Scope of Works

for Hazmat Remediation and Demolition

Willyama High School, Broken Hill, NSW, 2880

Department of Education NSW

North Western NSW

Asset Management Unit

www.enviroscience.com.au

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Willyama High School, Broken Hill, NSW, 2880

Report No.: 31174 - R02

Site visit and assessment - 4th June 2024

Prepared For:	Prepared By:	Reviewed By:
Joseph Warman North Western NSW Asset Management Unit education.nsw.gov.au	Mark Austin EnviroScience Solutions Pty Ltd 2/3 Douglas Mawson Drive Dubbo NSW 2830	Michael Williamson EnviroScience Solutions Pty Ltd 2/3 Douglas Mawson Drive Dubbo NSW 2830

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Version 1	11/6/ 2024	Mark Austin	Michael Williamson	J Duffy
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1. Executive Summary and Scope of Works

EnviroScience Solutions Pty Ltd was engaged by the NSW Department of Education – North West Asset Management Unit to conduct a Site Assessment and Scope of Works for the mould and hazardous materials remediation of Block A, Willyama High School, Broken Hill, NSW, 2880. The assessment forms part of the planning stages prior to demolition works. The assessed area is indicated in **Figure 1**.

The reinspection of the site resulted in additional sampling and modifications to the existing hazardous materials register of the site. The identification, assessment and recommendations have been based upon the *Work Health and Safety Regulation 2017.*

Figure 1: Willyama High School, Broken Hill, NSW, 2880 – Retrieved from *Nearmap 2024*

2. Site Background

EnviroScience Solutions Pty Ltd (ES) was engaged by Mr Greg Buxton and Mr Joseph Warman, of NSW Department of Education, Level 2, 188 Macquarie Street, Dubbo, NSW 2830 to perform mould assessments and fungal air monitoring assessments (AMA) at the Willyama High School, Broken Hill, NSW 2880 in January and February 2024 following the visual identification of mould within the internal rooms. The initial assessment was to ascertain and identify the full extent of potential mould contamination within the High School, refer to Appendix B - Report: *30158 Willyama High School Microbial Testing*. Reports 30158-R04 to 30158-R07, Microbial testing clearance reports have been issued on the 15th November 2024 which includes the clearances of Internal areas of the building, significant items, documents, and electronic waste.

3. Hazardous Materials Site Update

On the 6th June 2024, at Willyama High School, an additional assessment was undertaken for further identification and sampling of potential hazardous materials including an update of the asbestos register. It should be noted that the asbestos materials have been added to the Online Asbestos Review Tool (OART), and a summary letter including the laboratory results has been attached in Appendix A. *EnviroScience_31174_ Willyama Asbestos Register Update.*

4. Results and recommendations

4.1. Mould

As per report *30158-R04 Willyama High School Microbial Testing* , the findings suggest the three (3) story Campus Building - Northern, Western and Eastern areas consisting of mainly classrooms, staffrooms and the Library, exhibited extensive visible mould on floors, walls, ceilings, furniture, books, documents, Heating Ventilation and Air Conditioning (HVAC) system(s), electronics and clothing, throughout the entire building, with the exception of the Administrative Southern section. The visual inspection and samples obtained for laboratory analysis indicate extensive, active mould growth and therefore potential elevated levels of fungal spores within the affected rooms is subsequently classified as a Condition 3 (Ref IICRC-520:2015).

The swabs and Bio-tape impressions show spores and active growth of the environmental moulds Cladosporium, Alternaria, and Mucor spp. However, there is evidence that Aspergillus and Penicillium spp,

which are recognised human pathogens are also present in several locations tested, and invariably more widespread throughout.

Porous materials generally cannot be successfully remediated under the *IICRC-520:2015 Condition 3 guidelines* and this would apply to the current vermiculite sprayed ceiling fire retardant, carpets, paper products, furnishings, HVAC insulation in ductwork, plasterboard, ceiling tiles, insulation, particle/chipboard, fibre cement sheet, medium density fibreboard and electronics, and need to be identified and considered from an economic and sustainability perspective.

4.2. Asbestos Containing Materials (ACM)

Asbestos containing materials have been identified throughout the site in non-friable condition and are recorded in the OART Asbestos register, ENVIROSCIENCE_30269_WillyamaHS Asbestos Register Letter and 31174 Willyama Asbestos register updates. It should be noted that the most recent works were undertaken in June 2024, refer to appendix A. The asbestos identification, assessment and remediation recommendations have been based upon the Work Health and Safety Regulation 2017. Further works involving asbestos should be undertaken in accordance with SafeWork NSW Code of Practice: How to manage and control asbestos in the workplace 2022 and SafeWork NSW Code of Practice: How to safely remove asbestos 2022.

4.3. Lead (Pb) based paints

Lead paint above the SafeWork NSW adopted health threshold limit of 0.1% w/w has been identified in two locations (Samples S01 and S04). Samples were obtained in accordance with and management of removal of lead paint is to be in accordance with the AS 4361.2:2017 Guide to Hazardous Paint Management, Part 2: Lead paint in residential, public and commercial buildings and NEPM 2013, Schedule B1.

4.4. Synthetic Mineral Fibres (SMF)

SMF materials were visually identified in the building as insulation type materials. No laboratory analysis of the material was undertaken. The material was in good condition and does not present a significant risk. The material should be removed in accordance with the SafeWork NSW Safe Use of Synthetic Mineral Fibres: Code of Practice.

4.5. Polychlorinated Biphenyls (PCBs)

PCBs are identified by visual observation in fluorescent light fittings with guidance from the Australian and New Zealand Environment and Conservation Council (ANZECC) checklists. Fluorescent lights were visually suspected to potentially contain PCBs in the interior areas of the building. The material should be removed in accordance with the SafeWork NSW Code of practice: Managing risks of hazardous chemicals in the workplace 2022.

4.6. Phenols

Phenols are an early form of plastic formed between Phenol and Formaldehyde and quite often bound together with the use of a fibrous material; they may sometimes even contain asbestos. The main source of phenols within buildings is Bakelite products such as electrical switches or light fittings. No phenols were identified during site inspections.

4.7. Other - Hazardous chemicals

4.7.1. Chemicals and Liquid Wastes (Science Unit)

The school has a designated hazardous chemical store area as part of the science teaching unit. The materials located within the area should be identified on the school Hazardous Material Register. The Material Safety Data Sheet (MSDS) will identify the hazardous materials within the store and recommendations for safe handling, transport and disposal of each individual product. It is recommended to utilise a chemical collection and disposal contractor to identify, remove, transport and dispose of appropriately. As each chemical has different safety risks, the minimum PPE used should be

disposable gloves, eyewear and respiratory protection in the areas of concern. The removal of these chemical and liquid wastes is currently being undertaken, if any chemical waste is remaining or discovered will need to be treated as an unexpected finds.

4.7.2. Above Ground Storage Tanks – Gas

Above-ground Storage Tanks (ASTs) have been identified and should be removed in accordance with AS 1596-2014, which identifies the preparations for removal of storage tanks.

4.7.3. Below Ground Storage Tanks

No Underground Storage Tanks (USTs) have been identified to date. An Unexpected Finds Protocol is recommended to be implemented if USTs are identified.

5. Remediation and Demolition Scope of Works

The buildings at Willyama High School are to be remediated and demolished. It is recommended that the steps and procedures outlined in this report and in the previous report 30158-R04 Willyama High School Microbial Testing, are followed.

- Identification of any structures, inventory, materials or possessions that are required to be kept or discarded.
- Mould and Fungal Remediation from internal of the property.
- Removal of all internal soft furnishings affected by mould.
- Removal of hazardous materials located within the science lab storage.
- Removal of asbestos materials identified on the premises.
- Guidance, site supervision and monitoring during the removal and remediation processes should be sought and undertaken by appropriately licensed contractors.
- Contaminant specific clearances should be carried out during and at the end of remediation, of the buildings or contents, by a qualified hygienist.
- Removal of waste and demolition materials appropriately classified

- Contaminant specific clearances and validations should be carried out after the demolition works, by a qualified hygienist/environmental scientist/Licensed Asbestos Assessor.

The final validation/clearance report will address and document and record the following in relation to the final remediation works. The Contractor is responsible for remediating the site of any contaminants associated with the demolition and the school's use of the Site. It is expected site remediation works would include, but not be limited to:

· **Demolition Debris Removal –** The site is to be free of concrete, brick, masonry, wood, metal, plastics, and the like.

· **Asbestos and Other Hazardous Materials –** The site is to be free of asbestos, lead, oil, chemicals, and the like. Copies of hygienist clearance and validation inspection reports to be provided to the Principal.

· **Soil Testing and Assessment –** As part of the hygienist's clearance inspection and report, the hygienist is to include all necessary soil testing, analysis and assessment to confirm no contaminants with-in the soil. As a minimum, soil testing should include the following:

o Sample testing for asbestos where inground asbestos pipes and conduits have been removed.

o Sample testing for petroleum, oil, diesel, and the like in the vicinity of the gas tanks, original underground oil storage tank (serving the heating system boiler), Block C Farm Shed, and any other areas where fuel driven vehicles may have been stored, and/or refuelled.

o Sample testing for chemicals, acids, food grease, heavy metals, oils, etc around the locations of the inground grease trap and sediment traps serving the food technology, science, woodwork and metalwork areas of the buildings.

o Sample testing for asbestos, lead, other heavy metals, chemicals, oils and the like, in a grid pattern (max 15m spacing between samples in any direction), to the entire footprint area plus 3 metres of all structures and pavement slabs to be demolished.

· **Contaminated Soil Removal and Disposal –** Where the testing and analysis identifies any soil contamination, determine the extent of the contamination, and remove and dispose, or remediate, all the contaminated soil in the appropriate manner for the type of contamination found.

Where the soil contamination is the result of the demolition works under this contract, the Contractor is responsible for the cost of all remediation works. Where the soil contamination is the result of a prior condition and/or operation of the school, the Contractor is to provide a Variation Quote for the necessary remediation works to the Principal for review and approval, before commencing with the remediation works.

· **Site Grading and Re-Contouring –** Fill any holes, trenches, depressions, and the like left after the demolition, with clean fill (VENM or ENM). Clean fill material is to be a sandy loam/clay mix with minimal rock particles no greater than 40mm in any dimension, sourced from the local Broken Hill area. The top 150mm layer of imported fill is to be a sandy loam with no rock. Supply, place and compact the fill in 150mm layers to minimum 95% SSD. at approximately 2% below optimum moisture content.

Fill and grade the disturbed areas of the site to follow the natural slope of the land toward the northeast, to the existing stormwater swale/channel currently serving the site.

5.1. Mould and fungal Remediation

- A qualified contractor has been engaged for the decontamination and cleaning of the mould affected building and contents., which has been completed in October 2024
- All efforts have been made to decontaminate the mould affected buildings and contents prior in October 2024 to demolition works and trade and specialist contractors working in the building for health and safety reason and to minimise potential exposure prior to disposal at a licensed waste facility.
- Misting / fogging followed by spraying the heavily impacted areas occurred in October 2024 within the internal buildings and contents with a commercial fungal biocide has been undertaken prior to any additional works being undertaken.
- Once the initial fungal decontamination process had been completed before the process of disposal and / or remediation of the contents have taken place.
- It should be noted that generally Condition III mould affected materials indicates that porous materials are generally not restorable, this would likely apply to soft furnishings, carpet materials. See Appendix B.

- It may be possible to identify non-porous furnishings and contents that could be decontaminated by the remediator using a commercial fungal Biocide (electronics should be considered as having potential to be successfully decontaminated).
- Documents of importance requiring to be salvaged have been photocopied in a plastic sleeve, after which all contaminated paperwork have been bagged and disposed of, this will be conducted offsite and have been cleared for transport on 15th November 2024.
- Disposal of decontaminated contents have been undertaken by a qualified demolition contractor and disposed of at a waste facility licensed to take General Solid Waste (non-putrescible).
- Transport of the waste have been undertaken in controlled conditions, covered at a minimum with an eco tarp and moved directly to the disposal facility.
- Finally, a visual mould assessment and Fungal Air Monitoring Assessment (AMA) clearance has been carried out by a qualified hygienist (or appropriately experienced person independent of the remediation contractor) after the contaminated contents and buildings are fully cleaned and remediated. Some electronic devices may have required swabs and or BioTapes to ensure successful remediation, the clearance certificate for the electronic waste was issued on the 15th November 2024.
- Authorized items to be retained, remediated and cleaned have been cleared at the end of the process by an appropriately experienced person independent of the remediation contractor on 15th November 2024.
- Full PPE and decontamination procedures were implemented before the clearance including sampling of the building has been obtained.
- A make safe has now been completed to allow the demolition contractor access to the building.
- The microbial contamination has now been made safe for disposal, the demolition contractor will need to be made aware of the history of mould contamination and the potential health risks while onsite

5.2. Asbestos Remediation

An up-to-date review of the asbestos materials present in the building are indicated in the OART Asbestos register, *ENVIROSCIENCE_30269_WillyamaHS Asbestos Register Letter*, *31174 Willyama Asbestos register update see appendix A.*

The asbestos identification, assessment and remediation recommendations have been based upon the Work Health and Safety Regulation 2017 and the SafeWork NSW Code of Practice for How to Manage and Control Asbestos in Workplaces 2022.

The extent of any potential asbestos containing material below ground level is unknown. It is recommended that the above ground building materials be initially removed before further investigations and removal of any subfloor ACM takes place. Until demolition occurs and or further in-ground investigations it is unsure for pipework and all footings are at this stage unknown.

Caution should be undertaken when removing Asbestos Containing Material (ACM) as to not further damage the material.

All asbestos waste including asbestos contaminated materials and soils, need to be transported in a waste skip, vehicle tray or similar container in good condition. The asbestos waste should be secured and sealed in double-plastic (minimum of 200 microns thickness) lined sheeting.

5.2.1. Site Security and Safety

It is recommended that a physical barrier in the form of temporary construction site security type fencing, is installed with appropriate signage to protect the health of the public who may access the area. It is recommended that signage that complies with *Australian Standard 1319: Safety Signs for the Occupational Environment* be placed around the perimeter of the site, (R.469). Signage should be similar to the ones detailed below.

The asbestos removal area needs to be defined and controlled to limit access into the area, through appropriately constructed barriers and/or fencing as per the contractor's own risk assessment and methods, (R.470).


DANGER
ASBESTOS
HAZARD


DANGER
KEEP OUT
AUTHORISED
PERSONS ONLY

5.2.2. Asbestos Removal Licensing and Notification Requirements and Safe Work Methods

Due to the physical matrix of these products, they do not normally pose a significant health risk, provided they are maintained in good condition and are not disturbed without a safe system of work being implemented. The asbestos materials have been assessed as “non-friable”, and if the intention is to remove the asbestos materials, is recommended that any remediation be under controlled conditions. A visual inspection upon completion is to be undertaken to ensure that no visible asbestos materials are sighted.

As discussed in sections of this remediation report, the works need to be undertaken by a licensed asbestos removalist contractor, approved by SafeWork NSW. It is also a requirement of SafeWork NSW, that the removalist provides a written work plan of the proposed removal control plan, (R.464-465), to SafeWork NSW, with their SafeWork NSW Notification, five business days prior to the asbestos removal project being undertaken, (R.466)

Notification of asbestos remediation works needs to be communicated to surrounding workplaces and residences prior to works commencing, this is the responsibility of the Asbestos Removalist under (R462 and R.467-468).

It is recommended that the licensed contractor prepare a safe method of work statement including wet suppression techniques and removal methods for the asbestos remediation works, utilising at least Type P2 half face particulate respirators, appropriate personnel and equipment decontamination procedures and appropriate disposal methods, refer to the following legislative codes of practice and standards for guidance, (R.471);

1. Australia/New Zealand Standard 1716-2012 *Respiratory Protective Device*
2. Australian/New Zealand Standard 1715-2009 *Selection, Use and Maintenance of Respiratory Protective Devices*
3. AS/NZS 60335.2.69:2017, Household and Similar Electrical Appliances - Safety - Vacuum Cleaners
4. NSW Government, (2018). NSW Work Health and Safety Act 2011 No 10. Sydney: NSW Parliamentary Counsel’s Office.

5. NSW Work Health and Safety Regulation 2017
6. SafeWork NSW: Code of Practice: How to Safely Remove Asbestos 2022
7. SafeWork NSW: Code of Practice: How to Manage and Control Asbestos in the Workplace 2022

5.2.3. Dust Suppression Considerations

The contractor must use methods to minimise airborne asbestos fibres during the demolition or removal of asbestos materials, i.e. using a wet spray method. This method involves applying a fine water spray to the asbestos in a way that ensures the surface of the asbestos is saturated to suppress the release of asbestos fibres. Wetting agents added to the water may assist with particle suppression. Water run-off from the site must be controlled.

5.2.4. Asbestos Waste Transport

All asbestos waste including asbestos contaminated materials and soils, need to be stored on-site and transported in a waste skip, vehicle tray or similar container in good condition should be used. The asbestos waste should be sealed in double-plastic (minimum of 200 microns thickness) lined sheeting and sealed.

Waste needs to be labelled according to the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals and removed form site by an approved/licensed carrier for disposal.

The Classification and Labelling of Asbestos under the GHS is detailed below;

Chemical	CAS No	UN
Crocidolite Asbestos	12001 – 28 - 4	2212
Chrysotile Asbestos	12001 – 29 - 5	2590
Amosite Asbestos	12172 – 73 - 5	2212

5.2.5. Disposing of asbestos

You can only dispose of asbestos waste at a landfill that's licensed to accept it (https://www.epa.nsw.gov.au/your-environment/household-building-and-renovation/dealing-with-household-asbestos/facilities-accept-household-asbestos).

Phone first - always contact the landfill in advance to check:

- whether asbestos is accepted
- any requirements for delivery

Some places require 24 hours' notice. They may also have rules about how you package and deliver the asbestos.

5.2.6. Tracking of asbestos waste

Under Clause 79 of the Protection of the Environment Operations (Waste) Regulation 2014, waste operators, transporters, and waste and recycling facilities must use WasteLocate when consigning, transporting or accepting more than 100 kilograms of asbestos waste, or more than 10 square metres of waste asbestos sheeting, in any single load.

WasteLocate applies across all NSW for transporting asbestos waste within NSW. If transporting asbestos waste interstate, use the EPA's online waste tracking system.

Refer to the following legislative codes of practice and standards for guidance:

1. Protection of the Environment Operation (Waste) Regulation 2014 (Waste Regulation); Part 7, cl 77, 78, 79 and 80.
2. Asbestos and Waste Tyres Guideline 2023.
3. Waste Locate User Guideline 2016

5.2.7. Asbestos Air Monitoring during Remediation Works

During the removal airborne asbestos air monitoring, (R.475-477), clearance air monitoring and a visual inspection will need to be undertaken by a NATA registered laboratory and Licensed Asbestos Assessors, (R.473-474)

Air monitoring would need to be undertaken at various locations on the perimeter of the remediation site in accordance with the *Estimation of airborne asbestos dust by the membrane filter method* described in the National Occupational Health and Safety Commission Guidance Note (2005). The static sampling will indicate if the remediation work methods employed on-site by the licensed contractor are proving to be effective work techniques.

The following table indicates the required control levels and required actions.

Control Level (Airborne asbestos fibres/ml)	**Control / Action**
<0.01	Continue with current control measures
≥0.01	Review control measures
≥0.02	Stop removal work and find cause and notify SafeWork NSW

- "Bonded" asbestos implies that the asbestos fibres are usually well encapsulated within the matrix of the adhesive material and will not be rendered into "respirable" fibres unless released through high speed machining of mechanical actions.

- "Friable" asbestos materials are those that can be crumbled, pulverised or reduced to powder by hand pressure when dry.

The NSW EPA has indicated that asbestos in the soil at the surface is not permitted. The requirements as to the concentration of asbestos in soil are described in the NEPM 2013 Schedule B1, Table 7.

5.3. Lead Paint Remediation

It is recommended to implement a 10m perimeter enclosure during the removal and that people inside the perimeter wear a P2 dust mask, a hazmat suit, and nitrile gloves. The contractor should have access to water to wash their hands to avoid lead ingestion during removal, and particularly prior to breaks. Also, refer to the "lead dust control" and "Lead paint management" Guidelines. All removed materials that are bagged should be sent to an appropriately licensed landfill. Lead air monitoring is recommended to be undertaken during

disturbance/removal works and samples of surface dust and cleaned material would be collected and analysed after remediation for clearance of the work area. Ensure relevant SafeWork NSW Notifications are completed prior to remediation works.

All workers are to of completed appropriate health monitoring prior to the commencement of works.

5.4. Background Remediation Monitoring

Background monitoring during remedial and demolition works are recommended to ensure works do not impact on general public health or adjacent building structural integrity. Monitoring will need to be conducted by a qualified Occupational Hygienist.

5.4.1. Dust

Dust monitoring is recommended during all works both on the site perimeters and personal monitoring to ensure no off-site impacts occur, this will be required during demolition works particularly related to Inhalable and Respirable Dust including Silica, Asbestos and Lead (Pb). This will ensure exposures for both the remediation workers and the adjoining neighbours are safely managed. An independent Occupational Hygiene Management Plan (OHMP) should be developed with the demolition contractor once the schedule of works and potential similar exposure groups (SEGs) have been identified for the upcoming works and to include other relevant items to be incorporated into the OHMP may include respirator fit testing, training and general health monitoring. Levels of Inhalable dust (10mg/m^3), Respirable Silica dust (0.05mg/m^3), asbestos fibres (<0.01 fibres/mL), and Lead dust (0.05mg/m^3) are specified in Australian Standard *AS2985-2009 Safe Work Australia* publication *Workplace Exposure Standards for Airborne Contaminants 2022;* and NSW *Work Health and Safety Regulation 2017* .

5.4.2. Vibration

Vibration monitoring is recommended during building demolition works to ensure no off-site impacts occur which may affect the structural integrity of services and buildings nearby and any other sensitive receivers. Vibration monitoring is not recommended during soft demolition and internal strip out of building but during the extensive demolishing of the main structure (e.g. Concrete, brick, metal). When working in close proximity to APA Gas pipelines the 'Standard conditions for works near APA Gas Transmission Pipelines' must be adhered

to, which states a maximum vibration of 10mm/s ppv for poor coated pipelines and coal tar enamel or 20 mm/s ppv for non-coal tar enamel

5.4.3. Noise

Noise monitoring is recommended during all remediation works to ensure works are below recommended limits, so no off-site impacts occur. Noise monitoring is more so recommended around the hard demolition which would involve the use of heavy machinery and crushing and moving of concrete, brick and metal and may pose a risk to sensitive receivers. Noise limits are specified in the NSW Work Health & Safety Regulation 2017 over a normal 8-hour shift as :Aeq 85 dB(A) and Lpeak 140 dB(C).

5.5. HAZMAT Remediation

Alongside the updated Asbestos Register additional updates to the Hazardous Building Materials Register have been prepared and the information is included below.

The purpose of this assessment was to also identify the following potentially hazardous building materials:

- ✓ Lead (Pb) Based Paints;
- ✓ Synthetic Mineral Fibres (SMF);
- ✓ Polychlorinated Biphenyls (PCBs); and
- ✓ Phenols.
- ✓ Hazardous waste materials
- ✓ Potential aboveground and underground services or hazardous storage areas.

The identification of SMFs, PCBs and Phenols is by visual assessment only.

5.5.1. Lead-Based Paints

On 16th February 2024 eleven (11) paint samples were obtained in accordance with the AS 4361.2:2017 Guide to Hazardous Paint Management, Part 2: Lead paint in residential, public and commercial buildings and AS 4482.1- 2005 Guide to the Investigation and Sampling of Sites with Potentially Lead Contaminated Soil.

The table below depicts where the sample was obtained, together with the laboratory sample results. The guide above defines a lead-based paint as a paint film or component coat of paint system containing lead or lead compounds, in which the lead content is more than 0.1% by weight of the dry film as determined by laboratory testing. Laboratory results are in Appendix C.

Good practice would dictate that all existing paint, even though below the recognised standard, should not be sanded and that dust minimisation techniques should be adopted when undertaking renovation / repair works. It would be good practice to wear a P2 dust mask during any paint removal even when it does not contain lead, but small particles of paint can still be inhaled or ingested.

LEAD BASED PAINTS REGISTER	**ASSET: Willyama High School, Broken Hill**			
SAMPLE REFERENCE	**LOCATION**	**LABORATORY RESULT (% w/w Lead in Paint)**	**RISK ACTION RATING**	**CONCLUSION**
Sample 1 – 30269-01	External metal awning AR1S19 & AR1S18 Dark Green Paint	0.14% w/w	A4	**Paint classified as lead based as greater than 0.1% w/w**
Sample 2 – 30269-02	External concrete window ledge AR0W34 Dark Green Paint	<0.005% w/w	A5	Paint not classified as lead based as less than or equal to 0.1% w/w
Sample 3 – 30269-03	External Door AR0W34 White Paint	<0.005% w/w	A5	Paint not classified as lead based as less than or equal to 0.1% w/w
Sample 4 – 30269-04	External metal awning AR1S19 & AR1S18 Blue paint lower layer	0.66% w/w	A4	**Paint classified as lead based as greater than 0.1% w/w**

LEAD BASED PAINTS REGISTER	ASSET: Willyama High School, Broken Hill			
Sample 5 – 30269-05	Exterior Door AR0S07 Dark Grey Paint	0.03% w/w	A4	Paint not classified as lead based as less than or equal to 0.1% w/w
Sample 6 – 30269-06	Exterior Wall AR0S07 Orange/Yellow Paint	<0.005% w/w	A5	Paint not classified as lead based as less than or equal to 0.1% w/w
Sample 7 – 30269-07	Exterior Wall AR0S07 Blue Paint	0.005% w/w	A5	Paint not classified as lead based as less than or equal to 0.1% w/w
Sample 8 – 30269-08	Exterior Wall AR0S07 Red Paint	<0.005% w/w	A5	Paint not classified as lead based as less than or equal to 0.1% w/w
Sample 9 – 30269-09	Exterior Wall AR1N11 Light Grey Paint	<0.005% w/w	A5	Paint not classified as lead based as less than or equal to 0.1% w/w
Sample 10 – 30269-10	Internal Wall AR0E20 White Paint	0.05% w/w	A5	Paint not classified as lead based as less than or equal to 0.1% w/w
Sample 11 – 30269-11	Internal Door AR0N19 Stone/Beige Paint	0.04% w/w	A5	Paint not classified as lead based as less than or equal to 0.1% w/w

5.5.2. Synthetic Mineral Fibres (SMFs)

SMF materials are identified visually, no samples were required as the SMF was in a good condition and is and does not present a significant risk, if appropriate PPE and dust suppression measures are undertaken.

5.5.3. Polychlorinated Biphenyls (PCBs)

Polychlorinated biphenyls (PCB) are identified by visual observation in fluorescent light fittings with guidance from the Australian and New Zealand Environment and Conservation Council (ANZECC) Checklists.

POLYCHLORINATED BIPHENYLS REGISTER		ASSET: Willyama High School, Broken Hill			
DATE OF INSPECTION	IMAGES	SPECIFIC LOCATION OF PCB	SAMPLE RESULTS	RISK RANKING	CONDITION & ACCESSIBILITY OF PRODUCT
10th February 2024		Interior Fluorescent Lights	Visual Inspection	A5	Remove potential PCB containing light fittings under controlled conditions and appropriate disposal.

5.5.4. Phenols

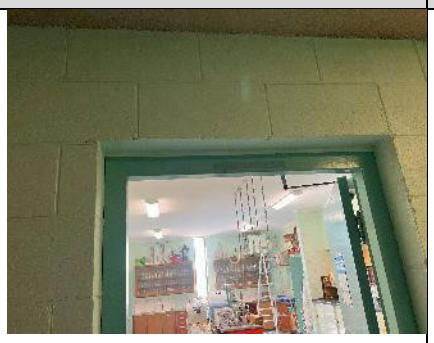
Phenols are an early form of plastic formed between Phenol and Formaldehyde and quite often bound together with the use of a fibrous material; they may sometimes even contain asbestos. The main source of phenols within buildings is Bakelite products such as electrical switches or light fittings.

No Phenols were identified.

5.5.5. Other hazardous materials to be considered.

Chemical bottles and materials in chemical store – it is recommended to utilise a chemical collection and disposal contractor to identify, remove, transport and dispose of appropriately.

Other Hazardous Materials Identified		ASSET: Willyama High School, Broken Hill			
DATE OF INSPECTION	**IMAGES**	**LOCATION**	**SAMPLE RESULTS**	**RISK RANKING**	**CONDITION & ACCESSIBILITY OF PRODUCT**
5th June 2024		Chemical Store AR2E12 AR2E14	Visual Inspection identified mercury, acids, alkalines	A1	It is recommended to utilise a chemical collection and disposal contractor to identify, remove, transport and dispose of appropriately. Currently in the process of removal early November 2024, any remaining or discovered chemicals to be treated as an unexpected finds

Other Hazardous Materials Identified		ASSET: Willyama High School, Broken Hill			
DATE OF INSPECTION	**IMAGES**	**LOCATION**	**SAMPLE RESULTS**	**RISK RANKING**	**CONDITION & ACCESSIBILITY OF PRODUCT**
5th June 2024		Laboratory and chemical stores AR2E03 AR2E18	Visual Inspection identified Fume hood and laboratory chemicals	A1	it is recommended to utilise a chemical collection and disposal contractor to identify, remove, transport and dispose of appropriately. Currently in the process of removal early November 2024, any remaining or discovered chemicals to be treated as an unexpected finds
5th June 2024		External – North Gas tanks and service infrastructure	Visual Inspection – identified gas tanks and service lines	A5	Remove enclosed units as per manufacturer guidelines

Other Hazardous Materials Identified		ASSET: Willyama High School, Broken Hill			
DATE OF INSPECTION	**IMAGES**	**LOCATION**	**SAMPLE RESULTS**	**RISK RANKING**	**CONDITION & ACCESSIBILITY OF PRODUCT**
5th June 2024		External Potential Underground service lines, tanks, pipework.	Visual evidence, plans and anecdotal historical evidence of potential hazardous materials	A5	Further investigation once access has been obtained. An unexpected finds protocol for demolition and earthworks controlled removal and validation of site will be required.

5.6. Demolition

It is recommended that demolition of the school is undertaken by appropriately licensed demolition and removal crews in accordance with Australian Standard 2601:2024 *The Demolition of Structures*.

At the completion of works a site validation and clearance report will be prepared by the Licensed Asbestos Assessor/Occupational Hygienist, this will incorporate any soil and groundwater contamination that may occur during demolition. The final clearance/validation will incorporate results of onsite assessments, document health risks, propose remediation strategies, and address the required regulatory requirements as specified in *Consultants reporting on contaminated land* (NSW EPA, 2020).

Material to be taken off site requires classification according to the Waste Classification Guidelines, Part 1:Classifying Waste (NSW EPA, 2014) and transport is to be tracked and taken to appropriately licensed waste facilities.

5.6.1. SINSW Green Star Initiative

According to the Green Building Council of Australia: Green Star Rating System specify that at least 80% of demolition waste generated should be diverted from landfill materials as a minimum Green Star requirement (excluding contaminated waste, special waste, or excavated waste). There is a preferred stretch target of 90% diversion.

Any asbestos, lead or mould contaminated items can not be recycled and will not be considered in the percentage taken to landfill. Porous materials such us carpets and upholstery that are contaminated with mould can not be recycled, see attached Appendix E for all porous materials.

Concrete slabs and blockwork that are mould contaminated, once crushed will become representative of normal background levels and therefore not mould contaminated.

Generally, the following materials can be recycled:

- Bricks and concrete can be crushed for reuse, either onsite or at the waste facility. If concrete materials will be crushed onsite, a containment dome and dust monitoring would be required due to nearby sensitive receptors to limit potential silica dust exposure
- High quality bricks can be reused onsite or resold
- Metals such as roofing and supports can be recycled at collection centres or waste facilities.

- Equipment with hard surfaces such as metal and timbers can go to recyclers/re-sale once validated by an Occupation Hygienist
- Glass from windows with non-asbestos containing putty/rope can also be recycled at collection centres or waste facilities

Risk Action Table

The following Risk Action Table is used in each table of this register to assign a risk score that translates into five different actions (1-5). The table should assist the person/s responsible for maintaining the Hazardous Building Materials Register with a tool to determine the course of action and develop an action schedule for the hazardous building material that will assist in budgeting for remediation / abatement works.

Descriptor	Item	Action
A1	Action 1	**RESTRICT ACCESS & REMOVE** As a guide, the material conforms to one, or more, of the following: • Friable or poorly bonded to substrate, located in accessible areas; • Severely water damaged, or unstable; • Further damage or deterioration likely; • Asbestos debris and stored asbestos in reasonably accessible areas; and • Significant peeling and flaking in lead paint in areas that pose immediate risk to children / resident. Removal considered lead risk work
A2	Action 2	**ENCLOSE, ENCAPSULATE OR SEAL BY LICENCED CONTRACTORS - REINSPECT PERIODICALLY** As a guide, the material conforms to one, or more, of the following: • Damaged material; • In reasonably accessible area; • Friable material or poorly bonded to substrate, with bonding achievable; • Possibility of disturbance through contact; • Possibility of deterioration caused by weathering; and • Large areas of peeling and flaking
A3	Action 3	**REMOVE DURING REFURBISHMENT OR MAINTENANCE. ENCLOSE, ENCAPSULATE OR SEAL BY GENERAL MAINTENANCE CONTRACTORS. REINSPECT PERIODICALLY** As a guide, the material conforms to one, or more, of the following; • Asbestos debris or stored material in rarely accessed areas; • Further disturbance or damage unlikely other than during maintenance or service; • Asbestos friction materials, gaskets and brake linings; and • Small / moderate areas of peeling and flaking lead paint in an area that posed low risk. Remedial works suitable by a general maintenance contractor
A4	Action 4	**NO REMEDIAL ACTION – REINSPECT PERIODICALLY** As a guide, the material conforms to one, or more, of the following: • Firmly bonded to substrate and readily visible for inspection; • Inaccessible and fully contained; and • Stable and damage unlikely
A5	Action 5	**NO ACTION REQUIRED – NO HAZARDOUS BUILDING MATERIALS IDENTIFIED**

6. Conclusion

Hazardous materials were identified throughout Willyama High School, Broken Hill in the form of mould, asbestos, hazardous and flammable chemicals associated with a School Science Program, PCBs, SMF and lead based paint. No Phenols or other ozone depleting substances were identified at the time of investigations but may exist in non-accessible areas especially below the building associated with infrastructure or past activities on the site. Remedial works expected to comprise contaminant specific decontamination, remediation, removal and demolition are required to be undertaken under specified conditions and in compliance with SafeWork NSW and NSW EPA guidelines and other legislation and guidelines as outlined in this report.

It is recommended that demolition of the school is undertaken by an appropriately licensed demolition company under dust, noise and vibration control monitoring to ensure no off-site receptors (human or structural) are impacted throughout the duration of the remediation works. Asbestos air monitoring is recommended during asbestos disturbance works only. Prior to off-site removal of building and demolition waste clearance certificates and waste classification certificates will be required to be issued for material traceability.

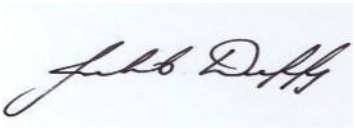
Site supervision works by an appropriately qualified Occupational Hygienist/Environmental Scientist is recommended to ensure no cross contamination of any material occurs and that clearance sampling is undertaken in a timely manner to ensure minimal delays. Items to be remediated and kept will need contaminant specific clearances and a designated ‘clean zone’ for storage with appropriate clearance documentation for items within the zone. Items planned on being kept should be notified to Occupational Hygienist/Environmental Scientist to confirm suitability for cleaning.

Additional investigations may be required for the site if earthworks are proposed as part of the remediation process. If hazardous materials are identified works are to cease and the Unexpected Finds Protocol (Appendix D) should be implemented. Until access is available beneath the building structures where there is no access to date, further investigations will be required. It is recommended that at the completion of demolition works particularly below the building footprint and where demolition works have impacted areas that soil sampling be undertaken. A suitable sample design will need to be implemented based upon the buildings footprints and a buffer zone of approximately three (3) meters. Given the current size and the likely impacts a minimum of seventy-six (76) soil grid samples will be required for the main building footprint to provide an acceptable confidence level for asbestos using the 10L sieving method due to the unpredictability

of asbestos. Other contaminants of concern will also require sampling dependent upon materials identified during demolition works especially sub-floor areas which have not been accessed. Additional samples will be required for judgemental sampling around specific concentrated areas of removal, for example validation sampling after underground tank removals and associated pipework. Samples will need to be analysed for the contaminants of concern by a NATA registered laboratory.

Validation and clearance sampling will be undertaken coupled with air monitoring under the direction of the Occupational Hygienist/Environmental Scientist/Licensed Asbestos Assessor to suitably obtain demolition clearance/validation of the area that it maybe be re-occupied for the purpose of a school.

A statement to that effect of the sites suitability will be provided the Principal for approval at the completion of works.

Reported By:	**Reviewed By:**	**Approved By:**
 Mark Austin BSc EnviroScience Solutions Environmental Consultant Licensed Asbestos Assessor LAA#002038	 Michael Williamson BScGeo EnviroScience Solutions Occupational Health and Environmental Consultant Licensed Asbestos Assessor LAA#001347	 Juliet Duffy MSM MAICD MAIOH EnviroScience Solutions Director, Occupational Hygienist Licensed Asbestos Assessor LAA#000102, NATA Signatory

7. Limitations

The inspection was limited to the area outlined in this report only. The following limitations also apply;

To the extent permitted by law, EnviroScience Solutions Pty Ltd will not be responsible in tort, contract or otherwise for any loss or damage, including for any personal injuries or death, or any consequential loss, loss of markets and pure economic loss, suffered by the Customer, whether or not the loss or damage occurs in the course of performance

by EnviroScience Solutions Pty Ltd of this contract or in events which are in the contemplation of EnviroScience Solutions Pty Ltd and/or the Customer or in events which are foreseeable by EnviroScience Solutions Pty Ltd and/or the Customer.

To the extent that liability has not been effectively excluded by the preceding clause, then EnviroScience Solutions Pty Ltd limits its liability to: -

(a) The supply of services again; or

(b) The payment of the cost of supplying the services again, at the election of EnviroScience Solutions Pty Ltd

8. References

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Appendix A – Asbestos Register letter 31174

ASBESTOS REGISTER UPDATE

Willyama High School, Broken Hill, NSW, 2880

Department of Education NSW
North Western NSW
Asset Management Unit

www.enviroscience.com.au

ASBESTOS REGISTER UPDATE

Willyama High School, Broken Hill, NSW, 2880

Report No.: 31174 - R01

Site visit and assessment - 4th June 2024

Prepared For:	Prepared By:	Reviewed By:
Joseph Warman North Western NSW Asset Management Unit education.nsw.gov.au	Mark Austin EnviroScience Solutions Pty Ltd 2/3 Douglas Mawson Drive Dubbo NSW 2830	Michael Williamson EnviroScience Solutions Pty Ltd 2/3 Douglas Mawson Drive Dubbo NSW 2830

Status	Date	Prepared	Reviewed	Approved
Version 1	11/6/ 2024	Mark Austin	Michael Williamson	J Duffy

Accredited Systems

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1. Executive Summary and Scope of Works

EnviroScience Solutions Pty Ltd was engaged by the NSW Department of Education – North West Asset Management Unit to conduct an Asbestos Site Assessment and provide an updated Asbestos Register for Block A of Willyama High School, Broken Hill, NSW, 2880. The assessed area is indicated in **Figure 1**.

Figure 1: Willyama High School, Broken Hill, NSW, 2880 – *Nearmap 2024*

2. Sampling Summary

During the assessment, possible asbestos containing materials were sampled in addition to the previously sampled asbestos containing materials within the existing Asbestos Register. These materials have been added into the Online Asbestos Review Tool (OART). The samples collected on site by EnviroScience Solutions are as follows;

- Vermiculite (textured ceiling lining) Sampling completed in various rooms as per register requirements – No Asbestos detected, Laboratory report attached, samples B31174-S1 to S10.
- Bulk asbestos additional sampling, information below, the updated OART asbestos register and the EnviroScience laboratory report samples B31174-S11 to S26,

3. Limitations of Inspection

Air Conditioning Ducting Bulkheads and Roof Skylights

Visual observation and asbestos sampling has identified differing construction materials such as metal and fibre cement making up the ducting/bulk heads of the air conditioning system running throughout the school and the Skylight wall linings. Therefor it is recommended that any fibre cement material found during removal of ducting, bulk heads and skylights be treated as possible ACM. See images in table 1 Samples -

B31174-S11 8491 B00A - R0S08 Ceiling Ducting Sheet

B31174-S11 8491 B00A -R2W24 Air Con Ducting Lining

B31174-S17 8491 B00A -R2N05 Sunroof Wall Lining

Flooring materials - ground floor

In room B00A-R0E07 no asbestos was detected in the vinyl flooring under the carpet however trace chrysotile asbestos was detected in the black adhesive glue under the flooring and in the flooring adhesive in the adjoining rooms B00A-R0E25 and B00A-R0E26 under the asbestos positive red vinyl floor covering.

B31174-S13 8491 B00A -R0E07 Adhesive

B31174-S14 8491 B00A -R0E25 Adhesive

External Roof Area

Box Gutters integrated into the roof of the building were inspected in many locations throughout the ceiling cavity and exterior roof space. No asbestos containing fibre cement sheet, board or waterproofing materials were identified in the main construction of the box gutters. However, below the gutter as part of the ceiling lining in the roof space ACM fibre cement board was identified running under the full length of the gutter system.

There was also a sample taken from the bituminous lining joining the gutter to the concrete external wall at the roof overflow point. This sample was positive for asbestos and similar materials were identified at the gutter/concrete joins throughout the external roof space.

B31174-S18 8491 B00A – Exterior roof, gutter/wall bituminous lining

Exhaust Flues were identified and sampled throughout the external roof space. Positive results for asbestos in the joining putty and gasket material were identified**.** The flue insulation internal lagging came back as negative for asbestos.

B31174-S21 8491 B00A – Exterior roof, toilets exhaust flues, gasket material

B31174-S22 8491 B00A – Exterior roof, boiler exhaust flue, putty material

Window Linings

Further testing on the integral window frame linings and putty were undertaken. No asbestos containing material was identified in the plastic frame material or the window putty from the roof exterior skylight window and the plastic window lining in room R2W10.

Subfloor Fibre Pipework

Visual evidence, building plans and sampling of underground fibre cement pipework has identified asbestos containing material below the buildings and concrete slab foundations of the buildings.

B31174-S24 8491 B00A – subfloor fibre cement pipework

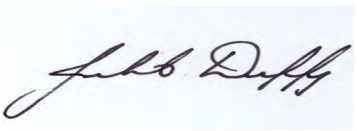
Tile adhesive and insulation in the plant room – Sample of the black tile adhesive in boys toilets, Room R0W05 was negative for asbestos. Sample of the perforated insulation material of the plant room wall room R0N05 was negative for asbestos.

Boiler Room

The 'Tomlinson Steel' main (gas) boiler (CBW:135:100:30) in the ground floor plant room was identified as an encapsulated heating unit and may contain asbestos materials that could not be accessed for sampling. Manufacturers plans, instructions and information should be sought before removal or disposal.

Lift

The Lift on the southern side of the building was observed as a recently built extension with no asbestos containing materials present.

Reported By:	Reviewed By:	Approved By:
		
Mark Austin BSc EnviroScience Solutions Environmental Consultant Licensed Asbestos Assessor LAA#002038	Michael Williamson BScGeo EnviroScience Solutions Occupational Health and Environmental Consultant Licensed Asbestos Assessor LAA#001347	Juliet Duffy MSM MAICD MAIOH EnviroScience Solutions Director, Occupational Hygienist Licensed Asbestos Assessor LAA#000102, NATA Signatory

4. Limitations

The inspection was limited to the area outlined in this report only. The following limitations also apply;

To the extent permitted by law, EnviroScience Solutions Pty Ltd will not be responsible in tort, contract or otherwise for any loss or damage, including for any personal injuries or death, or any consequential loss, loss of markets and pure economic loss, suffered by the Customer, whether or not the loss or damage occurs in the course of performance by EnviroScience Solutions Pty Ltd of this contract or in events which are in the contemplation of EnviroScience Solutions Pty Ltd and/or the Customer or in events which are foreseeable by EnviroScience Solutions Pty Ltd and/or the Customer.

To the extent that liability has not been effectively excluded by the proceeding clause, then EnviroScience Solutions Pty Ltd limits its liability to: -

(a) The supply of services again; or

(b) The payment of the cost of supplying the services again, at the election of EnviroScience Solutions Pty Ltd

APPENDIX A – Photographic Log

	
Image 1: Airconditioning ducting bulkhead lining, movement area R2W24.	Image 2: Flooring materials – ACM containing adhesive black glue under vinyl flooring
	
Image 3: Roof Box gutter, only ACM identified is the bituminous lining at the join between the wall and the gutter.	Image 4: ACM identified in bituminous lining between the wall and the gutter.

Image 5: Roof exhaust toilet flues. ACM identified in the gaskets.

Image 6: Roof exhaust boiler flue. ACM identified in the joint putty.

Image 7: Roof Skylight, ACM identified in the internal wall lining, no asbestos materials detected in the window putty or plastic window frame lining.

Image 8: Subfloor ACM Fibre Cement conduit pipework.

	
Image 9: Main Gas Boiler ID tag, plant room. Encapsulated unit (1975).	Image 10: Lift extension, no asbestos materials identified.

APPENDIX B – Laboratory Results

EnviroScience SOLUTIONS

Protecting Health and the Environment Through Science

LABORATORY ANALYSIS REPORT
Asbestos Identification Report

Report No: B31174-R1
Client: NSW Department of Education
Client Address: Level 3, 76 Morgan Street, Wagga Wagga,NSW, 2650

Report Date: Wednesday, 12 June 2024
Analysed Date: Wednesday, 12 June 2024
Laboratory Receival Date: Wednesday, 12 June 2024
Sampled Date: Wednesday, 5 June 2024
Sampled by : Mark Austin

Attention: Joe Warman
Approved Identifier and Signatory: Arpit Dabhi

Sampled From: Willyama High School, Radium St, Broken Hill, NSW, 2880

Test Method: Polarised Light Microscopy (PLM) including Dispersion Staining (DS), EnviroScience Solutions Pty Ltd in-house laboratory method, in accordance with Australian Standard AS4964-2004 'Method for the qualitative identification of asbestos in bulk samples'. Accredited for compliance with ISO/IEC:17025-Testing.
Please note that EnviroScience Solutions does not accept responsibility for the sample submitted in relation to its source.

Sample Number	Sample Location	Sample Description	Sample Size	Asbestos Detected	Fibres Detected
B31174-S1	8491 B00A - ROW41 Ceiling Structures - Linings - S1	Vermiculite	10.0 gm	No	Nil detected
B31174-S2	8491 B00A - R2W11	Vermiculite	90.0 gm	No	Nil detected
B31174-S3	8491 B00A - R2W07	Vermiculite	40.1 gm	No	Nil detected
B31174-S4	8491 B00A - R2N09	Vermiculite	21.8 gm	No	Organic
B31174-S5	8491 B00A - R2N10	Vermiculite	30.4 gm	No	Organic
B31174-S6	8491 B00A - R2N06	Vermiculite	11.0 gm	No	Organic
B31174-S7	8491 B00A - R2E19	Vermiculite	19.3 gm	No	Nil detected
B31174-S8	8491 B00A - R2E23,E24,E25	Vermiculite	180.5 gm	No	Organic
B31174-S9	8491 B00A - R2E10	Vermiculite	83.9 gm	No	Nil detected
B31174-S10	8491 B00A - R2E09	Vermiculite	82.3 gm	No	Organic

ENVIROSCIENCE SOLUTIONS PTY LTD
NATA Accreditation No. 19366
ACN 157 918 262
Ph 1300 372 436
info@enviroscience.com.au
www.enviroscience.com.au
LABORATORY LOCATED AT 2/3 DOUGLAS MAWSON ROAD, DUBBO NSW 2830

NATA WORLD RECOGNISED ACCREDITATION

Sample Number	Sample Location	Sample Description	Sample Size	Asbestos Detected	Fibres Detected
B31174-S11	8491 B00A - R0S08 Ceiling Ducting Sheet	Fibre cement	12.0 gm	Yes	Chrysotile, Amosite, Organic
B31174-S12	8491 B00A - R0E07 Red Flooring	Vinyl Tile	20.0 gm	No	Nil detected
B31174-S13	8491 B00A - R0E07 Black Glue Under Vinyl	Adhesive	1.1 gm	Yes	Trace Chrysotile
B31174-S14	8491 B00A -AR0E25 Adhesive Under Vinyl	Adhesive	0.9 gm	Yes	Trace Chrysotile
B31174-S15	8491 B00A -R2W10 Plastic Window Lining	Vinyl Window Liling	2.5 gm	No	Nil detected
B31174-S16	8491 B00A -R2W24 Air Con Ducting Lining	Fibre cement	13.1 gm	Yes	Chrysotile, Organic
B31174-S17	8491 B00A -R2N05 Sunroof Wall Lining	Fibre cement	2.8 gm	Yes	Chrysotile, Organic
B31174-S18	8491 B00A Exterior Roof Gutters Wall lining	Bituminous Lining	4.4 gm	Yes	Chrysotile, Organic
B31174-S19	8491 B00A Ext Skylight Plastic Window Lining	Window Lining	2.9 gm	No	Nil detected
B31174-S20	8491 B00A Ext Sunroof Window Putty	Window Putty	0.9 gm	No	Nil detected
B31174-S21	8491 B00A Ext Roof Exhaust From Toilets Below	Exhaust Gasket	0.4 gm	Yes	Chrysotile, Organic
B31174-S22	8491 B00A Ext Roof Boiler Flue Putty	Exhaust Flue Putty	3.4 gm	Yes	Trace Chrysotile
B31174-S23	8491 B00A Ext Roof Boiler Flue insulation	Exhaust Flue Insulation	7.5 gm	No	Synthetic Mineral
B31174-S24	Subfloor B00A Pipe Work	Fibre cement	7.9 gm	Yes	Chrysotile, Amosite
B31174-S25	Subfloor B00A R0W05 Toilet Wall Tile Glue	Adhesive	20.5 gm	No	Nil detected

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Sample Number	Sample Location	Sample Description	Sample Size	Asbestos Detected	Fibres Detected
B31174-S26	Subfloor B00A R0N05 Wall Lining. Plant Room	Insulation	20.1 gm	No	Synthetic Mineral

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ACN 157 918 262
Ph 1300 372 436
info@enviroscience.com.au
www.enviroscience.com.au
LABORATORY LOCATED AT 2/3 DOUGLAS MAWSON ROAD, DUBBO NSW 2830

EnviroScience SOLUTIONS
Protecting Health and the Environment Through Science

LABORATORY ANALYSIS REPORT
Estimation of Airborne Asbestos Fibres

Report No: A31174-R1
Client: NSW Department of Education
Client Address: Level 3, 76 Morgan Street, Wagga Wagga,NSW, 2650

Report Date: Tuesday, 11 June 2024
Analysed Date: Tuesday, 11 June 2024
Laboratory Receival Date: Tuesday, 11 June 2024
Sampled Date: Wednesday, 5 June 2024
Sampled By: Mark Austin
Approved Counter and Signatory: Arpit Dabhi
Type of Monitoring: Background Monitoring

Attention: Joe Warman
Sampled From: Willyama High School, Broken Hill, 2880

Test Method: In accordance with the NOHSC:3003 (2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (as outlined in the Laboratory Method Manual). Accredited for compliance with ISO/IEC:17025-Testing.

Sample Number	Sample Location	Time On	Time Off	Flow Rate L/ Min	Results Fibres / Field	Results Fibres / ml
A31174-S1	B00A ROW41 - Pantry	900	1040 (100 min)	4.0	0 /100	< 0.01
A31174-S2	B00A R2W11 - Comp LS	900	1040 (100 min)	4.0	2 /100	< 0.01
A31174-S3	B00A C2W07 Staff Study	900	1040 (100 min)	4.0	0 /100	< 0.01
A31174-S4	B00A 2N09 - B00A 2N10	905	1045 (100 min)	4.0	0 /100	< 0.01
A31174-S5	B00A 2N06 - Cleaning	905	1045 (100 min)	4.0	0 /100	< 0.01
A31174-S6	B00A 2210 - B00A 2219	1100	1240 (100 min)	4.0	2 /100	< 0.01
A31174-S7	B00A 2E09 - ELS	1100	1240 (100 min)	4.0	0 /100	< 0.01
A31174-S8	Quality Control Laboratory Blank		(0 min)	N.A.	0 /100	< 0.01

ENVIROSCIENCE SOLUTIONS PTY LTD
NATA Accreditation No. 19366
ACN 157 918 262
Ph 1300 372 436
info@enviroscience.com.au
www.enviroscience.com.au
LABORATORY LOCATED AT 2/3 DOUGLAS MAWSON ROAD, DUBBO NSW 2830

NATA WORLD RECOGNISED ACCREDITATION

Appendix B - Report: ENVIROSCIENCE_Mould_Testing_Willyama High School_30158_Draft.

Microbial Testing - Willyama High School

Radium Street, Broken Hill, NSW 2880

NSW Department of Education – North Western NSW Asset Management Unit

Report No.: 30158-R04

March 2024

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Microbial Testing

WILLYAMA HIGH SCHOOL, RADIUM STREET, BROKEN HILL, NSW 2880

NSW Department of Education – North Western NSW Asset Management Unit

Report No.: 30158-R04

March 2024

Accredited Systems

Executive Summary

EnviroScience Solutions Pty Ltd was engaged by NSW Department of Education to examine Willyama High School, Broken Hill which was observed to have a significant mould infestation which was discovered by a staff member attempting to reopen the school after the holiday break. Multiple on-site inspections occurred to visually access the extent, type, cause and remediation considerations.

Most fungal spores are commonly found in the environment. Aspergillus species, especially A. Fumigatis and some Penicillium species are known to be medical pathogens. These species are soil saprophytes but are easily dispersed via air streams due to the small size of their spores.

Up to 70% of individuals are estimated to have some level of allergy to mould spores, causing headaches and coughing, however, serious health effects are uncommon (Edmonson et al, 2009).

If an individual is immunocompromised due to ChemoRx, organ transplant, HIV (affected T-cell mediated immunity) frail aged, etc, then an opportunistic mould infection can result. This can often be fatal. (National Guidelines for the Prevention of Nosocomial Invasive Aspergillosis During Construction/Renovation Activities, 2002).

The finding s suggest the three (3) Storey Campus Building - Northern, Western and Eastern areas consisting of mainly classrooms, staffrooms and the library exhibited extensive visible mould, on floors, walls, ceilings, furniture, books, documents, Heating Ventilation and Air Conditioning (HVAC) system(s), electronics, and clothing, throughout the entire building, with the exception of the Administrative Southern section. The visual inspection and samples obtained for laboratory analysis indicate extensive, active mould growth and therefore potential elevated levels of fungal spores within the affected rooms, and is subsequently classified as a Condition, 3 (Ref IICRC-520:2015).

The swabs and Bio-tape impressions show spores and active growth of the environmental moulds Cladosporium, Alternaria, and Mucor spp. However, there is evidence that Aspergillus and Penicillium spp, which are recognised human pathogens are also present in several locations tested, and invariably more widespread throughout.

EnviroScience Solutions was unable to determine the exact cause of the microbial growth. However, multiple contributing factors include:

1. Moisture created from within the building due to original design and lack of natural ventilation, due to windows not being able to be opened, condensation, natural lighting, poor insulation and possibly the HVAC retrofit of the original mechanical evaporative air conditioning system which was supplemented with additional wall units.

2. Water ingress from outside from large box guttering and large storm events not coping with existing design with evidence of structural faults such as leaching to brickwork.

3. Building general hygiene – overcrowding and inadequate storage facilities, not allowing for general routine cleaning and allowing organic debris to accumulate and thereby provide a potential growing medium.

Unless these potential issues are permanently fixed and resolved, even after remediation works the reoccurrence of mould growth is likely.

It is recommended that a detailed scope of works be prepared this will include destructive testing and inspection to determine if additional water/moisture problems are identified within wall and ceiling cavities, these works will need to be undertaken under controlled conditions.

Consideration of designing a hybrid model instead of the sole reliance on mechanical HVAC should be deliberated. Increasing the amount of natural ventilation into the building should improve general indoor air quality by reducing the buildup of pollutants, odours, humidity, energy consumption and reduced noise from compressor and fans. From a sustainability perspective socially, it provides the indoor occupants a connection between indoor and outdoor spaces with increased natural light and views. In an educational setting this would be likely to improve focus, concentration spans and naturally academic performance. A hybrid HVAC style model also builds resilience and provides contingency during energy or system failures.

Additionally other hazards, namely asbestos and lead (pB) paint will need to be identified and incorporated into the scope of works. Of note some asbestos products and lead (pB) paint surfaces will not be able to be remediated and will need to be removed due to their porous/hazardous nature and that they may be damaged during the physical abrasiveness of remediation works.

When considering and designing the scope of works the building envelope will need to be segregated into separate areas for the purpose of remediation; Structural, HVAC and Contents. The porosity of materials needs to be considered. Materials that easily absorb or adsorb moisture and, if organic, that can easily support fungal growth, will need to be discarded, as they cannot be effectively remediated under the Condition 3 guidelines.

Porous materials generally cannot be successfully remediated under the *IICRC-520:2015 Condition 3 guidelines* this would apply to the current vermiculite sprayed ceiling fire retardant, carpets, paper products, furnishings, HVAC insulation in ductwork, plasterboard, ceiling tiles, insulation, particle/chipboard, fibre cement sheet, medium density fibreboard and electronics, need to be identified and considered from an economic and sustainability perspective when considering the scope of works.

Reported By:

Juliet Duffy MSM Syd Uni

Director MAICD

Occupational Hygienist MAIOH

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Appendix E IICRC R520: 2015 Reference Guide for Professional Mold Remediation – Chapter 13 Contents Remediation

GLOSSARY

Abbreviation	Description
agar	A gelatinous product made from seaweed used as a base for bacterial cultures
AIOH	Australian Institute of Occupational Hygiene
ASHRAE	American Society of Heating Refrigerating and Air-Conditioning Engineers
Bulk Sample	Sample obtained for laboratory analysis, by scraping a hard surface or removal of a piece of product, or vacuuming carpet or porous materials such as carpets or textiles
CFU	Colony forming unit – any part of a fungus that can start growing when it is on nutrient agar media.
CFU/cm^2	Colony forming units per square centimetre
CFU/m^3	Colony forming units per cubic metre
Contamination	Considered detrimental to human health and/or the environment
Fungi	Any microorganisms belonging to the Kingdom Fungi including mould and Yeast sp. Fungi are commonly referred to as mould (mold in the USA), though mould only refers to mycelial growing fungi.
Genera	Part of the taxonomic description of a group of fungi and the most common form of identification. Well known examples include Penicillium, Aspergillus, Cladosporium.
HEPA	High Efficiency Particulate Filtration that has a 99% efficiency of particles larger than 0.3 microns (0.3 µg).
HVAC	Heating ventilation and air conditioning
Hygienist	Individual certified by the AIOH
Hyphae	A part of filamentous growing fungi that is able to elongate and find new moisture and nutrients and to transport them over distance. Often described as a root like structure in appearance, but not in function.
IAQ	Indoor Air Quality
IICRC	Institute of Inspection Cleaning and Remediation Certification

Abbreviation	Description
Mould	Common description of visible fungal colonies with mycelial growth form.
Mycotoxin	A secondary metabolite produced by fungi as a normal part of respiration.
PM_{10}	Particulate matter 10 microns or smaller
$PM_{2.5}$	Particulate matter 2.5 microns or smaller
PPE	Personal protective equipment
ppm	Parts per million
RH	Relative Humidity
SOW	Scope of Works
Spp	Several species belonging to that genus.
Spec A	Spec. A single fungal species was differentiated but not identified.
Species	The specific taxonomic description of a fungus
Spore	A general term referring to all fungal reproductive structures
Substrate	Basis for the nutrients for the fungal growth
Surface Swab	Sterile cotton swab moistened in sterile water which is rubbed on surfaces to pick up fungal spores
Taxa	Systematic categorisation of genera and species
TSP	Total suspended particulates
VOC	Volatile Organic Compound
Yeast	Fungi that produce distinct cells and that reproduce by budding or dividing cells

1 INTRODUCTION

EnviroScience Solutions Pty Ltd (ES) was engaged by Mr Joseph Warman, of NSW Department of Education (DET) Level 2, 188 Macquarie Street, Dubbo, NSW 2830 to examine multiple rooms at Willyama High School, Broken Hill which were found to have a visible and significant mould infestation which was observed by a staff member upon reopening the school after the holiday break.

Multiple site inspections over January and February were undertaken to;

- Assess the level of mould damage and health risks, including safe egress and required personal protective equipment to safely access the campus to undertake the assessments.
- Visual inspections and oratory documentation in an attempt to find the cause of the mould damage.
- Define a preliminary high level scope of works for the remediation of said mould.

This report presents the results of the samples of Air, Swab and Bio-tape impression taken, based on the laboratory analysis by EnviroScience.

2 Background

Spores formed by fungal moulds are small, usually single-celled reproductive bodies which are highly resistant to desiccation and heat and are capable of growing into a new organism without uniting with another organism – i.e. asexual reproduction. There are varied environmental conditions, such as temperature, aridity, etc, for differing species of mould which govern spore development and dispersal.

The most common mode of dispersion of spores is, due to their buoyancy, by air circulation both indoors and outside. As a result, they are the most abundant micro-organisms in the air.

Moulds are in the main saprophytic and as such colonise dead organic matter as a source of nutrients. As they do not produce chlorophyll, they do not require a source of light for growth. Some have low moisture requirements and therefore can survive and flourish in a variety of environments. Thus, there are few indoor environments that will not support at least some mould growth and a number that are likely to be densely colonised (such as damp basements).

Most fungal spores are commonly found in the environment. Aspergillus species, especially A. Fumigatis and some Penicillium species are known to be medical pathogens. These species are soil saprophytes but are easily dispersed via air streams due to the small size of their spores.

Up to 70% of individuals are estimated to have some level of allergy to mould spores, causing headaches and coughing, however, serious health effects are uncommon (Edmonson et al, 2009).

If an individual is immunocompromised due to ChemoRx, organ transplant, HIV (affected T-cell mediated immunity) frail aged, etc, then an opportunistic mould infection can result. This can often be fatal. (National Guidelines for the Prevention of Nosocomial Invasive Aspergillosis During Construction/Renovation Activities, 2002).

The most significant fungal species in indoor air is probably A. fumigates the causative agent of acute broncho-pulmonary Aspergillosis.

3 Scope of Works

The report was limited to the areas identified by the client as to the locations requiring monitoring, namely the three (3) storey block of offices, classrooms, library, administration and internal sporting areas.

The objective of the air monitoring assessment (AMA), and where necessary take samples (Swab and Bio-tape impressions) at this site was to:

- Ascertain the taxa and concentrations of fungi present both indoors and outdoors.
- Compare the results to the recommendations of the *International Mycology Association* and *Guidelines for the investigation, assessment and remediation of mould in workplaces, March 2001* (Canada, Workplace safety and Health Division – Dept. of Labour and Immigration).
- The scope of works involved the following:

- Walk through inspection of the premises,
    - Air sampling for Fungal spores
    - Scientific analysis of selected samples,
    - Preparation of report for client.

4 Site Visits

The Willyama High School multi-storey campus building was visited by EnviroScience staff on the 16th and 25th January and then on the 20th to the 24th February 2024, which included visual assessment and sampling to assess the extent of contamination and to identify potential factors which may have increased the likelihood of active microbial growth to occur and spread throughout the multi-storey building.

It should be noted that there is only a vague history of latent moisture issues, to support the germination and growth of fungal elements for this occurrence.

The following table summarises the visual observations and supporting laboratory analysis made by various EnviroScience staff.

Table 1: Site Inspections Willyama High School

Date	Area	Visual Observations	Fieldwork
16th Jan 2024	Three (3) Storey Campus Building - Northern, Western and Eastern areas. Consisting of Classrooms and Library	Exhibited extensive visible mould, on floor walls, ceilings, furniture, books, documents and clothing, throughout entire building,	Swabs and Bio-tape impressions were taken and transported to EnviroScience Solutions Head Office

		(Note: The Administration-Southern Area, was not inspected).	and Laboratory at 2/3 Douglas Mawson Road, Dubbo NSW 2830. Initial Swabs and BioTapes indicate a IICRC-520:2015. Condition 3 confirming the presence of active microbial growth.
25th Jan 2024	Three (3) Storey Campus Building - Northern, Western, Eastern and Southern areas. Consisting of Classrooms, Library and Administration	Extensive visible mould in Northern, Western and Eastern Sections, separate/isolated air conditioning system to Southern area (namely Administration). Gaps in Asbestos Register where mould was sighted, additional sampling under controlled conditions required for further documentation of scope.	Air samples were taken and transported to EnviroScience Solutions Head Office and Laboratory at 2/3 Douglas Mawson Road, Dubbo NSW 2830. Initial air counts in the Administration Block only indicate a Condition 1, Ref IICRC-520:2015.
20th to 24th Feb 2024	Three (3) Storey Campus Building - Northern, Western, Eastern and Southern areas. Consisting of	Extensive visible mould in Northern, Western and Eastern Sections, separate/isolated air conditioning system to	Air samples were taken and transported to EnviroScience Solutions Head Office and Laboratory at 2/3

	Classrooms, Library and Administration	Southern area (namely Administration).	Douglas Mawson Road, Dubbo NSW 2830. Recommend that the entire southern section be remediated under IICRC-520:2015 Condition 2 guidelines as a precautionary measure.

All site inspections visually confirmed the presence of mould throughout the 3-story campus block in the North, West and Eastern sections of the building consisting of the various classrooms and the library. A walk through of the building, revealed several rooms (see floor plans and images), which exhibited extensive visible mould, on floors, walls, ceilings, services including the Heating, ventilation, and air conditioning (HVAC) system(s), furniture, books, electronic devices, documents, and clothing.

5 Field Work and Calculations

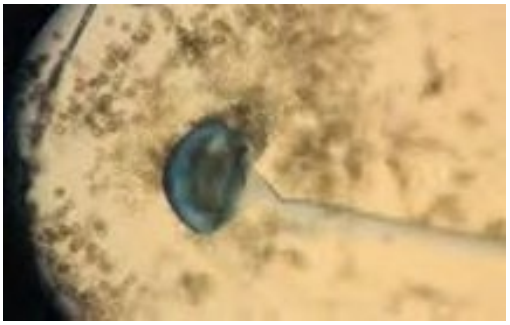
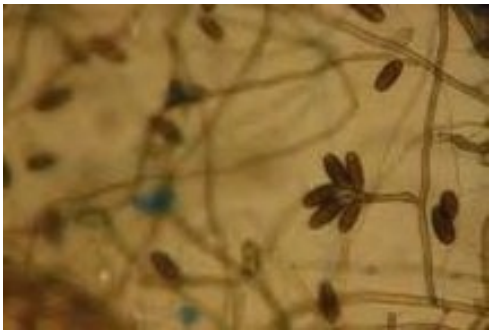
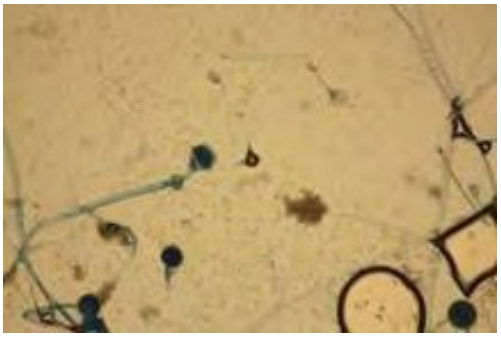
Air monitoring undertaken used a SKC Quick Take 30 constant flow diaphragm pump with a Sieve Impactor attachment. Samples were collected onto Malt Extract Agar (MEA) whereby 100 litres of air were passed over each plate for 5 minutes ie. 20L/min.

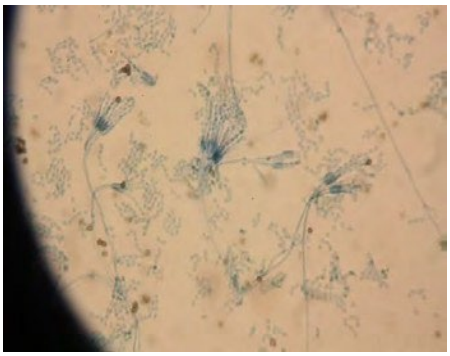
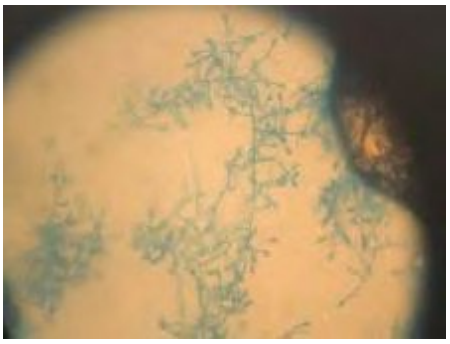
The agar plates were transported in an esky to the EnviroScience Solutions laboratory where they were incubated at 30°C for 5 - 7 days.

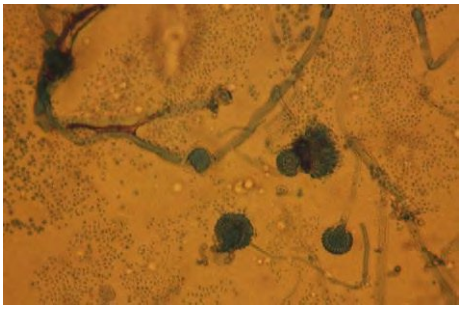
Fungal colonies on swabs and Bio-tape spores were identified to a genus level using a slide preparation stained with Lactophenol Cotton Blue: Ref David Ellis, “Description of Medical Fungi”, School of Molecular Science, University of Adelaide (2007). “Identifying Fungi – A clinical Laboratory Handbook” St-Germaine & Summerbell (2011).

6 Results

6.1 Three (3) Storey Campus Building - Northern, Western and Eastern areas

LOCATION of Surface Swabs 16th Jan 2024	ORGANISM grown
R01-30158-S01 Room AR-ON-11, floor 	Growth of Cladosporium, Alternaria, Rhyzopus spp  Rhyzopus spp x400 mag
R01-30158-S02 Room AR-IE -26, Floor  	Growth of Alternaria, Bipolaris and Mucor spp, and environmental bacilli  Bipolaris spp x400 mag  Mucor spp x400 mag

LOCATION of Bio-Tapes – 16th Jan 2024	ORGANISM at 400x
R01-30158-S03 Room AR-OW-18, floor 	Spores of Cladosporium and Penicillium spp detected  Penicillium spp x400 mag
R01-30158-S04 AR-ON-11, Drum kit, skin 	Occasional spores of Cladosporium spp detected.  Cladosporium spp x400 mag
R01-30158-S05 AR-ON-08, fabric chair. 	Spores of Aspergillus and Alternaria spp detected.  Alternaria spp x400 mag

	 Aspergillus spp x400 mag

The tables above, coupled with the visual inspection, indicates the fungal spore counts in the affected rooms of the Willyama High School, Broken Hill, would be above the outside control and the WHO Guidelines for fungal spores in room air.

The visual inspection and the above tables indicate extensive, active mould growth and therefore potential elevated levels of fungal spores within the affected rooms, is a Condition, 3 (Ref IICRC-520:2015).

The swabs and Bio-tape impressions show spores and active growth of the environmental moulds Cladosporium, Alternaria, and Mucor spp. However, there is evidence that Aspergillus and Penicillium spp, which are recognised human pathogens are also present in several locations tested, and invariably more widespread throughout.

6.2 Administration Campus Building - Southern areas

No visible mould was sighted within the administration building (Southern Building), and some windows were open within this building, additionally it was observed that the HVAC system operated separately to the main classrooms and library sections of the multistorey building.

Air Results – 25th January 2024			
LOCATION	**TOTAL VIABLE SPORE COUNT – CFU*/m³**	**FUNGAL COLONIES – CFU/m³**	**BACTERIAL COLONIES – CFU*/m³**
R02-30158-S01 Outside Control - Playground	180	120 Alternaria spp 50 Cladosporium spp 60 Mucor spp 60 Bipolaris spp 10 Penicillium spp	N/A
R02-30158-S02 Level 2, School Foyer, Main Building, NA to results	80	60 Alternaria spp 10 Penicillium spp 40 Rhyzopus spp	20
R02-30158-S03 Admin Building, Office Foyer	60	60 Alternaria spp 30 Cladosporium spp	20

The results in the above table indicate the counts in the Administration Block are a Condition 1, Ref IICRC-520:2015, and as such it is suitable for occupation by staff.

International guidelines suggest fungal concentrations of <500CFU/m^3 is a reasonable threshold for indoor environments and more than 50CFU/m^3 of a single species (other than Cladosporium or Alternaria spp) may be reason for concern. When assessing fungal contamination of indoor air, both concentration (CFU/m^3) and diversity play a role in identifying potential problems and evaluating the biological quality of the air. Low diversity and high concentration may indicate a potential indoor source of contamination. High diversity and moderate/high concentration may not strictly be an indicator of a specific indoor issue depending on its relationship to outdoor results.

The outside air sampled in the playground showed a spore count of 180, however, this is to be expected in the environment in which these fungi are ubiquitous as plant saprophytes.

Air Results – Week 20th February 2024			
LOCATION	**TOTAL VIABLE SPORE COUNT – CFU*/m³**	**FUNGAL COLONIES – CFU/m³**	**BACTERIAL COLONIES – CFU*/m³**
R03-30158-S01 AR1503 - Entry	60	Environmental fungi	33
R03-30158-S02 AR1501 - Deputy	110	Environmental fungi	20
R03-30158-S03 AR1506 - Clinic	170	60 Alternaria spp 30 Cladosporium spp 70 Mucor spp 10 penicillium spp	20
R03-30158-S04 AR1S13 - Clerical	40	Environmental fungi	20
R03-30158-S05 AR1S14 - Clerical	30	Environmental fungi	30
R03-30158-S06 AR1507 - Printing	30	Environmental fungi	50
R03-30158-S07 AR1508 - Clerical	20	Environmental fungi	10
R03-30158-S08 AR1509 - Principal	30	Environmental fungi	30
R03-30158-S09 AR0522 – Practical	180	40 Cladosporium spp 50 Alternaria spp 40 Mucor Spp 50 Bipolaris spp	60
R03-30158-S10 Outside Control - Rear	130	60 Alternaria spp 40 Cladosporium spp 20 Rhyzopus spp 10 Penicillium spp	N/A

The results in the above table indicate that Rooms AR1506 and AR0522 are above the outside control, but below the WHO guidelines. In this current setting, the rooms would be best left closed to staff.

International guidelines suggest fungal concentrations of <500CFU/m^3 is a reasonable threshold for indoor environments and more than 50CFU/m^3 of a single species (other than Cladosporium spp or Alternaria spp) may be reason for concern. When assessing fungal contamination of indoor air, both concentration (CFU/m^3) and diversity play a role in identifying potential problems and evaluating the biological quality of the air. Low diversity and high concentration may indicate a potential indoor source of contamination. High diversity and moderate/high concentration may not strictly be an indicator of a specific indoor issue depending on its relationship to outdoor results.

The outside air sampled in the playground showed a spore count of 130, however, this is to be expected in the environment in which these fungi are ubiquitous as plant saprophytes.

It is recommended that the entire southern section be remediated under IICRC-520:2015 Condition 2 guidelines as a precautionary measure.

7 Discussion

7.1 Methodology

Australians spend approximately 90% of their time indoors and each building has its own set of circumstances. Air quality may be determined by the site of the building, its design, renovations, whether air handling systems have been maintained, occupant densities and activities conducted within the building.

Many common Indoor Air Quality (IAQ) problems are associated with improperly designed and/or operated and maintained heating, ventilating and air conditioning systems HVAC, overcrowding, moisture incursion and dampness, and poor design due to the lack of natural ventilation.

Natural ventilation refers to the process of using natural airflows to cool and ventilate indoor spaces... it replaces stale air with fresh air. By harnessing the power of wind and temperature differences, this technique

reduces the reliance on mechanical cooling systems, leading to numerous benefits for the environment, economic savings and social benefits for the building occupants. Increasing the amount of natural ventilation into buildings should improve general indoor air quality by reducing the buildup of pollutants, odours, humidity, energy consumption and the amount of noise from compressors and fans. Socially it provides the indoor occupants a connection between indoor and outdoor spaces with increased natural light and views. The building occupants will see increases in productivity, focus, mood, and performance. In an educational setting this would be likely to improve focus and concentration spans and naturally academic performance. Natural ventilation also builds contingency and resilience during energy or system failures.

Australian IAQ guidelines pertain to the comfort of occupants and not exposure standards, they are designed to ensure that all members of the public are protected ensuring general Work Health and Safety obligations are met. Air quality guidelines in this report have been sourced from a number of organisations and are referenced below.

IIRC S520 Standard and reference Guide for Professional Mould Remediation

Australian State of the Environment Report IAQ Ambient air Quality (2016)

Handbook: Indoor Air Quality Australian Building Codes Board (2021)

The mould impacted areas extend throughout all the three levels, encompassing the northern, western and eastern areas of the building.

The southern section (Admin / Sport) operates under a separate evaporative air- conditioning system and is structurally separate from the North, East and Western Sections.

However, in both areas of the building poor building design was observed:

- Lack of natural ventilation, with all windows being small thereby not allowing natural lighting and could not be opened to allow for natural ventilation. Internal classrooms had floor vents which could not be cleaned adequately.
- Water egress issues noted with the large box guttering on the roof and leaking in various internal and external walls.
- Additionally, storage facilities were limited which meant areas could not be routinely and adequately cleaned.

- It was also noted that a retrofit of the original evaporative air conditioning system was supplemented with additional wall units, and this *may be* contributing to the poor air circulation and exchanges throughout the building and general air quality of the indoor air.

7.2 Ground Floor - Three (3) Storey Campus Building - Northern, Western and Eastern areas

The most heavily impacted areas within the ground floor were the Music faculty and Art Faculty. Microbial growth was also present to both the Design and Technology Faculty and Food-tech Faculty. although, to a lesser extent. The Art faculty is situated on the north - western aspect of the building and the Music Faulty is situated on the Northern side of the building. The Bio-Tape samples taken from this area (R01-30158-S01) returned as IICRC Condition 3 confirming the presence of active microbial growth. Suspected visual microbial growth was generally noted on majority of building materials (porous and non-porous) and majority of contents (porous and non- porous) throughout both areas.

Visual microbial growth was noted throughout both the Design and Technology and Food-tech faculties. However, to a lesser extent than the Art and Music Faculties. The Food-tech faculty appears to have been regularly cleaned to a satisfactory standard. Despite this, traces of sporadic visual microbial growth were noted throughout. Visual microbial growth throughout the design and technology classrooms were minor with visual microbial growth noted to specific areas including inside chip board cupboards and on porous clothing. This is likely a result of the increased ventilation in this area which would have been designed to control saw dust and metal work fumes. Despite this, the staff study (AR0E14) in this area was heavily impacted by visual mould growth. Visual mould was noted to the carpet floors, clothing and other porous and non-porous contents throughout staff rooms.

Leaching to brickwork was noted to be present to ground floor walls however, there were no clear signs of a specific water ingress event that could be directly linked to the microbial growth identified. As such, the active microbial growth present throughout this area is likely associated with the limited sunlight, limited ventilation and humidity which was noticeably worse in this area in comparison to other areas of the building.

It is recommended that the entire Northern, Western and Eastern, multistorey building be remediated under IICRC-520:2015 Condition 3 guidelines.

7.3 Level 1 - Three (3) Storey Campus Building - Northern, Western and Eastern areas

In comparison to the ground floor, the microbial growth noted throughout level 1 was less significant but still significantly infested with mould growth. Level 1 areas that were more noticeably affected include but are not limited to the staff areas, carpeted rooms and thoroughfares. The swab sample taken from level 1 (R01-30158-S03) returned as IICRC Condition 3 confirming the presence of active mould growth throughout this area. It is likely that the mould growth identified throughout level one originated from the Music and Art Faculties located on the ground floor and were dispersed via the evaporative cooling system. Following the dispersion of microbial spores throughout level 1 it is likely that areas of level with elevated humidity were able to harbor active mould which would likely explain the sporadic fashion in which the visual mould was identified throughout level 1.

It is recommended that the entire Northern, Western and Eastern, multistorey building be remediated under IICRC-520:2015 Condition 3 guidelines.

7.4 Level 2 Three (3) Storey Campus Building - Northern, Western and Eastern areas

Visual mould growth was identified throughout level 2, however to a much lesser extent than both level 1 and ground floor. Visual mould growth identified throughout level 2 was still visually observed. Due to the enclosed nature of the building and evaporative air conditioning system it is likely that microbial spores dispersed from ground floor and level 1 have contaminated most, if not all areas of level 2.

It is recommended that the entire Northern, Western and Eastern, multistorey building be remediated under IICRC-520:2015 Condition 3 guidelines.

7.5 Administration Campus Building - Southern areas

No signs of visual mould growth were identified throughout all areas of the southern section of the building. Despite this, total airborne mould concentrations noted on the internal samples taken from the 'AR1506- Clinic' and 'AR0522- Practical' were slightly elevated when compared to the outside control sample. However, because the mould genus types detected both internal samples mentioned above were generally comparable to the mould genus types detected on the external control sample it is difficult to conclude that the elevated levels were caused by an internal source.

EnviroScience Solutions recommends that the entire southern section be remediated under IICRC-520:2015 Condition 2 guidelines as a precautionary measure.

8 Conclusions and Recommendations

EnviroScience Solutions was unable to determine the exact cause of the microbial growth. However, following a detailed inspection of every room of the building EnviroScience Solutions believes that there were several key factors likely to be contributors.

These contributing factors include:

Moisture created from within the building - lack of natural ventilation, due to windows not being able to be opened, condensation, natural lighting, poor insulation and possibly the HVAC retrofit of the original evaporative air conditioning system which was supplemented with additional wall units.

Water Ingress from outside – large box guttering and large storm events not coping with existing design with evidence of structural faults such as leaching to brickwork. Of note there was a considerable rainfall event in January with data obtained from the Australian Government Bureau of Meteorology website (http://www.bom.gov.au/), at the Broken Hill Airport Automatic Weather Station site. The mean rainfall since 1947 to 2024 in January was 29.3mm. Between the 4th and 9th January 2024, 118mm of rain was recorded at the Broken Hill site, approximately four (4) times the mean rainfall, in a single event over the 5 days. Like most infrastructure increased climatic events of this magnitude push existing infrastructure to cope with these types of events.

Building general hygiene – overcrowding and inadequate storage facilities, not allowing for general routine cleaning and allowing organic debris to accumulate and thereby provide a potential growing medium.

Unless these potential issues are permanently fixed and resolved, even after remediation works the reoccurrence of mould growth is likely.

EnviroScience Solutions recommends that all levels and rooms of the impacted building (North, South and Western) be treated as IICRC Condition 3, and the administrative area in the Southern of the building be treated precautionary as IICRC Condition 2.

The site map included in Appendix A shows the areas to be treated as Condition 3. Refer to Appendix D for full site images.

It is recommended that a detailed scope of works be prepared this will include destructive testing and inspection to determine if additional water/moisture problems are identified within wall and ceiling cavities, these works will need to be undertaken under controlled conditions.

Additionally other hazards, namely asbestos will need to be identified and incorporated into the scope of works. Of note some asbestos products will not be able to be remediated and will need to be removed due to their porous nature and that they may be damaged during the physical abrasiveness of remediation works.

Additionally porous materials generally cannot be successfully remediated under the *IICRC-520:2015 Condition 3 guidelines* this would apply to the current vermiculite sprayed ceiling fire retardant, carpets, paper products, furnishings, HVAC systems and electronics.

When considering and designing the scope of works the building envelope will need to be segregated into separate areas for the purpose of remediation; Structural, HVAC and Contents. The following table gives a high-level guidance for remediation under Condition 3 guidelines, sourced from IICRC R520: 2015 Reference Guide for Professional Mold Remediation.

High Level Guidance for Remediation – Condition 3 Guidelines			
Building Segment	**Porosity***	**Materials**	**Remediation**
Structural Remediation	Porous	Plasterboard, ceiling tiles, insulation, particle/chipboard, fibre cement sheet, medium density fibreboard, carpet, vermiculite and similar coatings	Discard
	Semi-porous	Wood, brick, plaster, concrete, plywood	Abrasive methods, wire brushing, sanding, media blasting or other appropriate methods
	Non-porous	Glass, metal, laminate, plastic, porcelain, ceramic	HEPA vacuuming, liquid based methods
HVAC Remediation	Porous	Insulation, filters, flexible ducting, metal coils	Discard
	Semi-porous	Adhesives	Abrasive methods, wire brushing, sanding, media blasting or other appropriate methods
	Non-porous	Plastic, metal, galvanised steel	HEPA vacuuming, liquid based methods
Contents Remediation	Porous	Clothing and other textiles, padded or upholstered items, leather, taxidermy, paper goods, and many types of fine art	Discard
	Semi-porous	Unfinished wood, masonry	Abrasive methods, wire brushing, sanding, media blasting or other appropriate methods
	Non-porous	Finished wood, glass, metal, plastic	HEPA vacuuming, liquid based methods
*Porous: Materials that easily absorb or adsorb moisture and, if organic, can easily support fungal growth			
*Semi-Porous: Materials that absorb or adsorb moisture slowly and, if organic, can support fungal growth			
*Non-Porous: Materials that do not absorb or adsorb moisture and do not easily support fungal growth			

The above table needs to be considered for the scoping of the project to consider the economic, environmental and social implications of what is required to remediate the building.

9 Limitations

This report only covers the samples taken as detailed at Willyama High School, the testing and inspection was not destructive; subfloor, most ceiling spaces, wall cavities could not be inspected**.** Should there be any variation in the site conditions which could influence the result beyond this date, further assessment may be indicated.

Despite all reasonable care and diligence, the conditions encountered, and the concentrations of contaminants measured may not be representative at any other point at the site.

Reported By

Juliet Duffy MSM Syd Uni

Director MAICD

Occupational Hygienist MAIOH

Appendix A: Site Map showing Remediation Areas


AR0W01
AR0W02
AR0W01
AR0N02
AR0N01
AR0W04
AR0N14
AR0E05
AR0W10
AR0W03
AR0N13
AR0N03
AR0E21
AR0E04
AR0E01
AR0W13
AR0W12
AR0W11
AR0W09
AR0W08
AR0W06
AR0W05
AR0N22
AR0N12
AR0N11
AR0N05
AR0E20
AR0E02
AR0W17
AR0W19
AR0N21
AR0E24
AR0W14
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AR0E18
AR0E15
AR0E26
AR0E06
AR0W32
AR0N17
AR0W15
AR0E03
AR0W39
AR0W23
AR0W21
AR0N19
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AR0E13
AR0E14
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AR0E07
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AR0W40
AR0W22
AR0W35
AR0W29
AR0N24
AR0E09
AR0W34
AR0W27
AR0W26
AR0N23
AR0E12
AR0W41
AR0E27
AR0E11
AR0E28
AR0E30
AR0S10
AR0S09
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AR0S16
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AR0S04
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AR0S23
CARPET FLOOR ON CONCRETE
VINYL FLOOR ON CONCRETE
CONCRETE FLOOR
CERAMIC FLOOR
HARDWOOD FLOOR
NO ACCESS AVAILABLE
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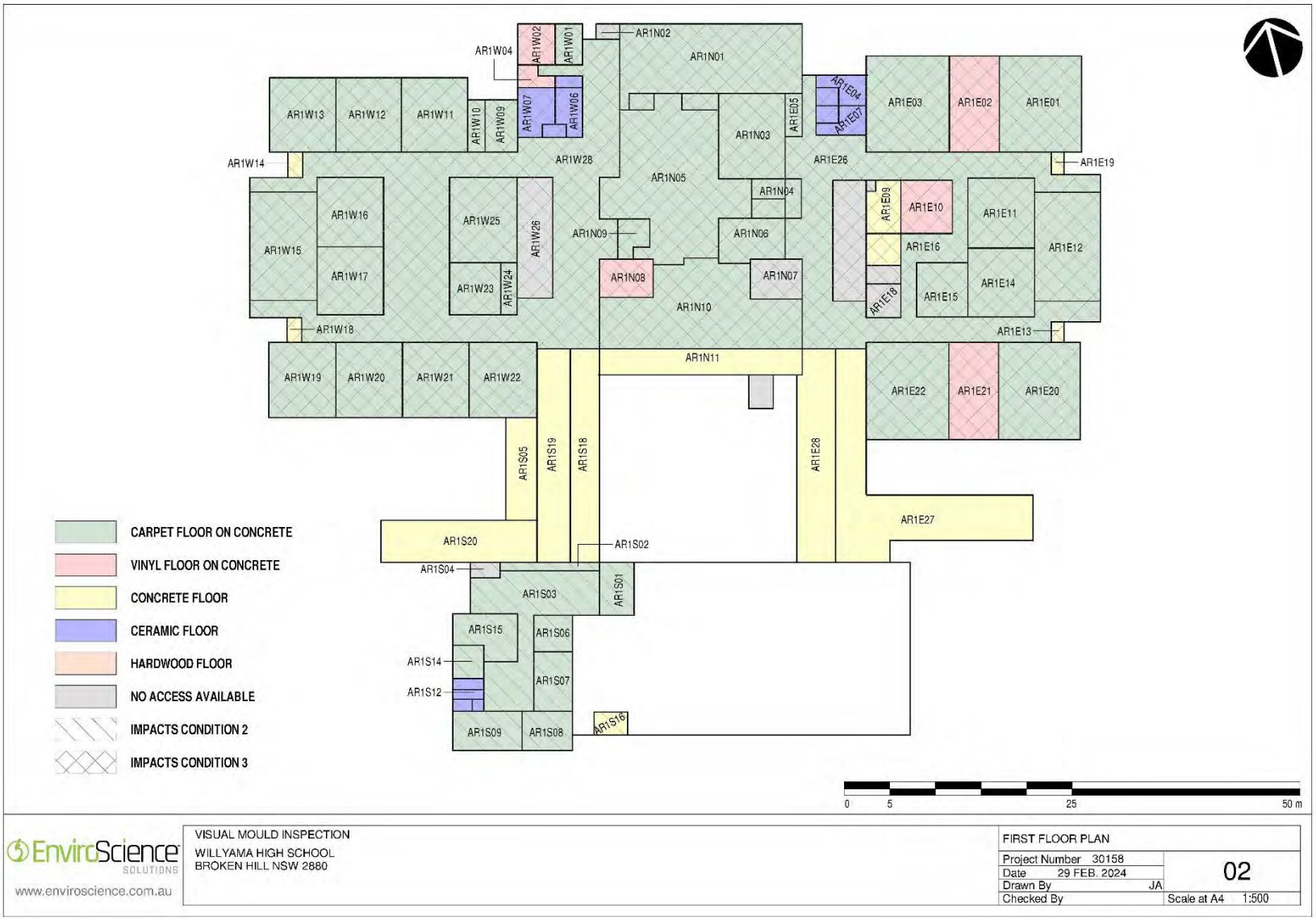
VISUAL MOULD INSPECTION
WILLYAMA HIGH SCHOOL
BROKEN HILL NSW 2880
GROUND FLOOR PLAN
Project Number 30158
Date 29 FEB. 2024
Drawn By JA
Checked By
01
Scale at A4 1:500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AR1W02
AR1W01
AR1N02
AR1N01
AR1W13
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AR1W11
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AR1W06
AR1N03
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AR1E04
AR1E07
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VINYL FLOOR ON CONCRETE
CONCRETE FLOOR
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HARDWOOD FLOOR
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Checked By
02
Scale at A4 1:500


AR2N02
AR2W01
AR2N03
AR2N01
AR2W02
AR2N04
AR2E04
AR2E03
AR2E02
AR2E01
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AR2W08
AR2W07
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AR2E24
CARPET FLOOR ON CONCRETE
VINYL FLOOR ON CONCRETE
CONCRETE FLOOR
CERAMIC FLOOR
HARDWOOD FLOOR
NO ACCESS AVAILABLE
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IMPACTS CONDITION 3
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BROKEN HILL NSW 2880
SECOND FLOOR PLAN
Project Number 30158
Date 29 FEB. 2024
Drawn By JA
Checked By
03
Scale at A4 1:500

Appendix B: Site Images – 16/01/2024 Visit

Image 1: Mould

Image 2: Mould on grime on ceramic tiles

Image 3: Mould

Image 4: Wall/ceiling

Image 5: Mould on concrete

Image 6: Mould nearby air-conditioning duct

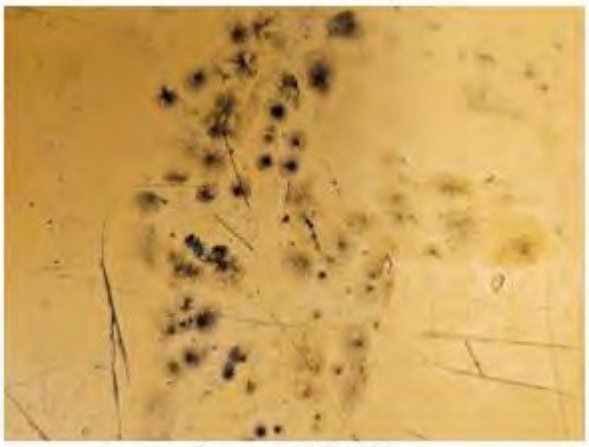


Image 7: Mould

Image 8: Mould

Image 9: Mould by air-conditioning duct

Image 10: Cabinet, infestation

Image 11: Table top

Image 12: Mould on fabric

Image 13: Mould

Image 14: Kitchen

Image 15: Mould

Image 16: Mould

Image 17: Mould

Image 18: Flooring

Image 19: Flooring

Image 20: Brick wall

Image 21: Ceiling condensation

Image 22: Fabric chair

Image 23: Carpet, mould

Image 24: Carpet

Image 25: Carpet

Image 26: Fabric chair, mould

Image 27: Fabric chair

Image 28: Drum skins, mould

Image 29: Mould, vinyl sheet floor

Image 30: Drum sticks

Image 31: Instruments and chair

Image 32: Mould, carpet

Image 33: Mould on carpet

Image 34: Mould

Image 35: Mould

Image 36: Mould

Image 37: Mould infestation

Image 38: Mould on carpet

Image 39: Mould, desk chair

Image 40: Shoes, mould

Image 41: Mould, concrete steps

Image 42: Mould

Image 43: Mould

Image 44: Mould

Image 45: Chair

Image 46: Carpet tiles

Image 47: Mould, vinyl sheet

Image 48: Mouse pad

Image 49: Alternaria spp x400

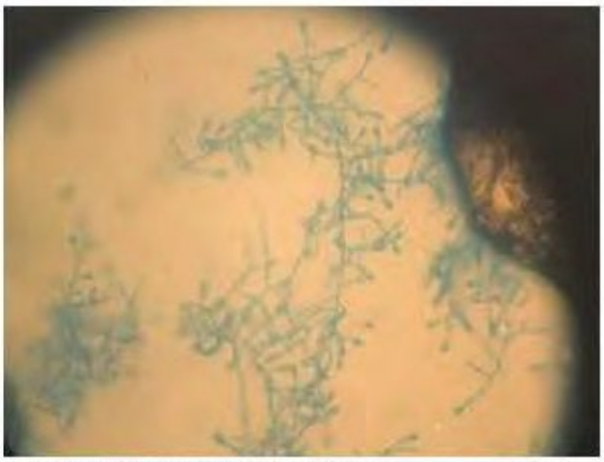
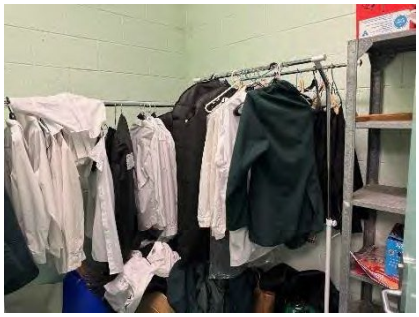
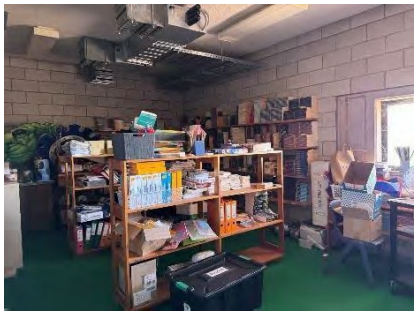
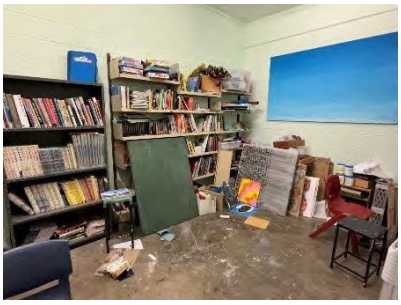
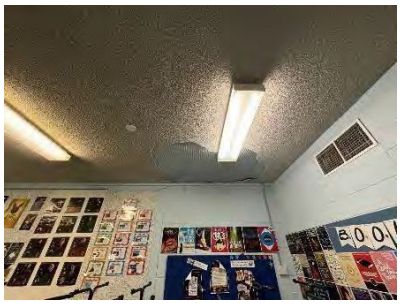


Image 50: Cladosporium spp x400

Porous Textiles: clothing, fabric and other textile items		
		
Porous Furnishings: area rugs, loos carpet, upholstery, mattresses, wicker and similar items		
		

Paper Goods: books documents, manuscripts, family records, scrapbooks, photographs, and similar items		
		
Fine Art: paintings, sculpture, works of art, and similar items		
		

Semi-porous Items: primarily unfinished wood		
		
Nonporous Items: finished wood, glass, metal, plastics, electronics, and similar items		
		

Appendix D: Visual Inspection February 2024

Photo	Material Type	Description
 B00A-R0E01 - Welding area	Masonry walls, concrete floor and concrete ceiling.	No signs of visual mould growth or water damage were noted. Condition 2
 B00A-R0E02 - Materials Store	Masonry walls, concrete floor and concrete ceiling.	No signs of visual mould growth or water damage were noted. Condition 2

Photo	Material Type	Description
 B00A-R0E03 - Plant room	Masonry walls, concrete ceiling and concrete floor.	No signs of visual mould growth or water damage were noted. Condition 2
 B00A-R0E04 - Materials Technology Learning Space	Masonry walls, concrete floor and a mix of suspended ceiling tiles and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Condition 2

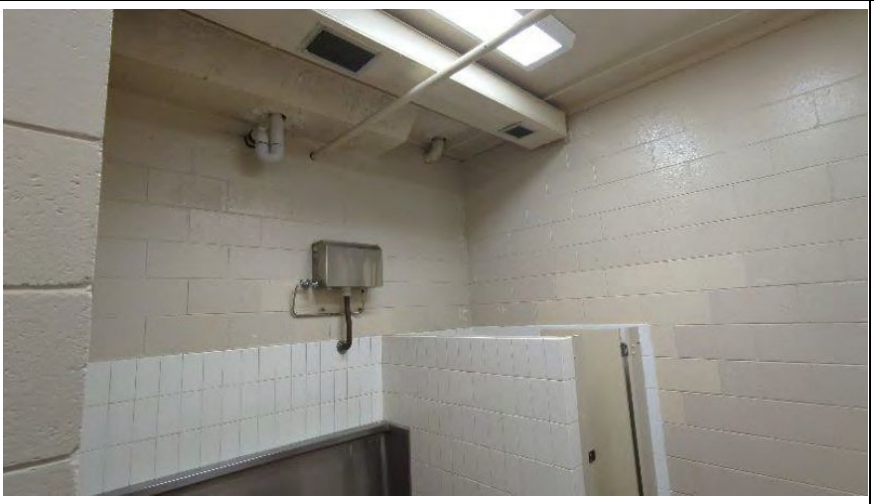
Photo	Material Type	Description
 B00A-R0E20 - Boys Toilet	Masonry wall, ceramic wall tiles, ceramic floor tiles.	Suspected visual mould growth was noted to upper section of masonry wall . Evaporative water stains noted to ceramic floor tiles. Condition 3
 B00A-R0E21 - Girls Toilet	Masonry wall, ceramic wall tiles, ceramic floor tiles.	No signs of visual mould growth were noted. Evaporative water stains noted to ceramic floor tiles. Condition 3

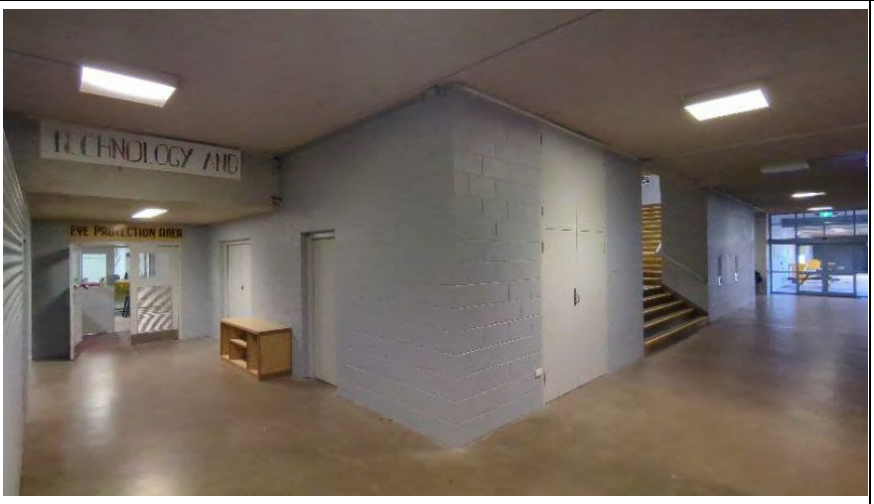
Photo	Material Type	Description
 B00A-R0E24 - Movement	Masonry walls, concrete floor and sprayed coating (vermiculite) ceiling.	Traces of suspected visual mould were noted to concrete floor and lower section of masonry wall. Condition 3
 B00A-R0E06 - Design LS	Masonry walls, concrete floor and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Condition 3

Photo	Material Type	Description
 B00A-R0E26 - General LS	Masonry walls, vinyl floor sheeting, composite ceiling panels.	Suspected visual mould growth was noted to leather boots on shoe rack. Traces of suspected visual mould growth noted inside bench cupboard. Refer to index photo 18 Condition 3
 B00A-R0E25 - General LS	Masonry walls, vinyl floor sheeting, composite ceiling panels.	Suspected visual mould growth was noted to leather boots on shoe rack. Traces of suspected visual mould growth noted to inside sink top cupboard. Condition 3

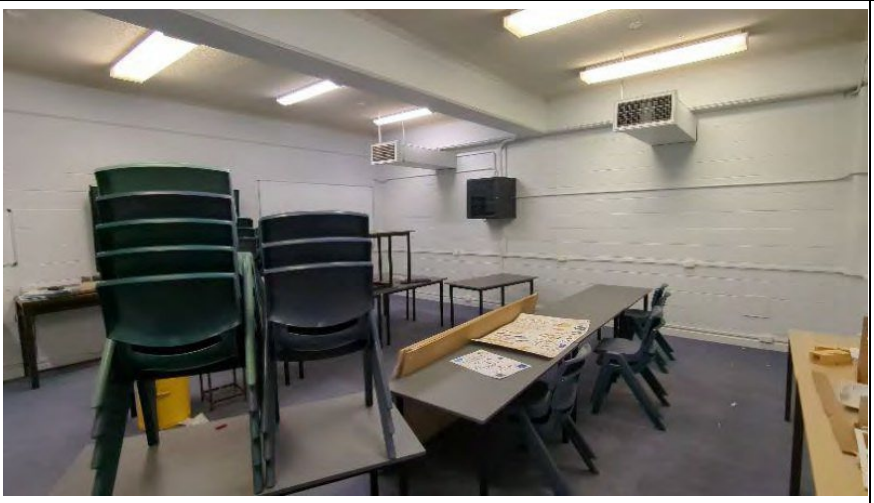
Photo	Material Type	Description
 B00A-R0E07 - Design LS	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling	Suspected visual mould growth was noted to carpet and hardwood cupboard. Refer to Index photo 19 Condition 3
 B00A-R0E14 - Staff Study	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling	Suspected visual mould growth was noted to carpet, porous furniture and porous contents. Refer to Index photos 20 - 25 Condition 3

Photo	Material Type	Description
 B00A-R0E09 - Materials LS	Masonry walls, concrete floor and sprayed coating (vermiculite) ceiling	Suspected visual mould growth was noted to chipboard cabinetry Refer to Index photo 28 Condition 3
 B00A-R0E12 - Store room	Masonry walls, concrete floor and sprayed coating (vermiculite) ceiling	No signs of visual mould growth were noted. Water ingress (leaching) was noted to the upper section of masonry wall. Refer to index photo 26 - 27 Condition 3

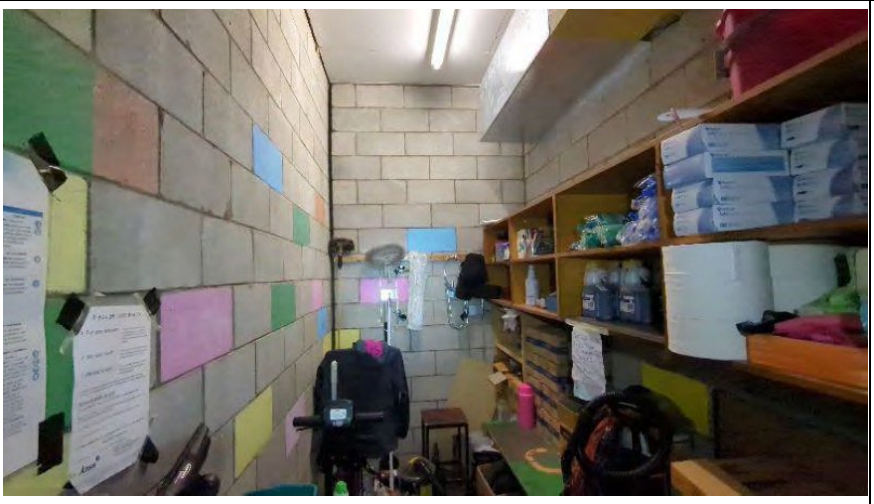
Photo	Material Type	Description
 B00A-R0E18 - Store room	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Suspected visual mould were noted to chipboard shelves, chipboard benchtop and porous contents. Refer to index photo 29 - 31 Condition 3

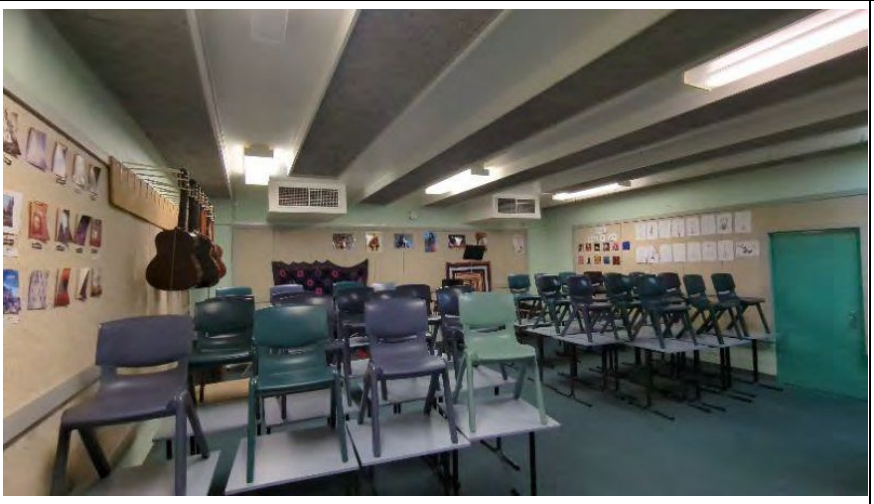
Photo	Material Type	Description
 B00A-R0N12 - Music LS	Masonry walls, plasterboard walls, carpet over concrete and acoustic ceiling tiles.	Suspected visual moud growth was noted to carpet, plasterboard wall, all furniture and all contents. Refer to index photo 32 - 40 Condition 3

Photo	Material Type	Description
 B00A-R0N11 - Music Practice Room	Masonry walls, plasterboard walls, carpet over concrete and acoustic ceiling tiles.	Suspected visual moud growth was noted to carpet, plasterboard wall, all furniture and all contents. Refer to index photos 41 - 48 Condition 3

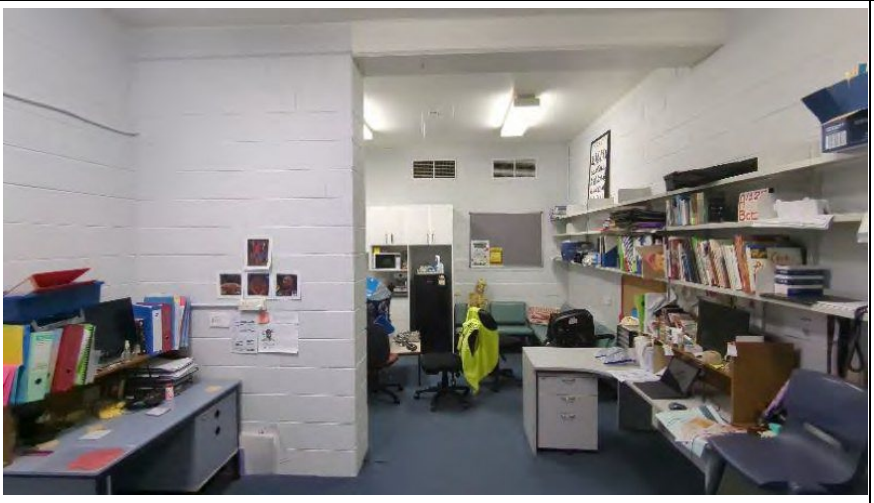
Photo	Material Type	Description
 B00A-R0N08 - Staff Study	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to carpet, all furniture and all contents. Refer to Index photos 49 - 62 Condition 3

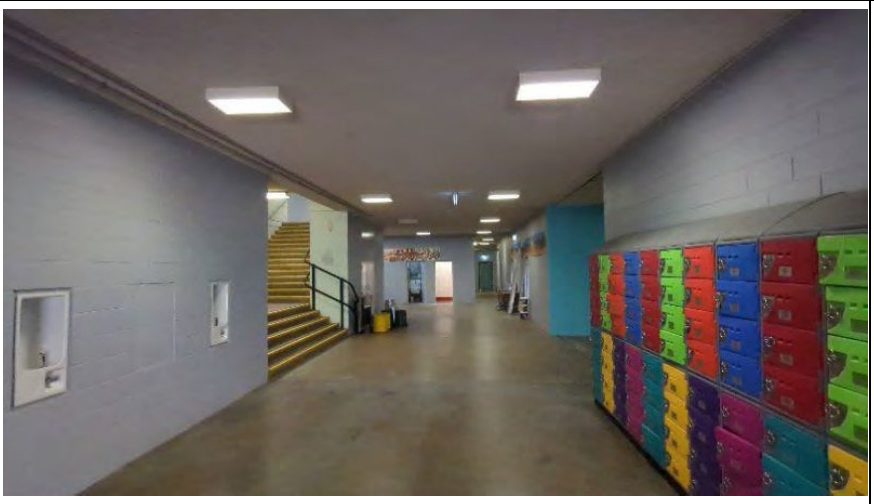
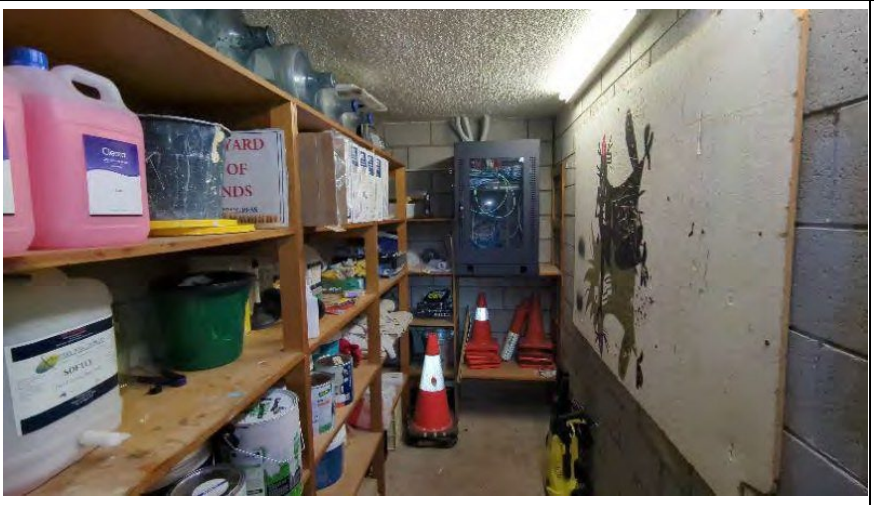
Photo	Material Type	Description
 B00A-R0W32 - Movement	Masonry walls, carpet over concrete and sprayed coating (vericulite) ceiling.	Traces of suspected visual mould growth were noted to the concrete floor, lower sections of masonry walls, hardwood furniture and artworks. Condition 3
 B00A-R0N21 - Cleaning Store	Masonry walls, concrete floor and sprayed coating (vermiculite) ceiling	Traces of suspected visual mould growth were noted to chipboard shelving unit Refer to Index photos 63 - 66 Condition 3

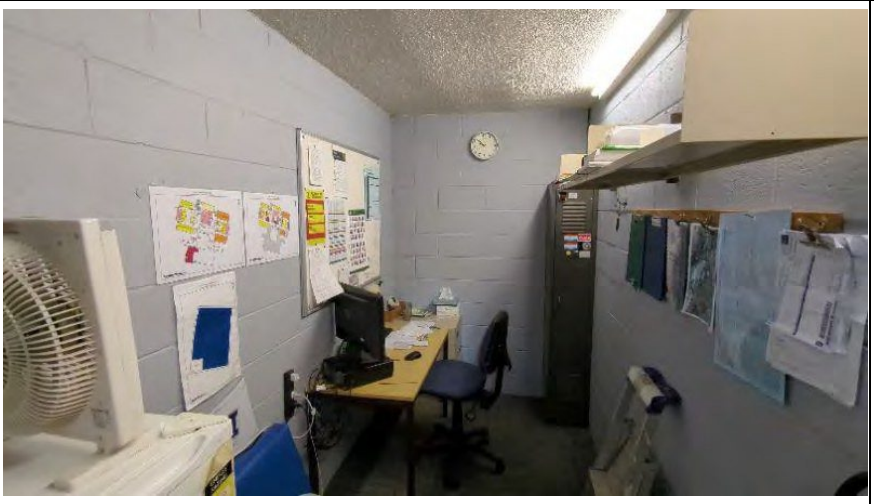
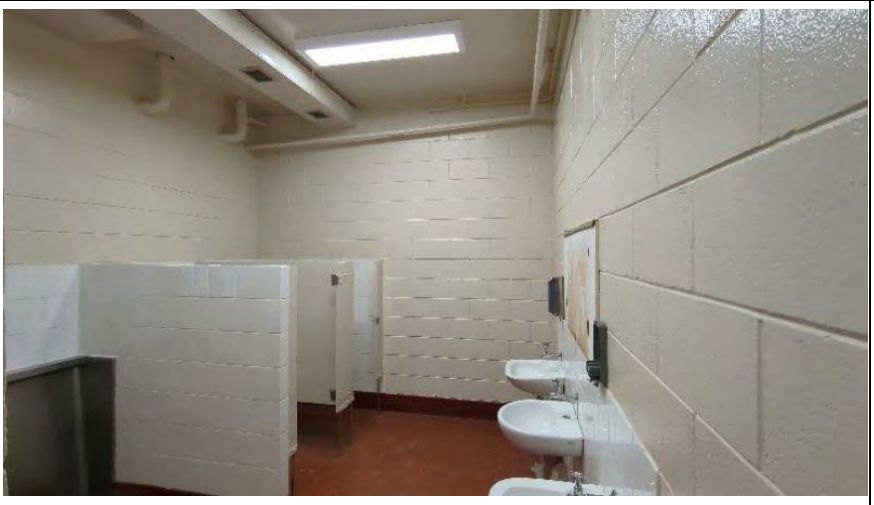
Photo	Material Type	Description
 B00A-R0N22 - GA office	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Refer to index photos 67 - 68 Condition 3
 B00A-R0W05 - Boys Toilet	Concrete ceiling, ceramic, masonry walls, ceramic wall tiles and ceramic floor tiles.	Suspected visual mould growth was noted to ceramic floor tiles, masonry walls, ceramic wall tiles and concrete ceiling. Refer to index photos 70 - 77 Condition 3

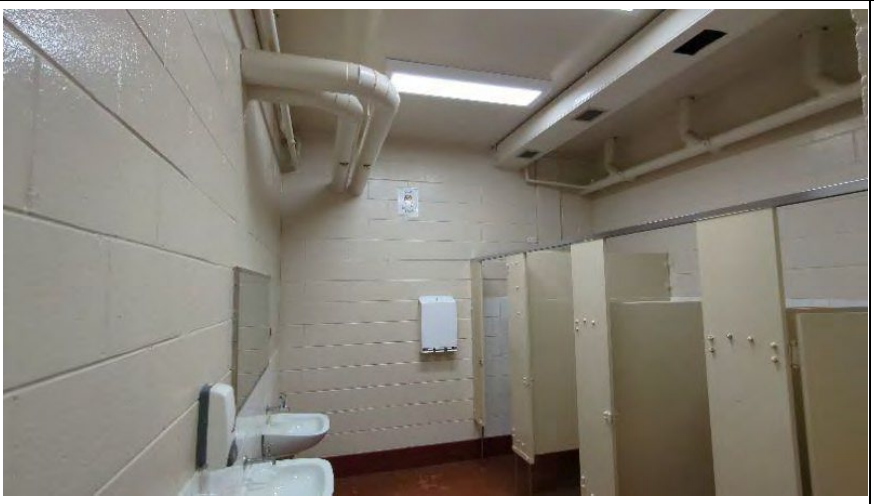
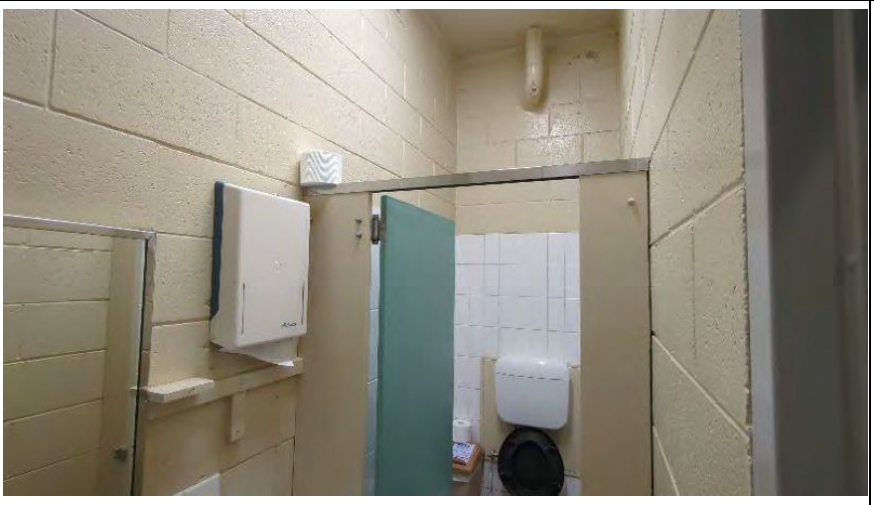
Photo	Material Type	Description
 B00A-R0W06 - Girls toilet	Concrete ceiling, ceramic, masonry walls, ceramic wall tiles and ceramic floor tiles.	Suspected visual mould growth was noted to ceramic floor tiles, masonry walls, ceramic wall tiles and concrete ceiling. Refer to index photos 78 - 81 Condition 3
 B00A-R0W04 - Staff Toilet	Concrete ceiling, masonry walls and ceramic floor tiles.	No signs of visual mould growth were noted. Evaporative water stains were noted to ceramic floor tiles. Refer to index photos 82 - 83 Condition 3

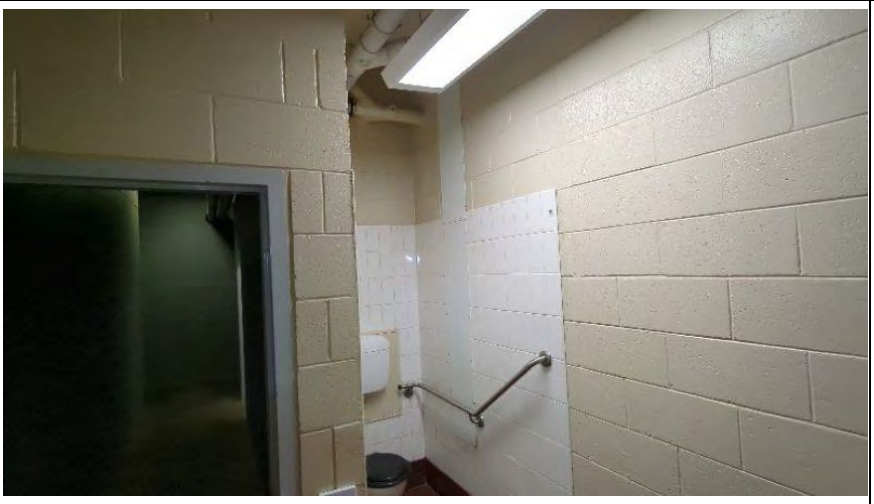
Photo	Material Type	Description
 B00A-R0W03 - Staff Toilet	Concrete ceiling, ceramic, masonry walls, ceramic wall tiles and ceramic floor tiles.	No signs of visual mould growth were noted. Evaporative water stains were noted to ceramic floor tiles. Condition 3
 B00A-R0W02 - Movement	Concrete floor, masonry walls and sprayed coating (vermiculite) ceiling.	Traces of suspected visual mould growth were noted to concrete floor, lower sections of masonry walls and art works. Refer to index photos 85 - 86 Condition 3

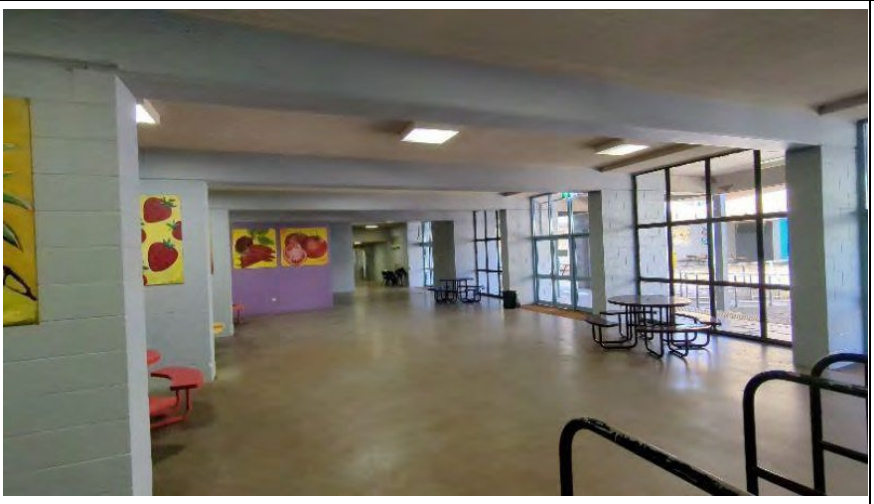
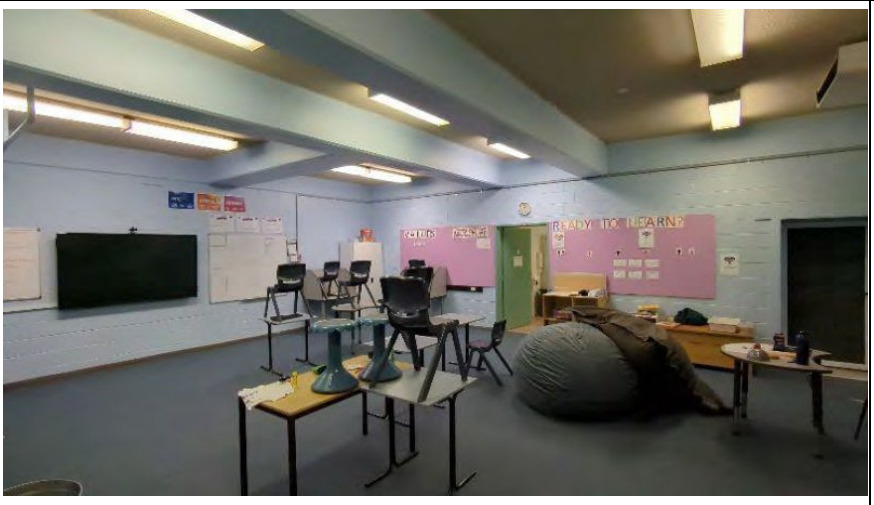
Photo	Material Type	Description
 B00A-R0N19 - Movement	Concrete floor, masonry walls and sprayed coating (vermiculite) ceiling.	Traces of suspected visual mould noted to floor, lower sections of masonry wall and art works. Condition 3
 B00A-R0W26 - Special Learning Space	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Refer to index photos 88 - 92 Condition 3

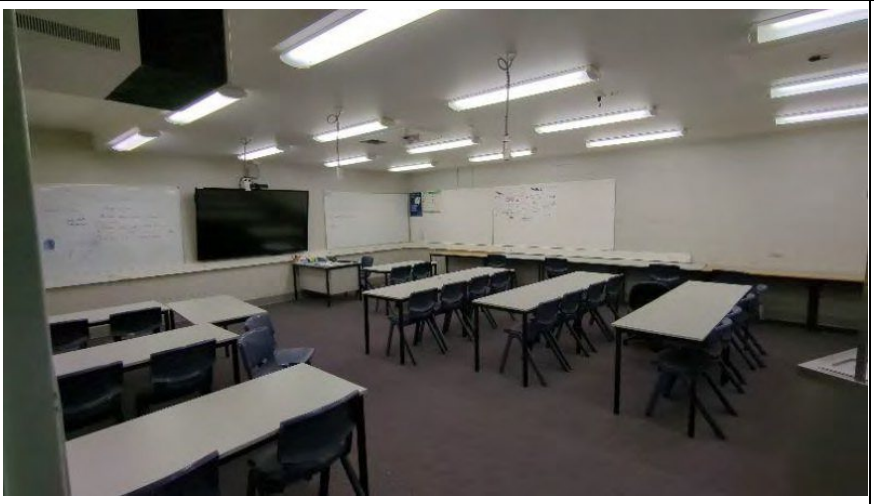
Photo	Material Type	Description
 B00A-R0W23 - Materials Technology L.S	Masonry walls, concrete ceiling and carpet over concrete.	Suspected visual mould growth was noted to carpet, porous furniture and within benchtop cupboard. Refer to index photos 92 - 97 Condition 3
 B00A-R0W22 - Storeroom	Masonry walls, concrete ceiling and carpet over concrete.	No signs of visual mould or water damage were noted. Condition 3

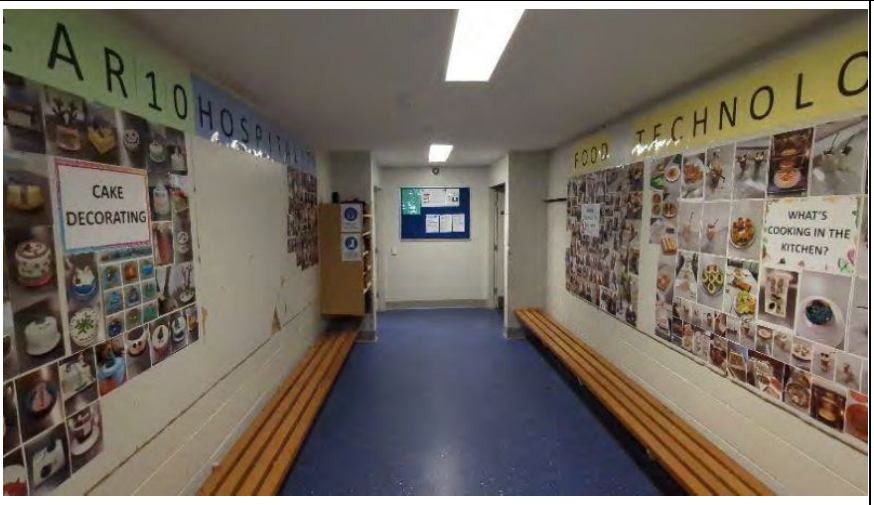
Photo	Material Type	Description
 B00A-R0W21 - Store Room	Masonry walls, concrete ceiling and concrete floor.	No signs of visual mould or water damage were noted. Refer to index photos 98-101 Condition 3
 B00A-R0W40 - Movement	Masonry walls, vinyl floor sheeting and sprayed coating (vermiculite) ceiling.	Suspected visual mould was noted to leather boots within shoe rack. Refer to index photos 102-104 Condition 3

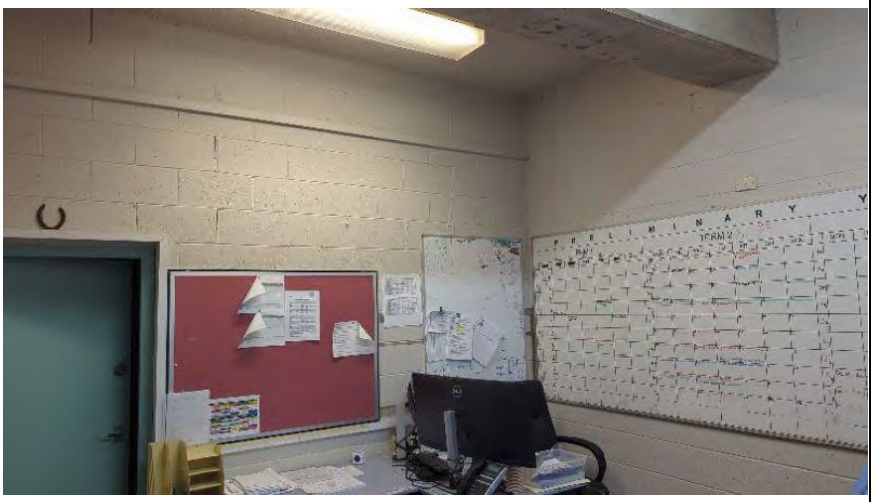
Photo	Material Type	Description
 B00A-R0W34 - Food Tech LS	Masonry walls, plasterboard walls and plasterboard ceiling.	Traces of suspected visual mould growth noted to vinyl floor sheeting. Refer to index photos 105 - 113 Condition 3
 B00A-R0W29 - Staff Study	Masonry walls, carpet over concrete and concrete ceiling.	Suspected visual mould growth was noted to carpet. Refer to index photos 115 - 120 Condition 3

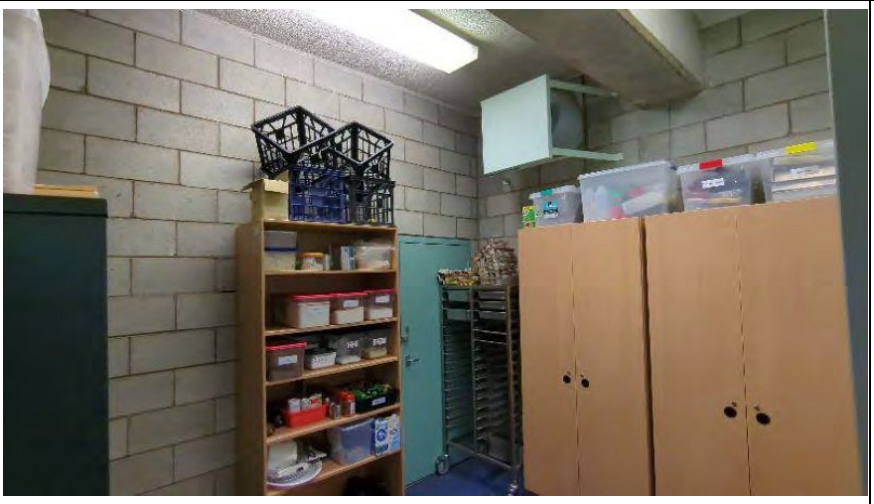
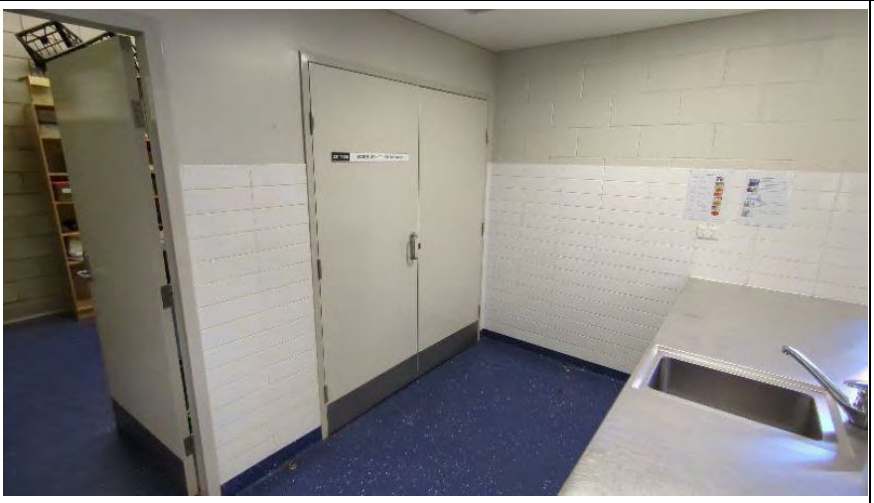
Photo	Material Type	Description
 B00A-R0W27 - Storeroom	Masonry walls, concrete floor and sprayed coating (vermiculite) ceiling	No signs of visual mould or water damage were noted. Refer to index photos 121 - 127 Condition 3
 B00A-R0W41 - Pantry		Pantry No access Assumed mould growth

Photo	Material Type	Description
 B00A-R0W35 - Storeroom	Masonry walls, plasterboard ceiling and vinyl floor sheeting.	No signs of visual mould growth or water damage were noted. Refer to index photos 128 - 131 Condition 3
 B00A-R0W36 - Pantry		No access Assumed mould growth

Photo	Material Type	Description
 B00A-R037 - Research	Building materials comprised of plasterboard ceiling, plasterboard walls and vinyl floor sheeting.	No signs of visual mould growth or water damage were noted. Refer to index photos 132 - 137 Condition 3
 B00A-R0W39 - Food Tech	Plasterboard walls, carpet over concrete and acoustic ceiling tiles.	Traces of suspected visual mould growth was noted to carpet floor. Refer to index photos 138 - 143 Condition 3

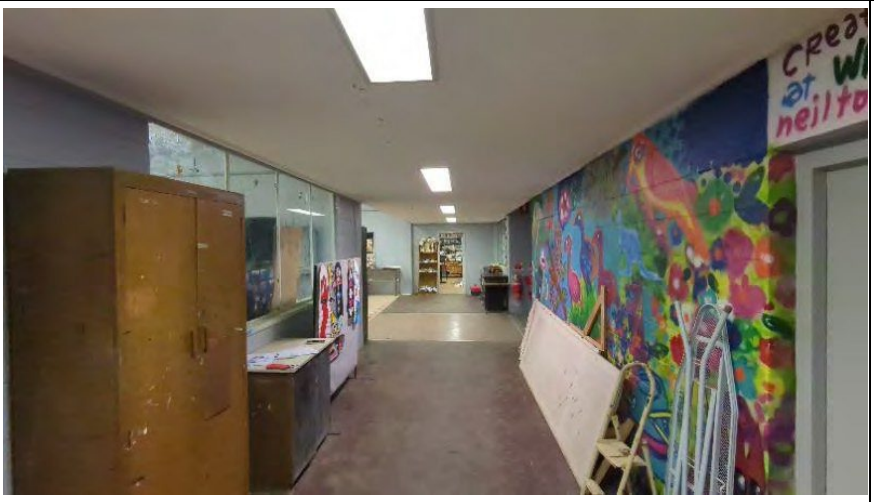
Photo	Material Type	Description
 B00A-R0W17 - Movement	Masonry walls, concrete floor and plasterboard ceiling.	Suspected visual mould growth was noted to masonry walls, concrete floor, plasterboard ceiling and all contents. Refer to index photos 147 - 156 Condition 3

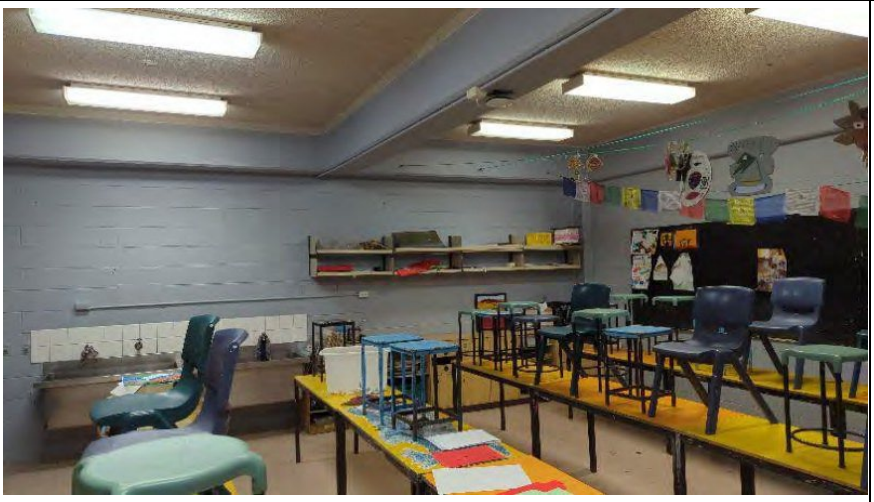
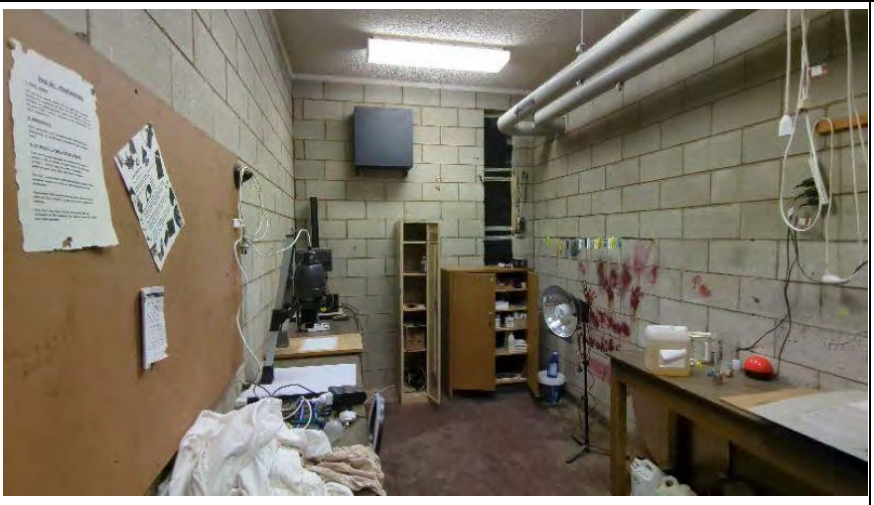
Photo	Material Type	Description
 B00A-R0W18 - Art LS	Masonry walls, concrete floor and sprayed coating (vermiculite) ceiling	Suspected visual mould growth was noted to masonry walls, concrete floor, plasterboard ceiling and all contents. Refer to index photos 157 - 163 Condition 3
 B00A-R0W08 - Dark Room	Masonry walls, concrete floor and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted chipboard entrance archway. Refer to index photos 167 - 170 Condition 3

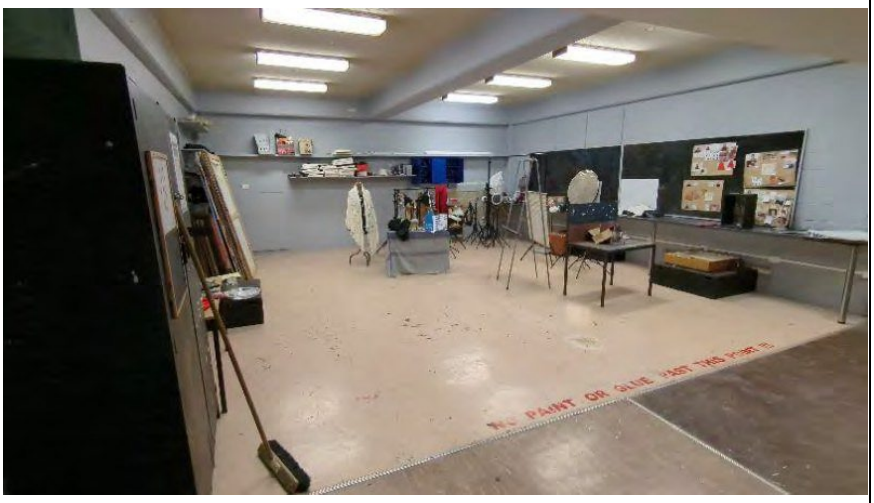
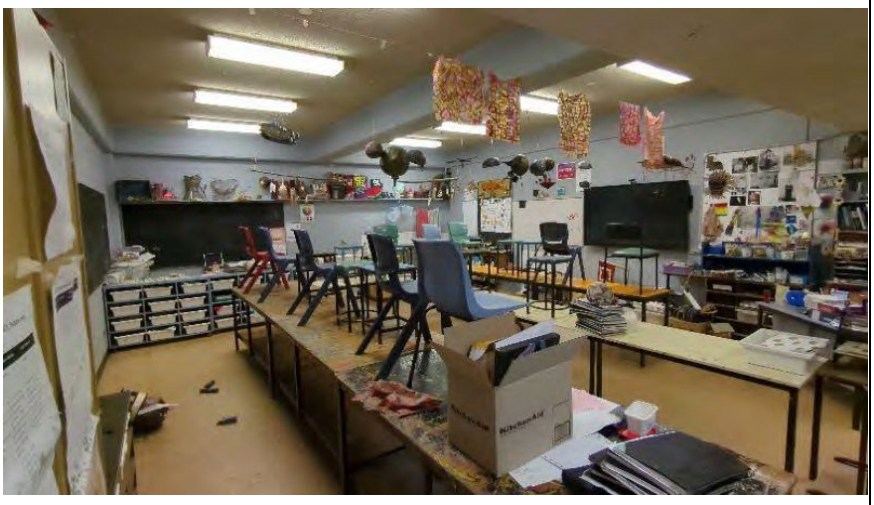
Photo	Material Type	Description
 B00A-R0W16 - Workshop	Masonry walls, vinyl floor sheeting and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth noted to vinyl floor sheeting, masonry walls and all contents. Refer to B00A- R0W17 + index photo 173 Condition 3
 B00A-R0W14 - Art L.S	Masonry walls, vinyl floor sheeting and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth noted to vinyl floor sheeting, masonry walls and all contents. Refer to index photos 171 - 175 Condition 3

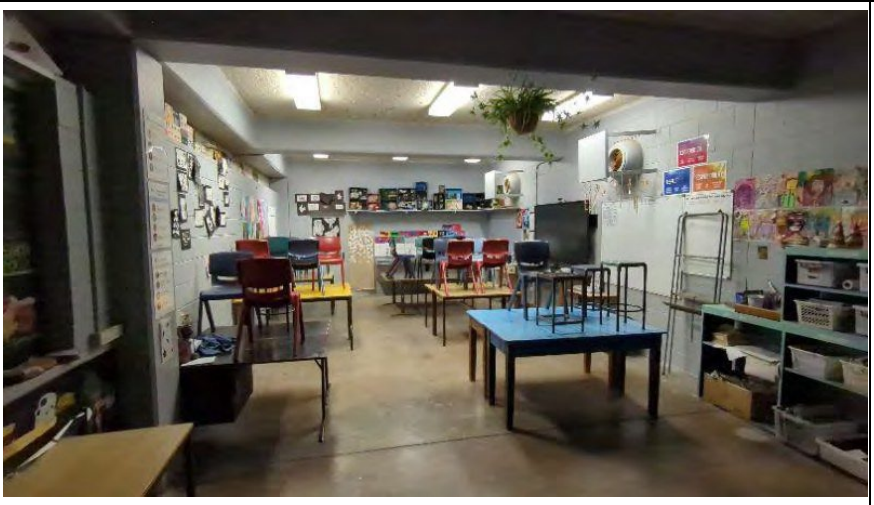
Photo	Material Type	Description
 B00A-R0W12 - Art L.S	Masonry walls, vinyl floor sheeting and sprayed coating (vermiculite) ceiling.	Traces of suspected visual mould growth was noted to porous contents. Refer to index photos 176 - 180 Condition 3
 B00A-R0W11 - Kiln	Masonry walls, concrete floor and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth noted to hardwood shelving unit. Refer to index photos 181 - 186 Condition 3

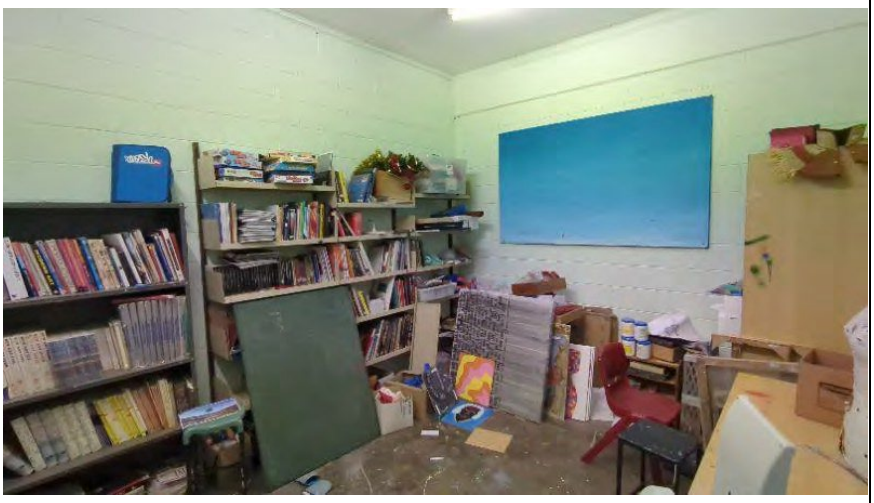
Photo	Material Type	Description
 B00A-R0W09 - Printing	Masonry walls, vinyl floor sheeting and sprayed coating (vermiculite) ceiling	Suspected visual mould growth was noted to porous contents. Refer to index photos 187 Condition 3
 B00A-R0W13 - Storeroom	Masonry walls, concrete floor and plasterboard ceiling.	No signs of visual mould growth or water damage were noted. Condition 3

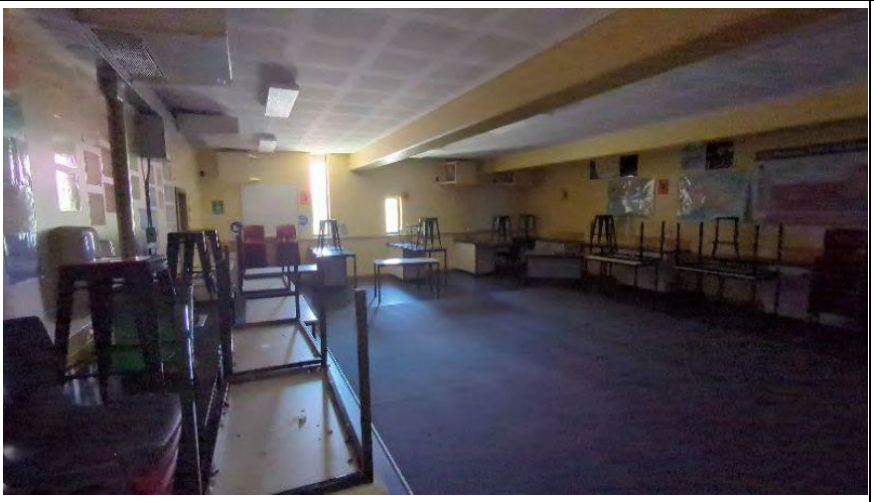
Photo	Material Type	Description
 B00A-R1E22 - Science L.S	Plasterboard walls, perforated plasterboard ceiling and carpet over concrete.	No signs of visual mould growth or water damage were noted. Condition 3
 B00A-R1E21 - Preparation	Plasterboard walls, perforated plasterboard ceiling and carpet over concrete.	No signs of visual mould growth were noted. Evaporative water stains were noted to vinyl floor sheeting. Refer to index photos 188 -193 Condition 3

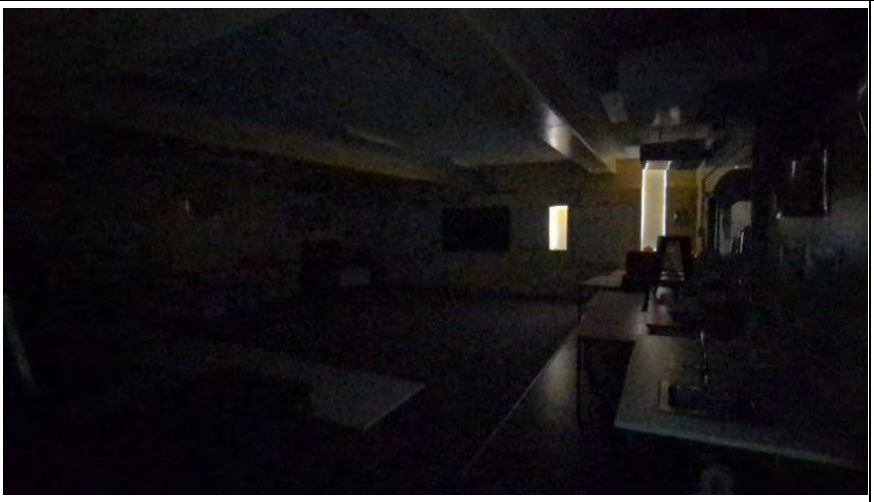
Photo	Material Type	Description
 B00A-R1E20 - Science L.S	Plasterboard walls, perforated plasterboard ceiling and carpet over concrete.	No signs of visual mould growth were noted. Evaporative water stains were noted to table tops. Refer to index photo 194 Condition 3
 B00A-R1E13 Plant	Concrete walls, concrete floor and concrete ceiling.	Suspected visual mould growth noted to hardwood door and architraves. Refer to index photo 196 Condition 3

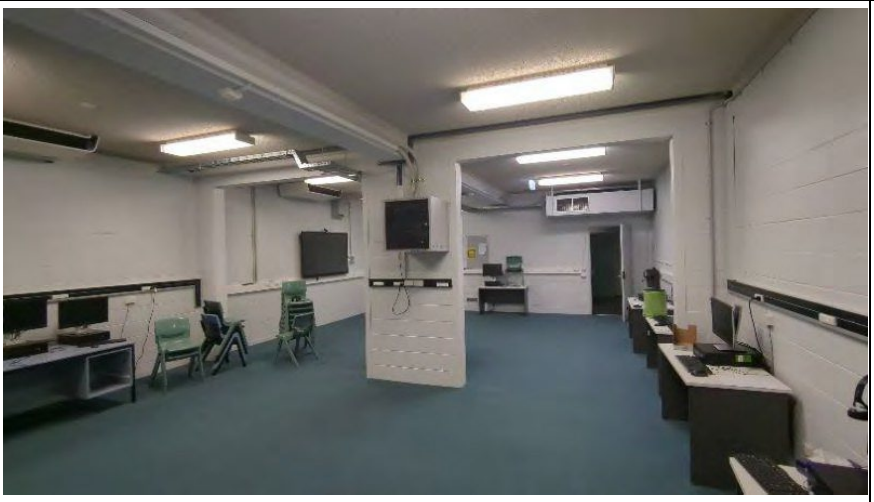
Photo	Material Type	Description
 B00A-R1E12 Computer learning space	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth were noted. Water stains were noted to carpet. Refer to index photos 197 - 200 Condition 3
 B00A-R1E14 General LS	Masonry walls, perforated plasterboard ceiling and carpet over concrete.	Traces of suspected visual mould growth were noted to carpet. Condition 3

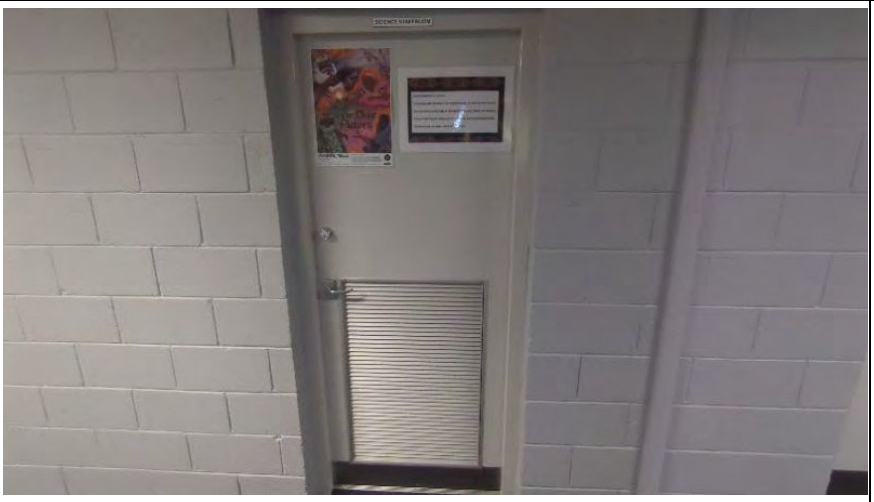
Photo	Material Type	Description
 B00A-R1E15 Staff study		No access Assumed mould
B00A-R1E18 Staff study		No access Assumed mould
 B00A-R1E09 - App Store	Masonry walls, concrete floor and plasterboard ceiling.	No signs of visible mould or water damage were noted. Condition 3

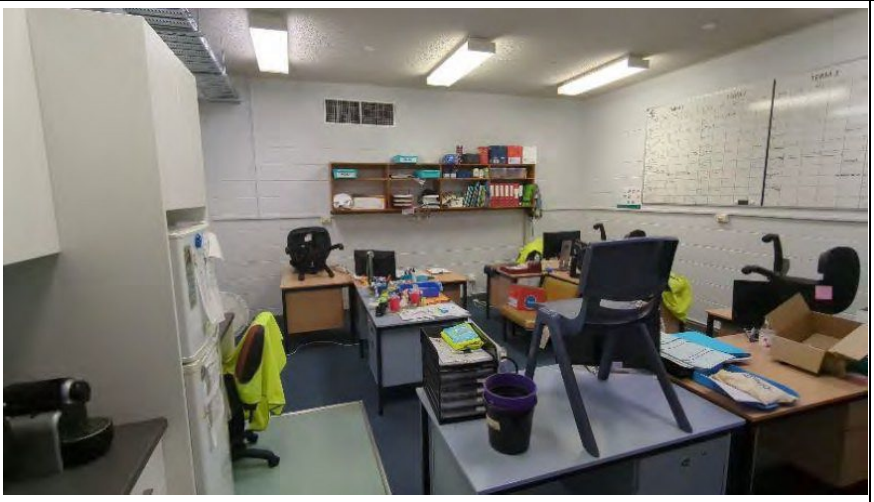
Photo	Material Type	Description
 B00A-R1E10 Staff study	Masonry walls, vinyl floor sheeting and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to vinyl floor sheeting and fridge. Refer to index photos 202 - 204 Condition 3
 B00A-R1E01 - Laboratory L.S	Masonry walls, perforated plasterboard ceiling and carpet over concrete.	No signs of visual mould growth or water damage were noted. Condition 3

Photo	Material Type	Description
 B00A-R1E02 - Preparation	Masonry walls, vinyl floor sheeting and concrete ceiling.	No signs of visual mould growth were noted. Evaporative water staining was noted to vinyl floor sheeting and benchtops. Refer to index photos 205 - 210 Condition 3
 B00A-R1E03 - Lab L.S	Plasterboard walls, perforated plasterboard ceiling and carpet over concrete.	No signs of visual mould growth were noted. Water stains were noted to carpet. Refer to index photos 211 - 212 Condition 3

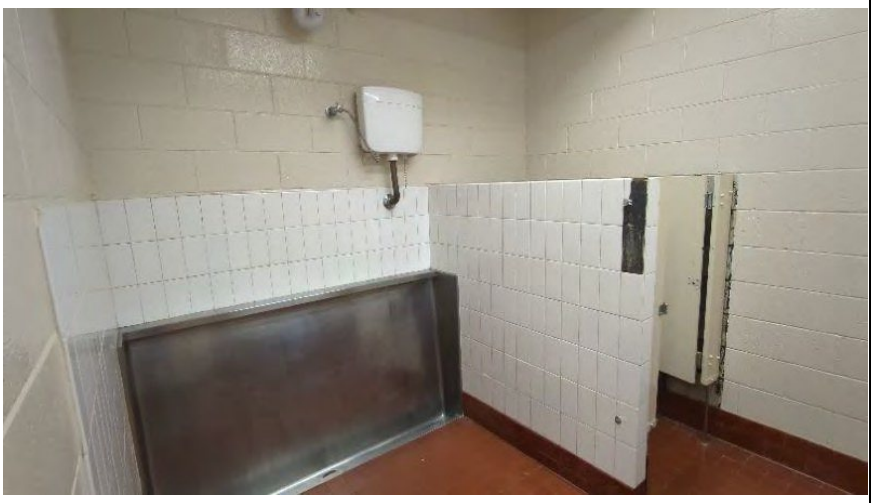
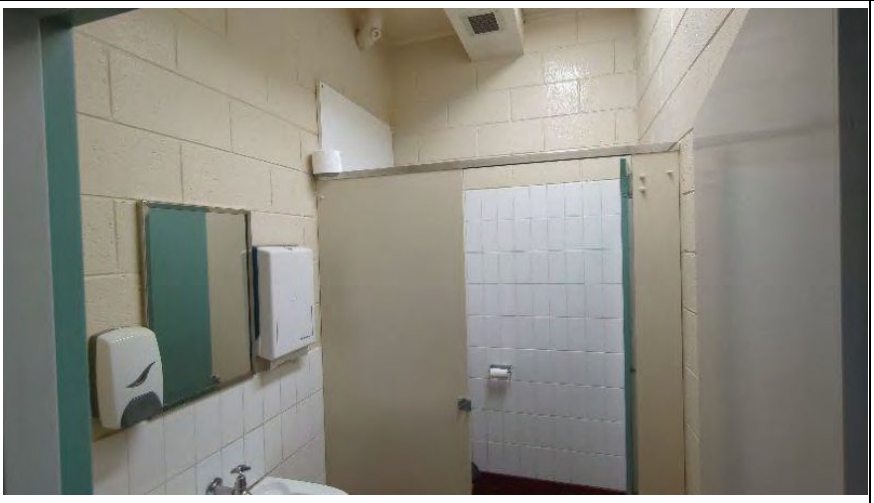
Photo	Material Type	Description
 B00A-R1E07 Boys Toilet	Masonry walls, ceramic wall tiles, ceramic floor tiles and concrete ceiling.	Suspected visual mould growth was noted to chipboard 'splashback' behind sink mirror. Refer to index photos 213 - 216. Condition 3
 B00A-R1E06 Staff Toilet	Masonry walls, ceramic wall tiles, ceramic floor tiles and concrete ceiling.	Suspected visual mould growth was noted to the toilet seat. Refer to index photo 217 Condition 3

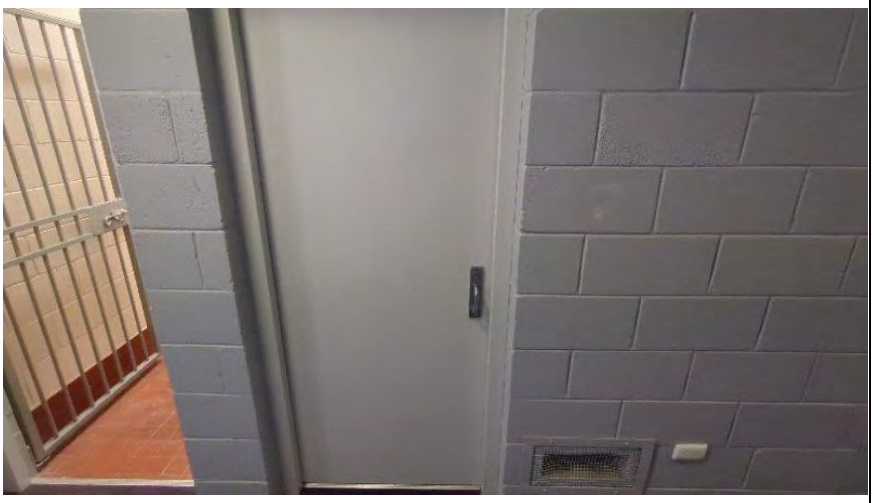
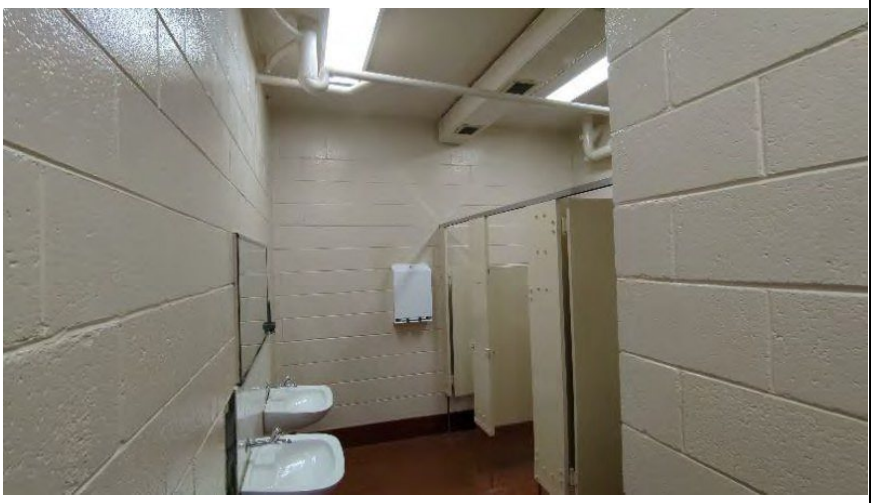
Photo	Material Type	Description
 B00A-R1E05 Staff Toilet		No access Assumed mould
 B00A-R1E04 Girls Toilet	Masonry walls, ceramic wall tiles, ceramic floor tiles and concrete ceiling.	No signs of visual mould growth. Evaporative water stains were noted to ceramic floor tiles. Condition 3

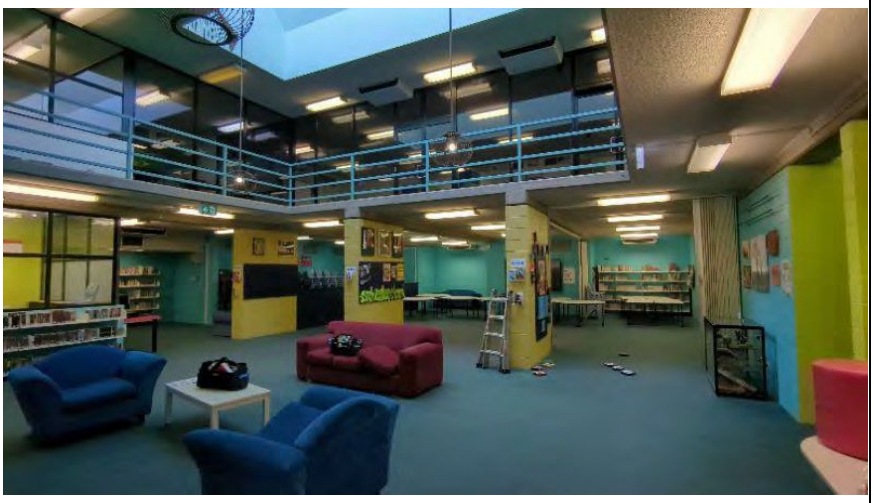
Photo	Material Type	Description
 B00A-R1N05 - Library	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to carpet floor and porous couches. Refer to index photos 218 - 225 Condition 3
 B00A-R1N03 - Work room	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Condition 3

Photo	Material Type	Description
 B00A-R1N09 - Librarian	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted on the couch. Refer to index photos 226 - 227 Condition 3
 B00A-R108 - Storeroom	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to porous contents. Refer to index photo 228 Condition 3

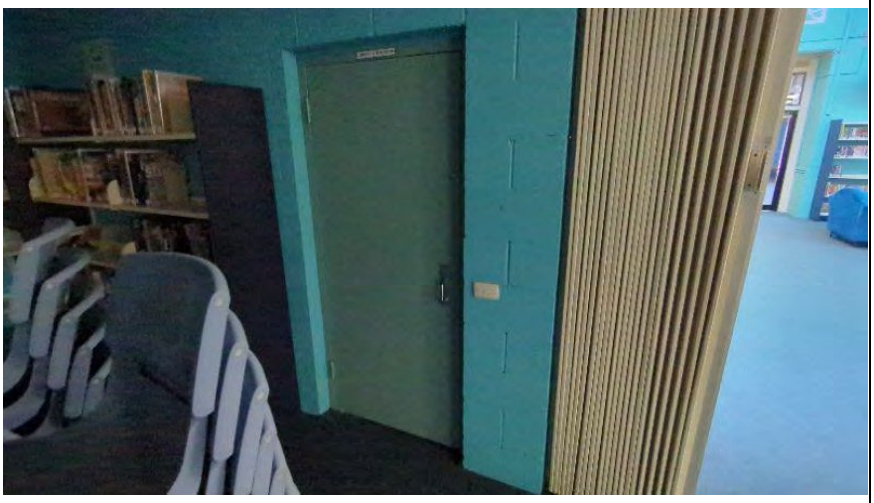
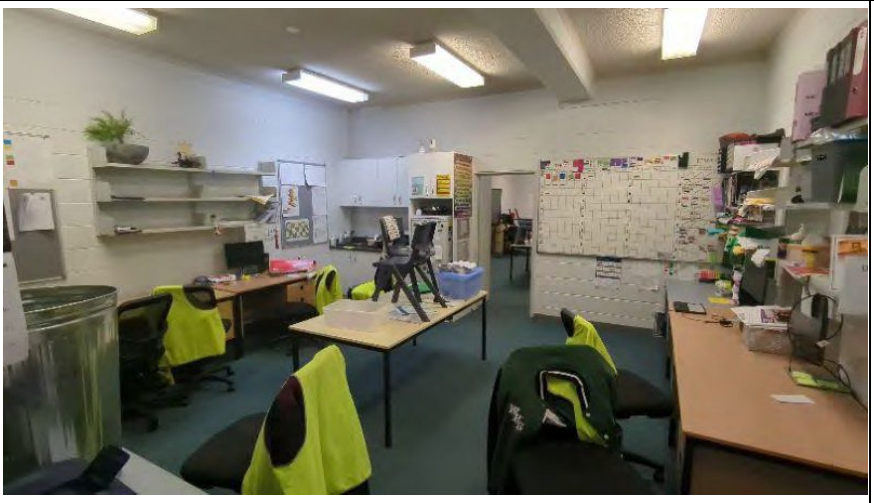
Photo	Material Type	Description
 B00A-R1N04 - Storeroom		Storeroom no access Assumed mould
B00A-R1N07 Store room		No access
 B00A-R1W23 - Staff Study	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to the carpet floor and porous contents. Refer to index photos 230 - 238 Condition 3

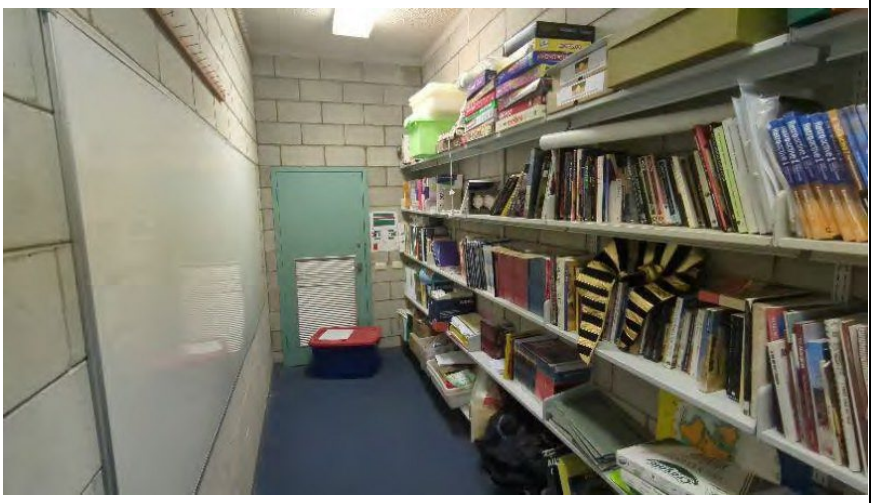
Photo	Material Type	Description
 B00A-R1W24 - Store room	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to the carpet. Refer to index photos 239 - 240 Condition 3

Photo	Material Type	Description
B00A-R1W25 - Staff study		Suspected visual mould growth was noted to all building materials and contents. Refer to index photos 242 - 259 Condition 3

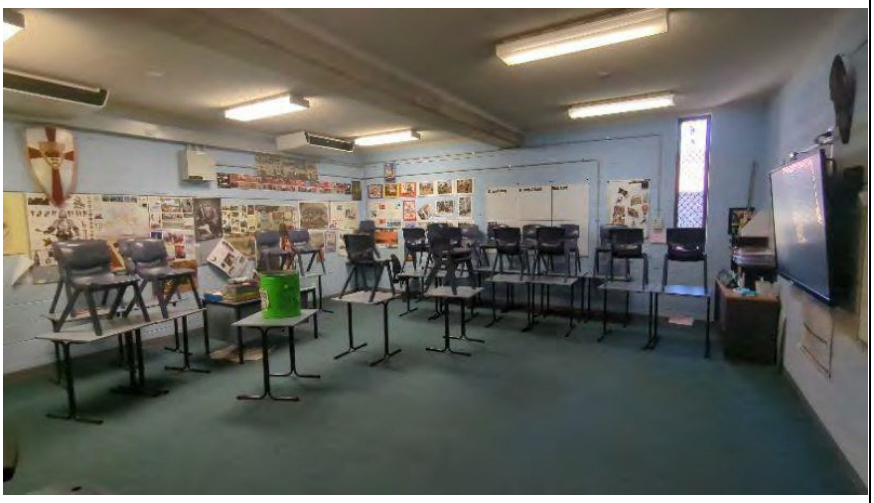
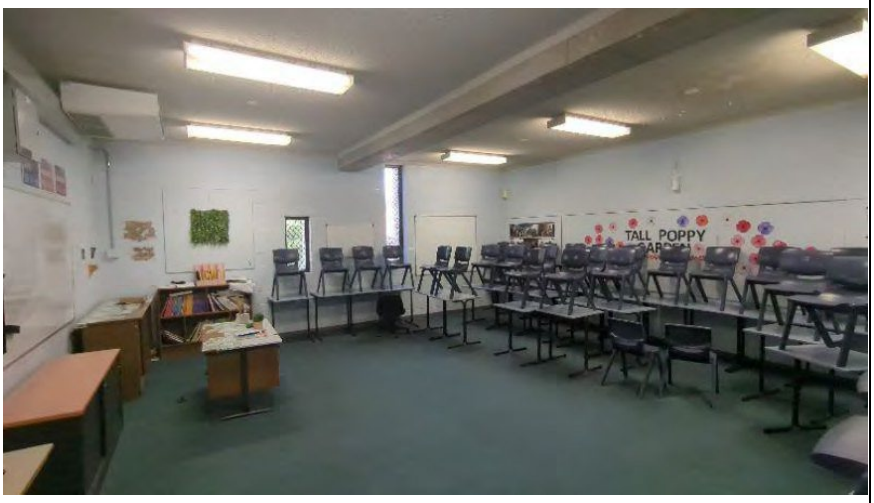
Photo	Material Type	Description
 B00A-R1W22 - General L.S	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Condition 3
 B00A-R1W21 - General L.S	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to carpet floor and all contents. Refer to index photos 261 - 267 Condition 3

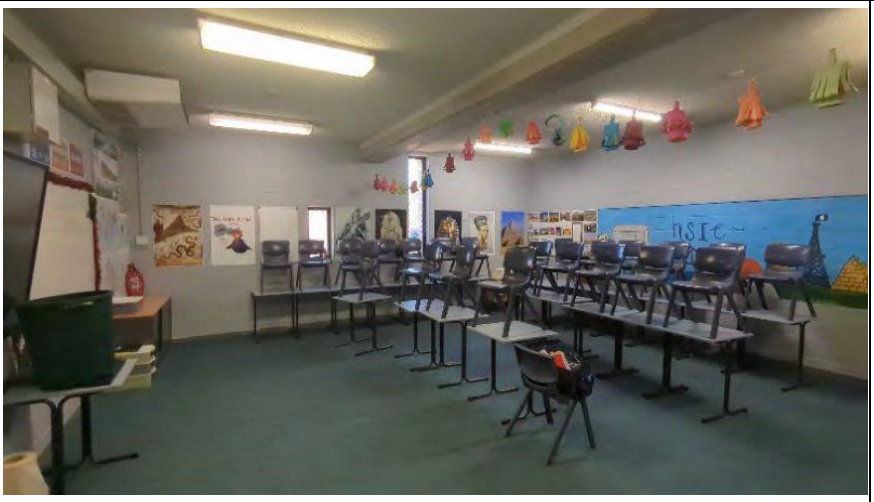
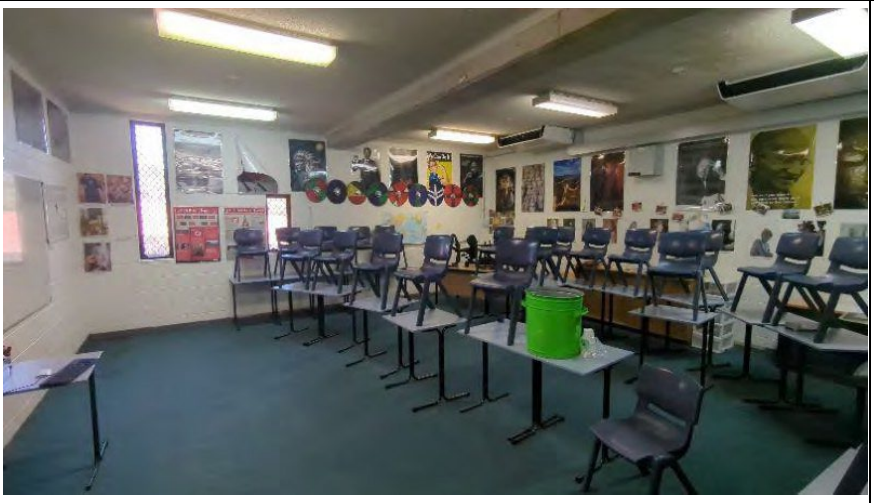
Photo	Material Type	Description
 B00A-R1W20 - General L.S	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to carpet floor. Refer to index photos 268 - 270 Condition 3
 B00A-R1W19 - General L.S	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Traces of suspected visual mould growth was noted to the carpet floor. Refer to index photos 271 - 275 Condition 3

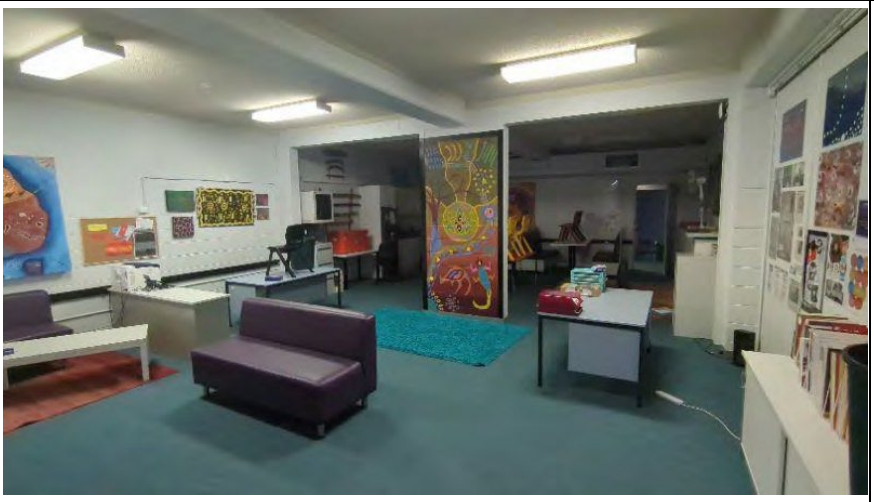
Photo	Material Type	Description
 B00A-R1W15 - Computer L.S	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Sporadic patches of suspected visible mould growth were noted to carpet and porous contents. Refer to index photos 276 - 278 Condition 3

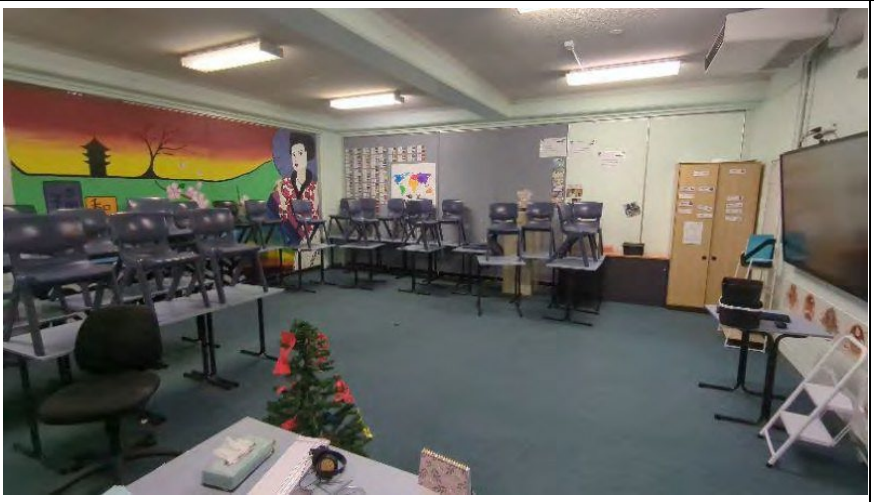
Photo	Material Type	Description
 B00A-R1W17 - General L.S	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to carpet floor and all contents. Refer to index photos 281 - 287 Condition 3
 B00A-R1W16 - General L.S	Plasterboard walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to carpet floor and chairs. Refer to index photos 288 - 293 Condition 3

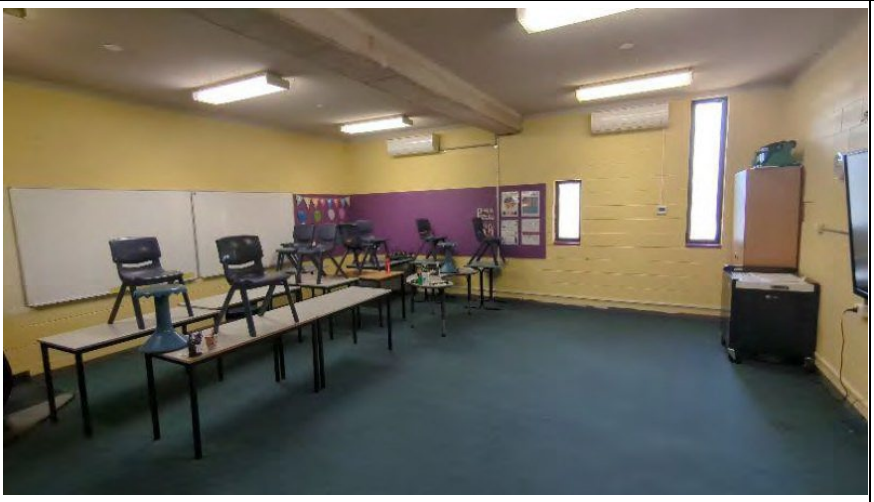
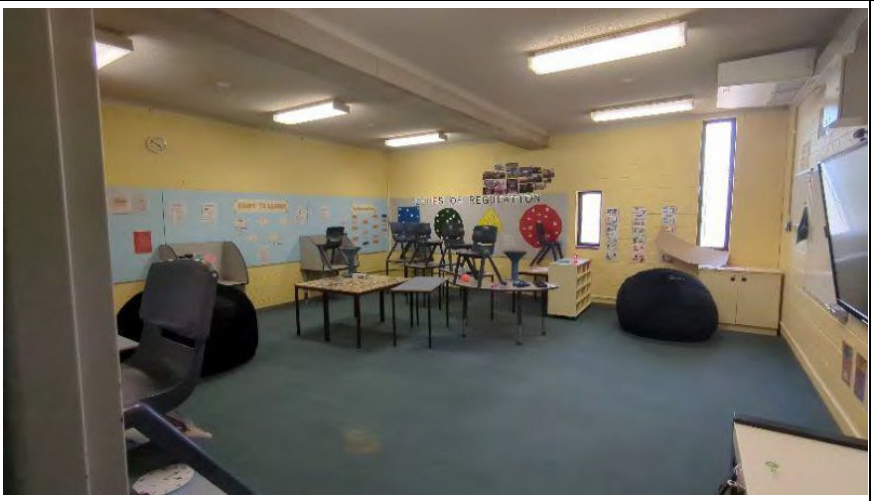
Photo	Material Type	Description
 B00A-R1W13 - General L.S	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to carpet floor. Refer to index photos 294 - 297 Condition 3
 B00A-R1W12 - General L.S	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to carpet floor. Refer to index photos 298 - 304 Condition 3

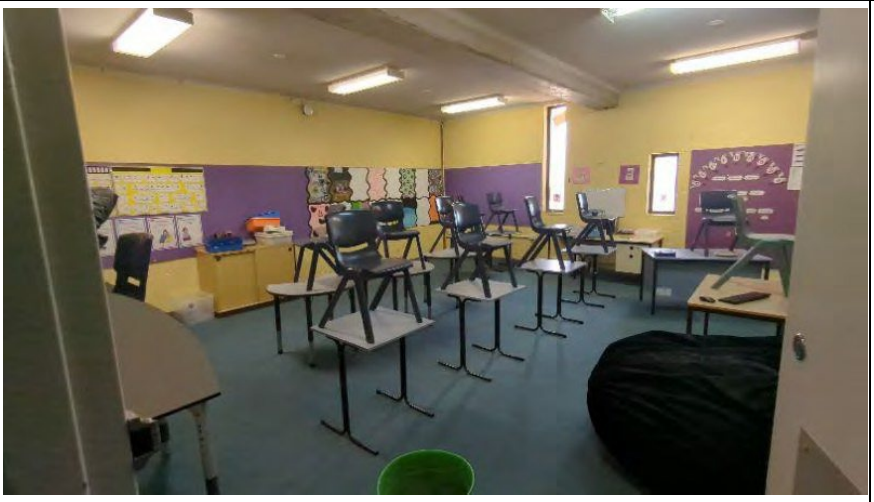
Photo	Material Type	Description
 B00A-R1W11 - General L.S	Plasterboard walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to carpet, benchtop cupboard and porous contents. Refer to index photos 305 - 307 Condition 3
 B00A-R1W10 - Storeroom	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Condition 3

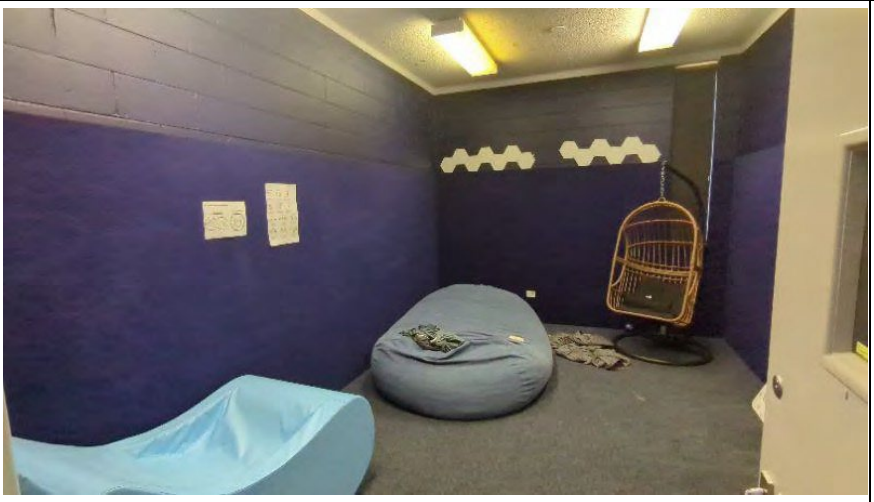
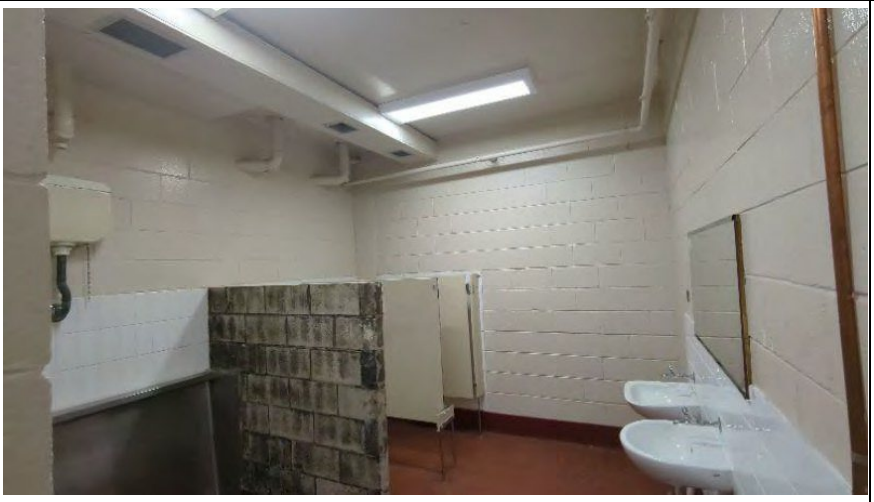
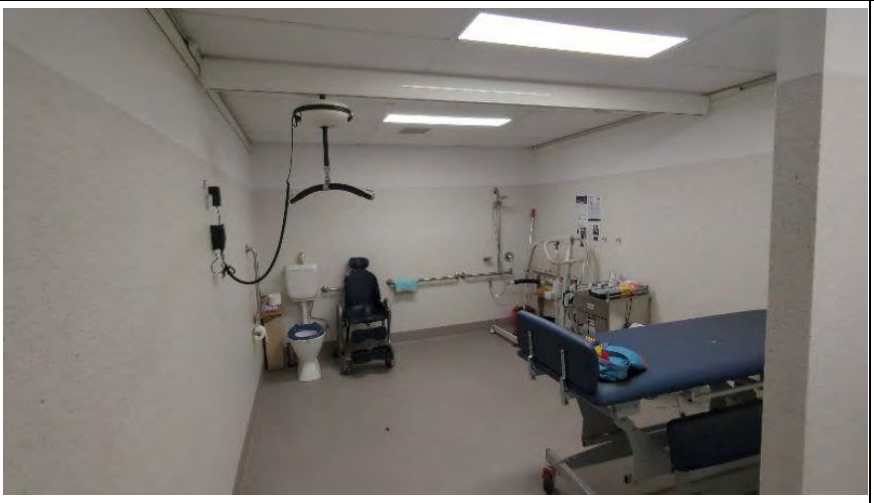
Photo	Material Type	Description
 B00A-R109 - Sensory Zone	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to carpet floor and porous contents. Refer to index photos 308 - 309 Condition 3
 B00A-R1W07 - Girl's Toilet	Concrete ceiling, masonry walls and ceramic floor tiles.	No signs of visible mould growth were noted. Evaporative water stains were noted to ceramic floor Condition 3

Photo	Material Type	Description
 B00A-R1W06 - Boys Toilet	Concrete ceiling, masonry walls and ceramic floor tiles.	No signs of visible mould growth were noted. Evaporative water stains were noted to ceramic floor tiles. Refer to index photos 310 - 311 Condition 3
 B00A-R1W04 - Staff Toilet	Plasterboard suspended ceiling tiles, plasterboard walls and vinyl floor sheeting.	No signs of visual mould growth or water damage were noted. Condition 3

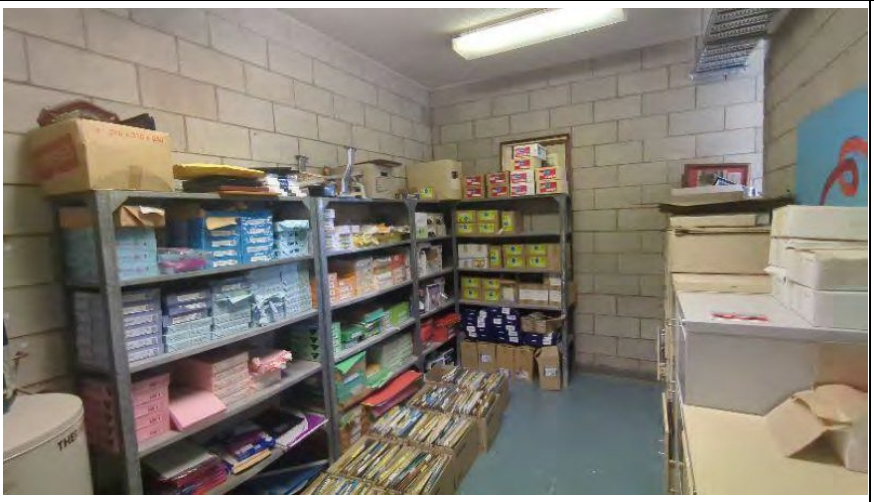
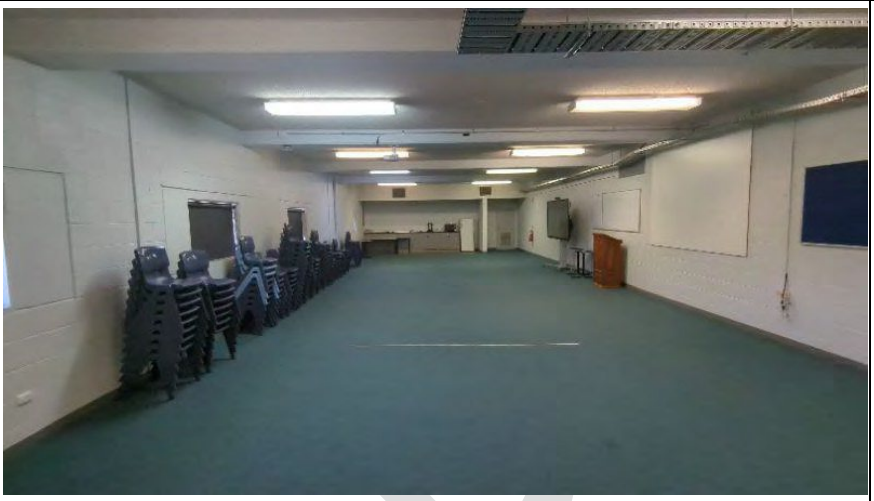
hoto	Material Type	Description
 B00A-R1W01 - Staff Study	Masonry walls, vinyl floor sheeting and concrete ceiling.	No signs of visual mould growth or water damage were noted. Condition 3
 B00A-R1N01 - Staff	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to carpet floors. Refer to index photos 312 - 316 Condition 3

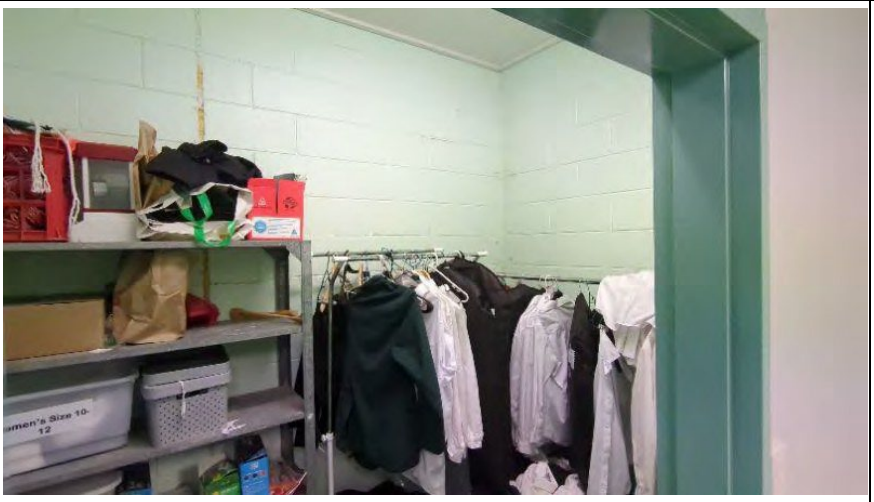
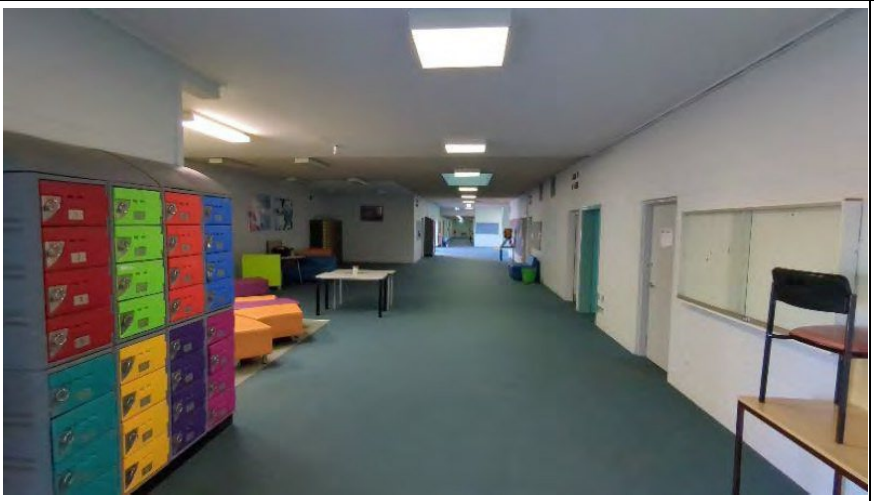
Photo	Material Type	Description
 B00A-R2N16 - Uniform Shop	Masonry walls, carpet over concrete and fibre cement ceiling.	No signs of visual mould growth or water damage were noted. Condition 3
 B00A-R2N17 - Movement	Masonry walls, carpet over concrete and plasterboard ceiling.	No signs of visual mould growth or water damage were noted. Refer to index photos 317 - 318 Condition 3

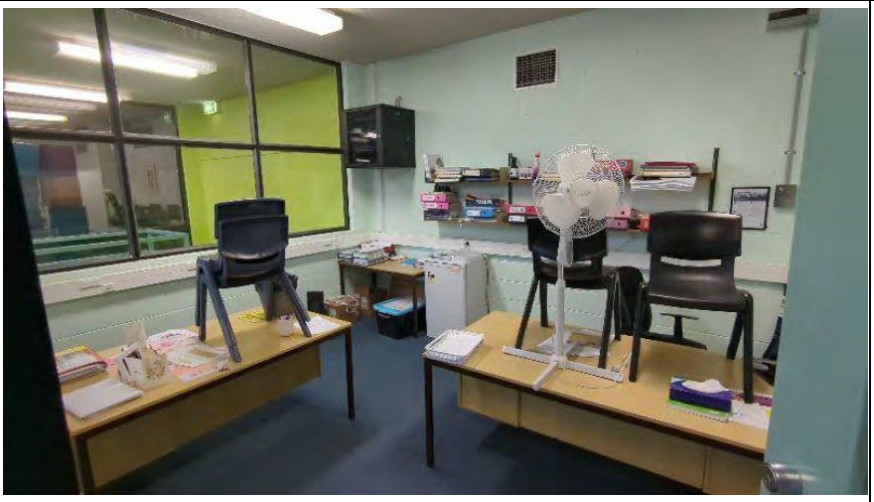
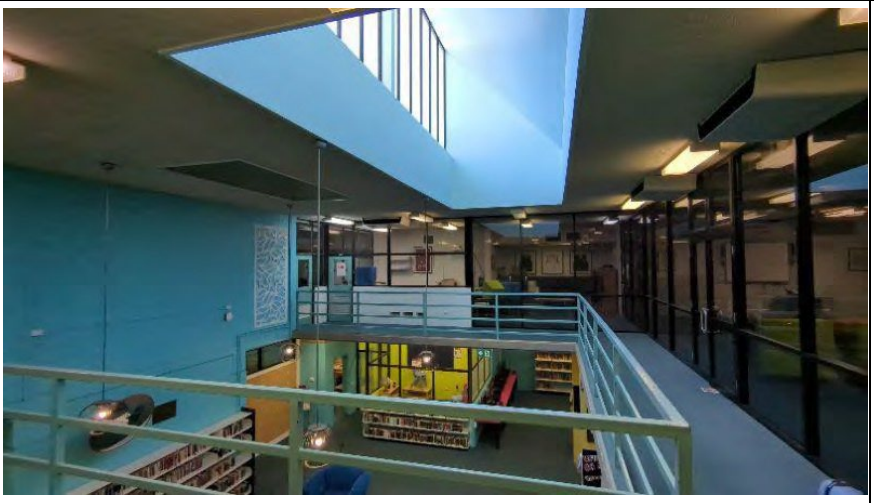
Photo	Material Type	Description
 B00A-R2N07 - Workshop	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould or water damage were noted. Condition 3
 B00A-R2N05 - Library Mezzanine	Plasterboard walls and carpet over concrete.	No signs of visual mould growth. Liquid stains noted to carpet. Refer to index photos 319 Condition 3

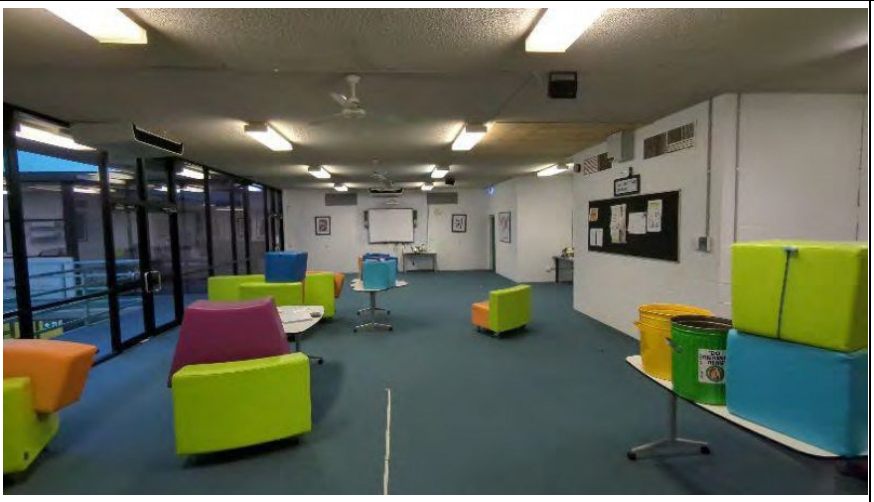
Photo	Material Type	Description
 B00A-R2N05 - Library	Plasterboard walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were Condition 3
 B00A-R2E12 - App Store	Masonry walls, concrete floor and fibre cement ceiling.	No signs of visual mould growth or water damage were noted. Condition 3 *Hazardous Chemicals Present*

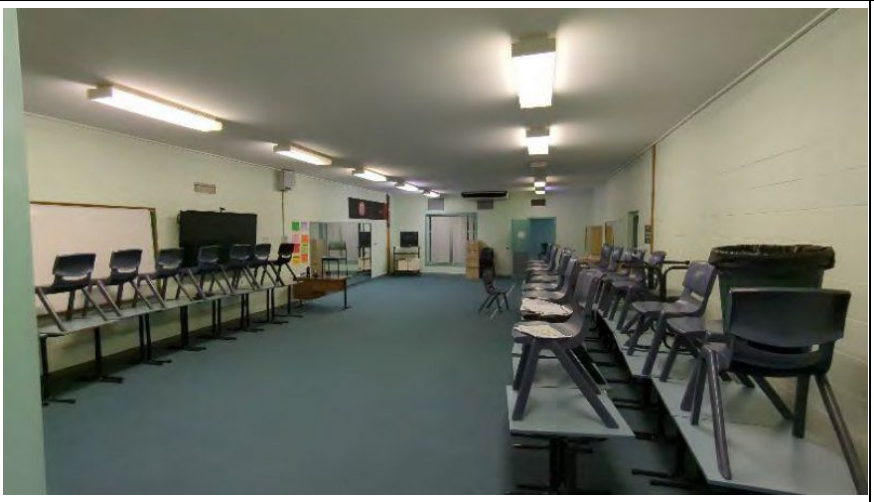
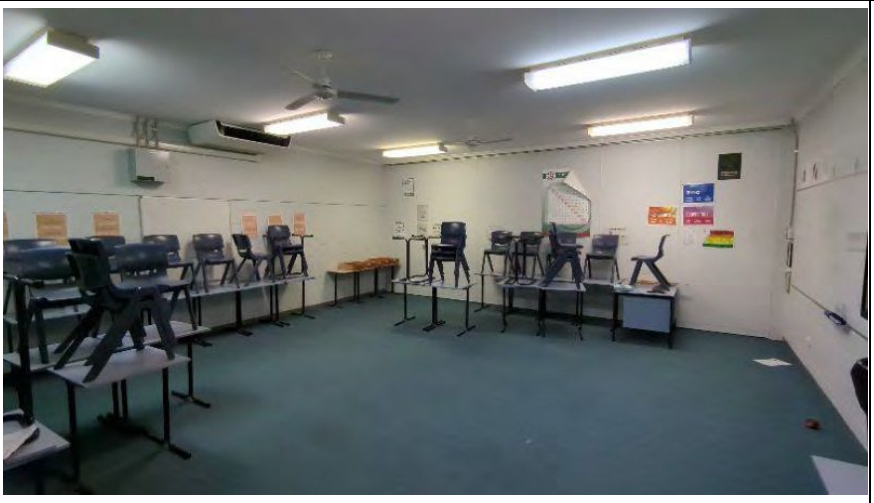
Photo	Material Type	Description
 B00A-R2E11 - Staff	Masonry walls, carpet over concrete and plasterboard ceiling.	Suspected visual mould growth was noted to the carpet floor, hardwood desk and porous contents. Condition 3
 B00A-R2E09 - General L.S	Masonry walls, carpet over concrete and plasterboard ceiling.	Suspected visual mould growth was noted to carpet floor. Condition 3

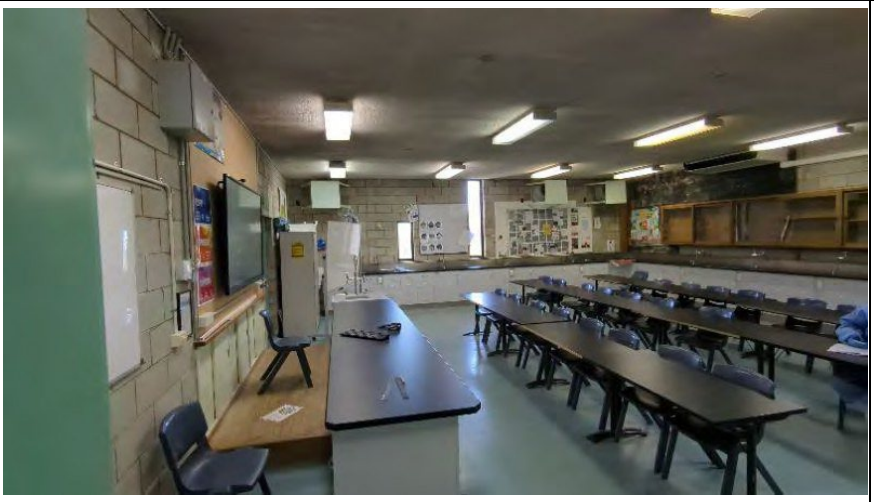
Photo	Material Type	Description
 B00A-R2E01 - Lab L.S	Masonry walls, vinyl floor sheeting and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth were noted to building materials or contents. However, suspected visual mould growth was noted to paper towel in water trough. Refer to index photo 326 Condition 3
 B00A-R2E02 - Preparation	Masonry walls, vinyl floor sheeting, plasterboard ceiling.	No signs of visual mould growth were noted. Signs of water damage (in the form of swelling) were noted to the hardwood cupboards. Condition 3

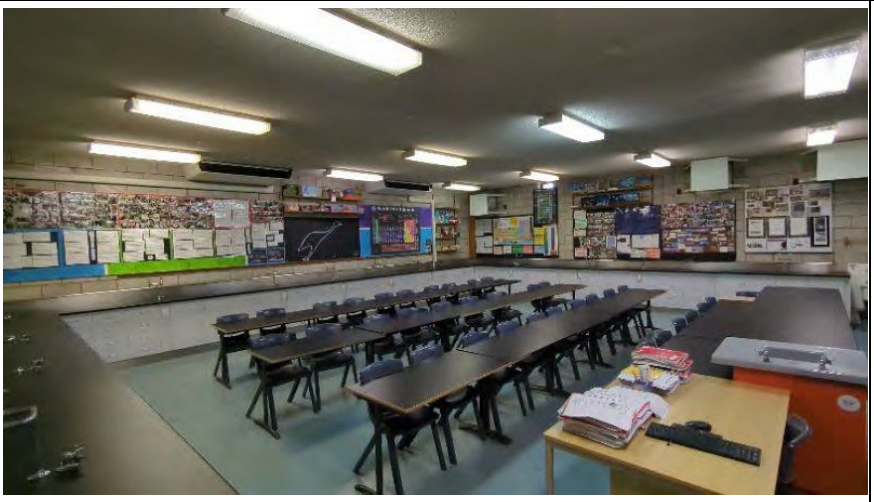
Photo	Material Type	Description
 B00A-R2E03 - Lab	Masonry walls, vinyl floor sheeting and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to the plush in corner tap. No signs of visual mould growth or water damage were noted to building materials. Refer to index photos 327 - 328 Condition 3
 B00A-R2E15 - Storeroom	Masonry walls, concrete floor and fibre cement ceiling.	No signs of visual mould growth or water damage were noted. Condition 3

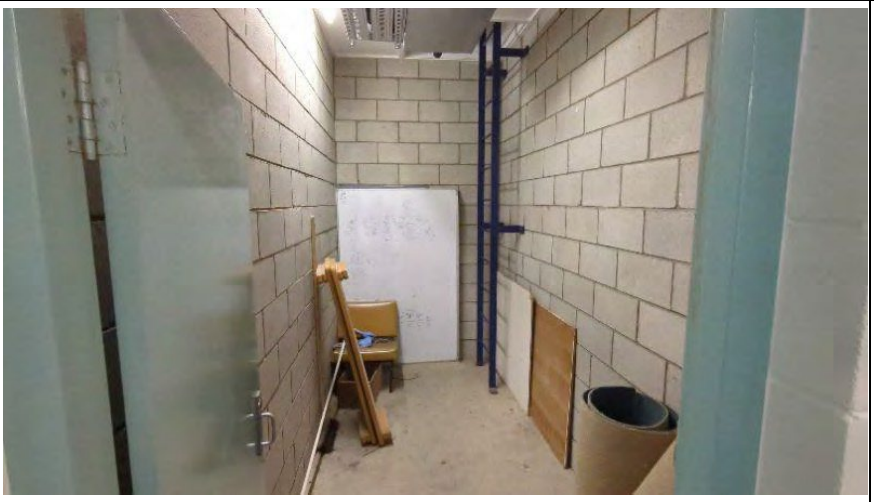
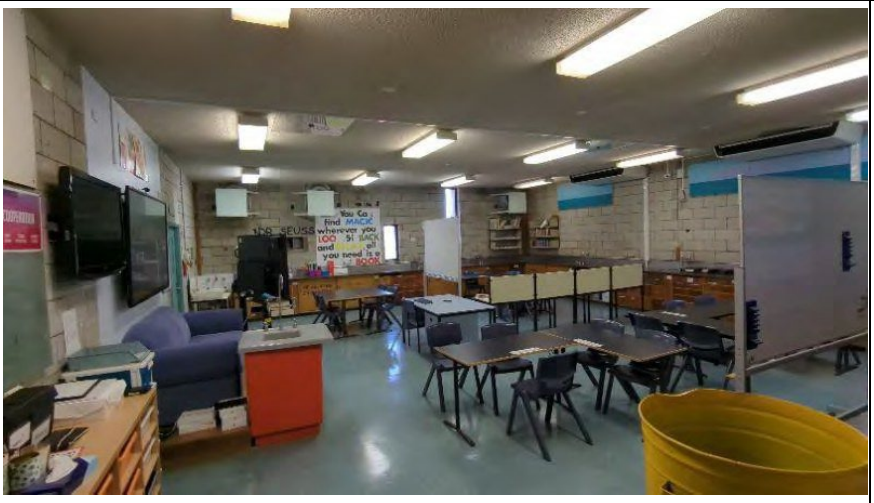
Photo	Material Type	Description
 B00A-R2E13 - Storeroom	Masonry walls, concrete floor and fibre cement ceiling.	No signs of visual mould growth or water damage were noted. Condition 3
 B00A-R2E18 - Lab	Masonry walls, vinyl floor sheeting and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. However, staining (likely grease) was present to couch. Refer to index photos 330 - 331 Condition 3

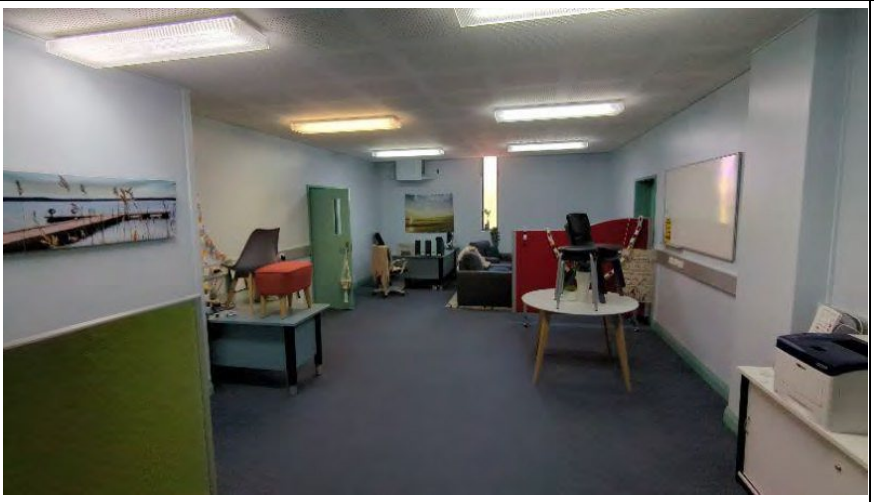
Photo	Material Type	Description
 B00A-R2E19 - Prep	Plasterboard walls, perforated plasterboard ceiling and carpet over concrete.	No signs of visual mould growth or water damage were noted. Condition 3
 B00A-R2E23 - Student Kitchen	Plasterboard walls, perforated plasterboard ceiling and carpet over concrete.	No signs of visual mould growth or water damage were noted. Condition 3

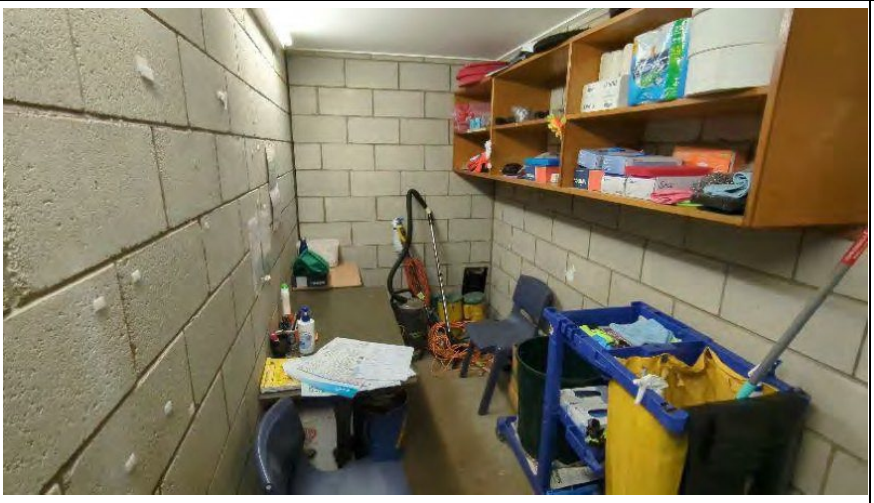
Photo	Material Type	Description
 B00A-R2E25 - Staff Study	Plasterboard walls, perforated plasterboard ceiling and carpet over concrete.	No signs of visual mould growth or water damage were noted. Condition 3
 B00A-R2N06 - Cleaning Store	Masonry walls, carpet over concrete and fibre cement ceiling.	No signs of visual mould growth or water damage were noted. Condition 3

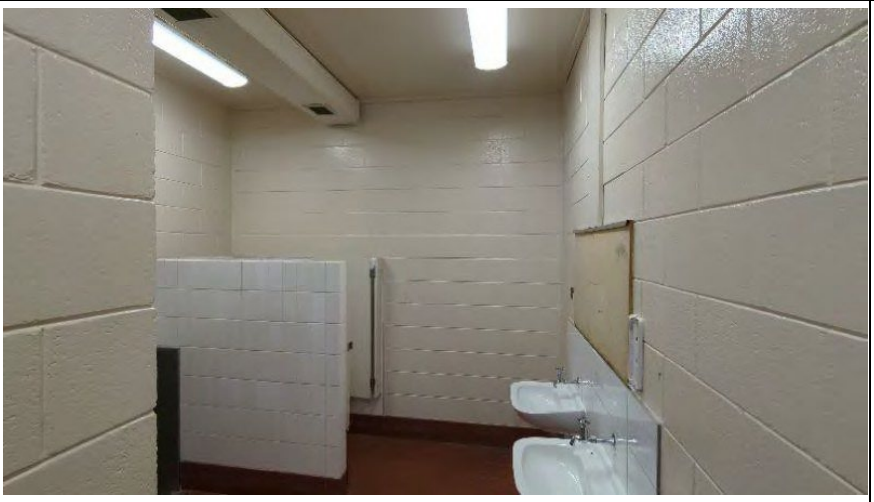
Photo	Material Type	Description
 B00A-R2E05 - Boys Toilet	Masonry walls, ceramic floor tiles and concrete ceiling,	No signs of visual mould growth were noted. Signs of water damage were noted to plywood sheet covering mirror and evaporative water stains were noted to ceramic floor tiles. Condition 3
 B00A-R2E04 - Girls toilet	Masonry walls, ceramic floor tiles and concrete ceiling,	No signs of visual mould growth were noted. Evaporative water stains were noted to ceramic floor tiles. Condition 3

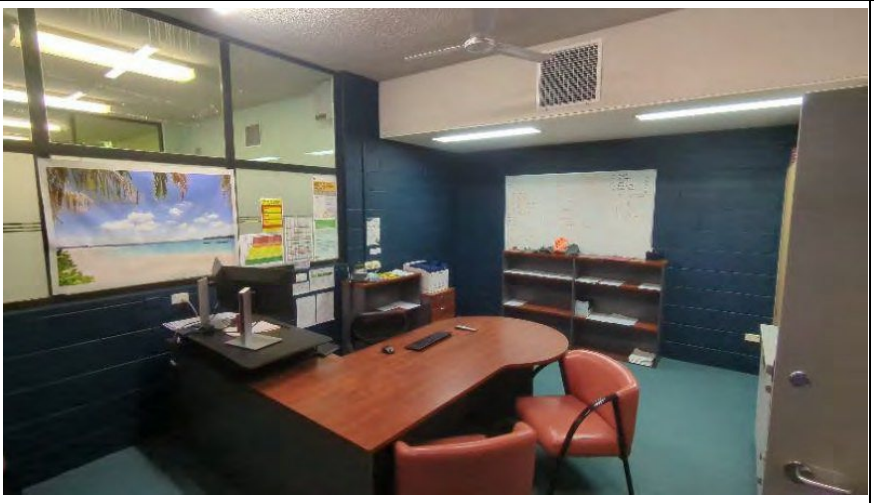
Photo	Material Type	Description
 B00A-R2E06 - Staff Toilet	Masonry walls, ceramic floor tiles and concrete ceiling,	No signs of visual mould growth were noted. Evaporative water stains were noted to ceramic floor tiles. Condition 3
 B00A-R2N20 - Office	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Condition 3

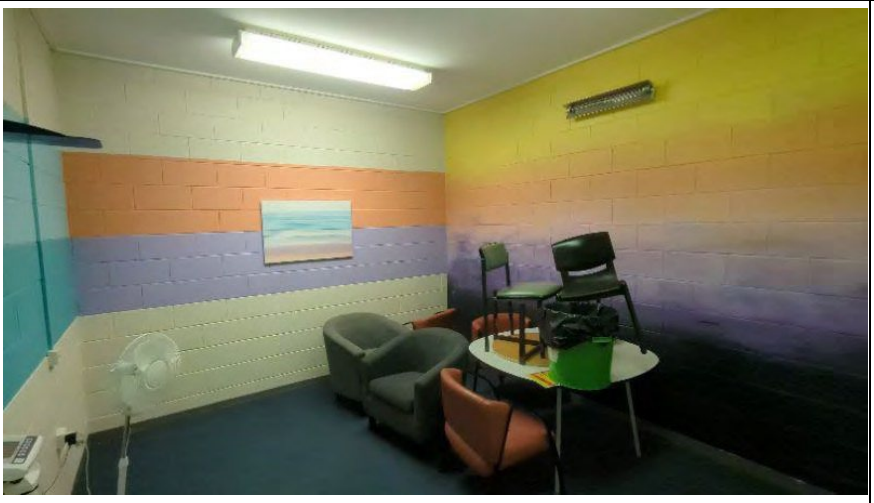
Photo	Material Type	Description
 B00A-R2N09 - Interview Room	Masonry walls, carpet over concrete and plasterboard ceiling.	No signs of visual mould growth or water damage were noted. Refer to index photos 333-334 Condition 3
 B00A-R2N10 - Interview	Masonry walls, carpet over concrete and plasterboard ceiling.	No signs of visual mould growth or water damage were noted. Condition 3

Photo	Material Type	Description
 B00A-R2N11 - Workroom	Plasterboard walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth were noted. Signs of water ingress (in the form of brown staining) was noted to the cornice. Refer to index photos 335-336 Condition 3
 B00A-R2N12 - Workroom	Masonry walls, carpet over concrete and plasterboard ceiling.	Trades of suspected visual mould growth were noted to the carpet floor. Refer to index photos 338-340 Condition 3

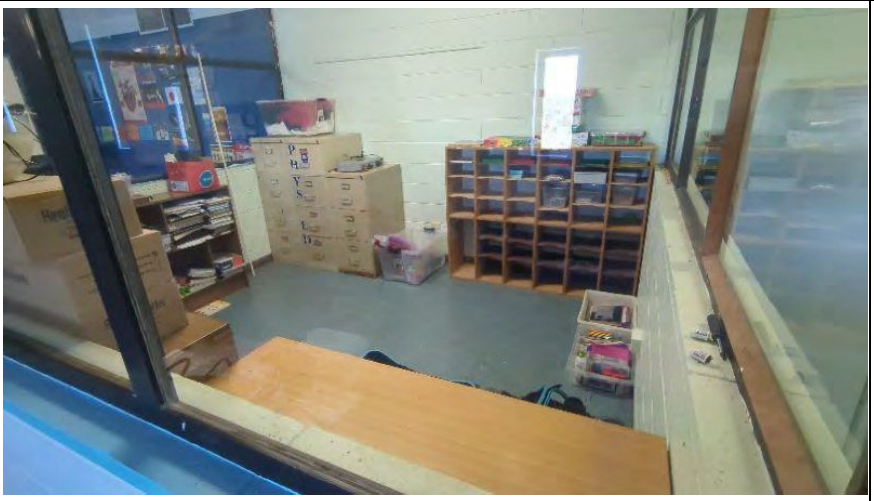
Photo	Material Type	Description
 B00A-R2N03 - Storeroom	Masonry walls, carpet over concrete and plasterboard ceiling.	No signs of visual mould growth or water damage were noted. Condition 3
 B00A-R2N04 - Storeroom	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Condition 3

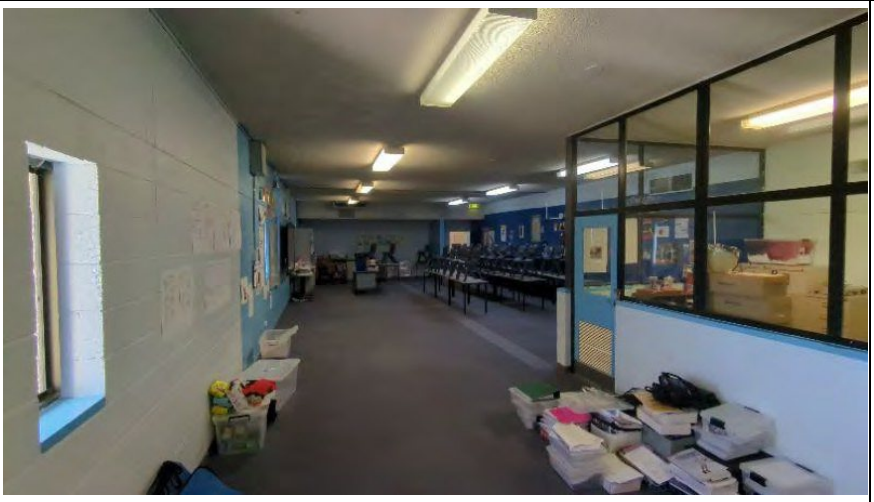
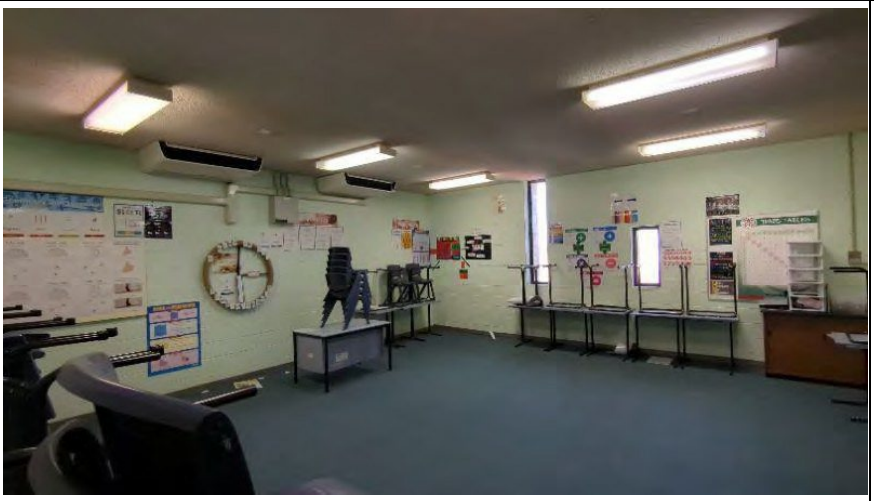
Photo	Material Type	Description
 B00A-R2N01 - General L.S	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth were noted. Liquid staining was noted to carpet adjacent to western doorway. Refer to index photos 341 Condition 3
 B00A-R2W18 - General L.S	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth were noted. Liquid stains were noted to carpet floor. Condition 3

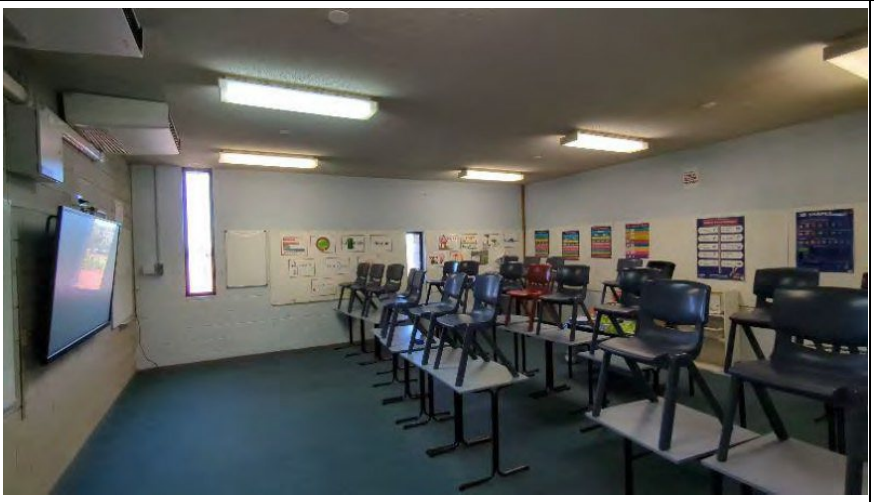
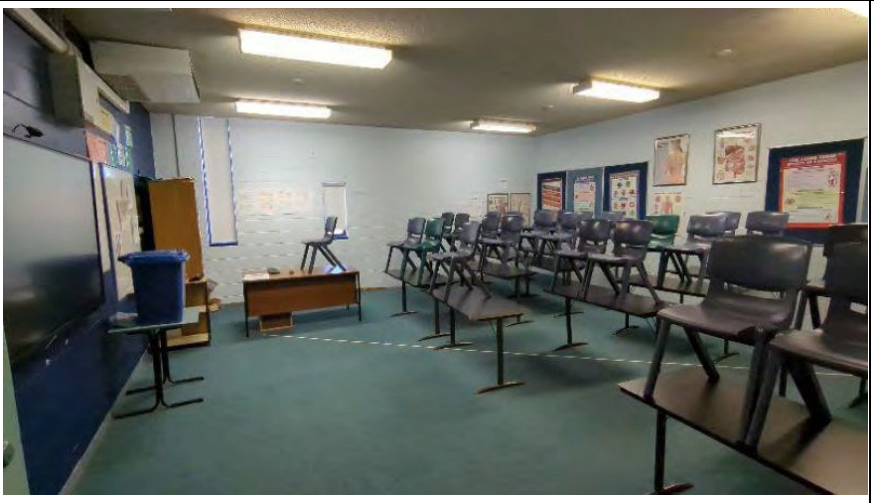
Photo	Material Type	Description
 B00A-R2W19 - General L.S	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mouid growth or water damage were noted. Condition 3
 B00A-R2W20 - General L.S	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mouid growth or water damage were noted. Condition 3

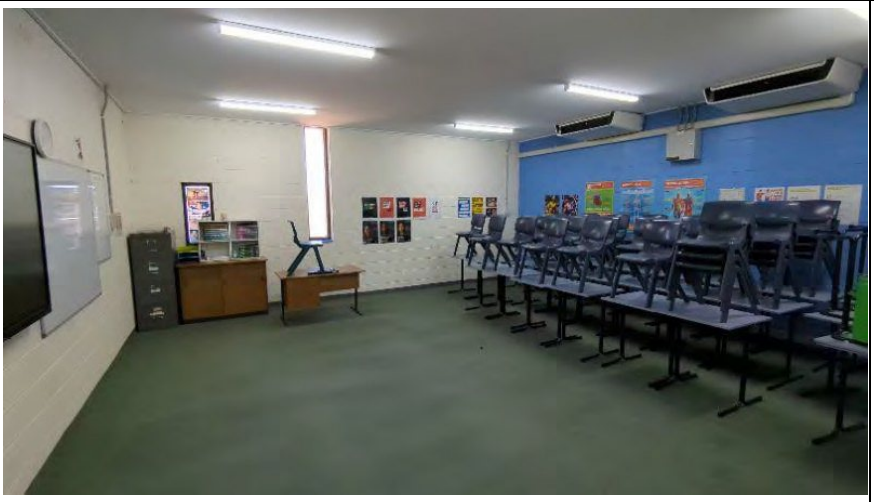
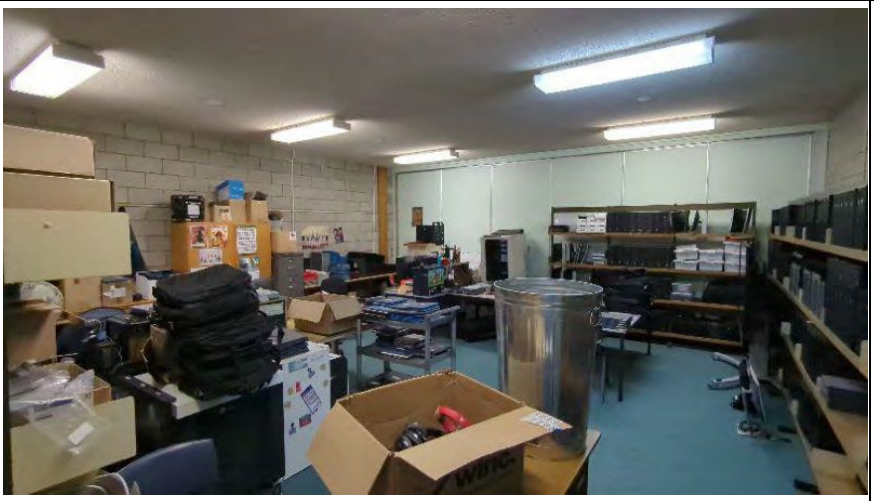
Photo	Material Type	Description
 B00A-R2W21 - General L.S	Masonry wall, carpet over concrete and plasterboard ceiling.	No signs of visual mould growth or water damage were noted. Condition 3
 B00A-R2W17 - Interview	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted to building materials or contents. Condition 3

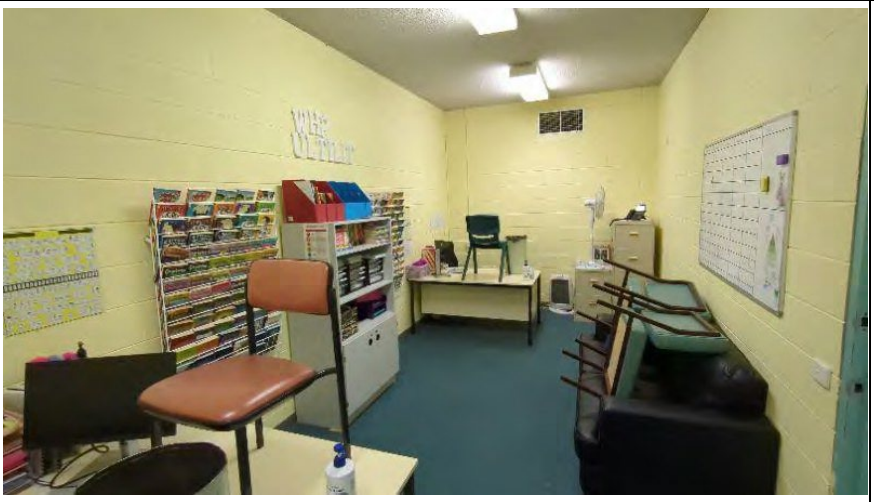
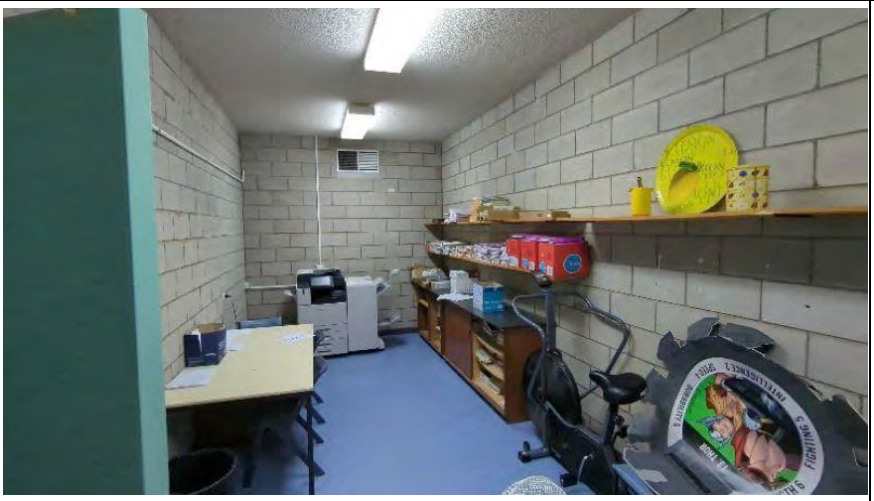
Photo	Material Type	Description
 B00A-R2W15 - Staff Study	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted within cabinetry beneath sink. Refer to index photos 342 Condition 3
 B00A-R2W14 - Printing	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Condition 3

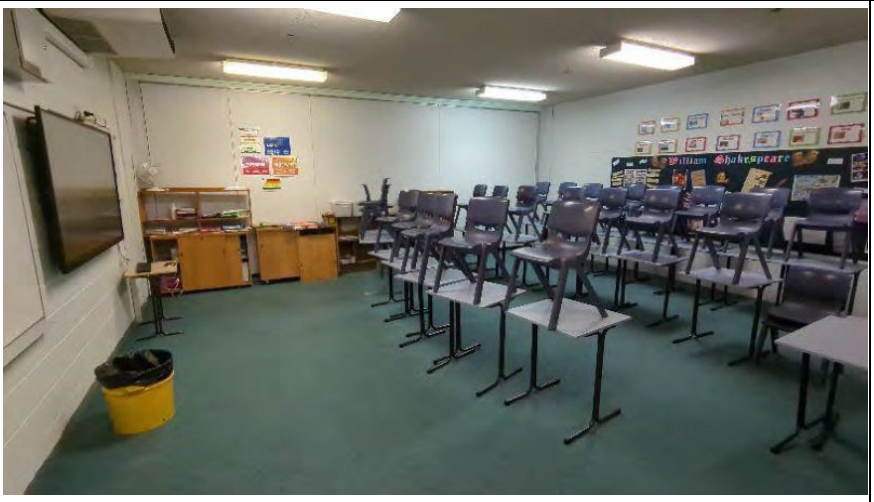
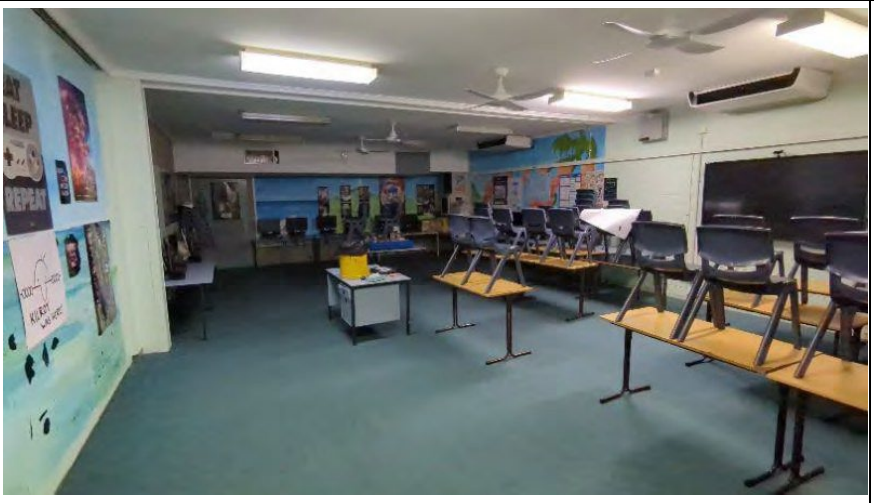
Photo	Material Type	Description
 B00A-R2W16 General L.S	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Traces of suspected visual mould growth were noted to carpet. Refer to index photos 344. Condition 3
 B00A-R2W11 - Computer L.S	Masonry walls, carpet over concrete and plasterboard ceiling.	No signs of visual mould growth or water damage were noted. Condition 3

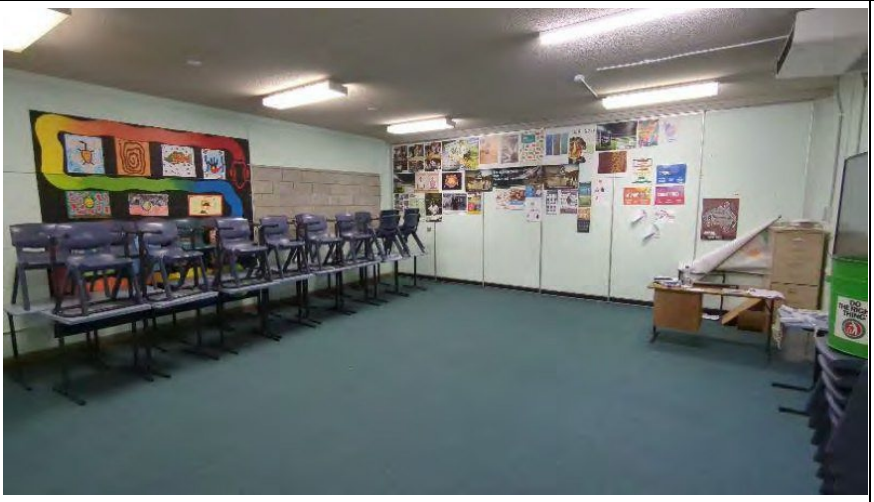
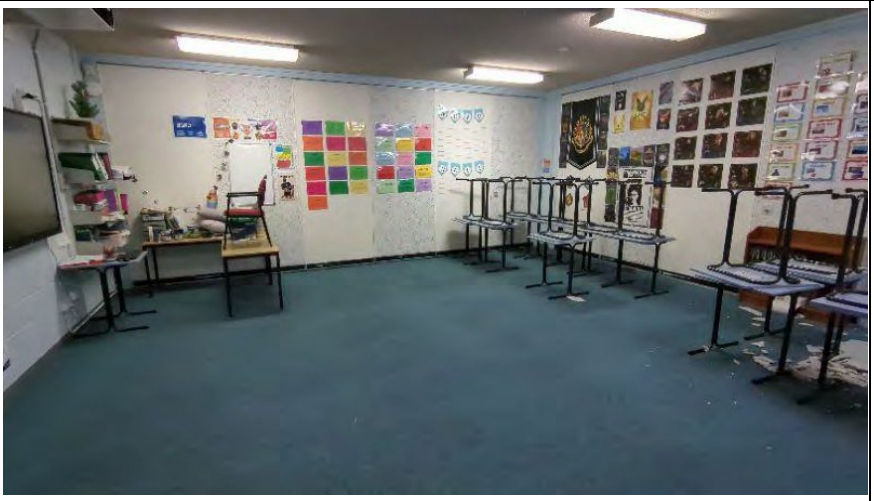
Photo	Material Type	Description
 B00A-R2W13 - General L.S	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Condition 3
 B00A-R2W12 - General L.S	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to chair and pillow. Refer to index photos 345- 346 Condition 3

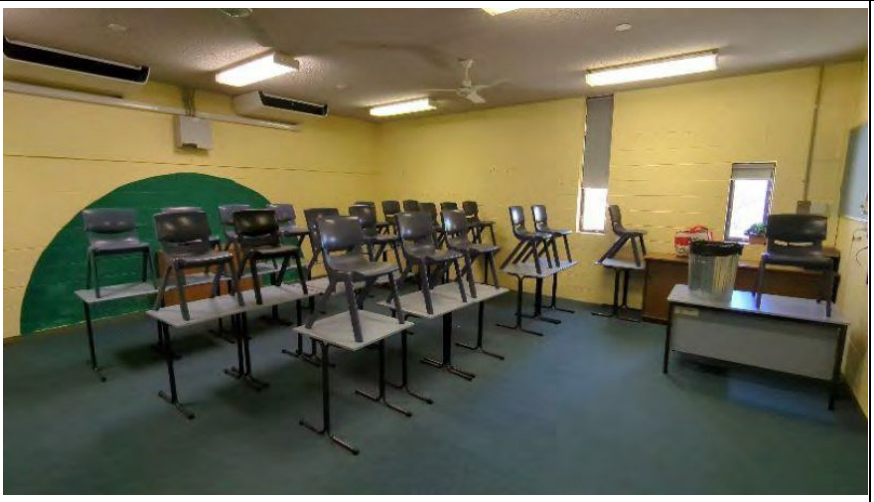
Photo	Material Type	Description
 B00A-R2W10 - General L.S	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth were noted. Water damage (in the form of leaching) was noted to ceiling and upper sections of masonry wall. Refer to index photos 347 Condition 3
 B00A-R2W09 - General L.S	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Condition 3

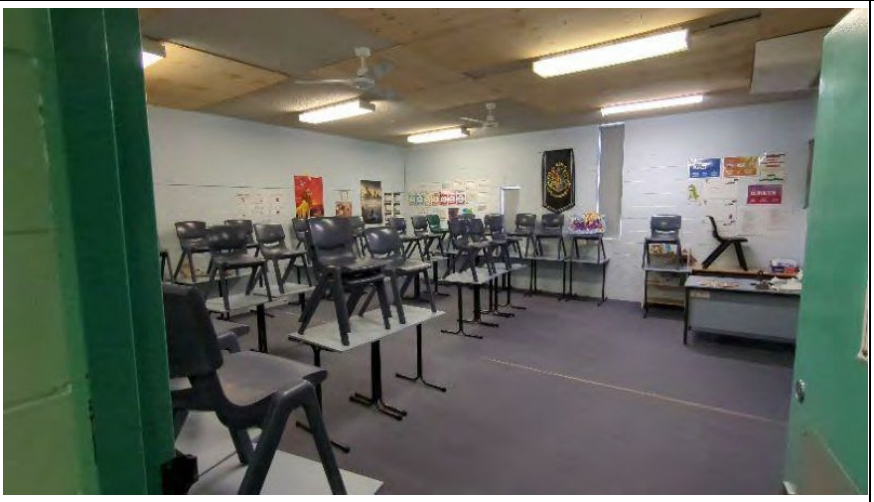
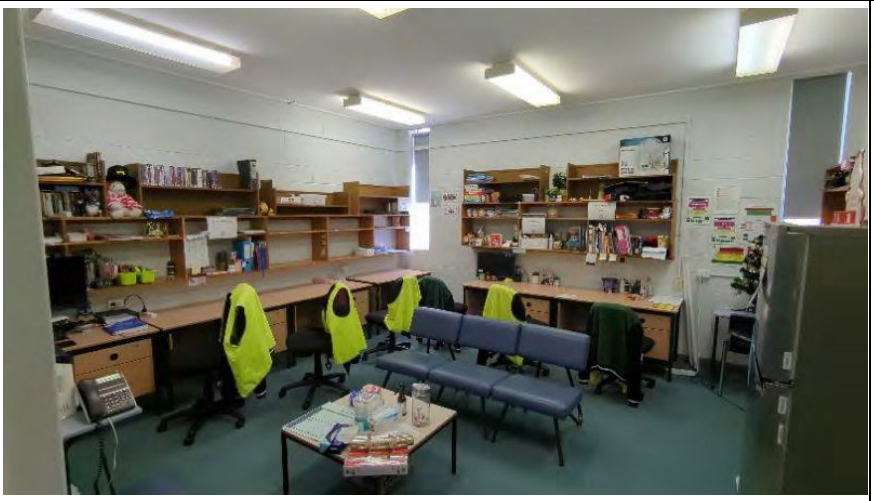
Photo	Material Type	Description
 B00A-R2W08 - General L.S	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Condition 3
 B00A-R2W07 Staff Study	Masonry walls, carpet over concrete and plasterboard ceiling.	Suspected visual mould growth was noted to porous contents. Refer to index photos 348 - 352 Condition 3

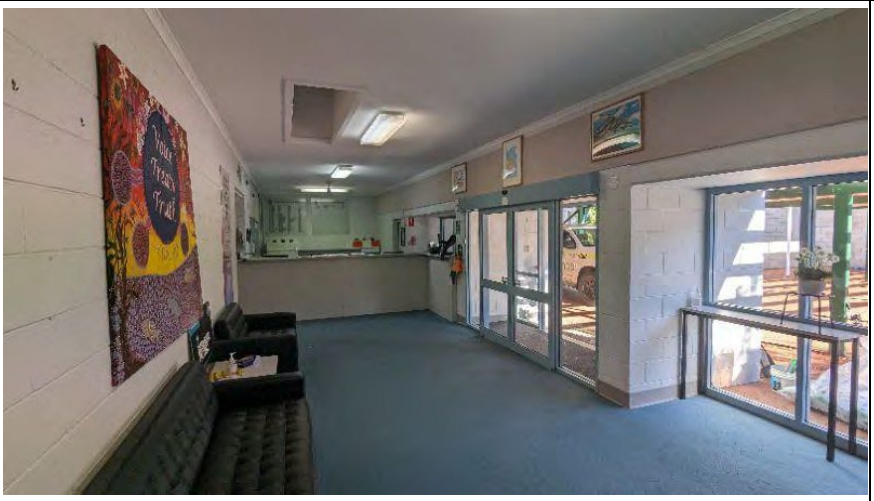
Photo	Material Type	Description
 B00A-R1S01 - Deputy	Masonry walls, carpet over concrete and plasterboard eiling.	No signs of visual mould growth or water damage were noted. Condition 2
 B00A-R1S03 - Entry	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Condition 2

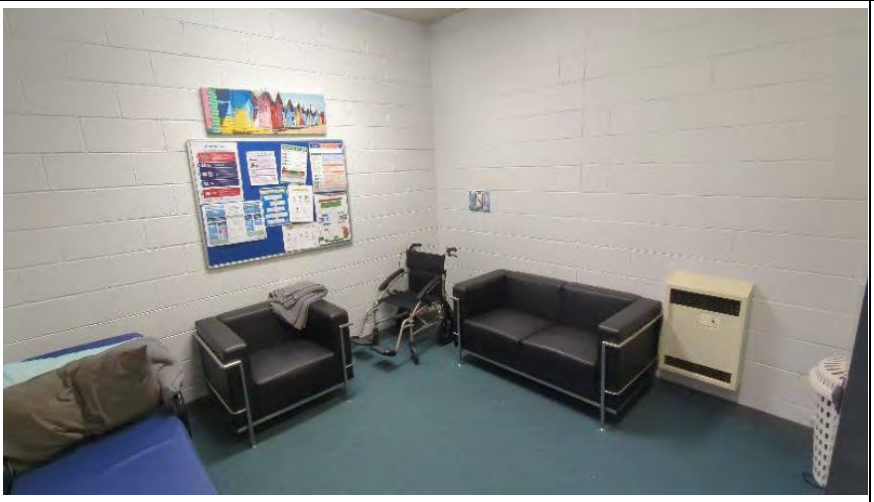
Photo	Material Type	Description
 B00A-R1S06 - Sick Bay	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Condition 2
 B00A-R1S07 - Printing	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Condition 2

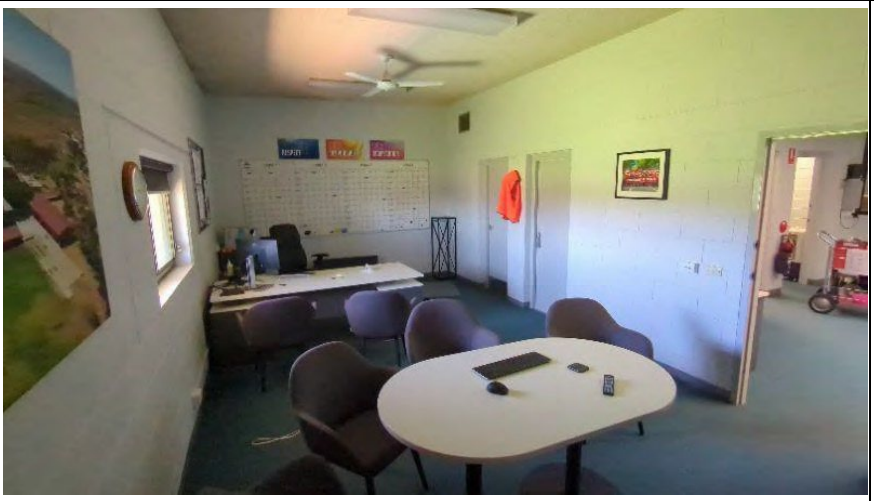
Photo	Material Type	Description
 B00A-R1S08 - Clerical	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Condition 2
 B00A-R1S09 - Principal	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Condition 2

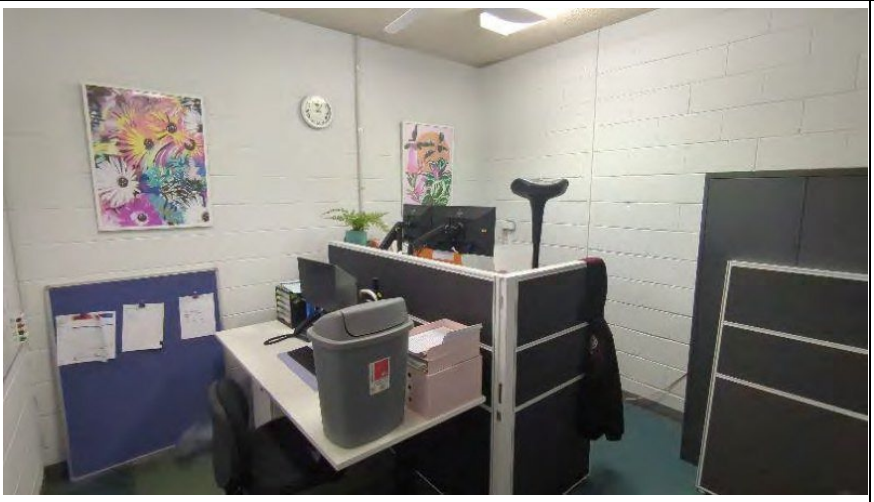
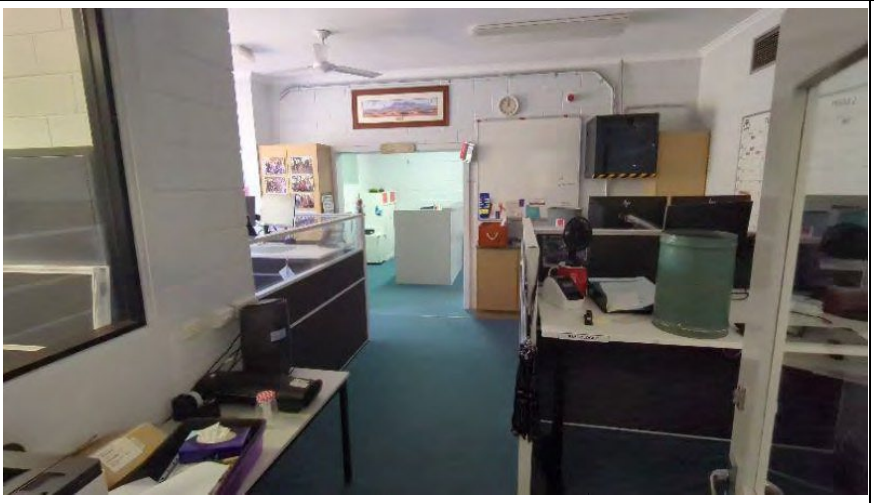
Photo	Material Type	Description
 B00A-R1S14 - Clerical	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	*Add 'tape-lift' sample results* - Staining Present on seat Refer to index photo 353 Condition 2
 B00A-R1S15 - Clerical	Masonry walls, carpet over concrete and plasterboard ceiling lining over sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Condition 2

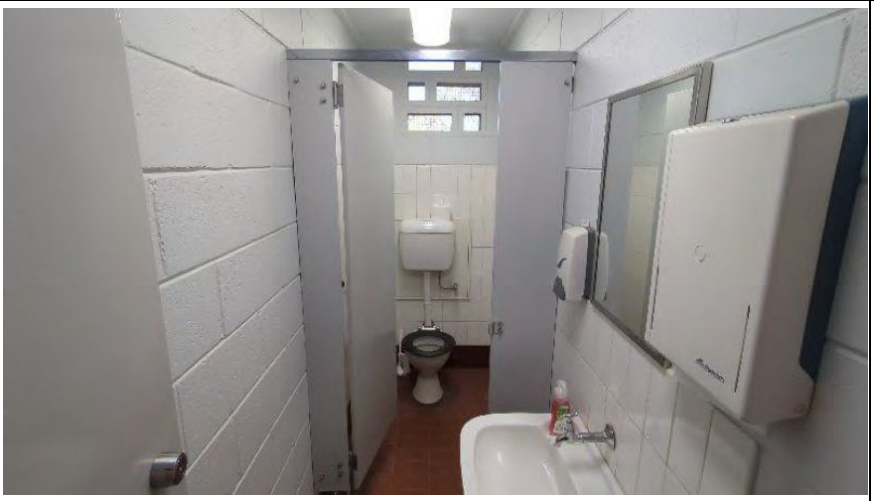
Photo	Material Type	Description
 B00A-R1S10 - Staff Toilet	Ceramic wall tiles, ceramic floor tiles and fibre cement ceiling.	No signs of visual mould growth or water damage were noted. Condition 2
 B00A-R1S11 Staff Toilet	Ceramic wall tiles, ceramic floor tiles and fibre cement ceiling.	No signs of visual mould growth or water damage were noted. Condition 2

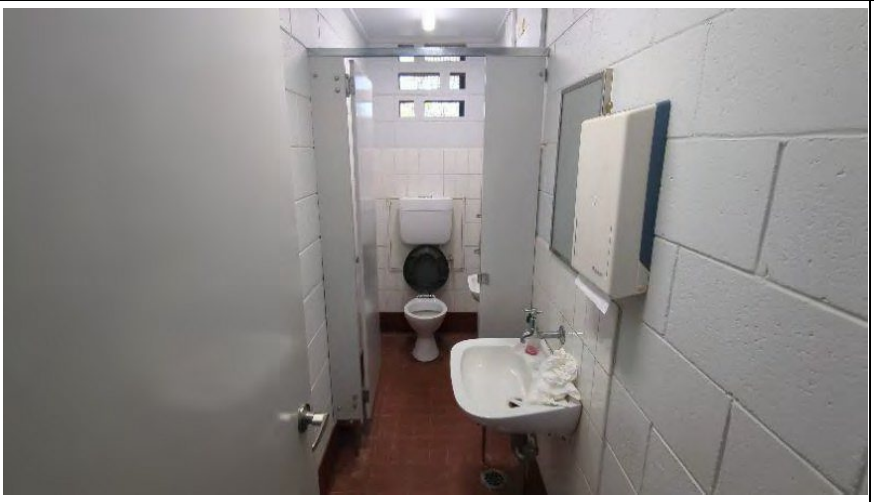
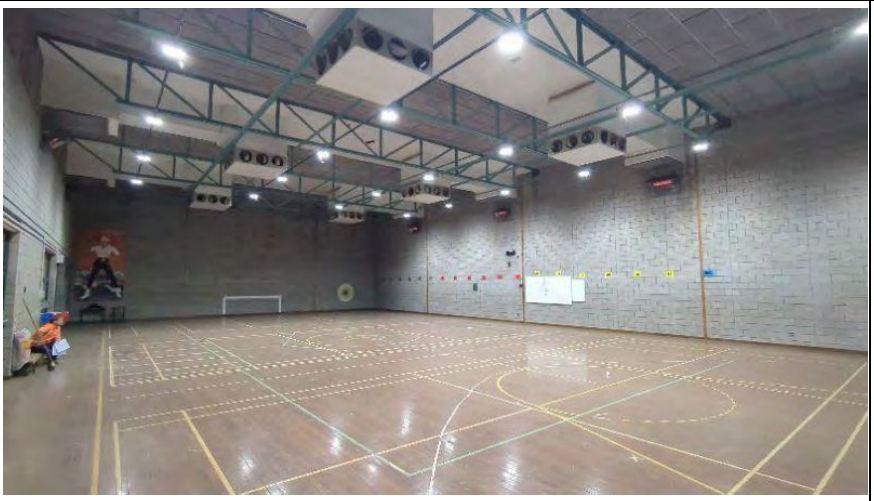
Photo	Material Type	Description
 B00A-R1S12 - Staff Toilet	Ceramic wall tiles, ceramic floor tiles and fibre cement ceiling.	No signs of visual mould growth or water damage were noted. Condition 2
 B00A-R0S08 - Multipurpose Space	Masonry walls, hardwood floor and acoustic ceiling tiles.	No signs of visual mould growth or water damage were noted. Condition 2

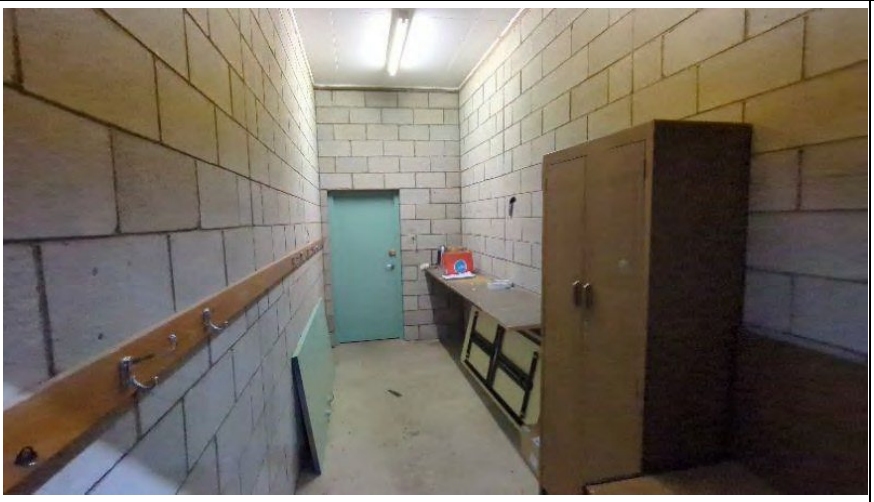
Photo	Material Type	Description
 B00A-R0S03 - Storeroom	Masonry walls, concrete floor and concrete ceiling.	No signs of visual mould growth or water damage were noted. Condition 2
B00A-R0S22 - Practice		No signs of visual mould growth or water damage were noted. Refer to index photos 354 - 356 Condition 2

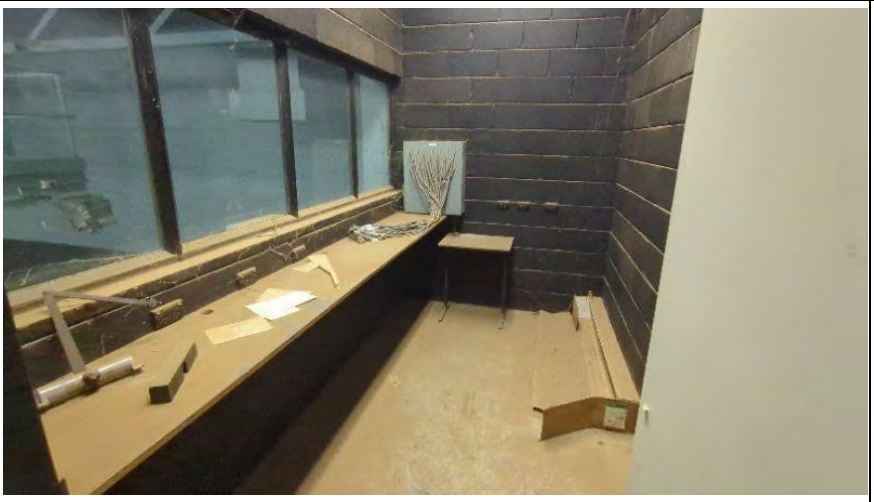
Photo	Material Type	Description
 B00A-R1S16 - Control Room	Masonry walls, concrete floor and concrete ceiling.	No signs of visual mould growth or water damage were noted. Refer to index photos 357, 359 Condition 2
 B00A-R0S27 - Girls Toilet	Masonry walls, ceramic wall tiles, ceramic floor tiles and concrete ceiling.	No signs of visual mould growth or water damage were noted. Condition 2

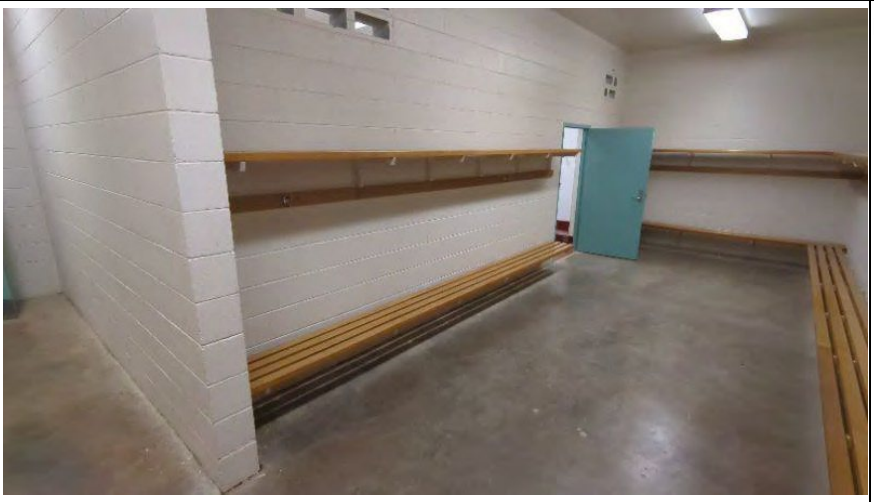
Photo	Material Type	Description
 B00A-RS024 - Change Room	Masonry walls, ceramic floor tiles and concrete ceiling.	No signs of visual mould growth or water damage were noted. Condition 2
 B00A-R0S25 - Showers	Masonry walls, ceramic floor tiles and concrete ceiling.	No signs of visual mould growth or water damage were noted. Condition 2

Photo	Material Type	Description
 B00A-R0S24 - Change Room	Masonry walls, ceramic floor tiles and concrete ceiling.	No signs of visual mould growth or water damage were noted. Condition 2
 B00A-R0S30 - Equipment Store	Masonry walls, ceramic floor tiles and concrete ceiling.	No signs of visual mould growth or water damage were noted. Condition 2

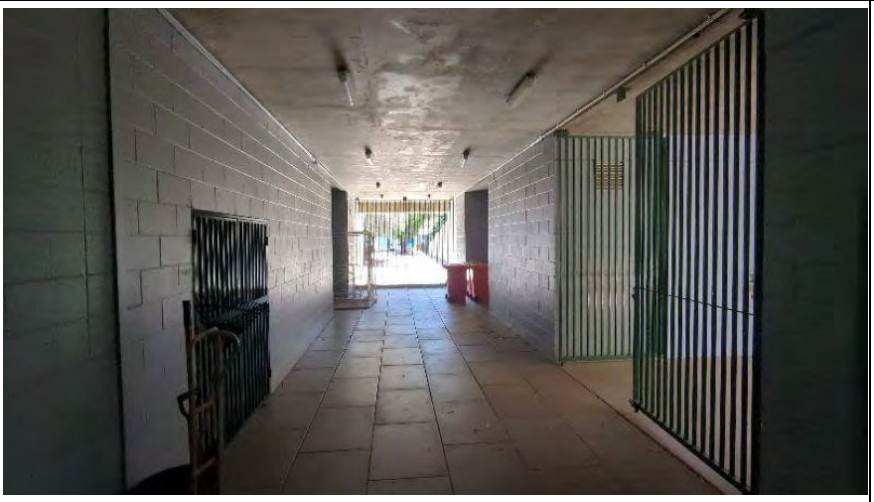
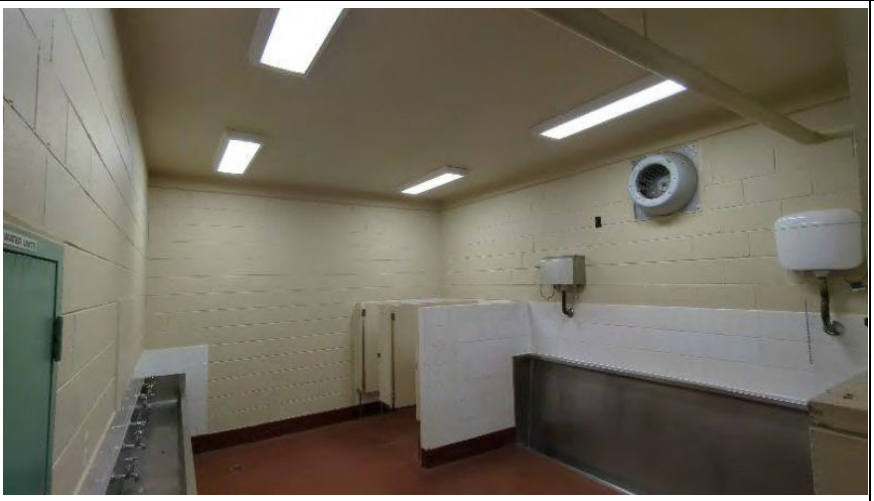
Photo	Material Type	Description
 B00A-R0S20 - Movement	Masonry walls, ceramic floor tiles and concrete ceiling.	No signs of visual mould growth or water damage were noted. Condition 2
 B00A-R0S15 - Boys Toilet	Masonry walls, ceramic floor tiles and concrete ceiling.	No signs of visual mould growth or water damage were noted. Condition 2

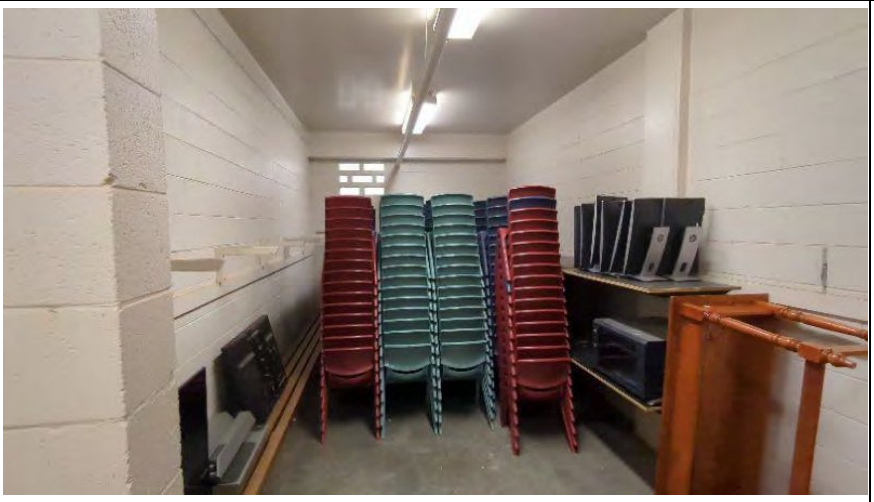
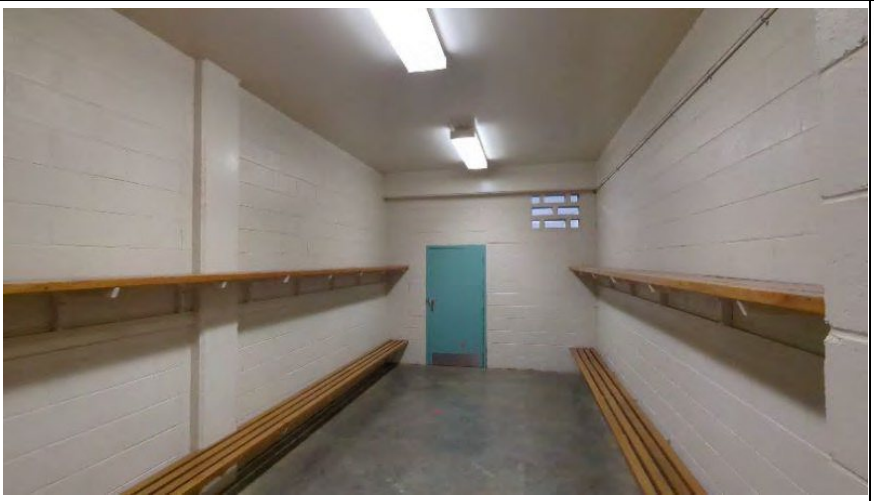
Photo	Material Type	Description
 B00A-R0S12 - Change Room	Masonry walls, ceramic floor tiles and concrete ceiling.	No signs of visual mould growth or water damage were noted. Condition 2
 B00A-R0S11 - Change Room	Masonry walls, ceramic floor tiles and concrete ceiling.	No signs of visual mould growth or water damage were noted. Condition 2

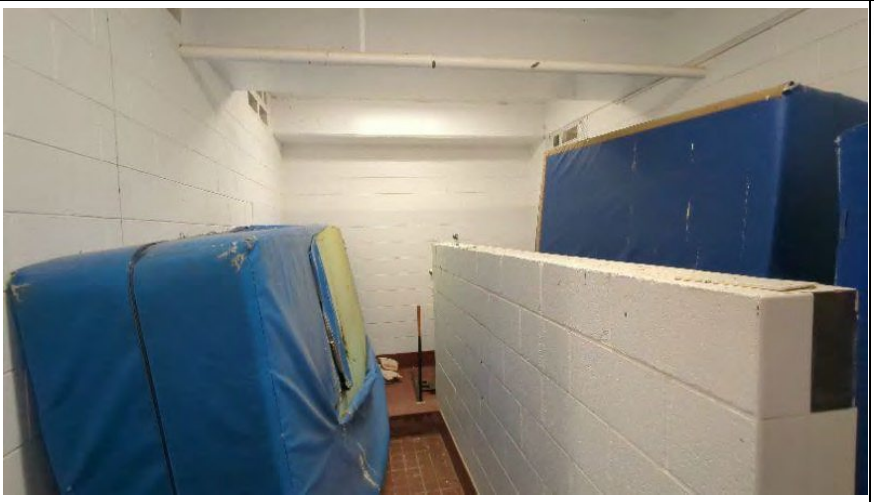
Photo	Material Type	Description
 B00A-R0S10 - Showers	Masonry walls, ceramic floor tiles and concrete ceiling.	Suspected visual mould growth was noted to porous contents. Room was in a general state of disarray. Condition 2
 B00A-R0S05 - Equipment Store	Masonry walls, ceramic floor tiles and concrete ceiling.	No signs of visual mould growth were noted. Water ingress (in the form of leaching) was noted to the upper sections of masonry walls. Refer to index photos 360 - 361 Condition 2
B00A-R0S04 - Chair Store		No access, keys provided did not open Assumed mould

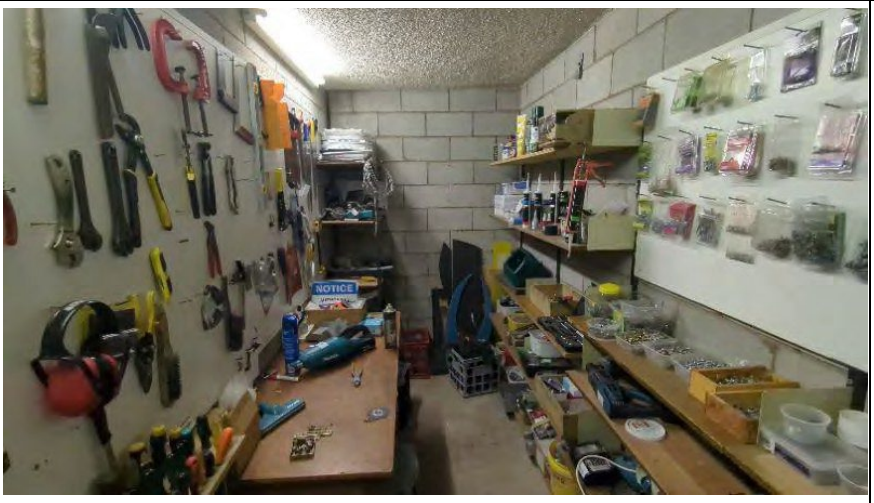
Photo	Material Type	Description
 B00A-R0N13 - Music Store	Masonry walls, carpet over concrete and concrete ceiling.	Suspected visual mould growth was noted to the carpet and all contents. Refer to index photos 362 - 363 Condition 3
 B00A-R0N05 - Maintenance Cupboard	Masonry walls, concrete floor and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to all contents. Condition 3

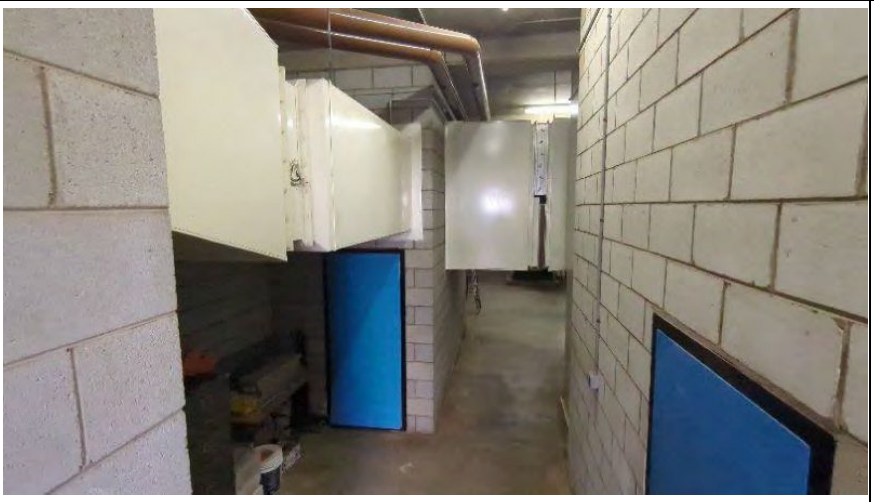
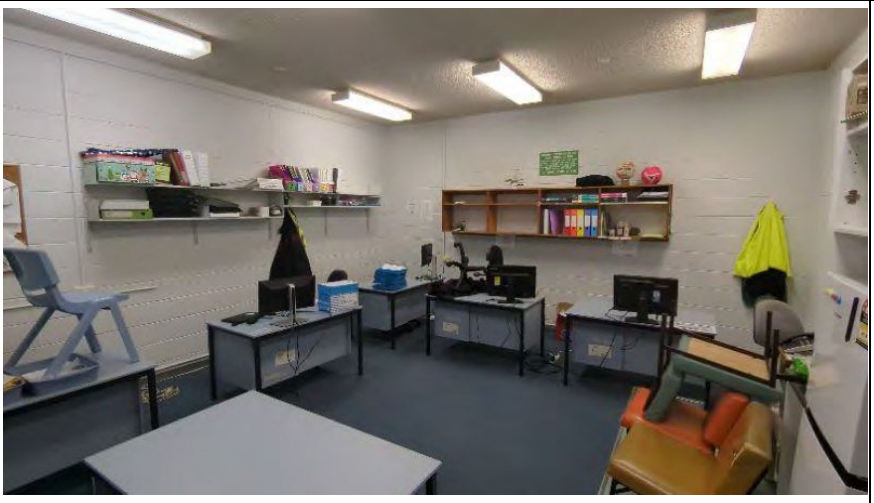
Photo	Material Type	Description
 B00A-R0N02 - Plant	Masonry walls, concrete ceiling and concrete floors.	No signs of visual mould growth or water damage were noted. Condition 3
 B00A-R1E15 - Staff Study	Masonry walls, carpet over concrfete and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to carpet floor and porous contents. Refer to index photos 364 - 369 Condition 3

Photo	Material Type	Description
B00A-R1E16 - Staff Study	Masonry walls, carpet over concrfete and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to carpet floor and porous contents. Refer to index photos 370 - 371 Condition 3
 B00A-R1E16 - Math Storeroom	Masonry walls, concrete floor and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Condition 3

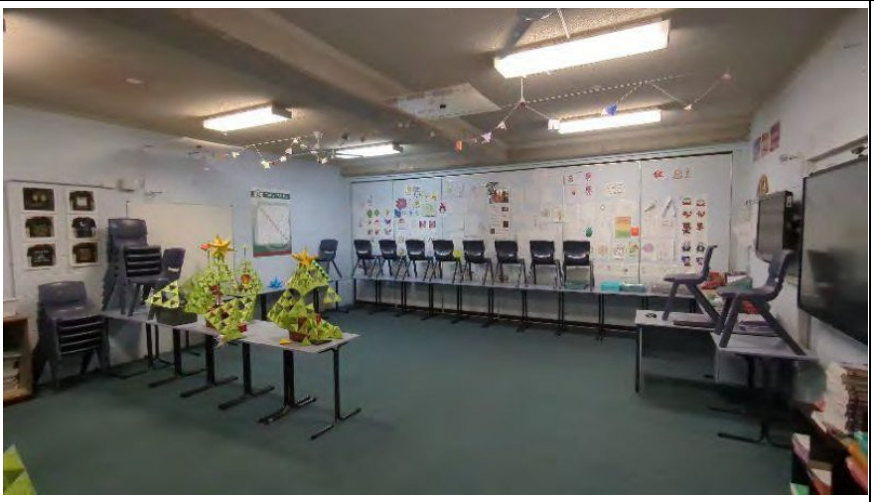
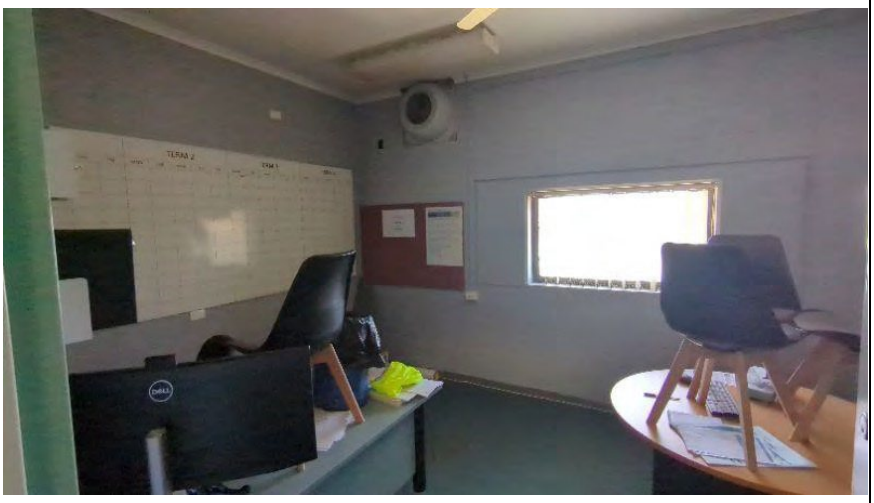
Photo	Material Type	Description
 B00A-R1E10 - General L.S	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to carpet floor. Condition 3
B00A-R2E08 - Music L.S	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Condition 3
 B00A-R2N13 - Staff Study	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	Suspected visual mould growth was noted to linoleum skirting. Condition 3

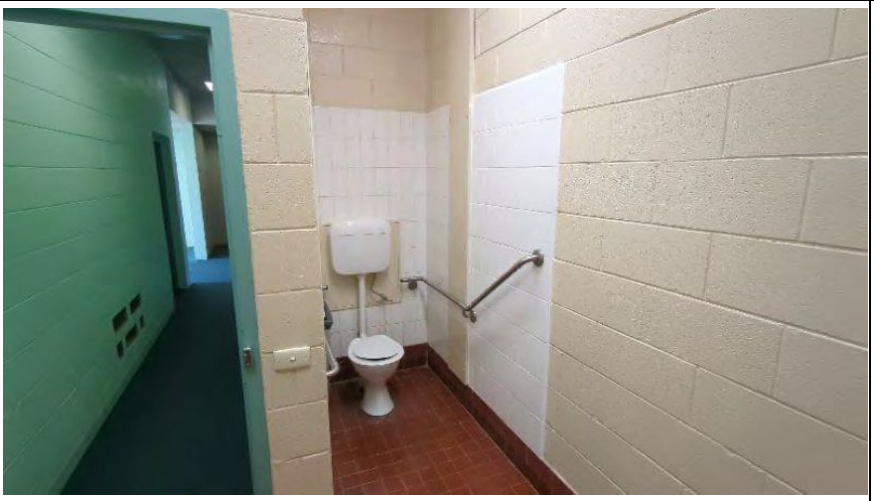
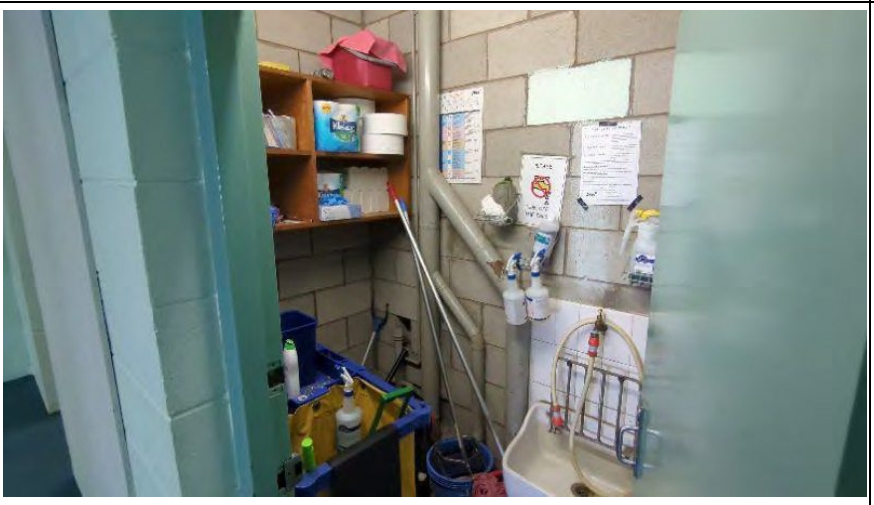
Photo	Material Type	Description
 B00A-R2W01 - Store Room	Masonry walls, carpet over concrete and sprayed coating (vermiculite) ceiling.	No signs of visual mould growth or water damage were noted. Condition 3
 B00A-RW02 - Staff Toilet	Masonry walls, ceramic floor tiles and concrete ceiling.	No signs of visual mould growth or water damage were noted. Condition 3

Photo	Material Type	Description
 B00A-R2W03 - Staff Toilet	Masonry walls, ceramic floor tiles and concrete ceiling.	No signs of visual mould growth or water damage were noted. Condition 3
 B00A-R2W04 - Boys Toilet	Masonry walls, ceramic floor tiles and concrete ceiling.	No signs of visual mould growth or water damage were noted. Condition 3

Photo	Material Type	Description
 B00A-2W05 - Girls Toilet	Masonry walls, ceramic floor tiles and concrete ceiling.	No signs of visual mould growth or water damage were noted. Condition 3
 CS-7 Cleaning cupboard	Masonry walls, ceramic floor tiles and concrete ceiling.	Unable to identify room from floor plan. No signs of visual mould growth or water damage were noted. Condition 3

Appendix C - Lead Results

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 344120

Client Details

Client	EnviroScience Solutions
Attention	Pat Kelly
Address	PO Box 1645, Dubbo, NSW, 2830

Sample Details

Your Reference	**30269**
Number of Samples	11 Paint
Date samples received	16/02/2024
Date completed instructions received	16/02/2024

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	22/02/2024
Date of Issue	22/02/2024

NATA Accreditation Number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Giovanni Agosti, Group Technical Manager

Authorised By
Nancy Zhang, Laboratory Manager

Lead in Paint						
Our Reference		344120-1	344120-2	344120-3	344120-4	344120-5
Your Reference	UNITS	S01	S02	S03	S04	S05
Date Sampled		10/02/2024	10/02/2024	10/02/2024	10/02/2024	10/02/2024
Type of sample		Paint	Paint	Paint	Paint	Paint
Date prepared	-	21/02/2024	21/02/2024	21/02/2024	21/02/2024	21/02/2024
Date analysed	-	21/02/2024	21/02/2024	21/02/2024	21/02/2024	21/02/2024
Lead in paint	%w/w	0.14	<0.005	<0.005	0.66	0.03

Lead in Paint						
Our Reference		344120-6	344120-7	344120-8	344120-9	344120-10
Your Reference	UNITS	S06	S07	S08	S09	S10
Date Sampled		10/02/2024	10/02/2024	10/02/2024	10/02/2024	10/02/2024
Type of sample		Paint	Paint	Paint	Paint	Paint
Date prepared	-	21/02/2024	21/02/2024	21/02/2024	21/02/2024	21/02/2024
Date analysed	-	21/02/2024	21/02/2024	21/02/2024	21/02/2024	21/02/2024
Lead in paint	%w/w	<0.005	0.005	<0.005	<0.005	0.05

Lead in Paint		
Our Reference		344120-11
Your Reference	UNITS	S11
Date Sampled		10/02/2024
Type of sample		Paint
Date prepared	-	21/02/2024
Date analysed	-	21/02/2024
Lead in paint	%w/w	0.04

Method ID	Methodology Summary
Metals-020/021/022	Digestion of Paint chips/scrapings/liquids for Metals determination by ICP-AES/MS and or CV/AAS.

QUALITY CONTROL: Lead in Paint						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			21/02/2024	1	21/02/2024	21/02/2024		21/02/2024	[NT]
Date analysed	-			21/02/2024	1	21/02/2024	21/02/2024		21/02/2024	[NT]
Lead in paint	%w/w	0.005	Metals-020/021/022	<0.005	1	0.14	0.16	13	111	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Appendix D - Unexpected Finds Protocol

ASBESTOS AT WORK – YOUR RESPONSIBILITIES

Asbestos was once used in Australia in **more than 3000 different products**, and breathing in asbestos fibres can cause asbestosis, lung cancer and mesothelioma.

If asbestos fibres are in a stable material, such as fibro, they pose little health risk. However, when the fibro is damaged or disturbed in some way, fibres can become loose and airborne, and pose a risk to someone's health. There are specific laws about working with asbestos. Here is a summary provided by Safework:

WORKING WITH ASBESTOS

Don't allow workers to work with asbestos, except under prescribed circumstances or until they are properly trained. Also, make sure the exposure standard for asbestos is not exceeded.

More information, visit asbestosawareness.com.au or call 1800 Asbestos (1800 272 378).

FIND ASBESTOS IN THE WORKPLACE

Get a licensed asbestos assessor, to inspect your workplace for asbestos. If unsure whether it is present, assume it is. If necessary, have a sample checked by a NATA-accredited laboratory. Once identified, make sure all asbestos is clearly labelled

KEEPING AN ASBESTOS REGISTER

If your workplace was built before 31 December 2003, you must keep a register that outlines when and where asbestos has been located, what type it is, and what condition it's in. The register should be available to anyone involved in work at the workplace.

PREPARE AN ASBESTOS MANAGEMENT PLAN

If asbestos has been identified at your workplace, you must prepare and maintain an asbestos management plan, which is reviewed at least every five years or when requested by a health and safety representative or if the asbestos is removed, disturbed, sealed or enclosed. The plan must be available to anyone involved in work at the workplace.

MONITOR WORKERS' HEALTH

You must provide and pay for health monitoring for all those working with, or exposed to, asbestos.

TRAIN WORKERS

Your workers must be trained in identifying and handling asbestos safely, and understanding suitable control measures.

WHAT NOT TO DO

When you're working on or near asbestos, you must not use high-pressure water sprays or compressed air – and you must control the use of power tools, brooms or anything else that might release asbestos into the air.

ENVIROSCIENCE SOLUTIONS

At EnviroScience Solutions, we safeguard health through science.

Our licensed asbestos assessors identify, monitor and manage contaminants that can be a part of everyday life and harmful to health. We test for and manage the situation to make sure that levels are in a safe range, legislative requirements are met and staff, the community and the environment are safe.

PHONE 1300 372 436

EnviroScience SOLUTIONS
Phone: 1300 372 436
Email: info@enviroscience.com.au
www.enviroScience.com.au

Dubbo - Orange - Newcastle - Tamworth - Wagga Wagga - Maitland - Canberra

EnviroScience SOLUTIONS
Phone: 1300 372 436
Email: info@enviroscience.com.au
www.enviroScience.com.au

Dubbo - Orange - Newcastle - Tamworth - Wagga Wagga - Maitland - Canberra

PROTECTING HEALTH & THE ENVIRONMENT THROUGH SCIENCE

ASBESTOS UNEXPECTED FIND PROTOCOL

Many asbestos exposures in the workplace happen when workers unintentionally disturb asbestos. In the event of a significant disturbance or unexpected find of suspected asbestos, the following steps should be undertaken:

01

STOP WORK, VACATE & ALERT

Stop work, vacate the immediate area and alert others.

02

ISOLATE & RESTRICT ACCESS

Isolate the area and restrict access, ideally with a 10m exclusion zone.

03

SIGNPOST

Signpost the exclusion zone with asbestos warning signs or similar.

04

CONTACT ENVIROSCIENCE SOLUTIONS

Contact EnviroScience Solutions 1300 372 436 to assess the area, test the material and provide clear management recommendations.

05

AIR MONITORING

Air monitoring with testing conducted by a NATA accredited laboratory is the only way to answer the question "Have I been exposed to asbestos fibres?"

06

REMOVAL

Removal of the material by a licensed removal contractor working in accordance with EnviroScience Solutions recommendations.

07

CLEARANCE INSPECTION

Clearance inspection after the clean-up and before reoccupation to ensure the area is asbestos free and safe to reoccupy.

DO NOT REMOVE IT
WET IT DOWN
DO NOT WALK THE MATERIAL AROUND ON BOOTS

Appendix E – Porous, Semi-Porous and Non-Porous remediation guide (IICRC R520: 2015 Reference Guide for Professional Moud Remediation, Chapter 13)

Porous Items		
Category	**Condition 2**	**Condition 3**
General	Most items are cleanable. After carefully examining items for unrestorable water damage, the proper cleaning method should selected be based on material composition and manufacturer instructions. Knowing the type of contaminated fabric is critical to determining the type of remediation needed, such as multiple launderings. Recent research showed that *Aspergillus* spores were trapped and retained to a much greater degree in cotton fabrics than in synthetics, such as rayon, nylon, and polyester. Both laundering and dry cleaning provide physical removal of mold spores and related fragments of growth. With heavy mold odors, a deodorization process such as confined use of ozone may be desirable before or following laundering or dry cleaning. Most cleaning processes should start and end with HEPAvacuuming. Rapid drying after wet cleaning and appearance enhancement, as necessary, follows most cleaning methods.	Condition 3 porous contents generally are not restorable, and disposal normally is recommended. All items should be examined first for unrestorable water damage before extensive attempts to remove mold growth are made. Usually unrestorable due to staining, discoloration, or fiber damage. However, if an item is of sufficient value (e.g., sentimental, monetary, legal, artistic, cultural, or historical), cleaning may be attempted, using techniques described for Condition 2. If heavy odors exist, multiple cleanings and deodorizing attempts may be needed. Organic materials that are highly susceptible to mold growth, such as leather objects, animal trophy heads, and similar items, are not restorable when Condition 3. Most cleaning processes should start and end with HEPA vacuuming. Rapid drying after wet cleaning and appearance enhancement, as necessary, follows most cleaning methods.
Porous Textiles: clothing, fabric, and other textile items	Usually can be laundered or dry-cleaned as appropriate for the fabric as shown on the manufacturer's label. **Laundering:** Using detergent in the laundering process facilitates removing contaminants. Laundry sanitizers can be added, if textile manufacturer directions permit. They might help reduce microorganism growth, and significantly reduce odors. For those fabrics that are not chlorine bleach safe, addition of oxygen bleaches, such as sodium perborate or sodium percarbonate can provide similar benefits, if permitted by manufacturer directions. The laundering process also can be enhanced by increasing the water temperature. Care should be taken not to exceed the manufacturer's water temperature recommendations. **Dry Cleaning:** As with laundering, dry cleaning typically will follow manufacturer label recommendations, as well as those standard quality practices of the dry cleaning industry, relative to	Usually unrestorable due to staining, discoloration or fiber damage. However, if the item is of sufficient value (e.g., sentimental, monetary, legal, artistic, cultural, or historical), cleaning may be attempted, using the techniques described for Condition 2. If heavy odors exist, multiple cleanings and deodorization attempts may be needed. For items of high financial or sentimental value, specialty remediation techniques may be possible.

Porous Items		
Category	**Condition 2**	**Condition 3**
	fabric or material type. In addition to the traditional solvent-based process, new liquid carbon dioxide dry cleaning and other alternatives are available, and can be better suited for some items. As with laundering, the primary goal of dry cleaning is the physical removal of contaminants and associated odors, rather than killing microorganisms. Repeat laundering or dry cleaning may be needed to satisfactorily eliminate mold odors, as well as to provide an additional measure of assurance of maximum contaminant removal. The decision to conduct multiple launderings or dry cleanings involves professional judgment in consultation with the contents' owner and other materially interested parties.	
Porous Furnishings: area rugs, loose carpet, upholstery, mattresses, wicker, and similar items	Most cleaning processes should start and end with HEPAvacuuming. If items have not been used while contaminated, HEPA-vacuum thoroughly and professionally clean by an acceptable extraction method following the IICRC S300, *Standard and Reference Guide for Professional Upholstery Cleaning*. Thorough moisture extraction and rapid drying are critical if this procedure is to be successful. As with clothing and soft goods, deodorizing severely contaminated contents may be conducted with appropriate techniques. One or more repeat cleanings may be needed to remove odors and further reduce contaminant levels. With all items, accelerated drying is critical. Appearance enhancement, as necessary, follows all cleaning methods. Area rugs and carpet may be cleanable in a controlled, in-plant facility (see IICRC S500, Chapter 16 *Contents Evaluation and Restoration*). Determining the severity of contamination may necessitate an assessment. Spreading spores during the cleaning process is a potential problem. Immersion methods that clean rugs or carpet under water are less likely to aerosolize spores. Tapestries and other unpadded items may be HEPA-vacuumed thoroughly or air washed to remove accumulated dust and spores. It is recommended to follow this method with an upholstery cleaning process as specified in the IICRC S300. Air washing should be performed only in a properly controlled work area, or using controlled techniques where massive aerosolization does not pose a health risk to workers or occupants. If items such as pillows, mattresses, and/or leather products have been used while contaminated, attempts to return the item to Condition 1 usually are unsuccessful. Disposal is recommended. Rapid drying after wet cleaning and appearance enhancement, as necessary, follows most cleaning methods.	Usually cannot be effectively remediated and restored to an acceptable condition due to staining and other problems as listed for clothing above. If cleaning is attempted, follow recommendations for Condition 2. Most cleaning processes should start and end with HEPA vacuuming.

Porous Items		
Category	**Condition 2**	**Condition 3**
Paper Goods: books, documents, manuscripts, family records, scrapbooks, photographs, and similar items	Most cleaning processes should start and end with HEPA vacuuming. Clean by HEPA vacuuming and dry brushing or other surface cleaning method, while on a downdraft cleaning table. Air washing can be effective. However, air washing should be performed only in a properly controlled work area, or using controlled techniques where massive aerosolization will not pose a health risk to workers or occupants. Rapid drying after wet cleaning and appearance enhancement, as necessary, follows most cleaning methods. Valuable or irreplaceable documents that cannot be cleaned or decontaminated may be encased, laminated, or otherwise sealed.	Remediation is difficult, costly, and may not be cost-effective if items lack significant value (e.g., sentimental, monetary, legal, artistic, cultural, or historical) Cleaning may require a specialized conservation process, and might not be successful. Valuable or irreplaceable documents that cannot be cleaned or decontaminated may be encased, laminated, or otherwise isolated
Fine Art: paintings, sculpture, works of art, and similar items	Remediating mold-contaminated fine art at Condition 2 should be performed only by qualified, experienced specialists primarily due to the high value of items involved. Actual cleaning techniques parallel those for similar items in other categories, but often require extensive knowledge of the type of artwork in question to avoid damage to the piece.	Remediating mold-contaminated fine art at Condition 3 might not be completely successful, and can be quite expensive. These services should be performed by qualified, experienced specialists.

Note: This is not a comprehensive list of all cleaning methods or cleaning method combinations.

Semi-porous Items		
Category	**Condition 2**	**Condition 3**
Semi-porous Items: primarily unfinished wood	All items should be examined first for unrestorable water damage. Cleaning usually is accomplished by HEPA vacuuming or air washing. It is recommended that most cleaning processes both start and end with HEPA vacuuming. Abrasive blast cleaning with an appropriate media may also be effective. Air washing or abrasive blast cleaning should be performed only in a properly controlled work area using controlled techniques, where the massive aerosolization they cause will not pose a health risk to workers or occupants. (See Chapter 5, *Equipment Tools and Materials* for more information). Thorough brushing, while on a downdraft-cleaning table is another possible cleaning technique. Using liquids, especially water-based solutions, can cause staining or discoloration of wood. Appearance enhancement, as necessary, follows all cleaning methods. Using liquid-applied coatings to cover surfaces of contents that cannot be adequately cleaned (and disinfected or sanitized when appropriate) is not recommended. However, using coatings to seal surfaces or restore the appearance of a material can be a useful practice, especially on porous or semi-porous materials from which the damage from mold cannot be fully eliminated (e.g., shellac, varnish, lacquer, water-based acrylics over unfinished wood).	All items should be examined first for unrestorable water damage or mold damage. Semi-porous items are often unrestorable due to staining, discoloration and decay caused by mold enzymes unless growth is in a biofilm rather than in the wood. If growth is in a biofilm, follow directions for Condition 2. Most cleaning processes should start and end with HEPA vacuuming. If growth has penetrated wood, aggressive cleaning methods such as HEPA-assisted hand sanding, abrasive blast cleaning with an appropriate media, and wire or other aggressive brushing (preferably on a downdraft cleaning table) may be required. Abrasive blast cleaning should be performed only in a properly controlled work area using controlled techniques where the massive aerosolization it causes will not pose a health risk to workers or occupants. (See Chapter 5, *Equipment, Tools and Materials* for more information). End results of such aggressive cleaning methods may result in an appearance that is unacceptable to customers. Attempts should be made to determine if results will be acceptable before extensive cleaning is performed. Using liquids, especially water-based solutions, can cause staining or discoloring wood. Appearance enhancement, as necessary, follows all cleaning methods.

Note: This is not a comprehensive list of all cleaning methods or cleaning method combinations.

Nonporous Items		
Category	**Condition 2**	**Condition 3**
Nonporous items: finished wood, glass, metal, plastic, electronics, and similar items	All items should be examined first for unrestorable water damage. Usually, cleaning can be accomplished by using one or a combination of the following: detergent washing and rinsing, ultrasonic cleaning, or HEPA vacuuming plus damp wiping with a suitable cleaning agent. Cleaning agents should contain surfactants or detergents designed for the use and purpose of removing surface dirt or mold growth. Remediators may clean (and disinfect or sanitize, when appropriate) with a biocide if, in their professional judgment, such use would be appropriate. However, indiscriminate biocide use is discouraged, and biocides should not be used instead of proper cleaning. Biocides should only be used in accordance with the product label instructions that have been approved and registered by the EPA or other applicable regulatory agency. The addition of this statement will advise remediators that biocide use is a possibility for these contents, but that there are limitations that should be carefully considered before using these products, and that indiscriminate use, or use instead of adequate cleaning, is not proper remediation. Rapid drying after wet cleaning and appearance enhancement, as necessary, follows most cleaning methods.	All items should be examined first for unrestorable water damage. Some glass and plastic items may be etched or stained by long-term exposure to water and associated mold growth. Metal items may be unrestorable due to corrosion, which can be accelerated by acids produced by fungal growth. Usually, cleaning can be accomplished by using one or a combination of the following: detergent washing and rinsing, ultrasonic cleaning, or HEPA vacuuming plus damp wiping with a suitable cleaning agent. Cleaning agents should contain surfactants or detergents designed for the use and purpose of removing surface dirt and or mold growth. Most cleaning processes should start and end with HEPA vacuuming. Remediators may clean (and disinfect or sanitize when appropriate) with a biocide if, in their professional judgment, such use would be appropriate. However, indiscriminate biocide use is discouraged, and biocides should not be used instead of proper cleaning. Biocides should only be used in accordance with product label instructions that have been approved and registered by the EPA or other applicable regulatory agency. This statement advises remediators that biocide use is a possibility for these contents, but that there are limitations that should be carefully considered before using these products, and that indiscriminate use, or use instead of adequate cleaning, is not proper remediation. Rapid drying after wet cleaning and appearance enhancement, as necessary, follows most cleaning methods.

Note: This is not a comprehensive list of all cleaning methods or cleaning method combinations.

HIGH-VALUE AND IRREPLACEABLE CONTENTS

High-value contents are those with high financial value or replacement cost. Irreplaceable contents are those with high historical, sentimental, cultural, artistic, legal, or other types of value. Extraordinary cleaning procedures may be appropriate for these contents. Such procedures can be as simple as repeated cleanings using standard practices as described above, or they may require highly specialized expert services.