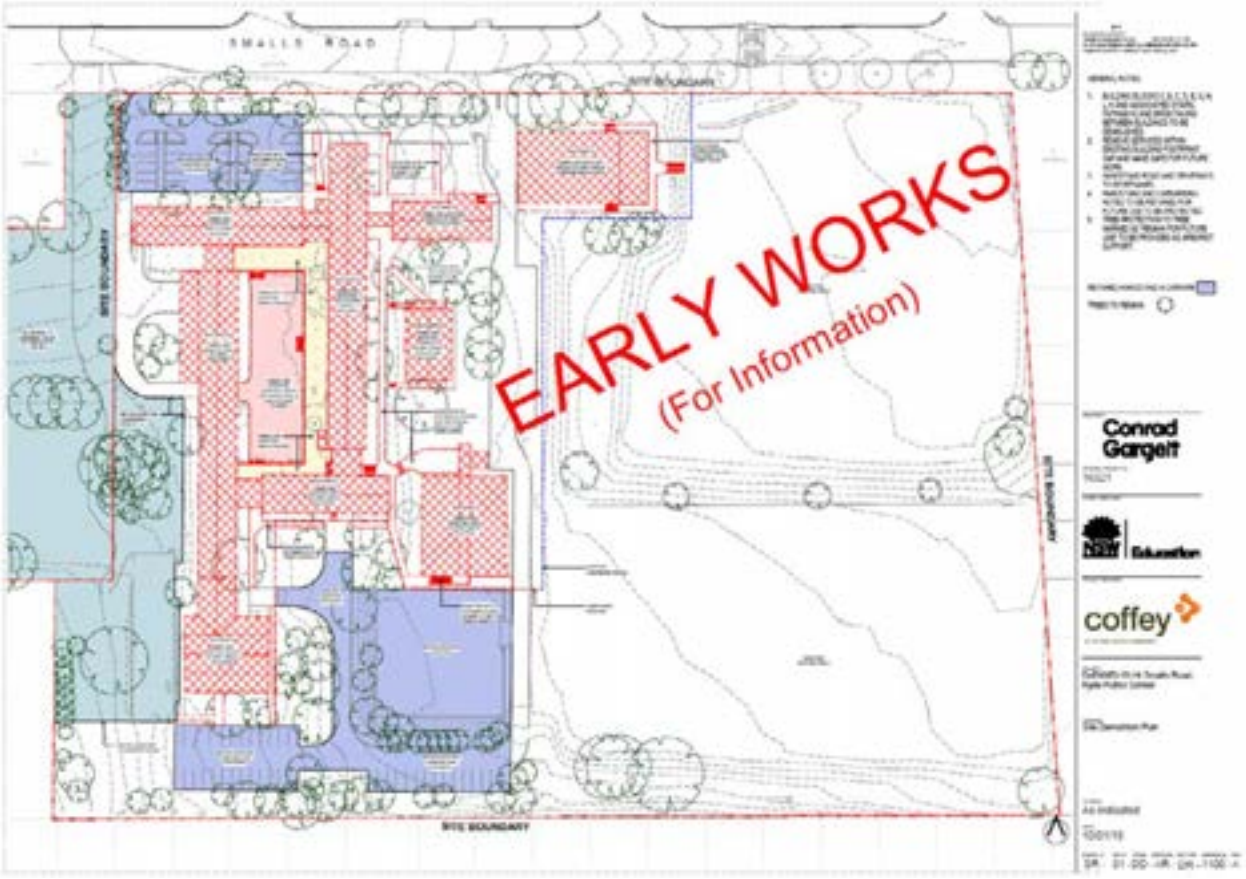


Figure 4 – Soil Sampling Locations – Findings

Soil Contamination Investigation (Greencap) : Ref J146932-01

Table 8 – Heavy Metals in Soil (mg/kg)

Sample	Depth (mbgl)	As	Cd	Cr	Cu	Pb	Hg	Ni	Zn
BH-1	0.0-0.2	8	nd	47	17	47	0.5	6	42
BH-2	0.3-0.4	4	nd	21	16	18	nd	7	9
BH-3	0.1-0.2	6	nd	21	15	23	nd	4	13
BH-3	0.9-1.0	5	nd	11	10	20	nd	nd	3

Sample	Depth (mbgl)	As	Cd	Cr	Cu	Pb	Hg	Ni	Zn
BH-4	0.1-0.2	9	nd	41	21	33	0.2	5	29
BH-5	0.1-0.3	4	nd	16	22	20	nd	16	52
BH-6	0.2-0.3	nd	nd	11	9	23	nd	nd	4
BH-7	0.2-0.4	5	nd	28	21	26	nd	4	14
BH-8	0.3-0.4	11	nd	56	19	40	0.7	8	27
BH-8	1.3	5	nd	5	17	15	nd	nd	3
BH-9	0.3-0.4	6	nd	39	11	26	0.3	5	20
BH-9	1.4	9	nd	60	20	31	0.7	3	20
Residential C, NEPM (NEPC, 2013)		300	90	300*	17,000	600	80	1,200	30,000
EILs for Soils (mg/kg)		100	--	411	225	1120	--	310	153
No. of Exceedances		0	0	0	0	0	0	0	0

nd = Not detected above the NATA Accredited Laboratory levels of detection | ns = not tested | * note that criteria is for CrVI and not Total Cr

Figure 5 – Proposed Development Plan

Site plan A1101 – Conrad Gargelt Rev A

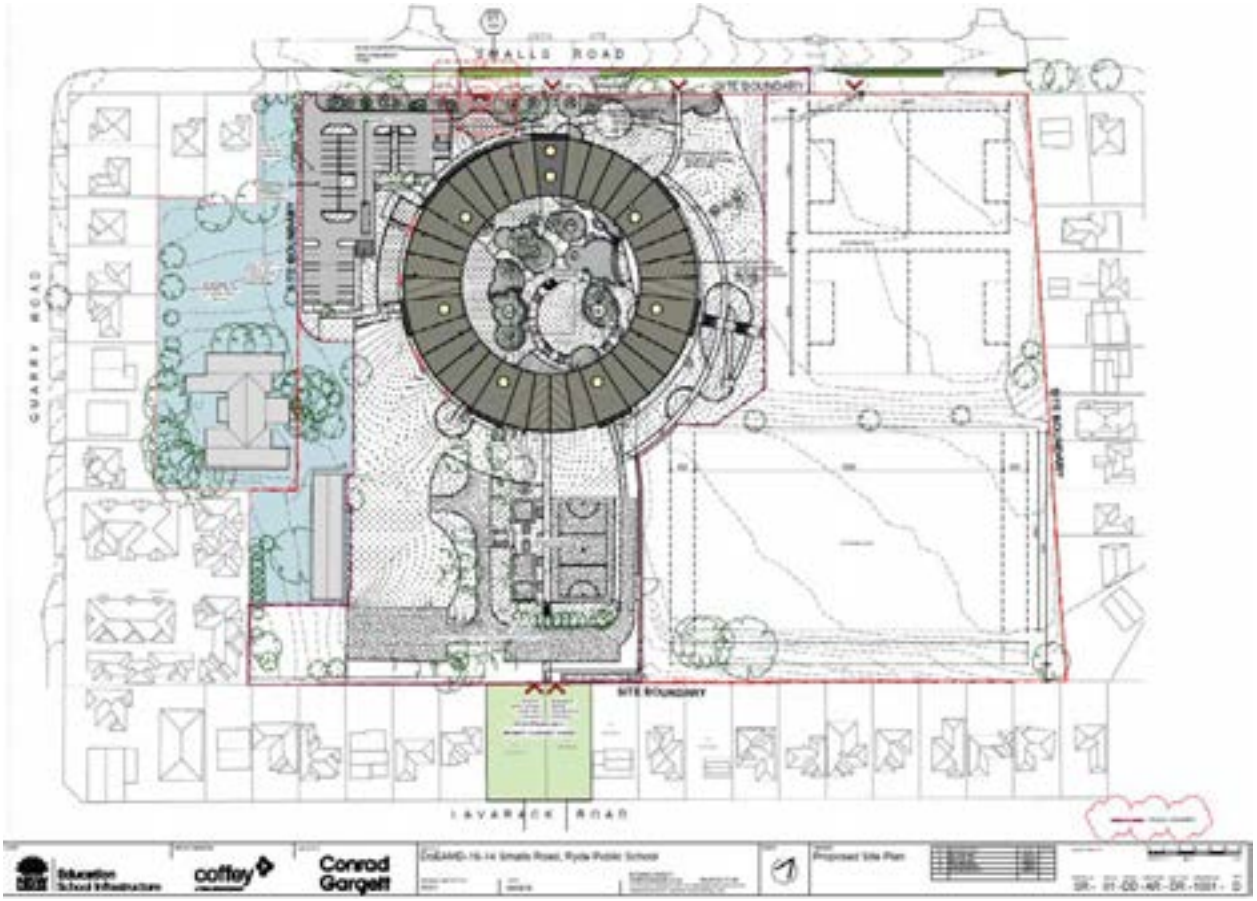


Figure 6 – Tree Protection Plan

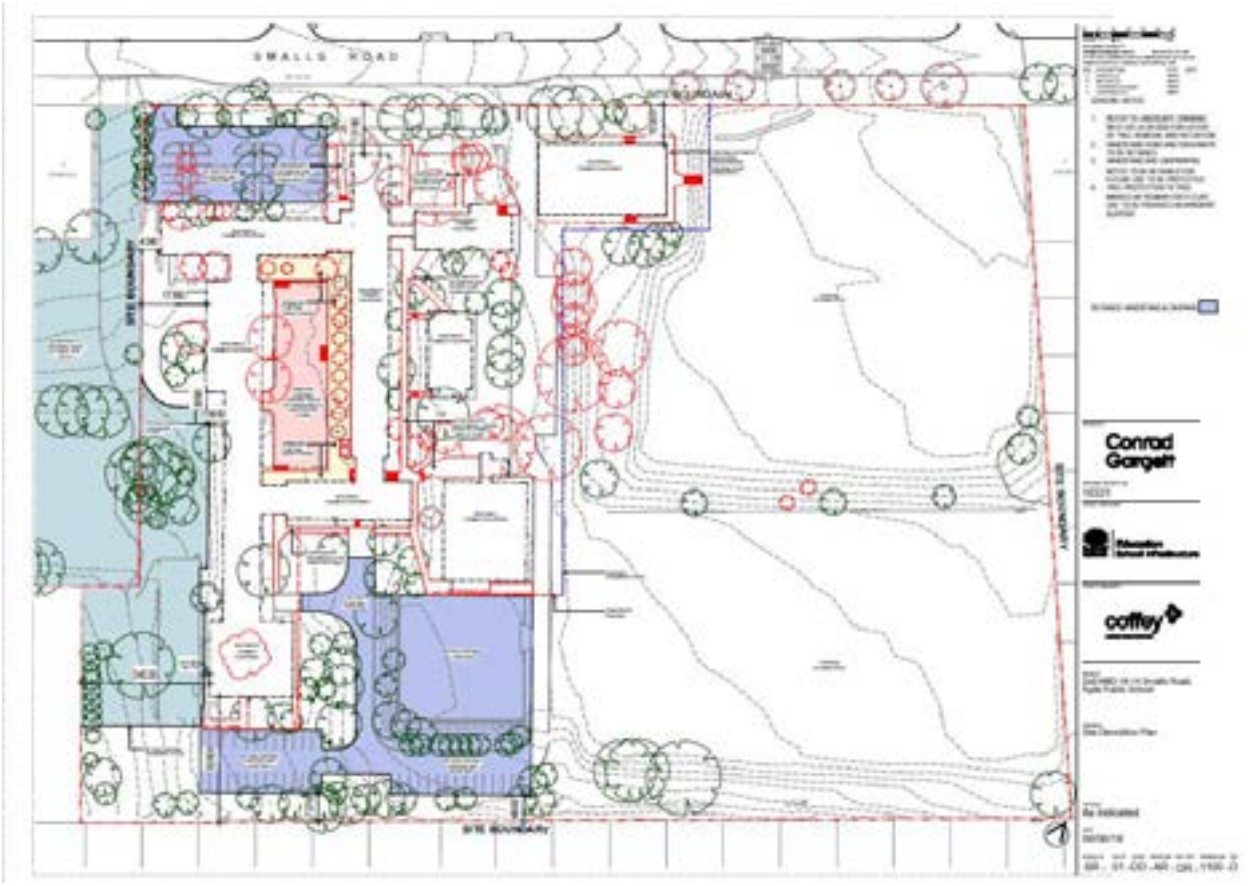
The Arboricultural Impact Assessment Report (Priority Tree Services) : 17/08/11/3BSRR appendix 2 identifies all 150 trees onsite with a corresponding tree ID table p31 outlining recommendations . Given the AIA report was undertaken prior to demolition works a dilapidation report should be undertaken to assess the current health of trees onsite prior to RCC possession.

In total 150 trees occupy the site with 52 required to be removed for the future building, an additional 8 to be removed for landscape works and a further 6 to be removed as per Tree Hazard Assessment Report (Urban Arbor) : Rev 1 18.1.2017. All remaining trees (84 in total) must be protected for the duration of the development in accordance with AS4970-2009.

- Arboricultural Impact Assessment Report (Priority Tree Services) : 17/08/11/3BSRR – Appendix 2

- Site Demolition Plan – A1100 Rev D – Conrad Gargelt Architecture

66 Trees in red to be removed as per Arboricultural Impact Assessment Report p31. Remaining 84 trees in green to be protected as per Arboricultural Impact Assessment Report p40 tree protection specifications.



- Tree Hazard Assessment Report (Urban Arbor) : Rev 1 18.1.2017

Appendix 1 - Full List of Trees Identified

Tree ID	Common Name	Latin Name	Height (m)	Trunk Dia. (mm)	Spread Radius (m)	Maturity	Health	Structure	SULE	Target	Site	Productivity	QTRA Rating	Work Item	Priority	Comment
1	Dead Tree	Unknown spp	8	280	1	Dead	Poor	Poor	4. Remove	3	2	3	30000	Remove tree & cut close to ground level	Medium	Dead tree adjacent to vehicle access road.
2 (45)	Black Peppermint	Eucalyptus nicholii	11	550	8	Mature	Fair	Poor	4. Remove	2	Property	3	40000	Remove tree and grind stump to below ground level	Medium	2 x Large fungal bracket (Phellinus) in trunk and main stem. Canopy declining (20% dieback).. Remove tree.
3 (43)	Broad Leaved Scribbly Gum	Eucalyptus haemastoma	9	600	8	Mature	Good	Poor	4. Remove	3	Property	3	40000	Remove tree and grind stump to below ground level	Medium	Trunk curves significantly North at 2.5m. Crown shape asymmetric and weighted same direction (car parking bays below). Large cavity on upper side of trunk at curve in trunk (future hot spot) and additional decay higher on trunk. Remove tree.
4 (26)	Eucalypt	Eucalyptus spp	17	700	9	Mature	Fair	Fair	1. Short	3	Property	3	30000	Internal Decay Test - See Notes	High	Trunk trifurcates at 6m. North stem has large vertical (over 3m height) wound that curves round stem at 8m with fungal bracket (Phellinus). Indicators of declining health. Decay test North stem at 8m or remove tree.
5 (9)	Eucalypt	Eucalyptus spp	16	1100	15	Mature	Good	Fair	1. Short	2	Property	4	30000	Internal Decay Test - See Notes. Also remove deadwood larger than 30mm in diameter if trunk passes decay test only.	High	Significant cambium damage to North of trunk (40-45% of circumference of cambium). Evidnec of termite activity at trunk. Trunk bulges between ground and 2m indicating internal decay. Decay test trunk at approx 1m above ground. Deadwood pruning required if tree passes decay test.
6 (7)	Sydney Blue Gum	Eucalyptus saligna	20	950	15	Mature	Fair	Poor	4. Remove	3	Property	2	8000	Remove tree and grind stump to below ground level	High	Fungal bracket (Phellinus) in wound on trunk at 6m. Extensive dieback in crown (40%). Section of remaining live crown mostly epicormic growth. Remove tree.
7 (26)	Lemon Scented Gum	Corymbia citriodora	21	400	8	Mature	Good	Poor	4. Remove	2	3	3	50000	Remove tree and grind stump to below ground level	Medium	Main stem previously failed at 7m. Decay column has formed at base of branch that has become dominant stem, structurally compromising remaining main stem. Poor overall structure and minimal potential for improvement in future. Remove tree.
8	Cypress	Cupressus spp	10	1000	8	Mature	Good	Fair	3. Medium	2	5	7	7000	Suspended or broken branches	High	7 x suspended branches overhanging access driveway
9	Silky Oak	Grevillea robusta	9	350	3	Dead	Poor	Poor	4. Remove	3	2	2	30000	Remove tree and grind stump to below ground level	High	Dead tree adjacent to playing field (specimen shade area).
10	Black Peppermint	Eucalyptus nicholii	8	800	8	Mature	Fair	Poor	4. Remove	3	1	3	40000	Remove tree and grind stump to below ground level	Medium	Several large fungal brackets on trunk and main stems. Health declining. Species known to develop decay quickly when infected by fungal pathogen. Remove tree.

Appendix B – Asbestos Management Plan

No Asbestos management plan required, as asbestos contamination is to be removed by Client prior to site possession and confirmed with a site clearance certificate. Any insitu hazardous materials to remaining onsite are to be captured within a Hazardous Materials management Plan HMMP and be provided by the client to RCC prior to site possession.

- Hazardous Materials Risk Assessment (Greencap) : C120920 : J146932-02

GREENCAP

Findings & Recommendations

Recommendations

- Engage an appropriately licensed asbestos removal contractor to undertake remedial/removal works of all P2 items under controlled conditions as soon as practical.
- Engage an independent asbestos consultant to undertake asbestos fibre air monitoring during and after the remedial/removal works and to provide clearance certification once works have been satisfactorily completed.
- Schedule periodic re-assessments of the asbestos-containing materials remaining in-situ to monitor their condition in accordance with the Code of Practice.
- Develop a Hazardous Materials Management Plan (HMMP) to manage the risks associated with remaining in-situ hazardous materials located at the site and ensure compliance with relevant Legislation, Codes of Practice and Australian Standards.
- Provide Asbestos Awareness training to staff and site personnel in accordance with the requirements of the Code of Practice.
- Consult with staff and health and safety representatives on the findings of this risk assessment and this report must be made available upon request, in accordance with the requirements of the Code of Practice.
- Ensure all asbestos-containing materials remaining in-situ are labelled appropriately to warn of the dangers of disturbing these materials.
- Prior to demolition/refurbishment works undertake a destructive hazardous materials survey of the premises as per the requirements of AS 2601: 2001 The Demolition of Structures, Part 1.6.1 and Demolition Work Code of Practice (Safe Work Australia, July 2015).
- Confirm that the contractor conducting works involving refrigerants holds a refrigerant trading authorisation with the Australian Refrigeration Council (ARC) and a refrigerant handling licence under the Ozone and Synthetic Gas Management Regulations 1995.
- Ensure that the air-conditioning contractor engaged to conduct maintenance and repair work involving refrigerants conducts the appropriate recovery and recycling of refrigerants.
  Ozone depleting refrigerants should be decanted by a suitably licensed contractor in accordance with the Australia & New Zealand Refrigerant Handling Code of Practice 2007, Part 1. Self-Contained Low Charged Systems prior to the de-commissioning of the equipment.
- Ensure that future purchases of air-conditioning plant include refrigerants with non-ozone depleting potential.
- Capacitors and electrical components identified as containing Polychlorinated Biphenyls (PCBs) should be de-energised by a licensed electrician and removed under controlled conditions and disposed of in accordance with environmental protection guidelines prior to refurbishment or demolition works.
- Synthetic Mineral Fibre (SMF) materials should be removed under controlled conditions prior to demolition /refurbishment works, in accordance with the requirements of the Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC:2006(1990)].
- Should any personnel come across any suspected asbestos or hazardous materials, work should cease immediately in the affected areas until further sampling and investigation is performed.
- Areas highlighted in the Areas Not Accessed section as areas of 'no access' should be presumed to contain hazardous materials. Appropriate management planning should be implemented in order to control access to and maintenance activities in these areas, until such a time as they can be inspected and the presence or absence of hazardous materials can be confirmed.
- Greencap can assist with the implementation of any of the above recommendations.

RICHARD CROOKES
CONSTRUCTIONS

SMALLS ROAD PUBLIC SCHOOL
11441144

ASBESTOS MANAGEMENT PLAN

18 October 2018

This plan has been approved for use by the following:

Approved by / Date

Belal Afyouni, Project Manager

Approved by / Date

Craig Richmond, Business Systems , QA/Env Manager

Approved by / Date

Garry Mansfield WHS Manager

Approved by / Date

Ian West, General Manager – Commercial & Risk

REVISION REGISTER

REVISION DATE	REVISION DESCRIPTION	PMS INITIALS (ACCEPTANCE OF CHANGES)
18/10/2018	Original issue	B.A
28/03/2019	Revised attachment ASRMP	B.A
30/9/19	Additional Material Found	B.A

POSITION	NAME	SIGNATURE	REVISIONS		
			<18/10/2018>	28/03/2019	30/09/19
Construction Manager	Cameron Waller				
Project Manager	Belal Afyouni				
Site Manager	James Fitzgerald				
Contracts Administrator	Paul Schwebel				

POSITION	NAME	SIGNATURE	REVISIONS
Cadet	Ahmed Boussi		
PE	Joshua C		
PE	James M		
Supervisor	Matt G		
Supervisor	Andrew L		

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ACM MANAGEMENT PLAN TRAINING REGISTER

Name	Project Position	Signature	Trained By	Tool box date
James Fitzgerald	Site Manager			4/2/19
Matt Grady	Site Supervisor			18/10/18
Jamie Sedgbeer	Construction Worker			21/1/19

1 INTRODUCTION

1.1 PURPOSE

The management of asbestos containing materials is important to ensure the Asbestos Containing Material (ACM) are not damaged nor deteriorate to such an extent that site workers, public, external contractors or visitors are unnecessarily exposed to airborne asbestos fibres.

The requirements of the contractor site induction and permit to work system will aid in the management of ACM's throughout the site. Any other unexpected finds that are or could be potentially hazardous will follow the same protocol as ACM.

1.2 GENERAL PRINCIPLES

The RCC's principles of asbestos management have been adapted from general principles published in the Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018 (2005)]. These principles are summarised below:

- Consideration should be given to the removal of ACM during any renovations, refurbishments or maintenance work in preference to other control measures such as encapsulation, enclosure and sealing.
- The WHS Regulation requires all ACM within the construction area to be labelled. (Refer 6.3 Labelling)
- Where ACM is identified or presumed, the locations and type of ACM are to be recorded in the ACM Register located within the Asbestos management plan folder.
- A risk assessment must be performed on all identified or presumed 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.
- All workers and contractors on site etc. must be advised of the ACM Register at time of induction, and as requested, permitted access to the register for their review
- Only competent persons should undertake the identification of ACM.
- All workers and contractors on site 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.
- Reasonable steps must be taken to identify all possible locations of ACM within the site.
- Once a risk assessment has been completed and controls established, a SWMS is to be developed and submitted to RCC'S site management team for approval

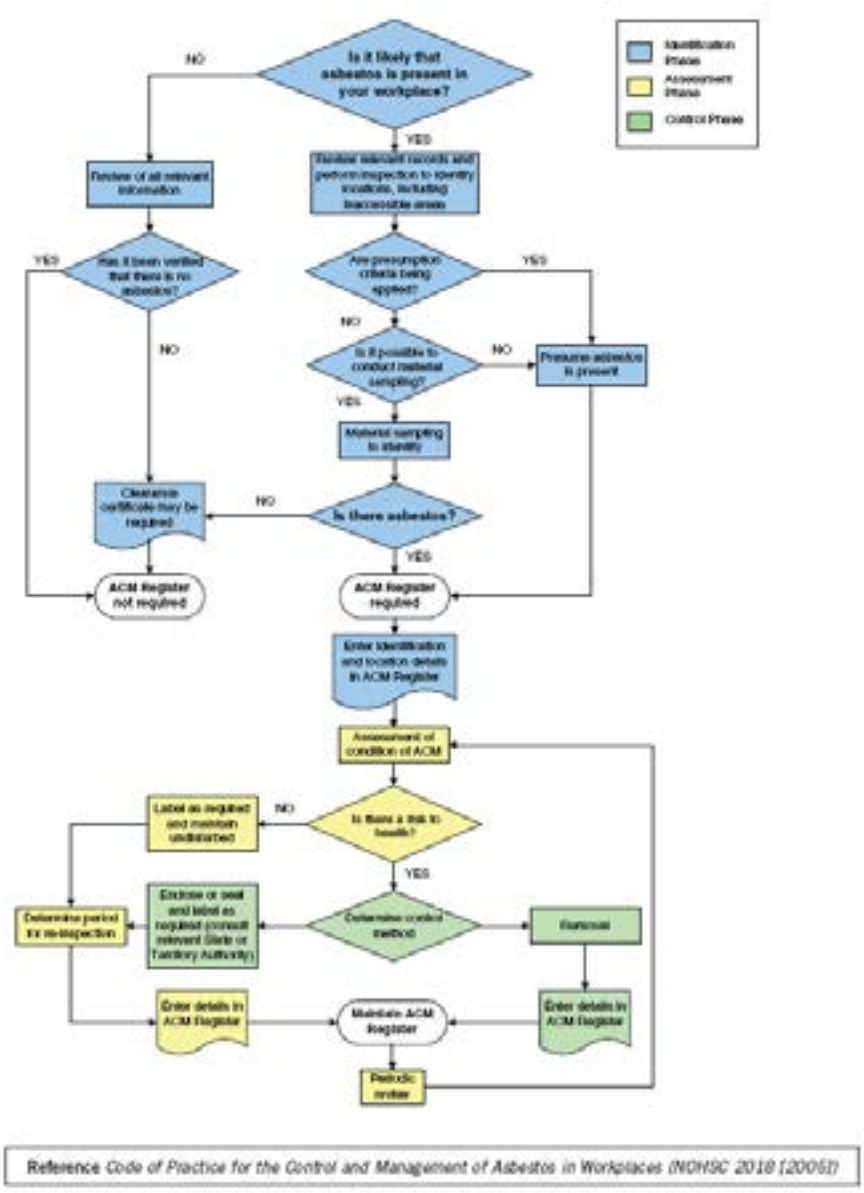


Figure 1: General principles of an asbestos management plan

Source: Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018 (2005)]

2 OBJECTIVES

- Remove all high-risk asbestos items where possible.
- Deliver effective asbestos management work programs.
- Ensure that no one is exposed to airborne asbestos fibres.
- Ensure compliance with this Asbestos Management Plan.
- Ensure the asbestos database and register is accurate.
- Comply with State and Commonwealth legislation.
- Remove asbestos containing items when and where possible

3 REGULATORY REQUIREMENTS

This asbestos management plan is consistent with removal, encapsulation, transport, and disposal or otherwise potential disturbance of asbestos containing materials. All these activities shall be performed in accordance with relevant Commonwealth and State Acts, Regulations, Codes of Practice, Advisory Standards and Industry Standards.

3.1 STATE LEGISLATIVE REQUIREMENTS – NEW SOUTH WALES/ACT

Relevant State legislation includes:

- ☒ Work Health and Safety Act 2011
- ☒ Work Health and Safety Regulation 2011

3.2 CODE OF PRACTICE/GUIDES

Key Codes of Practice and Guidance Notes include:

- ☒ Code of Practice for the Management and Control of Asbestos in the Workplaces [NOHSC: 2018 (2005)].
- COP- How to Manage and Control Asbestos in the workplace-Dec 2011
- ☒ COP- How to safely remove asbestos-Dec 2011

3.3 RCC REQUIREMENTS

- ☒ Project Managers (PM) /Site Managers (SM) must be notified before asbestos removal work commences.
- ☒ Any new asbestos identified must be explicitly notified to the PM/SM.
- ☒ All Staff and Contractors must comply with this Plan.
- ☐ Tenants and other interested parties must be notified of the asbestos removal work in advance and asbestos awareness training shall be made available to those persons affected by the asbestos work.

4 ORGANISATIONAL RESPONSIBILITIES

Person / Party	Responsibility
Construction Manager (CM), Project Manager (PM)	▪ Ensure all staff and contractors are aware of and comply with the plan. ▪ Project management ▪ Identification and bringing to the attention of appropriate staff, any suspect material ▪ Ensure all contractors working on asbestos are aware of and meet the requirement of the plan.
Site Manager (SM) Health Safety and Environmental Coordinator (HSE)	▪ Obtain from Subcontractor, copy of WorkCover Notification (Requirement of RCC Asbestos removal permit) ▪ Ensure project personnel (including contractors) are inducted ▪ Surveying, identification and arranging for sampling of suspected asbestos containing materials by competent persons. ▪ Training and awareness ▪ Manage the asbestos works program and removal program ▪ Respond to incidents ▪ Document preparation, recording and filing ▪ Manage asbestos inspection contractor
Contractors (C) and Trades Staff (TS)	▪ Not to impact on an ACM without complying with the plan ▪ To bring to the attention of the SM/HSE any suspect material ▪ Refer to the plan for guidance to identify, manage, and remove asbestos ▪ Apply for Asbestos Permit to Work when performing asbestos removal work that requires notification. ▪ Undergo RCC Contractor Induction ▪ Develop a site specific asbestos removal control plan, SWMS AND Risk Assessment prior to performing the asbestos removal work

5 CONTROL OF ASBESTOS HAZARDS

As part of the asbestos survey or subsequent resurvey, a 'Competent Person' is required to assess the risk posed by the ACM by completing a Risk Assessment; this will determine what, if any, control measures may be required. Generally, there are four control options available to select:

- Leave in-situ and manage
- Seal / encapsulate
- Enclose / isolate
- Remove

The controls are to be appropriate to the risk of the ACM in question. The following information should be used as a guideline when determining the correct control measure for management of the ACM risks.

If the ACM is friable, and there is a risk to health from exposure, it should be removed.

If the ACM is bonded and in a stable condition, encapsulation may be appropriate if the ACM is unsealed. Encapsulation is not necessarily required if the ACM is unsealed but it does provide another "barrier" to the potential release of asbestos fibre as well as prolonging the lifespan of the material by providing protection against UV and environmental elements etc.

ACM that are bonded, stable and sealed, which are unlikely to be disturbed during normal activities, can be left in-situ and managed, but need to be recorded in the ACM Register.

ACM within the works zone must be removed prior to the commencement of demolition, partial demolition, renovation or refurbishment if they are likely to be disturbed by those works. This is in accordance with the NOHSC Code of Practice for the Safe Removal of Asbestos [NOHSC: 2002 (2005)].

5.1 REMOVAL OF ACM

5.1.1 LICENSED CONTRACTORS

ACM falls into two broad categories (bonded and friable) and the category the ACM falls under will determine how the ACM is removed. If the ACM is classified as friable (e.g. sprayed limpet, pipe lagging, millboard insulation, vinyl sheet floor coverings with asbestos backing material, etc.) it is necessary to engage a contractor who holds a current AS-A class license for friable asbestos removal. The holder of an AS-A licence is also permitted to removed Bonded ACM

If the ACM is classified as bonded ACM (e.g. asbestos cement wall linings, Super Six roof sheeting, vinyl floor tiles, Zelemite electrical boards, etc.) the ACM may be removed by the contractor who holds a current AS-B licence for bonded asbestos removal. The holder of an AS-B licence is not permitted to remove friable ACM.

5.1.2 WORKCOVER – NOTIFICATION

For Bonded ACM, in quantities greater than 10m^2, requiring a licensed contractor (AS-B) to complete the removal works, a WorkCover Notification is required to be lodged by the Licensed Contractor.

The Notification is required to be lodged a minimum of seven (7) working days prior to starting the removal works. WorkCover will review the application and return the first two pages, stamped with an official WorkCover approval. No works are to proceed prior to the receipt of the Notification.

RCC will require a copy of the WorkCover stamped 'Notification' prior to issuing an RCC Asbestos removal permit.

5.1.3 WORKCOVER – PERMIT

For all Friable removal works, regardless of quantity, a suitably licensed contractor (AS-A) must apply to WorkCover for a Permit prior to removal works progressing.

The Permit application is required to be lodged a minimum of seven (7) working days prior to starting the removal works. WorkCover will review the application and return the first two pages stamped with an official WorkCover approval and, issue a separate numbered Permit. No works are to proceed prior to the receipt of the permit.

RCC will require a copy of the WorkCover 'Permit' and the application form prior to issuing an RCC Asbestos removal permit.

5.1.4 AIRBORNE FIBRE MONITORING

Airborne fibre monitoring must be conducted during and after the removal of all friable ACM by an independent competent person. For Bonded ACM, air monitoring is conducted as part of the clearance certificate (where required) or as requested by RCC, client or Hygienist. Air monitoring is conducted during the removal works to check the effectiveness of control measures implemented by the contractor (e.g. isolating the removal work area with a sealed, airtight enclosure fitted with negative air generating units, etc.).

Air monitoring is also conducted after the ACM has been completely removed and the work area has passed a satisfactory visual inspection to determine whether the area is safe to reoccupy by unprotected persons.

5.1.5 CLEARANCE CERTIFICATES

For all Friable ACM removal works or, as requested by the client or RCC for Bonded works, before an area can be re-occupied post asbestos removal, a clearance inspection must be carried out. The clearance inspection must be undertaken by an independent competent person only and a clearance certificate must be obtained from that competent person. Clearance monitoring is a mandatory requirement for all friable asbestos removal works and is recommended for bonded ACM removal works particularly when the bonded ACM is located internally or near sensitive receptors.

The complete removal of all ACM must be verified with a written clearance certificate which must include details of a satisfactory clearance inspection conducted by the independent competent person. If clearance air monitoring has been conducted, the results of the clearance monitoring must be included as part of the clearance certificate as well.

5.1.6 WASTE

All asbestos waste shall be disposed of at an approved landfill disposal site by licensed contractors, and in accordance with the requirements of The Legislation. Transport and disposal of asbestos waste shall be carried out only in a manner that will prevent the liberation of asbestos fibres in to the atmosphere.

To achieve "final completion" of an asbestos removal activity, RCC require verification that the asbestos waste has been transported and disposed of in accordance with State/Territory legislative requirements. A copy of the EPA Waste Tracking document is the required documentation for disposal, and a copy of the necessary License for carrying out this removal and disposal is the required documentation for transportation.

5.2 RECORD KEEPING

RCC shall maintain detailed records of all activities relating to asbestos works which have been undertaken on site. The records kept should include:

- Copies of all asbestos survey/audit reports, including updates and amendments. (RCC ACM Registers)
- Copies of all WorkCover notifications and permits
- Risk Assessments and SWMS documents.
- RCC Asbestos removal permits
- RCC Air Monitoring and Clearance certificate records
- Records pertaining to the informing of employees/contractors about the presence of asbestos on site, and those employees have been appropriately trained in safe work procedures and practices.
- Clearance certificates indicating areas are safe to reoccupy after asbestos abatement works; and
- Airborne fibre monitoring results
- Previous versions of the asbestos register

All documentation is to be retained in the one file structure under the heading of Asbestos Management. All asbestos related records and documents are to be retained for a period of 30 years.

5.3 LABELLING

Current State and Territory legislation specify the requirements for some form of labelling in buildings. [NOHSC: 2018(2005)] states all in-situ ACM's should be labelled where practicable. The words 'should' and 'practicable' in the Code of Practice allow some flexibility in the approach to labelling. Similar flexibility is allowed under State and Territory workplace health and safety legislation.

RCC has advised that individual labelling of ACM is to be determined by a Competent Person usually nominated by the client however may not be necessary in every instance.

All friable and high risk asbestos situations, as well as any location containing ACM's where regular maintenance or repair work is likely to be carried must be labelled.

In locations where ACM has been identified within close proximity to the work area, but not required to be removed or disturbed, should be labelled or sign posted warning of 'Asbestos containing material, do not disturb' or in wording similar.

Ref: WHS Regulation, Chapter 8, Asbestos- Clause 469

An asbestos removalist must ensure that:

a) Signs alerting persons to the presence of asbestos are placed to indicate where the asbestos removal work is being carried out, and

b) Barricades are erected to delineate the asbestos removal area.

5.4 WARNING SIGNS

All site areas which are known or suspected to contain ACM's shall have a warning sign at every main entry into the area indicating that an asbestos register exists for the site and a point of contact must be contacted before undertaking any works.

The warning sign must be clearly visible from all directions leading onto the area.

5.5 SAFE WORK PRACTICES

Prior to commencing any works on RCC sites, such as demolition, refurbishment, maintenance or installation of new equipment, the asbestos register must be consulted to determine if any ACM are present which may be disturbed. This ACM must be removed before commencement of the work. If unknown materials, or undocumented materials suspected of containing asbestos are encountered during building works, stop work and follow the Incident response procedures shown in figure 7.0.

If a project is likely to impinge upon ACM the principal contractor (RCC) must assess the requirement for a licensed asbestos removalist to perform the asbestos removal work. A WorkCover permit / Notification may be required as part of an RCC, Asbestos Permit to work, prior to the asbestos removal work commencing.

5.5.1 MAINTENANCE PROCEDURES

Maintenance tasks that may impact on ACM are to be performed under controlled conditions to prevent the distribution of airborne asbestos fibres. [NOHSC: 2018(2005)] has procedures for certain maintenance tasks and these must be followed. These maintenance tasks include:

- The drilling of asbestos containing materials
- Sealing, painting, coating of asbestos cement products
- Cleaning leaf litter from the gutters of asbestos cement roofs
- Replacing cabling in asbestos cement conduits or boxes
- Working on electrical mounting boards (switchboards) containing asbestos

5.5.2 TOOLS AND EQUIPMENT

Tools and equipment to be used for asbestos removal jobs are required to minimise the generation of airborne asbestos fibres. High-speed abrasive power or pneumatic tools such as angle grinders, sander, saws and high speed drills must never be used. Hand tools are preferred over power tools.

At the end of the removal work, all tools should be:

Decontaminated (i.e. fully dismantled and cleaned under controlled conditions as described in the Code, or

Disposed of in sealed containers similar to that for disposal of the ACM waste product.

Vacuum cleaners used for asbestos cleaning must comply with:

- AS 3544-1988 (Industrial Vacuum Cleaners for Particulates Hazardous to Health) and
- AS4260-1997 High Efficiency Particulate Air Filters (HEPA) - Classification, construction and performance.

5.5.3 RCC ASBESTOS REMOVAL PERMIT

An RCC Asbestos Removal Permit form must be completed for any work on ACM.

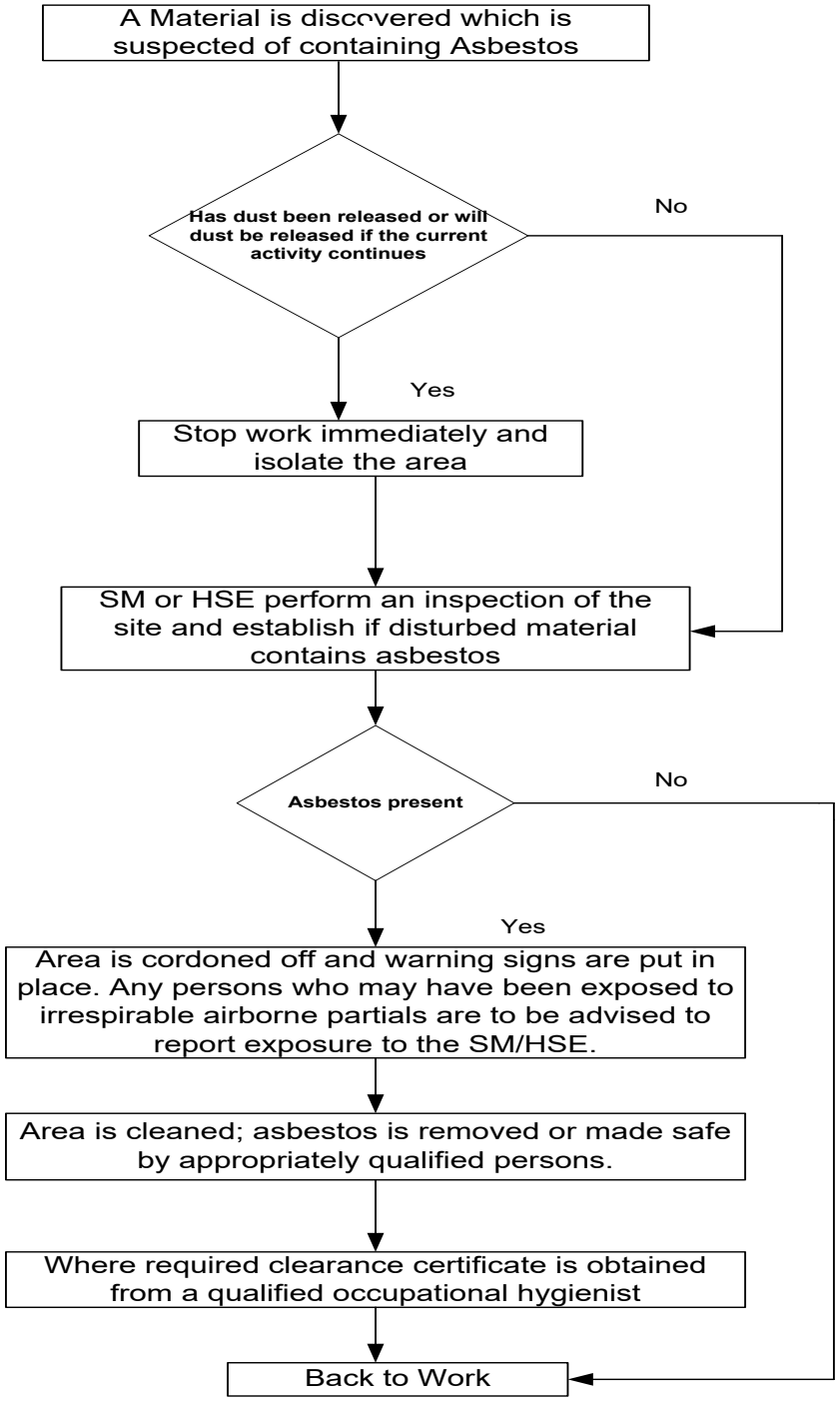
Before being issued with an Asbestos Removal Permit, individuals will be required to peruse the RCC Asbestos Management Plan and the Asbestos Register. Where practicable, contractors should be made aware of the requirements of the plan prior to tendering to ensure they allow for such requirements when quoting.

The Asbestos Removal Permit is designed to ensure appropriate work practices are employed when working with ACM. The Asbestos Removal Permit will document what ACM's are to be removed, encapsulated or otherwise protected, prior to the contracted works proceeding. The Asbestos Removal Permit will also check other requirements such as the need for barricading and airborne fibre monitoring.

The Demolisher or asbestos removal contractor will be responsible to ensure that their workers are aware of their responsibilities and abide by the requirements of the permit.

RCC's Site Manager or HSE Coordinator shall be advised immediately of any incidents of non-compliance with the RCC Asbestos Management plan or the Code.

6 INCIDENT RESPONSE FLOW CHART



7 DOCUMENTATION REQUIREMENTS

7.1 ASBESTOS CONTAINING MATERIAL (ACM) REGISTER FORM 21.1A

The RCC ACM register will be generated where no report has been received from the client or when additional ACM items have been identified but not listed in previous reports.

The RCC ACM register and the clients ACM report will be monitored and signed off where required, when ACM works are completed.

Supporting information that should be included in the register is:

- ☐ Register of ACM items
- ☐ Register of items which were samples but found to contain no asbestos
- ☐ Certificates of analysis
- ☐ Photos
- ☐ Floor plans with asbestos containing items marked up

7.2 ASBESTOS REMOVAL PERMIT FORM 21.1B

The RCC Asbestos removal permit is required to be completed prior to any ACM removal / remedial works.

The requirements for supporting documentation are listed within the permit.

7.3 ASBESTOS CONTAINING MATERIAL (ACM) AIR MONITORING & CLEARANCE CERTIFICATE RECORD FORM 21.1C (NOTE: 1 FORM PER ACTIVITY / ITEM)

Asbestos Containing Material (ACM) Air Monitoring & Clearance Certificate Record is used to collate all associated documentation involved in the identification, removal, remediation, transport and disposal of logged ACM.

8 TRAINING

8.1 ASBESTOS AWARENESS TRAINING

Asbestos awareness training provides participants with a general overview of asbestos including history and background; asbestos types and properties; common asbestos situations; health effects; risk in perspective and management of asbestos. Conducted by RCC person, ACT region training conducted by MBA or other ATO accredited company mandatory for Act Workers.

8.2 ASBESTOS REMOVAL TRAINING

This course is typically provided by an external registered training organisation (RTO) to personnel who intend to remove bonded ACM, pre-requisite for obtaining a WorkCover recognised licence

APPENDIX 1 – 21.11 ASBESTOS CONTAINING MATERIAL (ACM) REGISTER

Project Name:	SMALLS ROAD PUBLIC SCHOOL	Report date:	
Project Number:	1144		

Item No.	Date Entered	Entered by	Location of ACM	Sample Tested Y/N	Asbestos Bonded / Friable / NA	Description of ACM type & condition, remedial works planned (Scattered pieces, sheeting, pipe lagging etc.)	Date work completed
1	**1/3/19**	**JC**	**OSD Tank area**	**Y**	**Bonded**	**Scattered Pieces**	**12/6/19**
2	**24/9/19**	**JC**	**Front of site Block 6**	**N**	**Bonded**	**Scattered Pieces**	**2/10/19**

APPENDIX 2 – 21.11A ASBESTOS REMOVAL PERMIT

Project Name:		Company Performing Work:	
Contractors Contact:		Position:	
Location of works:			
Description of Work:			
RCC Asbestos Register – Item Identification number:			

Asbestos Type

Bonded Less than 10m² □	No License or Permit / Application required	
Bonded Greater than 10m² □ AS-B Lic. No:_____	Copy of WorkCover Stamped, Notification to be obtained from contractor prior to start.	
Friable □ AS-A Lic. No: _____	Copy of WorkCover stamped, Permit application to be obtained from contractor prior to start.	WorkCover Permit No: _____

Permit begins	Permit expires
Date: / / Time: am/pm	Date: / / Time: am/pm
Date: / / Time: am/pm	Date: / / Time: am/pm
Date: / / Time: am/pm	Date: / / Time: am/pm
Date: / / Time: am/pm	Date: / / Time: am/pm

RCC Emergency Contact information

Name of RCC Contact:		Tel:	( )

Authorisation by company representative

The above work is authorised to proceed subject to the following action being taken prior to work starting and procedures being maintained for the duration of the work.

RCC Representative Name:	Position:	Signature:

	Yes	N/A		Yes	N/A
Work area has been inspected prior to works proceeding			Contractor has read the requirements of the RCC, ACM Management plan		
Risk Assessment completed			Disposal method established		
Will the area be occupied during the works			Air conditioning / Mechanical ventilation isolated:		
Is it necessary to vacate the building during the works			Electrical isolated (Written confirmation from Electrician required)		
SWMS reviewed by RCC			Signage / Barricades in place		
Air monitoring required			Clearance certificate required		

Weekly Review of Permit

	Week 1	Week 2	Week 3	Week 4
Signature and position of person issuing the permit:				
Signature of the person conducting the Work:				

APPENDIX 3 – 21.11B ASBESTOS CONTAINING MATERIAL (ACM) AIR MONITORING AND CLEARANCE CERTIFICATE RECORD

In all Friable removal works and in other cases where requested by RCC or the client, a clearance certificate may be required post completion of ACM removal works. Clearance certificates may require air monitoring to be conducted during the removal process. All monitoring records are to be maintained and kept for a period of 30 years post completion. Separate form required for each location.

Project Name:	SMALLS ROAD PUBLIC SCHOOL	Project Number :	1144

Clearance Certificate location / item details

RCC ACM Register No: (Refer to ACM register)	Item description, type & Location (Wall sheeting, Bonded)	Removed		Date removed
		Yes	No	

Air Monitoring Results

Monitoring Unit ID;	Sample location	Start time (24hour)	Finish time (24 Hour)	Average flow rate (mL)	Fibres / Fields	Result Fibres/mL

Completion sign off by competent person

Copy of final clearance certificate attached ☒	Copy of waste transport receipt attached ☒	
Copy of waste disposal dockets attached ☒	Copy of ACM work permit attached ☒	

Name:	Joshua C	Position:	Project Engineer	Signature:		Date:	1/3/19

APPENDIX 4 – 40.3 SAFE WORK METHOD STATEMENT: REMOVAL OF BONDED ASBESTOS SCATTERED AT RANDOM

[PCBU Contractor Name, contact details] Ace Demolition & Excavations		**Principal Contractor (PC) [Name, contact details] Richard Cookes**	
Works Manager: Contact Phone:		**Date SWMS provided to PC:**	**Revision No:1**
Work activity/trade:		**Project Name::**	
HIGH RISK CONSTRUCTION WORK: HRCW	Risk of a person falling more than 2 metres (*Note*: in some jurisdictions this is 3 metres)	Work on a telecommunication tower	Demolition of load-bearing structure
	Likely to involve disturbing asbestos	Temporary load-bearing support for structural alterations or	Work in or near a confined space
	Work in or near a shaft or trench deeper than 1.5 m or a tunnel	Use of explosives	Work on or near pressurised gas mains or piping
	☐ Work on or near chemical, fuel or refrigerant lines	Work on or near energised electrical installations or services	☐ Work in an area that may have a contaminated or flammable atmosphere
	☐ Tilt-up or precast concrete elements	☐ Work on, in or adjacent to a road, railway, shipping lane or other traffic corridor in use by traffic other than	☐ Work in an area with movement of powered mobile plant
	☐ Work in areas with artificial extremes of temperature	☐ Work in or near water or other liquid that involves a risk of drowning	☐ Diving work
Person responsible for ensuring compliance with		**Date SWMS received:**	
What measures are in place to ensure compliance with the SWMS?			
Person responsible for reviewing SWMS control measures:		**Date SWMS received by reviewer:**	

How will the SWMS control measures be			
Review date:		**Reviewer's signature:**	

Procedure (in steps):	Possible Hazards	Control Measures
Break the job down into steps. Each of the steps should accomplish some major tasks and be logical	Situation with potential to harm – injury, illness, damage, environmental impact Eg.loss of control of plant	What actions are necessary to eliminate or minimise the hazards – elimination, substitution, isolation, engineers solutions and lastly PPE
Isolation / protection of Asbestos containing material (ACM)	Disturbance of ACM Incorrect removal	Isolate identified material by removing workers form the area and barricading off minimum radius of 5 metres – Danger tape. Warning signage to be placed at the barrier to area warning of ACM Restrict access to one entry point ONLY Asbestos register to be updated in accordance with ACM Register. Initiate RCC ACM works permit process
Establish works area / removal area	Unauthorised entry to areas	Identify the boundary for the works area i.e the location where ACM is to be removed from and identify with danger tape and signage advising ACM removal in progress. Identify area for removal site i.e. the isolated region around the works,identify with danger tape & signage warning of restricted access ACM removal works in progress.
Protection of surrounding areas / adjoining structures	Adjoining areas contaminated by removal process	Prior to any removal: Protection in the form of 200 micron plastic to be secured to protect adjoining finishes (Floors / walls) Isolation / lock out of mechanical ventilation required prior to starting
Sealing of ACM prior to removal	Disturbance of ACM Water run off Electrical outlets i.e. switches, lights, outlets, alarms etc.	Ensure all electrical items are isolated from supply. Ensure all Any drains within the area to be protected. PPE as identified above. Low pressure coarse spray to be applied to all faces / edges. A mixture of water & PVA solution or detergent or paint can be used as a wetting agent. Ensure surface is saturated but minimise run off

		Ensure ACM is saturated through it's full depth prior to removal / disturbing. Spray all accessible voids where dust may exist
Removal process	Damage to sheets General disturbance Manual handling	Determine methodology for removal Remove any loose sections prior to removing fixed sheets. Ensure all disturbed areas remain saturated, re-apply dampening method as required. Avoid breaking sheets where possible. Should sheets continually break, reassess method of removal. Support sheets prior to removing fixings Where possible, remove nails / fixings or punch nail heads through sheeting. 2 person lifts for heavy or awkward materials. PPE as specified above.
Packaging waste	Packages become loose and tear Materials spill onto ground Manual handling	**For small pieces**, ACM to be packaged into man-handleable packages, enclosed in heavy duty 200 micron plastic. (Bag or wrap) Where possibility of tearing is identified 2 layers may be required. Bags to be labelled with appropriate warnings similar to ' Caution Asbestos' or Asbestos within, do not open bag. Where bags are used, opening to be twisted and folded over and fixed with tape or other means. **For larger sections**, skips may be used but must be in good condition. Skip is to be lined in 2 layers of 200 micron plastic. ACM must be kept wet. Once skip is full, it's contents must be sealed with the plastic sheeting.
Clean up	Adjoining areas contaminated by removal process Manual handling	Ensure all disturbed areas remain saturated, re-apply dampening method as required. Start from the top and work down cleaning ledges, sills & high flat areas that ACM can settle. Remove any loose items. Start cleaning and removing plastic from furthest workpoint from exit working towards the exit point. The use of an Asbestos vacuum is permitted for dry decontamination cleaning. All waste to be disposed of in Same way to ACM. (Lined bin,

		plastic bag 200 micron) All PPE to remain on till area is decontaminated. Scrape / clean off excess materials from boots, tools etc with damp rag, into Asbestos waste bag. All disposable PPE to be placed in Asbestos waste bag and not re-used.
Disposal of waste	Incorrect disposal of waste	Materials to be disposed of at registered waste management fascility, capable of receiving Hazardous waste. Receipts of waste disposal to be collected and recorded in Asbestos register.
Other items as identified		

Project _____ Company _____

I/We the undersigned, employees of _____, declare that I/we have attended "Work Activity Training" in the tasks to be performed on this project and have had an opportunity to participate in the development / review of the SWMS. We acknowledge that all work will be performed in the manner described within the Safe Work Method Statement.

Date	Employee Name (print)	Certificate/Licence No.:	Signature	SWMS Trainer Name

Project: (List Project Name)	**Signed by Senior Management Company Rep.**
Contractor: Richard Crookes Constructions. Lvl 3. 4 Broadcast Wav. Artarmon NSW 2064	**Signature:** (Who has reviewed the SWMS)
Description of Work: SWMS - Removal of BONDED Asbestos containing material ONLY (ACM) quantity less than 10 square metres (Non licensed - Minor works) **Revision date:**	**Title:** (Your title)
	Date: (Date reviewed prior to release)

Potential Environmental Impacts:			
Air (odour, dust, fumes)	☑	Spills to ground	☑
Noise	☐	Soil Erosion	☐
Vibration	☐	Contamination/Haz materials	☑
Spills to drains/waterways	☑	Traffic / community	☐
Flora	☐	Fauna	☐
Waste:	☑	Other:	

Safety Equipment	
Fire extinguishers	☐
Barricades	☑
Ventilation	☐
Lighting	☐
Ladders/mobile scaffold	☐
Traffic control	☐
Welding screens	☐
Dust extraction	☐
Emergency response	☐

Permits	
Hot Work	☐
Excavation	☐
Confined Space	☐
Tag out / Lock out	☐
Formwork stripping	☐
Fall Arrest Systems	☐
Scaffold	☐
Other: RCC Asbestos Permit to Work	

Personal Protective Equipment (PPE)	
Hard Hat	☑
High Vis. Clothing	☐
Steep capped boots	☑
Face Shield/Welding Shield	☐
Safety Glasses	☑
Gloves	☑
Hearing Protection	☐
Fall Protection/Harness	☐
Other Task Specific: Face mask - Type 2 Cartridge, Disposable over-alls (Non - Velcro type).	

Procedure (in steps):	Possible Hazards	Risks	Inherant Risk Score (risk with no controls)	Control Measures	Residual Risk Score (risk after controls in place)	Resp. Person
Break the job down into steps. Each of the steps should accomplish some major tasks and be logical	Situation with potential to harm – injury, illness, damage, environmental impact Eg.loss of control of plant	List Eg. Damage to plant, buildings etc,injury or death, spills	Refer to RCC Risk Assessment Calculator F 21.5 Score 1, 2, 3	What actions are necessary to eliminate or minimise the hazards – elimination, substitution, isolation, engineers solutions and lastly PPE	Refer to RCC Risk Assessment Calculator F 21.5 Score 1, 2, 3	
Isolation / protection of Asbestos	Disturbance of ACM	Dust inhalation	1	Isolate identified material by removing	3	HSE

Risk Scores: 1= Immediately Stop work until controls in place, 2 =High priority controls in place as soon as practicable, 3= Low risk, planned re assessment of risk

Procedure (in steps):	Possible Hazards	Risks	Inherant Risk Score (risk with no controls)	Control Measures	Residual Risk Score (risk after controls in place)	Resp. Person
containing material (ACM)	Incorrect removal	Long term heath effects Cross contamination Whole of site closure		workers form the area and barricading off minimum radius of 5 metres – Danger tape. Warning signage to be placed at the barrier to area warning of ACM Restrict access to one entry point ONLY Asbestos register to be updated in accordance with ACM Register. Initiate RCC ACM works permit process		SM
Establish works area / removal area	Unauthorised entry to areas	Workers exposed to ACM	2	Identify the boundary for the works area i.e the location where ACM is to be removed from and identify with danger tape and signage advising ACM removal in progress. Identify area for removal site i.e. the isolated region around the works, identify with danger tape & signage warning of restricted access ACM removal works in progress.	3	SM, HSE Competent Person
Protection of surrounding areas / adjoining structures	Adjoining areas contaminated by removal process	Workers exposed to ACM	1	Prior to any removal: Protection in the form of 200 micron plastic to be secured to protect adjoining finishes (Floors / walls) Isolation / lock out of mechanical ventilation required prior to starting	3	Competent Person
Sealing of ACM prior to removal	Disturbance of ACM	Cross contamination	2	Ensure all electrical items are isolated	3	Competent

Risk Scores: 1= Immediately Stop work until controls in place, 2 =High priority controls in place as soon as practicable, 3= Low risk, planned re assessment of risk

Procedure (in steps):	Possible Hazards	Risks	Inherant Risk Score (risk with no controls)	Control Measures	Residual Risk Score (risk after controls in place)	Resp. Person
	Water run off Electrical outlets i.e. switches, lights, outlets, alarms etc.	to other areas Electrocution Explosion Slips / falls		from supply. Ensure any drains within the area are protected. PPE as identified above. Low pressure coarse spray to be applied to all faces / edges. A mixture of water & PVA solution or detergent or paint can be used as a wetting agent. Ensure all exposed surfaces (where exposed) are saturated but minimise run off, prior to removal / disturbing. Ensure ACM is saturated (where exposed), prior to removal / disturbing. Spray all accessible voids where dust may exist		Person
Removal process	Damage to sheets General disturbance Manual handling	Workers exposed to ACM Dust generation Cross contamination to other areas Strains / cuts	1	Determine methodology for removal Remove any loose sections prior to removing fixed sheets. Ensure all disturbed areas remain saturated, re-apply dampening method as required. Avoid breaking sheets where possible. Should sheets continually break, reassess method of removal. Support sheets prior to removing fixings Where possible, remove nails / fixings or punch nail heads through sheeting. 2 person lifts for heavy or awkward	3	Competent Person

Risk Scores: 1= Immediately Stop work until controls in place, 2 =High priority controls in place as soon as practicable, 3= Low risk, planned re assessment of risk

Procedure (in steps):	Possible Hazards	Risks	Inherant Risk Score (risk with no controls)	Control Measures	Residual Risk Score (risk after controls in place)	Resp. Person
				materials. PPE as specified above.		
Packaging waste	Packages become loose and tear Materials spill onto ground Manual handling	Workers exposed to ACM Dust generation Whole of site closure Environmental damage Strains / cuts	1	**For small pieces**, ACM to be packaged into man handle-able packages, enclosed in heavy duty 200 micron plastic. All asbestos waste must be double bagged or wrapped in 2 layers of 0.2mm plastic Bags to be labelled with appropriate warnings similar to 'Caution Asbestos' or Asbestos within, do not open bag. Where bags are used, opening to be twisted and folded over and fixed with tape or other means.	3	Competent Person
Clean up	Adjoining areas contaminated by removal process Manual handling	Workers exposed to ACM Dust generation Environmental damage Strains	1	Ensure all disturbed areas remain saturated, re-apply dampening method as required. Start from the top and work down cleaning ledges, sills & high flat areas that ACM can settle. Remove any loose items. Start cleaning and removing plastic from furthest work point from exit working towards the exit point. The use of an Asbestos vacuum is permitted for dry decontamination cleaning. All waste to be disposed of in Same	3	SM HSE Competant Person

Risk Scores: 1= Immediately Stop work until controls in place, 2 =High priority controls in place as soon as practicable, 3= Low risk, planned re assessment of risk

Procedure (in steps):	Possible Hazards	Risks	Inherant Risk Score (risk with no controls)	Control Measures	Residual Risk Score (risk after controls in place)	Resp. Person
				way to ACM. (Lined bin, plastic bag 200 micron) All PPE to remain on till area is decontaminated. Scrape / clean off excess materials from boots, tools etc with damp rag, into Asbestos waste bag. All disposable PPE to be placed in Asbestos waste bag and not re-used.		
Disposal of waste	Incorrect disposal of waste	Environmental contamination Environmental fines imposed People exposed Commercial disgrace	1	Materials to be disposed of at registered waste management facility, capable of receiving Hazardous waste. Receipts of waste disposal to be collected and recorded in Asbestos register.	3	SM
Other items as identified						

Details of Site Supervisory staff		
Name:	Qualification:	Certificates of Competence / WorkCover Approvals required:

Training Required to Complete Work
General WHS Induction Training
Work activity training – (Asbestos awareness training)
SWMS Training
Manual Handling training
Personal protective equipment
Other: RCC Asbestos Management Plan

Plant & Equipment: (Log books to be supplied)	

Codes of Practice, Legislation, etc. applicable :
Act: Work Health & Safety Act 2011 Protection of the Environment Operations Act 1997
Regulation: Work Health & Safety Regulation 2011
Codes of Practice: COP For the safe removal of Asbestos [NOHSC:2002(2005)] COP- How do manage and control asbestos in the workplace- Dec 2011 COP- How to safely remove asbestos- Dec 2011
Hygienists report, if submitted.

Project Company

I/We the undersigned, employees of _____, declare that I/we have attended "Work Activity Training" in the tasks to be performed on this project and have had an opportunity to participate in the development / review of the SWMS. We acknowledge that all work will be performed in the manner described within the Safe Work Method Statement.

Date	Employee Name (print)	Certificate/Licence No.:	Signature	SWMS Trainer Name

APPENDIX 5 - ASBESTOS IN SOILS REMOVAL MANAGEMENT PLAN

SYDNEY

LEVEL 3, 4 BROADCAST WAY
ARTARMON NSW 2064

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FAX: +61 2 9439 1114

NEWCASTLE

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BROADMEADOW NSW 2292

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HAMILTON NSW 2303

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TAMWORTH

SUITE 1, 493 PEEL ST
TAMWORTH NSW 2340

PO BOX 576
TAMWORTH NSW 2340

PHONE: +61 2 6766 5225
FAX: +61 2 6766 3022

ACT

UNIT 1, 155 NEWCASTLE ST
FYSHWICK ACT 2609

PO BOX 771
FYSHWICK ACT 2609

PHONE: +61 2 6143 2900
FAX: +61 2 6280 8774

richardcrookes.com.au

Delivering Certainty

Appendix C – Waste Transportation Form

Waste Tracking Form. 3B Smalls Road, Ryde, NSW 2113		
To be completed by the Environmental Specialist		
Date and Time left at site		
Grid Location or Stockpile ID		
Type of Waste		
Truck full	YES	NO , approximate volume ……..
Final Waste Classification		
Comment		
Signature Environmental Specialist		
To be completed by the truck driver		
Registration number truck		
Disposal location		
Tonnage (as per waste docket)		
Date and Time returned at site		
Signature Truck Driver		

Waste Docket should be attached to this form and returned to the Environmental Specialist

Appendix D – Construction Traffic and Pedestrian Management Sub-Plan

RICHARD CROOKES
CONSTRUCTIONS

SMALLS RD PUBLIC SCHOOL
1144

TRAFFIC MANAGEMENT PLAN

18 October 2018

REVISION REGISTER

REVISION DATE	REVISION DESCRIPTION	PMS INITIALS (ACCEPTANCE OF CHANGES)
16/10/18	Original issue	BA

POSITION	NAME	SIGNATURE	REVISIONS			
			16/10/2018	**20/04/2019**	**<DATE>**	**<DATE>**
Project Manager	Belal Afyouni	B.A	B.A	BA		
Site Manager	Andrew Lindop	AL	AL	AL		

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1 INTRODUCTION

1.1 PROJECT

The Project consists of the construction of a new Primary School for School Infrastructure NSW.

The site is located at 3 Smalls Rd Ryde. The site is surrounded by residential dwellings, and is neighboured by Smalls Park and a Cerebral Palsy Support & NDIS service providers.

Project Manager: Belal Afyouni **Phone:** 0405 292 194

Site Manager: Andrew Lindop **Phone:** 0401 582 847

All works will be done using the following as a reference guide.

AS 1742.3	Traffic Control Devices for Work on Roads	2009
HB 81.1	Short Term Urban Works, Daytime Only	2003

Approved traffic signage and direction layout (by an accredited RTA person)

PMP internal traffic control on the site.

2 WORK TO BE CARRIED OUT

Design & Construction of a new public school at Smalls Road Ryde for 1000 students including but not limited to:

- Complete all design elements required for a fit for purpose building which conforms to the intent of the Principal's documents.
- Construction of a new school which complies with the Educational Facilities and Guidelines (EFSG) and includes:
    - 43 learning spaces
    - Ancillary/Support Spaces
    - Hall
    - Library
    - Administration & Staff Spaces

3 METHOD STATEMENT

3.1 TRUCKS ENTERING AND LEAVING THE SITE

Objective: To allow the arrival and departure of all trucks in a manner that is safe to the public and to the drivers

Procedure: (see *** Plan 1)

1. Qualified traffic controllers will place a florescent red or florescent yellow vest and a hard hat on.
2. They will then go and place a “road work ahead” sign at the designated location

a. corner of Quarry Rd & Smalls Rd

b. corner of Zola Ave & Smalls Rd

3. They will then place a “trucks crossing reduce speed” sign on the corners of Santa Rose Ave & Smalls Rd, & Fawcett St & Smalls Rd
4. A “prepare to stop” sign will be placed

    a. at the boundary of our site

Note: these signs will only be displayed as permanent construction signage for the duration of the work or temporary signage installed and retrieved on a daily basis to stop traffic and or pedestrians to allow trucks access and departure from our site, or while traffic controllers are there.

The procedure is then reversed for removal of signs.

The whole procedure will be done as stated in AS 1742.3 2009

3.2 SUPPLIERS AND SUBCONTRACTORS DELIVERING AND DROPPING OF GOODS

1. All suppliers and subcontractors entering the site are bound by the RTA road rules
2. Parking is only permitted to designated areas within the site compound. Refer to Appendix 1.
3. Drivers will not use any other roads other than the main access road to the Construction Site. Refer to Appendix 1.
4. All delivery drivers must sign-in at the site shed prior to un-loading any materials
5. If required, a person designated as the `spotter` will be dressed in site PPE which includes fluoro safety shirt or vest and hard hat ,sun/safety glasses etc. and be available to manage the vehicle and pedestrians.
6. The driver will utilise the placement of temporary signs as required and discuss the location of the sign with the site manager.
7. The `spotter` will ensure that pedestrians are safely out of the way before allowing truck entry and exit. The truck driver will adhere to RTA rules and regulations in regards to operating his vehicle on the public road.
8. If the vehicle entering site has not made prior arrangement by mobile phone to contact the `spotter`, the driver will pull up at the site frontage and make arrangements with the Richard Crookes Construction site Foreman for the vehicle to enter the site

3.3 DISCONNECTION OF HYDRANT AND DOMESTIC WATER LINES

Objective: To prevent injury to workers who will be carrying out works and to keep traffic flowing in both directions while carrying out the works.

Procedure: No change to Procedure, as all service disconnections will be completed within the site Boundaries.

3.4 CONNECTION OF NEW SERVICES

Objective: To prevent injury to pedestrians and workers while carrying out the works on the footpaths.

Procedure: No change to procedure, as all connections will be completed from within the site boundaries.

3.5 REMOVAL AND REINSTATEMENT OF NEW FOOTPATH AND CONSTRUCTION OF KISS & DROP AREA

This is to be carried out in the same method as Item 3. However, due to the length of the street frontage it will be done in sections.

Copies may require to be sent for approval to the following:

Ryde local council

Local NSW Police Station

Other approvals as required.

3.6 DRIVER CODE OF CONDUCT

All Trucks Must Enter site Via Gate 1 and Exit Via Gate 2 to ensure no impact the general flow of traffic.

All vehicle drivers must be courteous to other road users

Do Not Drive at excessive speed; Always Abide with the posted Road speed

Do Not Abuse other road users or customers;

Carry out instructions as advised;

Observe the site speed restrictions;

All vehicles must be maintained and operated in accordance with the vehicle manufacturers recommended standards (refer to vehicle manufacturer's handbook).

Using engine brakes can be extremely noisy. If possible, you should not use engine brakes near residences and built up areas.

All Drivers must use the routes specified in this plan

You should always avoid overtaking in awkward, inappropriate situations or where there is unclear vision.

In general you should not overtake/pass in the following situations:

- Over continuous lane separation lines;
- On narrow roads;
- Near or on a curve or crest;
- Near or on a bridge;
- Near or on a railway crossing or tunnel;
- When clear vision is restricted;
- Through road work areas.

APPENDICES

APPENDIX A

TTW TRAFFIC MANAGEMENT PLAN

Construction Traffic and Pedestrian Management Sub-Plan

Smalls Road Public School

Prepared for Richard Crookes Constructions

4 December 2018

161375 TCBA

Taylor Thomson Whitting (NSW) Pty Ltd, Consulting Engineers | ABN 81 113 578 377
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Structural
Civil
Traffic
Facade
Consulting
Engineers

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Revision Register

Rev	Date	Prepared By	Reviewed By	Approved By	Remarks
0	01/11/18	KA	MB	-	Draft for comment
1	05/11/18	KA	MB	PY	For issue
1.1	04/12/18	KA	MB	PY	Revised issue

Document Control

Job number: 161375 TCBA

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Preliminary Information

This Construction Traffic and Pedestrian Management Sub-Plan (CTPMSP) addresses the proposed construction activities associated with the construction of Smalls Road Public School. It discusses the management of local traffic and construction vehicles related to the project which is to be constructed by Richard Crookes Constructions.

The CTPMSP satisfies the duties applied by Part 2 (Division 3, Section 26) of the Work Health and Safety Act 2011, regarding reducing risks to the health and safety or workers and other persons near a construction site.

Part 6.1 (Clause 291) of the Work Health and Safety Regulation 2011 defines high risk construction work as (amongst other definitions) work which is carried out on, in or adjacent to a road, railway, shipping lane, or other traffic corridor that is in use by traffic other than pedestrians. Part 6.4 (Clause 315) of the Regulation also requires that the principal contractor for a construction project must manage risks to health and safety associated with traffic near the workplace that may be affected by construction work carried out relating to the construction project. This CTPMSP satisfies this requirement.

Under the Safe Work NSW Construction work code of practice, a traffic management plan is considered an administrative control measure to minimise risk. As per the hierarchy of control measures, the preferred control is to eliminate risk (e.g. by using traffic lights instead of a traffic controller to control traffic at road works, to eliminate potential harm to the worker). This CTPMSP aims to provide control measures which eliminate risk where possible. As outlined in this code of practice, workplace specific induction should cover this document.

Traffic control plans (TCPs) developed in association with this CTPMSP have been developed in accordance with the RMS Traffic Control at Work Sites manual, and Australian Standard AS1742.3 (Manual of uniform traffic control devices – Traffic control for works on roads) to which it refers.

AS1742.3 requires a procedure to be followed whereby all essential traffic management matters are considered in an ordered way. Traffic demand, routing, and control, and other road users and special vehicles are to be considered in turn and incorporated into a traffic management plan where relevant. This CTPMSP satisfies this procedure and addresses the relevant matters.

Consideration has been given in development of this CTPMSP to the Roads Act 1993 (NSW) and other applicable and relevant legislation.

The Contractor is responsible for acquiring and shall acquire the necessary certificates, licences, consents, permits, and approvals relevant to the construction on this site.

1 Introduction

1.1 Site Location

The development site is located at 3B Smalls Road, Ryde, in the northern suburbs of Sydney. The parcel of land is designated as Lot 1 in DP 830420. The extents of this lot are illustrated in Figure 1.1 below, in the context of the local major road network.

The land is currently occupied by a Department of Education facility, for the Economics and Business Educators of NSW. Prior to this usage, the existing buildings were part of Ryde High School, which closed in 1986. Directly to the south-west of the site is the site of the Cerebral Palsy Alliance, designated as Lot 2 of the same deposited plan. On the south-east of the site, the Henri Durant Reserve provides a limited connection through to Lavarack Street.

The site is located close to the NSW state road network. Lane Cove Road is the closest state road to the site, approximately 750 metres from the site frontage on Smalls Road. Lane Cove Road is also the major regional distributor for the area, connecting to both the M2 Motorway in the north and the M4 Motorway in the south. Figure 1.1 illustrates the state and regional roads in the vicinity of the site.

Figure 1.1: Site Location
Image source: Nearmap (dated 18th July 2017)

1.2 Scope of Works

The proposed development (SSD 8372) includes demolition of all existing buildings on-site and most existing hardstand areas. A new building is to be constructed which shall provide all educational and administrative facilities.

The development of Smalls Road Public School includes:

- A new three-storey circular multi-purpose building;
- Outdoor play areas and covered outdoor learning areas;
- Refurbishment of existing car parking and construction of new parking facilities;
- Refurbishment of multi-purpose sports courts;
- Fencing, associated landscaping works and infrastructure works; and
- Out of school hours uses including care facilities.

1.3 Construction Phases

The proposed works are anticipated to be undertaken from November 2018 to January 2020 in the following phases:

- Site Establishment — November 2018
- Substructure — November 2018 to January 2019
- Structure — January 2019 to March 2019
- Façade — March 2019 to July 2019
- Services / Finishes — March 2019 to October 2019
- External Areas — September 2019 to January 2020
- Commissioning & Completion — November 2019 to January 2020

1.4 Hours of Operation

Construction activities are only to be carries out during the hours of operation as specified in Condition C5 of the Development Consent:

- Monday to Friday — 07:00 AM to 06:00 PM
- Saturday — 08:00 AM to 01:00 PM
- Sunday and Public Holidays — None

The development consent also includes further detail relating to noisy work, emergencies, or otherwise approved movements.

2 Traffic Environment

2.1 Road Network

Smalls Road is a local road providing the only street frontage for the site. The road allows for two-way traffic with a travelling lane in each direction and is oriented in a south-west to north-east direction. Areas for on street parking are provided along parts of both kerbsides, with no line-marking provided to delineate these spaces. Smalls Road is sign-posted restricted for vehicles 3 tonnes and over. Pedestrian facilities such as marked zebra crossings and a raised pedestrian crossing are provided crossing the road.

Quarry Road is a local road facilitating connection of the site to the state road network to the south of the site. It is oriented in a north-west to south-east direction with one travelling lane in each direction. The road has a sign-posted speed limit of 50 kilometres per hour. There is a sign-posted gross load limit of 3 tonnes. It is connected to Smalls Road via a one lane roundabout.

Bridge Road is a local road providing a connection to the state road network to the north of the site. It is oriented in a north-west to south-east direction with one travelling lane in each direction. The speed limit on the road is sign-posted at 50 kilometres per hour. There is a 3 tonnes load limit along Bridge Road. It is connected to Smalls Road via a one lane roundabout. Traffic calming measures such as raised speed humps are located along the road between Smalls Road and Lane Cove Road.

Lane Cove Road is a state road under jurisdiction of Roads and Maritime Services (RMS). The road provides connection to other state roads (for example Epping Road and Blaxland Road) and to the federal road network at the M2 Motorway. Near to the site, the majority of the road contains three travelling lanes in each direction.

Quarry Road is connected to Lane Cove Road via a four-way signalised intersection, with a slip lane provided for vehicles turning left onto Lane Cove Road from Quarry Road. Bridge Road is connected to Lane Cove Road via a four-way signalised intersection. Refer to Figure 1.1 for the site's context within the state and regional road networks.

2.2 Car Parking

Due to the restricted nature of Smalls Road, on-street parking is not permitted along the road across from the site frontage. Unrestricted on-street parking is currently permitted along the site frontage on Smalls Road.

2.3 Transport Facilities

2.3.1 Public Transport

Public bus services operate along Quarry Road and Bridge Road. Bus routes X18 (westbound only) and 518 service Quarry Road at a bus stop around 200 metres from the site, while route 507 services Bridge Road at a stop around 500 metres from the site. All bus services in the area are operated by State Transit.

Table 2.1: Public bus frequencies
Data source: Sydney Buses

Route	Destinations	Frequency During Peak
507	Macquarie University to Circular Quay via Putney	Every 30 minutes
518	Macquarie University to Circular Quay	Every 30 minutes
X18	Town Hall to Denistone East	*3 westbound evening services only*

Public transport available within the vicinity of the site is primarily bus services, however there are other services provided in the broader region.

The nearest train stations to the site are Macquarie Park (2.6km) and Denistone (3.0km). Walking distances are approximately 33 minutes and 38 minutes respectively. Bus services discussed above also connect to the Macquarie area and would likely be used as a connection to and from Smalls Road.

Meadowbank Wharf is located approximately 3.5km or 45 minutes' walk from the site.

2.3.2 Pedestrian Movements

Pedestrian footpaths are provided along both sides of Smalls Road including the site's frontage. Pedestrian access to the site is also provided through Henri Durant Reserve from Lavarack Avenue. Refer to Figure 2.1 for the location of these access points.

Figure 2.1: Existing Site Access

3 Construction Requirements

3.1 Site Layout

Appendix A of this document contains the proposed site establishment plan for the construction period. It provides details relating to the location of loading zones, plant placement, equipment storage areas and materials & waste.

Access to the adjacent properties including the Cerebral Palsy Alliance, Smalls Road Reserve, Henri Durant Reserve, and all residential properties, shall be maintained throughout the construction of the site.

3.1.1 Works Zones

No works zones are planned or proposed for the construction of these works.

3.2 Site Access

Access to the worksite for construction and delivery vehicles is required to be from Smalls Road as this provides the only connection of the site to the local road network. All material handling will be conducted wholly from within the site. Construction vehicles will be required to travel on the south-west bound lane of Smalls Road.

It is noted that the site is located within a 3-tonne load limit area. To minimise the disruption to residential properties, the travel distance within the load restricted areas is to be minimised.

Given the restricted access onto the load limit areas, recommended access routes to the site for construction vehicles are described below and illustrated in Figure 3.1. These access routes have been separated into vehicles entering and exiting the site in a forward direction. Note that Lane Cove Road is an RMS-controlled state road and construction vehicles are generally required to demonstrate connectivity between the site and state roads only; routes to and from various regions are for information purposes only.

Appendix C of this document contains the external turning path analysis for construction vehicle movements to the site. Turning path analysis has been undertaken using AutoTURN software, utilising vehicle characteristics in accordance with Austroads Design Vehicles and Turning Path Templates Guide and AS2890.

Inbound Route

- Approach via Lane Cove Road
- Turn onto Quarry Road
- Right turn onto Smalls Road; then
- Right turn into the site

Outbound Route

- Right turn out of the site
- Right turn onto Bridge Road; then
- Turn left or right onto Lane Cove Road depending on the destination

It should be noted that inbound semi-trailer vehicles accessing the site are limited to approaching the site from the northern direction only, turning right from Lane Cove Road onto Quarry Road. Likewise, outbound semi-trailers are to only turn right at the intersection of Bridge Road with Lane Cove Road and onto travel along Lane Cove Road in the northbound direction.

Figure 3.1: Construction vehicle routes to the site

3.3 Workforce

It is anticipated that the site work phases will generate up to the following peak numbers of daily construction workers:

- Site Establishment 10 workers per day
- Substructure 45 workers per day
- Structure 80 workers per day
- Façade 95 workers per day
- Services / Finishes 130 workers per day
- External Areas 80 workers per day
- Commissioning & Completion 60 workers per day

To minimise requirements for parking, contractors will be encouraged to assist in the transportation of workers to the site and availability of local public transport options will be made available to workers. The site is well-positioned close to good public transport services.

3.4 Vehicles

Proposed truck types to be used during stage 1 of the works include spoil and excavation removal trucks, various small delivery and service trucks, concrete trucks, and semi-trailers for large equipment and plant. Table 3.1 indicates the frequency and type of construction vehicles that will be on-site

Table 3.1: Construction vehicles schedule

Work Phase	Largest Vehicle	Frequency (per day)
Excavation	Heavy Rigid Vehicle (HRV)	8
Structure		
• Concrete	Heavy Rigid Vehicle (HRV)	30
• Formwork	Semi-trailer	1
• Reinforcement	Semi-trailer	1
Services / Finishes	Heavy Rigid Vehicle (HRV)	2
Façade / External Works	Heavy Rigid Vehicle (HRV)	2

*Length of concrete trucks is indicative and may vary depending on truck availability

4 Construction Management

4.1 Vehicle Operations

During days of high estimated vehicle movements, communication between the site, concrete batching plant and/or vehicles will be maintained to stagger the arrival of vehicles, in order for them to be accommodated within the worksite and to minimise traffic disruptions.

It is anticipated that truck loading and unloading will occur wholly within the site. All deliveries are to be made within the approved work hours (refer to Section 1.4). Truck movements to and from the site will be scheduled outside peak hours where possible to reduce impacts to the local road network which includes busy town centre areas and high pedestrian volumes.

4.2 Contractor Parking

On-site parking will be provided for construction workers to limit the impact on the local streets, as indicated on the site establishment plan (Appendix A). These are located in a hardstand existing parking area at the rear of the site without impact to other construction movements or local traffic.

There may be an increase in local parking congestion during construction as a result of workers accessing the site. Site employees will be encouraged to make use of carpooling options and nearby public transport facilities as part of being inducted into the site to minimise the impact of construction employee vehicles.

5 Project Impacts

5.1 Local Traffic

5.1.1 Traffic Flow

Local traffic patterns during construction are expected to remain consistent with the existing conditions. Traffic impacts from the construction works are expected to be limited to the volume of construction vehicles only, with minimal contractor traffic, given the good availability of public transport in the area.

The number of daily vehicles is expected to be minimal in comparison to the total volumes of traffic on local roads. Truck movements to and from the site will be scheduled outside peak hours where possible to reduce impacts to the area which includes busy pedestrian areas.

All deliveries and construction works are to take place within the site with no impacts to passing traffic. Existing travel lanes along Smalls Road will remain in operation at full capacity.

5.1.2 Traffic Safety

All construction work and operations are to be contained within the site. Fencing along the boundary will be established and maintained during the construction phase. If any high risk works are to be conducted along the Smalls Road boundary, a plan will be established to protection pedestrians and local traffic. Safety for passing traffic including pedestrians shall be maintained at all times.

Manoeuvring and merging of heavy vehicles on Smalls Road and other internal roads is to be managed carefully, such that traffic safety is maintained. Traffic is not to be held up in advance to allow vehicles to exit the site, and vehicles are to use suitable gaps in traffic (as per normal right-of-way scenario)

If the relevant loading area is found to be full at the time of vehicle arrival, vehicles are not to queue on the roadway. In this instance, vehicles shall store appropriately within other areas of the site (and shall not reverse out of the site) or be turned away and rescheduled if necessary.

5.1.3 Cumulative Local Impacts

No nearby construction sites are anticipated to create a cumulative impact on local traffic. The volume of construction traffic generated by the site is within normal daily traffic variations and can be catered for within the capacity of the local network.

5.2 Car Parking

All construction worker parking will take place on-site as indicated on the site establishment plans. Therefore, no losses are expected to occur along Smalls Road.

5.3 Pedestrians

The proposed works will not impede access to any public infrastructure. The site is to remain secured from pedestrian access with site fencing as indicated on the Site Establishment Plans (see Appendix A).

Appropriate traffic measures will be in place such as signage, traffic controllers, and barriers to control access as required.

5.4 Public Transport

There shall be no changes to local public transport routes and services because of construction. Access to all adjoining properties will be maintained throughout the works.

5.5 Public Infrastructure

On infrequent occasions when particularly large vehicles are required to access the site, some mounting or crossing of public kerbs and medians may be necessary. The builder shall repair any damage to this infrastructure if large vehicles are required to mount the devices. Any other road markings damaged as a result of vehicles associated with the construction shall be repaired as a responsibility of the builder.

5.6 Neighbouring Properties

Construction site access will be via Smalls Road, this will not interfere with adjacent or external properties including the Cerebral Palsy Alliance building.

Public access to the sports fields on the eastern side of the property will be maintained during construction.

6 Operational Information

6.1 Communication and Consultation

Prior to any site works taking place, notification of commencement of the works shall be distributed to the neighbourhood. Notification is to include information or comment. Community notifications will be undertaken as per the Construction Environmental Management Plan prepared by Richard Crookes Constructions.

Traffic control advance-warning signage in accordance with Roads and Maritime Services guidelines and Australian Standards is to be in place to notify motorists of roadwork and when traffic controllers are present. Sign size is to be size “A” and is to be monitored throughout the works to ensure they are clearly visible.

As part of the site induction procedures, all contractors will be made aware of this Construction Traffic and Pedestrian Management Sub-Plan, the relevant Traffic Control Plans, and their responsibility to adhere to these plans.

A Driver Code of Conduct is to be developed by Richard Crookes Constructions as per condition B15 (e) of the development consent.

6.2 Traffic Control Plans and Signage

Temporary construction traffic related signposting is to be developed in accordance with AS 1742.3 – Traffic Control Devices for Works on Roads.

During construction the contractor shall each morning, prior to work commencing, ensure all signage is erected in accordance with the TCP and clearly visible. Each evening, upon completion of work, the contractor is to ensure relevant signage is removed as required. A review of the TCPs can be undertaken as required to determine any need for future amendments.

6.3 Certificates and Approvals

Approval may need to be obtained from Transport for NSW, Roads and Maritime Services, City of Ryde Council, Department of Planning & Environment, and other relevant authorities. Approval may be required for items including but not limited to:

- Council road opening permits
- Road occupancy approvals
- Hoarding/fencing approvals
- Oversize vehicle usage on local roads

Only certified personnel will be used on site to implement, monitor, and carry out the Traffic Control Plan. Responsibility for acquiring the necessary certificates, permits, and/or approvals rests with the Contractor, and must be completed prior to commencement of the associated works.

6.4 Environmental Control

Vehicle inspection and wash areas in accordance with industry standards will be provided. Construction vehicle wheels shall be cleaned prior to leaving the site to prevent transport of dust, dirt, or gravel from the worksite onto the road network or pedestrian footpaths.

All loads are to be sealed or covered when entering or leaving the site. Loading of disposable material into vehicles leaving the site is to occur only within the site.

A suitable location for material lay-down will be contained near the site frontage.

6.5 Site Inductions

The Project Contractor shall conduct daily site inductions advising workers of the following:

- Site safety rules
- Emergency procedures
- Site access
- Traffic management requirements as detailed in this Construction Traffic and Pedestrian Management Sub-Plan

6.6 Emergency Services

In the event of an incident related to construction traffic on the public road network, it will be the responsibility of the Site Manager to ensure that emergency services are notified. Contact "000" in cases of emergency to advise the relevant emergency service.

Furthermore, it is the responsibility of the Site Manager to advise the emergency services of any restriction of vehicular access to the public and restricted areas a minimum of one week prior to its implementation.

6.7 Responsibilities

The Site Manager is responsible for, but not limited to:

- Implementing the Construction Traffic and Pedestrian Management Sub-Plan and TCPs
- Informing contractors of the requirements of the Construction Traffic and Pedestrian Management Sub-Plan
- Undertaking site inspections to ensure all signage is clearly visible and not damaged
- Monitoring the implementation of the Construction Traffic and Pedestrian Management Sub-Plan
- Reporting on incidents
- Obtaining permits

Prepared by	Reviewed by	Authorised by
TAYLOR THOMSON WHITTING (NSW) PTY LTD	**TAYLOR THOMSON WHITTING (NSW) PTY LTD**	**TAYLOR THOMSON WHITTING (NSW) PTY LTD**
		
KEVIN ALAWADHI Traffic Engineer	**MICHAEL BABBAGE** Traffic Engineer	**PAUL YANNOULATOS** Technical Director

Appendix A

Site Establishment Plan

Site Entry/Exit

Shaker Grid

01
1250

S M A L L S R O A D

NEW SUBSTATION AND EASEMENT ZONE

SITE ACCOMODATION

KISS AND DROP / NO PARKING

P5 (5-MINUTE PARKING)

SITE BOUNDARY

Crane & Pumping Zone

2100mm HIGH BRICK SIGNAGE WALL. REFER TO SIGNAGE DETAILS.

WASTE LOADING

LINE OF EXISTING CARPARK

PROPOSED NEW CARPARK EXTENSION

PROPOSED NEW SCHOOL BUILDING IN YELLOW.

Shaker Grid

6,990 mm

SITE BOUNDARY

BULK WASTE PAD & SPED A/C CONDENSOR LOUVERED ENCLOSURE

NO WORKS TO CEREBRAL PALSY ALLIANCE SITE (BLUE)

N 6258462585
E 325062479
S/O

PROPOSED PV PANELS SURFACE MOUNTED TO ROOF SHEETING

PLAYING FIELD

65000

40000

6000

40000

All Weather Road access - Shared with pedestrians (Provide Separation & Signs to pedestrian path)

Ramp

Q U A R R Y R O A D

8000

100000

8000

SITE BOUNDARY

Staging & Set down area

GAMES COURT

PLAYING FIELD

64000

75000

5550

Onsite Parking Area

EXISTING HARDSTAND TO BE RETAINED (EXTENT TBC)

SITE BOUNDARY

SCHOOL PICK UP AND DROP OFF ACCESS

SEPARATE AFTER HOURS OVAL ACCESS

PEDESTRIAN ONLY

HENRY DURANT PARK

L A V A R A C K R O A D

PROJECT BOUNDARY

CLIENT
NSW GOVERNMENT Education School Infrastructure

PROJECT MANAGER
coffey
A TETRA TECH COMPANY

ARCHITECT
Conrad Gargett

PROJECT
DoEAMD-16-14 Smalls Road, Ryde Public School

INTERNAL PROJECT No:
16321

DATE:
06/06/18

NORTH

DRAWING
Proposed Site Plan

REV	DESCRIPTION	DATE	APPD
A	50% Tender Issue	16/03/18	
B	90% Tender Issue	30/04/18	
C	Tender Review Issue	11/05/18	
D	Tender Review Issue 3	06/06/18	

SHEET SIZE: A1

10 0 10 20 30 40 50
SCALE 1:1 @ A1 mm

SCHOOL ID: SR -
PAC ID: 01 -
STAGE: DD -
DISCIPLINE: AR -
DOC TYPE: DR -
DRAWING No: 1001 -
REV: D

Appendix B

Traffic Control Plan

SafeWay
Traffic Management Solutions

A: Suite 450, 29 Smith Street, Parramatta 2150 NSW
P: 1800 987 891
F: (02) 9823 0494
M: 0403 323 290
E: dennis.dandolo@safewaytms.com.au
w: www.safewaytms.com.au

Location : 38 Smalls Road, Ryde.
Company : TTW.
Council : Ryde.
TCP Endorsed By : Dennis Dandolo
Prepare a Work Zone TMP # 0028376586
Expiry Date : 01.02.2019

Signature :

Filename :

UBD Reference# : 193/M12
Scale : NTS
Revision : 1.0
Prepared Date : 07.11.2018
TCP Author : Dennis Dandolo
Prepare a Work Zone TMP # 0028376586
Expiry Date : 01.02.2019

Signature :

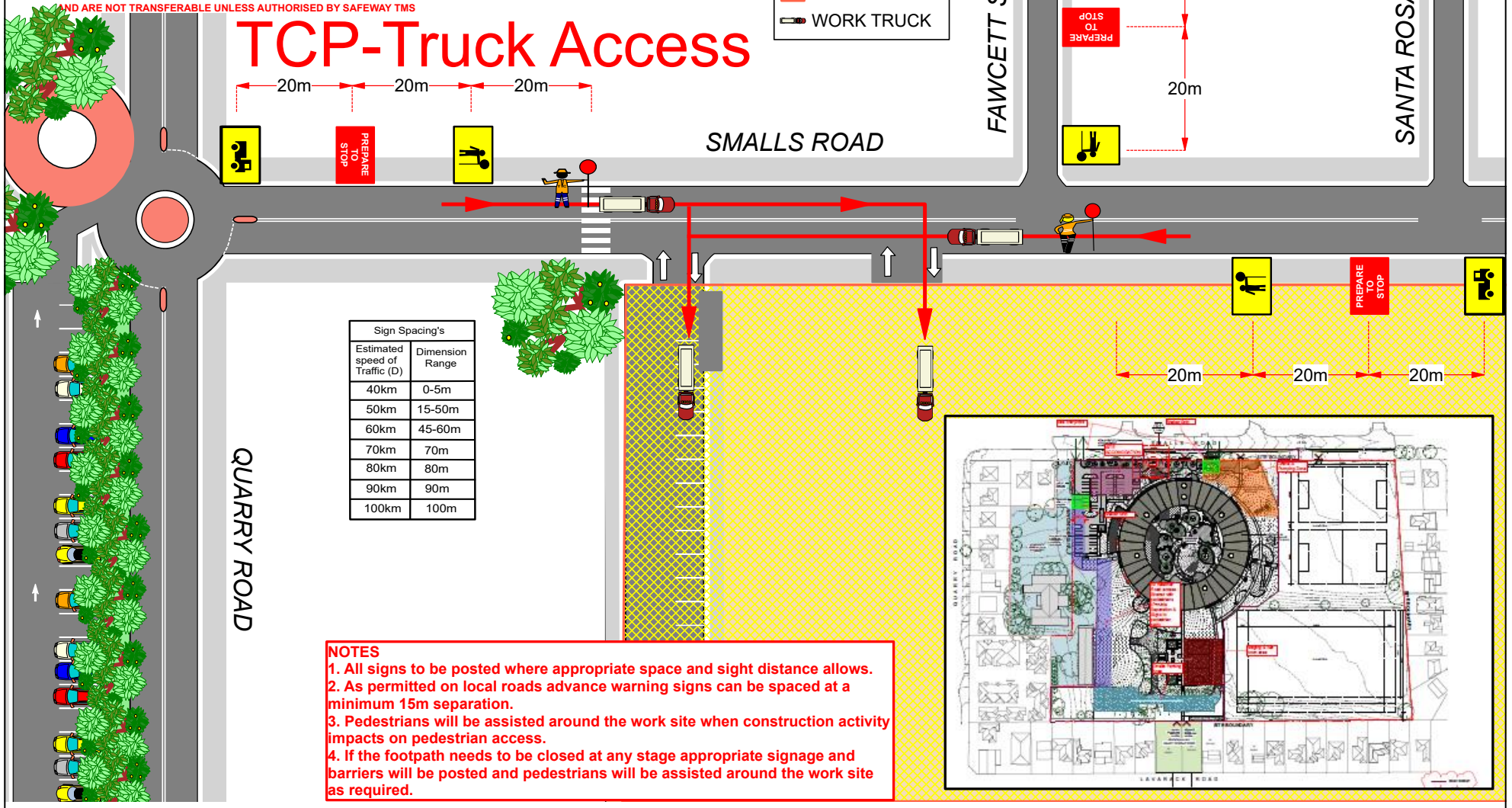
1. SCOPE OF WORKS
Construction vehicle access left or right turn into the site.

2. TRAFFIC MANAGEMENT LOGISTICS
Certified Traffic Controllers will assist with truck arrivals and departures from the site momentarily stopping traffic as required as trucks make a left or right turn into site.
Pedestrian and cyclists safety will be a priority at all times.

3. SCHEDULE OF WORKS
TBA By TTW

4. COMPLIANCE
When installed as per the plan, signage will be in accordance with Australian Standards as 1742.3, 2009, and Traffic Control at Worksite Manual Version 4.0 from the RTA

TCP-Truck Access



Sign Spacing's	
Estimated speed of Traffic (D)	Dimension Range
40km	0-5m
50km	15-50m
60km	45-60m
70km	70m
80km	80m
90km	90m
100km	100m

NOTES
1. All signs to be posted where appropriate space and sight distance allows.
2. As permitted on local roads advance warning signs can be spaced at a minimum 15m separation.
3. Pedestrians will be assisted around the work site when construction activity impacts on pedestrian access.
4. If the footpath needs to be closed at any stage appropriate signage and barriers will be posted and pedestrians will be assisted around the work site as required.

Appendix C

Turning Paths

SMALLS ROAD PUBLIC SCHOOL REDEVELOPMENT
RICHARD CROOKES CONSTRUCTIONS

DRAWING LIST

T100	COVER SHEET
T110	INBOUND TURNING PATH - LANE COVE RD w/ QUARRY RD INTERSECTION - SEMI-TRAILER (19m)
T120	INBOUND TURNING PATH - LANE COVE RD w/ QUARRY RD INTERSECTION - HRV (12.5m)
T210	OUTBOUND TURNING PATH - LANE COVE RD w/ BRIDGE RD INTERSECTION - SEMI-TRAILER (19m)
T220	INBOUND TURNING PATH - LANE COVE RD w/ BRIDGE RD INTERSECTION - HRV (12.5m)
T310	INBOUND TURNING PATH - QUARRY RD w/ SMALLS RD INTERSECTION - SEMI-TRAILER (19m)
T320	INBOUND TURNING PATH - QUARRY RD w/ SMALLS RD INTERSECTION - HRV (12.5m)
T410	OUTBOUND TURNING PATH - BRIDGE RD w/ SMALLS RD INTERSECTION - SEMI-TRAILER (19m)
T420	OUTBOUND TURNING PATH - BRIDGE RD w/ SMALLS RD INTERSECTION - HRV (12.5m)

FileName: T100.dwg - USER: kevinv - Plot File Created: Nov 06, 2018 - 12:37pm

A1 0 1 2 3 4 5 6 7 8 9 10

PRELIMINARY

Rev	Description	Eng	Draft	Date
P1	PRELIMINARY	KA	KA	06.11.18

Builder: RICHARD CROOKES CONSTRUCTIONS
LEVEL 3 / 4 BROADCAST WAY
ARTARMON NSW 2064

Civil Engineer: Taylor Thomson Whitting
612 9439 7288 | 48 Chandos Street St Leonards NSW 2065

Project: SMALLS ROAD PUBLIC SCHOOL

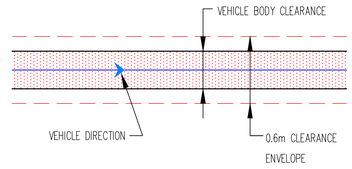
Sheet Subject: COVER SHEET

Scale : A1	Drawn	Authorised
-	KA	

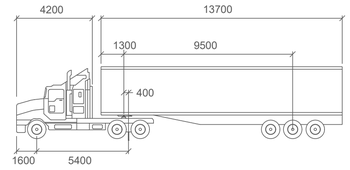
Job No	Drawing No	Revision
161375	T100	P1

Plot File Created: Nov 06, 2018 - 12:37pm

SWEPT PATH LEGEND:



NOTE: 600mm CLEARANCE IN ACCORDANCE WITH AS2890



AV

mm

Tractor Width	: 2500	Lock to Lock Time	: 6.0
Trailer Width	: 2500	Steering Angle	: 28.3
Tractor Track	: 2500	Articulating Angle	: 70.0
Trailer Track	: 2500		

PRELIMINARY

A1 0 1 2 3 4 5 6 7 8 9 10

Rev	Description	Eng	Draft	Date
P1	PRELIMINARY	KA	KA	06.11.18

Builder
RICHARD CROOKES CONSTRUCTIONS
LEVEL 3 / 4 BROADCAST WAY
ARTARMON NSW 2064

Civil Engineer
TTW Taylor Thomson Whitting
612 9439 7288 | 48 Chandos Street St Leonards NSW 2065

Project
SMALLS ROAD PUBLIC SCHOOL

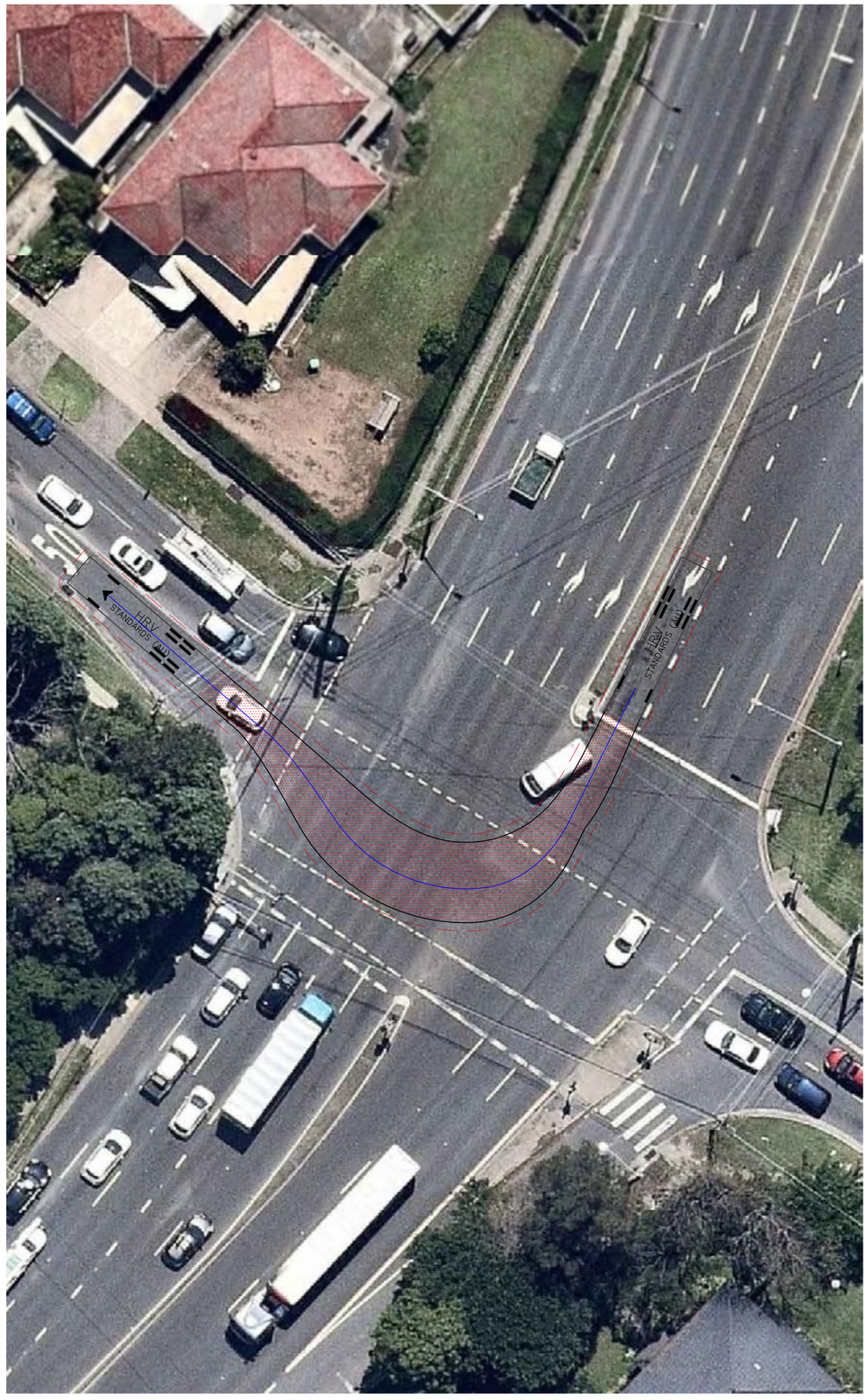
Sheet Subject
INBOUND TURNING PATH
LANE COVE RD w/ QUARRY RD INTERSECTION
SEMI-TRAILER (19m)

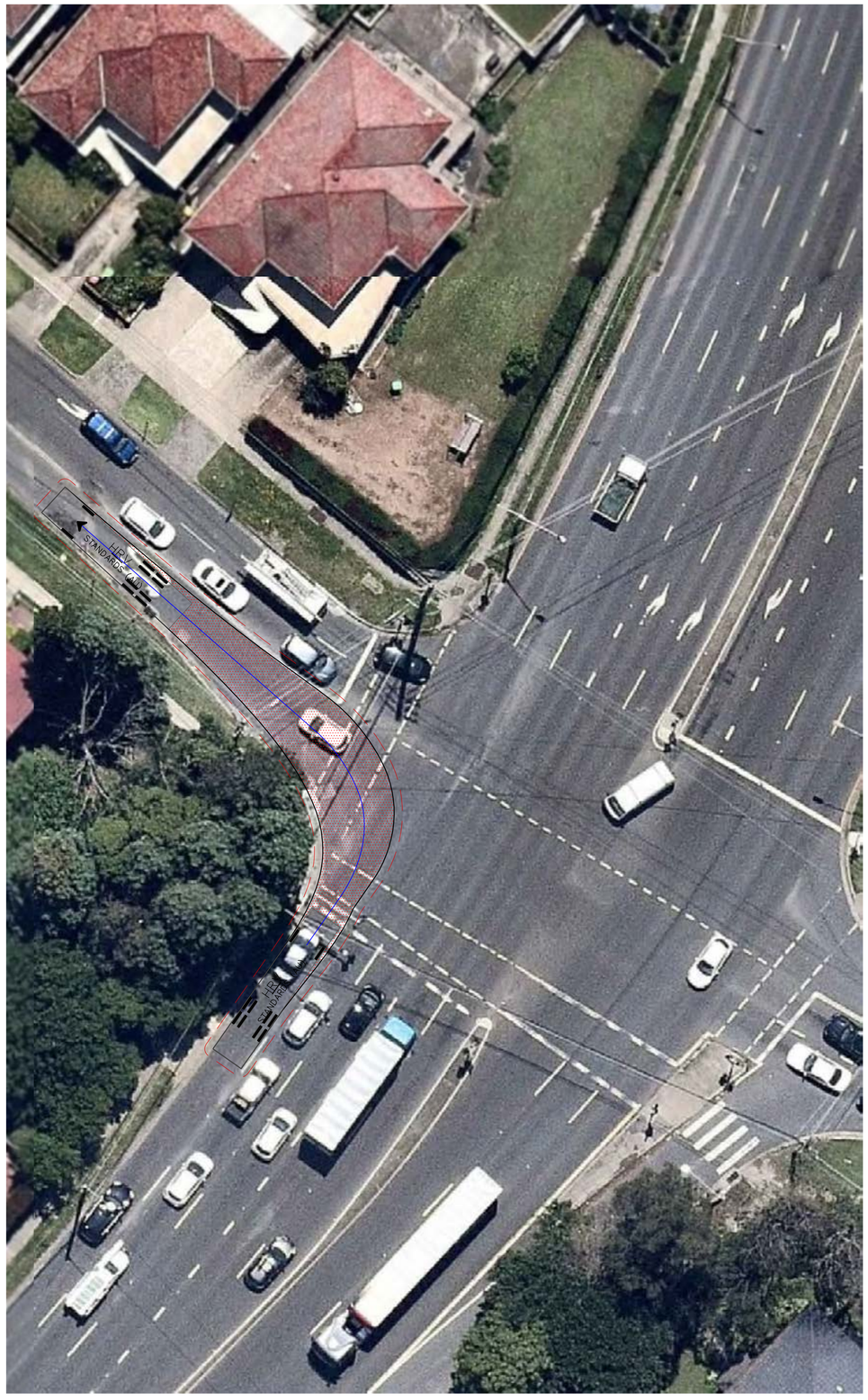
Scale : A1 1:200 | Drawn KA | Authorised

Job No 161375 | Drawing No T110 | Revision P1

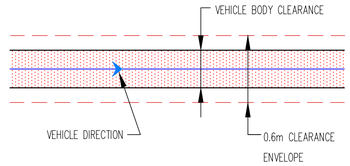
Plot File Created: Nov 06, 2018 - 11:26am

FileName: T110.dwg - USER: kevins - Plot File Created: Nov 06, 2018 - 11:26am

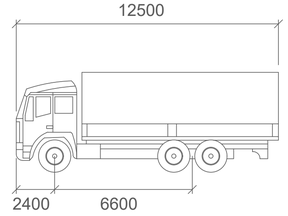




SWEPT PATH LEGEND:



NOTE: 600mm CLEARANCE IN ACCORDANCE WITH AS2890



HRV

	mm
Width	: 2500
Track	: 2500
Lock to Lock Time	: 6.0
Steering Angle	: 35.2

FileName: T120.dwg - USER: kevina - Plot File Created: Nov 06, 2018 - 11:33am

A1 0 1 2 3 4 5 6 7 8 9 10

Rev	Description	Eng	Draft	Date
P1	PRELIMINARY	KA	KA	06.11.18

Builder
RICHARD CROOKES CONSTRUCTIONS
LEVEL 3 / 4 BROADCAST WAY
ARTARMON NSW 2064

Civil Engineer
Taylor Thomson Whitting
612 9439 7288 | 48 Chandos Street St Leonards NSW 2065

Project
SMALLS ROAD PUBLIC SCHOOL

Sheet Subject
INBOUND TURNING PATH
LANE COVE RD w/ QUARRY RD INTERSECTION
HRV (12.5m)

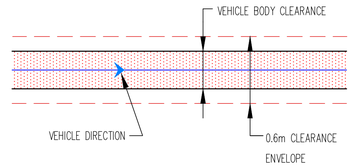
PRELIMINARY

Scale : A1	Drawn	Authorised
1:200, 1:200	KA	

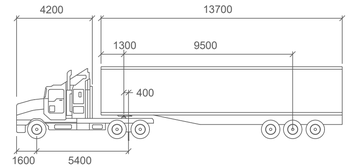
Job No	Drawing No	Revision
161375	T120	P1

Plot File Created: Nov 06, 2018 - 11:33am

SWEPT PATH LEGEND:



NOTE: 600mm CLEARANCE IN ACCORDANCE WITH AS2890



AV

	mm		
Tractor Width	: 2500	Lock to Lock Time	: 6.0
Trailer Width	: 2500	Steering Angle	: 28.3
Tractor Track	: 2500	Articulating Angle	: 70.0
Trailer Track	: 2500		

PRELIMINARY

FileName: T210.dwg - USER: kevins - Plot File Created: Nov 06, 2018 - 11:47am

A1 0 1 2 3 4 5 6 7 8 9 10

Rev	Description	Eng	Draft	Date
P1	PRELIMINARY	KA	KA	06.11.18

Builder
RICHARD CROOKES CONSTRUCTIONS
LEVEL 3 / 4 BROADCAST WAY
ARTARMON NSW 2064

Civil Engineer
TTW Taylor Thomson Whitting
612 9439 7288 | 48 Chandos Street St Leonards NSW 2065

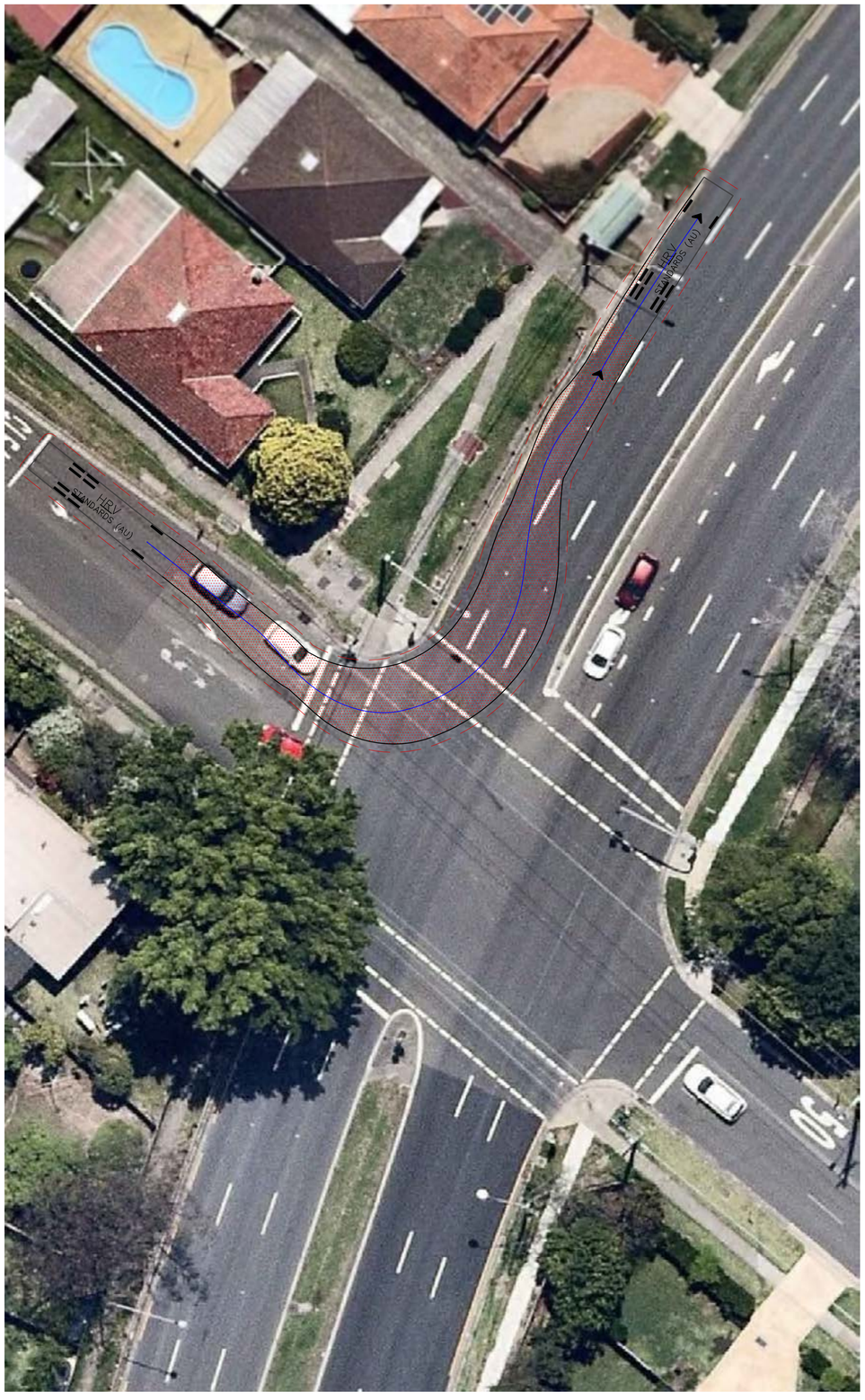
Project
SMALLS ROAD PUBLIC SCHOOL

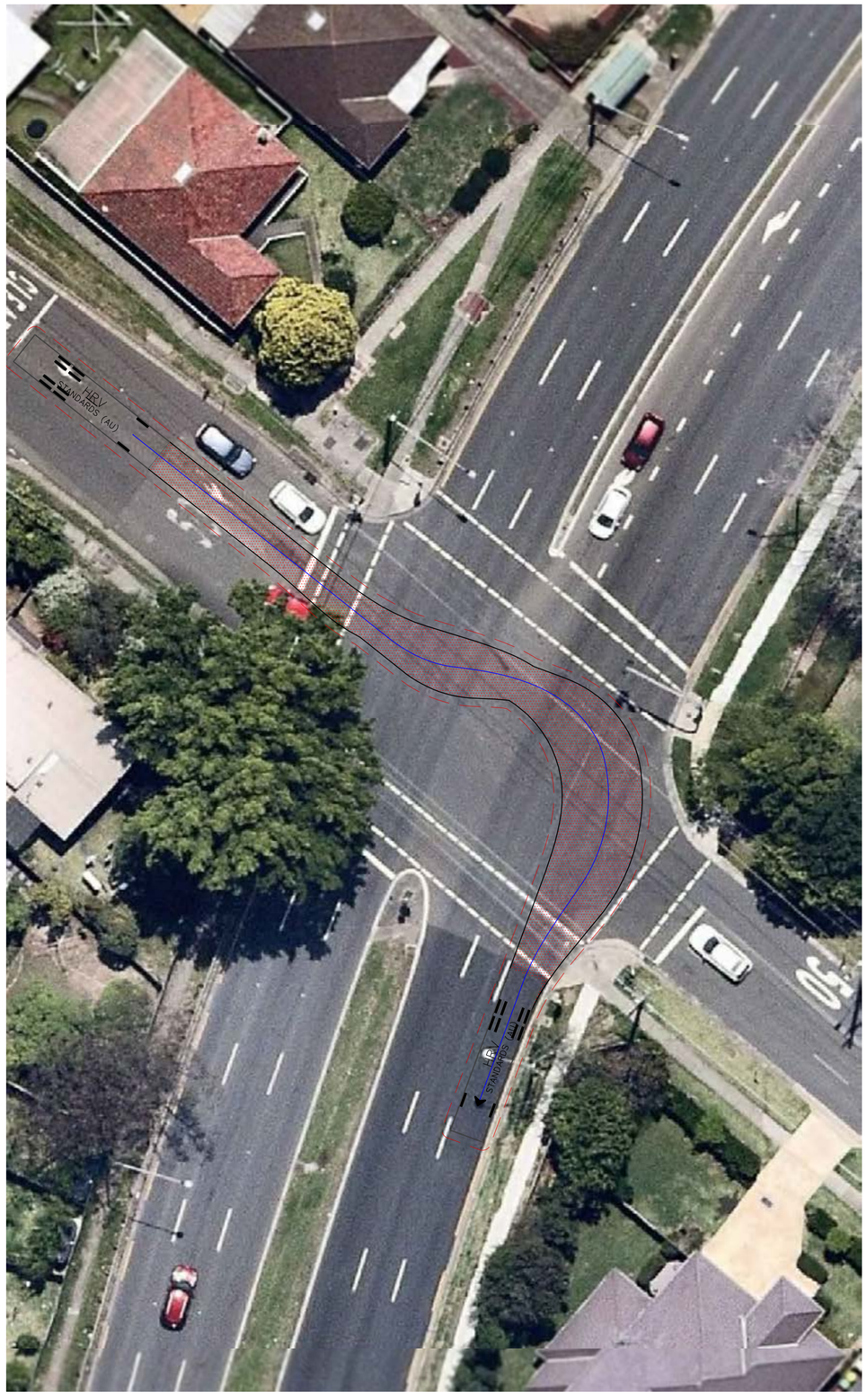
Sheet Subject
OUTBOUND TURNING PATH
LANE COVE RD w/ BRIDGE RD INTERSECTION
SEMI-TRAILER (19m)

Scale : A1	Drawn	Authorised
1:200	KA	

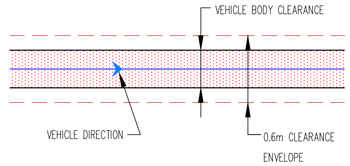
Job No	Drawing No	Revision
161375	T210	P1

Plot File Created: Nov 06, 2018 - 11:47am

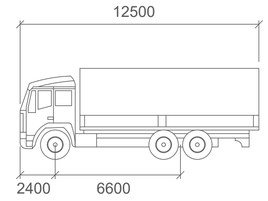




SWEPT PATH LEGEND:



NOTE: 600mm CLEARANCE IN ACCORDANCE WITH AS2890



HRV

		mm
Width	:	2500
Track	:	2500
Lock to Lock Time	:	6.0
Steering Angle	:	35.2

PRELIMINARY

FileName: T220.dwg - USER: kwilna - Plot File Created: Nov 06, 2018 - 11:44am

A1 0 1 2 3 4 5 6 7 8 9 10

Rev	Description	Eng	Draft	Date
P1	PRELIMINARY	KA	KA	06.11.18

Builder
RICHARD CROOKES CONSTRUCTIONS
LEVEL 3 / 4 BROADCAST WAY
ARTARMON NSW 2064

Civil Engineer
TTW Taylor Thomson Whitting
612 9439 7288 | 48 Chandos Street St Leonards NSW 2065

Project
SMALLS ROAD PUBLIC SCHOOL

Sheet Subject
OUTBOUND TURNING PATH
LANE COVE RD w/ BRIDGE RD INTERSECTION
HRV (12.5m)

Scale : A1
1:200, 1:200

Drawn
KA

Authorised

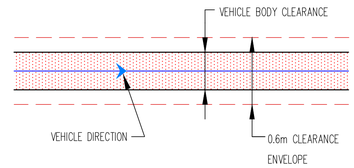
Job No
161375

Drawing No
T220

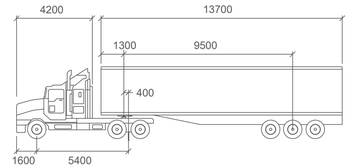
Revision
P1

Plot File Created: Nov 06, 2018 - 11:44am

SWEPT PATH LEGEND:



NOTE: 600mm CLEARANCE IN ACCORDANCE WITH AS2890



AV

	mm		
Tractor Width	: 2500	Lock to Lock Time	: 6.0
Trailer Width	: 2500	Steering Angle	: 28.3
Tractor Track	: 2500	Articulating Angle	: 70.0
Trailer Track	: 2500		

FileName: T310.dwg - USER: kevins - Plot File Created: Nov 06, 2018 - 11:51am

A1 0 1 2 3 4 5 6 7 8 9 10

Rev	Description	Eng	Draft	Date
P1	PRELIMINARY	KA	KA	06.11.18

Builder
RICHARD CROOKES CONSTRUCTIONS
LEVEL 3 / 4 BROADCAST WAY
ARTARMON NSW 2064

Civil Engineer
TTW Taylor Thomson Whitting
612 9439 7288 | 48 Chandos Street St Leonards NSW 2065

Project
SMALLS ROAD PUBLIC SCHOOL

Sheet Subject
INBOUND TURNING PATH
QUARRY RD w/ SMALLS RD INTERSECTION
SEMI-TRAILER (19m)

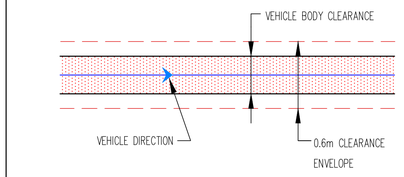
PRELIMINARY

Scale : A1	Drawn	Authorised
1:200	KA	

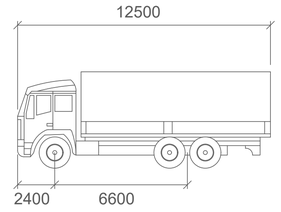
Job No	Drawing No	Revision
161375	T310	P1

Plot File Created: Nov 06, 2018 - 11:51am

SWEPT PATH LEGEND:



NOTE: 600mm CLEARANCE IN ACCORDANCE WITH AS2890



HRV

		mm
Width	:	2500
Track	:	2500
Lock to Lock Time	:	6.0
Steering Angle	:	35.2

FileName: T320.dwg - USER: kevins - Plot File Created: Nov 06, 2018 - 11:53am

A1 0 1 2 3 4 5 6 7 8 9 10

PRELIMINARY

Rev	Description	Eng	Draft	Date
P1	PRELIMINARY	KA	KA	06.11.18

Builder
RICHARD CROOKES CONSTRUCTIONS
LEVEL 3 / 4 BROADCAST WAY
ARTARMON NSW 2064

Civil Engineer
Taylor Thomson Whitting
612 9439 7288 | 48 Chandos Street St Leonards NSW 2065

Project
SMALLS ROAD PUBLIC SCHOOL

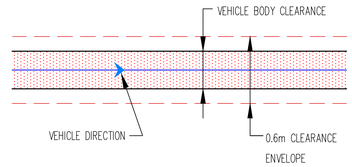
Sheet Subject
INBOUND TURNING PATH
QUARRY RD w/ SMALLS RD
INTERSECTION
HRV (12.5m)

Scale : A1	Drawn	Authorised
1:200	KA	

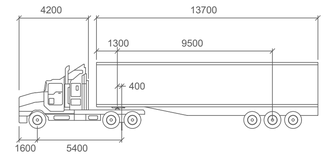
Job No	Drawing No	Revision
161375	T320	P1

Plot File Created: Nov 06, 2018 - 11:53am

SWEPT PATH LEGEND:



NOTE: 600mm CLEARANCE IN ACCORDANCE WITH AS2890



AV

mm

Tractor Width	: 2500	Lock to Lock Time	: 6.0
Trailer Width	: 2500	Steering Angle	: 28.3
Tractor Track	: 2500	Articulating Angle	: 70.0
Trailer Track	: 2500		

FileName: T410.dwg - USER: kevins - Plot File Created: Nov 06, 2018 - 11:55am

A1 0 1 2 3 4 5 6 7 8 9 10

PRELIMINARY

Rev	Description	Eng	Draft	Date
P1	PRELIMINARY	KA	KA	06.11.18

Builder
RICHARD CROOKES CONSTRUCTIONS
LEVEL 3 / 4 BROADCAST WAY
ARTARMON NSW 2064

Civil Engineer
TTW Taylor Thomson Whitting
612 9439 7288 | 48 Chandos Street St Leonards NSW 2065

Project
SMALLS ROAD PUBLIC SCHOOL

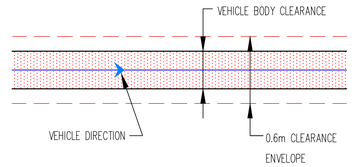
Sheet Subject
OUTBOUND TURNING PATH
BRIDGE RD w/ SMALLS RD
INTERSECTION
SEMI-TRAILER (19m)

Scale : A1	Drawn	Authorised
1:200	KA	

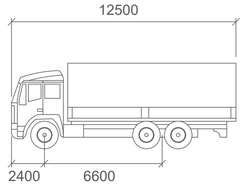
Job No	Drawing No	Revision
161375	T410	P1

Plot File Created: Nov 06, 2018 - 11:55am

SWEPT PATH LEGEND:



NOTE: 600mm CLEARANCE IN ACCORDANCE WITH AS2890



HRV

		mm
Width	:	2500
Track	:	2500
Lock to Lock Time	:	6.0
Steering Angle	:	35.2

PRELIMINARY

FileName: T420.dwg - USER: kevins - Plot File Created: Nov 06, 2018 - 11:57am

A1 0 1 2 3 4 5 6 7 8 9 10

Rev	Description	Eng	Draft	Date
P1	PRELIMINARY	KA	KA	06.11.18

Builder
RICHARD CROOKES CONSTRUCTIONS
LEVEL 3 / 4 BROADCAST WAY
ARTARMON NSW 2064

Civil Engineer
TTW Taylor Thomson Whitting
612 9439 7288 | 48 Chandos Street St Leonards NSW 2065

Project
SMALLS ROAD PUBLIC SCHOOL

Sheet Subject
OUTBOUND TURNING PATH
BRIDGE RD w/ SMALLS RD
INTERSECTION
HRV (12.5m)

Scale : A1 1:200 | Drawn KA | Authorised

Job No 161375 | Drawing No T420 | Revision P1

Plot File Created: Nov 06, 2018 - 11:57am

www.invarion.com

SafeWay
Traffic Management Solutions

A: Suite 450, 29 Smith Street, Parramatta 2150 NSW
P: 1800 987 891
F: (02) 9823 0494
M: 0403 323 290
E: dennis.dandolo@safewaytms.com.au
w: www.safewaytms.com.au

Location : 38 Smalls Road, Ryde.
Company : TTW.
Council : Ryde.
TCP Endorsed By : Dennis Dandolo
Prepare a Work Zone TMP # 0028376586
Expiry Date : 01.02.2019

Signature :

Filename :

UBD Reference# : 193/M12
Scale : NTS
Revision : 1.0
Prepared Date : 07.01.2019
TCP Author : Dennis Dandolo
Prepare a Work Zone TMP # 0028376586
Expiry Date : 01.02.2019

Signature :

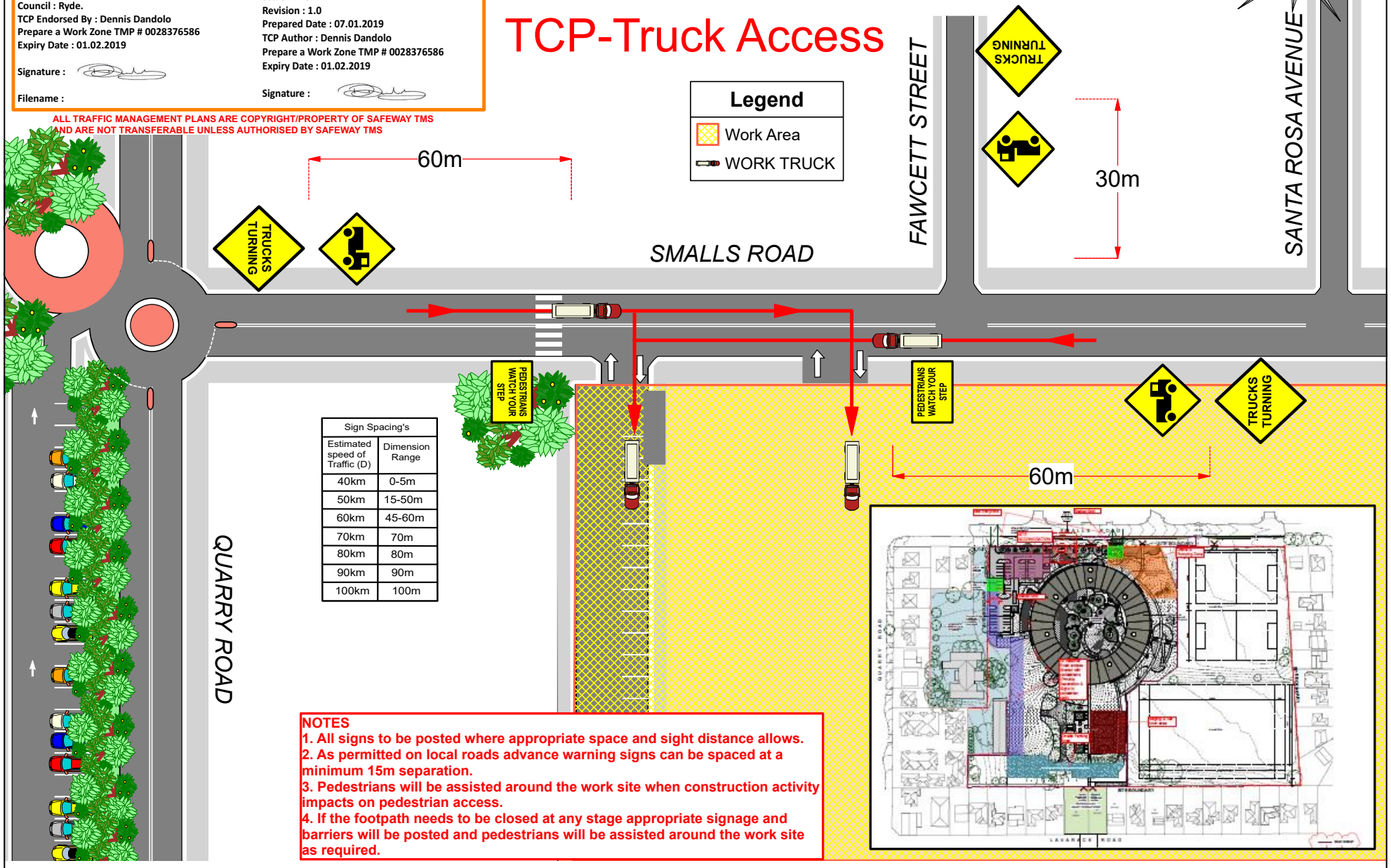
1. SCOPE OF WORKS
Construction vehicle access left or right turn into the site.

2. TRAFFIC MANAGEMENT LOGISTICS
Certified Traffic Controllers will post advance warning trucks turning signage at each approach to the site..
Pedestrian and cyclists safety will be a priority at all times.

3. SCHEDULE OF WORKS
TBA By TTW

4. COMPLIANCE
When installed as per the plan, signage will be in accordance with Australian Standards as 1742.3, 2009, and Traffic Control at Worksite Manual Version 4.0 from the RTA

TCP-Truck Access



Sign Spacing's	
Estimated speed of Traffic (D)	Dimension Range
40km	0-5m
50km	15-50m
60km	45-60m
70km	70m
80km	80m
90km	90m
100km	100m

NOTES
1. All signs to be posted where appropriate space and sight distance allows.
2. As permitted on local roads advance warning signs can be spaced at a minimum 15m separation.
3. Pedestrians will be assisted around the work site when construction activity impacts on pedestrian access.
4. If the footpath needs to be closed at any stage appropriate signage and barriers will be posted and pedestrians will be assisted around the work site as required.

APPENDIX B

TRAFFIC COMPLAINTS MONITORING SCHEDULE

Traffic Complaints Register						
Date of complaint	*Complainant*	*Nature of complaint*	*External notification required*	*Status (tick stages completed)*	*Date actioned*	*Notes*
6/3/19	☐ Parking Complaint	Alleged contractors parking on the Street	No	☐ Closed	7/3/19	Posted Guard to monitor any parking on the road reserve (Nil found) and reminded all workers about parking requirements
	☐			☐		
	☐			☐		
	☐			☐		
	☐					
	☐					
	☐					

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richardcrookes.com.au

Delivering Certainty

Appendix E – Construction Noise and Vibration Sub-Plan

Appendix F – Waste Management Sub-Plan

17/10/2017

SMALLS ROAD PUBLIC SCHOOL 1144

CONSTRUCTION WASTE MANAGEMENT PLAN

18/10/2018

RICHARD CROOKES
CONSTRUCTIONS

Delivering Certainty

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Revision

Rev Date	Revision Description	PM's Initials (i.e. acceptance of changes)
18/10/2018	Original Issues	

1 Introduction

This Construction Waste Management Plan forms part of the Project Management Pan for Smalls Road Public School

1.1 Purpose of the Plan

Richard Crookes Constructions (RCC) recognises the importance of promoting building design and construction techniques which minimise waste and provides an efficient recycle procedure for all waste material.

The purpose of this plan is to outline processes for:

- Objectives and Targets;
- Operational Controls;
- Recording, Monitoring Corrective Action; and,
- Reporting.

2 RCC Objectives and Targets

RCC's overall objective is to achieve a minimum of (80%) for recycled waste (by weight) generated by the Project.

The Operational Controls implemented to achieve this include:

Operational Controls		Method of Recording
General	Identify any hazardous and toxic materials (e.g. asbestos) and comply with WorkCover requirements. Develop project Waste Management Plan Try not to over-order on materials (initial waste avoidance). Communicate housekeeping & litter reduction rules with subcontractors during contract letting and site inductions.	Hazardous substance survey Waste Records Inductions
Implement the waste hierarchy – avoid, reuse, recycle and lastly disposal to landfill.		
		

Operational Controls		Method of Recording
Demolition Plan	Demolition disposal for concrete, bricks, plasterboard, timber, tiles, PVC, metal, paper & cardboard, glass, appliance, carpet, vegetation, soil – to Recycled Facility Asbestos ACM to be removed by a licenced contractor (up to 30 June 2007 >200m2, 1 July 2007 > 50m3, from 1 Jan 2008 > 10m2 of bonded asbestos) & managed in accordance with WHS Act & Regulation 2012 and EPA requirements. Lead paints & dusts will be removed using we sanding and vacuum techniques (cleaners which comply with AS/NZS 3544 Industrial vacuum cleaners for particulates hazardous to health). Waste will be contained within sealed plastic bags for disposal. Clean up with a wet mop.	Monthly Waste Report Disposal dockets
Consider recycling reprocessing	Where practicable: Timber for reuse or mulching Aluminium wall frames – reprocess Plasterboard – recycled or use as soil improvers Steel – reprocess Toughened Glass – reprocess Carpet & underlay – reprocess & mulch mats	Monthly Waste Report
Product Stewardship	Investigate returning waste to the supplier? (e.g. plasterboard, packaging)	Contract/ Supply agreem'ts
Putrescibles Waste	Putrescible waste is to be contained in bins and collected by licenced contractor for disposal	Invoices
Contaminated Soils	Contaminated soils will be excavated and classified in accordance with EPA guidelines "Environmental Guidelines: Assessment, Classification & Management of Liquid & Non-Liquid Wastes" (June 2004) – www.environment.nsw.gov.au/waste/envguidlns/index.htm.	RAP Reports Test Reports Waste Records Disposal Dockets
Virgin Excavated Natural Materials (VEMN)	VENM excavated from site with suitable compaction qualities will be beneficially re-used on other construction sites whenever possible. Disposal to landfill will be the last option. No fill will be received on site that does not comply with EPA guidelines i.e. Contamination limits appropriate to the development.	Test Reports Waste Records Disposal Dockets
Acid Sulphate Soils (ASS)	Potential for acid sulphate soils ASS will be assessed based on the sites proximity to low-lying coastal areas e.g. coastal plains, wetlands and mangroves where the surface elevation is less than five metres above mean sea level. If suspected, consultant to prepare Acid Sulphate Soil Management Plan (ASSMP). Excavation and neutralisation to be supervised	ASSMP Test Reports Product delivery (lime) dockets Site Plans

Operational Controls		Method of Recording
	by consultants as per ASSMP.	
Monitoring	Bin(s) with heavy lids shall be provided for putrescibles waste Daily inspections shall be carried out to ensure the worksite is litter free.	Env. Inspection Checklist
Reporting	Waste reports/management plans indicate estimated waste min (80%) of accumulated totals for the project.	Monthly Reports
Non-Compliance	Generation of water pollution and/or air pollution from onsite waste storage Inappropriate/illegal off-site disposal of waste materials Asbestos & CCA treated timber contamination of recoverable waste stream thereby requiring landfill disposal.	Env. Inspection Checklist Incident Report, NCRS
Emergency Response	No specific requirements associated with waste management Scenarios such as spill, fires, explosions covered by the project emergency response plans.	Incident Report

2.1 Estimated Waste Quantities: Use This to Estimate the Waste Quantities

Source Blacktown Council Waste Not Development Control Plan (internet, http://www.blacktown.nsw.gov.au/planning-anddevelopment/waste-not-overview/waste-not-overview_home.cfm, 2007).

Block of Flats (per 1000 m2)			
Waste Type	Conversion Factor	Demolition (t)	Construction (t)
Excavated Material	1.8 t/m3	na	na
Concrete (incl. Blocks)	2.4 t/m3	813	813
Bricks	1.0 t/m3	655	655
Timber Gyprock	Timber 0.5 t/m3 Gyprock: 0.75 t/m3	22	22
Steel	2 -4 t/m3	9	9
Roof Tiles	0.75 t/m3	33	33
Other – vegetation, cardboard, plastic	0.05 t/m3	26	26

Factory (per 1000 m2)			
Waste Type	Conversion (t to m3)	Demolition (t)	Construction (t)
Excavated Material	1.8 t/m3	na	na
Concrete	2.4 t/m3	448	0.25
Bricks	1.0 t/m3	205	2.10
Timber Gyprock	Timber 0.5 t/m33 Gyprock: 0.75 t/m3	4	1.65
Steel	2 -4 t/m3	23	0.45
Roof Tiles	0.75 t/m3	na	4.80
Other	0.05 t/m3	?	0.60

Office Block (per 1000 m2)			
Waste Type	Conversion (t to m3)	Demolition (t)	Construction (t)
Excavated Material	1.8 t/m3	7,410	5.10
Concrete	2.4 t/m3	1,485	18.80
Bricks	1.0 t/m3	124	8.50
Timber Gyprock	Timber 0.5 t/m33 Gyprock: 0.75 t/m3	29	8.60

3 Reporting

Greenstar:

The Project Green Star Administrator will be responsible for collecting monthly waste reports (Form 18.1) or utilising the waste subcontractor reporting format and issuing them to the Project Manager and Client Representative.

These reports will measure the weight of waste generated of material by classification, total weight of waste, percentage by weight recycled and percentage by weight to landfill.

General waste reporting:

Nominated member of the project team will be responsible for collecting monthly waste reports and issuing them to the Project Manager and Client Representative.

These reports will measure the weight of waste generated of material by classification, total weight of waste, percentage by weight recycled and percentage by weight to landfill.

4 Estimated Quantities

The Waste management plan – Construction chart (Form 18.2b) is an estimate of the core waste streams that will be removed from the Smalls Road Public School Project waste to be removed will be assessed for the Reuse & recycling content and the Disposal to landfill.

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Waste Management & Recycling Plan (NSW)

Bingo Industries offers a complete, comprehensive solution to the management and recycling of wastes to assure compliance with clients' waste management policy.

Bingo Recycling Centre's combine bin storage, waste collection, waste recycling and waste transfer to service the building and construction industry and domestic waste management needs in New South Wales. Wastes collected by Bingo Bins are taken directly to one of these facilities where approximately 90% of wastes are converted to recovered resources.

Bingo Recycling Centre Artarmon	EPL No. 20763
Bingo Recycling Centre Auburn	EPL No. 10935
Bingo Recycling Centre Banksmeadow	EPL No. 12857
Bingo Recycling Centre Greenacre	EPL No. 20847
Bingo Recycling Centre Kembla Grange	EPL No. 20601
Bingo Recycling Centre Minto	EPL No. 20638
Bingo Recycling Centre Mortdale	EPL No. 20622
Bingo Recycling Centre Revesby	EPL No. 20607
Bingo Recycling Centre Smithfield	EPL No. 20653
Bingo Recycling Centre St Marys	EPL No. 20621
Bingo Recycling Centre Tomago	EPL No. 20585

As can be expected waste materials inwards vary considerably and are delivered to the Recycling Centres in tipping and non-tipping vehicles or in skip bins. Of the wastes inwards approximately 90% is recovered and recycled as materials outwards and the balance 10% to landfill. Waste materials inwards are processed to achieve the maximum recovery of resources and the minimum of un-recoverable material for offsite disposal.

Typical Composition of Bingo's Wastes Inwards

Wastes Inwards	Percentage (approx.)
Heavy Recyclable Materials	45%
Light Recyclable Materials	35%
Metals	10%
Non-Recyclable Materials	10%
Total	100%

Heavy Recyclable Materials:

- Soil
- Dirt
- Sand
- Rubble
- Brick
- Concrete
- Tiles
- Stone
- Asphalt

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Light Recyclable Materials:

- Timber
- Green Waste
- Cardboard/ Paper
- Plastic
- Plasterboard

Metals:

- Ferrous (steel, black iron)
- Non-Ferrous (copper, wire, aluminium, stainless)

At the Resource Recovery Facility a simple and effective waste processing procedure is applied. See Materials Flow Diagram (below). Wastes inwards unloaded onto the sorting area where the waste is raked with a hydraulic excavator to expose the contents and where recyclable materials are hand and machine sorted. The raking process separates the waste into four streams for further processing.

Stream #1 Non-recyclable materials. These wastes pass to a holding area for off-site disposal.

Stream #2 Metals and light recyclable materials are removed and stored for off-site recycling.

Stream #3 Large sized heavy weight brick, concrete and rubble pieces. These wastes pass to the crushers where they are crushed and re-enforcing fabric removed. The output from the crushers passes to the screener where products of different size are separated and stored in stockpiles. Re-enforcing fabric is collected and stored in the general steel bin for off-site recycling.

Stream #4 Small sized heavy weight soil, sand, brick, concrete and rubble. These wastes pass to the screener where the soil is separated form the brick, concrete and rubble. The brick, concrete and rubble then pass through Stream #3.

Stream #1 wastes are currently not recyclable and are removed from the land for off-site disposal. Stream #2 wastes, recovered metals and light recyclable materials are recycled off-site. Stream #3 and Stream #4 wastes are processed on site by crushing and screening to form saleable products such as soil, sand, and aggregates. These products are retained on site until sold.

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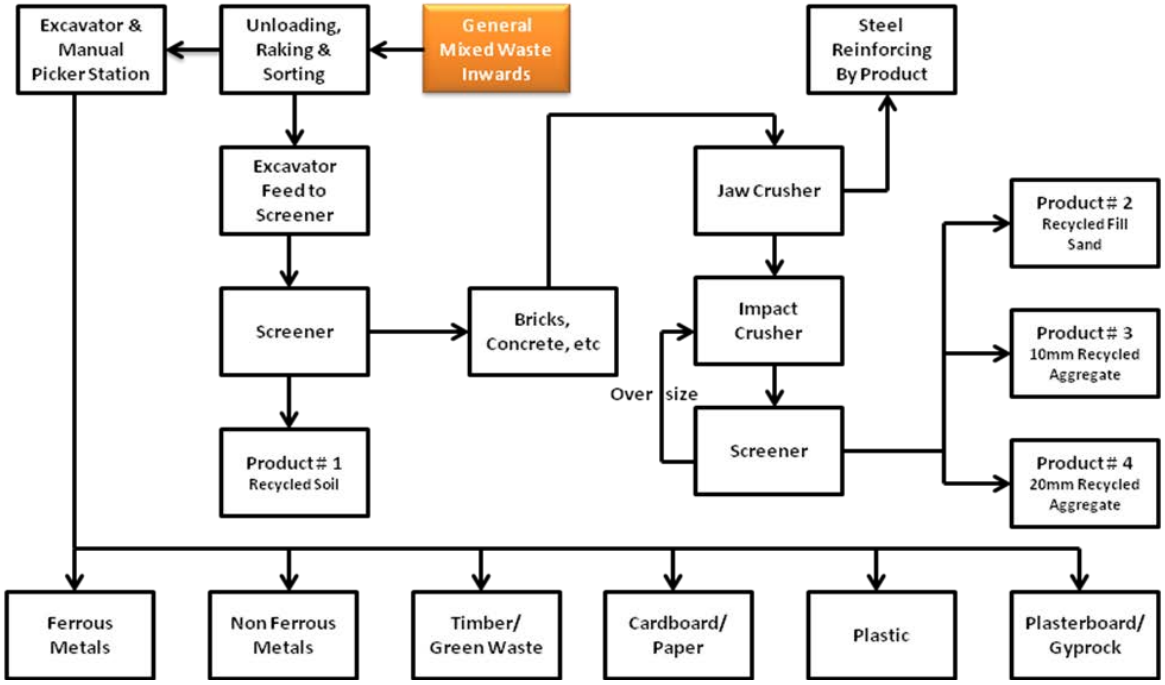
Bingo Recycling Centre
Waste Transfer & Materials Recovery Facility
Flow Diagram



In summary, Bingo Bins take all their mixed waste skip bins directly to EPA Licensed Recycling Centres. From there the waste is sorted and separated into the following material classes for processing and recycling.

Type of Material	Where Processed/ Recycled	How Processed/ Recycled
Heavy Recyclable Materials (soil, dirt, sand, rubble, concrete, brick, tiles, asphalt, stone)	Bingo Recycling Centres	Re-processed into recycled products (such as recycled soil, fill sand, aggregates, roadbase) by crushing and screening.
Timber/ Green Waste	ANL/ Benedict	Re-processed into woodchip and mulch by shredding.
Metal/ Steel	Sell & Parker/ CMI	Re-processed into new metal and steel products by shearing, baling and re-smeltering.
Brick/ Concrete	Boral	Re-processed into recycled products (such as fill sand, aggregates, roadbase) by crushing and screening.
Cardboard/ Paper/ Plastic	Polytrade Recycling/ J.J. Richards/ Orora	Re-processed into new cardboard, paper and plastic products by breaking down the material into a form for re-use.
Plasterboard	ReGyp	Re-processed into gypsum products by shredding and screening.
General Waste	SUEZ Landfill/ Horsley Park Landfill/ Sydney Recycling Park	n/a

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- Bingo Recycling Centres
  10 Mclachlan Ave, Artarmon NSW 2064
  3-5 Duck Street, Auburn NSW 2144
  38 McPherson Street, Banksmeadow NSW 2019
  35 Wentworth St, Greenacre NSW 2190
  50 Wyllie Road, Kembla Grange NSW 2526
  13 Pembury Road, Minto NSW 2566
  20 Hearne Street, Mortdale NSW 2223
  37-51 Violet Street, Revesby NSW 2212
  165 Woodpark Road, Smithfield NSW 2164
  25 Dunheved Circuit, St Marys NSW 2760
  29 Laverick Avenue, Tomago NSW 2322
- ANL
  210 Martin Road, Badgerys Creek NSW 2555
- Benedict
  Menangle Road, Menangle NSW 2568
- Sell & Parker
  45 Tattersall Road, Blacktown NSW 2148
- CMI
  38 York Road, Ingleburn NSW 2565
- Boral
  6-10 Burrows Road South, St Peters NSW 2044
- Polytrade Recycling
  32 South St, Rydalmere NSW 2116
  40 Madeline St, South Strathfield NSW 2136
- J.J. Richards
  12 Heald Rd, Ingleburn NSW 1890
  8 Kommer Pl, St Marys NSW 2760
- Orora
  1891 Botany Rd, Matraville NSW 2036
- ReGyp
  330 Captain Cook Drive, Kurnell NSW 2231
- SUEZ Landfill
  Elizabeth Drive, Kemps Creek NSW 2178
- Horsley Park Landfill
  Wallgrove Road, Horsley Park NSW 2164
- Sydney Recycling Park
  Clifton Avenue, Kemps Creek NSW 2178

Appendix G – Construction Soil and Water Management Sub-Plan

Construction Soil and Water Management Plan

Smalls Road Public School
Smalls Road, Ryde

SCP Ref: 180170

Client Richard Crookes Constructions

Project Smalls Road Public School

Date 25 March 2019

Revision table

Revision #	Date	Issue description	Prepared by	Reviewed by	Issued by
A	12/11/18	Draft for Review	JB	-	
B	25/03/2019	Issue for Construction	JB	LC	JB

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1 Introduction

As part of the detailed design process for the civil works associated with the Smalls Road Public School development, SCP Consulting have been engaged to develop management systems for soil and water issues during construction. This assessment is currently required under condition B23 of the State Significant Development Application Conditions of Consent (SSD-8372).

1.1 Purpose of Report

The purpose of this report is to:

- Describe all erosion and sediment controls to be implemented during construction.
- Describe how erosion and sediment control measures will be maintained during construction works.
- Provide a plan for how all construction works will be managed in a wet-weather event.
- Detail all off-site flows.

1.2 Proposed Development

The site is located at 12 Smalls Road, Ryde and within the City of Ryde local government area. The site is approximately 2.46 ha and the proposed development footprint covers approximately 1.32 ha. The site is currently in use by the Department of Education.

The proposed development includes the construction of a new three level teaching facility, site car parking, footpath, ramps and retaining, along with upgrades to existing site infrastructure and landscaping.

Due to the size of the proposed development and the considerable impact it will have to the landscape of the site, a sufficient site management plan must be implemented to ensure minimal impact to the environment and surrounding sites. It is pivotal that erosion, sediment and run-off are controlled throughout excavation and construction, until completion of the development.

This report details the measures to be taken on-site from the start of excavation until the completion of construction, in order to effectively manage all sediment, run-off and erosion, and to protect the surrounding properties and infrastructure.

1.3 Site Management

This Construction Soil and Water Management Plan (CSWMP) relates to the proposed public school development at Smalls Road, Ryde and shall be read in conjunction with the drawings prepared by SCP Consulting (refer Appendix A), and the geotechnical investigations prepared by JK Geotechnics. The CSWMP is also to be read in conjunction with the architectural plans, engineering plans, and any other plans or written instructions that may be issued in relation to the development at the subject site.

This CSWMP has been prepared to outline how soil and water issues are to be identified, planned, managed and monitored during the construction period. The CSWMP addresses erosion, sedimentation and water pollution management and outlines measures to minimise adverse impact on downstream waterways and floodplains. Particular effort must be made to protect and have minimal or no disturbance on the downstream areas. The measures should control all flow off site via sediment fencing, diversion banks and the detention basin during construction, which will be specified within the erosion and sediment control plan.

Contractors shall ensure that all soil and water management works are undertaken as instructed in this specification and constructed following the guidelines stated in Landcom's "Soils and Construction, Volume 1, 4th Edition (March 2004)".

The Contractor shall ensure that all subcontractors are informed of their responsibilities in minimising the potential for soil erosion and pollution to downslope and downstream areas. The plan shall be updated by the contractor during the course of the construction works such that it is in accordance with this SMP and City of Ryde's Works Specification.

2 Soil and Water Management

Soil and water management measures are to be in place to manage the impact of construction on the local environment. The following measures are to be implemented prior to the start of construction works and to remain installed until the completion of works. These measures cover both small (1 to 5 year ARI storm) and large storm (10 to 100 year ARI storm) events. Following the various storm events, maintenance is to occur for the implemented soil and water management controls, in accordance with maintenance procedures within Section 3 of this report.

2.1 Soil and Water Management Implementation

Soil and water management measures shall be undertaken as follows:

a. Input drainage and water management systems to transport stormwater and run-off through or around site safely and without contamination of waterways.

b. Any sediment basins must be constructed and in service prior to the start of bulk excavation and earthworks, and must meet the requirements of the erosion sediment management drawings prepared by SCP Consulting. The location of the proposed sediment basin can be amended to an alternate location, provided the diversion of runoff to the new location takes place. Use of in ground OSD and rainwater tanks will be suitable as temporary basins, provided that there is no connection into the existing Council drainage network.

c. Install sediment fencing and cut drains to meet the requirements of the erosion sediment management drawings prepared by SCP Consulting.

d. Waste collection bins shall be installed adjacent to site office – yet not in a position which, in the case of overflowing or a spill, compromises the safety of waterways – for collection of all construction refuse. All waste materials must be disposed of off-site in a safe and legal manner, or stored safely, well clear of streambanks and flood-prone areas.

e. Staff facilities to be located such that all effluent and waste water is easily contained and managed within the site management area.

f. Construct stabilised site access in the location nominated on the erosion sediment management drawings prepared by SCP Consulting.

g. Install sediment control protection measures at all natural and man-made drainage structures. Maintain until all the disturbed areas are stabilised.

h. Clear and strip the work areas. Minimise the damage to the grass and low ground cover of non-disturbed areas. At all times, minimise the area of the site being disturbed and stockpile all topsoil for reuse in rehabilitation works.

i. Ensure that land disturbance is no further than 5 metres from the edge of construction activities, where possible.

j. Vehicle and equipment maintenance to occur offsite, or, where appropriate, in a designated area onsite that is bunded or similarly confined to prevent contamination of waterways.

k. Do not use invasive species in rehabilitation (eg. Kikuyu)

l. Do not use herbicides or other chemicals where they might pollute waterways.

m. Works should not cause new seepage areas.

n. Protect all stockpiles of materials from scour and erosion.

o. Apply permanent stabilisation to site (landscaping).

p. Sediment fencing and the sediment basin are to remain until construction is complete, and the site is fully stabilised.

2.2 Erosion and Sediment Control

All erosion and sedimentation control measures, where possible, are to be installed prior to the commencement of any excavation or construction works on-site. The erosion and sediment control plan within Appendix A nominates required measures. The devices are to be maintained throughout the entire excavation and construction process and must be maintained for a minimum of 3 months after the completion of works, where necessary.

The erosion and sedimentation control measures shall be undertaken as follows:

a. Clearly visible barrier fencing shall be installed on the site to assist in controlling the movement of traffic within the site and prohibit unnecessary site disturbance.

b. Vehicular access to the site shall be stabilised and limited to only that essential for construction work and shall enter the site only through the designated stabilised access points.

c. Proprietary silt fencing shall be installed in accordance with the erosion and sediment management drawings prepared by SCP Consulting and elsewhere at the discretion of the site superintendent to contain coarser sediment fractions as near as possible to their source.

d. Stockpiles shall be located in accordance with the erosion and sediment management drawings prepared by SCP Consulting. Where stockpiles are to be in place longer than 10 days they shall be stabilised by covering with mulch or with temporary vegetation. Use sediment fences and earth banks with stockpiles as required.

e. Stockpile material may be removed from site to reduce the risk of further pollution of site runoff.

f. Soil materials shall be replaced in the same layers they are removed from the ground i.e. all subsoils are to be buried and topsoil is to be respread on the surface at the completion of works.

g. All disturbed areas are to be stabilised within 14 working days of the completion of site works. All disturbed areas are to be protected so that the land is permanently stabilised within six months. Topsoil shall be

respread over the site as required to achieve a minimum depth of 75mm of hydromulchable soil (exact required depth to be confirmed by supplier). The site shall be stabilised and revegetated using a hydromulch mix (or equivalent) to be specified by the supplier, as appropriate for the site. Soil testing may be required to tailor the mix for the site.

If hydromulching is not suitable for site stabilisation, the below seed mix can be used for temporary stabilisation, assuming topsoil depths are sufficient.

SEASON	**STABILISATION SEED MIX**
Autumn/Winter	Oats at 40kg/ha and Japanese millet at 10 kg/ha
Spring/Summer	Oats at 20kg/ha and Japanese millet at 20 kg/ha

Table 1.1

The above seed mix will provide temporary protection for up to 6 months until such time as more permanent stabilisation measures can be implemented for permanent stabilisation of the site.

Any areas that remain exposed after disturbance, where no further works are to take place for a period of 12 weeks must be stabilised by the methods mentioned in this point (g) or an equivalent.

h. All vehicles shall leave the site via the stabilised site access onto Smalls Road. Vehicles shall have sediment removed from tyres and wheel guards prior to leaving the site.

3 Maintenance During Construction

A regular site maintenance program shall be established for the site based upon:

- Daily site walk-over by site foreman/manager to ensure adequate condition of erosion control measures;
- A weekly site audit of erosion control measures during periods of dry weather; and
- A site audit of all erosion control measures following a rainfall event.

The site maintenance program shall be conducted until site stabilisation measures have been established on site, and shall ensure (as a minimum) that the following activities are routinely conducted:

a. Waste bins are to be emptied at least weekly and refuse is to be disposed of via an approved waste facility.

b. All potential dust and air pollutants vulnerable to wind erosion must be controlled effectively. This includes waste bins, unsealed access tracks, and stockpiles etc.

c. Ensure that all drains are operating effectively and make any necessary repairs.

d. Remove any spilled material from areas subject to runoff or concentrated flow.

e. Remove trapped sediment where the capacity of the trapping device falls below 60%. Sediment removed from any trapping device shall be relocated where further pollution to downslope lands and waterways cannot occur.

f. Construct additional erosion or sediment control works as may be appropriate to ensure the protection of downslope lands and waterways.

g. Maintain erosion and sediment control measures in a fully functioning condition at all times until the site is rehabilitated, making repairs to measures as necessary; always keeping all potential hazards of soil erosion and any potential pollutants to downslope areas to a minimum.

h. A chemical flocculent (such as gypsum) may be dosed to aid settling within 24 hours of the conclusion of each rainfall event. The applied dosing rates should achieve the target quality within 36 to 72 hours of the conclusion of the rainfall event.

i. Ensure rehabilitated lands have effectively reduced the erosion hazard and initiate upgrading or repair as appropriate.

j. Ensure that the revegetation scheme is adhered to and that the all grass covers are kept healthy, including watering and mowing. Excessive growth should be controlled as necessary.

k. Remove temporary soil conservation structures as the last activity in the rehabilitation program.

For further and more detailed maintenance measures, refer to Chapter 8 of Landcom's *Soils & Construction - Managing Urban Stormwater*.

4 Unexpected Finds Protocol

All stockpiles and materials on-site must be controlled and managed using the advice provided in Section 2 and 3. For uncontrolled fill identified by the Contractor, geotechnical engineer or civil engineer, the material should be assessed and if not suitable for reuse, stockpiled in the relevant locations. At the conclusion of construction, all unused materials must be removed from site and disposed of off-site in an approved manner. Unused fill material must either be integrated into the landscaping of the site or disposed of off-site in an approved manner. This is to prevent contamination of the site and surrounding areas, and to maintain the aesthetics of the development.

Should fly tipping be found on site during construction, Council recommends that you should not attempt to remove or touch any dumped rubbish as it may be harmful and/or hazardous. A site representative should report this to Council immediately, by calling 02 9952 8222.

If during excavation and construction, any potentially hazardous materials are found within the site, all work on the site should be halted immediately. A relevant expert (geotechnical engineer, environmental consultant, civil engineer, asbestos consultant) should be contacted. Work should remain halted until the relevant expert can assure that all hazard to workers has been removed/neutralised, and that there will be no negative long-term effects to future residents or their assets due to the hazard.

A demolition/refurbishment hazardous material risk assessment for the site has been completed by Greencap (Ref: C107471: J154351, Dated: February 2018) and should be referenced throughout the construction process to ensure demolition and construction is completed as safely as possible. This report is attached in Appendix B.

A similar protocol is to be undertaken if any unexpected or unmapped services are encountered during excavation and construction, such as heritage or Aboriginal artefacts. Construction should be halted until the relevant service provider can be contacted, and the service properly located and mapped. An engineer should be consulted if this effects construction works or excavation significantly.

Below are the details of potentially relevant contacts in the case of finding various materials or services on-site:

- **Dial Before You Dig:** **1100**
- **City of Ryde Council** **02 9952 8222**
- **Jemena:** **131 909**
- **Telstra:** **13 22 03**
- **All About Asbestos:** **0411 650 980**
- **Endeavour Energy:** **13 10 81**
- **Sydney Water:** **13 20 90**

5 Conclusion

The following strategies have been documented and require implementation to ensure that the requirements of the SSD Condition of Consent is achieved:

- Erosion and Sediment Control measures, as per the details with Appendix A.
- Monitoring and maintaining the installed measures, as per details in Section 3.
- Ensure hazardous materials and unexpected finds are managed in accordance with the prepared by Greencap and Section 4.

Throughout construction site conditions and construction methodologies can change. Therefore, it is recommended that soil and water management measures are reviewed and amended if necessary, to ensure that the development has minimal to no impact on the local environment.

Appendix A Erosion and Sediment Control Plan

NOTE:
IN GROUND OSD AND RAINWATER TANKS NOT CONNECTED TO COUNCIL NETWORK DURING INITIAL STAGES OF CONSTRUCTION, WILL BE SUITABLE AS ALTERNATIVES TO A TEMPORARY SEDIMENT BASIN, PROVIDE SITE RUNOFF CAN BE DIRECTED TO THE TANKS.

STABILISED SITE ACCESS REFER TO TYPICAL DETAIL. LOCATION TO BE CONFIRMED BY SITE SUPERINTENDENT

PROVIDE SEDIMENT BARRIERS WITHIN GUTTERS. REFER TO TYPICAL DETAILS

STRAW BALE SEDIMENT FILTER

SITE AMENITIES. LOCATION TO BE CONFIRMED BY SUPERINTENDENT

STOCKPILE, ACTUAL LOCATION TO BE DETERMINED BY SITE SUPERINTENDENT (REFER DETAIL)

SEDIMENT BASIN. 207m³ OF STORAGE REQUIRED WHILST CONSTRUCTION ZONE IS DISTURBED. FOR 1.5m DEPTH, APPROX 12m x 12m OF SITE FOOTPRINT REQUIRED. REFER TO TYPICAL BASIN DETAIL. REINSTATE AREA UPON STABILISATION OF EARTHWORKS

CALCULATIONS:
DISTURBED AREA = 1.55ha
SETTLING ZONE VOLUME = 138m³
SEDIMENT STORAGE VOLUME = 69m³
TOTAL SEDIMENT BASIN = 207m³

STABILISED SITE ACCESS REFER TO TYPICAL DETAIL. LOCATION TO BE CONFIRMED BY SITE SUPERINTENDENT

TRUCK WASH DOWN AREA

PROVIDE SECURITY FENCING AROUND PERIMETER OF CONSTRUCTION SITE

DIVERSION BANK OR SWALE REFER TO DETAIL

SEDIMENT FENCING

SECURITY FENCE

EROSION AND SEDIMENT CONTROL LEGEND

- SEDIMENT FENCE
- SECURITY FENCE
- KERB INLET PROTECTION. PROVIDE AT ALL EXISTING ROAD STORMWATER PITS.
- OVERLAND FLOW PATHS (MIN 1% SLOPE)
- TEMPORARY CONSTRUCTION ENTRY/WASHDOWN
- SEDIMENT FILTER
- KERB INLET PIT FILTER
- EXCAVATION AREA
- STRAWBALE SEDIMENT FILTER
- DIVERSION BANK

NOTE: DISPOSAL OPTIONS
OPTION 1: DISPOSAL INTO COUNCILS STOMWATER SYSTEM

EXCAVATION PIT WATER CAN BE DISPOSED OF INTO COUNCIL'S STORMWATER SYSTEM IF THE CRITERIA BELOW ARE MET:
1.WRITTEN PERMISSION IS OBTAINED FROM WATER NSW PRIOR TO ANY DISCHARGE.

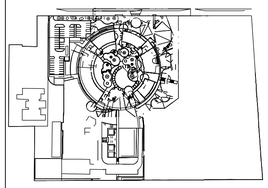
OPTION 2: DISPOSAL VIA TANKER

THE ONLY REQUIREMENT FOR THIS DISPOSAL OPTION IS THAT THE TANKERS DISPOSE OF THE WATER AT AN EPA LICENSED WASTE FACILITY.
RECEIPTS OF DISPOSAL FROM THE LICENSED WASTE FACILITY MUST BE RETAINED ON-SITE AND PRODUCED FOR COUNCIL OFFICERS ON REQUEST.

APPROVAL FROM WATER NSW WILL ALSO BE REQUIRED.

WATER NSW CONTACT DETAILS:

RICHARD MEARES,
WATER REGULATION OFFICER
(02)9865 2324
richard.meaves@waternsw.com.au



Key Plan

NORTH

FOR CONSTRUCTION

Rev	Revision Description	Date
01	ISSUE FOR CONSTRUCTION	27.03.2019
C	RE-ISSUE FOR INFORMATION	19.12.2018
B	RE-ISSUE FOR INFORMATION	12.12.2018
A	RE-ISSUE FOR INFORMATION	05.12.2018

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Client
RICHARD CROOKES CONSTRUCTIONS
NSW GOVERNMENT Education School Infrastructure

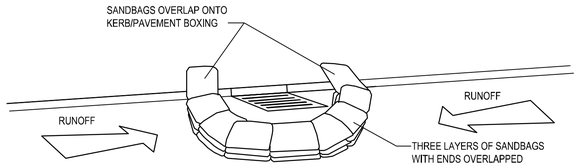
Project
SMALLS ROAD PUBLIC SCHOOL

Title
EROSION AND SEDIEMENT CONTROL PLAN

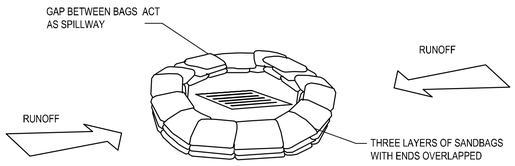
Scale
0 10000 25000
1:500 at A1

Drawn	Checked	Approved	
LW	JB		

Project Number	Drawing Number	Revision
180170	SCP-CV-DWG-1500	01

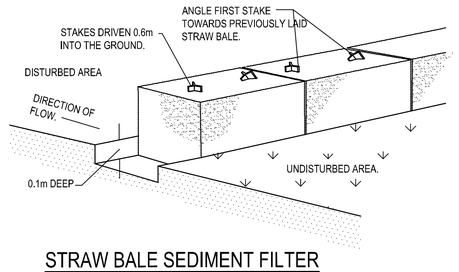


SANDBAG SEDIMENT TRAP - AT KERB SAG PIT

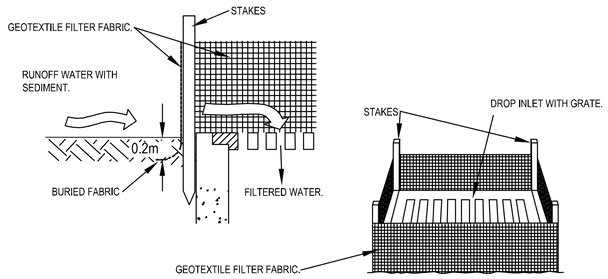


SANDBAG SEDIMENT TRAP - AT OTHER THAN KERB SAG PIT

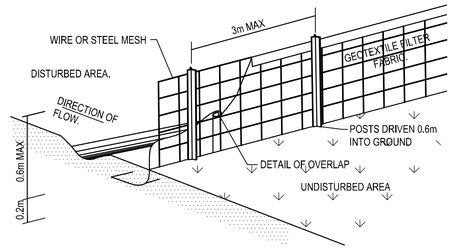
SANDBAG SEDIMENT TRAP DETAILS
NTS



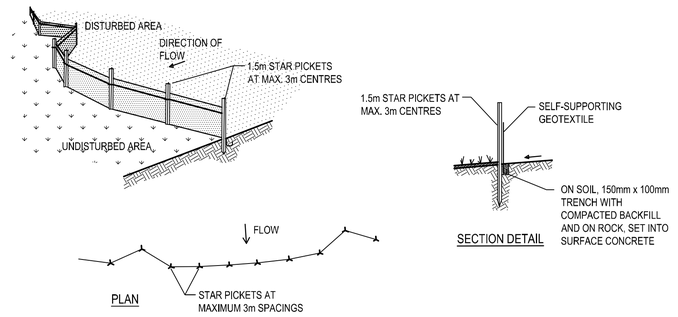
STRAW BALE SEDIMENT FILTER
WHERE SILT FENCE IS NOT SUITABLE



GEOTEXTILE FILTER FABRIC DROP INLET SEDIMENT TRAP.



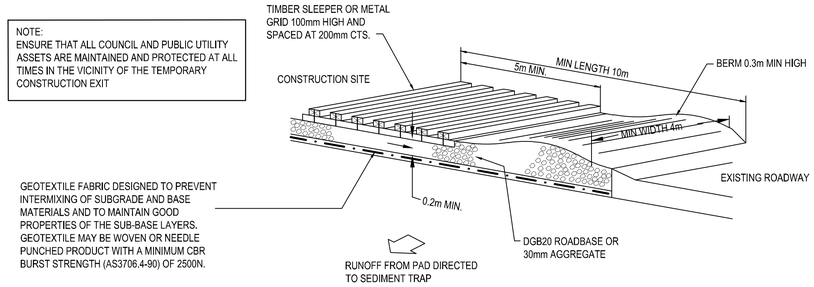
SEDIMENT CONTROL FENCE
NTS



CONSTRUCTION NOTES
1. CONSTRUCT SEDIMENT FENCE AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE.
2. DRIVE 1.5m LONG STAR PICKETS INTO GROUND. 3 METRES APART.
3. DIG A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
4. BACKFILL TRENCH OVER BASE OF FABRIC.
5. FIX SELF-SUPPORTING GEOTEXTILE TO UPSLOPE SIDE OF POSTS WITH WIRE TIES OR AS RECOMMENDED BY GEOTEXTILE MANUFACTURER.
6. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.

SEDIMENT CONTROL FENCE
NTS

NOTE:
ENSURE THAT ALL COUNCIL AND PUBLIC UTILITY ASSETS ARE MAINTAINED AND PROTECTED AT ALL TIMES IN THE VICINITY OF THE TEMPORARY CONSTRUCTION EXIT

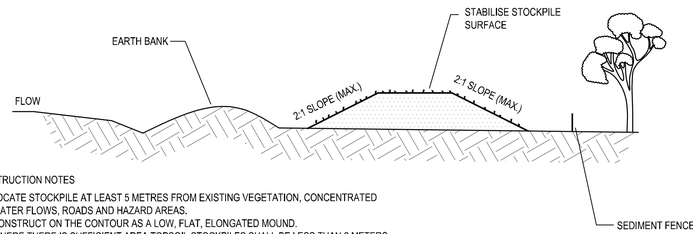


CONSTRUCTION NOTES
1. STRIP TOPSOIL AND LEVEL SITE.
2. COMPACT SUBGRADE.
3. COVER AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
4. CONSTRUCT 200MM THICK PAD OVER GEOTEXTILE USING ROADBASE OR 30MM AGGREGATE.
5. CONSTRUCT HUMP IMMEDIATELY WITHIN BOUNDARY TO DIVERT WATER TO A SEDIMENT FENCE OR OTHER SEDIMENT TRAP WHERE THE SEDIMENT IS COLLECTED AND REMOVED.

MAINTENANCE NOTES
THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH PREVENTS TRACKING OR FLOWING OF SEDIMENT OFF THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL GRAVEL AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED OFF THE CONSTRUCTION SITE MUST BE REMOVED IMMEDIATELY.

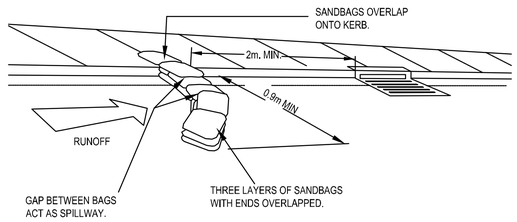
TEMPORARY STABILISED CONSTRUCTION EXIT

SOURCE: MANAGING URBAN STORMWATER
SOILS AND CONSTRUCTION
THIRD EDITION, AUGUST 1998
PRODUCED BY THE DEPARTMENT OF HOUSING

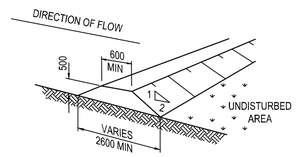


CONSTRUCTION NOTES
1. LOCATE STOCKPILE AT LEAST 5 METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOWS, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS A LOW, FLAT, ELONGATED MOUND.
3. WHERE THERE IS SUFFICIENT AREA TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METERS IN HEIGHT.
4. REHABILITATE IN ACCORDANCE WITH THE SWMP/ESCP.
5. CONSTRUCT EARTH BANK (STANDARD DRAWING 5-2) ON THE UPSLOPE SIDE TO DIVERT RUN OFF AROUND THE STOCKPILE AND A SEDIMENT FENCE (STANDARD DRAWING 6-7) 1 TO 2 METRES DOWNSLOPE OF STOCKPILE.

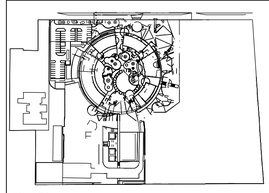
STOCKPILES



SANDBAG KERB INLET SEDIMENT TRAP.
NTS



DIVERSION BANK



Key Plan

Rev	Revision Description	Date
C	RE-ISSUE FOR INFORMATION	19.12.2018
B	RE-ISSUE FOR INFORMATION	12.12.2018
A	RE-ISSUE FOR INFORMATION	05.12.2018

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SMALLS ROAD PUBLIC SCHOOL

Title
EROSION AND SEDIEMENT CONTROL DETAILS

Scale
AS SHOWN AT A1

Drawn	Checked	Approved	
LW	JB		

Project Number	Drawing Number	Revision
180170	SCP-CV-DWG-1501	C

Appendix B Demolition/Refurbishment Hazardous Material Risk Assessment (Prepared by Greencap)

Demolition/Refurbishment Hazardous Material Risk Assessment
Department of Education
Smalls Road Public School
Smalls Road, North Ryde NSW 2113

Site Reference: 001

Our Reference : C107471 : J154351

Date: February 2018

Greencap

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North Ryde NSW 2113

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GREENCAP

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21/02/2018
REPORT PREPARED BY

KASINATHAN RAJARAM
Senior Consultant - Property Risk

15/03/2018
REPORT REVIEWED BY

JAMES STEWART
Hazmat Team Manager NSW

16/03/2018
REPORT AUTHORISED BY

ADRIAN SPANKIE
Principal EHS Consultant

Limitations - Overview

Please note there are limitations associated with this report due to a range of factors, including, but not limited to the scope of works, survey methodology and inaccessible areas. To ensure its contextual integrity, the report must be read in its entirety and should not be copied, distributed or referred to in part only.

Only limited destructive auditing and sampling techniques were employed to gain access to those areas documented in the Materials Register. It is not possible to guarantee that every source of hazardous material has been detected without substantial demolition of the building.

This report is not intended to be used for the purposes of tendering, programming of works, refurbishment works or demolition works unless used in conjunction with a specification detailing the extent of the works.

Refer to the Statement of Limitations for further details.

Refer to the Areas Not Accessed for further details.

Introduction

This report presents the findings of a Demolition/Refurbishment Hazardous Material Risk Assessment conducted for Department of Education located at Smalls Road, North Ryde NSW 2113. The risk assessment was performed by Kasinathan Rajaram on 21/02/2018.

This report was performed in accordance with:

- How to Manage and Control Asbestos in the Workplace: Code of Practice (SafeWork NSW, 2016)
- NSW Work Health & Safety Regulation 2017
- Australian Standard "AS4361.2:1998 Guide to Lead Paint Management Part 2: Residential and Commercial Buildings"
- Identification of PCB-Containing Capacitors 1997 ANZECC
- Code of Practice for the Safe Use of Synthetic Mineral Fibres
- Demolition Work Code of Practice (SafeWork NSW, Sept 2016)

The Hazardous Materials Risk Assessment was carried out to Buildings A, B, D, E and K that are due for demolition in the near future.

This report MUST be read in conjunction with Greencap earlier generated report C121445:J146932-02 dated February 2017 for this site following similar/related inspection carried out to Buildings C, H, G and L.

Note that all the above mentioned buildings were occupied and operational at the time of inspection, consequently no destructive / fully intrusive investigations were carried out during this survey. Prior to the demolition of the building, Greencap strongly recommends that a fully intrusive / destructive survey is completed once vacant possession is obtained.

Scope of Works

The scope of works for this project was as follows:

- Inspect representative and accessible areas of the site in line with the proposed refurbishment/demolition works to identify the following materials: Asbestos, SMF, PCB, Lead Paint (Lead Check), Lead Paint (Chips) and Lead Dust
- Identify the likelihood of hazardous materials in inaccessible areas
- Identify the types of hazardous materials and their condition
- Assess the risks posed by the materials
- Compile a hazardous materials register for the site in line with the proposed refurbishment/demolition works (for removal purposes only)
- Take photographs of suspected hazardous materials
- Recommend removal methods and necessary actions of the identified/presumed hazardous materials

Refer to Methodology for full details.

Site Asbestos Risk Profile

The following table provides a summary of the Asbestos Risk Assessment for the site; item-specific findings are presented in the Hazardous Materials Register.

Building / Level	Number of Items by Risk Rating		
	High	Medium	Low
B00A - Ground Level	0	1	4
B00A - Sub-Floor	0	0	3
B00B - All Levels	0	0	1
B00B - Ground Level	0	0	1
B00B - Level One	0	0	6
B00D - All Levels	0	0	1
B00D - Ground Level	0	0	6
B00D - Level One	0	0	4
B00K - Ground Level	0	0	1
B00E - All Levels	0	0	1
B00E - Ground Level	0	0	2
B00E - Sub-Floor	0	0	2

Site Asbestos Risk Profile

Building / Level	Number of Items by Risk Rating		
	High	Medium	Low
B00E - Level One	0	0	4
Total	**0**	**1**	**36**

Summary of Identified Items

The following table provides a general overview of the types of Hazardous Materials identified on site; specific findings are presented in the Hazardous Materials Register.

Building / Level	Asbestos		Hazardous Materials				
	Friable	Non Friable	SMF	PCBs	Lead Paint	Lead Dust	ODSs
B00A - Ground Level		YES	YES				YES
B00A - Sub-Floor		YES					
B00B - All Levels		YES					
B00B - Ground Level		YES					YES
B00B - Level One		YES	YES				
B00D - All Levels		YES					
B00D - Ground Level		YES	YES				YES
B00D - Level One		YES	YES				
B00K - Ground Level		YES	YES				YES
B00E - All Levels		YES					
B00E - Ground Level		YES	YES				YES
B00E - Sub-Floor		YES					
B00E - Level One	YES	YES	YES				

Recommendations

- Prior to demolition/refurbishment works undertake a destructive hazardous materials survey of the premises as per the requirements of AS 2601: 2001 The Demolition of Structures, Part 1.6.1 and Demolition Work Code of Practice (Safe Work Australia, July 2015).
- Due to mixed/contradictory sample analysis results for the packers/debris within inspected sub floors areas to multiple buildings, all the cement based packers/debris on this site should be presumed to contain asbestos, treated accordingly and removed by an appropriately licensed asbestos removal contractor to undertake remedial/removal works under controlled conditions prior to demolition.
- Engage an independent asbestos consultant to undertake asbestos fibre air monitoring during and after the asbestos remedial/removal works and to provide clearance certification once works have been satisfactorily completed.
- All identified and presumed ACMs that will be disturbed during the scheduled works should be removed prior to demolition works by an appropriately licensed contractor and in accordance with the Code of Practice.
- Should any personnel come across any suspected asbestos or hazardous materials, work should cease immediately in the affected areas until further sampling and investigation is performed.
- Where ACMs remain in-situ, the person with management or control of the site should update the Asbestos Register as per the requirements outlined in the Code of Practice.
- All identified hazardous materials that will be disturbed by the scheduled works should be removed prior by an appropriately licensed/experienced contractor.
- Where an extent of an item is given, this is only an estimate/approximate. Further detailed measurements must be carried out for the purpose of removal/refurbishment.
- At the request of site security on behalf of tenants on this site, no inspections were carried out to following sections of buildings:

  - Throughout ground level, Building B00B; and
  - Majority of ground level offices/related service areas, Building B00D.

  These areas/sections of buildings should presumed to contain hazardous materials unless further assessment/sampling confirms otherwise.
- Abatement of hazardous materials should be undertaken in conjunction with removal specifications to detail the extent of the works.
- Where Hazardous Materials are identified in a good condition (refer to Hazardous Materials Register) these can only remain in-situ where refurbishment or demolition works do not impact upon the area.
- Hazardous materials identified on site should be noted within the demolition/refurbishment works Safe Work Method Statement (SWMS) and any safe systems of work put into place if required.
- It is imperative that demolition or refurbishment works cease pending further sampling if materials suspected of containing asbestos or hazardous materials are encountered.
- Synthetic Mineral Fibre (SMF) materials should be removed under controlled conditions prior to demolition /refurbishment works, in accordance with the requirements of the Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC:2006(1990)].
- Confirm that the contractor conducting works involving refrigerants holds a refrigerant trading authorisation with the Australian Refrigeration Council (ARC) and a refrigerant handling licence under the Ozone and Synthetic Gas Management Regulations 1995.
- Ensure that the air-conditioning contractor engaged to conduct maintenance and repair work involving refrigerants conducts the appropriate recovery and recycling of refrigerants.
  Ozone depleting refrigerants should be decanted by a suitably licensed contractor in accordance with the Australia & New Zealand Refrigerant Handling Code of Practice 2007, Part 1. Self-Contained Low Charged Systems prior to the de-commissioning of the equipment.
- Ensure that future purchases of air-conditioning plant include refrigerants with non-ozone depleting potential.
- Areas highlighted in the Areas Not Accessed section as areas of 'no access' should be presumed to contain hazardous materials. Appropriate management planning should be implemented in order to control access to and maintenance activities in these areas, until such a time as they can be inspected and the presence or absence of hazardous materials can be confirmed.
- Greencap can assist with the implementation of any of the above recommendations.

How to use this Register

The location and item information of identified materials

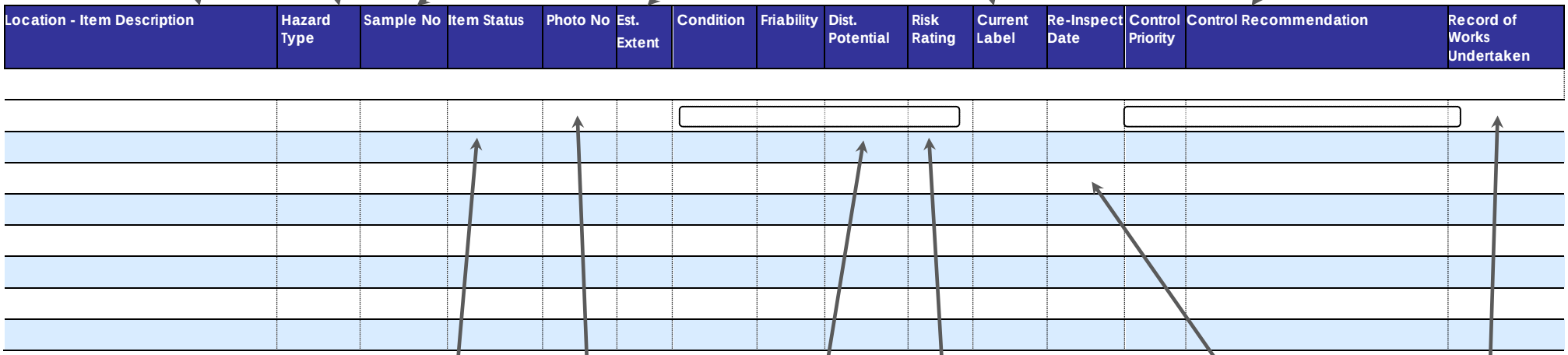
Hazard type: e.g. Asbestos, Lead Paint, SMF, etc.

Refer to the Sample Analysis Results for further details

Estimated quantity of material present

Details of warning labels present

The **control priority** and **control recommendations** indicate the recommended management actions, shaded according to priority. Refer to the Priority Rating System section for further information



This indicates if the material contains asbestos / hazardous materials:

Positive	Item contains asbestos or other hazardous material.
Negative	Item does not contain asbestos or other hazardous material covered in the scope of work.
Presumed Positive	Item has not been sampled, but is visually similar to another positive sample or it is likely to contain asbestos / hazardous materials
Presumed Negative	Item has not been sampled, but is visually similar to another negative sample or it is NOT likely to contain asbestos / hazardous materials

A photo of the item is within the Photo section

The potential of disturbance to material to liberate asbestos fibres

These are the **risk assessment factors** and **risk rating** of the item. Refer to the Risk Assessment Factors section for further information

Recommended re-inspection date, based on the risk rating of the material

Any information relating to remedial or removal works undertaken should be recorded by the Register controller.

Control Priority: The following priority rating system is adopted to assist in the programming and budgeting for control of asbestos risk identified in the assessment.

Priority 1 (P1)	Restrict access to area, organise abatement works ASAP, manage any remaining materials as part of an AMP.
Priority 2 (P2)	Organise remedial works in the next few months & manage any remaining materials as part of an AMP.
Priority 3 (P3)	No short-term remedial works required. Review periodically and manage as part of an AMP.
Priority 4 (P4)	No short-term remedial works required. Review periodically and manage as part of an AMP.

GREENCAP

Hazardous Materials Register

Site Details		Building Details				Audit Details	
Full Address:	**Smalls Road, North Ryde NSW 2113**	**Building Name:**	**B00A**	**Number of Levels:**	**1**	**Survey Date:**	**21-02-2018**
Property ID:	**001**	**Est. Building Size:**	**500m²**	**Est. Building Age:**	**1960**	**Inspected By:**	**Kasinathan Rajaram**
Client Name:	**Department of Education**	**Roof Type:**	**Metal**	**Construction Type:**	**Brick, Concrete & Fibre Cement**	**Company:**	**Greencap**

Location - Item Description	Hazard Type	Sample No.	Item Status	Photo No.	Est. Extent	Condition	Friability	Dist. Potential	Risk Rating	Current Label	Reinspect Date	Control Priority	Control Recommendation	Record of Works Undertaken
B00A - Exterior - Ground Level														
Exterior - Northeast Eaves - Fibre Cement Sheeting - Debris (one full sheet) on ground surface.	Asbestos	Similar To: J154351-001-010	Presumed Positive	J154351-001-Photo038	1 m²	Poor	Non Friable	Medium	Medium	Not Labelled	21/05/2018	P2	Restrict access, remove under controlled conditions by an appropriately licensed asbestos contractor prior to as soon as practical (within 3 months).	
Exterior - South Telecommunications Pit - Moulded Fibre Cement - Wall lining of telecom pit adjacent APAC air conditioning unit.	Asbestos	J154351-001-018	Negative											
Exterior - Southeast A/C Unit - R22 - Chlorodifluoromethane - APAC unit.	ODS		Positive	J154351-001-Photo190	1 n/a	Good							Removal by an adequately licensed contractor using the correct handling and disposal of refrigerants.	
Exterior - Various Throughout Eaves - Fibre Cement Sheeting	Asbestos	J154351-001-010	Positive	J154351-001-Photo036 J154351-001-Photo037	30 m²	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
Exterior - Various Throughout Infill Panels - Compressed Cement Sheeting - To glass windows.	Asbestos	Previously Sampled Greencap J146932-02-002-024	Positive	J154351-001-Photo015	200 m²	Good	Non Friable	Low	Low	Confirmed	21/02/2023	P4	Remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
B00A - Interior - Ground Level														
All rooms - Various Throughout Window Frames - Bituminous Material - Black colour glue material between glass and aluminium frames to windows.	Asbestos	J154351-001-012	Negative											
All rooms - Various Throughout Window Frames - Putty	Asbestos	J154351-001-011	Negative											
AR0001 - Admin - Throughout Ceiling Lining - Vermiculite	Asbestos	J154351-001-005	Negative											
AR0002 - Telecom Cupboard - Throughout Ceiling Lining - Vermiculite	Asbestos	Similar To: J154351-001-005	Presumed Negative											
AR0003 - Electrical Cupboard - South Electrical - Switch Board - Compressed Bituminous Electrical Panel - Within orange painted metal electrical cabinet.	Asbestos	Not Sampled Live Electrical Hazard	Presumed Positive	J154351-001-Photo019	1 Unit/s	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
AR0003 - Electrical Cupboard - Throughout Ceiling Lining - Vermiculite	Asbestos	Similar To: J154351-001-005	Presumed Negative											
AR0004 - Admin - Throughout Ceiling Lining - Vermiculite	Asbestos	Similar To: J154351-001-005	Presumed Negative											

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Hazardous Materials Register

Site Details		Building Details				Audit Details	
Full Address:	**Smalls Road, North Ryde NSW 2113**	**Building Name:**	**B00A**	**Number of Levels:**	**1**	**Survey Date:**	**21-02-2018**
Property ID:	**001**	**Est. Building Size:**	**500m²**	**Est. Building Age:**	**1960**	**Inspected By:**	**Kasinathan Rajaram**
Client Name:	**Department of Education**	**Roof Type:**	**Metal**	**Construction Type:**	**Brick, Concrete & Fibre Cement**	**Company:**	**Greencap**

Location - Item Description	Hazard Type	Sample No.	Item Status	Photo No.	Est. Extent	Condition	Friability	Dist. Potential	Risk Rating	Current Label	Reinspect Date	Control Priority	Control Recommendation	Record of Works Undertaken
AR0005 - Kitchen - Above sink Hot Water Service Insulation - Insulation Material - Lining material within Zip boiling water unit.	SMF		Presumed Positive	J154351-001-Photo026	1 Unit/s	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
AR0005 - Kitchen - Below sink Hot Water Service Insulation - Insulation Material - Lining material within Rheem hot water unit.	SMF		Presumed Positive	J154351-001-Photo025	1 Unit/s	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
AR0005 - Kitchen - Below sink Sink Pad - Bituminous Material - Bituminous residue underneath sink.	Asbestos	J154351-001-007	Negative											
AR0005 - Kitchen - Throughout Ceiling Lining - Vermiculite	Asbestos	Similar To: J154351-001-005	Presumed Negative											
AR0005 - Kitchen - Throughout Floor Covering - Sheet Vinyl & Adhesive - Green colour.	Asbestos	J154351-001-006	Negative											
AR0006 - Female Toilet - Throughout Ceiling Lining - Vermiculite	Asbestos	Similar To: J154351-001-005	Presumed Negative											
AR0007 - Male Toilet - Throughout Ceiling Lining - Vermiculite	Asbestos	Similar To: J154351-001-005	Presumed Negative											
AR0008 - Admin - Throughout Ceiling Lining - Vermiculite	Asbestos	Similar To: J154351-001-005	Presumed Negative											
AR0009 - Plant Room - East Insulation - Insulation Material - To double door.	SMF		Positive	J154351-001-Photo034	10 m²	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
AR0009 - Plant Room - Throughout Ceiling Lining - Vermiculite	Asbestos	Similar To: J154351-001-005	Presumed Negative											
AR0009 - Plant Room - Various Throughout Air Conditioning Ductwork - Mastic Sealant - Grey colour mastic to joints.	Asbestos	J154351-001-009	Negative											
AR0009 - Plant Room - West Electrical - Switch Board - Compressed Bituminous Electrical Panel - Within orange painted metal electrical cabinet.	Asbestos	Not Sampled Live Electrical Hazard	Presumed Positive	J154351-001-Photo030	1 Unit/s	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demlition.	
AR0009 - Plant Room - West Wall Lining - Fibre Cement Sheeting - Directly above orange painted electrical switchboard.	Asbestos	J154351-001-008	Negative											
AR0010 - Covered Walkway - Throughout Ceiling Lining - Vermiculite	Asbestos	Similar To: J154351-001-005	Presumed Negative											

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Hazardous Materials Register

Site Details		Building Details				Audit Details	
Full Address:	**Smalls Road, North Ryde NSW 2113**	**Building Name:**	**B00A**	**Number of Levels:**	**1**	**Survey Date:**	**21-02-2018**
Property ID:	**001**	**Est. Building Size:**	**500m²**	**Est. Building Age:**	**1960**	**Inspected By:**	**Kasinathan Rajaram**
Client Name:	**Department of Education**	**Roof Type:**	**Metal**	**Construction Type:**	**Brick, Concrete & Fibre Cement**	**Company:**	**Greencap**

Location - Item Description	Hazard Type	Sample No.	Item Status	Photo No.	Est. Extent	Condition	Friability	Dist. Potential	Risk Rating	Current Label	Reinspect Date	Control Priority	Control Recommendation	Record of Works Undertaken
B00A - Interior & Exterior - Ground Level														
All areas - Various Throughout Plasterboard walls, Timber floors underneath carpet, glass and metal structures.	None													
B00A - Interior - Sub-Floor														
All areas - Various Throughout Debris - Fibre Cement Sheeting	Asbestos	J154351-001-015	Positive	J154351-001-Photo048	4 m²	Poor	Non Friable	Low	Low	Not Labelled	21/02/2019	P3	Restrict access, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
All areas - Various Throughout Debris - Fibre Cement Sheeting	Asbestos	J154351-001-017	Positive	J154351-001-Photo051	10 m²	Poor	Non Friable	Low	Low	Not Labelled	21/02/2019	P3	Restrict access, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
All areas - Various Throughout Debris - Compressed Cement Sheeting - Thick blocks. Similar material used as packers within the same area.	Asbestos	J154351-001-016	Negative											
All areas - Various Throughout Debris - Fibre Cement Sheeting	Asbestos	J154351-001-013	Negative											
All areas - Various Throughout Packer - Fibre Cement Sheeting - Between frames frames, brick works,and brick stumps.	Asbestos	J154351-001-014	Positive	J154351-001-Photo047 J154351-001-Photo046	10 m²	Poor	Non Friable	Low	Low	Not Labelled	21/02/2019	P3	Restrict access, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	

Hazardous Materials Register

Site Details		Building Details				Audit Details	
Full Address:	**Smalls Road, North Ryde NSW 2113**	**Building Name:**	**B00B**	**Number of Levels:**	**2**	**Survey Date:**	**21-02-2018**
Property ID:	**001**	**Est. Building Size:**	**3000m²**	**Est. Building Age:**	**1960**	**Inspected By:**	**Kasinathan Rajaram**
Client Name:	**Department of Education**	**Roof Type:**	**Metal**	**Construction Type:**	**Brick, Concrete & Fibre Cement**	**Company:**	**Greencap**

Location - Item Description	Hazard Type	Sample No.	Item Status	Photo No.	Est. Extent	Condition	Friability	Dist. Potential	Risk Rating	Current Label	Reinspect Date	Control Priority	Control Recommendation	Record of Works Undertaken
B00B - Exterior - All Levels														
All areas - Various Throughout Infill Panels - Compressed Cement Sheeting	Asbestos	Previously Sampled Greencap J146932-02-002-024	Positive	J154351-001-Photo131 J154351-001-Photo129 J154351-001-Photo130	500 m²	Good	Non Friable	Low	Low	Confirmed	21/02/2023	P4	Remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
B00B - Exterior - Ground Level														
Exterior - Northwest Telecommunications Pit - Moulded Fibre Cement - Hidden behind plants adjacent building B00A.	Asbestos	J154351-001-039	Negative											
Exterior - Various Throughout A/C Unit - R22 - Chlorodifluoromethane - APAC units around the building.	ODS		Positive	J154351-001-Photo128	4 n/a	Good							Removal by an adequately licensed contractor using the correct handling and disposal of refrigerants.	
Exterior - Various Throughout A/C Unit - R22 - Chlorodifluoromethane - Ultimate brand units around the building.	ODS		Positive	J154351-001-Photo126	10 n/a	Good							Removal by an adequately licensed contractor using the correct handling and disposal of refrigerants.	
Exterior - Various Throughout Mastic - Construction Joint Mastic - Black colour mastic material to concrete walkways.	Asbestos	J154351-001-040	Negative											
Exterior - West Electrical - Switch Board - Compressed Bituminous Electrical Panel - Within metal cabinet opposite entry to reception/security sign in.	Asbestos	Not Sampled Live Electrical Hazard	Presumed Positive	J154351-001-Photo189	1 Unit/s	Good	Non Friable	Low	Low	Confirmed	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
B00B - Exterior - Level One														
Exterior - Various Throughout Eaves - Fibre Cement Sheeting	Asbestos	Not Sampled Height Restricted	Presumed Positive	J154351-001-Photo132	100 m²	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
B00B - Interior - Level One														
All areas - Various Throughout Window Frames - Putty - Between glass and aluminium frames.	Asbestos	Similar To: J154351-001-021	Presumed Negative											
All rooms - Above Ceiling Insulation - Sarking Insulation	SMF		Positive	J154351-001-Photo118	1500 m²	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
All rooms - Throughout Ceiling Lining - Vermiculite	Asbestos	J154351-001-037	Negative											

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Hazardous Materials Register

Site Details		Building Details				Audit Details	
Full Address:	**Smalls Road, North Ryde NSW 2113**	**Building Name:**	**B00B**	**Number of Levels:**	**2**	**Survey Date:**	**21-02-2018**
Property ID:	**001**	**Est. Building Size:**	**3000m²**	**Est. Building Age:**	**1960**	**Inspected By:**	**Kasinathan Rajaram**
Client Name:	**Department of Education**	**Roof Type:**	**Metal**	**Construction Type:**	**Brick, Concrete & Fibre Cement**	**Company:**	**Greencap**

Location - Item Description	Hazard Type	Sample No.	Item Status	Photo No.	Est. Extent	Condition	Friability	Dist. Potential	Risk Rating	Current Label	Reinspect Date	Control Priority	Control Recommendation	Record of Works Undertaken
All rooms - Various Throughout Floor Covering - Vinyl Tiles & Adhesive - Beige (greyish) colour	Asbestos	J154351-001-035	Negative											
All rooms - Various Throughout Floor Covering - Vinyl Tiles & Adhesive - Black spec colour tiles between blue colour tiles	Asbestos	J154351-001-034	Negative											
All rooms - Various Throughout Floor Covering - Vinyl Tiles & Adhesive - Black spec tiles between beige (greyish) colour tiles.	Asbestos	J154351-001-036	Negative											
All rooms - Various Throughout Floor Covering - Vinyl Tiles & Adhesive - Blue colour.	Asbestos	J154351-001-033	Negative											
All rooms - Various Throughout Insulation - Insulation Material - Between plaster walls.	SMF		Positive	J154351-001-Photo117	500 m²	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
BR1003 - Plant Room - East Electrical - Switch Board - Compressed Bituminous Electrical Panel - Lining within orange painted metal electrical cabinet.	Asbestos	Not Sampled Live Electrical Hazard	Presumed Positive	J154351-001-Photo120	1 Unit/s	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
BR1003 - Plant Room - Various Throughout Air Conditioning Ductwork - Mastic Sealant - Grey colour.	Asbestos	Similar To: J154351-001-022	Presumed Negative											
BR1004 - Electrical Cupboard - North Electrical - Switch Board - Compressed Bituminous Electrical Panel - Lining within orange painted metal electrical cabinet.	Asbestos	Not Sampled Live Electrical Hazard	Presumed Positive	J154351-001-Photo119	1 Unit/s	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
BR1014 - Plant Room - Various Throughout Air Conditioning Ductwork - Mastic Sealant - Grey colour.	Asbestos	Similar To: J154351-001-022	Presumed Negative											
BR1014 - Plant Room - West Electrical - Switch Board - Compressed Bituminous Electrical Panel - Lining within orange painted metal electrical cabinet.	Asbestos	Not Sampled Live Electrical Hazard	Presumed Positive	J154351-001-Photo123	1 Unit/s	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
BR1019 - Coverd Walkway (connecting Building E & B) - Entry to Block B00B Ceiling Lining - Fibre Cement Sheeting	Asbestos	J154351-001-038	Negative											
BR1019 - Coverd Walkway (connecting Building E & B) - South Infill Panels - Compressed Cement Sheeting - To glass windows.	Asbestos	Previously Sampled Greencap J146932-02-002-024	Positive	J154351-001-Photo114	10 m²	Good	Non Friable	Low	Low	Confirmed	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	

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Hazardous Materials Register

Site Details		Building Details				Audit Details	
Full Address:	**Smalls Road, North Ryde NSW 2113**	**Building Name:**	**B00B**	**Number of Levels:**	**2**	**Survey Date:**	**21-02-2018**
Property ID:	**001**	**Est. Building Size:**	**3000m²**	**Est. Building Age:**	**1960**	**Inspected By:**	**Kasinathan Rajaram**
Client Name:	**Department of Education**	**Roof Type:**	**Metal**	**Construction Type:**	**Brick, Concrete & Fibre Cement**	**Company:**	**Greencap**

Location - Item Description	Hazard Type	Sample No.	Item Status	Photo No.	Est. Extent	Condition	Friability	Dist. Potential	Risk Rating	Current Label	Reinspect Date	Control Priority	Control Recommendation	Record of Works Undertaken
BR1019 - Coverd Walkway (connecting Building E & B) - Throughout Ceiling Lining - Vermiculite	Asbestos	Similar To: J154351-001-037	Presumed Negative											
BR1020 - Kitchen - Above sink Hot Water Service Insulation - Insulation Material - Lining material within Zip boiling water unit.	SMF		Presumed Positive	J154351-001-Photo105	1 Unit/s	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
BR1020 - Kitchen - Below sink Hot Water Service Insulation - Insulation Material - Lining material within Rheem hot water unit.	SMF		Presumed Positive	J154351-001-Photo106	1 Unit/s	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
BR1021 - Electrical Cupboard(within Kitchen) - South Electrical - Switch Board - Compressed Bituminous Electrical Panel - Within orange painted electrical metal cabinet.	Asbestos	Not Sampled Live Electrical Hazard	Presumed Positive	J154351-001-Photo107	1 Unit/s	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	

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Hazardous Materials Register

Site Details		Building Details				Audit Details	
Full Address:	**Smalls Road, North Ryde NSW 2113**	**Building Name:**	**B00D**	**Number of Levels:**	**2**	**Survey Date:**	**21-02-2018**
Property ID:	**001**	**Est. Building Size:**	**3000m²**	**Est. Building Age:**	**1960**	**Inspected By:**	**Kasinathan Rajaram**
Client Name:	**Department of Education**	**Roof Type:**	**Metal**	**Construction Type:**	**Brick, Concrete & Fibre Cement**	**Company:**	**Greencap**

Location - Item Description	Hazard Type	Sample No.	Item Status	Photo No.	Est. Extent	Condition	Friability	Dist. Potential	Risk Rating	Current Label	Reinspect Date	Control Priority	Control Recommendation	Record of Works Undertaken
B00D - Exterior - All Levels														
All areas - Various Throughout Infill Panels - Compressed Cement Sheeting	Asbestos	Previously Sampled Greencap J146932-02-002-024	Positive	J154351-001-Photo185 J154351-001-Photo186 J154351-001-Photo186	400 m²	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
B00D - Exterior - Ground Level														
Exterior - Various Throughout A/C Unit - R22 - Chlorodifluoromethane - APAC units.	ODS		Positive	J154351-001-Photo192	10 n/a	Good							Removal by an adequately licensed contractor using the correct handling and disposal of refrigerants.	
B00D - Interior - Ground Level														
All rooms - Throughout Ceiling Lining - Vermiculite	Asbestos	Similar To: J154351-001-041	Presumed Negative											
All rooms - Throughout Ceiling Lining - Vermiculite	Asbestos	Similar To: J154351-001-041	Presumed Negative											
All rooms - Various Throughout Window Frames - Putty	Asbestos	Similar To: J154351-001-042	Presumed Negative											
DR0001 - Kitchen - Above sink Hot Water Service Insulation - Insulation Material - Lining within Zip boiling water unit.	SMF		Presumed Positive	J154351-001-Photo164	1 Unit/s	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
DR0001 - Kitchen - Below sink Hot Water Service Insulation - Insulation Material - Lining within Rheem hot water unit.	SMF		Presumed Positive	J154351-001-Photo163	1 Unit/s	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
DR0001 - Kitchen - Throughout Floor Covering - Sheet Vinyl & Adhesive - Grey and blue spec sheeting.	Asbestos	Similar To: J154351-001-047	Presumed Negative											
DR0006 - Entry - Throughout Floor Covering - Sheet Vinyl & Adhesive - Green colour.	Asbestos	J154351-001-050	Negative											
DR0007 - Scann/Records Storage - Throughout Floor Covering - Vinyl Tiles & Adhesive - Bluish green colour tiles underneath carpet.	Asbestos	J154351-001-049	Positive	J154351-001-Photo157 J154351-001-Photo158	30 m²	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
DR0008 - Archive Room - Various Throughout Window Frames - Mastic Sealant - Black colour material between glass and aluminium frame.	Asbestos	J154351-001-051	Negative											

Hazardous Materials Register

Site Details		Building Details				Audit Details	
Full Address:	**Smalls Road, North Ryde NSW 2113**	**Building Name:**	**B00D**	**Number of Levels:**	**2**	**Survey Date:**	**21-02-2018**
Property ID:	**001**	**Est. Building Size:**	**3000m²**	**Est. Building Age:**	**1960**	**Inspected By:**	**Kasinathan Rajaram**
Client Name:	**Department of Education**	**Roof Type:**	**Metal**	**Construction Type:**	**Brick, Concrete & Fibre Cement**	**Company:**	**Greencap**

Location - Item Description	Hazard Type	Sample No.	Item Status	Photo No.	Est. Extent	Condition	Friability	Dist. Potential	Risk Rating	Current Label	Reinspect Date	Control Priority	Control Recommendation	Record of Works Undertaken
DR0014 - Electrical Cupboard - Throughout Floor Covering - Sheet Vinyl & Adhesive - Green colour.	Asbestos	Similar To: J154351-001-050	Presumed Negative											
DR0014 - Electrical Cupboard - West Electrical - Switch Board - Compressed Bituminous Electrical Panel - Lining within orange colour electrical metal cabinet.	Asbestos	Not Sampled Live Electrical Hazard	Presumed Positive	J154351-001-Photo171	1 Unit/s	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
DR0016 - Electrical Cupboard - South Electrical - Switch Board - Compressed Bituminous Electrical Panel - Lining within orange colour electrical metal cabinet.	Asbestos	Not Sampled Live Electrical Hazard	Presumed Positive	J154351-001-Photo170	1 Unit/s	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
DR0017 - Plant Room - East Electrical - Switch Board - Compressed Bituminous Electrical Panel - Lining within orange colour electrical metal cabinet.	Asbestos	Not Sampled Live Electrical Hazard	Presumed Positive	J154351-001-Photo169 J154351-001-Photo168	1 Unit/s	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
DR0017 - Plant Room - Various Throughout Air Conditioning Ductwork - Mastic Sealant - Grey colour.	Asbestos	Similar To: J154351-001-045	Presumed Negative											
DR0017 - Plant Room - Various Throughout Insulation - Insulation Material - Yellow colour batts to doors and on top of duct works.	SMF		Positive	J154351-001-Photo166 J154351-001-Photo167	15 m²	Fair	Bonded (SMF)						Repair/ seal exposed surfaces, remove by an appropriately experienced contractor under controlled conditions and using correct PPE prior to refurbishment/ demolition.	
DR0019 - Staff Kitchen/Lunch Room - Above sink Hot Water Service Insulation - Insulation Material - Lining within Zip boiling water unit.	SMF		Presumed Positive	J154351-001-Photo174	1 Unit/s	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
DR0019 - Staff Kitchen/Lunch Room - Below sink Hot Water Service Insulation - Insulation Material - Lining within Rheem hot water unit.	SMF		Presumed Positive	J154351-001-Photo173	1 Unit/s	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
DR0022 - Plant Room - South Ductwork Insulation - Insulation Material - Lining within metal duct work.	SMF		Positive	J154351-001-Photo177	5 m²	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
DR0022 - Plant Room - Various Throughout Air Conditioning Ductwork - Mastic Sealant - Grey colour.	Asbestos	Similar To: J154351-001-045	Presumed Negative											

Hazardous Materials Register

Site Details		Building Details				Audit Details	
Full Address:	**Smalls Road, North Ryde NSW 2113**	**Building Name:**	**B00D**	**Number of Levels:**	**2**	**Survey Date:**	**21-02-2018**
Property ID:	**001**	**Est. Building Size:**	**3000m²**	**Est. Building Age:**	**1960**	**Inspected By:**	**Kasinathan Rajaram**
Client Name:	**Department of Education**	**Roof Type:**	**Metal**	**Construction Type:**	**Brick, Concrete & Fibre Cement**	**Company:**	**Greencap**

Location - Item Description	Hazard Type	Sample No.	Item Status	Photo No.	Est. Extent	Condition	Friability	Dist. Potential	Risk Rating	Current Label	Reinspect Date	Control Priority	Control Recommendation	Record of Works Undertaken
DR0022 - Plant Room - West Electrical - Switch Board - Compressed Bituminous Electrical Panel - Lining within orange colour electrical metal cabinet.	Asbestos	Not Sampled Height Restricted	Presumed Positive	J154351-001-Photo176	1 Unit/s	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
DR0023 - Plant Room - North Ductwork Insulation - Insulation Material - Lining within metal duct work.	SMF		Positive	J154351-001-Photo180	5 m²	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
DR0023 - Plant Room - North Electrical - Switch Board - Compressed Bituminous Electrical Panel - Lining within orange colour electrical metal cabinet.	Asbestos	Not Sampled Height Restricted	Presumed Positive	J154351-001-Photo179	1 Unit/s	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
DR0023 - Plant Room - Various Throughout Air Conditioning Ductwork - Mastic Sealant - Grey colour.	Asbestos	Similar To: J154351-001-045	Presumed Negative											
B00D - Exterior - Level One														
All areas - Various Throughout Eaves - Fibre Cement Sheeting - Includes boxing above metal roller shutter door.	Asbestos	Not Sampled Height Restricted	Presumed Positive	J154351-001-Photo187 J154351-001-Photo188	100 m²	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
B00D - Interior - Level One														
All rooms - Throughout Ceiling Lining - Vermiculite	Asbestos	J154351-001-041	Negative											
All rooms - Throughout Floor Covering - Vinyl Tiles & Adhesive - Blue colour tiles underneath carpet.	Asbestos	J154351-001-044	Negative											
All rooms - Various Throughout Insulation - Insulation Material - Between plaster walls.	SMF		Positive	J154351-001-Photo146 J154351-001-Photo151	800 m²	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
All rooms - Various Throughout Window Frames - Putty	Asbestos	J154351-001-042	Negative											
DR1001 - Stairwell - Throughout Ceiling Lining - Vermiculite	Asbestos	Similar To: J154351-001-041	Presumed Negative											
DR1002 - Kitchen - Above sink Hot Water Service Insulation - Insulation Material - Lining within Zip boiling water unit.	SMF		Presumed Positive	J154351-001-Photo156	1 Unit/s	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	

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Hazardous Materials Register

Site Details		Building Details				Audit Details	
Full Address:	**Smalls Road, North Ryde NSW 2113**	**Building Name:**	**B00D**	**Number of Levels:**	**2**	**Survey Date:**	**21-02-2018**
Property ID:	**001**	**Est. Building Size:**	**3000m²**	**Est. Building Age:**	**1960**	**Inspected By:**	**Kasinathan Rajaram**
Client Name:	**Department of Education**	**Roof Type:**	**Metal**	**Construction Type:**	**Brick, Concrete & Fibre Cement**	**Company:**	**Greencap**

Location - Item Description	Hazard Type	Sample No.	Item Status	Photo No.	Est. Extent	Condition	Friability	Dist. Potential	Risk Rating	Current Label	Reinspect Date	Control Priority	Control Recommendation	Record of Works Undertaken
DR1002 - Kitchen - Below sink Hot Water Service Insulation - Insulation Material - Lining within Rheem hot water unit.	SMF		Presumed Positive	J154351-001-Photo155	1 Unit/s	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
DR1002 - Kitchen - Throughout Floor Covering - Sheet Vinyl & Adhesive - Grey and blue spec sheeting.	Asbestos	J154351-001-047	Negative											
DR1003 - Cleaners - Throughout Floor Covering - Sheet Vinyl & Adhesive - Greenish blue sheeting.	Asbestos	J154351-001-048	Negative											
DR1009 - Plant Room - North Ductwork Insulation - Insulation Material - Lining within metal duct work.	SMF		Positive	J154351-001-Photo141	5 m²	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
DR1009 - Plant Room - North Electrical - Switch Board - Compressed Bituminous Electrical Panel - Lining within orange colour electrical metal cabinet.	Asbestos	Not Sampled Height Restricted	Presumed Positive	J154351-001-Photo139	1 Unit/s	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
DR1009 - Plant Room - Throughout Floor Covering - Vinyl Tiles & Adhesive - Brown colour designer tiles.	Asbestos	J154351-001-043	Negative											
DR1009 - Plant Room - Various Throughout Air Conditioning Ductwork - Mastic Sealant - Grey colour.	Asbestos	J154351-001-045	Negative											
DR1014 - Electrical Cupboard - Various Throughout Floor Covering - Vinyl Tiles & Adhesive - With fibrous backing underneath.	Asbestos	J154351-001-046	Negative											
DR1014 - Electrical Cupboard - West Electrical - Switch Board - Compressed Bituminous Electrical Panel - Lining within orange colour electrical metal cabinet.	Asbestos	Not Sampled Live Electrical Hazard	Presumed Positive	J154351-001-Photo144	1 Unit/s	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
DR1019 - Plant Room - East Electrical - Switch Board - Compressed Bituminous Electrical Panel - Lining within orange colour electrical metal cabinet.	Asbestos	Not Sampled Height Restricted	Presumed Positive	J154351-001-Photo148	1 Unit/s	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
DR1019 - Plant Room - North Ductwork Insulation - Insulation Material - Lining within metal duct work.	SMF		Positive	J154351-001-Photo149	5 m²	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	

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Hazardous Materials Register

Site Details		Building Details				Audit Details	
Full Address:	**Smalls Road, North Ryde NSW 2113**	**Building Name:**	**B00D**	**Number of Levels:**	**2**	**Survey Date:**	**21-02-2018**
Property ID:	**001**	**Est. Building Size:**	**3000m²**	**Est. Building Age:**	**1960**	**Inspected By:**	**Kasinathan Rajaram**
Client Name:	**Department of Education**	**Roof Type:**	**Metal**	**Construction Type:**	**Brick, Concrete & Fibre Cement**	**Company:**	**Greencap**

Location - Item Description	Hazard Type	Sample No.	Item Status	Photo No.	Est. Extent	Condition	Friability	Dist. Potential	Risk Rating	Current Label	Reinspect Date	Control Priority	Control Recommendation	Record of Works Undertaken
DR1019 - Plant Room - Various Throughout Air Conditioning Ductwork - Mastic Sealant - Grey colour.	Asbestos	Similar To: J154351-001-045	Presumed Negative											

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Hazardous Materials Register

Site Details		Building Details				Audit Details	
Full Address:	**Smalls Road, North Ryde NSW 2113**	**Building Name:**	**B00K**	**Number of Levels:**	**1**	**Survey Date:**	**21-02-2018**
Property ID:	**001**	**Est. Building Size:**	**300m²**	**Est. Building Age:**	**1995**	**Inspected By:**	**Kasinathan Rajaram**
Client Name:	**Department of Education**	**Roof Type:**	**Metal**	**Construction Type:**	**Concrete, Glass & Plasterboard**	**Company:**	**Greencap**

Location - Item Description	Hazard Type	Sample No.	Item Status	Photo No.	Est. Extent	Condition	Friability	Dist. Potential	Risk Rating	Current Label	Reinspect Date	Control Priority	Control Recommendation	Record of Works Undertaken
B00K - Exterior - Ground Level														
Exterior - East & West Infill Panels - High Level - Fibre Cement Sheeting - Above glass doors and windows.	Asbestos	J154351-001-003	Negative											
Exterior - North & South Infill Panels - High Level - Fibre Cement Sheeting - Above glass windows and doors.	Asbestos	J154351-001-004	Negative											
Exterior - South A/C Unit - R22 - Chlorodifluoromethane - Mitsubishi units.	ODS		Positive	J154351-001-Photo191	2 n/a	Good							Removal by an adequately licensed contractor using the correct handling and disposal of refrigerants.	
B00K - Interior - Ground Level														
KR0001 - Admin - Throughout Floor Covering - Sheet Vinyl & Adhesive - Blue colour.	Asbestos	J154351-001-002	Negative											
KR0001 - Admin - Throughout Floor Covering - Sheet Vinyl & Adhesive - Cream colour.	Asbestos	J154351-001-001	Negative											
KR0001 - Admin - Various Throughout Insulation - Insulation Material - Between Walls.	SMF		Positive	J154351-001-Photo009	100 m²	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
KR0003 - Female Toilet/Shower/Locker - Various Throughout Insulation - Insulation Material - Behind ceramic tiles and walls.	SMF		Positive	J154351-001-Photo008	45 m²	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
KR0004 - Cleaners Store - Various Throughout Insulation - Insulation Material - Behind ceramic tiles and walls.	SMF		Positive	J154351-001-Photo010	15 m²	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
KR0005 - Kitchen - Various Throughout Insulation - Insulation Material - Behind ceramic tiles and walls.	SMF		Positive	J154351-001-Photo011	50 m²	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
KR0007 - Service Area - Central Hot Water Service Insulation - Insulation Material - Lining material within Rheem hot water unit.	SMF		Presumed Positive	J154351-001-Photo007	1 Unit/s	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	

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Hazardous Materials Register

Site Details		Building Details				Audit Details	
Full Address:	**Smalls Road, North Ryde NSW 2113**	**Building Name:**	**B00K**	**Number of Levels:**	**1**	**Survey Date:**	**21-02-2018**
Property ID:	**001**	**Est. Building Size:**	**300m²**	**Est. Building Age:**	**1995**	**Inspected By:**	**Kasinathan Rajaram**
Client Name:	**Department of Education**	**Roof Type:**	**Metal**	**Construction Type:**	**Concrete, Glass & Plasterboard**	**Company:**	**Greencap**

Location - Item Description	Hazard Type	Sample No.	Item Status	Photo No.	Est. Extent	Condition	Friability	Dist. Potential	Risk Rating	Current Label	Reinspect Date	Control Priority	Control Recommendation	Record of Works Undertaken
KR0008 - Mens Locker/Airlock Area - Various Throughout Insulation - Insulation Material - Behind ceramic tiles and walls.	SMF		Positive	J154351-001-Photo006	15 m²	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
KR0008 - Mens Shower - Various Throughout Insulation - Insulation Material - Behind ceramic tiles and walls.	SMF		Positive	J154351-001-Photo004	15 m²	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
KR0008 - Mens Toilet - Various Throughout Insulation - Insulation Material - Behind ceramic tiles and walls.	SMF		Positive	J154351-001-Photo005	15 m²	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
KR0009 - Electrical Cupboard - East Electrical - Switch Board - Compressed Bituminous Electrical Panel - Within orange colour metal cabinet and to metre.	Asbestos	Not Sampled Live Electrical Hazard	Presumed Positive	J154351-001-Photo001	2 Unit/s	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
B00K - Interior & Exterior - Ground Level														
All areas - Various Throughout Plaster walls and ceiling to building interior, Metal awnings and glass doors/windows to building exterior, New appearance light fittings.	None													

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Hazardous Materials Register

Site Details		Building Details				Audit Details	
Full Address:	**Smalls Road, North Ryde NSW 2113**	**Building Name:**	**B00E**	**Number of Levels:**	**2**	**Survey Date:**	**21-02-2018**
Property ID:	**001**	**Est. Building Size:**	**2000m²**	**Est. Building Age:**	**1960**	**Inspected By:**	**Kasinathan Rajaram**
Client Name:	**Department of Education**	**Roof Type:**	**Metal**	**Construction Type:**	**Brick, Concrete & Fibre Cement**	**Company:**	**Greencap**

Location - Item Description	Hazard Type	Sample No.	Item Status	Photo No.	Est. Extent	Condition	Friability	Dist. Potential	Risk Rating	Current Label	Reinspect Date	Control Priority	Control Recommendation	Record of Works Undertaken
B00E - Exterior - All Levels														
All areas - Various Throughout Infill Panels - Compressed Cement Sheeting - To glass windows/louver windows and to exhaust fans.	Asbestos	Previously Sampled Greencap J146932-02-002-024	Positive	J154351-001-Photo096 J154351-001-Photo097	800 m²	Good	Non Friable	Low	Low	Confirmed	21/02/2023	P4	Remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
B00E - Interior & Exterior - All Levels														
All areas - Various Throughout Plaster walls, new appearance light fittings, glass and metal structures. Brick and concrete walls to exterior surfaces.	None													
B00E - Exterior - Ground Level														
All areas - Various Throughout Mastic - Construction Joint Mastic - Black colour material to concrete paths.	Asbestos	J154351-001-031	Negative											
Exterior - East Debris - Compressed Cement Sheeting - On garden bed and on concrete slabbed surfaces. Directly to rear of Room ER0004 - Cabin Office.	Asbestos	J154351-001-030	Negative											
Exterior - Southeast Debris - Compressed Cement Sheeting - On garden bed directly to rear of Male Toilet.	Asbestos	J154351-001-029	Negative											
Exterior - Various Throughout A/C Unit - R22 - Chlorodifluoromethane - APAC units.	ODS		Positive	J154351-001-Photo193	7 n/a	Good							Removal by an adequately licensed contractor using the correct handling and disposal of refrigerants.	
B00E - Interior - Ground Level														
ER0001 - Open Office - Above sink Hot Water Service Insulation - Insulation Material - Boiling water unit to southwestern corner kitchenette.	SMF		Presumed Positive	J154351-001-Photo065	1 Unit/s	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
ER0001 - Open Office - Below sink Hot Water Service Insulation - Insulation Material - To southwestern corner kitchenette.	SMF		Presumed Positive	J154351-001-Photo064	1 Unit/s	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
ER0001 - Open Office - Throughout Ceiling Lining - Vermiculite	Asbestos	J154351-001-019	Negative											

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Hazardous Materials Register

Site Details		Building Details				Audit Details	
Full Address:	**Smalls Road, North Ryde NSW 2113**	**Building Name:**	**B00E**	**Number of Levels:**	**2**	**Survey Date:**	**21-02-2018**
Property ID:	**001**	**Est. Building Size:**	**2000m²**	**Est. Building Age:**	**1960**	**Inspected By:**	**Kasinathan Rajaram**
Client Name:	**Department of Education**	**Roof Type:**	**Metal**	**Construction Type:**	**Brick, Concrete & Fibre Cement**	**Company:**	**Greencap**

Location - Item Description	Hazard Type	Sample No.	Item Status	Photo No.	Est. Extent	Condition	Friability	Dist. Potential	Risk Rating	Current Label	Reinspect Date	Control Priority	Control Recommendation	Record of Works Undertaken
ER0001 - Open Office - Various Throughout Window Frames - Putty - Between glass and aluminium frames. Similar material identified on all windows to ground level rooms.	Asbestos	J154351-001-021	Negative											
ER0002 - Plant Room - Central Air Conditioning Ductwork - Mastic Sealant - Between joints.	Asbestos	J154351-001-022	Negative											
ER0002 - Plant Room - South Wall Lining - Fibre Cement Sheeting - Around entry door.	Asbestos	Previously Sampled Greencap J14693 2-02-002-024	Positive	J154351-001-Photo067 J154351-001-Photo068	10 m²	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
ER0002 - Plant Room - Throughout Ceiling Lining - Vermiculite	Asbestos	Similar To: J154351-001-019	Presumed Negative											
ER0002 - Plant Room - Throughout Floor Covering - Sheet Vinyl & Adhesive - Red colour floor sheeting.	Asbestos	Similar To: J154351-001-020	Presumed Negative											
ER0002 - Plant Room - Throughout Insulation - Insulation Material - Between plaster walls.	SMF		Positive	J154351-001-Photo066	100 m²	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
ER0002 - Plant Room - Various Throughout Ductwork Insulation - Insulation Material - Lining within duct work.	SMF		Positive	J154351-001-Photo072 J154351-001-Photo073	10 m²	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
ER0003 - Cabin Office - Throughout Ceiling Lining - Vermiculite	Asbestos	Similar To: J154351-001-019	Presumed Negative											
ER0003 - Cabin Office - Throughout Floor Covering - Sheet Vinyl & Adhesive - Red colour floor sheeting underneath carpet.	Asbestos	Similar To: J154351-001-020	Presumed Negative											
ER0004 - Cabin Office - Throughout Ceiling Lining - Vermiculite	Asbestos	Similar To: J154351-001-019	Presumed Negative											
ER0004 - Cabin Office - Throughout Floor Covering - Sheet Vinyl & Adhesive - Red colour floor sheeting underneath carpet.	Asbestos	Similar To: J154351-001-020	Presumed Negative											
ER0005 - Cabin Office - Throughout Ceiling Lining - Vermiculite	Asbestos	Similar To: J154351-001-019	Presumed Negative											
ER0005 - Cabin Office - Throughout Floor Covering - Sheet Vinyl & Adhesive - Red colour floor sheeting underneath carpet.	Asbestos	Similar To: J154351-001-020	Presumed Negative											

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Hazardous Materials Register

Site Details		Building Details				Audit Details	
Full Address:	**Smalls Road, North Ryde NSW 2113**	**Building Name:**	**B00E**	**Number of Levels:**	**2**	**Survey Date:**	**21-02-2018**
Property ID:	**001**	**Est. Building Size:**	**2000m²**	**Est. Building Age:**	**1960**	**Inspected By:**	**Kasinathan Rajaram**
Client Name:	**Department of Education**	**Roof Type:**	**Metal**	**Construction Type:**	**Brick, Concrete & Fibre Cement**	**Company:**	**Greencap**

Location - Item Description	Hazard Type	Sample No.	Item Status	Photo No.	Est. Extent	Condition	Friability	Dist. Potential	Risk Rating	Current Label	Reinspect Date	Control Priority	Control Recommendation	Record of Works Undertaken
ER0006 - Cabin Office - Throughout Ceiling Lining - Vermiculite	Asbestos	Similar To: J154351-001-019	Presumed Negative											
ER0006 - Cabin Office - Throughout Floor Covering - Sheet Vinyl & Adhesive - Red colour floor sheeting underneath carpet.	Asbestos	J154351-001-020	Negative											
ER1014 - Stairwell - West Infill Panels - Compressed Cement Sheeting - To glass windows.	Asbestos	Previously Sampled Greencap J146932 -02-002-024	Positive	J154351-001-Photo095	10 m²	Good	Non Friable	Low	Low	Confirmed	21/02/2023	P4	Remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
B00E - Interior - Sub-Floor														
All areas - Various Throughout Debris - Fibre Cement Sheeting - On ground surfaces.	Asbestos	Similar To: J154351-001-032	Presumed Positive	J154351-001-Photo104	10 m²	Poor	Non Friable	Low	Low	Not Labelled	21/02/2019	P3	Restrict access, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
All areas - Various Throughout Packer - Fibre Cement Sheeting - Between timber surfaces and brick stumps.	Asbestos	J154351-001-032	Positive	J154351-001-Photo102	20 m²	Poor	Non Friable	Low	Low	Not Labelled	21/02/2019	P3	Restrict access, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
B00E - Exterior - Level One														
All areas - Various Throughout Eaves - Fibre Cement Sheeting - Require EWP access to sample and test.	Asbestos	Not Sampled Height Restricted	Presumed Positive	J154351-001-Photo116	50 m²	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
B00E - Interior - Level One														
All rooms - Throughout Ceiling Lining - Vermiculite	Asbestos	Similar To: J154351-001-019	Presumed Negative											
All rooms - Various Throughout Insulation - Insulation Material - Between plaster walls.	SMF		Positive	J154351-001-Photo081 J154351-001-Photo080 J154351-001-Photo082	500 m²	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
All rooms - Various Throughout Window Frames - Putty - Between glass and aluminium frames.	Asbestos	Similar To: J154351-001-021	Presumed Negative											
ER1004 - Plant Room - Central Air Conditioning Ductwork - Mastic Sealant - Grey colour material to duct works.	Asbestos	Similar To: J154351-001-026	Presumed Negative											
ER1004 - Plant Room - East Electrical - Switch Board - Compressed Bituminous Electrical Panel - Lining within the orange colour metal electrical cabinet.	Asbestos	Not Sampled Live Electrical Hazard	Presumed Positive	J154351-001-Photo103	1 Unit/s	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	

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Hazardous Materials Register

Site Details		Building Details				Audit Details	
Full Address:	**Smalls Road, North Ryde NSW 2113**	**Building Name:**	**B00E**	**Number of Levels:**	**2**	**Survey Date:**	**21-02-2018**
Property ID:	**001**	**Est. Building Size:**	**2000m²**	**Est. Building Age:**	**1960**	**Inspected By:**	**Kasinathan Rajaram**
Client Name:	**Department of Education**	**Roof Type:**	**Metal**	**Construction Type:**	**Brick, Concrete & Fibre Cement**	**Company:**	**Greencap**

Location - Item Description	Hazard Type	Sample No.	Item Status	Photo No.	Est. Extent	Condition	Friability	Dist. Potential	Risk Rating	Current Label	Reinspect Date	Control Priority	Control Recommendation	Record of Works Undertaken
ER1004 - Plant Room - Various Throughout Ductwork Insulation - Insulation Material - Lining within duct work.	SMF		Positive	J154351-001-Photo087	10 m²	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
ER1008 - Open Office - Central Safe - Insulation - Lining and seals within the safe unit.	Asbestos	Not Sampled Restricted Access	Presumed Positive	J154351-001-Photo077	1 Unit/s	Good	Friable	Low	Low	Not Labelled	21/02/2019	P3	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
ER1008 - Open Office - Throughout Floor Covering - Vinyl Tiles & Adhesive - Grey colour tiles underneath carpet. Can as well described as cream colour depending on light.	Asbestos	J154351-001-025	Negative											
ER1009 - Plant Room - Central Air Conditioning Ductwork - Mastic Sealant - Grey colour material to duct works.	Asbestos	J154351-001-026	Negative											
ER1009 - Plant Room - East Electrical - Switch Board - Compressed Bituminous Electrical Panel - Lining within the orange colour metal electrical cabinet.	Asbestos	Not Sampled Live Electrical Hazard	Presumed Positive	J154351-001-Photo084	1 Unit/s	Good	Non Friable	Low	Low	Not Labelled	21/02/2023	P4	Confirm status, remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition.	
ER1009 - Plant Room - Various Throughout Ductwork Insulation - Insulation Material - Lining within duct work.	SMF		Positive	J154351-001-Photo088	10 m²	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
ER1009 - Plant Room - Various Throughout Floor Covering - Vinyl Tiles & Adhesive - Grey colour.	Asbestos	J154351-001-024	Negative											
ER1009 - Plant Room - Various Throughout Floor Covering - Vinyl Tiles & Adhesive - Cream colour.	Asbestos	J154351-001-023	Negative											
ER1012 - Kitchenette - Above sink Hot Water Service Insulation - Insulation Material - Lining material within Zip boiling water unit.	SMF		Presumed Positive	J154351-001-Photo091	1 Unit/s	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	
ER1012 - Kitchenette - Below sink Hot Water Service Insulation - Insulation Material - Lining material within Rheem unit.	SMF		Presumed Positive	J154351-001-Photo090	1 Unit/s	Good	Bonded (SMF)						Remove by an appropriately experienced contractor under controlled conditions and using correct PPE if this material will be impacted by refurbishment/ demolition works.	

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Hazardous Materials Register

Site Details		Building Details				Audit Details	
Full Address:	**Smalls Road, North Ryde NSW 2113**	**Building Name:**	**B00E**	**Number of Levels:**	**2**	**Survey Date:**	**21-02-2018**
Property ID:	**001**	**Est. Building Size:**	**2000m²**	**Est. Building Age:**	**1960**	**Inspected By:**	**Kasinathan Rajaram**
Client Name:	**Department of Education**	**Roof Type:**	**Metal**	**Construction Type:**	**Brick, Concrete & Fibre Cement**	**Company:**	**Greencap**

Location - Item Description	Hazard Type	Sample No.	Item Status	Photo No.	Est. Extent	Condition	Friability	Dist. Potential	Risk Rating	Current Label	Reinspect Date	Control Priority	Control Recommendation	Record of Works Undertaken
ER1012 - Kitchenette - Throughout Ceiling Lining - Vermiculite - Including the open stairwell areas.	Asbestos	Similar To: J154351-001-019	Presumed Negative											
ER1012 - Kitchenette - Throughout Floor Covering - Sheet Vinyl & Adhesive - Blue colour.	Asbestos	J154351-001-028	Negative											
ER1016 - Motor Room - Throughout Floor Covering - Vinyl Tiles & Adhesive - Dark blue colour.	Asbestos	J154351-001-027	Negative											

Areas Not Accessed

It is noted that Hazardous Materials may be contained within or behind those areas identified in the below table: Areas Not Accessed. Caution should be exercised when accessing these areas, particularly in relation to potential disturbance of the building fabric or concealed spaces.

1 - 5 of 5 Buildings

Area / Item	Not Accessed					Comments
	B00A	B00B	B00D	B00K	B00E	
Behind ceramic wall tiles throughout	All	All	All	All	All	B00A - No destructions to materials/surfaces were carried out at the time of inspection B00B - No destructions to materials/surfaces were carried out at the time of inspection B00D - No destructions to materials/surfaces were carried out at the time of inspection B00K - No destructions to materials/surfaces were carried out at the time of inspection B00E - No destructions to materials/surfaces were carried out at the time of inspection
Ceiling spaces	All	All	All	All	All	B00A - Where no safe access could be obtained via standard A-frame ladder B00B - Where no safe access could be obtained via standard A-frame ladder B00D - Where no safe access could be obtained via standard A-frame ladder B00K - Where no safe access could be obtained via standard A-frame ladder B00E - Where no safe access could be obtained via standard A-frame ladder
Fire door cores	All	All	All	All	All	B00A - No fire doors were compromised at the time of inspection B00B - No fire doors were compromised at the time of inspection B00D - No fire doors were compromised at the time of inspection B00K - No fire doors were compromised at the time of inspection B00E - No fire doors were compromised at the time of inspection

Areas Not Accessed

It is noted that Hazardous Materials may be contained within or behind those areas identified in the below table: Areas Not Accessed. Caution should be exercised when accessing these areas, particularly in relation to potential disturbance of the building fabric or concealed spaces.

1 - 5 of 5 Buildings

Area / Item	Not Accessed					Comments
	B00A	B00B	B00D	B00K	B00E	
Gaskets, mastics & sealants to pipework, ductwork, mechanical equipment & construction/expansion joints	Some	Some	Some	Some	Some	B00A - Plants were assumed live at the time of inspection. Assessed from where it was safe to do so B00B - Plants were assumed live at the time of inspection. Assessed from where it was safe to do so B00D - Plants were assumed live at the time of inspection. Assessed from where it was safe to do so B00K - Plants were assumed live at the time of inspection. Assessed from where it was safe to do so B00E - Plants were assumed live at the time of inspection. Assessed from where it was safe to do so
Height restricted areas of site and ceiling where safe lifting platforms were not provided	All	All	All	All	All	B00A - Surfaces where no safe access could be obtained via standard A-frame ladder B00B - Surfaces where no safe access could be obtained via standard A-frame ladder B00D - Surfaces where no safe access could be obtained via standard A-frame ladder B00K - Surfaces where no safe access could be obtained via standard A-frame ladder B00E - Surfaces where no safe access could be obtained via standard A-frame ladder

Areas Not Accessed

It is noted that Hazardous Materials may be contained within or behind those areas identified in the below table: Areas Not Accessed. Caution should be exercised when accessing these areas, particularly in relation to potential disturbance of the building fabric or concealed spaces.

1 - 5 of 5 Buildings

Area / Item	Not Accessed					Comments
	B00A	B00B	B00D	B00K	B00E	
Inside mechanical equipment	All	All	All	All	All	B00A - Plants were assumed live at the time of inspection B00B - Plants were assumed live at the time of inspection B00D - Plants were assumed live at the time of inspection B00K - Plants were assumed live at the time of inspection B00E - Plants were assumed live at the time of inspection
Lift shaft, landing doors and cabin fittings and doors all levels		All	All	All		B00B - Plant were assumed live at the time of inspection B00D - Plants were assumed live at the time of inspection B00K - Plant were assumed live at the time of inspection
Majority of ground level offices and associated services areas			All			B00D - Occupied at the time of inspection
Roof	All	All	All	All	All	B00A - No safe access to roof was available at the time of inspection B00B - No safe access to roof was available at the time of inspection B00D - No safe access to roof was available at the time of inspection B00K - No safe access to roof was available at the time of inspection B00E - No safe access to roof was available at the time of inspection
Throughout ground level area/rooms including lift motor room		All				B00B - Restricted access - As per tenants request to building security.

Areas Not Accessed

It is noted that Hazardous Materials may be contained within or behind those areas identified in the below table: Areas Not Accessed. Caution should be exercised when accessing these areas, particularly in relation to potential disturbance of the building fabric or concealed spaces.

1 - 5 of 5 Buildings

Area / Item	Not Accessed					Comments
	B00A	B00B	B00D	B00K	B00E	
Under carpeted floor coverings in office areas	Some	Some	Some	Some	Some	B00A - Representative areas/rooms were inspected B00B - Representative areas/rooms were inspected B00D - Representative areas/rooms were inspected B00K - Representative areas/rooms were inspected B00E - Representative areas/rooms were inspected
Wall cavities	All	All	All	All	All	B00A - No destructions to materials/surfaces were carried out at the time of inspection B00B - No destructions to materials/surfaces were carried out at the time of inspection B00D - No destructions to materials/surfaces were carried out at the time of inspection B00K - No destructions to materials/surfaces were carried out at the time of inspection B00E - No destructions to materials/surfaces were carried out at the time of inspection
Within air conditioning re-heat boxes	All	All	All	All	All	B00A - Plants were assumed live at the time of inspection B00B - Plants were assumed live at the time of inspection B00D - Plants were assumed live at the time of inspection B00K - Plant were assumed live at the time of inspection B00E - Plants were assumed live at the time of inspection

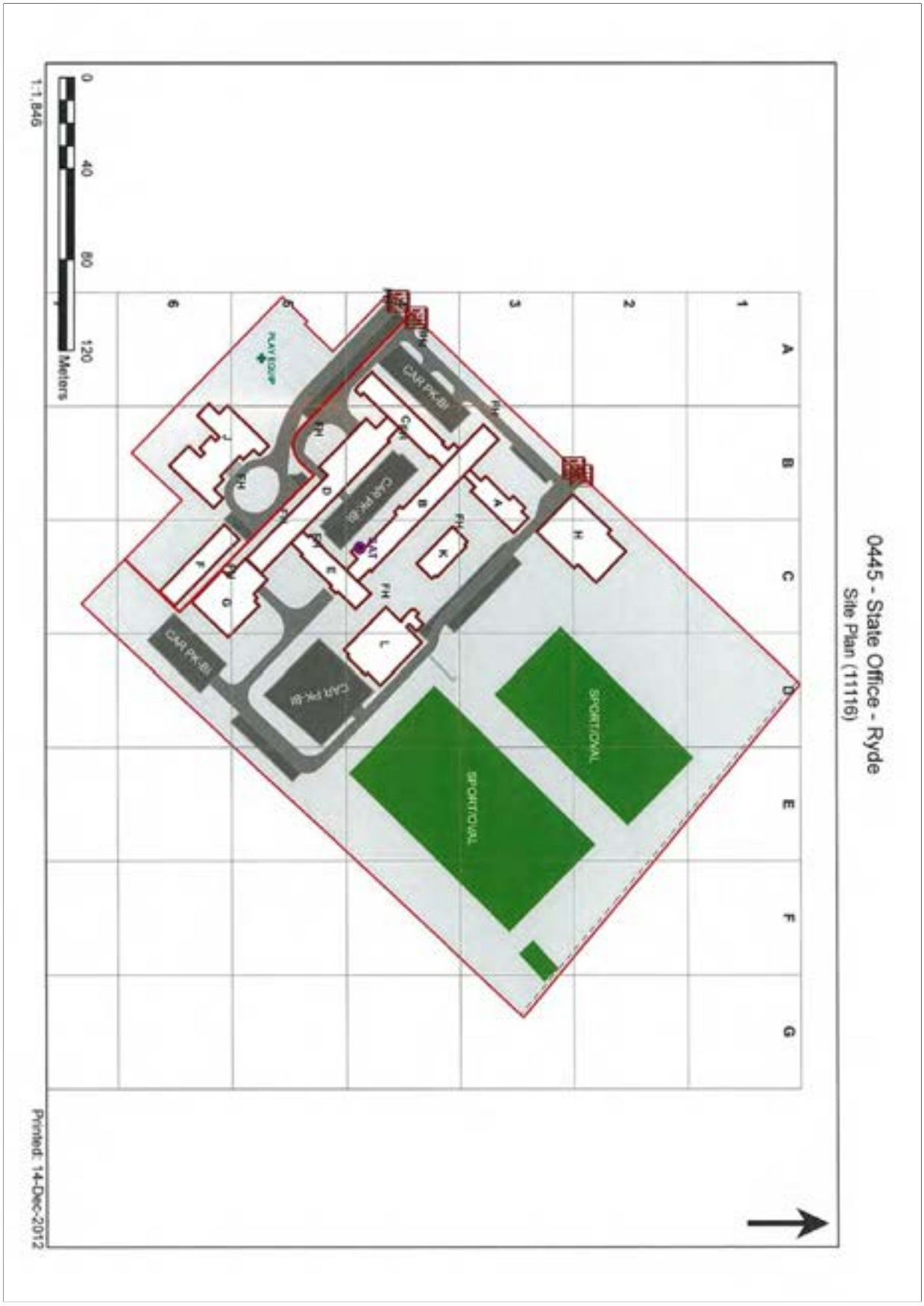
Areas Not Accessed

It is noted that Hazardous Materials may be contained within or behind those areas identified in the below table: Areas Not Accessed. Caution should be exercised when accessing these areas, particularly in relation to potential disturbance of the building fabric or concealed spaces.

1 - 5 of 5 Buildings

Area / Item	Not Accessed					Comments
	B00A	B00B	B00D	B00K	B00E	
Within electrical switchboard cupboard or backing	All	All	All	All	All	B00A - Live electric hazard at the time of inspection B00B - Live electric hazard at the time of inspection B00D - Live electric hazard at the time of inspection B00K - Live electric hazard at the time of inspection B00E - Live electric hazard at the time of inspection
Within internal walls partitioning	All	All	All	All	All	B00A - No destructions to materials/surfaces were carried out at the time of inspection B00B - No destructions to materials/surfaces were carried out at the time of inspection B00D - No destructions to materials/surfaces were carried out at the time of inspection B00K - No destructions to materials/surfaces were carried out at the time of inspection B00E - No destructions to materials/surfaces were carried out at the time of inspection

Site Plan


0445 - State Office - Ryde
Site Plan (11116)
1:1,846
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Meters
Printed: 14-Dec-2012
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SPORTOVAL
CAR PK-BI
CAR PK-BI
CAR PK-BI
PLAY EQUIP
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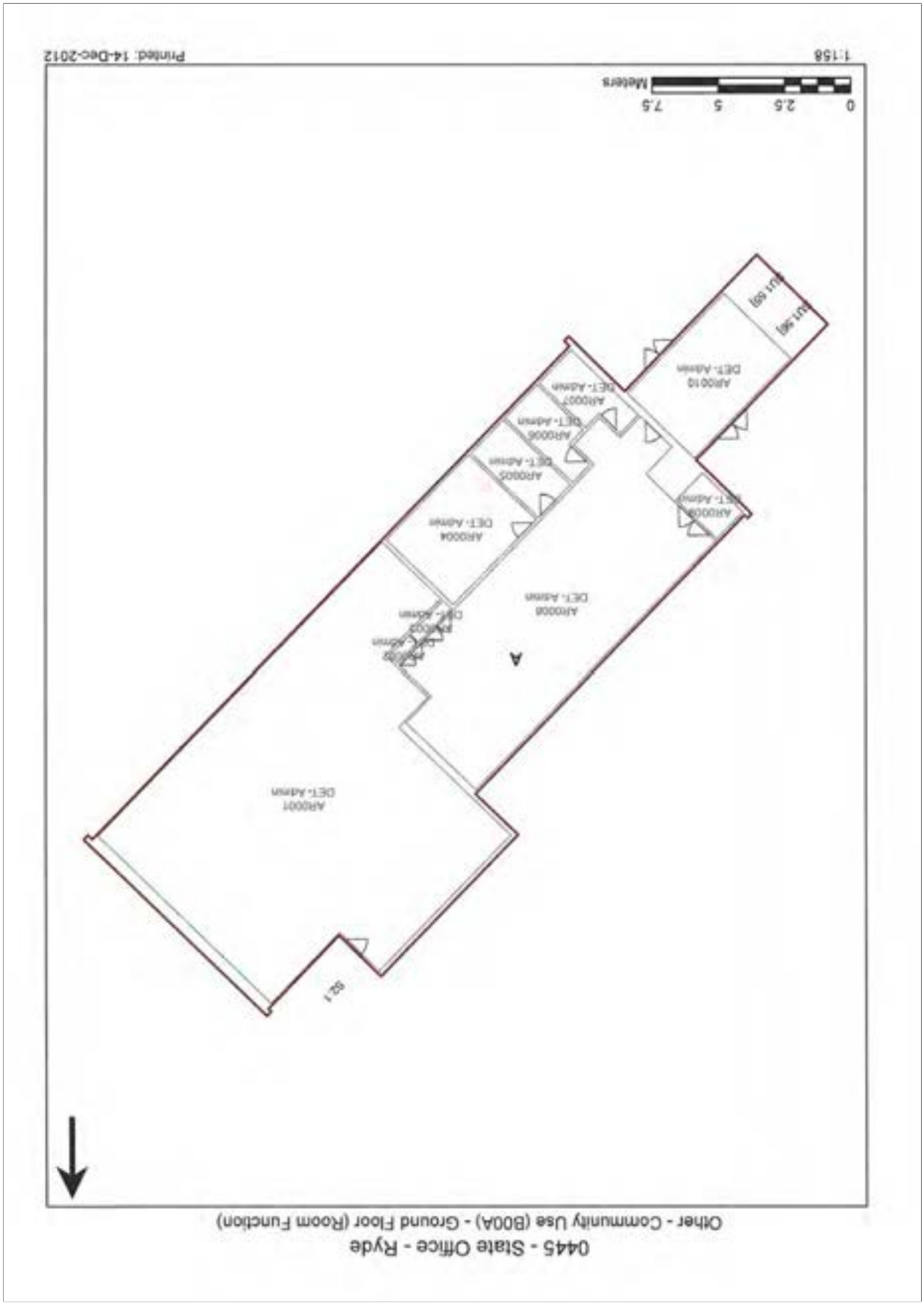
Site Plan


0445 - State Office - Ryde
Other - Community Use (B00A) - Ground Floor (Room Function)
1:158
Printed: 14-Dec-2012
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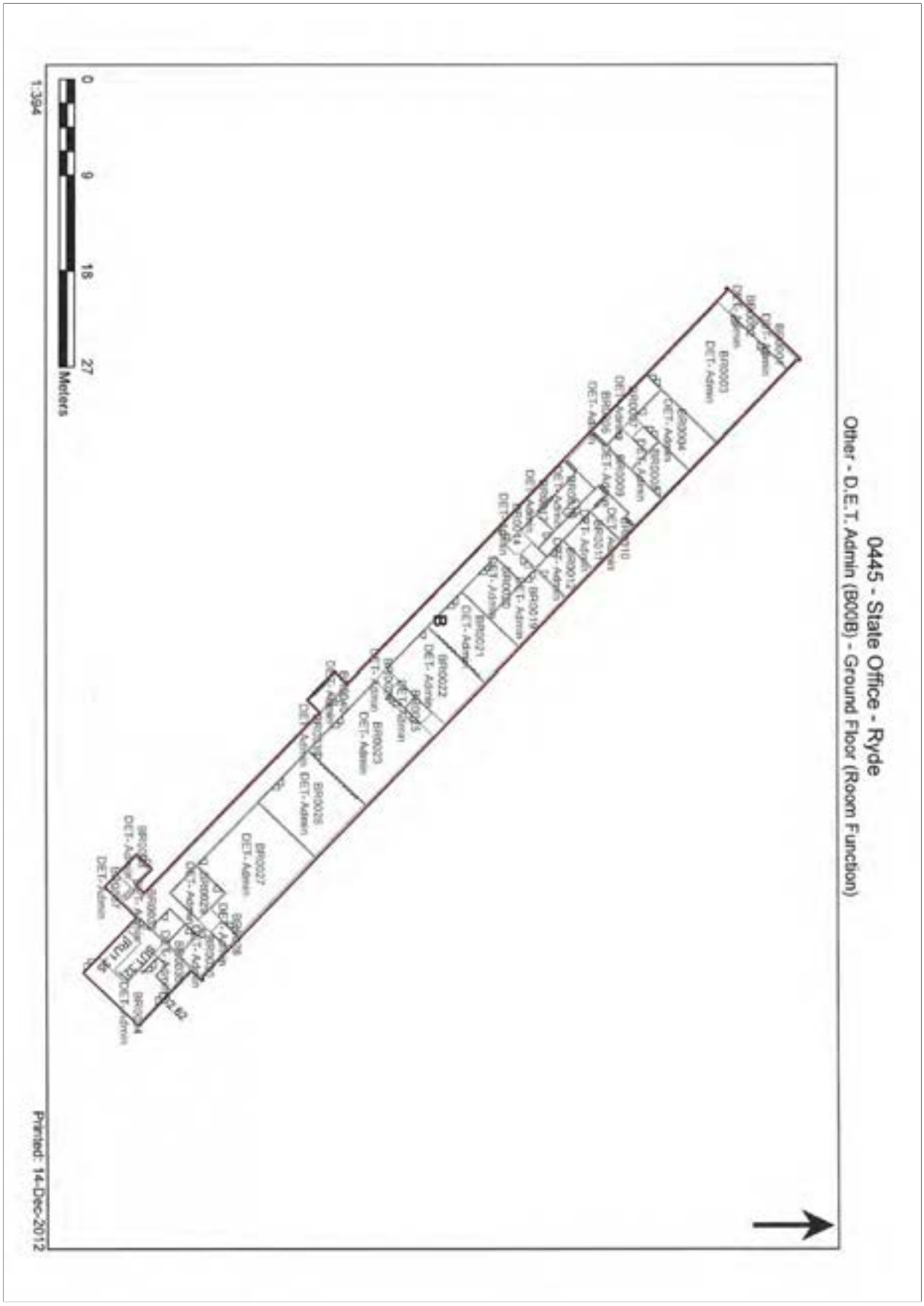
DET: Admin

Site Plan


0445 - State Office - Ryde
Other - D.E.T. Admin (B00B) - Ground Floor (Room Function)
1:394
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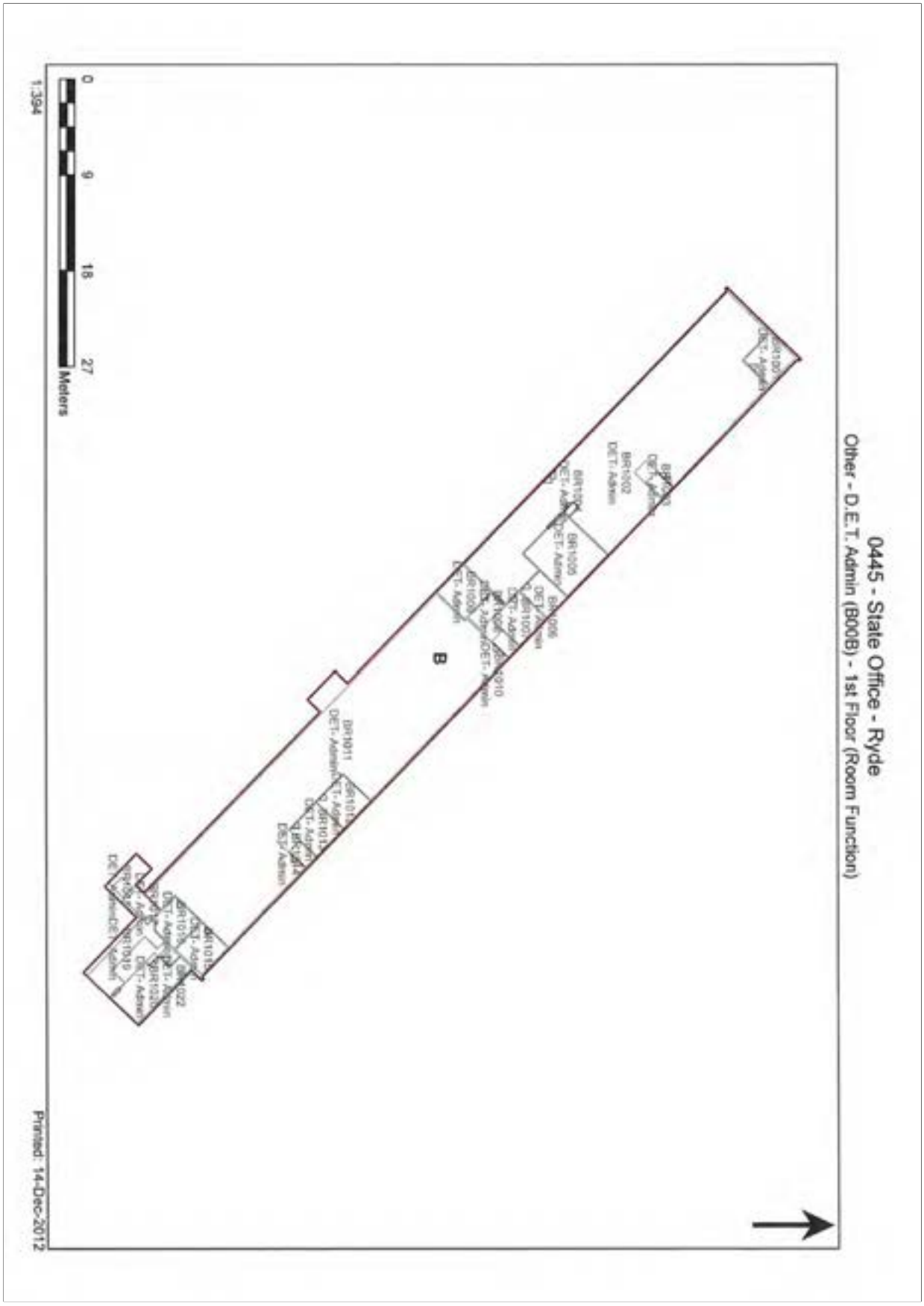
Meters
Printed: 14-Dec-2012

Site Plan


0445 - State Office - Ryde
Other - D.E.T. Admin (B00B) - 1st Floor (Room Function)
1:394
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Printed: 14-Dec-2012
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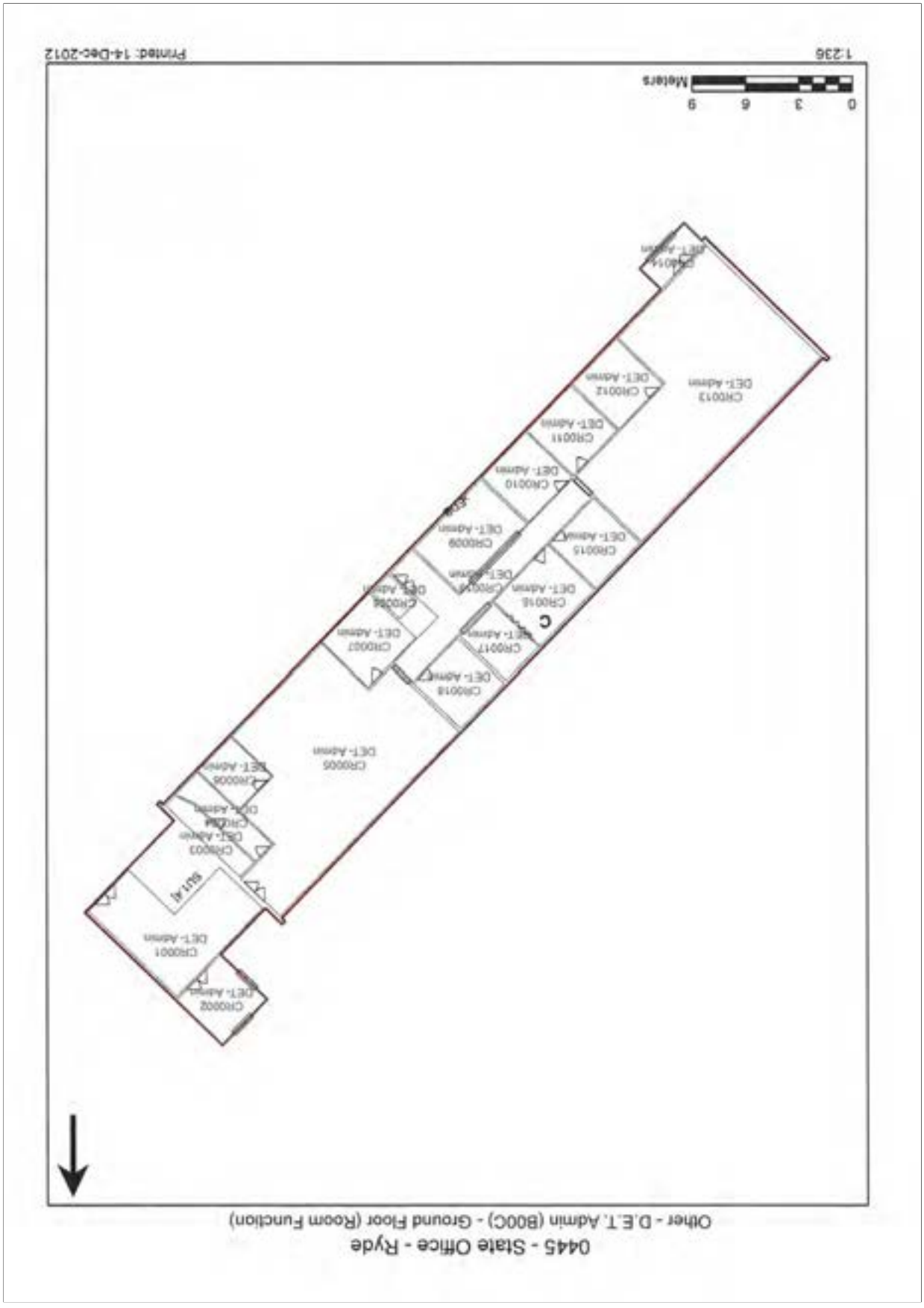
Site Plan


0445 - State Office - Ryde
Other - D.E.T. Admin (B00C) - Ground Floor (Room Function)
1:236
Printed: 14-Dec-2012
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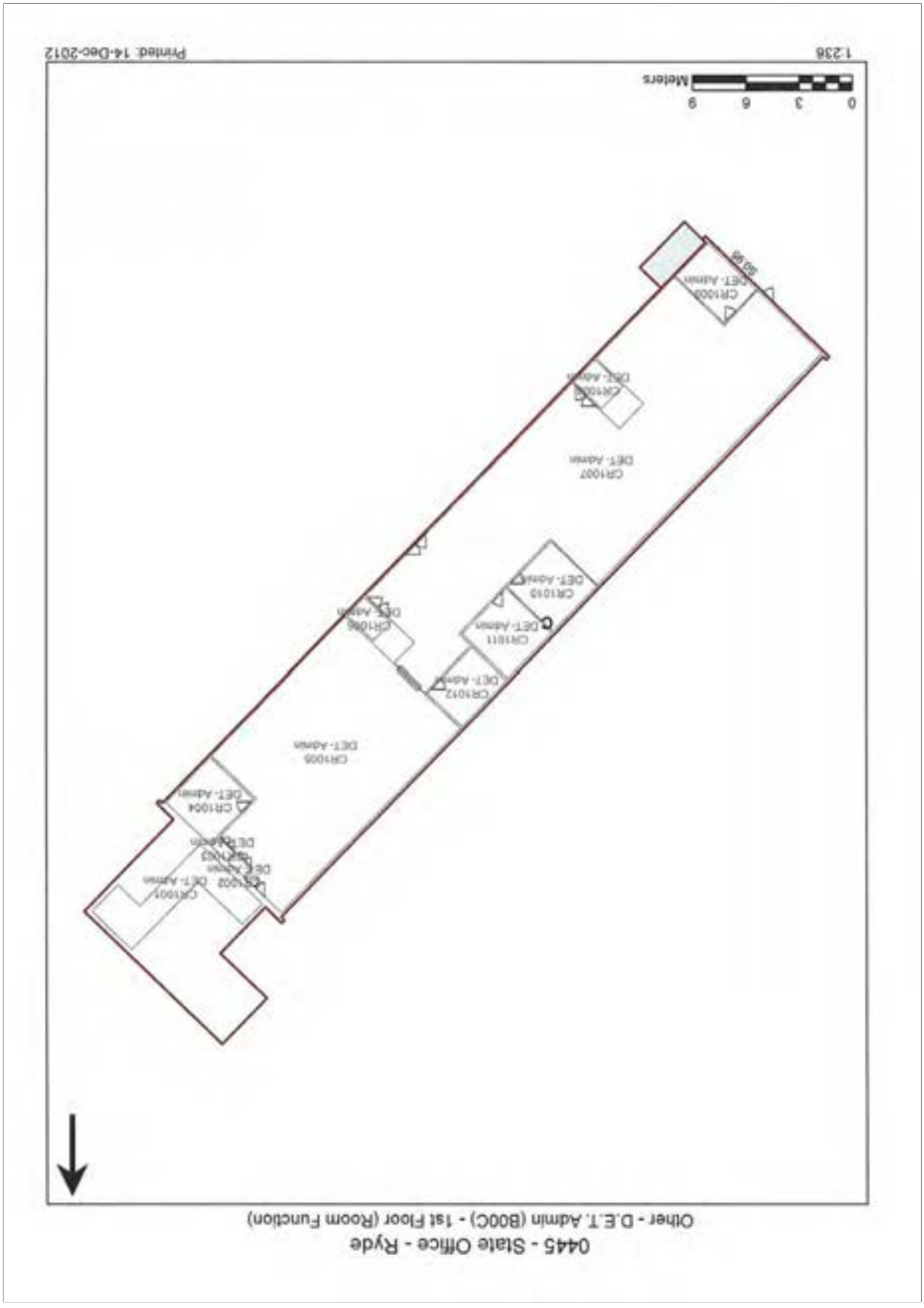
Site Plan


0445 - State Office - Ryde
Other - D.E.T. Admin (B00C) - 1st Floor (Room Function)
Printed: 14-Dec-2012
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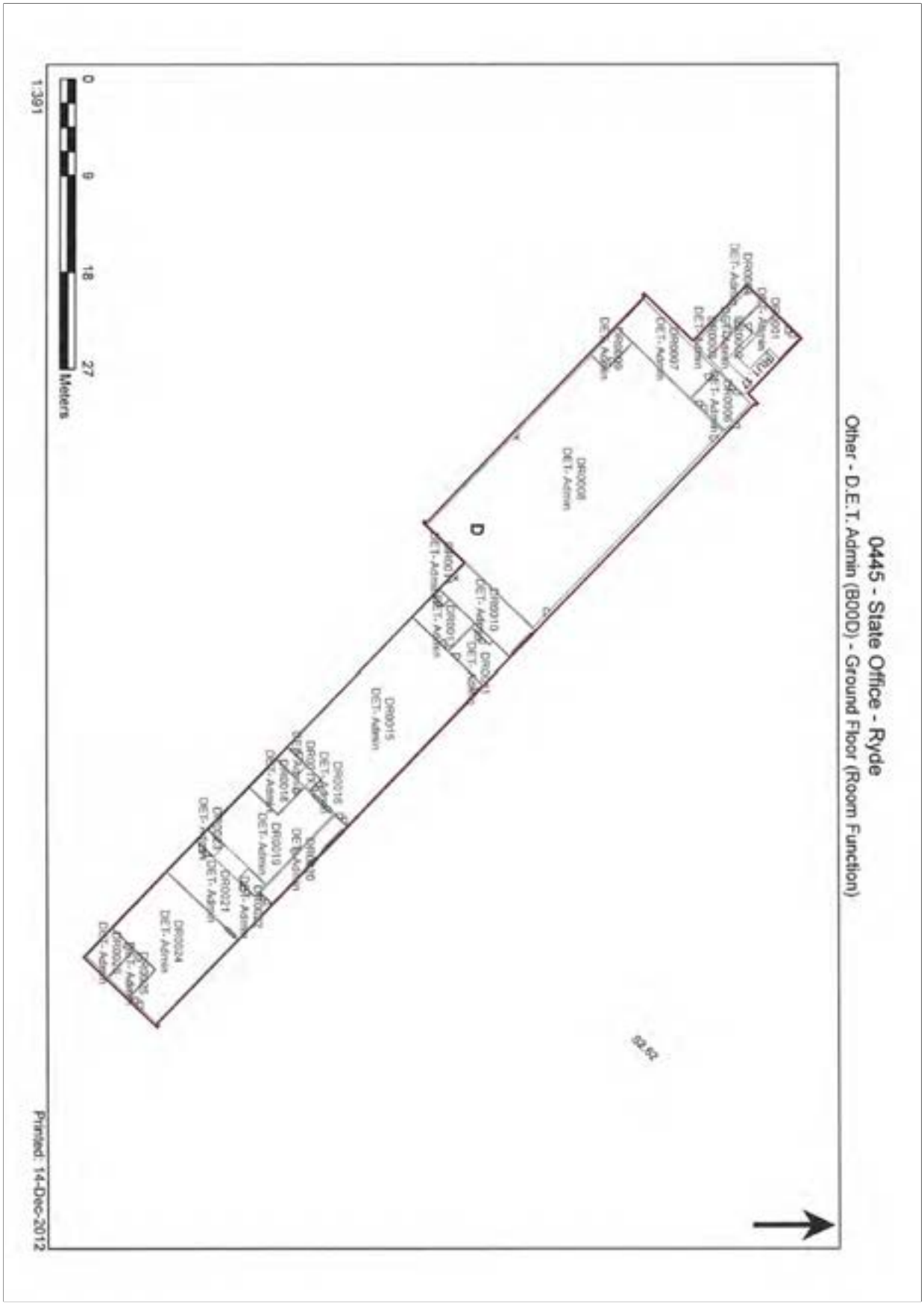
Site Plan


0445 - State Office - Ryde
Other - D.E.T. Admin (B00D) - Ground Floor (Room Function)
1:391
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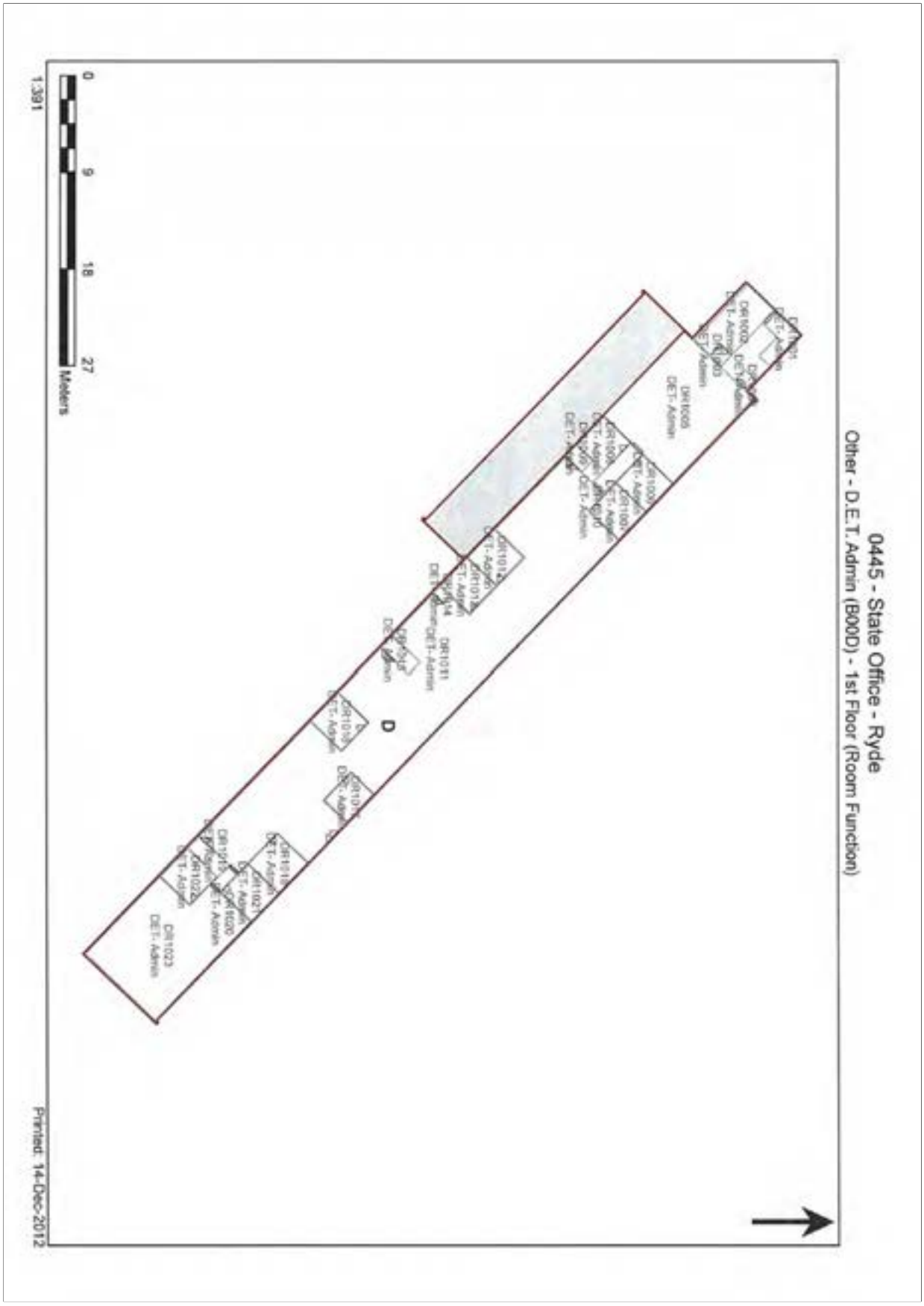
Site Plan


0445 - State Office - Ryde
Other - D.E.T. Admin (B00D) - 1st Floor (Room Function)
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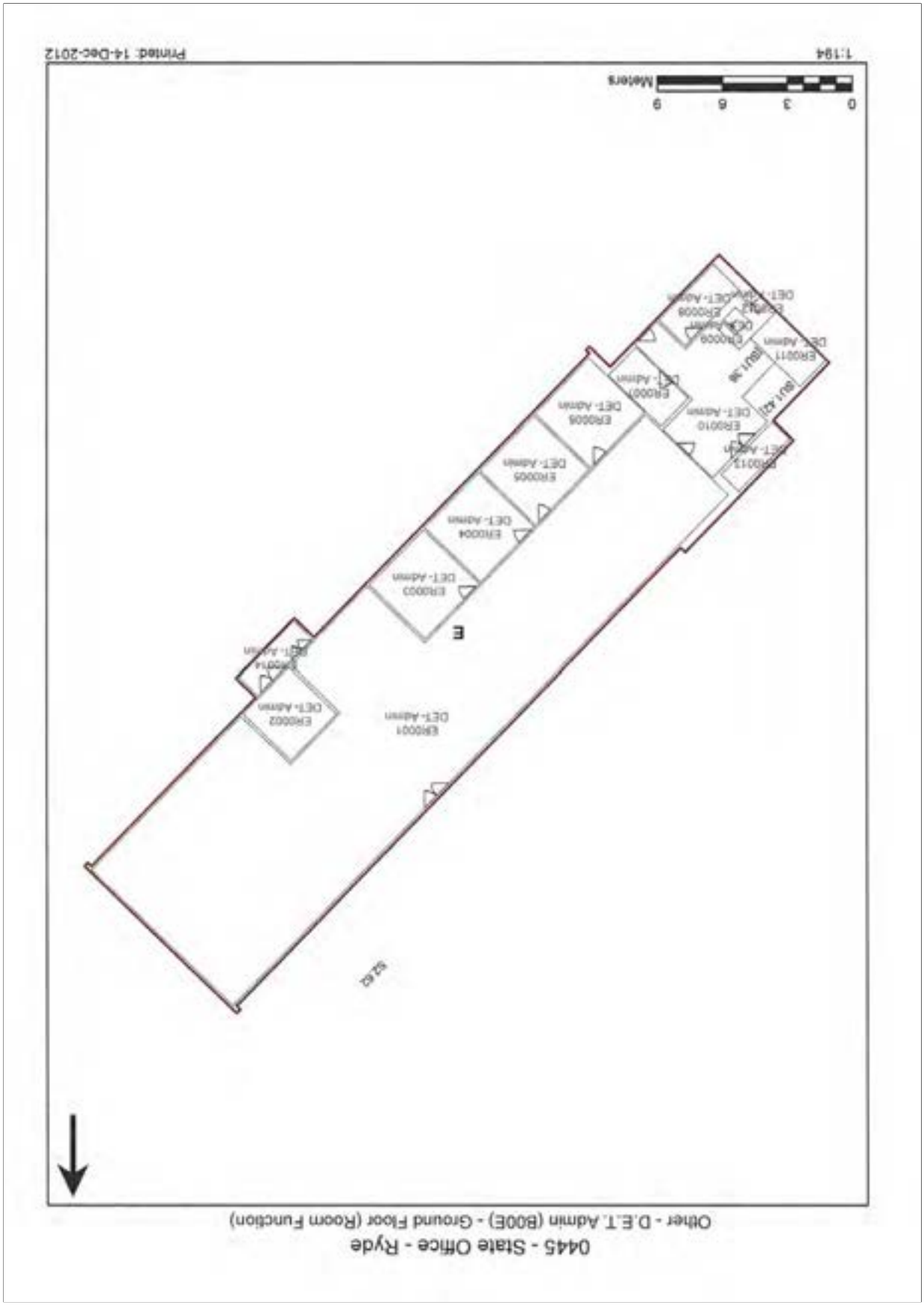
Site Plan


0445 - State Office - Ryde
Other - D.E.T. Admin (B00E) - Ground Floor (Room Function)
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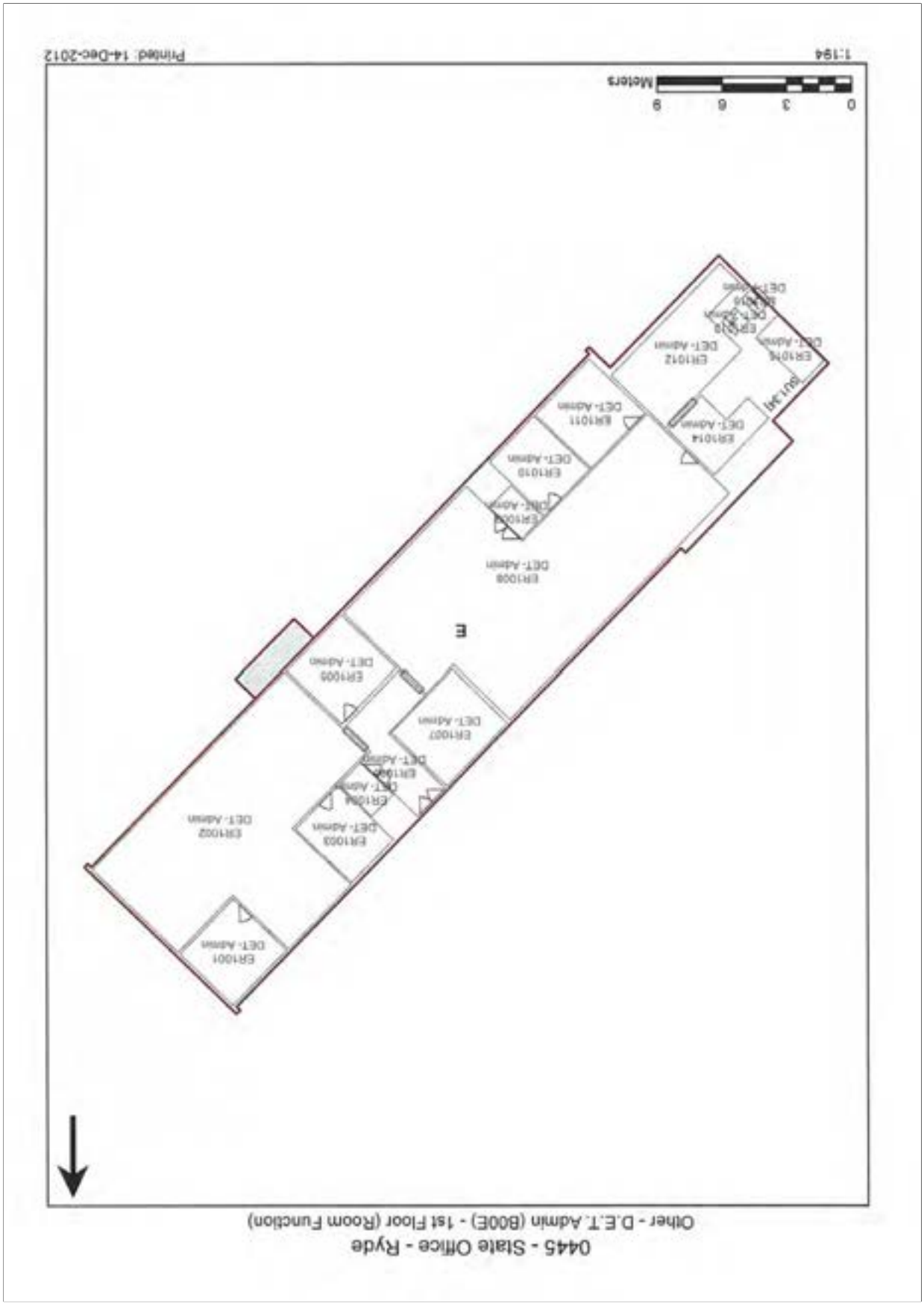
Site Plan


0445 - State Office - Ryde
Other - D.E.T. Admin (B00E) - 1st Floor (Room Function)
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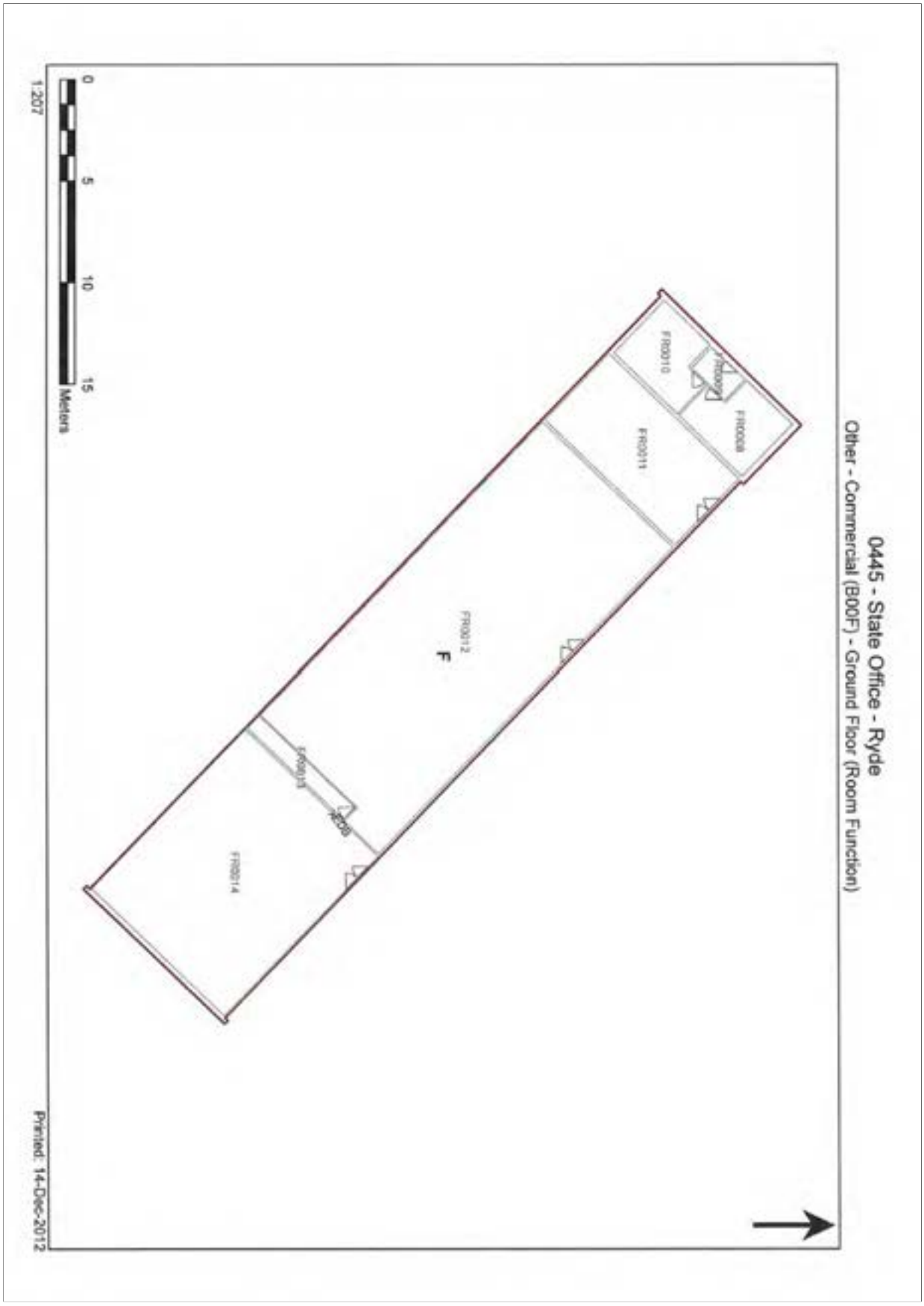
Printed: 14-Dec-2012

Site Plan


0445 - State Office - Ryde
Other - Commercial (B00F) - Ground Floor (Room Function)
1:207
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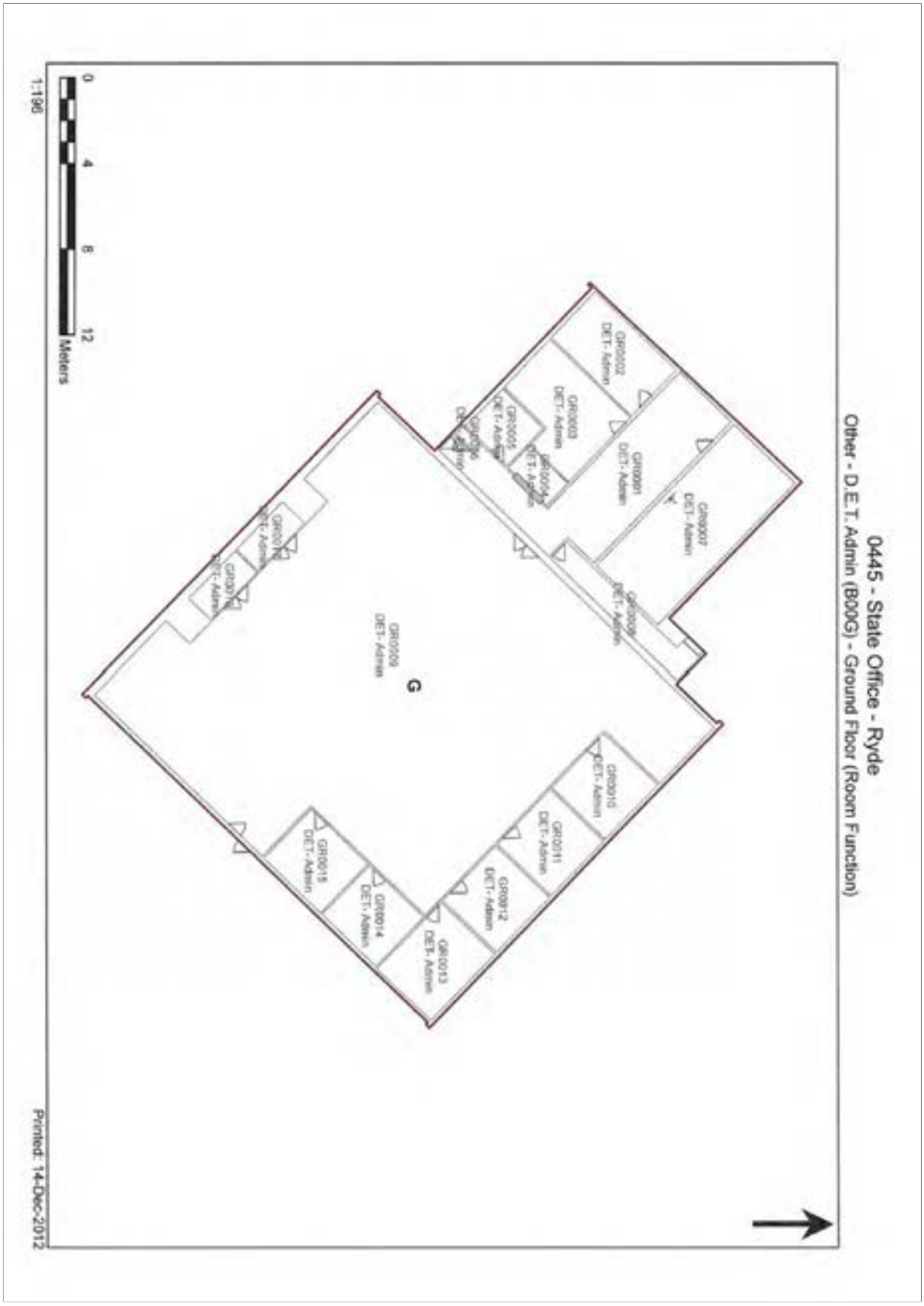
Printed: 14-Dec-2012

Site Plan


0445 - State Office - Ryde
Other - D.E.T. Admin (B00G) - Ground Floor (Room Function)
1:196
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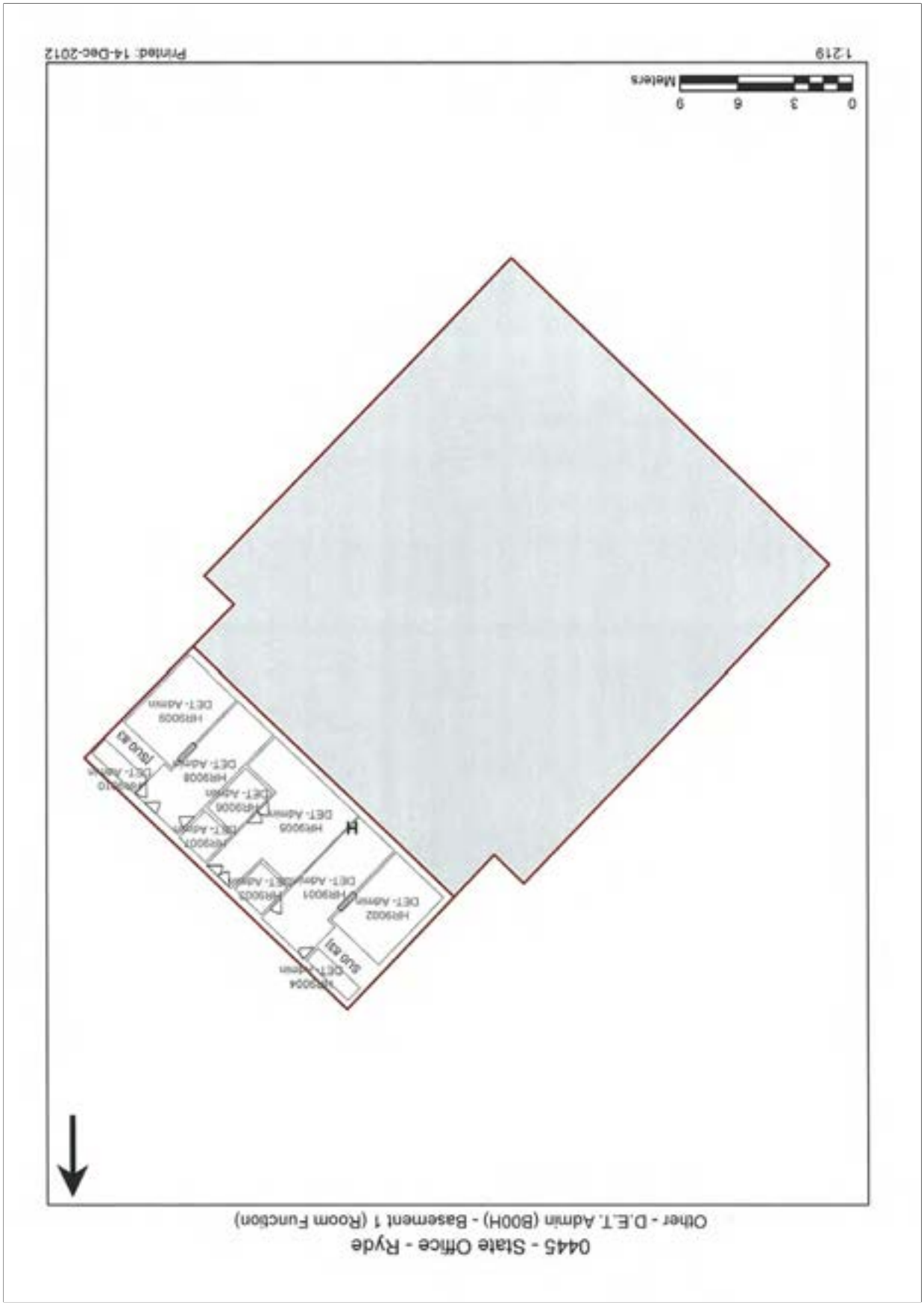
G

Site Plan


0445 - State Office - Ryde
Other - D.E.T. Admin (B00H) - Basement 1 (Room Function)
Printed: 14-Dec-2012
1:219
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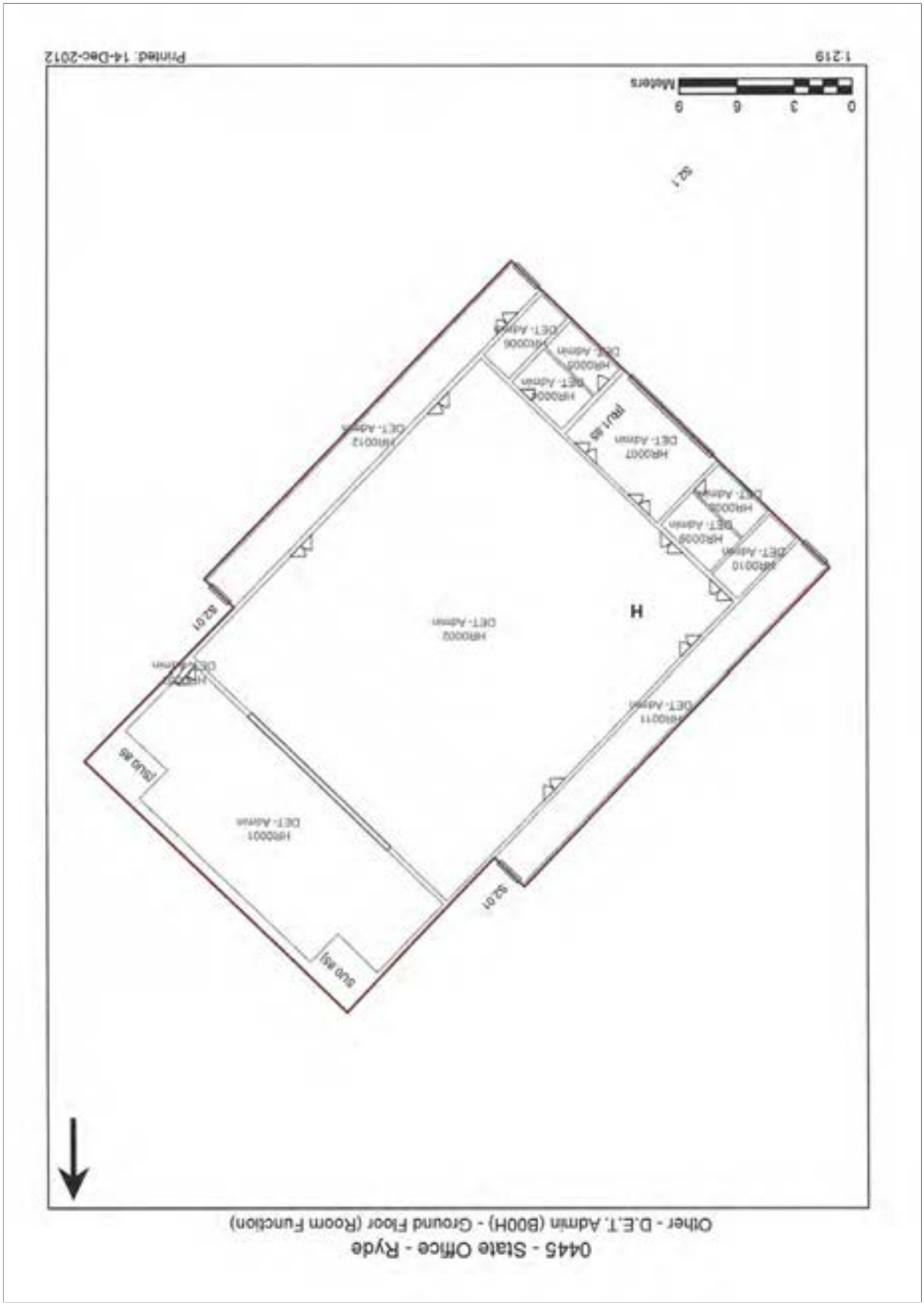
Site Plan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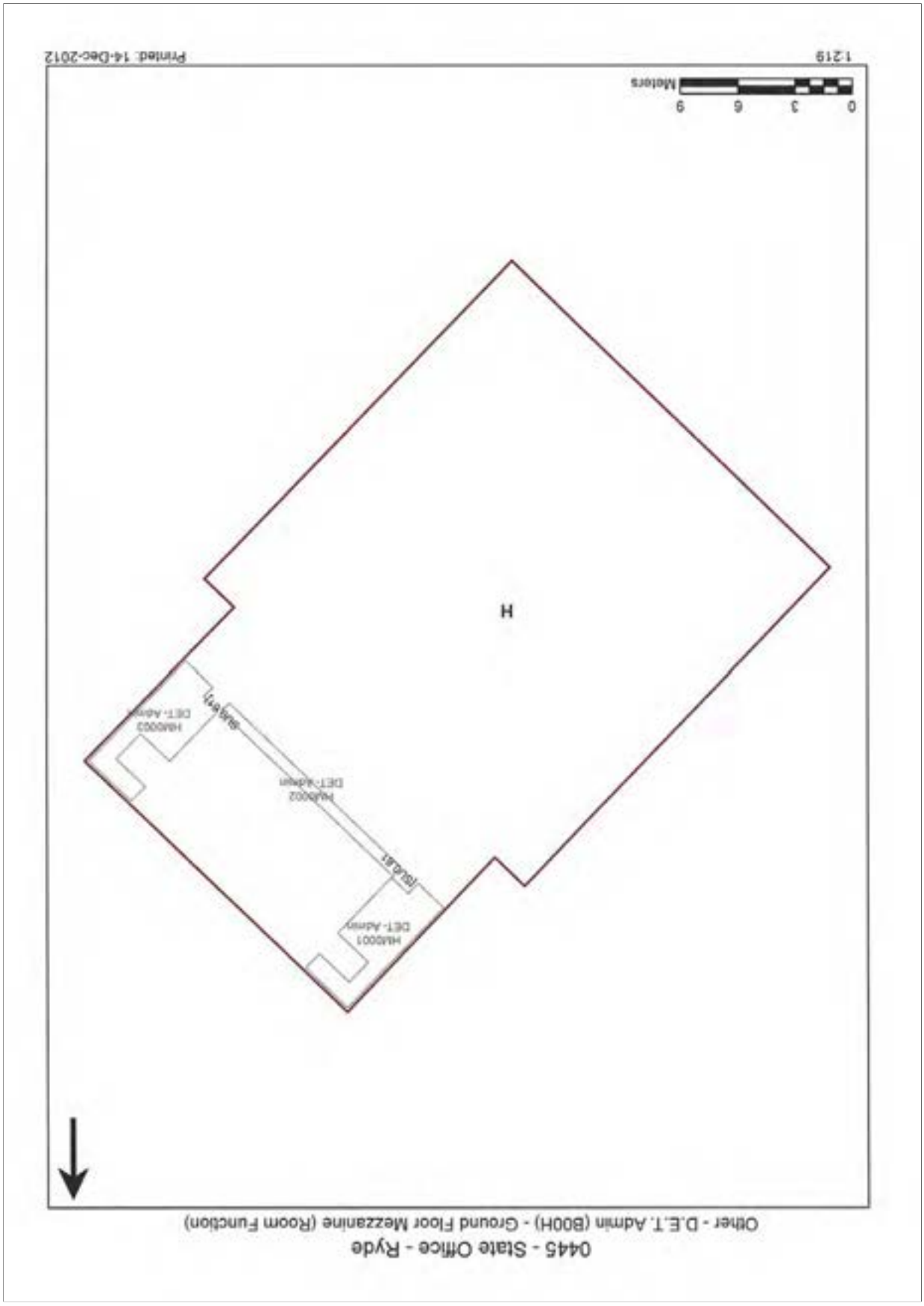
Site Plan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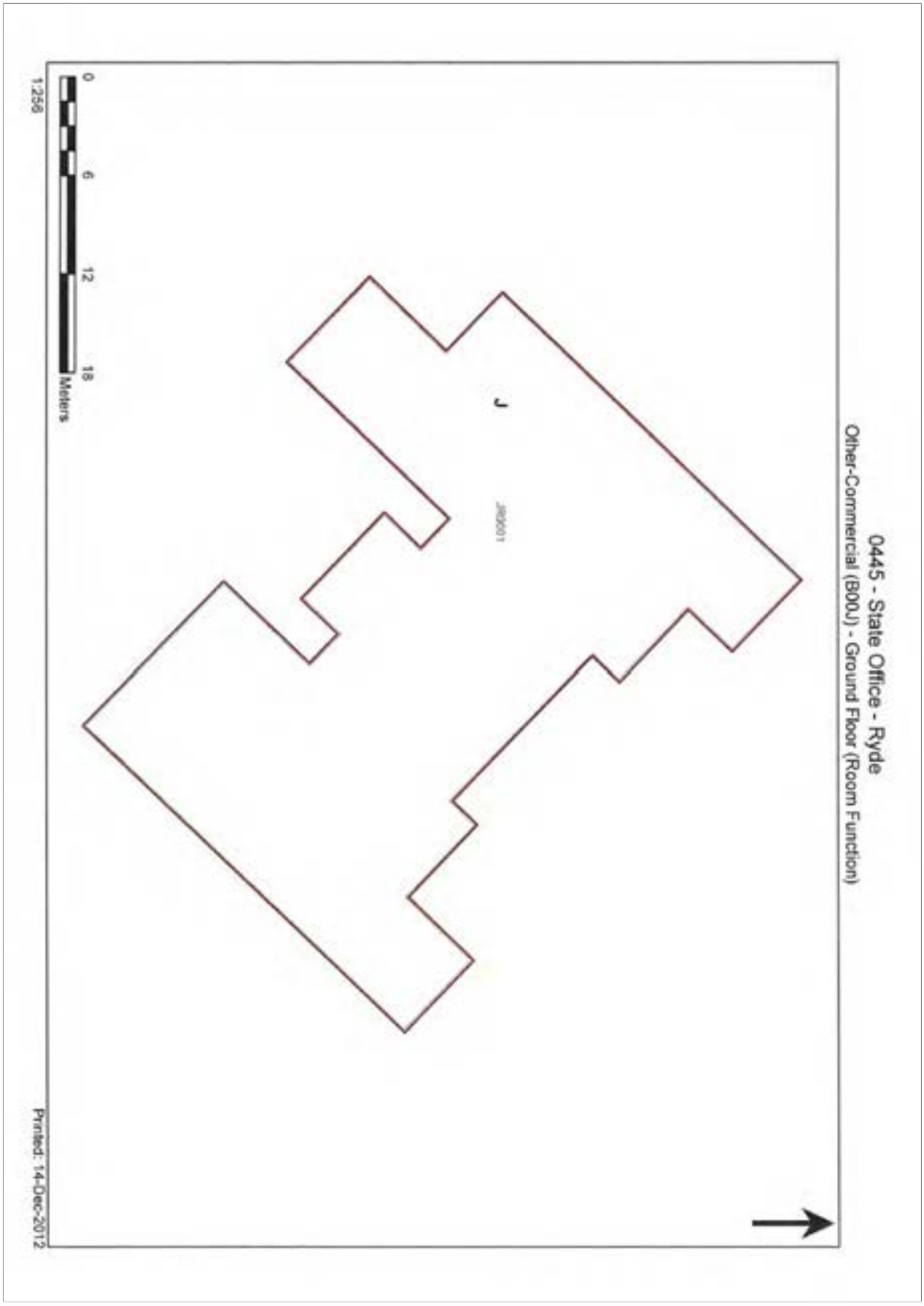
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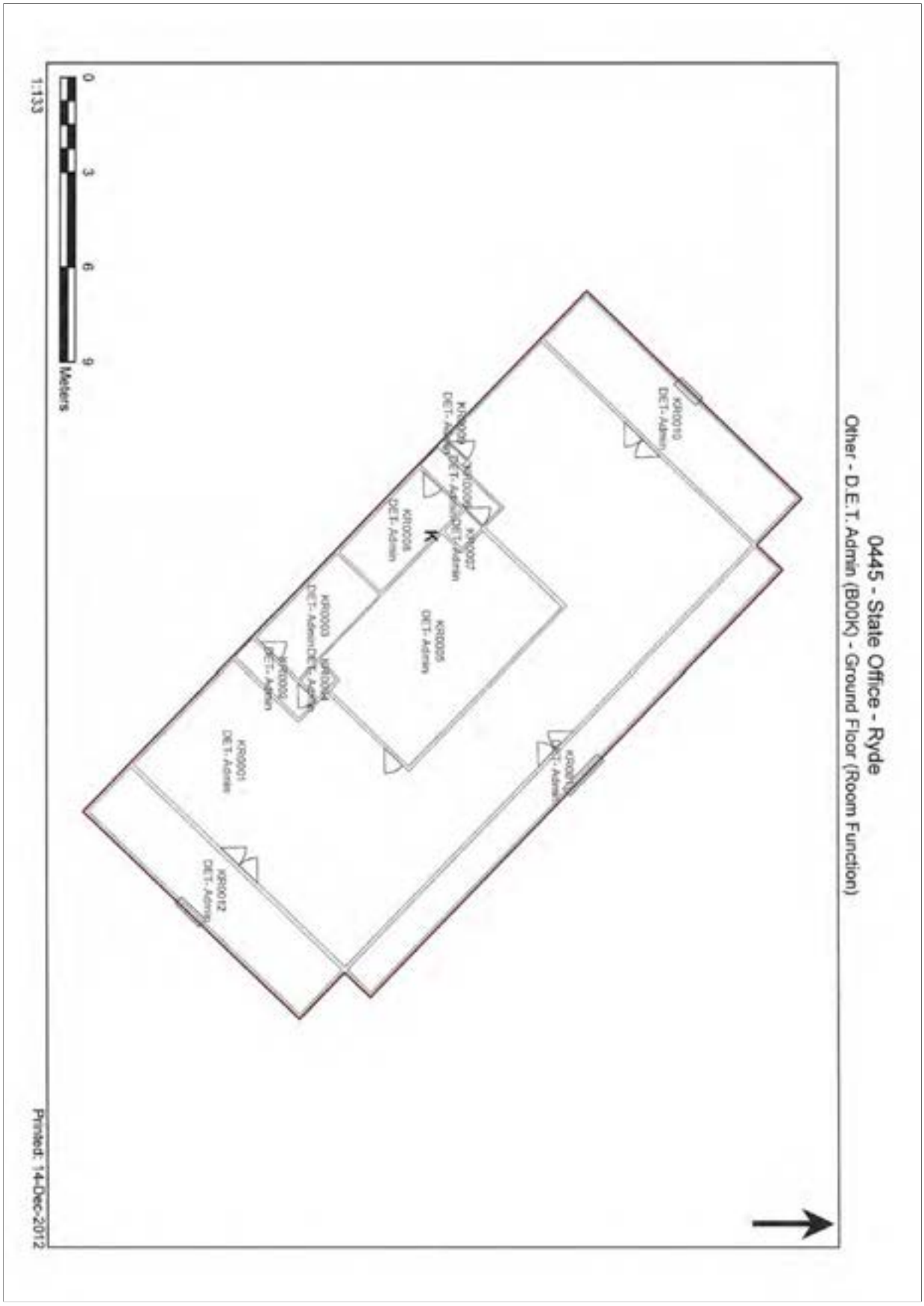
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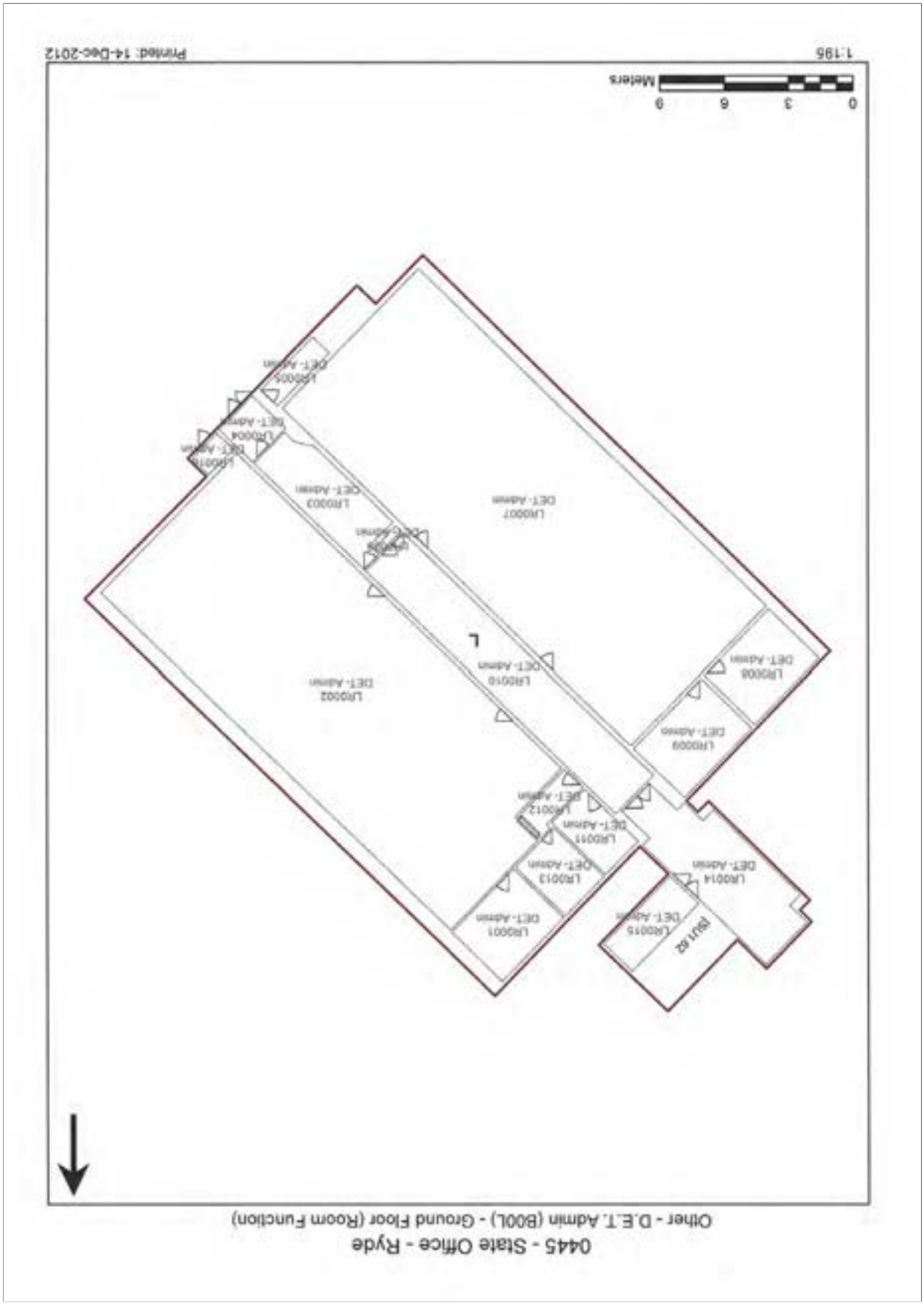
Site Plan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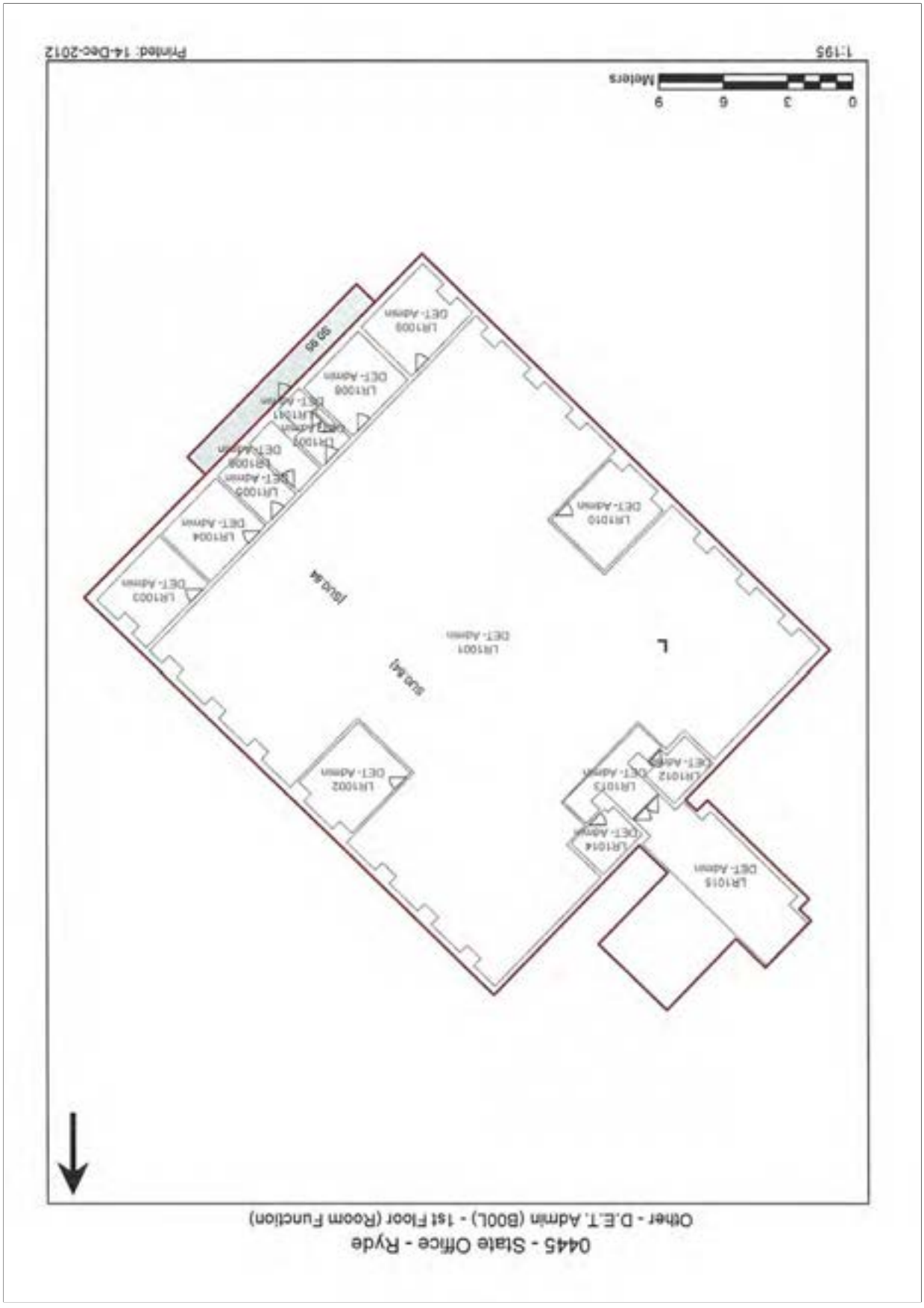
Site Plan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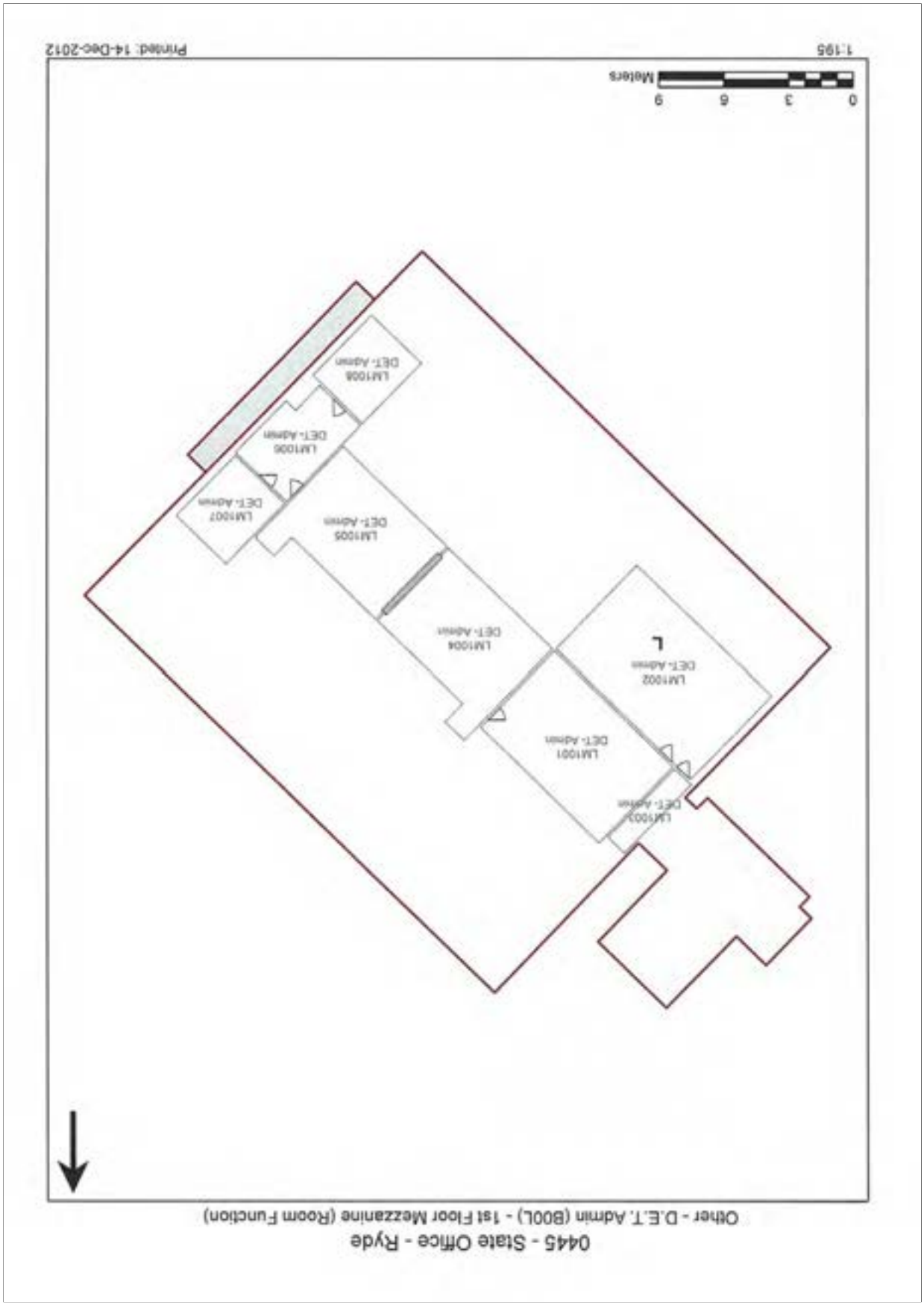
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Photographs

PHOTO NO.: **J154351-001-PHOTO038**
RESULT: **ASBESTOS - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00A - GROUND LEVEL**
ROOM/LOCATION: **EXTERIOR - NORTHEAST**
FEATURE/MATERIAL: **EAVES - FIBRE CEMENT SHEETING**
SAMPLE NO.: **SIMILAR TO: J154351-001-010**

PHOTO NO.: **J154351-001-PHOTO190**
RESULT: **ODS - POSITIVE**
BUILDING/LEVEL: **B00A - GROUND LEVEL**
ROOM/LOCATION: **EXTERIOR - SOUTHEAST**
FEATURE/MATERIAL: **A/C UNIT - R22 - CHLORODIFLUOROMETHANE**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO036**
RESULT: **ASBESTOS - POSITIVE**
BUILDING/LEVEL: **B00A - GROUND LEVEL**
ROOM/LOCATION: **EXTERIOR - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **EAVES - FIBRE CEMENT SHEETING**
SAMPLE NO.: **J154351-001-010**

PHOTO NO.: **J154351-001-PHOTO037**
RESULT: **ASBESTOS - POSITIVE**
BUILDING/LEVEL: **B00A - GROUND LEVEL**
ROOM/LOCATION: **EXTERIOR - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **EAVES - FIBRE CEMENT SHEETING**
SAMPLE NO.: **J154351-001-010**

PHOTO NO.: **J154351-001-PHOTO015**
RESULT: **ASBESTOS - POSITIVE**
BUILDING/LEVEL: **B00A - GROUND LEVEL**
ROOM/LOCATION: **EXTERIOR - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **INFILL PANELS - COMPRESSED CEMENT SHEETING**
SAMPLE NO.: **PREVIOUSLY SAMPLED GREENCAP J146932-02-002-024**

PHOTO NO.: **J154351-001-PHOTO019**
RESULT: **ASBESTOS - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00A - GROUND LEVEL**
ROOM/LOCATION: **AR0003 - ELECTRICAL CUPBOARD - SOUTH**
FEATURE/MATERIAL: **ELECTRICAL - SWITCH BOARD - COMPRESSED BITUMINOUS ELECTRICAL PANEL**
SAMPLE NO.: **NOT SAMPLED LIVE ELECTRICAL HAZARD**

Photographs

PHOTO NO.: **J154351-001-PHOTO026**
RESULT: **SMF - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00A - GROUND LEVEL**
ROOM/LOCATION: **AR0005 - KITCHEN - ABOVE SINK**
FEATURE/MATERIAL: **HOT WATER SERVICE INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO025**
RESULT: **SMF - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00A - GROUND LEVEL**
ROOM/LOCATION: **AR0005 - KITCHEN - BELOW SINK**
FEATURE/MATERIAL: **HOT WATER SERVICE INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO034**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00A - GROUND LEVEL**
ROOM/LOCATION: **AR0009 - PLANT ROOM - EAST**
FEATURE/MATERIAL: **INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO030**
RESULT: **ASBESTOS - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00A - GROUND LEVEL**
ROOM/LOCATION: **AR0009 - PLANT ROOM - WEST**
FEATURE/MATERIAL: **ELECTRICAL - SWITCH BOARD - COMPRESSED BITUMINOUS ELECTRICAL PANEL**
SAMPLE NO.: **NOT SAMPLED LIVE ELECTRICAL HAZARD**

PHOTO NO.: **J154351-001-PHOTO048**
RESULT: **ASBESTOS - POSITIVE**
BUILDING/LEVEL: **B00A - SUB-FLOOR**
ROOM/LOCATION: **ALL AREAS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **DEBRIS - FIBRE CEMENT SHEETING**
SAMPLE NO.: **J154351-001-015**

PHOTO NO.: **J154351-001-PHOTO051**
RESULT: **ASBESTOS - POSITIVE**
BUILDING/LEVEL: **B00A - SUB-FLOOR**
ROOM/LOCATION: **ALL AREAS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **DEBRIS - FIBRE CEMENT SHEETING**
SAMPLE NO.: **J154351-001-017**

Photographs

PHOTO NO.: **J154351-001-PHOTO047**
RESULT: **ASBESTOS - POSITIVE**
BUILDING/LEVEL: **B00A - SUB-FLOOR**
ROOM/LOCATION: **ALL AREAS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **PACKER - FIBRE CEMENT SHEETING**
SAMPLE NO.: **J154351-001-014**

PHOTO NO.: **J154351-001-PHOTO046**
RESULT: **ASBESTOS - POSITIVE**
BUILDING/LEVEL: **B00A - SUB-FLOOR**
ROOM/LOCATION: **ALL AREAS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **PACKER - FIBRE CEMENT SHEETING**
SAMPLE NO.: **J154351-001-014**

PHOTO NO.: **J154351-001-PHOTO131**
RESULT: **ASBESTOS - POSITIVE**
BUILDING/LEVEL: **B00B - ALL LEVELS**
ROOM/LOCATION: **ALL AREAS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **INFILL PANELS - COMPRESSED CEMENT SHEETING**
SAMPLE NO.: **PREVIOUSLY SAMPLED GREENCAP J146932-02-002-024**

PHOTO NO.: **J154351-001-PHOTO129**
RESULT: **ASBESTOS - POSITIVE**
BUILDING/LEVEL: **B00B - ALL LEVELS**
ROOM/LOCATION: **ALL AREAS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **INFILL PANELS - COMPRESSED CEMENT SHEETING**
SAMPLE NO.: **PREVIOUSLY SAMPLED GREENCAP J146932-02-002-024**

PHOTO NO.: **J154351-001-PHOTO130**
RESULT: **ASBESTOS - POSITIVE**
BUILDING/LEVEL: **B00B - ALL LEVELS**
ROOM/LOCATION: **ALL AREAS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **INFILL PANELS - COMPRESSED CEMENT SHEETING**
SAMPLE NO.: **PREVIOUSLY SAMPLED GREENCAP J146932-02-002-024**

PHOTO NO.: **J154351-001-PHOTO128**
RESULT: **ODS - POSITIVE**
BUILDING/LEVEL: **B00B - GROUND LEVEL**
ROOM/LOCATION: **EXTERIOR - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **A/C UNIT - R22 - CHLORODIFLUOROMETHANE**
SAMPLE NO.: **-**

Photographs

PHOTO NO.: **J154351-001-PHOTO126**
RESULT: **ODS - POSITIVE**
BUILDING/LEVEL: **B00B - GROUND LEVEL**
ROOM/LOCATION: **EXTERIOR - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **A/C UNIT - R22 - CHLORODIFLUOROMETHANE**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO189**
RESULT: **ASBESTOS - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00B - GROUND LEVEL**
ROOM/LOCATION: **EXTERIOR - WEST**
FEATURE/MATERIAL: **ELECTRICAL - SWITCH BOARD - COMPRESSED BITUMINOUS ELECTRICAL PANEL**
SAMPLE NO.: **NOT SAMPLED LIVE ELECTRICAL HAZARD**

PHOTO NO.: **J154351-001-PHOTO132**
RESULT: **ASBESTOS - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00B - LEVEL ONE**
ROOM/LOCATION: **EXTERIOR - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **EAVES - FIBRE CEMENT SHEETING**
SAMPLE NO.: **NOT SAMPLED HEIGHT RESTRICTED**

PHOTO NO.: **J154351-001-PHOTO118**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00B - LEVEL ONE**
ROOM/LOCATION: **ALL ROOMS - ABOVE CEILING**
FEATURE/MATERIAL: **INSULATION - SARKING INSULATION**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO117**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00B - LEVEL ONE**
ROOM/LOCATION: **ALL ROOMS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO120**
RESULT: **ASBESTOS - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00B - LEVEL ONE**
ROOM/LOCATION: **BR1003 - PLANT ROOM - EAST**
FEATURE/MATERIAL: **ELECTRICAL - SWITCH BOARD - COMPRESSED BITUMINOUS ELECTRICAL PANEL**
SAMPLE NO.: **NOT SAMPLED LIVE ELECTRICAL HAZARD**

Photographs

PHOTO NO.: **J154351-001-PHOTO119**
RESULT: **ASBESTOS - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00B - LEVEL ONE**
ROOM/LOCATION: **BR1004 - ELECTRICAL CUPBOARD - NORTH**
FEATURE/MATERIAL: **ELECTRICAL - SWITCH BOARD - COMPRESSED BITUMINOUS ELECTRICAL PANEL**
SAMPLE NO.: **NOT SAMPLED LIVE ELECTRICAL HAZARD**

PHOTO NO.: **J154351-001-PHOTO123**
RESULT: **ASBESTOS - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00B - LEVEL ONE**
ROOM/LOCATION: **BR1014 - PLANT ROOM - WEST**
FEATURE/MATERIAL: **ELECTRICAL - SWITCH BOARD - COMPRESSED BITUMINOUS ELECTRICAL PANEL**
SAMPLE NO.: **NOT SAMPLED LIVE ELECTRICAL HAZARD**

PHOTO NO.: **J154351-001-PHOTO114**
RESULT: **ASBESTOS - POSITIVE**
BUILDING/LEVEL: **B00B - LEVEL ONE**
ROOM/LOCATION: **BR1019 - COVERD WALKWAY (CONNECTING BUILDING E & B) - SOUTH**
FEATURE/MATERIAL: **INFILL PANELS - COMPRESSED CEMENT SHEETING**
SAMPLE NO.: **PREVIOUSLY SAMPLED GREENCAP J146932-02-002-024**

PHOTO NO.: **J154351-001-PHOTO105**
RESULT: **SMF - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00B - LEVEL ONE**
ROOM/LOCATION: **BR1020 - KITCHEN - ABOVE SINK**
FEATURE/MATERIAL: **HOT WATER SERVICE INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO106**
RESULT: **SMF - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00B - LEVEL ONE**
ROOM/LOCATION: **BR1020 - KITCHEN - BELOW SINK**
FEATURE/MATERIAL: **HOT WATER SERVICE INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO107**
RESULT: **ASBESTOS - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00B - LEVEL ONE**
ROOM/LOCATION: **BR1021 - ELECTRICAL CUPBOARD(WITHIN KITCHEN) - SOUTH**
FEATURE/MATERIAL: **ELECTRICAL - SWITCH BOARD - COMPRESSED BITUMINOUS ELECTRICAL PANEL**
SAMPLE NO.: **NOT SAMPLED LIVE ELECTRICAL HAZARD**

Photographs

PHOTO NO.: **J154351-001-PHOTO185**
RESULT: **ASBESTOS - POSITIVE**
BUILDING/LEVEL: **B00D - ALL LEVELS**
ROOM/LOCATION: **ALL AREAS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **INFILL PANELS - COMPRESSED CEMENT SHEETING**
SAMPLE NO.: **PREVIOUSLY SAMPLED GREENCAP J146932-02-002-024**

PHOTO NO.: **J154351-001-PHOTO186**
RESULT: **ASBESTOS - POSITIVE**
BUILDING/LEVEL: **B00D - ALL LEVELS**
ROOM/LOCATION: **ALL AREAS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **INFILL PANELS - COMPRESSED CEMENT SHEETING**
SAMPLE NO.: **PREVIOUSLY SAMPLED GREENCAP J146932-02-002-024**

PHOTO NO.: **J154351-001-PHOTO186**
RESULT: **ASBESTOS - POSITIVE**
BUILDING/LEVEL: **B00D - ALL LEVELS**
ROOM/LOCATION: **ALL AREAS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **INFILL PANELS - COMPRESSED CEMENT SHEETING**
SAMPLE NO.: **PREVIOUSLY SAMPLED GREENCAP J146932-02-002-024**

PHOTO NO.: **J154351-001-PHOTO192**
RESULT: **ODS - POSITIVE**
BUILDING/LEVEL: **B00D - GROUND LEVEL**
ROOM/LOCATION: **EXTERIOR - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **A/C UNIT - R22 - CHLORODIFLUOROMETHANE**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO164**
RESULT: **SMF - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00D - GROUND LEVEL**
ROOM/LOCATION: **DR0001 - KITCHEN - ABOVE SINK**
FEATURE/MATERIAL: **HOT WATER SERVICE INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO163**
RESULT: **SMF - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00D - GROUND LEVEL**
ROOM/LOCATION: **DR0001 - KITCHEN - BELOW SINK**
FEATURE/MATERIAL: **HOT WATER SERVICE INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

Photographs

PHOTO NO.: **J154351-001-PHOTO157**

RESULT: **ASBESTOS - POSITIVE**

BUILDING/LEVEL: **B00D - GROUND LEVEL**

ROOM/LOCATION: **DR0007 - SCANN/RECORDS STORAGE - THROUGHOUT**

FEATURE/MATERIAL: **FLOOR COVERING - VINYL TILES & ADHESIVE**

SAMPLE NO.: **J154351-001-049**

PHOTO NO.: **J154351-001-PHOTO158**

RESULT: **ASBESTOS - POSITIVE**

BUILDING/LEVEL: **B00D - GROUND LEVEL**

ROOM/LOCATION: **DR0007 - SCANN/RECORDS STORAGE - THROUGHOUT**

FEATURE/MATERIAL: **FLOOR COVERING - VINYL TILES & ADHESIVE**

SAMPLE NO.: **J154351-001-049**

PHOTO NO.: **J154351-001-PHOTO171**

RESULT: **ASBESTOS - PRESUMED POSITIVE**

BUILDING/LEVEL: **B00D - GROUND LEVEL**

ROOM/LOCATION: **DR0014 - ELECTRICAL CUPBOARD - WEST**

FEATURE/MATERIAL: **ELECTRICAL - SWITCH BOARD - COMPRESSED BITUMINOUS ELECTRICAL PANEL**

SAMPLE NO.: **NOT SAMPLED LIVE ELECTRICAL HAZARD**

PHOTO NO.: **J154351-001-PHOTO170**

RESULT: **ASBESTOS - PRESUMED POSITIVE**

BUILDING/LEVEL: **B00D - GROUND LEVEL**

ROOM/LOCATION: **DR0016 - ELECTRICAL CUPBOARD - SOUTH**

FEATURE/MATERIAL: **ELECTRICAL - SWITCH BOARD - COMPRESSED BITUMINOUS ELECTRICAL PANEL**

SAMPLE NO.: **NOT SAMPLED LIVE ELECTRICAL HAZARD**

PHOTO NO.: **J154351-001-PHOTO169**

RESULT: **ASBESTOS - PRESUMED POSITIVE**

BUILDING/LEVEL: **B00D - GROUND LEVEL**

ROOM/LOCATION: **DR0017 - PLANT ROOM - EAST**

FEATURE/MATERIAL: **ELECTRICAL - SWITCH BOARD - COMPRESSED BITUMINOUS ELECTRICAL PANEL**

SAMPLE NO.: **NOT SAMPLED LIVE ELECTRICAL HAZARD**

PHOTO NO.: **J154351-001-PHOTO168**

RESULT: **ASBESTOS - PRESUMED POSITIVE**

BUILDING/LEVEL: **B00D - GROUND LEVEL**

ROOM/LOCATION: **DR0017 - PLANT ROOM - EAST**

FEATURE/MATERIAL: **ELECTRICAL - SWITCH BOARD - COMPRESSED BITUMINOUS ELECTRICAL PANEL**

SAMPLE NO.: **NOT SAMPLED LIVE ELECTRICAL HAZARD**

Photographs

PHOTO NO.: **J154351-001-PHOTO166**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00D - GROUND LEVEL**
ROOM/LOCATION: **DR0017 - PLANT ROOM - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO167**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00D - GROUND LEVEL**
ROOM/LOCATION: **DR0017 - PLANT ROOM - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO174**
RESULT: **SMF - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00D - GROUND LEVEL**
ROOM/LOCATION: **DR0019 - STAFF KITCHEN/LUNCH ROOM - ABOVE SINK**
FEATURE/MATERIAL: **HOT WATER SERVICE INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO173**
RESULT: **SMF - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00D - GROUND LEVEL**
ROOM/LOCATION: **DR0019 - STAFF KITCHEN/LUNCH ROOM - BELOW SINK**
FEATURE/MATERIAL: **HOT WATER SERVICE INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO177**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00D - GROUND LEVEL**
ROOM/LOCATION: **DR0022 - PLANT ROOM - SOUTH**
FEATURE/MATERIAL: **DUCTWORK INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO176**
RESULT: **ASBESTOS - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00D - GROUND LEVEL**
ROOM/LOCATION: **DR0022 - PLANT ROOM - WEST**
FEATURE/MATERIAL: **ELECTRICAL - SWITCH BOARD - COMPRESSED BITUMINOUS ELECTRICAL PANEL**
SAMPLE NO.: **NOT SAMPLED HEIGHT RESTRICTED**

Photographs

PHOTO NO.: **J154351-001-PHOTO180**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00D - GROUND LEVEL**
ROOM/LOCATION: **DR0023 - PLANT ROOM - NORTH**
FEATURE/MATERIAL: **DUCTWORK INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO179**
RESULT: **ASBESTOS - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00D - GROUND LEVEL**
ROOM/LOCATION: **DR0023 - PLANT ROOM - NORTH**
FEATURE/MATERIAL: **ELECTRICAL - SWITCH BOARD - COMPRESSED BITUMINOUS ELECTRICAL PANEL**
SAMPLE NO.: **NOT SAMPLED HEIGHT RESTRICTED**

PHOTO NO.: **J154351-001-PHOTO187**
RESULT: **ASBESTOS - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00D - LEVEL ONE**
ROOM/LOCATION: **ALL AREAS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **EAVES - FIBRE CEMENT SHEETING**
SAMPLE NO.: **NOT SAMPLED HEIGHT RESTRICTED**

PHOTO NO.: **J154351-001-PHOTO188**
RESULT: **ASBESTOS - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00D - LEVEL ONE**
ROOM/LOCATION: **ALL AREAS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **EAVES - FIBRE CEMENT SHEETING**
SAMPLE NO.: **NOT SAMPLED HEIGHT RESTRICTED**

PHOTO NO.: **J154351-001-PHOTO146**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00D - LEVEL ONE**
ROOM/LOCATION: **ALL ROOMS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO151**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00D - LEVEL ONE**
ROOM/LOCATION: **ALL ROOMS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

Photographs

PHOTO NO.: **J154351-001-PHOTO156**
RESULT: **SMF - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00D - LEVEL ONE**
ROOM/LOCATION: **DR1002 - KITCHEN - ABOVE SINK**
FEATURE/MATERIAL: **HOT WATER SERVICE INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO155**
RESULT: **SMF - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00D - LEVEL ONE**
ROOM/LOCATION: **DR1002 - KITCHEN - BELOW SINK**
FEATURE/MATERIAL: **HOT WATER SERVICE INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO141**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00D - LEVEL ONE**
ROOM/LOCATION: **DR1009 - PLANT ROOM - NORTH**
FEATURE/MATERIAL: **DUCTWORK INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO139**
RESULT: **ASBESTOS - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00D - LEVEL ONE**
ROOM/LOCATION: **DR1009 - PLANT ROOM - NORTH**
FEATURE/MATERIAL: **ELECTRICAL - SWITCH BOARD - COMPRESSED BITUMINOUS ELECTRICAL PANEL**
SAMPLE NO.: **NOT SAMPLED HEIGHT RESTRICTED**

PHOTO NO.: **J154351-001-PHOTO144**
RESULT: **ASBESTOS - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00D - LEVEL ONE**
ROOM/LOCATION: **DR1014 - ELECTRICAL CUPBOARD - WEST**
FEATURE/MATERIAL: **ELECTRICAL - SWITCH BOARD - COMPRESSED BITUMINOUS ELECTRICAL PANEL**
SAMPLE NO.: **NOT SAMPLED LIVE ELECTRICAL HAZARD**

PHOTO NO.: **J154351-001-PHOTO148**
RESULT: **ASBESTOS - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00D - LEVEL ONE**
ROOM/LOCATION: **DR1019 - PLANT ROOM - EAST**
FEATURE/MATERIAL: **ELECTRICAL - SWITCH BOARD - COMPRESSED BITUMINOUS ELECTRICAL PANEL**
SAMPLE NO.: **NOT SAMPLED HEIGHT RESTRICTED**

Photographs

PHOTO NO.: **J154351-001-PHOTO149**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00D - LEVEL ONE**
ROOM/LOCATION: **DR1019 - PLANT ROOM - NORTH**
FEATURE/MATERIAL: **DUCTWORK INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO191**
RESULT: **ODS - POSITIVE**
BUILDING/LEVEL: **B00K - GROUND LEVEL**
ROOM/LOCATION: **EXTERIOR - SOUTH**
FEATURE/MATERIAL: **A/C UNIT - R22 - CHLORODIFLUOROMETHANE**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO009**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00K - GROUND LEVEL**
ROOM/LOCATION: **KR0001 - ADMIN - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO008**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00K - GROUND LEVEL**
ROOM/LOCATION: **KR0003 - FEMALE TOILET/SHOWER/LOCKER - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO010**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00K - GROUND LEVEL**
ROOM/LOCATION: **KR0004 - CLEANERS STORE - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO011**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00K - GROUND LEVEL**
ROOM/LOCATION: **KR0005 - KITCHEN - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

Photographs

PHOTO NO.: **J154351-001-PHOTO007**

RESULT: **SMF - PRESUMED POSITIVE**

BUILDING/LEVEL: **B00K - GROUND LEVEL**

ROOM/LOCATION: **KR0007 - SERVICE AREA - CENTRAL**

FEATURE/MATERIAL: **HOT WATER SERVICE INSULATION - INSULATION MATERIAL**

SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO006**

RESULT: **SMF - POSITIVE**

BUILDING/LEVEL: **B00K - GROUND LEVEL**

ROOM/LOCATION: **KR0008 - MENS LOCKER/AIRLOCK AREA - VARIOUS THROUGHOUT**

FEATURE/MATERIAL: **INSULATION - INSULATION MATERIAL**

SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO004**

RESULT: **SMF - POSITIVE**

BUILDING/LEVEL: **B00K - GROUND LEVEL**

ROOM/LOCATION: **KR0008 - MENS SHOWER - VARIOUS THROUGHOUT**

FEATURE/MATERIAL: **INSULATION - INSULATION MATERIAL**

SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO005**

RESULT: **SMF - POSITIVE**

BUILDING/LEVEL: **B00K - GROUND LEVEL**

ROOM/LOCATION: **KR0008 - MENS TOILET - VARIOUS THROUGHOUT**

FEATURE/MATERIAL: **INSULATION - INSULATION MATERIAL**

SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO001**

RESULT: **ASBESTOS - PRESUMED POSITIVE**

BUILDING/LEVEL: **B00K - GROUND LEVEL**

ROOM/LOCATION: **KR0009 - ELECTRICAL CUPBOARD - EAST**

FEATURE/MATERIAL: **ELECTRICAL - SWITCH BOARD - COMPRESSED BITUMINOUS ELECTRICAL PANEL**

SAMPLE NO.: **NOT SAMPLED LIVE ELECTRICAL HAZARD**

PHOTO NO.: **J154351-001-PHOTO096**

RESULT: **ASBESTOS - POSITIVE**

BUILDING/LEVEL: **B00E - ALL LEVELS**

ROOM/LOCATION: **ALL AREAS - VARIOUS THROUGHOUT**

FEATURE/MATERIAL: **INFILL PANELS - COMPRESSED CEMENT SHEETING**

SAMPLE NO.: **PREVIOUSLY SAMPLED GREENCAP J146932-02-002-024**

Photographs

PHOTO NO.: **J154351-001-PHOTO097**
RESULT: **ASBESTOS - POSITIVE**
BUILDING/LEVEL: **B00E - ALL LEVELS**
ROOM/LOCATION: **ALL AREAS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **INFILL PANELS - COMPRESSED CEMENT SHEETING**
SAMPLE NO.: **PREVIOUSLY SAMPLED GREENCAP J146932-02-002-024**

PHOTO NO.: **J154351-001-PHOTO193**
RESULT: **ODS - POSITIVE**
BUILDING/LEVEL: **B00E - GROUND LEVEL**
ROOM/LOCATION: **EXTERIOR - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **A/C UNIT - R22 - CHLORODIFLUOROMETHANE**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO065**
RESULT: **SMF - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00E - GROUND LEVEL**
ROOM/LOCATION: **ER0001 - OPEN OFFICE - ABOVE SINK**
FEATURE/MATERIAL: **HOT WATER SERVICE INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO064**
RESULT: **SMF - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00E - GROUND LEVEL**
ROOM/LOCATION: **ER0001 - OPEN OFFICE - BELOW SINK**
FEATURE/MATERIAL: **HOT WATER SERVICE INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO067**
RESULT: **ASBESTOS - POSITIVE**
BUILDING/LEVEL: **B00E - GROUND LEVEL**
ROOM/LOCATION: **ER0002 - PLANT ROOM - SOUTH**
FEATURE/MATERIAL: **WALL LINING - FIBRE CEMENT SHEETING**
SAMPLE NO.: **PREVIOUSLY SAMPLED GREENCAP J146932-02-002-024**

PHOTO NO.: **J154351-001-PHOTO068**
RESULT: **ASBESTOS - POSITIVE**
BUILDING/LEVEL: **B00E - GROUND LEVEL**
ROOM/LOCATION: **ER0002 - PLANT ROOM - SOUTH**
FEATURE/MATERIAL: **WALL LINING - FIBRE CEMENT SHEETING**
SAMPLE NO.: **PREVIOUSLY SAMPLED GREENCAP J146932-02-002-024**

Photographs

PHOTO NO.: **J154351-001-PHOTO066**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00E - GROUND LEVEL**
ROOM/LOCATION: **ER0002 - PLANT ROOM - THROUGHOUT**
FEATURE/MATERIAL: **INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO072**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00E - GROUND LEVEL**
ROOM/LOCATION: **ER0002 - PLANT ROOM - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **DUCTWORK INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO073**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00E - GROUND LEVEL**
ROOM/LOCATION: **ER0002 - PLANT ROOM - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **DUCTWORK INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO095**
RESULT: **ASBESTOS - POSITIVE**
BUILDING/LEVEL: **B00E - GROUND LEVEL**
ROOM/LOCATION: **ER1014 - STAIRWELL - WEST**
FEATURE/MATERIAL: **INFILL PANELS - COMPRESSED CEMENT SHEETING**
SAMPLE NO.: **PREVIOUSLY SAMPLED GREENCAP J146932-02-002-024**

PHOTO NO.: **J154351-001-PHOTO104**
RESULT: **ASBESTOS - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00E - SUB-FLOOR**
ROOM/LOCATION: **ALL AREAS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **DEBRIS - FIBRE CEMENT SHEETING**
SAMPLE NO.: **SIMILAR TO: J154351-001-032**

PHOTO NO.: **J154351-001-PHOTO102**
RESULT: **ASBESTOS - POSITIVE**
BUILDING/LEVEL: **B00E - SUB-FLOOR**
ROOM/LOCATION: **ALL AREAS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **PACKER - FIBRE CEMENT SHEETING**
SAMPLE NO.: **J154351-001-032**

Photographs

PHOTO NO.: **J154351-001-PHOTO116**
RESULT: **ASBESTOS - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00E - LEVEL ONE**
ROOM/LOCATION: **ALL AREAS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **EAVES - FIBRE CEMENT SHEETING**
SAMPLE NO.: **NOT SAMPLED HEIGHT RESTRICTED**

PHOTO NO.: **J154351-001-PHOTO081**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00E - LEVEL ONE**
ROOM/LOCATION: **ALL ROOMS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO080**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00E - LEVEL ONE**
ROOM/LOCATION: **ALL ROOMS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO082**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00E - LEVEL ONE**
ROOM/LOCATION: **ALL ROOMS - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO103**
RESULT: **ASBESTOS - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00E - LEVEL ONE**
ROOM/LOCATION: **ER1004 - PLANT ROOM - EAST**
FEATURE/MATERIAL: **ELECTRICAL - SWITCH BOARD - COMPRESSED BITUMINOUS ELECTRICAL PANEL**
SAMPLE NO.: **NOT SAMPLED LIVE ELECTRICAL HAZARD**

PHOTO NO.: **J154351-001-PHOTO087**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00E - LEVEL ONE**
ROOM/LOCATION: **ER1004 - PLANT ROOM - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **DUCTWORK INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

Photographs

PHOTO NO.: **J154351-001-PHOTO077**
RESULT: **ASBESTOS - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00E - LEVEL ONE**
ROOM/LOCATION: **ER1008 - OPEN OFFICE - CENTRAL**
FEATURE/MATERIAL: **SAFE - INSULATION**
SAMPLE NO.: **NOT SAMPLED RESTRICTED ACCESS**

PHOTO NO.: **J154351-001-PHOTO084**
RESULT: **ASBESTOS - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00E - LEVEL ONE**
ROOM/LOCATION: **ER1009 - PLANT ROOM - EAST**
FEATURE/MATERIAL: **ELECTRICAL - SWITCH BOARD - COMPRESSED BITUMINOUS ELECTRICAL PANEL**
SAMPLE NO.: **NOT SAMPLED LIVE ELECTRICAL HAZARD**

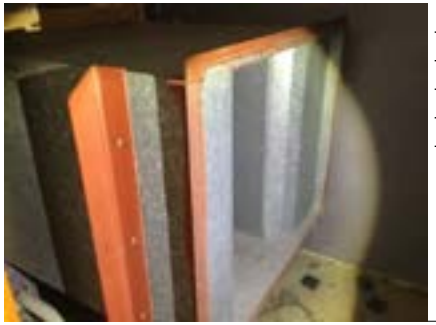

PHOTO NO.: **J154351-001-PHOTO088**
RESULT: **SMF - POSITIVE**
BUILDING/LEVEL: **B00E - LEVEL ONE**
ROOM/LOCATION: **ER1009 - PLANT ROOM - VARIOUS THROUGHOUT**
FEATURE/MATERIAL: **DUCTWORK INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO091**
RESULT: **SMF - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00E - LEVEL ONE**
ROOM/LOCATION: **ER1012 - KITCHENETTE - ABOVE SINK**
FEATURE/MATERIAL: **HOT WATER SERVICE INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

PHOTO NO.: **J154351-001-PHOTO090**
RESULT: **SMF - PRESUMED POSITIVE**
BUILDING/LEVEL: **B00E - LEVEL ONE**
ROOM/LOCATION: **ER1012 - KITCHENETTE - BELOW SINK**
FEATURE/MATERIAL: **HOT WATER SERVICE INSULATION - INSULATION MATERIAL**
SAMPLE NO.: **-**

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Unit 1B – 2 Lyell Street
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www.greencap.com.au

Lab Report Date: Tuesday, 13/03/2018

Our ref: C107471:J154351 - 001

Adam Gonlag
Department of Education
GPO Box 4037
SYDNEY NSW 2001

Dear Adam,

Re: Asbestos Identification Analysis - Smalls Road Public School, Smalls Road, North Ryde NSW 2113

This letter presents the results of asbestos fibre identification analysis performed on 51 samples collected by Kasinathan Rajaram of Greencap on Wednesday, 21 February 2018. The samples were collected from Smalls Road Public School, Smalls Road, North Ryde NSW 2113.

All sample analysis was performed using polarised light microscopy, including dispersion staining in our Canberra Laboratory by the method of Australian Standard AS4964-2004 and supplementary work instruction in house method NALAB 302 Asbestos Identification.

The analysis was completed on Wednesday, 28 February 2018.

The samples will be kept for six months and then disposed of, unless otherwise directed.

The results of the asbestos identification analysis are presented in the appended table.

Should you require further information please contact our project manager Adrian Spankie.

Yours sincerely,
Greencap

Jhon Quinones : Approved Identifier

Holly Kitamura : Approved Signatory

NATA
WORLD RECOGNISED ACCREDITATION

Canberra Laboratory
Sample Analysis Results

GREENCAP

Report Date: Tuesday, 13/03/2018 Our ref: C107471:J154351 - 001

Site Location:	Smalls Road Public School, Smalls Road, North Ryde NSW 2113	
	Sample ID	**Sample Location/Description/Weight or Size**	**Analysis Result**
1	J154351 - 001 - 001	B00K - Interior - Ground Level - KR0001 - Admin - Throughout - Floor Covering - Sheet Vinyl & Adhesive - Cream Cream brittle vinyl material and associated amber adhesive material ~ 65 x 50 x 3 mm	No Asbestos Detected Organic Fibres
2	J154351 - 001 - 002	B00K - Interior - Ground Level - KR0001 - Admin - Throughout - Floor Covering - Sheet Vinyl & Adhesive - Blue Blue flexible vinyl material and associated amber adhesive material ~ 75 x 65 x 3 mm	No Asbestos Detected Organic Fibres
3	J154351 - 001 - 003	B00K - Exterior - Ground Level - Exterior - East & West - Infill Panels - High Level - Above glass doors and windows - Fibre Cement Sheeting Blue painted grey fibre-cement sheet material ~ 20 x 10 x 3 mm	No Asbestos Detected Organic Fibres
4	J154351 - 001 - 004	B00K - Exterior - Ground Level - Exterior - North & South - Infill Panels - High Level - Above glass doors and windows - Above glass windows and doors. Dark grey painted grey fibre-cement sheet material ~ 20 x 9 x 3 mm	No Asbestos Detected Organic Fibres
5	J154351 - 001 - 005	B00A - Interior - Ground Level - AR0001 - Admin - Throughout - Ceiling Lining - Vermiculite Gold-grey compressed/formed powder, mica vermiculite-type material ~ 40 x 30 x 5 mm	No Asbestos Detected
6	J154351 - 001 - 006	B00A - Interior - Ground Level - AR0005 - Kitchen - Throughout - Floor Covering - Sheet Vinyl & Adhesive - Green Green flexible vinyl material and associated amber adhesive material ~ 60 x 60 x 3 mm	No Asbestos Detected Organic Fibres
7	J154351 - 001 - 007	B00A - Interior - Ground Level - AR0005 - Kitchen - Below sink - Sink Pad - Bituminous Material Black-brown compressed bituminous material ~ 20 x 15 x 4 mm	No Asbestos Detected
8	J154351 - 001 - 008	B00A - Interior - Ground Level - AR0009 - Plant Room - West - Above orange-painted electrical switchboard - Wall Lining - Fibre Cement Sheeting Unpainted gery fibre-cement sheet material ~ 15 x 12 x 3 mm	No Asbestos Detected Organic Fibres
9	J154351 - 001 - 009	B00A - Interior - Ground Level - AR0009 - Plant Room - Various Throughout - Air Conditioning Ductwork - Mastic Sealant - Grey Grey rubbery mastic material ~ 10 x 5 x 2 mm	No Asbestos Detected
10	J154351 - 001 - 010	B00A - Exterior - Ground Level - Exterior - Various Throughout - Eaves - Fibre Cement Sheeting Grey painted fibre-cement sheet material ~ 15 x 6 x 2 mm	**Chrysotile (white asbestos)** **Amosite (brown asbestos)** **Crocidolite (blue asbestos)**

Canberra Laboratory
Sample Analysis Results

GREENCAP

Report Date: Tuesday, 13/03/2018 Our ref: C107471:J154351 - 001

Site Location:	Smalls Road Public School, Smalls Road, North Ryde NSW 2113		
	Sample ID	**Sample Location/Description/Weight or Size**	**Analysis Result**
11	J154351 - 001 - 011	B00A - Interior - Ground Level - All rooms - Various Throughout - Window Frames - Putty White hardened mastic material ~ 25 x 10 x 4 mm	No Asbestos Detected
12	J154351 - 001 - 012	B00A - Interior - Ground Level - All rooms - Various Throughout - Window Frames - Bituminous Material - Black Black-brown bituminous material ~ 15 x 12 x 2 mm	No Asbestos Detected Organic Fibres
13	J154351 - 001 - 013	B00A - Interior - Sub-Floor - All areas - Various Throughout - Debris - Fibre Cement Sheeting Unpainted grey fibre-cement sheet material ~ 50 x 30 x 5 mm	No Asbestos Detected Organic Fibres
14	J154351 - 001 - 014	B00A - Interior - Sub-Floor - All areas - Various Throughout - Packer - Fibre Cement Sheeting Unpainted grey fibre-cement sheet material ~ 45 x 25 x 5 mm	**Chrysotile (white asbestos)** **Amosite (brown asbestos)** **Crocidolite (blue asbestos)**
15	J154351 - 001 - 015	B00A - Interior - Sub-Floor - All areas - Various Throughout - Debris - Fibre Cement Sheeting Unpainted grey fibre-cement sheet material ~ 22 x 15 x 5 mm	**Chrysotile (white asbestos)** **Amosite (brown asbestos)** **Crocidolite (blue asbestos)**
16	J154351 - 001 - 016	B00A - Interior - Sub-Floor - All areas - Various Throughout - Debris - Compressed Cement Sheeting Unpainted grey fibre-cement sheet material ~ 53 x 25 x 5 mm	No Asbestos Detected Organic Fibres
17	J154351 - 001 - 017	B00A - Interior - Sub-Floor - All areas - Various Throughout - Debris - Fibre Cement Sheeting Unpainted grey fibre-cement sheet material ~ 45 x 35 x 5 mm	**Chrysotile (white asbestos)** **Amosite (brown asbestos)** **Crocidolite (blue asbestos)**
18	J154351 - 001 - 018	B00A - Exterior - Ground Level - Exterior - South - Adjacent APAC air-conditioning unit - Telecommunications Pit - Moulded Fibre Cement Unpainted grey cementitious material ~ 16 x 6 x 4 mm	No Asbestos Detected Organic Fibres
19	J154351 - 001 - 019	B00E - Interior - Ground Level - ER0001 - Open Office - Throughout - Ceiling Lining - Vermiculite Gold-grey compressed/formed powder, mica vermiculite-type material ~ 60 x 15 x 3 mm	No Asbestos Detected Organic Fibres
20	J154351 - 001 - 020	B00E - Interior - Ground Level - ER0006 - Cabin Office - Throughout - Underneath carpet - Floor Covering - Sheet Vinyl & Adhesive - Red Red flexible vinyl material and associated amber adhesive material ~ 60 x 45 x 2 mm	No Asbestos Detected Organic Fibres

Canberra Laboratory
Sample Analysis Results

GREENCAP

Report Date: Tuesday, 13/03/2018

Our ref: C107471:J154351 - 001

Site Location:	Smalls Road Public School, Smalls Road, North Ryde NSW 2113		
	Sample ID	Sample Location/Description/Weight or Size	Analysis Result
21	J154351 - 001 - 021	B00E - Interior - Ground Level - ER0001 - Open Office - Various Throughout - Window Frames - Putty Grey hardened mastic material ~ 30 x 15 x 3 mm	No Asbestos Detected Organic Fibres
22	J154351 - 001 - 022	B00E - Interior - Ground Level - ER0002 - Plant Room - Central - Air Conditioning Ductwork - Mastic Sealant Grey rubbery mastic material ~ 13 x 5 x 3 mm	No Asbestos Detected
23	J154351 - 001 - 023	B00E - Interior - Level One - ER1009 - Plant Room - Various Throughout - Floor Covering - Vinyl Tiles & Adhesive - Cream Cream brittle vinyl material and attached brown woven fibrous hessian-type matting material ~ 100 x 85 x 3 mm	No Asbestos Detected Organic Fibres
24	J154351 - 001 - 024	B00E - Interior - Level One - ER1009 - Plant Room - Various Throughout - Floor Covering - Vinyl Tiles & Adhesive - Grey Grey brittle vinyl material and attached brown woven fibrous hessian-type matting material ~ 90 x 50 x 3 mm	No Asbestos Detected Organic Fibres
25	J154351 - 001 - 025	B00E - Interior - Level One - ER1008 - Open Office - Throughout - Underneath carpet - Floor Covering - Vinyl Tiles & Adhesive - Cream/grey Grey brittle vinyl material and attached brown woven fibrous hessian-type matting material ~ 100 x 65 x 4 mm	No Asbestos Detected Organic Fibres
26	J154351 - 001 - 026	B00E - Interior - Level One - ER1009 - Plant Room - Central - Air Conditioning Ductwork - Mastic Sealant - Grey Grey rubbery mastic material ~ 4 x 3 x 2 mm	No Asbestos Detected
27	J154351 - 001 - 027	B00E - Interior - Level One - ER1016 - Motor Room - Throughout - Floor Covering - Vinyl Tiles & Adhesive - Dark blue Dark blue brittle vinyl material and attached grey fibrous hessian-type matting material ~ 95 x 90 x 3 mm	No Asbestos Detected Organic Fibres
28	J154351 - 001 - 028	B00E - Interior - Level One - ER1012 - Kitchenette - Throughout - Floor Covering - Sheet Vinyl & Adhesive - Blue Blue brittle vinyl material and attached brown woven fibrous hessian-type matting material ~ 80 x 75 x 3 mm	No Asbestos Detected Organic Fibres
29	J154351 - 001 - 029	B00E - Exterior - Ground Level - Exterior - Southeast - Gardenbed directly to rear of male toilets - Debris - Compressed Cement Sheeting Grey and cream painted grey fibre-cement sheet material ~ 80 x 40 x 10 mm	No Asbestos Detected Organic Fibres

Canberra Laboratory
Sample Analysis Results

GREENCAP

Report Date: Tuesday, 13/03/2018 Our ref: C107471:J154351 - 001

Site Location:	Smalls Road Public School, Smalls Road, North Ryde NSW 2113		
	Sample ID	**Sample Location/Description/Weight or Size**	**Analysis Result**
30	J154351 - 001 - 030	B00E - Exterior - Ground Level - Exterior - East - Garden bed and on concrete directly to rear of Room ER0004 - Debris - Compressed Cement Sheeting Green and cream painted grey fibre-cement sheet material ~ 95 x 50 x 5 mm	No Asbestos Detected Organic Fibres
31	J154351 - 001 - 031	B00E - Exterior - Ground Level - All areas - Various Throughout - Concrete paths - Mastic - Construction Joint Mastic - Black Black-brown compressed bituminous material ~ 20 x 15 x 8 mm	No Asbestos Detected Organic Fibres
32	J154351 - 001 - 032	B00E - Interior - Sub-Floor - All areas - Various Throughout - Packer - Fibre Cement Sheeting Unpainted grey fibre-cement sheet material ~ 105 x 50 x 5 mm	**Chrysotile (white asbestos)** **Amosite (brown asbestos)** **Crocidolite (blue asbestos)**
33	J154351 - 001 - 033	B00B - Interior - Level One - All rooms - Various Throughout - Floor Covering - Vinyl Tiles & Adhesive - Blue Brown brittle vinyl material and associated amber adhesive material ~ 75 x 75 x 3 mm	No Asbestos Detected Organic Fibres
34	J154351 - 001 - 034	B00B - Interior - Level One - All rooms - Various Throughout - Floor Covering - Vinyl Tiles & Adhesive - Black specked Black spec brittle vinyl material and associated amber adhesive material ~ 80 x 80 x 3 mm	No Asbestos Detected Organic Fibres
35	J154351 - 001 - 035	B00B - Interior - Level One - All rooms - Various Throughout - Floor Covering - Vinyl Tiles & Adhesive - Beige/grey Brown brittle vinyl material and attached brown woven fibrous hessian-type matting material ~ 95 x 85 x 3 mm	No Asbestos Detected Organic Fibres
36	J154351 - 001 - 036	B00B - Interior - Level One - All rooms - Various Throughout - Floor Covering - Vinyl Tiles & Adhesive - Black specked Grey brittle vinyl material and attached brown woven fibrous hessian-type matting material ~ 80 x 50 x 3 mm	No Asbestos Detected Organic Fibres
37	J154351 - 001 - 037	B00B - Interior - Level One - All rooms - Throughout - Ceiling Lining - Vermiculite Gold-grey compressed/formed powder, mica vermiculite-type material ~ 100 x 30 x 10 mm	No Asbestos Detected Organic Fibres
38	J154351 - 001 - 038	B00B - Interior - Level One - BR1019 - Coverd Walkway (connecting Building E & B) - Entry to Block B00B - Ceiling Lining - Fibre Cement Sheeting Cream painted grey fibre-cement sheet material ~ 20 x 10 x 3 mm	No Asbestos Detected Organic Fibres
39	J154351 - 001 - 039	B00B - Exterior - Ground Level - Exterior - Northwest - Behind plants adjacent building B00A - Telecommunications Pit - Moulded Fibre Cement Unpainted grey cementitious material ~ 15 x15 x 9 mm	No Asbestos Detected Organic Fibres

Canberra Laboratory
Sample Analysis Results

GREENCAP

Report Date: Tuesday, 13/03/2018

Our ref: C107471:J154351 - 001

Site Location:	Smalls Road Public School, Smalls Road, North Ryde NSW 2113		
	Sample ID	**Sample Location/Description/Weight or Size**	**Analysis Result**
40	J154351 - 001 - 040	B00B - Exterior - Ground Level - Exterior - Various Throughout - Concrete paths - Mastic - Construction Joint Mastic - Black Black-brown compressed bituminous material ~ 70 x 20 x 10 mm	No Asbestos Detected Organic Fibres
41	J154351 - 001 - 041	B00D - Interior - Level One - All rooms - Throughout - Ceiling Lining - Vermiculite Gold-grey compressed/formed powder, mica vermiculite-type material ~ 35 x 35 x 3 mm	No Asbestos Detected Organic Fibres
42	J154351 - 001 - 042	B00D - Interior - Level One - All rooms - Various Throughout - Window Frames - Putty Grey hardened mastic material ~ 20 x 15 x 5 mm	No Asbestos Detected
43	J154351 - 001 - 043	B00D - Interior - Level One - DR1009 - Plant Room - Throughout - Floor Covering - Vinyl Tiles & Adhesive - Brown Brown flexible vinyl material and associated amber adhesive material ~ 55 x 40 x 2 mm	No Asbestos Detected
44	J154351 - 001 - 044	B00D - Interior - Level One - All rooms - Throughout - Underneath carpet - Floor Covering - Vinyl Tiles & Adhesive - Blue Blue brittle vinyl material and associated amber adhesive material ~ 95 x 30 x 3 mm	No Asbestos Detected Organic Fibres
45	J154351 - 001 - 045	B00D - Interior - Level One - DR1009 - Plant Room - Various Throughout - Air Conditioning Ductwork - Mastic Sealant - Grey Grey rubbery mastic material ~ 20 x 4 x 3 mm	No Asbestos Detected
46	J154351 - 001 - 046	B00D - Interior - Level One - DR1014 - Electrical Cupboard - Various Throughout - Floor Covering - Vinyl Tiles & Adhesive Grey brittle vinyl material and attached brown woven fibrous hessian-type matting material ~ 100 x 50 x 3 mm	No Asbestos Detected Organic Fibres
47	J154351 - 001 - 047	B00D - Interior - Level One - DR1002 - Kitchen - Throughout - Floor Covering - Sheet Vinyl & Adhesive - Grey and blue specked Grey and blue spec brittle vinyl material and attached brown woven fibrous hessian-type matting material ~ 70 x 5 x 3 mm	No Asbestos Detected Organic Fibres
48	J154351 - 001 - 048	B00D - Interior - Level One - DR1003 - Cleaners - Throughout - Floor Covering - Sheet Vinyl & Adhesive - Bluish-green Light blue flexible vinyl material and associated amber adhesive material ~ 77 x 70 x 3 mm	No Asbestos Detected Organic Fibres

Canberra Laboratory
Sample Analysis Results

GREENCAP

Report Date: Tuesday, 13/03/2018 Our ref: C107471:J154351 - 001

Site Location:	Smalls Road Public School, Smalls Road, North Ryde NSW 2113	
	Sample ID	**Sample Location/Description/Weight or Size**	**Analysis Result**
49	J154351 - 001 - 049	B00D - Interior - Ground Level - DR0007 - Scann/Records Storage - Throughout - Underneath carpet - Floor Covering - Vinyl Tiles & Adhesive - Bluish-green A. Green brittle vinyl material B. Black-brown bituminous, fibrous adhesive material attached to underside of sample 49A ~ A. 130 x 60 x 3 mm B. A. 130 x 60 x <1 mm	**A. Chrysotile (white asbestos)** **B. No Asbestos Detected** **Organic Fibres**
50	J154351 - 001 - 050	B00D - Interior - Ground Level - DR0006 - Entry - Throughout - Floor Covering - Sheet Vinyl & Adhesive - Green Green flexible vinyl material and associated amber adhesive material ~ 80 x 50 x 2 mm	No Asbestos Detected Organic Fibres
51	J154351 - 001 - 051	B00D - Interior - Ground Level - DR0008 - Archive Room - Various Throughout - Window Frames - Mastic Sealant - Black Black-brown bituminous material ~ 20 x 10 x 1 mm	No Asbestos Detected Organic Fibres

*** Shaded row with bolded text indicates sample contains a positive result for asbestos.**

Asbestos

This assessment was undertaken in accordance with the following documents and within the constraints of the scope of works:

How to Manage and Control Asbestos in the Workplace: Code of Practice (SafeWork Australia, 2016)
NSW Work Health & Safety Regulation 2017

51 representative sample(s) of suspected asbestos-containing material were collected and placed in plastic bags with clip-lock seals. These samples were analysed in Greencap's NATA-accredited laboratory for the presence of asbestos by Polarised Light Microscopy.

Where it was determined that asbestos was present, a risk and priority assessment was conducted in accordance with Greencap's standard Risk Assessment and Priority Ranking System. Refer to section on Priority Rating System for detailed information on this system.

Inaccessible areas that are likely to contain asbestos have been assumed to contain asbestos until further inspection and analysis of samples has been undertaken by an approved analyst.

A strategy of using representative samples of suspected asbestos-containing materials has been used to minimise the number of samples and degree of disturbance. Because of this strategy, findings of the audit should be interpreted such that all visually similar materials in the same vicinity must be assumed to be composed of the same material until proven otherwise.

Limited destructive sampling techniques have been used to gain access into restricted areas for the purpose of determining the likelihood of hazardous materials in these areas. Due to the nature of the survey methodology, it is possible that not every area of the site have been accessed. Reference should be made to the 'Areas Not Accessible' section of this report for further details. Subject to the limitations associated with the scope of works, this audit was conducted in accordance with the requirements of AS 2601-2001 The Demolition of Structures and the Demolition Work Code of Practice (Safe Work Australia, 2016).

Synthetic Mineral Fibre (SMF)

Accessible areas where Synthetic Mineral Fibre (SMF) insulation was visually confirmed as being present were noted to give a general indication to the presence of SMF materials throughout the building.

Polychlorinated Biphenyls (PCBs)

Representative light fittings containing capacitors were inspected where safely practicable and details noted for cross-referencing with the ANZECC Identification of PCB-Containing Capacitors - 1997. Where metal capacitors were not listed on the database, these capacitors are noted as suspected to contain polychlorinated biphenyls.

Lead Paint

0 LeadCheck paint swab test was taken of representative painted surfaces to determine the presence of lead within paint. This method can give an instantaneous qualitative result and reproducibly detect lead in paints at concentrations of 0.5% (5,000ppm) and above, and may indicate lead in some paint films as low as 0.2% (2,000ppm). The sampling program was representative of the various types of paints found within the site, concentrating on areas where lead based paints may have been used (Eg. Gloss paints on doors, railings, guttering and downpipes, columns, window and door architraves, skirting boards etc). The objective of lead paint identification in this survey is to highlight the presence of lead-based paints within the building, not to specifically quantify every source of lead-based paint.

Where possible, painted surfaces returning a positive result for lead using the LeadCheck paint swab method were sampled. 0 paint chip samples were collected in clip-lock plastic bags and sent to an external NATA-accredited laboratory for analysis of lead content (represented as a percentage) by ICP-AES methods.

Lead Dust

The collection and analysis of 0 suspected lead containing dust samples were conducted in accordance with AS 4874-2000 'Guide to the Investigation of Potentially Contaminated Soil and Deposited Dust as a Source of Lead Available to Humans' and analysed in an external NATA-accredited laboratory by ICP-AES methods. Refer to Lead Sample Analysis Report.

Ozone Depleting Substances (ODSs)

Representative items of air conditioning and chiller plant suspected of containing ozone-depleting substances (ODSs) were noted and cross referenced with known ozone-depleting gases published by the United Nations Environment Program.

Methodology

Limited destructive sampling techniques have been used to gain access into restricted areas for the purpose of determining the likelihood of hazardous materials in these areas. Due to the nature of the survey methodology, it is possible that not every area of the site have been accessed. Reference should be made to the 'Areas Not Accessible' section of this report for further details. Subject to the limitations associated with the scope of works, this audit was conducted in accordance with the requirements of AS 2601-2001 The Demolition of Structures and the Demolition Work Code of Practice (Safe Work Australia, 2016).

Risk Assessment Factors - Asbestos

The presence of asbestos-containing materials (ACMs) does not necessarily constitute an exposure risk. However, if the ACM is sufficiently disturbed to cause the release of airborne respirable fibres, then an exposure risk may be posed to individuals. The assessment of the exposure risk posed by ACMs assesses (a) the material condition and friability, and (b) the disturbance potential.

Material Condition

The assessment factors for material condition include:

- Evidence of physical deterioration and/or water damage.
- Degree of friability of the ACM.
- Surface treatment, lining or coating (if present).
- Likelihood to sustain damage or deterioration in its current location and state.

Physical Condition and Damage

The condition of the ACM is rated as either being good, fair or poor.

Good	refers to an ACM that has not been damaged or has not deteriorated
Fair	refers to an ACM having suffered minor cracking or de-surfacing.
Poor	describes an ACM which has been damaged or its condition has deteriorated over time.

Friability and Surface Treatment

The degree of friability of ACMs describes the ease of which the material can be crumbled, and hence to release fibres, and takes into account surface treatment.

Friable asbestos
Friable asbestos or ACM is asbestos or ACM in powder form, or able to be crumbled, pulverised, or reduced to a powder by hand pressure when it is dry e.g. sprayed asbestos beam insulation (limpet), pipe lagging.

Non-friable asbestos
also referred to as bonded asbestos, typically comprises asbestos fibres tightly bound in a stable non-asbestos matrix or impregnated with a coating. Examples of non-friable asbestos products include asbestos cement materials (sheeting, pipes etc), asbestos containing vinyl floor tiles, compressed gaskets and electrical backing boards.

Disturbance Potential

In order to assess the disturbance potential, the following factors are considered:

- Requirement for access for either building work or maintenance operations.
- Likelihood and frequency of disturbance of the ACM.
- Accessibility of the ACM.
- Proximity of the ACM to air plenums and direct air stream.
- Quantity and exposed surface areas of ACM.
- Normal use and activity in area, and numbers of persons in vicinity of ACM.

These factors are used to determine (i) the potential for fibre generation, and (ii) the potential for exposure to person/s, as a rating of low, medium or high disturbance potential:

It is Greencap's understanding that all items are likely to be disturbed due to the proposed refurbishment / demolition works.

Risk Status

The risk factors described previously are used to rank the asbestos exposure risk posed by the presence of the ACM.

- A low risk rating describes ACMs that pose a low exposure risk to personnel, employees and the general public providing they stay in a stable condition, for example asbestos materials that are in good condition and have low accessibility.
- A medium risk rating applies to ACMs that pose an increased exposure risk to people in the area.
- A high risk rating applies to ACMs that pose a higher exposure risk to personnel or the public in the vicinity of the material due to their condition or disturbance potential.

Priority Actions

The following priority rating system is adopted to assist in the programming and budgeting for the control of asbestos risk identified in the assessment.

Priority 1 (P1)	**Action:**	**Restrict Access to Area &** **Organise Abatement Works as soon as practicable &** **Manage any remaining materials as part of an AMP**

Area has ACMs, which are either damaged or are being exposed via continual disturbance. Due to these conditions, there is an increased potential for exposure and/or transfer of the material to other locations with continued unrestricted use of the area. Representative asbestos fibre monitoring should be conducted in the area during normal building operation where recommended. Prompt abatement of the asbestos hazard is recommended.

As an interim, restrict access.

Priority 2 (P2)	**Action:**	**Organise Remedial Works as soon as practicable &** **Manage any remaining materials as part of an AMP**

Area has ACMs with a potential for disturbance due to the following conditions:

1. Material has been disturbed or damaged and its current condition, while not posing an immediate hazard, is unstable.
2. The material is accessible and when disturbed, can present a short-term exposure risk.
3. Demolition, renovation, refurbishment, maintenance, modification or new installations, involving air-handling systems, ceilings, lighting, fire safety systems or floor layout.

Appropriate abatement measures should be taken as soon as practicable. A negligible exposure risk exists if materials remain under the control of an Asbestos Management Plan (AMP).

Priority 3 (P3)	**Action:**	**No Short-Term Remedial Works Required** **Review periodically and Manage as part of an AMP**

Area has ACMs, where:

1. The condition of friable ACMs is currently stable and has low potential of being disturbed.
2. The ACM is currently in a non-friable form, may have slight damage, but does not present an exposure risk unless cut, drilled, sanded or otherwise abraded.

This presents a low risk of exposure where the materials are left undisturbed under the control of an Asbestos Management Plan (AMP). Defer any major action unless materials are to be disturbed as a result of maintenance, refurbishment or demolition operations.

Priority 4 (P4)	**Action:**	**No Short-Term Remedial Works Required** **Review periodically and Manage as part of an AMP**

Area has ACMs in a non-friable form and in good condition. It is unlikely that the material can be disturbed under normal circumstances and can be safely subjected to normal traffic. Even if it were subjected to minor disturbance the material poses a negligible health risk. These materials should be maintained in good condition and their condition monitored during subsequent reviews. As with any asbestos materials, these materials must be removed prior to renovations that may impact on the materials.

Where ACMs are identified in a good condition (refer to Hazardous Materials Register) these can remain in-situ unless refurbishment or demolition works impact upon the area.
The Occupational Health and Safety Regulations of most Australian states refer to a Code of Practice for guidance on identification and management of asbestos materials (ACMs) in workplaces. The requirements are summarised below.

Asbestos Management Plan (AMP)

An AMP should be developed for the site as per the Code of Practice. The AMP should be a broad ranging document detailing the following information:

- The site's asbestos material register.
- Responsibilities for relevant persons in the management of ACMs.
- Mechanisms for communicating the location, type and condition of ACMs, the risks posed by these and the control measures adopted to minimise these risks.
- Training arrangements for workers and contractors.
- A Procedure for reviewing and updating the AMP and the register.
- Air Monitoring and clearance inspection arrangements.
- Timetable for action to review risk assessments and undertake asbestos management activities.
- Records of any maintenance or service work conducted on ACMs, including clearance certificates for removed items.

Updates to Register, AMP and Risk Assessments

The asbestos register and the AMP should be reviewed (via visual inspection by a competent person) and updated at least every 5 years or earlier where a risk assessment indicates the need for a re-assessment or if any ACMs have been removed or updated as per the requirements of the Code of Practice.

Risk assessments should be reviewed regularly and as specified by the Code of Practice, particularly when there is evidence that the risk assessment is no longer valid, control measures are shown to be ineffective or there is a significant change planned for the workplace or work practices or procedures relevant to the risk assessment; or there is a change in ACM condition or ACMs have since been enclosed, encapsulated or removed.

Labelling

All confirmed or presumed ACMs (or their enclosures) should be labelled to identify the material as asbestos-containing or presumed asbestos-containing and to warn that the items should not be disturbed as per the requirements of the Code of Practice.

Training

Staff and site personnel must be provided with Asbestos Awareness training in accordance with the Code of Practice. Training should inform staff how to work safely alongside asbestos by instructing them of:.

1. The health risks associated with asbestos.
2. Their roles and responsibilities under the AMP.
3. Procedures for managing asbestos on-site.
4. The correct use of control measures and safe work methods to minimise the risks from asbestos.

Refurbishment / Demolition Requirements

This audit is limited by the Scope of Works and Methodology outlined within this report.

Generally, a new audit or revised audit is required prior to any planned refurbishment, alteration, demotion or upgrade works that may disturb ACMs at the site in accordance with Australia Standard AS 2601: The Demolition of Structures and Demolition Work Code of Practice(Safe Work Australia, Feb 2016).

Removal of Asbestos Materials

Any works involving the removal of ACMs should be undertaken by a Licensed Asbestos Removal Contractor (LARC). In addition, an appropriately qualified independent asbestos consultant / occupational hygienist should undertake asbestos fibre air monitoring during/after works, and issue a Clearance Certificate to validate the works have been undertaken safely.

All works should be conducted in accordance with legislative requirements and following the requirements of the document 'How to Safely Remove Asbestos: Code of Practice (SafeWork Australia, 2016)'.

Where ACMs are identified in a good condition (refer to Hazardous Materials Register) these can remain in-situ unless refurbishment or demolition works impact upon the area.

The Occupational Health and Safety Regulations of most Australian states have requirements for the identification and control of risks within workplaces. These broad requirements extends to the hazardous materials that may be present within the workplace. The requirements for management of hazardous materials are summarised below

Synthetic Mineral Fibre (SMF)

Synthetic Mineral Fibre (SMF) is a man-made insulation material used extensively in industrial, commercial and residential sites as fire rating, reinforcement in construction materials and as acoustic and thermal insulators. Types of SMF materials include fibreglass, rockwool, ceramic fibres and continuous glass filaments.

There are two basic forms of Synthetic Mineral Fibre (SMF) insulation, bonded and un-bonded.

- Bonded SMF is where adhesives, binders or cements have been applied to the SMF before delivery and the SMF product has a specific shape.
- Un-bonded SMF has no adhesives, binders or cements and the SMF is loose material packed into a package.

Exposure to SMF can result in short-term skin, eye and respiratory irritation. SMF is also classified as a possible human carcinogen with a possible increase in risk in lung cancer from long-term exposure.

The use of and the safe removal of SMF materials should be conducted in accordance with the National Code of Practice for the safe use of Synthetic Mineral Fibres [NOHSC: 2006 (1990)].

Polychlorinated Biphenyls (PCBs)

Polychlorinated Biphenyls (PCBs) are a toxic organochlorine used as insulating fluids in electrical equipment such as transformers, capacitors and fluorescent light ballasts that were largely banned from importation in Australia in the 1970s.

PCBs are listed as a probable human carcinogen and should be managed in accordance with the ANZECC Polychlorinated Biphenyls Management Plan, 2003. The handling and disposal of PCBs must be performed in accordance with applicable state and commonwealth environmental protection laws as scheduled PCB waste.

The following Personal Protective Equipment (PPE) should be worn when handling items containing or suspected to contain PCBs - nitrile gloves, eye protection, and disposable overalls. The PPE should be worn when removing capacitors from light fittings in case PCBs leak from the capacitor housing.

Lead Paint

Lead paint, as defined by the Australian Standard "Guidelines for the Management of Lead Based Paint, Ministry of Health, 2013", is that which contains in excess of 1% Lead by weight.

Lead carbonate (white lead) was once the main white pigment in paints for houses and public buildings. Paint with lead pigment was manufactured up until the late 1960's, and in 1969 the National Health and Medical Research Council's Uniform Paint Standard was amended to restrict lead content in domestic paint.

Lead in any form is toxic to humans when ingested or inhaled, with repeated transmission of particles cumulating in lead poisoning. Lead paint is assessed based on two potential routes of exposure. Firstly by the likelihood of inhalation or ingestion by people working in the vicinity of the paint and secondly by the condition of the paint. Paint that is flaking or in poor condition is more likely to be ingested than paint that is in a good, stable condition.

Any work relating to lead paint should be conducted in accordance with the 'National Code of Practice for the Control and Safe Use of Inorganic Lead at Work [NOHSC: 2015 (1994)]'.

Lead in Dust

Lead is ubiquitous in the urban environment, resulting from industrial processes, lead containing paint and as a by-product from the combustion of leaded petrol and other sources. Lead can accumulate as a constituent of settled dust, particularly in areas not frequently cleaned (such as ceiling spaces, plant rooms, etc) in older buildings.

There is currently no specific criteria for 'lead in dust' in Australia, however a criteria for lead in soil in residential settings of 300mg/kg is established. The use of this criteria for lead in dust is supported by a number of government agencies and papers, including the WA Department of Health 'Report on Lead Dust Monitoring in residences undertaken in Esperance Between 1 July and 8 August 2007' (December 2007), the NSW EPA document 'Managing Lead Contamination in Home Maintenance, Renovation and Demolition Practices: A Guide for Councils' (February 2003) and the EnHealth document 'Health-based Soil Investigation Levels' (March 2001).

Settled dust in ceilings, etc. is generally more finely divided than soils, and the disturbance or removal of dust with elevated lead content has the potential to exceed exposure standards for inspirable dust and lead.

Prior to undertaking any removal work, the risk for potential exposure must be assessed and consideration to conducting health surveillance and biological monitoring should be given. Since it is difficult to use engineering controls to control airborne dust levels for some dust removal work situations (e.g. enclosed ceiling spaces), there is a greater reliance on personal respiratory protection to provide a safe working environment for the workers carrying out this task. Hence, any workers undertaking such tasks should have adequate training in correct work procedures, including the selection, use and maintenance of personal protective equipment and good personal hygiene practices.

Ozone Depleting Substances (ODSs)

Ozone Depleting Substances (ODSs) are those substances which deplete the earth's ozone layer and have been widely used in a range of commercial and industrial applications. All bulk imports of these substances (except HCFCs and methyl bromide) are banned into Australia under an international agreement known as the Montreal Protocol.

Hydrochlorofluorocarbons (HCFC) are refrigerants of low ozone depleting potential that are commonly used in air-conditioning plant, chillers and condensers. HCFCs are subject to Australian Government controls on import and manufacture as part of a phase out quota system in accordance with the Montreal Protocol and the Commonwealth Ozone Protection & Synthetic Greenhouse Gas Management Act 1989. Imports of these substances will be fully banned by 2020 with only very limited supplies then available until 2030 to service remaining HCFC-dependant equipment.

Maintenance contractors working with these gases should have procedures in place to safely work with, store, handle and dispose of materials correctly.

Statement Of Limitations

This report has been prepared in accordance with the agreement between Department of Education and Greencap.

Within the limitations of the agreed upon scope of services, this work has been undertaken and performed in a professional manner, in accordance with generally accepted practices, using a degree of skill and care ordinarily exercised by members of its profession and consulting practice. No other warranty, expressed or implied, is made.

This report is solely for the use of Department of Education and any reliance on this report by third parties shall be at such party's sole risk and may not contain sufficient information for purposes of other parties or for other uses. This report shall only be presented in full and may not be used to support any other objective than those set out in the report, except where written approval with comments are provided by Greencap.

This report relates only to the identification of hazardous materials used in the construction of the building and does not include the identification of dangerous goods or hazardous substances in the form of chemicals used, stored or manufactured within the building or plant.

The following should also be noted:

While the survey has attempted to locate the hazardous materials within the site it should be noted that the review was a visual inspection and a limited sampling program was conducted and/or the analysis results of the previous report were used. Representative samples of suspect hazardous materials were collected for analysis. Other hazardous materials of similar appearance are assumed to have a similar content.

Not all suspected hazardous materials were sampled. Only those hazardous materials that were physically accessible could be located and identified. Therefore it is possible that hazardous materials, which may be concealed within inaccessible areas/voids, may not have been located during the audit. Such inaccessible areas fall into a number of categories.

(a) Locations behind locked doors;
(b) Inset ceilings or wall cavities;
(c) Those areas accessible only by dismantling equipment or performing minor localised demolition works;
(d) Service shafts, ducts etc., concealed within the building structure;
(e) Energised services, gas, electrical, pressurised vessel and chemical lines;
(f) Voids or internal areas of machinery, plant, equipment, air-conditioning ducts etc;
(g) Totally inaccessible areas such as voids and cavities created and intimately concealed within the building structure. These voids are only accessible during major demolition works;
(h) Height restricted areas
(i) Areas deemed unsafe or hazardous at time of audit.

In addition to areas that were not accessible, the possible presence of hazardous building materials may not have been assessed because it was not considered practicable as:

1. It would require unnecessary dismantling of equipment; and/or
2. It was considered disruptive to the normal operations of the building; and/or
3. It may have caused unnecessary damage to equipment, furnishings or surfaces; and/or
4. The hazardous material was not considered to represent a significant exposure risk; and
5. The time taken to determine the presence of the hazardous building material was considered prohibitive.

Only minor destructive auditing and sampling techniques were employed to gain access to those areas documented in the Hazardous Materials Register. Consequently, without substantial demolition of the building, it is not possible to guarantee that every source of hazardous material has been detected.

During the course of normal site works care should be exercised when entering any previously inaccessible areas or areas mentioned above and it is imperative that work cease pending further sampling if materials suspected of containing hazardous materials or unknown materials are encountered. Therefore during any refurbishment or demolition works, further investigations and assessment may be required should any suspect material be observed in previously inaccessible areas or areas not fully inspected previously, i.e. carpeted floors.

This report is not intended to be used for the purposes of tendering, programming of works, refurbishment works or demolition works unless used in conjunction with a specification detailing the extent of the works. To ensure its contextual integrity, the report must be read in its entirety and should not be copied, distributed or referred to in part only.