

BEFORE THE INDEPENDENT HEARINGS PANEL

UNDER the Resource Management Act 1991
IN THE MATTER of proposed Plan Change 14: Housing and Business
Choice to the Christchurch District Plan
AND
IN THE MATTER of Cambridge 137 Limited (Submitter 1092)

**JOINT STATEMENT OF EVIDENCE OF JONATHAN LYTTLE AND MICHAEL
DOIG ON BEHALF OF CAMBRIDGE 137 LIMITED**

QUALIFYING MATTER: HERITAGE (HERITAGE SITES)

20 September 2023

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Introduction

Jonathan Lyttle

- 1 My full name is Jonathan Peter Wallace Lyttle.
- 2 I am a Director of Cambridge 137 Limited (or the **Company**), the owner of Cambridge 137 Limited and the Harley Chambers Building.
- 3 I have 20 years' experience working in the property industry and my current role is Director of Citadel Property Limited, an umbrella entity that owns shares in all of our property vehicles, including Cambridge 137 Limited.
- 4 I am authorised to give this evidence on behalf of the Company.

Michael Doig

- 5 My full name is Michael Quentin Doig.
- 6 I am a Director of Cambridge 137 Limited.
- 7 I have 22 years' experience working in the property industry and am a Director of Citadel Property Limited, an umbrella entity that owns shares in all of our property vehicles, including Cambridge 137 Limited.
- 8 I am authorised to give this evidence on behalf of the Company.

Citadel Property Limited

- 9 Citadel Property Limited represents the Doig and Lyttle Family Trusts. Being friends, industry colleagues and business partners, the two families have worked together over the last 10 years having developed and invested into some \$100 million of property in Christchurch.
- 10 Our combined experience and resources have delivered and de-risked projects in one of New Zealand's most dynamic development periods. The purpose of both trusts is to synergistically develop and hold property assets. The Trusts prefer a low profile and long term mutually beneficial relationships with tenants and occupiers as partners.
- 11 The Doig and Lyttle families are both domiciled in Christchurch. Michael and Anneliese Doig returned from working overseas in 2010 to settle after much time away from New Zealand in professional capacities. They now live in Sumner, Christchurch with their three daughters. Jonathan and Hannah Lyttle are long established Christchurch residents living and

working in New Zealand as professionals and investors. They live also in the Eastern Bays near Sumner with their two daughters.

- 12 Michael was a Director and shareholder of Ganellen Construction's New Zealand business and was responsible for the strategic direction of the business, commercial operations and client engagement. Founded in 1998, Ganellen employed over 200 people and had constructed over \$2 billion of property developments in New Zealand and Australia.
- 13 Michael has over 22 years' experience in the property industry, and has enjoyed extensive exposure to international markets, having worked in the United Kingdom, Australia and New Zealand.
- 14 Prior to commencing with Ganellen he advised on well over \$700 million worth of property transactions. He has recently sold his shareholding in Ganellen to focus on the growth of Citadel and to enjoy more time with his family in Christchurch.
- 15 Jonathan has some 20 years' experience in the property industry with more than \$800 million of transactional experience and the same again worth of corporate lease transactions and structuring advice.
- 16 Jonathan was the general manager of Colliers Christchurch for five of his nine-year time there. In 2015 he was asked to launch the Savills business in Christchurch and was Managing Director for his four-year contract. Jonathan was also invited to complete a two-year associate director internship with \$5 billion company Christchurch City Holdings Limited.

Scope of Evidence

- 17 As co-authors we have prepared this evidence on behalf of Cambridge 137 Limited (submitter number 1092) in support of the submission seeking the de-listing of Harley Chambers (Hearing Topic – Qualifying Matters – Heritage (Heritage Sites)). Specifically, our evidence addresses:
 - (a) Some background to the purchase of 137 Cambridge Terrace and the Harley Chambers building;
 - (b) Heritage projects we have been involved with previously;
 - (c) The earthquake prone status of the Harley Chambers building; and
 - (d) The options we have considered in relation to the future of Harley Chambers.

- 18 In preparing this joint evidence, we have reviewed the following documents:
- (a) Evidence prepared on behalf of the Christchurch City Council, including:
 - (i) Ms Amanda Ohs' Statement – Listed Heritage Items;
 - (ii) Mr David Pearson's Statement – Conservation Architect;
 - (iii) Mr Gavin Stanley's Statement – Quantity Surveyor;
 - (iv) Mr Stephen Hogg's Statement – Engineering; and
 - (v) Ms Susan Richmond's Statement – Planning in relation to Heritage Items.
 - (b) Evidence prepared on behalf of Cambridge 137 Limited, including:
 - (i) Mr Brett Gilmore's Statement – Engineering;
 - (ii) Mr Keeley Pomeroy's Statement – Quantity Surveying;
 - (iii) Mr Hayden Doody's Statement – Valuation;
 - (iv) Mr Brett Gerrard's Statement – Insurance;
 - (v) Mr John Brown's Statement – Heritage; and
 - (vi) Mr Matt Bonis' Statement – Planning.
 - (c) The Mould and Asbestos Assessments prepared by SC Environmental dated 7 September 2023.

Background to the purchase of 137 Cambridge Terrace

- 19 Our involvement with the site began in November 2022 when we were approached by commercial property agents, Bayleys, indicating that there was an opportunity to purchase the 137 Cambridge Terrace site, along with adjoining properties at 67 and 69 Worcester Street. We were well-aware of the site, having followed the vendor's 2017 Resource Consent application for redevelopment of the properties, which included the demolition of the Harley Chambers Building at 137 Cambridge Terrace in its entirety and part demolition of the neighbouring Worcester Chambers building at 69 Worcester Street, and subsequent construction of a hotel across all three sites.

- 20 Having reviewed the 2017 information that was prepared by the applicant, Lee Pee Limited, we were aware that there was strong argument for demolition of the buildings, that it was highly likely that the Harley Chambers Building in particular represented an absolute economic loss, and we duly put in an unconditional offer via Bayleys to purchase all three properties.
- 21 It is important to note that we had not completed our own due diligence as to whether or not the building could be saved at this point in time. Having purchased 18 properties in Christchurch since the earthquakes, we are well accustomed to undertaking seismic strengthening exercises on properties that have been previously written off by others as a complete economic loss. Accordingly, our offer was made on the basis that we allowed a contingency to strengthen the building based on our experience of like properties.
- 22 Lee Pee Limited declined our offer and instead chose to market all three properties by way of a public sales campaign and appointed agents Savills to represent their interests.
- 23 After consideration of the opportunity that the 3 properties represented, and through further negotiation with Savills, we duly increased our offer at campaign close in March 2023 on the basis we had a conditional period to allow us to complete the necessary due diligence to verify certain assumptions that we had made about both the ability to retain, strengthen and refurbish the existing improvements on site, as well as to satisfy ourselves as to the possibility of demolishing all or part of the buildings, in the event that they were unable/uneconomic to be saved.
- 24 Again, we were not able to reach agreement with Lee Pee Limited, their counter-offer requested a high purchase price, however more importantly they cut our due diligence period from 3 months to two weeks.
- 25 This represented a risk too great for Citadel, thus we revised our offer in May 2023 to purchase solely the corner property at 137 Cambridge Terrace, again on an unconditional basis, at a purchase price that had contingencies in place to either strengthen and retain the building or pursue demolition if necessitated.
- 26 We wish to reiterate that we had very much an open mind towards retention of the building, and had run several development feasibilities on the building. We have also been involved in a number of projects

involving heritage buildings previously and certainly see inherent value in heritage buildings where there is a feasible way of saving them.

Appendix A to our evidence provides some background to our previous involvement with heritage buildings.

- 27 After further negotiation, the parties eventually reached agreement and we entered into an unconditional contract with Lee Pee Limited on 2 June 2023.
- 28 The first time we physically entered the property was on 9 June 2023, after we were unconditional purchasers of the property, however prior to settlement.
- 29 We were immediately concerned by the dilapidated and unsanitary nature of the interior of the building. It was obvious that numerous unauthorised parties had been accessing the property, committing acts of vandalism that had all but destroyed any value in the building fitout.
- 30 After sighting the areas of structural weakness, we immediately exited the building due to safety concerns and sought the assistance of Mr Brett Gilmore to continue his involvement with the building. Mr Gilmore had previously assessed the structural integrity of the building and he has been engaged to provide evidence in relation to this de-listing process.
- 31 Obviously, the building is currently unoccupied and so generates no income, with Citadel being liable for protection works and security costs, as well as rates and insurance.
- 32 Since acquiring the building, we have sought further professional advice in relation to engineering, insurance, valuations of the building under various strengthening scenarios, quantity surveying, and heritage impacts. We have also commissioned two reports assessing the condition of the Harley Chambers building, both of which are appended to this statement:
 - (a) Mould Assessment – SC Environmental dated 7 September 2023 (**Appendix B**); and
 - (b) Asbestos Refurbishment / Demolition Survey – SC Environmental dated 7 September 2023 (**Appendix C**).
- 33 Based on the information we have received and the expert opinions of our engineer, insurer, quantity surveyor, valuer, heritage advisor and our

planner, we have formed the view that the building needs to be demolished as a matter of urgency.

34 When we entered into a sale and purchase agreement in relation to the building, we were advised that Lee Pee Limited had lodged a submission seeking the removal of the Harley Chambers Building from the District Plan heritage list.

35 Given the advice received from our engineers about the state of the building and the extent of heritage loss that has occurred (and would further occur through repairing the Building) pursuing the de-listing of the building as a successor to Lee Pee Limited's submission was an expedient way of having the matter considered by Christchurch City Council (**Council**). If the listing is removed, then we would move to demolish the building as soon as possible. We have already obtained quotes for the demolition works.

The earthquake prone status of the Harley Chambers Building

36 When we entered into the agreement to purchase the Harley Chambers Building we were aware that the Council had issued an earthquake prone notice under the Building Act 2004, on 23 May 2019. A copy of that notice is appended to this statement as **Appendix D**.

37 This notice requires seismic work to the building to ensure that it is no longer earthquake prone by 14 June 2025.

38 We have also had discussions with the Council regarding whether the building is a dangerous building under the Building Act 2004 as we are aware that other heritage buildings have recently been demolished on the basis of them being dangerous buildings (most notably Mitre House in Lyttelton).

39 At this point in time, we have been advised that the building does not meet the definition of a 'dangerous' building on the basis that it would be able to withstand fire due to its concrete floor and frame structure (noting that whether or not a building is considered to be dangerous excludes earthquake events).

40 While the Council has issued an earthquake prone building notice, it is unclear whether the Council will proceed to demolish the building pursuant to its powers if the building has not been repaired or demolished

by 14 June 2025. We understand that the Building Act does not override the heritage listing on the building.

- 41 Given the current state of the building, we have proactively provided the updated engineering information to neighbouring building tenants so that they can make their own assessment regarding the risks associated with the building.
- 42 We continue to be in dialogue with the Council about what further measures need to be taken in the interim before we can demolish the building to ensure public safety. We have asked the Council to move the barricade to 1 metre from the building on Durham Street and Worcester Boulevard, as recommended by Mr Gilmore.
- 43 Since acquiring the Harley Chambers building (and given its current state), we have obtained advice from our insurance broker, Mr Brett Gerrard. He has prepared a statement of evidence in this matter, but in short, the advice we received from him confirmed the need to strengthen the building to at least 67% of the New Building Standard (**NBS**), or higher.
- 44 His evidence highlights the reasons why this is necessary, but from an insurance perspective, we face increased natural disaster excess levels, increased natural disaster premiums, and depending on any future use of the building, issues obtaining insurance at all, if the building is not strengthened to at least 67% of the NBS. As Mr Gerrard has explained, it was difficult to obtain any insurance cover for the building, and the only cover that was able to be obtained was through Liability insurance. As Mr Gilmore, our engineer, has noted, the Harley Chambers building has been assessed as having a current earthquake strength of 15% of NBS.
- 45 Given the current earthquake strength rating, we have also taken out a public liability insurance policy.

Options for Harley Chambers

- 46 As outlined above, when we originally purchased the building, we had an open mind as to whether we might be able to save the building and considered a range of different feasibility scenarios.
- 47 However, as we outline in the following section of our evidence, we do not consider that any repair or façade retention options are viable.

Repair

- 48 Mr Pomeroy has assessed three options for the reinstatement of the building, being repair to 34% NBS, 67% NBS and 100% NBS. The advice we have received is that it is necessary to repair the building to at least 67% NBS, or higher.
- 49 For the 67% NBS option, the estimated cost is \$25,400,000. Mr Doody has assessed the likely building value of only \$13,225,000.
- 50 For the 100% NBS option, the estimated cost to repair the building is \$27,830,000. Mr Doody has assessed the likely building value of only \$13,460,000, and has not included the land value in his assessment for the 67% or 100% NBS options.
- 51 Both options result in an asset worth significantly less than the amount of money spent to repair the building. From an economic perspective, this is simply unacceptable. In our view, repair either to 67% or 100% NBS, is plainly unviable given the inherent costs. Given this, and despite our previous involvement in heritage projects, there is simply no appetite to entertain a heritage restoration project in this situation.

Retain façade

- 52 Mr Pomeroy has estimated the costs to retain the façade, with a new open plan office building connected to the façade, at 100% NBS. The estimated cost is \$20,850,000.
- 53 Mr Doody has assessed the likely building value of \$13,825,000. Again, this results in an asset worth significantly less than the amount of money spent to retain the façade and develop the building behind it.
- 54 Given this, we would not contemplate façade retention here. Not only is the estimated cost not economically viable, but the actual ability to partially demolish Harley Chambers and retain the façade is hampered by the fact that we do not own the Worcester Chambers building.
- 55 As Mr Gilmore notes, in 2017 the previous owners considered part demolition of the north end of the Worcester Chambers building to gain adequate access of suitable sized machinery and equipment to deconstruct the sections of the Harley Chambers building behind the façade. This is not possible here, given that we do not own the Worcester Chambers building.

- 56 We have engaged with our demolition contractors, who have advised that due to Durham Street, and the presence of Worcester Chambers, you would need to partially demolish the façade on Worcester Boulevard in order to demolish the remainder of the heritage building, in any event.
- 57 In addition, the functionality of the building behind a retained façade would also be limited, noting Mr Gilmore's assessment that the retention of the façade may compromise the design and functionality of any new building behind it.
- 58 Having received advice from Mr Brown regarding the heritage value in the façade itself (once repaired), which is not considered significant enough in and of itself to justify a heritage listing, we are not prepared to incur the expense associated with attempting to retain the façade, and developing a complex demolition strategy that could achieve this.
- 59 Given our previous involvement with the Press building (as detailed in **Appendix A**) we are also mindful of the difficulties in tying heritage facades in with new buildings behind.

Demolish and redevelop

- 60 The final option assessed by Mr Pomeroy includes the total demolition of the existing building, and the construction of a new three-level open plan office. The estimated cost of this option is \$13,630,000. Mr Doody has assessed the likely building value of \$15,860,000. This is the only option involving a build spend that is less than the final value of the asset. Notably the costings exclude some costs, including escalation costs during the project and costs associated with the demolition and removal of basement and foundations beyond a certain depth.
- 61 The total demolition of the building provides Cambridge 137 Limited with a real opportunity to develop a contemporary building that will contribute positively to the rebuild of the Central City.
- 62 Being in close proximity to the Convention Centre, on the tram route, on Worcester Boulevard linking the ChristChurch Cathedral and the Museum and opposite the Avon River, a new development in this location would contribute positively to the Central City's post-earthquake identity.
- 63 Such a development would also bring additional, functional floorspace to the CBD market (as opposed to a three-storey development hampered by the development constraints associated with retaining a façade).

- 64 While we are still considering what a redeveloped building might look like on this site we do intend to make an development sympathetic to the history of this site. For example, we would hope to be able to salvage some items of the interior for re-purpose within a new building.

Leave as per status quo (with earthquake prone notice in place)

- 65 Cambridge 137 Limited could leave the building as it currently stands. Subject to some propping (and potentially other works), noting that it is for the Council to agree to the propping, given it will need to extend beyond the property boundary and into the road, the building could be secured and remain as is.
- 66 Cambridge 137 Limited will not develop a building that will ultimately not provide an economic return.
- 67 The alternative to this de-listing, and ultimate demolition of the building, is to leave the building in its current degraded and damaged condition. The prominent location of the building means that the building's presence will continue to negatively impact the rebuild of the City Centre.

Conclusion

- 68 At the time of purchasing the Harley Chambers building, we maintained an open mind with respect to potential development options and had run several development feasibilities on the building.
- 69 We have also been involved in a number of projects involving heritage buildings previously, and certainly see the inherent value in heritage buildings where there is a feasible way of saving them.
- 70 However, once we took possession of the building, and undertook an inspection, we were immediately concerned by the dilapidated and unsanitary nature of the interior of the building. It was obvious that numerous unauthorised parties had been accessing the property, committing acts of vandalism that had all but destroyed any value in the building fitout.
- 71 Based on the information we have received and the expert opinions of our engineer, insurer, quantity surveyor, valuer, heritage advisor and our planner, we have formed the view that the building needs to be demolished as a matter of urgency. Pursuing this de-listing will enable us to achieve this.

- 72 A number of options have been considered in order to reach this view, including the repair of the building to various different standards, retention of the façade only, and the total demolition of the building.
- 73 Repairing the building, or retaining the façade is simply unfeasible from an economic point of view.
- 74 The total demolition of the building provides Cambridge 137 Limited with a real opportunity to develop a contemporary building that will contribute positively to the rebuild of the Central City. Given the location of the Site, and the economic factors associated with trying to repair the building, we want to be able demolish the building and take the opportunity to develop a new building that can contribute positively to the Central City's post-earthquake identity.

Jonathan Lyttle

20 September 2023

Michael Doig

20 September 2023

Appendix A - Involvement in previous heritage projects

75 We confirm that we have experience in heritage buildings in both a personal and professional capacity. We set out below some examples of our involvement with those heritage buildings.

32 Cathedral Square, Christchurch – The Press Building (former)

76 Michael Doig was the Director of Ganellen, the final owners of the Category 1 listed building prior to its demolition in 2011 as a result of damage sustained during the Canterbury Earthquakes.

77 The former Press Building was damaged in the 2010 Canterbury earthquake. During the earthquake sequence we worked closely with our Engineers, Holmes Consulting, by affecting numerous temporary propping solutions whilst completing a non-linear, time-based history assessment as part of a permanent seismic strengthening strategy for the building.

78 Our heritage consultant, Jenny May, was a key member of our consultant team to ensure that the eventual strategy, where possible, would be sympathetic to the heritage fabric the building.

79 Unfortunately, the forces of the February 2011 earthquake proved too great for the building, and despite the numerous temporary propping and retention measures put in place, the top floor of the building collapsed injuring several people and fatally injuring one person.

80 The building was ultimately demolished in July and August of 2011.

158 Gloucester Street, Christchurch – The Press Building (current)

81 Michael Doig was Director of Ganellen, the owner, developer and main contractor that delivered The Press' new offices at 158 Gloucester Street.

82 The development's originally consented design involved the retention of an historic brick façade by pinning the remaining façade back to a new concrete and steel superstructure behind and construction of a new block wall above the façade to replicate a previously demolished section.

83 The façade retention was undertaken at substantial cost to the project and included repointing of the brick work by a heritage mason prior to repainting. We were only 6 days away from Practical Completion of the building when the February 2011 earthquake struck, unfortunately the historic façade was unable to withstand the forces exerted by the shaking

and despite all of the work undertaken to retain the façade back to the newly built structure behind, the façade was deemed irreparable and duly demolished.

84 I draw your attention to the following images:



Photograph 1: 158 Gloucester Street, Christchurch – pre February earthquake

85 Photograph 1 shows the original heritage façade, taken shortly before the February 2011 earthquake.



Photograph 2: 158 Gloucester Street, Christchurch – post February earthquake



Photograph 3: 158 Gloucester Street, Christchurch – post February earthquake

- 86 The second and third photographs were taken immediately after the February earthquake.
- 87 The February earthquake caused diagonal cracking and the shear failure of all the brick piers and masonry walls. We also lost some of the decorative reliefs/keystones.



Photograph 4: 158 Gloucester Street, Christchurch – during demolition

88 Photograph 4 was taken during the demolition of the heritage façade.



Photograph 5: 158 Gloucester Street, Christchurch



Photograph 6: 158 Gloucester Street, Christchurch

- 89 The final two photographs show the completed replica façade, being a fair face pre-cast panel with the arch openings and a combination of glassfibre reinforced concrete (GRC) mouldings for the reliefs and cement render over compressed polystyrene for the dentils.

- 90 Given that there remains no heritage fabric in the façade of this building (which is a completely fabricated replica façade), I find it somewhat incredulous that Mr Dave Pearson, in his evidence for the Council, referred to The Press Building as being an example of use of an historic façade with a new building.¹

68 Manchester Street, Christchurch

- 91 Jonathan and Hannah Lyttle (wife) were owners of Category 3 listed building at 68 Manchester Street, Christchurch, and undertook an extensive refurbishment project of the building that was completed in 2009.
- 92 Works to the building included retaining and repairing the façade, replication of original heritage elements at ground floor level with new timber pillar and arch window details, removal of unsympathetic modifications to the building including street awnings, and refurbishment of the interior to provide for ground floor retail tenancy and first floor inner city loft styled apartment.
- 93 Again, the forces exerted by the Canterbury Earthquakes were too great for the building and it was duly demolished by Civil Defence in 2012.

Other non-heritage listed buildings

- 94 In addition to the above, and not including 137 Cambridge Terrace, we have been the owners behind the strengthening and refurbishment of a further 16 commercial and residential apartment buildings that have all been completed after 2013. We are considered to be highly experienced investors that are accustomed to dealing with such projects.

¹ Statement of Evidence of David Pearson on behalf of the Christchurch City Council dated 11 August 2023, paragraph 101.

Appendix B

SC Environmental Report dated 7 September 2023

07 September 2023

Alistair Ferens
 Southern Demolition and Salvage Ltd
 59 Okawa Road
 Wigram

Dear Alistair

Re: 137 Cambridge Terrace, Christchurch Central – Initial Mould Assessment

SC Environmental (SCE) has been engaged by Southern Demolition and Salvage Ltd (the Client, or SDSL) to undertake an initial mould assessment of the 137 Cambridge Terrace, Christchurch Central (the Site). SCE attended site on 26 August 2023.

The Site is due to either have extensive refurbishment work carried out or be demolished. Prior to these works, for the purposes of health and safety, a mould assessment was required to understand the extent of any airborne mould contaminants that may pose a risk to human health prior to engineering assessments and initial set up work by contractors occurring, to determine if the building are safe for staff and workers to be in. Additionally, these types of assessments can provide information around likely issues with building integrity such as water/moisture issues.

A visual inspection of the Site was carried out to determine areas where significant mould is present. Following the inspection, Air samples (Spore Traps) were collected along with Tape Lift Samples. These locations were chosen based on where mould growth was observed and the site conditions. A site map with the sample locations can be found in Attachment 1.

Mould growth was observed in many areas of the building, in particular where the building has significant structural damage allowing the ingress of water/moisture is in the north east corner and the central section adjacent to the lift shaft, and where there is poor ventilation such as the Subfloor. (see attached Photo Log, Attachment 2). Also observed throughout the building were the typical factors that facilitate mould growth such as water ingress and poor ventilation.

Full Laboratory results can be found in Attachment 3 and are summarised in Tables 1 & 2 below.

Table 1 Spore Trap Sample Results Summary

Sample Number	Sample Location	Fungal Species (FS) Present	Result (Count/m ³)
A12	Outside	<i>Ascospores</i>	40
		<i>Basidiospores</i>	53
		<i>Cladosporium</i>	20
		<i>Penicillium / Aspergillus</i>	80
		<i>Ganoderma</i>	7
		Total	200
A01	GF – South Hallway	<i>Alternaria</i>	20
		<i>Ascospores</i>	20
		<i>Basidiospores</i>	100
		<i>Cladosporium</i>	707
		<i>Ganoderma</i>	7
		<i>Penicillium / Aspergillus</i>	6000
		<i>Smuts / Myxomycetes / Periconia</i>	47
		<i>Stachybotrys</i>	7
		Total	6907

Sample Number	Sample Location	Fungal Species (FS) Present	Result (Count/m ³)
A02	GF – Room 5	<i>Ascospores</i> <i>Basidiospores</i> <i>Cladosporium</i> <i>Fusarium</i> <i>Ganoderma</i> <i>Penicillium / Aspergillus</i> <i>Smuts / Myxomycetes / Periconia</i> <i>Stachybotrys</i> Total	220 107 847 7 13 1333 60 7 2593
A03	GF – Room 8	<i>Alternaria</i> <i>Ascospores</i> <i>Basidiospores</i> <i>Chaetomium</i> <i>Cladosporium</i> <i>Ganoderma</i> <i>Penicillium / Aspergillus</i> <i>Pithomyces</i> <i>Rust</i> <i>Smuts / Myxomycetes / Periconia</i> <i>Torula</i> <i>Trichocladium</i> Total	40 367 267 187 8667 33 12000 7 7 387 7 13 21980
A04	GF – Room 3	<i>Alternaria</i> <i>Ascospores</i> <i>Basidiospores</i> <i>Chaetomium</i> <i>Cladosporium</i> <i>Ganoderma</i> <i>Penicillium / Aspergillus</i> <i>Smuts / Myxomycetes / Periconia</i> <i>Stachybotrys</i> <i>Trichocladium</i> Total	7 187 260 13 6000 7 19333 133 33 13 25987
A05	GF – Lobby	<i>Alternaria</i> <i>Ascospores</i> <i>Basidiospores</i> <i>Chaetomium</i> <i>Cladosporium</i> <i>Ganoderma</i> <i>Penicillium / Aspergillus</i> <i>Smuts / Myxomycetes / Periconia</i> Total	40 60 160 7 2313 7 747 73 3407
A06	L1 – Room 13 (NW Corner)	<i>Alternaria</i> <i>Ascospores</i> <i>Basidiospores</i> <i>Chaetomium</i> <i>Cladosporium</i>	13 120 280 53 4667

Sample Number	Sample Location	Fungal Species (FS) Present	Result (Count/m ³)
		<i>Ganoderma</i> <i>Penicillium / Aspergillus</i> <i>Smuts / Myxomycetes / Periconia</i> <i>Stachybotrys</i> Total	7 2133 107 53 7433
A07	L1 – Room 20	<i>Alternaria</i> <i>Ascospores</i> <i>Basidiospores</i> <i>Chaetomium</i> <i>Cladosporium</i> <i>Ganoderma</i> <i>Memnonella</i> <i>Penicillium / Aspergillus</i> <i>Pithomyces</i> <i>Polythrincium</i> <i>Smuts / Myxomycetes / Periconia</i> <i>Stachybotrys</i> <i>Trichocladium</i> Total	47 173 447 80 19333 40 13 14000 7 13 253 153 13 34573
A08	L1 – Room 11	<i>Alternaria</i> <i>Ascospores</i> <i>Basidiospores</i> <i>Chaetomium</i> <i>Cladosporium</i> <i>Ganoderma</i> <i>Penicillium / Aspergillus</i> <i>Pithomyces</i> <i>Smuts / Myxomycetes / Periconia</i> <i>Stachybotrys</i> <i>Torula</i> Total	20 160 240 113 26000 33 2000 7 180 247 20 29020
A09	L2 – Room 24	<i>Ascospores</i> <i>Basidiospores</i> <i>Chaetomium</i> <i>Cladosporium</i> <i>Penicillium / Aspergillus</i> <i>Scopulariopsis</i> <i>Smuts / Myxomycetes / Periconia</i> <i>Stachybotrys</i> <i>Torula</i> Total	53 60 60 5667 8000 140 20 160 7 14167
A10	L2 – Room 31	<i>Alternaria</i> <i>Ascospores</i> <i>Basidiospores</i> <i>Chaetomium</i> <i>Cladosporium</i> <i>Penicillium / Aspergillus</i>	93 260 107 47 73333 400

Sample Number	Sample Location	Fungal Species (FS) Present	Result (Count/m ³)
		<i>Scopulariopsis</i>	13
		<i>Smuts / Myxomycetes / Periconia</i>	80
		<i>Stachybotrys</i>	7
		Total	74340
A11	L2 – Room 29	<i>Alternaria</i>	913
		<i>Ascospores</i>	333
		<i>Basidiospores</i>	33
		<i>Chaetomium</i>	6667
		<i>Cladosporium</i>	15333
		<i>Penicillium / Aspergillus</i>	53333
		<i>Pithomyces</i>	13
		<i>Polythrincium</i>	7
		<i>Smuts / Myxomycetes / Periconia</i>	933
		<i>Stachybotrys</i>	160
		Total	77727

Table 2 Tape Lift Sample Results

Sample Number	Sample Location	Fungal Species Present	Fungal Growth (Y/N)
T01	GF – Room 9	<i>Chaetomium</i>	Yes
		<i>Basidiospores</i>	No
		<i>Torula</i>	No
		<i>Penicillium / Aspergillus</i>	No
T02	GF – Room 5	<i>Cladosporium</i>	Yes
		<i>Ascospores</i>	No
		<i>Acremonium-like</i>	Yes
		<i>Basidiospores</i>	No
T03	GF – Room 3	<i>Acremonium</i>	Yes
		<i>Cladosporium</i>	Yes
		<i>Smuts / Myxomycetes / Periconia</i>	No
		<i>Basidiospores</i>	No
		<i>Pithomyces</i>	No
		<i>Ascospores</i>	No
		<i>Penicillium / Aspergillus</i>	No
T04	GF - Lobby	<i>Cladosporium</i>	Yes
		<i>Alternaria</i>	No
		<i>Cladosporium</i>	Yes
		<i>Basidiospores</i>	No
T05	L1 – Room 13	<i>Penicillium</i>	Yes
		<i>Smuts / Myxomycetes / Periconia</i>	No
		<i>Basidiospores</i>	No
		<i>Ascospores</i>	No
		<i>Stachybotrys</i>	No
		<i>Torula</i>	No
		<i>Alternaria</i>	No
		<i>Ganoderma</i>	No

Sample Number	Sample Location	Fungal Species Present	Fungal Growth (Y/N)
		<i>Epicoccum</i>	No
		<i>Pithomyces</i>	No
		<i>Sporidesmium</i>	No
T06	L1 - Landing	<i>Chrysonilia</i> -like	No
		<i>Cladosporium</i>	Yes
		<i>Basidiospores</i>	No
		<i>Chaetomium</i>	No
		<i>Ascospores</i>	No
		<i>Smuts / Myxomycetes / Periconia</i>	No
		<i>Alternaria</i>	No
		<i>Trichocladium</i>	No
T07	L1 - Room 20	<i>Epicoccum</i>	No
		<i>Cladosporium</i>	Yes
		<i>Alternaria</i>	No
		<i>Ascospores</i>	No
		<i>Penicillium</i>	Yes
		<i>Basidiospores</i>	No
		<i>Chaetomium</i>	No
T08	L1 - Room 11	<i>Cladosporium</i>	Yes
		<i>Acremonium</i>	Yes
T09	L1 - Room 24	<i>Cladosporium</i>	Yes
		<i>Pithomyces</i>	No
		<i>Smuts / Myxomycetes / Periconia</i>	No
		<i>Basidiospores</i>	No
T11	L1 - Room 29	<i>Chaetomium</i>	Yes
		<i>Cladosporium</i>	Yes
		<i>Basidiospores</i>	No
		<i>Epicoccum</i> -like	No
		<i>Smuts / Myxomycetes / Periconia</i>	No
		<i>Alternaria</i>	No
		<i>Chrysonilia</i> -like	No

Note: Sample T10 was unable to be analysed due to excess material on the sampling media. However this does not affect the overall results and conclusions.

When interpreting results the current industry standard is to compare indoor results with the outdoor results and review inhouse data on the typical levels within New Zealand.

With that in mind the results of the air sampling showed elevated to very high levels of numerous fungal species throughout the building, most of which are considered to be allergenic (these are *Cladosporium* and *Penicillium/Aspergillus*). For example *Cladosporium* was detected more than 3,600 times more than the background level.

Also several genres of suspected toxic moulds were detected in many locations, which include *Stachybotrys* and *Chaetomium*. These types of mould can cause serious health effects to susceptible persons.

Overall, the air sampling detected concentrations of mould types which are likely to cause adverse health effects to most persons, especially those who are susceptible to allergies or have a low immunity.

Particular areas of concern are the rooms in the north east corner and the central section adjacent to the lift shaft in the centre of the building, where it was noted that the area is subject to

significant water ingress. The elevated result in Room 29 on the second floor is likely due to the water damage observed in the timber floor, carpet and underlay area around the radiator.

Access to the Basement area underneath the northern half of the building was not possible due to flooding, however it is likely that mould growth will be present to some extent given the presence of water/moisture and the poor ventilation.

Access to the Site and the mould impacted areas should be restricted and only personnel with the appropriate Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE), specifically P2/P3 type, should be permitted access. Decontamination and good personal hygiene practices should also be applied, such as washing and sanitising hands after leaving the site.

If the building is to undergo refurbishment work (as opposed to demolition), then it is strongly recommended that the mould impacted areas are remediated before any physical refurbishment/construction works are undertaken. This can be done at the same time as any necessary asbestos removal works. Upon completion of the remediation work, a clearance inspection with sampling will be required (again this can be done alongside the asbestos works) by a suitably competent contractor.

Areas where water/moisture is entering the building need to be identified and repaired. In addition to this, the areas significantly impacted by water ingress may need to be dried out as part of the remediation work. The basement will need to be emptied of the flood water, dried out and assessed for the presence of potential hazards (such as asbestos, damaged plant/machinery etc.) and any risks determined and controlled before any work is undertaken.

Air movement will also need to be considered and managed – the air handling system/ventilation may need to be inspected for mould and cleaned if necessary (assuming it is to be kept and not replaced as part of the refurbishment work). Internal refurbishment work following mould and asbestos remediation is likely to generate dust concentrations that pose a risk to human health, so will need to be managed appropriately. The control of these dust concentrations could be done in conjunction with the building's air management in order to reduce to the likelihood of mould growth occurring again (assuming the water ingress issues are resolved).

If the decision to demolish the building is made, there is generally no requirement for remediating the mould. However, workers in the impacted areas (undertaking the strip-out etc.) would be required to wear appropriate PPE and RPE as previously mentioned above.

In Room 24 on the second floor, it was noted during the inspection that a significant amount of pigeon droppings were present. Due to the health risks associated with the droppings, this area will need to be cleaned prior to refurbishment or demolition work starting.

The exact scope of refurbishment or demolition work to be undertaken at the Site has not yet been finalised by the stakeholders, therefore the use of a suitably qualified and experienced consultant should be taken on to provide assistance with mould (or asbestos) concerns during the project as they arise.

Yours sincerely

A handwritten signature in black ink, appearing to read "Stu Cole".

Stu Cole

Principal Environmental Consultant

[SC Environmental](#)

Attachment 1: Site Map

Attachment 2: Photo Log

Attachment 3: Laboratory Results

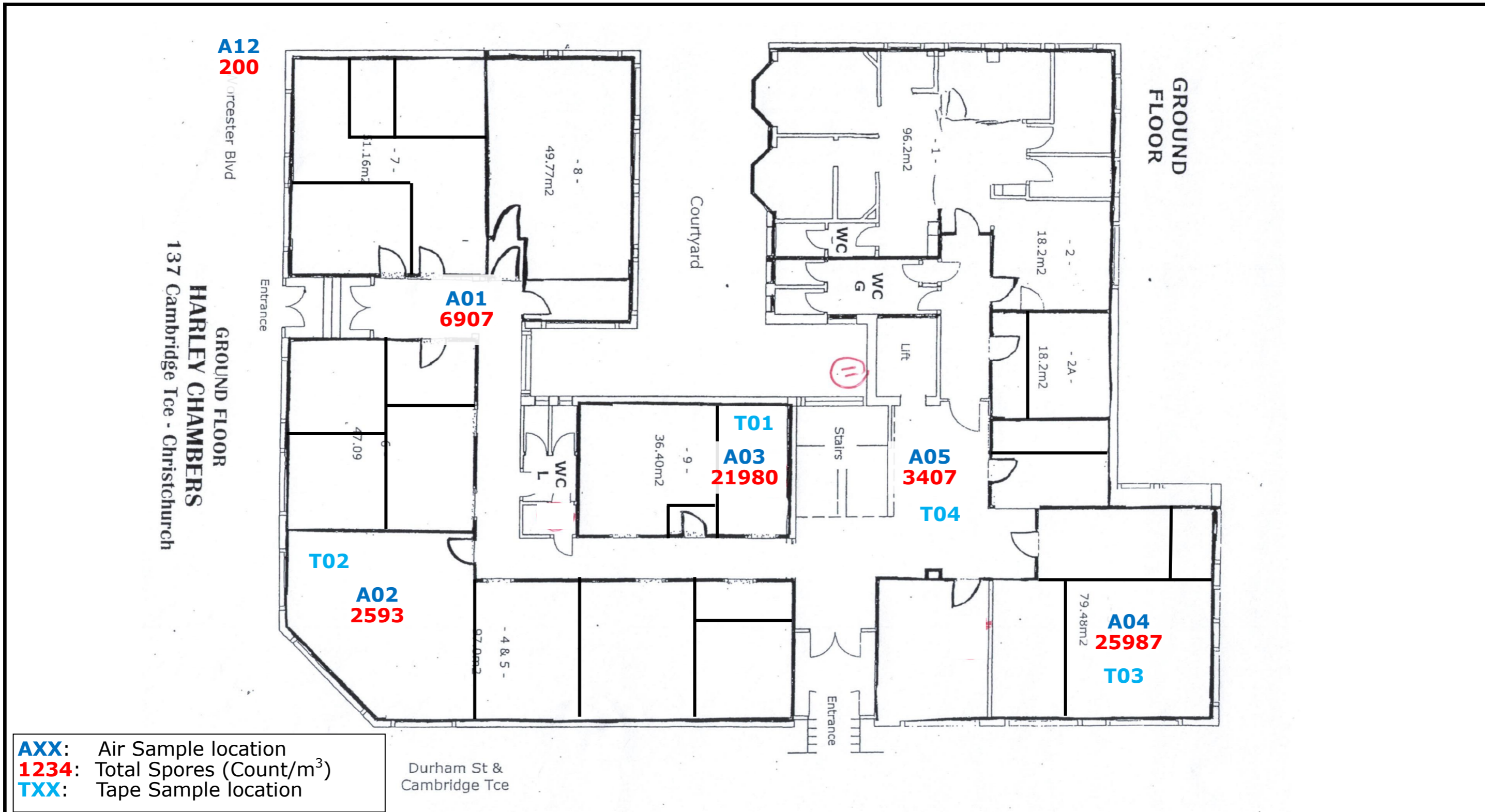
Attachment 4: Supplementary Information & Glossary

Limitations

This document does not include any assessment or full consideration of potential health and safety issues under the Health and Safety at Work Act 2015. The mould assessment has been conducted to evaluate the presence of mould at the Site.

The assessment has been undertaken with all due care and diligence using staff with suitable and sufficient experience. There remains, however, the possibility that there may be concealed mould within the building which were not located and identified. These concealed areas of mould may only become apparent during further investigation (intrusive investigation or invasive works). This assessment will not guarantee that the site is free of mould or risk.

SC Environmental's professional opinions are based on its professional judgement, experience, and training. These opinions are also based upon data derived from the testing and analysis described in this document. It is possible that additional testing and analysis might produce different results and/or different opinions. This document was prepared based on information provided by others. Should additional information become available, this report should be updated accordingly. This document may be transmitted, reproduced or disseminated only in its entirety.



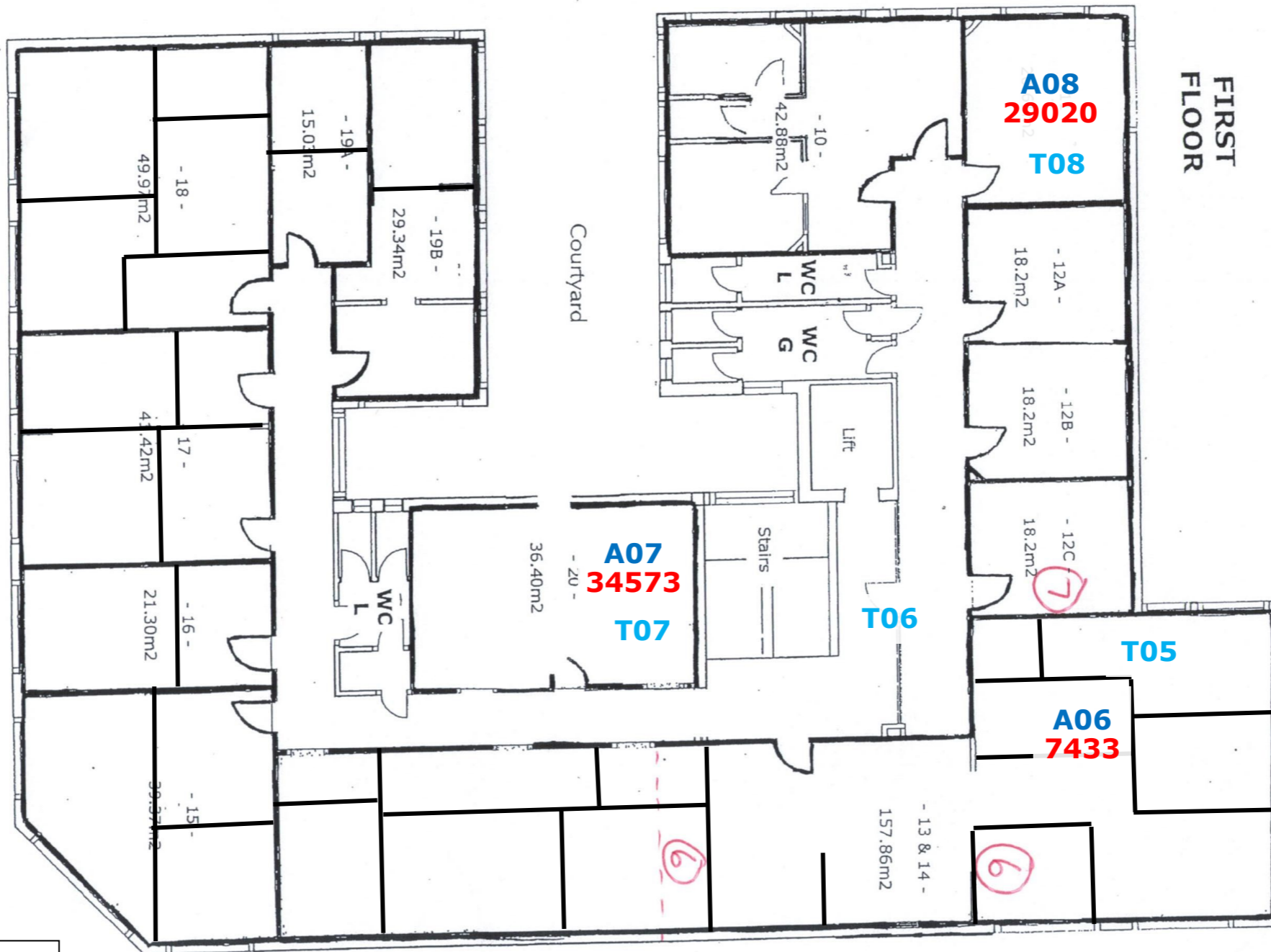
AXX: Air Sample location
1234: Total Spores (Count/m³)
TXX: Tape Sample location



Not to scale

137 Cambridge Terrace, Christchurch Central Sample Locations, Ground Floor

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Worcester Blvd
 1ST FLOOR
 HARLEY CHAMBERS
 137 Cambridge Tce - Christchurch

Durham St &
 Cambridge Tce

AXX: Air Sample location
1234: Total Spores (Count/m³)
TXX: Tape Sample location



Not to scale

137 Cambridge Terrace, Christchurch Central Sample Locations, First Floor

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Version: V1

137 Cambridge Terrace, Christchurch Central: Photo Log, Mould Assessment



Photo 1: Spore Trap Sample A01 (GF Hallway)



Photo 2: Spore Trap Sample A02 (GF Room 5)



Photo 3: Spore Trap Sample A03 (GF Room 9)



Photo 4: Spore Trap Sample A04 (GF Room 3)

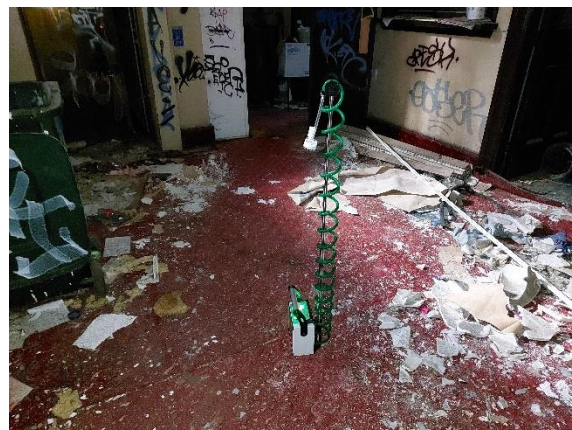


Photo 5: Spore Trap Sample A05 (GF Lobby)

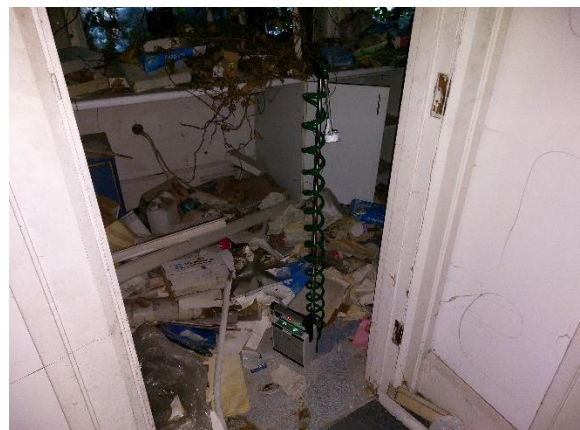


Photo 6: Spore Trap Sample A06 (L1 Room 13)



Photo 7: Spore Trap Sample A07 (L1 Room 20)



Photo 8: Spore Trap Sample A08 (L1 Room 11)

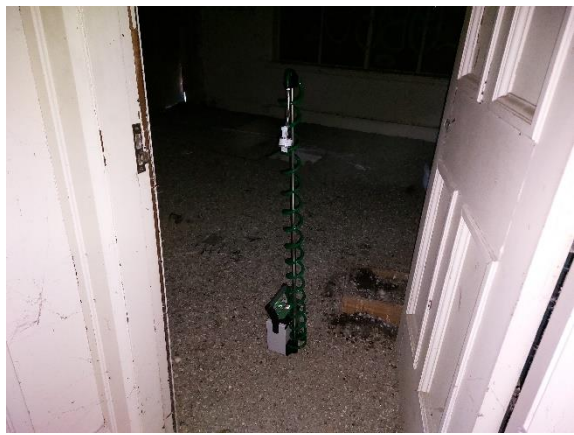


Photo 9: Spore Trap Sample A09 (L2 Room 24)

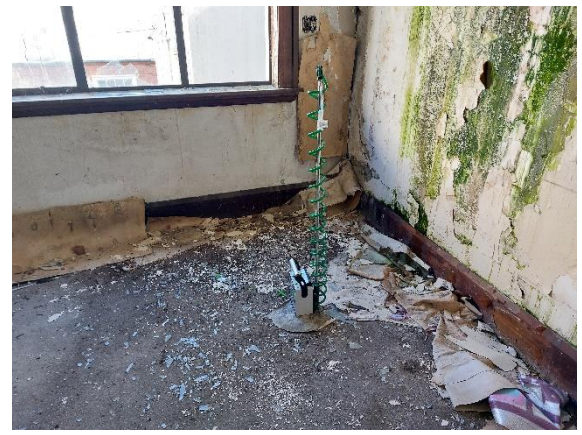


Photo 10: Spore Trap Sample A10 (L2 Room 31)



Photo 11: Spore Trap Sample A11 (L2 Room 29)



Photo 12: Spore Trap Sample A12 (Outside)



Photo 13: Water damaged area (GF Room 8)



Photo 14: Example of structural damage



Photo 15: Evidence of condition (L1 Landing)



Photo 16: Water damaged area (L1 Room 11)



Photo 17: Water damaged area (L2 Room 9)



Photo 18: Water damaged area (L2 Room 29)

MOULD ANALYSIS NON-CULTURABLE SPORE TRAP REPORT

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Tauranga Laboratory

1227A Cameron Road, Gate Pa, TAURANGA 3112

Client	SC Environmental
Client Address	243 Rangiora Leithfield Rd, Sefton
Client Contact	Stu Cole
Laboratory Number	A-00329
Client P/O Number	J000107
Project Location	137 Cambridge Terrace, Christchurch
Date of Sampling	26 August 2023
Date of Receipt	30 August 2023
Date of Analysis	31 August 2023 & 4 September 2023
Date of Reporting	4 September 2023

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- This report must not be reproduced in part or full without written consent.
- Eurofins | Focus did not carry out any sampling or site inspection for this report.
- Samples were received in good condition unless otherwise stated in the report.
- Samples received are kept for one month after analysis, and subsequently discarded unless the client specifies otherwise.
- The data presented in this report are based on the samples submitted. The data presented only provides the level of fungal contamination in the air at a specific point in time (i.e., the sampling duration) and is subject to change over time.
- Eurofins | Focus did not provide any consultations in this report. Eurofins | Focus' primary involvement in this project is to provide an analytical report for the samples submitted.
- Eurofins | Focus cannot comment on the condition of the property and/ or its suitability for occupation based on laboratory results.
- Spore trap analysis should only be considered as a screening tool and to facilitate a mould assessment or inspection. The data presented in this report only represents a portion of a comprehensive indoor air quality investigation. Other aspects of the investigation including visual inspections, building history and measurements of environmental conditions provide vital information for the final interpretation of the results.
- This report is not intended to provide any medical or health advice to building occupants concerning the relative safety of an indoor space. If there are any health concerns surrounding the laboratory results, it is recommended to consult with a qualified health care professional.

Analyst Name	Analyst Signature
Holly Nordstrom	

Sample ID:	A-00329-01	A-00329-02	A-00329-03	A-00329-04
Client Sample ID:	GF - South Hallway	GF - Room 5	GF - Room 8	GF - Room 3
Volume Sampled (L):	150	150	150	150
Media:	Air-O-Cell	Air-O-Cell	Air-O-Cell	Air-O-Cell
Percent of Trace Analysed:	100% at 400X Magnification	100% at 400X Magnification	100% at 400X Magnification	100% at 400X Magnification

Spore Types	Raw Count	Count/m ³	%	Raw Count	Count/m ³	%	Raw Count	Count/m ³	%	Raw Count	Count/m ³	%
Alternaria	3	20	<1	—	—	—	6	40	<1	1	7	<1
Arthrinium	—	—	—	—	—	—	—	—	—	—	—	—
Ascospores	3	20	<1	33	220	8	55	367	2	28	187	1
Aspergillus/Penicillium-Like	900 #	6,000	87	200	1,333	51	1,800 #	12,000	55	2,900 #	19,333	74
Basidiospores	15	100	1	16	107	4	40	267	1	39	260	1
Bipolaris/Dreschlera	—	—	—	—	—	—	—	—	—	—	—	—
Botrytis	—	—	—	—	—	—	—	—	—	—	—	—
Chaetomium	—	—	—	—	—	—	28	187	1	2	13	<1
Cladosporium	106	707	10	127	847	33	1,300 #	8,667	39	900 #	6,000	23
Curvularia	—	—	—	—	—	—	—	—	—	—	—	—
Epicoccum	—	—	—	—	—	—	—	—	—	—	—	—
Fusarium	—	—	—	1	7	<1	—	—	—	—	—	—
Ganoderma	1	7	<1	2	13	1	5	33	<1	1	7	<1
Memnoniella	—	—	—	—	—	—	—	—	—	—	—	—
Nigrospora	—	—	—	—	—	—	—	—	—	—	—	—
Oidium/Peronospora	—	—	—	—	—	—	—	—	—	—	—	—
Pithomyces	—	—	—	—	—	—	1	7	<1	—	—	—
Polythrincium	—	—	—	—	—	—	—	—	—	—	—	—
Rust	—	—	—	—	—	—	1	7	<1	—	—	—
Scopulariopsis	—	—	—	—	—	—	—	—	—	—	—	—
Smut/Myxomyces/Periconia	7	47	1	9	60	2	58	387	2	20	133	1
Stachybotrys	1	7	<1	1	7	<1	—	—	—	5	33	<1
Torula	—	—	—	—	—	—	1	7	<1	—	—	—
Trichocladium	—	—	—	—	—	—	2	13	<1	2	13	<1
Ulocladium	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified Spores	—	—	—	—	—	—	—	—	—	—	—	—
Total Spores	1,036	6,907		389	2,593		3,297	21,980		3,898	25,987	
Hyphal Fragments	17	113		16	107		14	93		8	53	
Pollen	1	7		—	—		—	—		1	7	
Debris Rating	3			4			4			4		
Detection Limit	7			7			7			7		

Estimation performed due to high count.

Sample ID:	A-00329-05	A-00329-06	A-00329-07	A-00329-08
Client Sample ID:	GF - Lobby	L1 - Room 13 (NW Corner)	L1 - Room 20	L1 - Room 11
Volume Sampled (L):	150	150	150	150
Media:	Air-O-Cell	Air-O-Cell	Air-O-Cell	Air-O-Cell
Percent of Trace Analysed:	100% at 400X Magnification	100% at 400X Magnification	100% at 400X Magnification	100% at 400X Magnification

Spore Types	Raw Count	Count/m ³	%	Raw Count	Count/m ³	%	Raw Count	Count/m ³	%	Raw Count	Count/m ³	%
Alternaria	6	40	1	2	13	<1	7	47	<1	3	20	<1
Arthrinium	—	—	—	—	—	—	—	—	—	—	—	—
Ascospores	9	60	2	18	120	2	26	173	1	24	160	1
Aspergillus/Penicillium-Like	112	747	22	320 #	2,133	29	2,100 #	14,000	40	300 #	2,000	7
Basidiospores	24	160	5	42	280	4	67	447	1	36	240	1
Bipolaris/Dreschlera	—	—	—	—	—	—	—	—	—	—	—	—
Botrytis	—	—	—	—	—	—	—	—	—	—	—	—
Chaetomium	1	7	<1	8	53	1	12	80	<1	17	113	<1
Cladosporium	347	2,313	68	700 #	4,667	63	2,900 #	19,333	56	3,900 #	26,000	90
Curvularia	—	—	—	—	—	—	—	—	—	—	—	—
Epicoccum	—	—	—	—	—	—	—	—	—	—	—	—
Fusarium	—	—	—	—	—	—	—	—	—	—	—	—
Ganoderma	1	7	<1	1	7	<1	6	40	<1	5	33	<1
Memnoniella	—	—	—	—	—	—	2	13	<1	—	—	—
Nigrospora	—	—	—	—	—	—	—	—	—	—	—	—
Oidium/Peronospora	—	—	—	—	—	—	—	—	—	—	—	—
Pithomyces	—	—	—	—	—	—	1	7	<1	1	7	<1
Polythrincium	—	—	—	—	—	—	2	13	<1	—	—	—
Rust	—	—	—	—	—	—	—	—	—	—	—	—
Scopulariopsis	—	—	—	—	—	—	—	—	—	—	—	—
Smut/Myxomyces/Periconia	11	73	2	16	107	1	38	253	1	27	180	1
Stachybotrys	—	—	—	8	53	1	23	153	<1	37	247	1
Torula	—	—	—	—	—	—	—	—	—	3	20	<1
Trichocladium	—	—	—	—	—	—	2	13	<1	—	—	—
Ulocladium	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified Spores	—	—	—	—	—	—	—	—	—	—	—	—
Total Spores	511	3,407		1,115	7,433		5,186	34,573		4,353	29,020	
Hyphal Fragments	14	93		14	93		10	67		1	7	
Pollen	—	—		—	—		—	—		—	—	
Debris Rating	4			3			4			4		
Detection Limit	7			7			7			7		

Estimation performed due to high count.

Sample ID:	A-00329-09	A-00329-10	A-00329-11	A-00329-12
Client Sample ID:	L2 - Room 24	L2 - Room 31	L2 - Room 29	Outside
Volume Sampled (L):	150	150	150	150
Media:	Air-O-Cell	Air-O-Cell	Air-O-Cell	Air-O-Cell
Percent of Trace Analysed:	100% at 400X Magnification	100% at 400X Magnification	100% at 400X Magnification	100% at 400X Magnification

Spore Types	Raw Count	Count/m ³	%	Raw Count	Count/m ³	%	Raw Count	Count/m ³	%	Raw Count	Count/m ³	%
Alternaria	—	—	—	14	93	<1	137	913	1	—	—	—
Arthrinium	—	—	—	—	—	—	—	—	—	—	—	—
Ascospores	8	53	<1	39	260	<1	50	333	<1	6	40	20
Aspergillus/Penicillium-Like	1,200 #	8,000	56	60	400	1	8,000 #	53,333	69	12	80	40
Basidiospores	9	60	<1	16	107	<1	5	33	<1	8	53	27
Bipolaris/Dreschlera	—	—	—	—	—	—	—	—	—	—	—	—
Botrytis	—	—	—	—	—	—	—	—	—	—	—	—
Chaetomium	9	60	<1	7	47	<1	1,000 #	6,667	9	—	—	—
Cladosporium	850 #	5,667	40	11,000 #	73,333	99	2,300 #	15,333	20	3	20	10
Curvularia	—	—	—	—	—	—	—	—	—	—	—	—
Epicoccum	—	—	—	—	—	—	—	—	—	—	—	—
Fusarium	—	—	—	—	—	—	—	—	—	—	—	—
Ganoderma	—	—	—	—	—	—	—	—	—	1	7	3
Memnoniella	—	—	—	—	—	—	—	—	—	—	—	—
Nigrospora	—	—	—	—	—	—	—	—	—	—	—	—
Oidium/Peronospora	—	—	—	—	—	—	—	—	—	—	—	—
Pithomyces	—	—	—	—	—	—	2	13	<1	—	—	—
Polythrincium	—	—	—	—	—	—	1	7	<1	—	—	—
Rust	—	—	—	—	—	—	—	—	—	—	—	—
Scopulariopsis	21	140	1	2	13	<1	—	—	—	—	—	—
Smut/Myxomyces/Periconia	3	20	<1	12	80	<1	140	933	1	—	—	—
Stachybotrys	24	160	1	1	7	<1	24	160	<1	—	—	—
Torula	1	7	<1	—	—	—	—	—	—	—	—	—
Trichocladium	—	—	—	—	—	—	—	—	—	—	—	—
Ulocladium	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified Spores	—	—	—	—	—	—	—	—	—	—	—	—
Total Spores	2,125	14,167		11,151	74,340		11,659	77,727		30	200	
Hyphal Fragments	7	47		8	53		18	120		—	—	
Pollen	—	—		—	—		—	—		1	7	
Debris Rating	4			4			4			2		
Detection Limit	7			7			7			7		

Estimation performed due to high count.

SPORE TRAP RESULTS

- Analysis of samples were performed according to ASTM D 7391 -20 'Standard Test Method for Categorisation and Quantification of Airborne Fungal Structures in an Inertial Impaction Sample by Optical Microscopy' and company procedures NPM-TP05 Spore Trap Analysis.
- For more information, please refer to the "Mould Information and Glossary" document supplemented with this report.
- Counts for **Count/m³** are dependent on non-accredited client supplied information (i.e., the total time the sampler was run and the flow rate of the sampler if the client uses their own). The sampling volume is calculated based on this information.
- The analytical sensitivity (**Count/m³**) is calculated by dividing the detection limit (with the applied raw count multiplier) with the sample volume then multiplying by 1000. The sample volume, level of background debris, % of the trace read and size of spores can all affect the reporting limits.
- The background particulate rating is a measure of the skin fragments and debris present in each sample. Background particulates can interfere with the analyst's ability to accurately report counts for each fungal spore type. Hence, a background particulate rating of 0 to 5 is reported for each sample. The higher the rating, the higher the reported values are affected by the particle load as these background particulates can obscure spores, especially small spores such as *Penicillium/ Aspergillus*.

Background Particulate		Description
0	None	No background particulates detected. This could indicate a blank sample sent as a control, a cassette malfunction or improper sampling as most air samples typically contain some particulates.
1	Very low	Up to 5% of field of view obscured by background particulates.
2	Low	5-25% of field of view obscured by background particulates.
3	Moderate	25-75% of field of view obscured by background particulates.
4	High	75-90% of field of view obscured by background particulates. Reported values are largely affected by the particle load, and counts may be higher than reported.
5	Abundant	>90% of field of view obscured by background particulates. Accurate quantification is not possible, and counts may be higher than reported. Resampling may be necessary.

MOULD ANALYSIS TAPE LIFT REPORT

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Tauranga Laboratory

1227A Cameron Road, Gate Pa, TAURANGA 3112

Client	SC Environmental
Client Address	243 Rangiora Leithfield Road, Sefton
Client Contact	STU Cole
Laboratory Number	L-00463
Client P/O Number	J000107
Project Location	137 Cambridge Terrace, Christchurch
Date of Sampling	26 August 2023
Date of Receipt (Tauranga)	30 August 2023
Date of Analysis	1 September 2023
Date of Reporting	4 September 2023

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- Samples were received in good condition unless otherwise stated in the report.
- Samples received are kept for one month after analysis, and subsequently discarded unless the client specifies otherwise.
- Eurofins | Focus did not provide any consultations in this report. Eurofins | Focus' primary involvement in this project is to provide an analytical report for the samples submitted.
- Eurofins | Focus cannot comment on the condition of the property and/ or its suitability for occupation based on laboratory results.
- Tape lift analysis should only be considered as a screening tool and to facilitate a mould inspection or assessment. Other aspects of the investigation including building history and measurements of environmental conditions provide vital information for the final interpretation the results.
- This report is not intended to provide any medical or health advice to building occupants concerning the relative safety of an indoor space. If there are any health concerns surrounding the laboratory results, it is recommended to consult with a qualified health care professional.

Analyst Name	Analyst Signature
Holly Nordstrom	

TAPE LIFT RESULTS

Analysis of the tape lift sample(s) was/were performed according to ASTM D7658-17 'Standard Test Method for Direct Microscopy of Fungal Structures from Tape' and company procedures NPM-TP04 Tape Lift Analysis.

Note: The presence of fungal hyphae and structures are indicative of fungal colonisation and growth occurring on the surface.

For more information, please refer to the "Mould Information and Glossary" document supplemented with this this report.

Laboratory Number	L-00463-01				
Client Sample Number	T01				
Microscope Number	M15				
Sample Type	Bio-tape(B290 2090)				
Location	GF - Room 9				
Sample Description	Grainy patches of black discolouration.				
Laboratory Notes					
Fungal Identification	Spores?	Fungal hyphae/ structures?	Fungal Rating	Background Debris Rating	Comments
<i>Chaetomium</i>	Yes	Yes	3	4	Evidence of fungal growth. Discolouration mainly due to large clumps of debris. Fungal spores and hyphal structures scattered with debris. <i>Chaetomium</i> spores are found in clusters in debris.
Basidiospores	Yes	No	1		
<i>Torula</i>	Yes	No	1		
<i>Penicillium/Aspergillus</i> -like	Yes	No	1		

Laboratory Number	L-00463-02				
Client Sample Number	T02				
Microscope Number	M15				
Sample Type	Bio-tape(B290 5307)				
Location	GF - Room 5				
Sample Description	Powdery appearance with brownish discolouration.				
Laboratory Notes					
Fungal Identification	Spores?	Fungal hyphae/ structures?	Fungal Rating	Background Debris Rating	Comments
<i>Cladosporium</i>	Yes	Yes	1	2	Evidence of fungal growth.
Ascospores	Yes	No	1		
<i>Acremonium</i> -like	Yes	Yes	4		
Basidiospores	Yes	No	1		

Laboratory Number	L-00463-03				
Client Sample Number	T03				
Microscope Number	M15				
Sample Type	Bio-tape(B290 5658)				
Location	GF - Room 3				
Sample Description	Dusty appearance with brown discolouration.				
Laboratory Notes					
Fungal Identification	Spores?	Fungal hyphae/ structures?	Fungal Rating	Background Debris Rating	Comments
<i>Acremonium</i>	Yes	Yes	2	2	Fungal spores and hyphal structures scattered, most associated with debris. Some spores are found in clusters. One <i>Pithomyces</i> spore detected.
<i>Cladosporium</i>	Yes	Yes	2		
Smut/Myxomyces/Periconia	Yes	No	1		
Basidiospores	Yes	No	1		
<i>Pithomyces</i>	Yes	No	1		
Ascospores	Yes	No	1		
<i>Penicillium/Aspergillus</i> -like	Yes	No	1		

Laboratory Number	L-00463-04				
Client Sample Number	T04				
Microscope Number	M15				
Sample Type	Bio-tape(B290 3137)				
Location	GF - Lobby				
Sample Description	Downy surface with white discolouration.				
Laboratory Notes					
Fungal Identification	Spores?	Fungal hyphae/ structures?	Fungal Rating	Background Debris Rating	Comments
<i>Acremonium</i>	Yes	Yes	4	2	Evidence of fungal growth. One <i>Alternaria</i> spore found.
<i>Alternaria</i>	Yes	No	1		
<i>Cladosporium</i>	Yes	Yes	3		
Basidiospores	Yes	No	1		

Laboratory Number	L-00463-05				
Client Sample Number	T05				
Microscope Number	M15				
Sample Type	Bio-tape(B290 2165)				
Location	L1 - Room 13				
Sample Description	Powdery appearance with brown discolouration.				
Laboratory Notes					
Fungal Identification	Spores?	Fungal hyphae/ structures?	Fungal Rating	Background Debris Rating	Comments
<i>Cladosporium</i>	Yes	Yes	3	3	Evidence of fungal growth. Various spores and hyphal structures scattered in debris.
Smut/Myxomyces/Periconia	Yes	No	1		
Basidiospores	Yes	No	1		
Ascospores	Yes	No	1		
<i>Stachybotrys</i>	Yes	No	1		
<i>Torula</i>	Yes	No	1		
<i>Alternaria</i>	Yes	No	1		
<i>Ganoderma</i>	Yes	No	1		
<i>Epicoccum</i>	Yes	No	1		
<i>Pithomyces</i>	Yes	No	1		
<i>Sporidesmium</i>	Yes	No	1		

Laboratory Number	L-00463-06				
Client Sample Number	T06				
Microscope Number	M15				
Sample Type	Bio-tape(B290 2705)				
Location	L1 - Landing				
Sample Description	Coarse-grained appearance with brownish discolouration and feather visibly attached.				
Laboratory Notes					
Fungal Identification	Spores?	Fungal hyphae/ structures?	Fungal Rating	Background Debris Rating	Comments
<i>Chrysonilia</i> -like	Yes	No	1	4	Clusters of spores in debris. One <i>Alternaria</i> spore found. <i>Trichothecium</i> spores scattered but majority are found in one cluster.
<i>Cladosporium</i>	Yes	Yes	2		
Basidiospores	Yes	No	1		
<i>Chaetomium</i>	Yes	No	1		
Ascospores	Yes	No	1		
Smut/Myxomyces/Periconia	Yes	No	1		
<i>Alternaria</i>	Yes	No	1		
<i>Trichothecium</i>	Yes	No	1		

Laboratory Number	L-00463-07				
Client Sample Number	T07				
Microscope Number	M15				
Sample Type	Bio-tape(B290 0311)				
Location	L1 - Room 20				
Sample Description	Brown discolouration with debris visibly attached.				
Laboratory Notes					
Fungal Identification	Spores?	Fungal hyphae/ structures?	Fungal Rating	Background Debris Rating	Comments
<i>Epicoccum</i>	Yes	No	1	4	Evidence of fungal growth.
<i>Cladosporium</i>	Yes	Yes	3		
<i>Alternaria</i>	Yes	No	1		
Ascospores	Yes	No	1		
<i>Penicillium</i>	Yes	Yes	3		
Basidiospores	Yes	No	1		
<i>Chaetomium</i>	Yes	No	1		

Laboratory Number	L-00463-08				
Client Sample Number	T08				
Microscope Number	M15				
Sample Type	Bio-tape(B290 0218)				
Location	L1 - Room 11				
Sample Description	Powdery surface with pale yellow discolouration.				
Laboratory Notes					
Fungal Identification	Spores?	Fungal hyphae/ structures?	Fungal Rating	Background Debris Rating	Comments
<i>Cladosporium</i>	Yes	Yes	3	2	Evidence of fungal growth.
<i>Acremonium</i>	Yes	Yes	2		

Laboratory Number	L-00463-09				
Client Sample Number	T09				
Microscope Number	M15				
Sample Type	Bio-tape(B290 5510)				
Location	L1 - Room 24				
Sample Description	Powdery streaks of brown discolouration.				
Laboratory Notes					
Fungal Identification	Spores?	Fungal hyphae/ structures?	Fungal Rating	Background Debris Rating	Comments
<i>Cladosporium</i>	Yes	Yes	3	1	Evidence of fungal growth.
<i>Pithomyces</i>	Yes	No	1		
Smut/Myxomyces/Periconia	Yes	No	1		
Basidiospores	Yes	No	1		

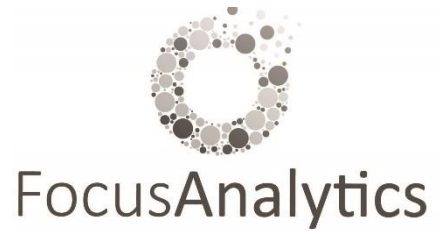
Laboratory Number	L-00463-10				
Client Sample Number	T10				
Microscope Number	M15				
Sample Type	Bio-tape(B290 2698)				
Location	L1 - Room 31				
Sample Description	Grainy texture with white and green discolourations, and visibly attached insect parts and debris.				
Laboratory Notes	Rejected. Too much debris, cannot create even surface for dye/cover slip.				

Laboratory Number	L-00463-11				
Client Sample Number	T11				
Microscope Number	M15				
Sample Type	Bio-tape(B290 5616)				
Location	L1 - Room 29				
Sample Description	Grainy appearance with brown discolouration.				
Laboratory Notes					
Fungal Identification	Spores?	Fungal hyphae/ structures?	Fungal Rating	Background Debris Rating	Comments
<i>Chaetomium</i>	Yes	Yes	4	2	Evidence of fungal growth.
<i>Cladosporium</i>	Yes	Yes	3		
Basidiospores	Yes	No	1		
<i>Epicoccum</i> -like	Yes	No	1		
Smut/Myxomyces/Periconia	Yes	No	1		
<i>Alternaria</i>	Yes	No	1		
<i>Chrysonilia</i> -like	Yes	No	3		

Fungal Rating		
0	None	No fungal material detected.
1	Very low	The fungal material loading covers $\leq 5\%$ of a representative field of view.
2	Low	The fungal material loading covers between approximately 5 and 25% of a representative field of view.
3	Moderate	The fungal material loading covers between approximately 25% and 75% of a representative field of view.
4	Numerous	The fungal material loading covers between approximately 75% and 90% of a representative field of view.
5	Abundant	The fungal material loading covers greater than approximately 90% of a representative field of view.

Background Debris Rating		
0	None	No background debris detected.
1	Very low	Approximately $\leq 5\%$ of a representative field of view obscured by debris.
2	Low	Approximately 5-25% of a representative field of view obscured by debris.
3	Moderate	Approximately 25-75% of a representative field of view obscured by debris.
4	Numerous	Approximately 75-90% of a representative field of view obscured by debris.
5	Abundant	Approximately $>90\%$ of a representative field of view obscured by debris.

MOULD ANALYSIS: SUPPLEMENTARY INFORMATION & GLOSSARY



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INDOOR AND OUTDOOR SAMPLE COMPARISON (SPORE TRAP ANALYSIS)

Currently, there are no widely accepted standards or regulations regarding fungal contamination in indoor air. There are no numeric standards or guidelines for the interpretation of laboratory results of airborne fungal structures and no recommended health-based exposure limits for mould.^{2,18} It is very unlikely that exposure thresholds and guidelines will be developed in the near future.¹⁸

As a result, the current approach to the interpretation of results relies on comparing results from indoor samples to an outdoor control, complaint vs. non-complaint areas, or both.¹⁸

Acceptable levels for each mould type vary due to the differences in toxicity, allergenicity and/or pathogenicity and people's susceptibility to these potential health effects.⁹ Airborne fungal levels and types may also vary over time due to spatial, temporal and seasonal variations, environmental and meteorological conditions and nearby activity that may cause fungal levels to fluctuate.³

As a result, it is important to consider that outdoor air is not constrained as air is highly variable and is subject to change.⁹

Generally, fungal spore types from indoors and outdoors, and complaint and non-complaint areas should qualitatively be similar.¹¹ Spore levels indoors should also be similar to or lower than the outdoors.⁹ If the spore levels indoors are significantly higher compared to outdoor counts, it may be indicative of a potential mould problem indoors.⁹ Similarly, results of non-complaint areas should generally be lower than that of complaint areas if mould growth is an issue.¹¹

However, there are also inconsistencies to these facts that need to be considered when comparing indoor fungal spore types and levels to that of outdoors, and from complaint areas to non-complaint areas:

- In buildings or structures where there are multiple entrances and windows or buildings with ineffective HVAC system filtration, airborne fungal levels may be as high or higher than that of outdoors.¹¹
- In structures such as large or multi-storey buildings, indoor fungal spore types may not always reflect types observed outdoors as a result of air dilution due to large air spaces in these buildings.¹¹ Similarly, in airtight and mechanically ventilated buildings, airborne fungal spore types indoors may consist of outdoor fungal spores accumulated over the course of several days.¹¹

Taking into consideration these factors that can cause anomalies in the comparison of data, caution must be exercised when interpreting results.

IMPORTANT NOTE ON TAPE LIFT ANALYSIS

Tape lift sampling is an easy way to collect samples on surfaces such as building materials where there is visible fungal growth or discolouration. Direct examination is carried out for the confirmation and identification of the fungal growth.

It should be noted that this technique is not appropriate for the sampling of surfaces without visible fungal growth or discolouration. This is because most surfaces accumulate a mixture of miscellaneous fungal spores normally observed in the outdoor environment.² This is not necessarily an indication of fungal growth indoors.²

It is also important to consider that tape lift samples only provide information about the area sampled. This technique does not factor in any contamination from settled spores that may have originated from other areas with active fungal growth.¹⁷ The presence of fungi on a surface is also not a direct indication of the fungal concentrations in the air. Additionally, hidden mould will also not be detected with this technique. Hidden mould is defined by the American Industrial Hygienists Association (AIHA) as “concealed fungal growth on building materials or contents that is within the building envelope but concealed from view during a normal walk-through inspection”.¹⁸

GLOSSARY

The following glossary contains fungal types that are categorized during spore trap analysis, and other fungi that may be encountered during mould analysis. The glossary also contains non-fungal particulates such as pollen, skin fragments, algae and Actinomycetes. The information provided was drawn from scientific literature and books, and from publications provided by other laboratories and organisations. The information compiled is continuously changing due to ongoing research and are frequently the subject of conflicting opinions within the scientific community. Focus Analytics has composed the reference material below to assist our clients in their investigations. However, Focus Analytics is not responsible for any interpretations and resulting actions based on the information supplied.

<i>Acremonium</i>	<i>Acremonium</i> are cosmopolitan fungi commonly found in soil and plant debris. ⁷ This species thrives in very wet conditions. ⁶ Indoors, this species is frequently isolated from water-damaged building materials. ²⁰ This species is reported to be allergenic and mostly saprophytic and non-pathogenic. ⁶ This species has been implicated in skin, eye and nail infections. ⁷
Actinomycetes	Actinomycetes are a group of Gram-positive filamentous spore-producing bacteria. ²⁶ These bacteria are ubiquitous in the environment, especially in soil. ²⁷ Some genera can grow on moist building materials along with fungi and are recognised as potential indicators of wet conditions or moisture damage. ^{26,27} Some species belong to the normal human flora while others are known to be allergenic and pathogenic. ^{26,27}
Algae	Algae are potential indicators of persistent moisture. ⁸ Algae may grow when there is sufficient moisture, nutrients, light and carbon dioxide. The colonisation of algae may cause changes in the aesthetic and mechanical properties of building materials, eventually leading to material destruction. ²⁹
<i>Alternaria</i>	<i>Alternaria</i> species are cosmopolitan dematiaceous fungi predominantly isolated from plants either as pathogens or as saprobes, and from soil. ^{4,7} <i>Alternaria</i> grow where there is condensation and are common contaminants in water-damaged buildings, thriving on different cellulosic materials such as wallpaper, textiles, synthetic materials and other building materials. ⁶ In terms of pathogenicity, <i>Alternaria</i> may be allergenic and have been implicated in skin, nail and sinus infections. ⁷
<i>Aureobasidium</i>	<i>Aureobasidium</i> species are cosmopolitan saprophytic fungi frequently isolated in plant leaves, forest soil, freshwater, some nuts, seeds and cereals. ^{6,7} Among the different <i>Aureobasidium</i> species, <i>Aureobasidium pullulans</i> is the only well-known species. ⁶ It starts off as a pink staining on surfaces which develops into a black discolouration. ²¹ This fungus requires high levels of available moisture to grow. ⁶ It is commonly found in humid indoor environments and surfaces such as in bathrooms, laundries, and on tile grout and damp window frames. ^{6,7} This fungus may be allergenic and has been associated with skin and nail infections. ⁴
Ascomycete fungi (Ascospores)	Ascospores are ubiquitous in nature and are saprophytes and plant pathogens. ⁴ There are over 3000 species of Ascomycete fungi. ⁴ They are commonly found in the outdoor environment and are associated with rain and moisture. ⁴ Some species grow well indoors on damp materials. Ascospores have allergenic potential, however this is dependent on genus and species. ⁴ Many Ascospores are indistinguishable in spore trap analysis as their morphology are very variable and diverse, hence they are enumerated under this broad spore category. ¹¹
Basidiomycete fungi (Basidiospores)	Basidiomycetes are common environmental organisms and include organisms such as mushrooms, stinkhorns and rusts. ¹⁰ These fungi are typically dominant in outdoor air when the surrounding landscape has an abundance of decaying vegetation or after significant rainfall or a period of wet days. ^{11,18} Basidiospores, when present in air samples, are likely from an outdoor source. ¹¹ However, Basidiomycetes may grow on indoor wood products and cause wood decay if there is long-term moist, wet conditions or moisture-related problems. ^{3,11} Thus, the presence of these spores at greater levels compared to outdoors may be an indication of long-term wet conditions or water damage inside the building. ^{9,11} Several basidiomycete fungi have been reported as allergenic and pathogenic, usually associated with respiratory and sinus infections especially in immunocompromised individuals. ¹⁰ (Tape lift analysis) Identification and assessment of Basidiomycetes in the laboratory is difficult as they usually are sterile and non-sporulating with no specific diagnostic features. It would require molecular-based testing to achieve identification. However, the presence of clamp connections and/ or fruiting bodies are attributed to this phylum. ¹⁰
<i>Bipolaris/ Drechslera</i>	<i>Bipolaris/ Drechslera</i> species are mostly cosmopolitan and are common plant pathogens. ⁷ These species are frequently isolated from plant debris, soil and grasses. ⁴ <i>Bipolaris/ Drechslera</i> are common allergens. ⁴
<i>Cercospora</i>	<i>Cercospora</i> are cosmopolitan fungi and are parasitic to higher plants, causing leaf spot. ⁴ It is common outdoors in agricultural areas and not commonly seen indoors. ⁴
<i>Chaetomium</i>	<i>Chaetomium</i> is a cosmopolitan Ascomycete fungus frequently isolated from soil, woody and straw materials, decomposing plant material, and dung. ⁷ When detected indoors, <i>Chaetomium</i> is an excellent indicator of water damage. ¹¹ This species thrives on damp cellulosic building materials and produces cellulose enzymes that can break down these materials. ^{6,9} It can also cause soft-rot on timber, causing structural damage. ⁶ <i>Chaetomium</i> is capable of producing mycotoxins and in rare occasions, cause skin and nail infections. ^{4,7}
<i>Chrysosporium</i>	<i>Chrysosporium</i> species are very common saprobes mostly found in soil and other natural habitats including dung, seeds and leaf litter. ^{4,7} This species can be pathogenic with occasional reports of skin and nail infections, however the reliability of these sources is questionable. ⁷
<i>Cladophialaphora</i>	<i>Cladophialaphora</i> are cosmopolitan saprobes commonly found in soil and decaying plant matter. ⁷

<i>Cladosporium</i>	<i>Cladosporium</i> species are one of the most common genera worldwide and are very frequently isolated from food, wood, paint, textiles, and other organic substrates. ^{4,6} It is associated with different types of soil, plant litter and leaf surfaces. ^{4,7} It is also commonly found in outdoor air, especially in summer when humidity is high. ⁷ Indoors, it is often found growing superficially on surfaces such as damp window frames, paint, wallpaper and caulking due to a raised relative humidity or condensation. ^{6,12} <i>Cladosporium</i> is considered to be allergenic and rare cases of cutaneous and pulmonary infections have been reported in immunocompromised individuals. ⁷
<i>Curvularia</i>	<i>Curvularia</i> are ubiquitous cosmopolitan fungi with most species being facultative pathogens of tropical and subtropical plants. ⁷ The source of these spores is likely to be outdoors. ¹¹ <i>Curvularia</i> is thought to be allergenic and occasionally may cause infections in immunocompromised individuals. ⁷
Dematiaceous fungi	Dematiaceous fungi are brown-pigmented fungi that are commonly found in soil, wood and decomposing plant debris. ²² They have a worldwide distribution. ²² Some species are frequently isolated from and can be deteriorogenic to water-damaged building materials. Many dematiaceous fungi are also found indoors growing on surfaces such as damp window frames due to a raised relative humidity or condensation. These fungi have been implicated in cutaneous, subcutaneous and eye infections mostly occurring in immunocompromised individuals. ²² Many of these fungi are difficult to identify from a direct microscopic examination.
<i>Epicoccum</i>	<i>Epicoccum</i> is a ubiquitous, cosmopolitan fungus frequently isolated from plant debris and soil. ⁷ It is also a known plant pathogen. ⁶ <i>Epicoccum</i> is seen indoors on various substrates including wood, paper and textiles. ^{4,6} One species is capable of growing on water-damaged materials. ¹¹ It is considered to be allergenic. ⁷
<i>Exophiala</i>	<i>Exophiala</i> are cosmopolitan fungi commonly isolated from decaying wood, soil and surfaces in contact with cool, fresh water. ⁷
<i>Fusarium</i>	<i>Fusarium</i> species are cosmopolitan and are frequently isolated from soil. ⁷ It is saprophytic or parasitic on plants and many species are important plant pathogens. ⁶ The source of <i>Fusarium</i> spores is generally from outdoors. ¹¹ However some species of <i>Fusarium</i> are occasionally found growing indoors on a variety of substrates due to very wet conditions. ^{4,6,11} These fungi are reported to be allergenic and cause infections - commonly eye, skin and nail infections in immunocompromised individuals. ^{4,7} Some species are capable of producing mycotoxins such as trichothecene which targets the circulatory, skin, alimentary and nervous systems. ⁶
<i>Geotrichum</i>	<i>Geotrichum</i> species are cosmopolitan saprobes commonly found in soil, plants, milk and milk products. ^{4,7} These fungi have been implicated in human infections, although many of these cases lack proper documentation or are based on unreliable identifications. ^{4,7}
Hyphal fragments	These are small fragments derived from the mycelium of a fungus. ⁹ A mycelium is a mass of hyphae and forms the vegetative body of a fungus. It is not unusual to find small numbers of hyphal fragments outdoors and possibly in indoor dust. ⁹ High levels of hyphal fragments indoors are indicative of active fungal growth occurring indoors. ^{9,11}
Miscellaneous/ Unidentified spores	These are miscellaneous spore types not represented by any of the categories listed on the results table, or spores without any distinctive features and are unable to be identified in spore trap samples.
<i>Mucor</i>	<i>Mucor</i> is a cosmopolitan saprobic fungus commonly isolated from decaying organic material and manure. ⁷ This species has been associated with wet conditions, particularly wet concrete and other flooring materials. ²⁰ Rare cases of zygomycosis have been reported in immunocompromised individuals. ⁷
<i>Myxotrichum</i>	<i>Myxotrichum</i> species are Ascomycete fungi that comprise a small proportion of the fungal biota and its natural habitat is soil. ⁴ It is commonly isolated from paper substrates where it can cause decay through the production of cellulose degrading enzymes. ²³ It is also isolated from damp drywall and decomposing carpets. ⁴ This species has been implicated in one report of a nail infection. ⁴
<i>Nigrospora</i>	<i>Nigrospora</i> are cosmopolitan saprobic fungi frequently isolated from decaying plant material and soil. ⁷ This species is rarely found indoors and are known to rarely grow on water-damaged materials. ^{4,11} It is associated with Type I allergies (hay fever, asthma). ⁴
Non-sporulating fungi	Non-sporulating fungi are fungi that have not sporulated under the conditions provided and may produce spores only when conditions are favourable. ^{4,9} All fungi can produce a non-sporulating state however most of the non-sporulating fungi never sporulate in culture and are referred to as "sterile hyphae/ mycelia". ^{4,9} Identification is usually not possible unless sporulation occurs. ⁹
<i>Oidium</i>	<i>Oidium</i> species (Sexual state: <i>Erysiphe</i> species) are plant pathogens and obligate parasites on various parts of plants such as fruits, stems, leaves and flowers. ^{4,24} This genus is known to cause powdery mildews. ^{4,24} The asexual state <i>Oidium</i> may be observed in indoor dust as part of normal infiltration of outdoor air. ⁴
<i>Paecilomyces</i>	<i>Paecilomyces</i> are cosmopolitan fungi frequently isolated from soil and decaying plant material. ⁷ These fungi have been associated with decay of food products, cosmetics, and paper, and have been isolated from jute fibres, PVC, leather and timber. ^{4,7,21} Two of these species are found in water-damaged buildings - <i>P. variotii</i> and <i>P. lilacinus</i> . ¹² This species is reported to be allergenic but is relatively rarely pathogenic. ^{4,7}
<i>Penicillium/ Aspergillus</i>	<i>Penicillium/ Aspergillus</i> are two of the most common fungal genera and are isolated from soil, decaying plant debris, compost piles, food, grains and cellulose. ^{4,6} These fungi grow indoors because of moisture ingress issues, a raised relative humidity or condensation due to a lack of adequate ventilation. ¹² They are regarded as "surface mould", posing minimal structural risk to the substrate they're growing on. ⁵ <i>Penicillium/ Aspergillus</i> can also produce microbial volatile organic compounds (MVOCs) resulting in a musty odour. ⁴ These species are common allergens and some species can cause human infections in immunocompromised individuals. ⁷
<i>Phialaphora</i>	<i>Phialaphora</i> is a cosmopolitan saprobe frequently isolated from soil, decomposing wood and subaquatic debris in bodies of cold fresh water. ⁷ <i>Phialaphora</i> are the causative agents of some human infections including that of the skin and subcutaneous tissue. ⁷

<i>Phoma</i> species	<i>Phoma</i> species are common plant pathogens frequently isolated from soil and on various dead and living plant material. ^{6,7} <i>Phoma</i> spores are produced inside asexual fruiting bodies called pycnidia. ²⁸ These fungi are hydrophilic and have been isolated from various substrates. ⁶ The taxonomy of this genus is complex and identification to the species level is often difficult. ⁶ Therefore, these fungi are identified only with the genus and can only be referred to as “ <i>Phoma</i> species”. ⁶ They are reported to be allergenic and are rarely pathogenic. ⁶
<i>Pithomyces</i>	<i>Pithomyces</i> is a cosmopolitan fungus commonly isolated from decaying plant material and soil. ⁷ It is rarely found indoors. ⁴ Allergenicity has not been widely studied and there have been no accounts regarding infections. ^{4,7}
Pollen	Pollen grains are plant particles and are non-fungal. Pollen concentrations in the air fluctuate depending on temporal, environmental and meteorological variations. It is not unusual to find several pollen in the indoor environment. The presence of pollen indoors is almost always due to outdoor air filtering in. ⁸ Various pollens are known to be allergenic.
<i>Polythrincium</i>	<i>Polythrincium</i> species comprise a small portion of the fungal biota. ⁴ It is commonly found on leaves and may be seen in house dust due to the influx of outdoor air and particles. ⁴
<i>Rhizopus</i>	<i>Rhizopus</i> are cosmopolitan fungi frequently isolated from soil and agricultural products. ⁷ Some species are plant pathogens. ⁷ Indoors, it is commonly found on spoiling food and less common on indoor environmental surfaces. ⁴ These fungi are considered to be allergenic, and are the principal agent of zygomycosis, especially in immunocompromised individuals. ^{4,7}
Rusts	Rusts are ubiquitous cosmopolitan fungi that are commonly found on grasses, flowers, trees and other living plant materials. ⁴ Their source are most likely outdoors. ¹¹ They are parasitic plant pathogens and require a living host for growth. ⁴
<i>Scopulariopsis</i>	<i>Scopulariopsis</i> are ubiquitous cosmopolitan fungi frequently isolated from soil, food, drywall paper, wood and house dust. ⁴ This species has a relatively high water activity ⁴ and been known to be isolated from water-damaged building materials. ¹⁶ <i>Scopulariopsis</i> is rarely a cause of human infection with occasional reports of skin and nail infections in immunocompromised individuals. ⁷
Section <i>Aspergillus</i> (formerly known as <i>Eurotium</i>)	Section <i>Aspergillus</i> (formerly known as <i>Eurotium</i> species) is the sexual state of <i>Aspergillus</i> species. ⁴ These fungi are xerophilic. ³ Their presence is indicative of persistent high relative humidity and are also indicative of poor ventilation and condensation problems. ^{3,11} They have been isolated from various substrates including insulation, wallboard, textile and wood products. ^{18,25} Health effects of this species are closely related to the <i>Aspergillus</i> anamorph. ⁴
Skin fragments	Dead skin cells that are continuously shed by humans or animals in an indoor environment. An increase in skin fragment concentration in the air may be due to inadequate ventilation, occupant density and/ or inadequate housekeeping. ⁸
Smuts/ Myxomycetes/ Periconia	Ubiquitous cosmopolitan fungi that are difficult to differentiate under direct microscopy. These spore types are commonly found in soil, grasses, flowers, decaying wood, dead leaves, and other living plant materials. ^{4,11} Smuts are known to be parasitic plant pathogens. ⁴ These spore types are common outdoors. ^{4,11} These are thought to be allergenic. ⁴
<i>Spegazzinia</i>	<i>Spegazzinia</i> species are commonly found on soil and various plants and trees. ⁴ Their sources are of outdoor origin. ¹¹
Spore clusters	The presence of a high level of spore clusters is indicative of potential source of growth within the vicinity of the sampling point. It suggests that spores are not spread out randomly when they are dislodged and aerosolized.
<i>Stachybotrys</i>	<i>Stachybotrys</i> are ubiquitous cosmopolitan fungi commonly found in decaying plant substrates, soil and cellulose-rich environments such as hay, straw, grains and paper. ^{6,7,13} Indoors, this species thrives on highly cellulosic building materials such as plasterboard, jute, wallpapers, particle board, insulation backings, and other paper materials when they are water damaged. ^{4,6} This species is associated with prolonged moisture and grow in the presence of a high degree of humidity lasting for days or weeks. ⁶ <i>Stachybotrys</i> produces many toxins including Trichothecene mycotoxins. ¹⁵
<i>Tetraploa</i>	<i>Tetraploa</i> species comprise a very small proportion of the fungal biota and is frequently isolated from leaf bases and stems just above the soil on a variety plants and trees. ⁴
<i>Torula</i>	<i>Torula</i> are ubiquitous cosmopolitan fungi frequently isolated from soil, wood, grasses, decaying plant material, sugar beet root, groundnuts and oats. ⁴ The source of <i>Torula</i> spores are most likely outdoors. ¹¹ Indoors, it is commonly found on cellulosic material such as jute, wood and paper. ⁴ It is reported to be allergenic. ⁴
<i>Trichoderma</i>	<i>Trichoderma</i> are ubiquitous cosmopolitan saprobes frequently isolated from soil, wood, textiles, paper, damp wood, unglazed ceramics and some fruits and vegetables. ⁴ These fungi require high water activity ³ thus their presence is indicative of wet conditions. ¹² They are considered to be soft-rot fungi and are strongly cellulolytic (readily degrades cellulose) to timber and other wood products. ^{16,25} It is reported to be allergenic and usually considered non-pathogenic. ⁷ <i>Trichoderma</i> may also cause a mycotoxicosis similar to that caused by <i>Stachybotrys chartarum</i> . ⁴
<i>Wallemia</i>	<i>Wallemia</i> species are xerophilic (able to grow in materials with low water activity) and are frequently isolated in soil, good stuffs, textiles and hay. ^{3,4} Their presence is indicative of persistent high relative humidity. ^{3,12} This species is considered to be allergenic. ⁴

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Appendix C

SC Environmental Asbestos Refurbishment / Demolition Report dated 7 September 2023

ASBESTOS REFURBISHMENT / DEMOLITION SURVEY REPORT



137 Cambridge Terrace, Christchurch Central

Prepared for:	Southern Demolition and Salvage Ltd
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Job reference:	J000107
Date of site work:	22 to 25 August 2023
Report issue date:	07 September 2023
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1 Executive Summary

SC Environmental was engaged by Southern Demolition and Salvage Ltd to conduct an asbestos refurbishment / demolition survey of 137 Cambridge Terrace, Christchurch Central. SC Environmental attended site from 22 to 25 August 2023 to conduct the survey detailed in this report. This survey report was prepared to identify asbestos within the structure/workplace so that it can be removed safely prior to refurbishment / demolition works commencing.

Asbestos containing materials (ACMs) were identified and presumed during the survey, and the areas in which they were found, are described in this report. They have been categorised according to the Material Risk Assessment created during the survey.

Further task specific risk assessments should be undertaken prior to disturbance of any confirmed or presumed asbestos containing materials (PACM's) as well as during the ongoing management of any ACM's remaining in situ. Risk assessments will be necessary to ensure compliance with regulation 5-8 of the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016, and also the Health and Safety at Work (Asbestos) Regulations 2016 and the Health and Safety at Work Act 2015

HIGH RISK MATERIALS – SCORE 10+

ACMs or associated dust and debris in this category are in poor or damaged condition and could easily or spontaneously release respirable fibres. It is recommended that access to the areas containing these materials be restricted immediately and remediation/removal of these environments/materials be undertaken urgently.

Floor	Room	Location	Material	Sample No.	Material Risk	Recommendation
No high risk materials						

AREAS THAT WERE NOT ACCESSED DURING THE SURVEY

The table below lists the areas that were not accessed during the survey. These areas should be presumed to contain asbestos and treated as such, unless determined otherwise by an asbestos surveyor through sampling and laboratory analysis.

Floor	Location/Room name	Reason for no access & Recommendations
Ground Floor	Basement	Area significantly flooded. Water should be pumped out with asbestos controls in place and presumed to be contaminated (other contaminants also likely to be present)
Ground Floor	Subfloor to north west part of building	Size of crawl space limited, and safety concerns in the fire damaged area

2 Introduction & Objectives

SC Environmental (SCE) was engaged by Southern Demolition and Salvage Ltd (the Client) to undertake an Asbestos Refurbishment / Demolition Survey of 137 Cambridge Terrace, Christchurch Central (the Site). The survey was conducted by Stu Cole and Tim Holdaway.

An asbestos refurbishment / demolition survey has been undertaken to identify asbestos within the structure/workplace so that it can be removed safely prior to refurbishment works commencing. This survey was carried out in general accordance with WorkSafe New Zealand's *Good Practice Guidelines: Conducting Asbestos Surveys*, SC Environmental's in house procedures, and the UK HSE (Health and Safety Executive) guidance document *HSG 264 – Asbestos: The Survey Guide*.

2.1 Aim of Survey

The aim of the survey was to:

- Locate and record the location, extent, and product type as far as reasonably practicable of known or presumed ACMs.
- Inspect and record information on the accessibility, condition and surface treatment of known or presumed ACMs.
- Determine and record the asbestos type based on sampling or by making a presumption based on the product/item.

2.2 Type of Survey – Refurbishment / Demolition Survey

A refurbishment / demolition (R/D) survey methodology is required to identify potential asbestos containing materials prior to the refurbishment or demolition of the building.

Its purpose is to locate, as far as is reasonably practicable, the presence and extent of any suspect ACMs within the areas of the building to mitigate the risk associated with refurbishment / demolition works.

All areas have been accessed as far as is reasonably practicable. Any areas that it was not possible to access have been presumed to contain asbestos and documented within this report. This survey involved sampling and analysis to confirm the presence or absence of asbestos containing materials, however presumptions may have also been used within this report to presume or strongly presume the presence of ACMs.

R/D surveys will involve some major intrusive work and disturbance. The extent of the intrusion will vary between premises and depend on what is reasonably practicable for individual properties e.g. type of building, nature of construction, etc.

The survey report can be used as a basis to start developing an asbestos removal control plan and prioritise actions, but in itself does not constitute an asbestos removal control plan.

This survey includes a material risk assessment of the identified or presumed ACM's which relates to their condition and their potential to release fibres. This material risk assessment will provide the duty holder with an initial guide to the priority for ACM removal as it will identify those ACM's which will most readily release fibres if they are disturbed.

3 Exclusions and Caveats

For safety reasons, it is not possible to inspect internal areas of plant and machinery.

Where areas have been designated 'no access', or 'restricted access', unless further inspection/sampling proves otherwise, the presumption has been made that these structures/areas contain asbestos containing materials.

During the course of the survey, it may not have been possible to access all areas of the site. Details of areas requiring further access are identified within this report. In accordance with the Health and Safety at Work (Asbestos) Regulations 2016, asbestos is presumed to be present within these areas and should be treated accordingly until further inspection and analysis of building fabric and services prove otherwise.

Residual asbestos material may be present beneath re-lagged services and cannot be detected unless the re-lagging is systematically removed. Caution should therefore be taken when working on such materials for the potential presence of asbestos residue.

Textured Coatings such as "Stipple" may contain a trace quantity of Chrysotile asbestos. Due to this low asbestos content, applications of this product may be non-homogenous and may elicit both positive and negative samples. Where both positive and negative samples are obtained from the same area, the client should presume that the textured coating contains asbestos throughout even though a non-detected result has been obtained.

This report does not include investigations into land contamination associated with asbestos or any other contaminant, unless specifically requested by the client.

4 Sampling and Analysis

The object of bulk sampling is to obtain a representative sample of the suspect material for asbestos presence/absence testing. Once this result has been obtained, it is then inferred onto the material from which the sample came.

Bulk sampling is undertaken in line with the recognised safe procedures in order to cause minimal possible nuisance and potential risk to health of the building occupants and visitors. Bulk samples are taken in accordance with WorkSafe New Zealand's *Good Practice Guidelines: Conducting Asbestos Surveys*, SC Environmental's in house procedures, and the UK HSE (Health and Safety Executive) guidance document *HSG 264 - Asbestos: The Survey Guide* and *HSG248 - The analysts' guide for sampling, analysis and clearance procedures*. The quantity of samples taken will be minimised by using 'strongly presumed' as described in this report.

Bulk samples are returned to the appointed IANZ accredited laboratory with the appropriate sample report reference number. Where appropriate; a label will be left on site adjacent to the sample location. The label will indicate the sample number and the date taken. This label can be used along with the report for cross referencing.

Bulk sample analysis is conducted by an independent, IANZ accredited laboratory out in accordance with their accredited processes (i.e. *HSG248 - The analysts' guide for sampling, analysis and clearance procedures* or AS 4964-2004 - Method for the qualitative identification of asbestos in bulk samples). Samples are examined under a low magnification stereomicroscope and polarised light microscopy and dispersion staining in accordance with the aforementioned methods.

The bulk sample description and analysis results can be found appended to this report.

5 Interpretation of Survey Results

The results of the survey inspections and sampling undertaken are presented in the Survey Data Sheets, Asbestos Register and Non-Asbestos Material Register. Where asbestos containing materials have been identified or presumed to be present then a Material Risk Assessment has been calculated using the algorithm detailed WorkSafe New Zealand's *Good Practice Guidelines: Conducting Asbestos Surveys* and *HSG 264 Asbestos: The Survey Guide*, which has reproduced in section 10 of this report.

All measurements detailing the extent of materials are merely approximations and as such should not be relied upon for the quoting asbestos removal works.

6 Risk Assessment

Within the Asbestos Register the individual scores in brackets for each sample variable are added together to form the final material risk assessment score from the algorithm described below. This algorithm has been reproduced from WorkSafe New Zealand's *Good Practice Guidelines: Conducting Asbestos Surveys* and *HSG 264 Asbestos: The Survey Guide*.

6.1 Material Risk Assessment Algorithm

The four main factors affecting how much fibre is released from an ACM when subject to disturbance are described below. The material assessment identifies high-risk ACM, or materials which will release airborne fibres the most if disturbed. ACM assigned the highest score may not necessarily be the priority for remedial action. The priority should be determined by carrying out a risk, or priority, assessment.

Sample variable	Score	Examples of scores
Product type (or debris from product)	1	Asbestos-reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement etc.).
	2	AIB, millboards, other low-density insulation boards, asbestos textiles, gaskets, ropes and woven textiles, asbestos paper and felt.
	3	Thermal insulation (e.g. pipe and boiler lagging), sprayed asbestos, loose asbestos, asbestos mattresses and packing.
Extent of damage/deterioration	0	Good condition: no visible damage.
	1	Low damage: a few scratches or surface marks, broken edges on boards, tiles etc.
	2	Medium damage: significant breakage of materials or several small areas where material has been damaged revealing loose asbestos fibres.
	3	High damage or delamination of materials, sprays and thermal insulation. Visible asbestos debris.
Surface treatment	0	Composite materials containing asbestos: reinforced plastics, resins, vinyl tiles.
	1	Enclosed sprays and lagging, AIB (with exposed face painted or encapsulated) asbestos cement sheets etc.
	2	Unsealed AIB, or encapsulated lagging and sprays.
	3	Unsealed lagging and sprays.
Asbestos Type	0	No Asbestos Detected
	1	Chrysotile
	2	Amphibole asbestos excluding Crocidolite
	3	Crocidolite

6.2 Material Risk Assessment Score

In the material assessment process, the main factors influencing fibre release are scored and added together to form a material assessment rating with a total score of between 1 and 9.

Score Range	Potential to Release Asbestos Fibres
10 or higher	High
7 - 9	Medium
5 - 6	Low
4 or lower	Very Low

Non-asbestos materials have no potential to release asbestos fibres.

7 Results

All data collected from the survey and associated sampling results has been collated into two Registers for ease of reading. The first contains all confirmed and presumed asbestos containing materials identified in the survey, presented in order of highest Risk Score at the top. This table also includes all areas that could not be accessed and are therefore presumed to contain asbestos. The second table shows all materials that were sampled and returned a "No asbestos detected" result from testing or were determined not to contain asbestos through visual inspection alone. The following abbreviations have been used: S (sampled), P (presumed), SP (strongly presumed).

7.1 Asbestos Register

Floor	Room	Location	Material	Quantity	Condition	Surface Treatment	Accessibility	Sample Number	Asbestos Type	Material Score	Recommendation	Additional Comments
Ground Floor	Hallway	Subfloor	Insulation (3)	60 lm	High Damage (3)	Unsealed (2)	Moderate	S06	Chrysotile (1)	9	Remove prior to refurbishment / demolition works. (Class A material) Soil also likely to be impacted and will require testing and remediating.	Sample collected through hatch in Hallway floor. Material also observed in Subfloor area of the southern section of building.
Ground Floor	Ladies W/C	Fuse board	Textile (2)	1 No.	High Damage (3)	Unsealed (2)	Easy	S08	Chrysotile (1)	8	Remove prior to refurbishment / demolition works. (Class A material)	Flash guard to switch
Ground	External	Old chimney	Rope (2)	Unknown	High Damage (3)	Unsealed (2)	Moderate	S42	Chrysotile (1)	8	Remove prior to refurbishment / demolition works. (Class A material)	Material could be present throughout chimney
First Floor	Room 18A	Floor	Paper (2)	12 m ²	Medium Damage (2)	Enclosed (1)	Easy	S19	Chrysotile (1)	6	Remove prior to refurbishment / demolition works. (Class A material)	Blue and white vinyl
First Floor	Room 18B	Floor	Paper (2)	16 m ²	Medium Damage (2)	Enclosed (1)	Easy	S20	Chrysotile (1)	6	Remove prior to refurbishment / demolition works. (Class A material)	Brown vinyl

Floor	Room	Location	Material	Quantity	Condition	Surface Treatment	Accessibility	Sample Number	Asbestos Type	Material Score	Recommendation	Additional Comments
First Floor	Room 18B	Floor	Paper (2)	2 m ²	Medium Damage (2)	Enclosed (1)	Easy	S21	Chrysotile (1)	6	Remove prior to refurbishment / demolition works. (Class A material)	Brown patterned vinyl underneath newer grey vinyl
First Floor	Room 18D	Floor	Paper (2)	10 m ²	Medium Damage (2)	Enclosed (1)	Easy	S22	Chrysotile (1)	6	Remove prior to refurbishment / demolition works. (Class A material)	Small area next to S20 paper backed vinyl floor lining
Ground Floor	Hallway	Doorways	Cement Sheet (1)	12 lm	Low Damage (1)	Enclosed (1)	Easy	S03	Amosite (2)	5	Remove prior to refurbishment / demolition works. (Class B material)	Located around 2 x doorways leading to lobby area, and on both sides
Ground Floor	Ladies W/C	Fuse board	Textile (2)	Multiple	Low Damage (1)	Enclosed (1)	Easy	P01	Presumed Chrysotile (1)	5	Remove prior to refurbishment / demolition works. (Class A material)	Presumed to be within all porcelain fuse holders
Ground Floor	Room 1A	Floor	Paper (2)	10 m ²	Low Damage (1)	Enclosed (1)	Easy	S09	Chrysotile (1)	5	Remove prior to refurbishment / demolition works. (Class A material)	Grey paper/felt beneath carpet, underlay and lino layers
Ground Floor	Room 2B	Floor	Paper (2)	6 m ²	Medium Damage (2)	Enclosed (1)	Easy	S12	Chrysotile (1)	5	Remove prior to refurbishment / demolition works. (Class A material)	
First Floor	Landing	Doorways	Cement Sheet (1)	12 lm	Low Damage (1)	Enclosed (1)	Easy	SP01	Presumed Amosite (2)	5	Remove prior to refurbishment / demolition works. (Class B material)	As per S03 Located around 2 x doorways leading to lobby area
First Floor	Rooms 12A, B & C	Floor	Paper (2)	55 m ²	Low Damage (1)	Enclosed (1)	Easy	S24	Chrysotile (1)	5	Remove prior to refurbishment / demolition works. (Class A material)	Felt / paper backing
Second Floor	Landing	Doorways	Cement Sheet (1)	12 lm	Low Damage (1)	Enclosed (1)	Easy	SP02	Presumed Amosite (2)	5	Remove prior to refurbishment / demolition works. (Class B material)	As per S03 Located around 2 x doorways leading to lobby area

Floor	Room	Location	Material	Quantity	Condition	Surface Treatment	Accessibility	Sample Number	Asbestos Type	Material Score	Recommendation	Additional Comments
Second Floor	Room 21	Floor	Bituminous paper (2)	20 m ²	Low Damage (1)	Enclosed (1)	Easy	S33	Chrysotile (1)	5	Remove prior to refurbishment / demolition works. (Class B material)	Loose rolls on floor and also under carpet.
Second Floor	Room 21	Wall	Cement Sheet (1)	3 m ²	Low Damage (1)	Enclosed (1)	Easy	S32	Chrysotile (1)	4	Remove prior to refurbishment / demolition works. (Class B material)	Floor to ceiling panels
Ground	Entrance	Waste items	Paper (2)	2 No.	Good condition (0)	Enclosed (1)	Easy	P05	Presumed Amosite (2)	4	Remove prior to refurbishment / demolition works. (Class B material)	Waste bags with you PPE in
External	Roof	Roof	Bitumen (1)	400 m ²	Low Damage (1)	Composite (0)	Moderate	S39	Chrysotile (1)	3	Remove prior to refurbishment / demolition works. (Class B material)	To southern section of roof
All	External	Windows	Mastic (1)	> 100 lm	Low Damage (1)	Composite (0)	Moderate	P02	Presumed Chrysotile (1)	3	Further investigation required	Material potentially located between metal framed windows and concrete walls
First Floor	Cupboard	Fuse board	Thermoplastic (1)	1 No.	Low Damage (1)	Composite (0)	Easy	P03	Presumed Chrysotile (1)	3	Remove prior to refurbishment / demolition works. (Class B material)	Two units, one in each cupboard.
Second Floor	Cupboard	Fuse board	Thermoplastic (1)	1 No.	Low Damage (1)	Composite (0)	Easy	P04	Presumed Chrysotile (1)	3	Remove prior to refurbishment / demolition works. (Class B material)	Two units, one in each cupboard.

7.2 Non-Asbestos Register

Floor	Room	Location	Item	Sample No	Asbestos Type	Recommendation	Additional Comments
Ground floor	Throughout	Walls	Lath & plaster	S01	NAD	No action required	Sample includes skim coat
Ground Floor	Hallway	Ceiling	Textured coating	S02	NAD	No action required	Coating to softboard panels
Ground Floor	Room 8	Floor	Vinyl	S04	NAD	No action required	Green vinyl
Ground Floor	Hallway	Floor hatch	Vinyl	S05	NAD	No action required	Floor hatch to Subfloor
Ground Floor	Ladies W/C	Fuse board	Textile	S07	NAD	No action required	Wiring
Ground Floor	Room 1A	Floor	Vinyl	S10	NAD	No action required	Red colour with hessian backing on top of positive paper/felt backing. Green coloured material also observed.
Ground Floor	Hallway	Floor	Bitumen	S11	NAD	No action required	Beneath underlay on ply
First Floor	Landing	Floor	Bitumen & vinyl	S13	NAD	No action required	N/A
First Floor	Hallway	Ceiling	Textured coating	S14	NAD	No action required	Located in Hallways and Landing
First Floor	All	Walls	Plaster	S15	NAD	No action required	Skim coat to all walls
First Floor	Hallway	Ceiling tiles	Dust	S16	NAD	No action required	Material to top side of softboard tiles
First Floor	Room 15	Ceiling void	Bituminous paper	S17	NAD	No action required	Adhered to concrete formwork
First Floor	All	Walls	Plaster	S18	NAD	No action required	Older, grey lath & plaster type plaster.
First Floor	Room 14	Ceiling	Plaster	S23	NAD	No action required	Skim coat

Floor	Room	Location	Item	Sample No	Asbestos Type	Recommendation	Additional Comments
First Floor	Room 10	Floor	Vinyl	S25	NAD	No action required	N/A
Second Floor	Hallway	Ceiling	Textured coating	S26	NAD	No action required	Located in Hallways and Landing
Second Floor	All	Walls	Plaster	S27	NAD	No action required	Skim coat to all walls
Second Floor	Room 24A	Ceiling	Textured coating	S28	NAD	No action required	Different pattern to Hallway T/C and less friable
Second Floor	Room 24	Ceiling	Plaster	S29	NAD	No action required	N/A
Second Floor	Room 29B	Floor	Vinyl	S30	NAD	No action required	N/A
Second Floor	Room 29E	Floor	Vinyl	S31	NAD	No action required	N/A
Roof	Roof	Floor	Fibre glass	S34	NAD	No action required	Top layer
First Floor	External	Pipes	Textile wrap	S35	NAD	No action required	N/A
All	External	Windows	Putty	S36	NAD	No action required	Composite sample from numerous windows
Roof	Roof	Floor	Butynol	S37	NAD	No action required	To parapets
Roof	Roof	Floor	Textile	S38	NAD	No action required	N/A
Ground Floor	External	Walls	Plaster with paint	S40	NAD	No action required	N/A
Ground Floor	External	Lift Control Room walls	Fibre board	S41	NAD	No action required	Internal and external linings
Ground Floor	External	Ground at north end	Fibre board	S43	NAD	No action required	Debris along edge of property.

8 General Recommendations

To comply with, and ensure that, the requirements of the Health and Safety at Work Act 2015, the Health and Safety at Work (Asbestos) Regulations 2016 and all associated guidelines and codes of practice, the following recommendations should be implemented:

- Undertake suitable and sufficient Risk Assessments of identified asbestos containing materials against normal occupation and maintenance operations, in compliance with Section 7.5 of the New Zealand Good Practice Guidelines 'Conducting Asbestos Surveys', October 2016;
- The findings of the survey should be brought to the attention of those persons who are likely to come in contact with asbestos, in compliance with the Health and Safety at Work (Asbestos) Regulations 2016;
- Implement an Asbestos Management Plan and review process in compliance with Section 13 of the Health and Safety at Work (Asbestos) Regulations 2016;
- Instigate regular inspections, to record and update details of retained asbestos containing materials;
- Review the Asbestos Management Plan at least annually (if applicable);
- During the course of the survey it may not have been possible to access all areas of the site. Details of areas requiring further access are identified within the Executive Summary of this report. In accordance with the Health and Safety at Work (Asbestos) Regulations 2016 Section 10, asbestos has been presumed to be present within these areas and should be treated accordingly until further inspection and analysis of building fabric and services proves otherwise;
- Where asbestos debris or asbestos in poor condition has been found, it is recommended that access is restricted and or controlled to these areas;
- If we have identified asbestos materials in poor condition, it is recommended that air monitoring is carried out within a number of areas where asbestos materials have been identified in order to assess airborne fibre levels within adjacent occupied areas in relation to the clearance indicator, as documented in the New Zealand Approved Code of Practice 'Management and Removal of Asbestos', November 2016, amended December 2016;
- All identified asbestos to be appropriately identified and subject to risk assessment, management, and re- inspection; and
- Site specific recommendations in respect to the location and condition of asbestos materials identified during the course of this inspection are detailed in the Survey Results Sheets and Asbestos Register. In considering the management of asbestos materials identified to date, these recommendations should be taken into consideration.

In accordance with the New Zealand Approved Code of Practice 'Management and Removal of Asbestos', November 2016, amended December 2016, the removal of ACMs fall into one of the categories below:

Removal of Non-Friable Asbestos

Non-friable asbestos is asbestos that under ordinary circumstances cannot easily be crumbled.

Non-friable asbestos-containing materials (ACMs) are generally materials where asbestos fibres are bonded in a cement, bituminous or resin matrix.

Non-friable asbestos removal falls into the following categories:

- Under 10m² of non-friable asbestos containing material may be removed by a competent contractor, i.e. someone who has the experience and knowledge of working with asbestos without risk to their own or others' lives even if they do not have a license for restricted work with asbestos. This work does not need to be notified to WorkSafe New Zealand.
- Over 10m² of non-friable asbestos must be removed, at a minimum, by a Class B Licensed asbestos removal contractor. A Class A Licensed asbestos removal contractor is also able to complete all non-friable removals. This work must be notified to WorkSafe New Zealand.

It is recommended that all non-friable asbestos removal or remedial works are completed by a licensed asbestos removal contractor regardless of size.

Removal of Friable Asbestos

Friable asbestos is asbestos that under ordinary conditions can be easily crumbled.

Note: 'Ordinary conditions' implies 'as it is in situ' but this definition has not been legally tested. The 'ordinary condition' of the asbestos can change, e.g. due to age, weathering, fire damage, abrasion, chemical treatment, water-blasting or algae damage.

All friable asbestos and associated asbestos containing dust must only be removed and/or remediated by a Class A licenced asbestos removal contractor. This work must be notified to WorkSafe New Zealand.

Notifiable work in relation to asbestos is "restricted work".

All restricted work must be notified to WorkSafe NZ at least 5 days before the work begins. Evidence of the notification must be kept on site.

The findings of this report should not be solely relied upon in obtaining costs for proposed asbestos removal/remediation work. Any proposed removal of the asbestos should be undertaken against a detailed methodology.

8.1 Site Specific Recommendations

Due to the poor condition of the majority of the internal areas of the building, prior to commencing any removal work it is strongly recommended that an environmental decontamination is undertaken where all miscellaneous mess (documents, rubbish, clothing, some carpets etc.), damaged non-asbestos containing items, needles, human faeces and pigeon droppings are removed and areas cleaned to an acceptable standard in order to reduce any risk to health and safety. This will also reduce the risk of incidents occurring during asbestos removal that may compromise the integrity of the asbestos removal work areas and/or transit routes that could lead to the accidental release of asbestos materials and fibres.

9 Disclaimer and Limitations

This report has been prepared in accordance with the agreement between the Client and SCE.

Within the limitations of the agreed upon scope of services, this work has been undertaken and performed in a professional manner, in accordance with generally accepted practices, using a degree of skill and care ordinarily exercised by members of its profession and consulting practice. No other warranty, expressed or implied, is made.

It should be noted that whilst the surveyor made every effort to examine all materials, we cannot guarantee that all asbestos containing materials have been located. Some materials may well be hidden within the fabric of the building or in other non-accessible areas and may only become known when the building is being demolished.

Internal inspections of plant, machinery, ancillary equipment and fixings were outside the remit of this of this audit. Such items would include:

- Water heaters
- Boilers
- Heating, Ventilation, Air Conditioning (HVAC) systems
- Boxing (pipe boxing, cable chases etc.)
- Sanitary and plumbing wares (incl. Soil pipes).
- Fire doors

- Poured concrete (e.g. concrete slab foundations)

This report is solely for the use of the Client and any reliance on this report by third parties shall be at such party's sole risk and may not contain sufficient information for purposes of other parties or for other uses. This report shall only be presented in full and may not be used to support any other objective than those set out in the report, except where written approval with comments are provided by SC Environmental.

This report relates only to the identification of asbestos containing materials used in the construction of the property and does not include the identification of dangerous goods, or hazardous substances in the form of chemicals used, stored or manufactured with the property or plant.

SC Environmental has taken every practicable action to ensure that the quality and integrity of this report is true to type. However due to the scientific basis of analytical results, SC Environmental does not guarantee the completeness or accuracy of information gathered and presented in this report. The information and knowledge in this report should not be relied on in its entirety. Any commercial decisions made should be done in consultation with other documentation, and advice not purely from this document.

All measurements detailing the extent of materials are approximate only. It is the responsibility of any contractor who wishes to quote for any refurbishment, demolition or removal works to obtain their own measurements and establish the extent of any ACMs prior to tendering.

APPENDIX A: Material Data Sheets

Asbestos Survey Report:	137 Cambridge Terrace, Christchurch Central
Job Reference:	J000107
Prepared For:	Southern Demolition and Salvage Ltd
Client Reference:	N/A

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Ground
Room	Hallway	Location	Subfloor
Sample Number	S06	Extent	60 lm
Item	Pipe lagging	Material	Insulation

MATERIAL ASSESSMENT

Product Type	Thermal insulation, sprayed asbestos, loose asbestos etc	3	Material Score
Extent of Damage	High Damage	3	9
Surface Treatment	Unsealed	2	Risk
Asbestos Type	Chrysotile	1	Medium

Main Photo

Close Up Photo

Recommendation:

Remove prior to refurbishment / demolition works.
 (Class A material)
 Soil also likely to be impacted and will require testing and remediating.

Comments:

Restrict access.
 Pipework located throughout the Subfloor area.

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Ground
Room	Ladies W/C	Location	Fuse board
Sample Number	S08	Extent	1 No.
Item	Flash guard	Material	Textile

MATERIAL ASSESSMENT

Product Type	AIB, millboards, textiles, gaskets, ropes	2	Material Score
Extent of Damage	High Damage	3	8
Surface Treatment	Unsealed	2	Risk
Asbestos Type	Chrysotile	1	Medium

Main Photo



Close Up Photo



Recommendation: Remove prior to refurbishment / demolition works.
(Class A material)

Comments: Restrict access.
A limited number of other units checked and did not contain the material

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Ground
Room	External	Location	Old chimney
Sample Number	S42	Extent	Unknown
Item	Rope	Material	Rope

MATERIAL ASSESSMENT

Product Type	AIB, millboards, textiles, gaskets, ropes	2	Material Score
Extent of Damage	High Damage	3	8
Surface Treatment	Unsealed	2	Risk
Asbestos Type	Chrysotile	1	Medium

Main Photo
Close Up Photo


Recommendation: Remove prior to refurbishment / demolition works.
(Class A material)

Comments: Restrict access.
Quantity unknown due to limited visual access to the chimney, but could be located up the entire height of the chimney.

SURVEY RESULT SHEETS

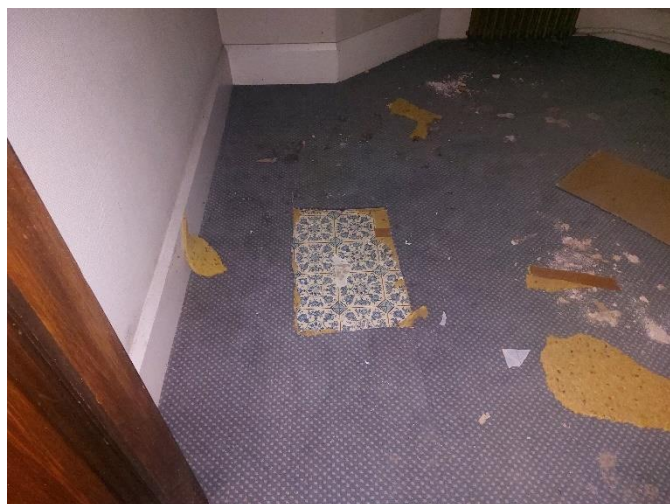
Building	137 Cambridge Terrace	Floor	First
Room	Room 18A	Location	Floor
Sample Number	S19	Extent	12 m ²
Item	Paper backed vinyl floor lining	Material	Paper

MATERIAL ASSESSMENT

Product Type	AIB, millboards, textiles, gaskets, ropes	2	Material Score
Extent of Damage	Medium Damage	2	6
Surface Treatment	Enclosed	1	Risk
Asbestos Type	Chrysotile	1	Low

Main Photo

Close Up Photo



Recommendation: Remove prior to refurbishment / demolition works. (Class A material)

Comments: Blue and white vinyl

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	First
Room	Room 18B	Location	Floor
Sample Number	S20	Extent	16 m ²
Item	Paper backed vinyl floor lining	Material	Paper

MATERIAL ASSESSMENT

Product Type	AIB, millboards, textiles, gaskets, ropes	2	Material Score
Extent of Damage	Medium Damage	2	6
Surface Treatment	Enclosed	1	Risk
Asbestos Type	Chrysotile	1	Low

Main Photo

Close Up Photo


Recommendation: Remove prior to refurbishment / demolition works. (Class A material)

Comments: Brown vinyl

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	First
Room	Room 18B	Location	Floor
Sample Number	S21	Extent	2 m ²
Item	Paper backed vinyl floor lining	Material	Paper

MATERIAL ASSESSMENT

Product Type	AIB, millboards, textiles, gaskets, ropes	2	Material Score
Extent of Damage	Medium Damage	2	6
Surface Treatment	Enclosed	1	Risk
Asbestos Type	Chrysotile	1	Low

Main Photo

Close Up Photo


Recommendation: Remove prior to refurbishment / demolition works. (Class A material)

Comments: Small area next to S20 paper backed vinyl floor lining

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	First
Room	Room 18B	Location	Floor
Sample Number	S22	Extent	10 m ²
Item	Paper backed vinyl floor lining	Material	Paper

MATERIAL ASSESSMENT

Product Type	AIB, millboards, textiles, gaskets, ropes	2	Material Score
Extent of Damage	Medium Damage	2	6
Surface Treatment	Enclosed	1	Risk
Asbestos Type	Chrysotile	1	Low

Main Photo

Close Up Photo


Recommendation: Remove prior to refurbishment / demolition works. (Class A material)

Comments: Brown patterned vinyl underneath newer grey vinyl

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Ground
Room	Hallway	Location	Doorways
Sample Number	S03	Extent	12 lm
Item	Infill panels	Material	Cement sheet

MATERIAL ASSESSMENT

Product Type	Asbestos reinforced composites	1	Material Score
Extent of Damage	Low Damage	1	5
Surface Treatment	Enclosed	1	Risk
Asbestos Type	Amosite	2	Low

Main Photo
Close Up

Recommendation:

Remove prior to refurbishment / demolition works.
(Class B material)

Comments:

Located around 2 x doorways leading to lobby area, and on both sides.

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Ground
Room	Ladies W/C	Location	Fuse board
Sample Number	P01	Extent	Multiple
Item	Flash guards	Material	Textile

MATERIAL ASSESSMENT

Product Type	AIB, millboards, textiles, gaskets, ropes	2	Material Score
Extent of Damage	Low Damage	1	5
Surface Treatment	Enclosed	1	Risk
Asbestos Type	Presumed Chrysotile	1	Low

Main Photo



Recommendation: Remove prior to refurbishment / demolition works.
(Class B material)

Comments: Presumed to be within all porcelain fuse holders

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Ground
Room	Room 1A	Location	Floor
Sample Number	S09	Extent	10 m ²
Item	Floor lining	Material	Paper

MATERIAL ASSESSMENT

Product Type	AIB, millboards, textiles, gaskets, ropes	2	Material Score
Extent of Damage	Low Damage	1	5
Surface Treatment	Enclosed	1	Risk
Asbestos Type	Presumed Chrysotile	1	Low

Main Photo
Close Up Photo


Recommendation: Remove prior to refurbishment / demolition works.
(Class A material)

Comments: Grey paper/felt beneath carpet, underlay and lino layers

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Ground
Room	Room 2B	Location	Floor
Sample Number	S12	Extent	6 m ²
Item	Floor lining	Material	Paper

MATERIAL ASSESSMENT

Product Type	AIB, millboards, textiles, gaskets, ropes	2	Material Score
Extent of Damage	Low Damage	1	5
Surface Treatment	Enclosed	1	Risk
Asbestos Type	Presumed Chrysotile	1	Low

Main Photo



Close Up Photo



Recommendation:

Remove prior to refurbishment / demolition works.
(Class A material)

Comments:

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	First
Room	Landing	Location	Doorways
Sample Number	SP01	Extent	12 lm
Item	Infill panels	Material	Cement sheet

MATERIAL ASSESSMENT

Product Type	Asbestos reinforced composites	1	Material Score
Extent of Damage	Low Damage	1	5
Surface Treatment	Enclosed	1	Risk
Asbestos Type	Presumed Amosite	2	Low

Main Photo

Close Up Photo



Recommendation:

Remove prior to refurbishment / demolition works.
(Class B material)

Comments:

As per S03
Located around 2 x doorways leading to lobby area

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	First
Room	Rooms 12A, B & C	Location	Floor
Sample Number	S24	Extent	55 m ²
Item	Floor lining	Material	Paper

MATERIAL ASSESSMENT

Product Type	AIB, millboards, textiles, gaskets, ropes	2	Material Score
Extent of Damage	Low Damage	1	5
Surface Treatment	Enclosed	1	Risk
Asbestos Type	Chrysotile	1	Low

Main Photo



Close Up Photo



Recommendation:

Remove prior to refurbishment / demolition works.
(Class A material)

Comments:

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Second
Room	Landing	Location	Doorways
Sample Number	SP01	Extent	12 lm
Item	Infill panels	Material	Cement sheet

MATERIAL ASSESSMENT

Product Type	Asbestos reinforced composites	1	Material Score
Extent of Damage	Low Damage	1	5
Surface Treatment	Enclosed	1	Risk
Asbestos Type	Presumed Amosite	2	Low

Photo

Photo



Recommendation: Remove prior to refurbishment / demolition works. (Class B material)

Comments: As per S03
Located around 2 x doorways leading to lobby area

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Second
Room	Room 21	Location	Floor
Sample Number	S33	Extent	20 m ²
Item	Floor lining	Material	Bituminous paper

MATERIAL ASSESSMENT

Product Type	AIB, millboards, textiles, gaskets, ropes	2	Material Score
Extent of Damage	Low Damage	1	5
Surface Treatment	Enclosed	1	Risk
Asbestos Type	Chrysotile	1	Low

Main Photo
Close Up Photo


Recommendation: Remove prior to refurbishment / demolition works.
(Class B material)

Comments: Loose rolls and under carpet

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Second
Room	Room 21	Location	Doorways
Sample Number	S32	Extent	3 m ²
Item	Wall panels	Material	Cement sheet

MATERIAL ASSESSMENT

Product Type	Asbestos reinforced composites	1	Material Score
Extent of Damage	Low Damage	1	4
Surface Treatment	Enclosed	1	Risk
Asbestos Type	Chrysotile	1	Very Low

Main Photo



Close Up Photo



Recommendation: Remove prior to refurbishment / demolition works.
(Class B material)

Comments: Floor to ceiling panels behind plaster

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Ground
Room	Entrance	Location	Floor
Sample Number	P05	Extent	2 No.
Item	Waste items	Material	Paper

MATERIAL ASSESSMENT

Product Type	Asbestos reinforced composites	1	Material Score
Extent of Damage	Good condition	0	4
Surface Treatment	Enclosed	1	Risk
Asbestos Type	Presumed Amosite	2	Very Low

Main Photo

Close Up Photo



Recommendation: Remove prior to refurbishment / demolition works. (Class B material)

Comments: Waste bags with used PPE

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	External
Room	Roof	Location	Roof
Sample Number	S39	Extent	400 m ²
Item	Lining	Material	Bitumen

MATERIAL ASSESSMENT

Product Type	Asbestos reinforced composites	1	Material Score
Extent of Damage	Low Damage	1	3
Surface Treatment	Composite	0	Risk
Asbestos Type	Chrysotile	1	Very Low

Main Photo



Recommendation: Remove prior to refurbishment / demolition works.
(Class B material)

Comments: To southern section of roof, underneath top layers and applied to concrete

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	All
Room	External	Location	Windows
Sample Number	P02	Extent	> 100m ²
Item	Sealant	Material	Mastic

MATERIAL ASSESSMENT

Product Type	Asbestos reinforced composites	1	Material Score
Extent of Damage	Low Damage	1	3
Surface Treatment	Composite	0	Risk
Asbestos Type	Presumed Chrysotile	1	Very Low

Main Photo

Close Up Photo



Recommendation: Further investigation required.

Comments: Material potentially located between metal framed windows and concrete walls

SURVEY RESULT SHEETS

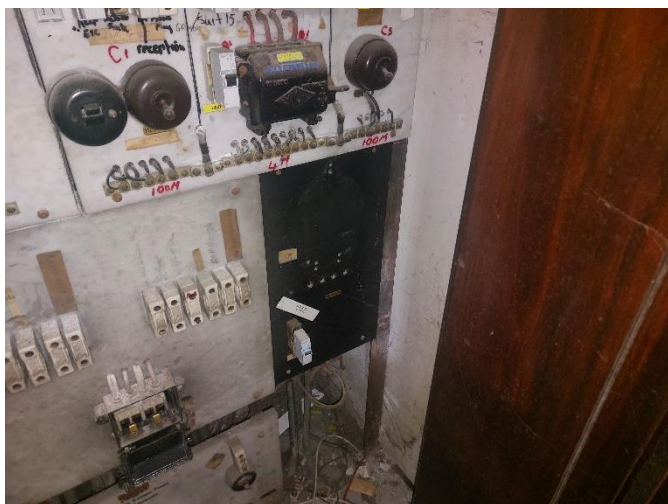
Building	137 Cambridge Terrace	Floor	First
Room	Hallway	Location	Cupboard
Sample Number	P03	Extent	2 No.
Item	Fuse board	Material	Thermoplastic

MATERIAL ASSESSMENT

Product Type	Asbestos reinforced composites	1	Material Score
Extent of Damage	Low Damage	1	3
Surface Treatment	Composite	0	Risk
Asbestos Type	Presumed Chrysotile	1	Very Low

Main Photo

Close Up Photo



Recommendation:

Remove prior to refurbishment / demolition works.
(Class B material)

Comments:

Two units, one in each cupboard.

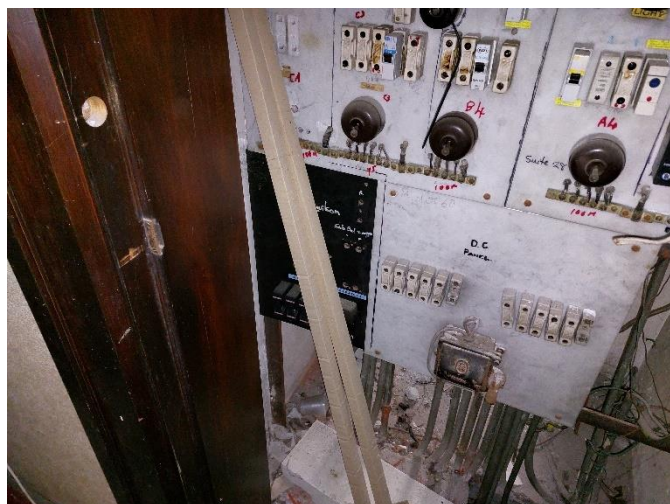
SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Second
Room	Hallway	Location	Cupboard
Sample Number	P04	Extent	2 No.
Item	Fuse board	Material	Thermoplastic

MATERIAL ASSESSMENT

Product Type	Asbestos reinforced composites	1	Material Score
Extent of Damage	Low Damage	1	3
Surface Treatment	Composite	0	Risk
Asbestos Type	Presumed Chrysotile	1	Very Low

Main Photo



Close Up Photo



Recommendation: Remove prior to refurbishment / demolition works.
(Class B material)

Comments: Two units, one in each cupboard.

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Ground
Room	Throughout	Location	Walls
Sample Number	S01	Extent	N/A
Item	Plaster	Material	Plaster

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo
Close Up Photo

Recommendation: No action required

Comments: Lath & plaster. Sample includes skim coat

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Ground
Room	Hallway	Location	Ceiling
Sample Number	S02	Extent	N/A
Item	Coating	Material	Textured coating

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo
Close Up Photo

Recommendation: No action required

Comments: Coating to softboard panels. Located in Hallways and Lobby area.

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Ground
Room	Room 8	Location	Floor
Sample Number	S04	Extent	N/A
Item	Floor lining	Material	Bitumen

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo
Close Up Photo

Recommendation: No action required

Comments: Green vinyl

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Ground
Room	Hallway	Location	Floor hatch
Sample Number	S05	Extent	N/A
Item	Lining	Material	Vinyl

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo
Close Up Photo

Recommendation: No action required

Comments: Floor hatch to Subfloor

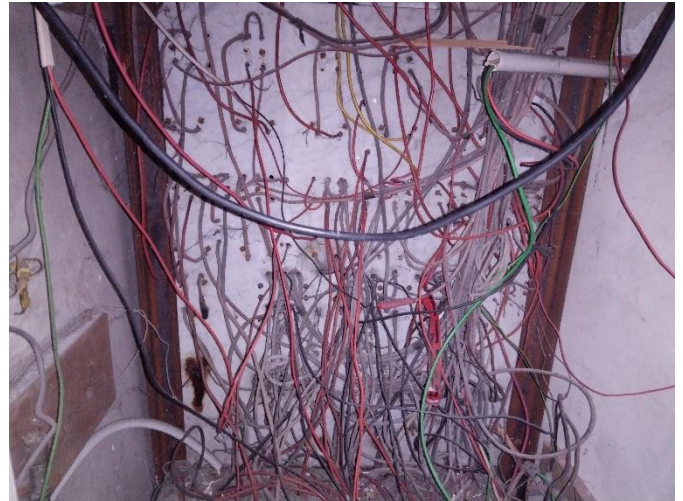
SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Ground
Room	Ladies W/C	Location	Fuse board
Sample Number	S07	Extent	N/A
Item	Wiring	Material	Textile

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo

Close Up Photo

Recommendation: No action required

Comments: Wiring

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Ground
Room	Room 1A	Location	Floor
Sample Number	S10	Extent	N/A
Item	Floor lining	Material	Vinyl

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo
Close Up Photo


Recommendation: No action required

Comments: Red colour with hessian backing on top of positive paper/felt backing. Green coloured material also observed.

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Ground
Room	Hallway	Location	Floor
Sample Number	S11	Extent	N/A
Item	Lining	Material	Bitumen

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo
Close Up Photo


Recommendation: No action required

Comments: Beneath underlay on ply

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	First
Room	Landing	Location	Floor
Sample Number	S13	Extent	N/A
Item	Lining	Material	Bitumen & vinyl

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo
Close Up Photo

Recommendation: No action required

Comments: N/A

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	First
Room	Hallway	Location	Ceiling
Sample Number	S14	Extent	N/A
Item	Coating	Material	Textured coating

MATERIAL ASSESSMENT

Product Type	N/A	Material Score	
Extent of Damage	N/A		N/A
Surface Treatment	N/A	Risk	
Asbestos Type	No Asbestos Detected		N/A

Main Photo
Close Up Photo

Recommendation: No action required

Comments: Located in Hallways and Landing

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	First
Room	All	Location	Walls
Sample Number	S15	Extent	N/A
Item	Plaster	Material	Plaster

MATERIAL ASSESSMENT

Product Type	N/A	Material Score	N/A
Extent of Damage	N/A	Risk	N/A
Surface Treatment	N/A	Asbestos Type	No Asbestos Detected

Main Photo
Close Up Photo


Recommendation: No action required

Comments: Skim coat to all walls

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	First
Room	Hallway	Location	Ceiling tiles
Sample Number	S16	Extent	N/A
Item	Dust	Material	Dust

MATERIAL ASSESSMENT

Product Type	N/A	Material Score	
Extent of Damage	N/A		N/A
Surface Treatment	N/A	Risk	
Asbestos Type	No Asbestos Detected		N/A

Main Photo

Close Up Photo



Recommendation: No action required

Comments: Material to top side of softboard tiles

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	First
Room	Room 15	Location	Ceiling void
Sample Number	S17	Extent	N/A
Item	Building paper	Material	Bituminous paper

MATERIAL ASSESSMENT

Product Type	N/A	Material Score	N/A
Extent of Damage	N/A	Risk	N/A
Surface Treatment	N/A	Asbestos Type	No Asbestos Detected

Main Photo
Close Up Photo

Recommendation: No action required

Comments: Sample collected from accessible floor, walls, ledges, and fixtures.

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	First
Room	All	Location	Walls
Sample Number	S18	Extent	N/A
Item	Plaster	Material	Plaster

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo
Close Up Photo

Recommendation: No action required

Comments: Older, grey lath & plaster type plaster.

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	First
Room	Room 14	Location	Ceiling
Sample Number	S23	Extent	N/A
Item	Coating	Material	Plaster

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo
Close Up Photo


Recommendation: No action required

Comments: Skim coat

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	First
Room	Room 10	Location	Floor
Sample Number	S25	Extent	N/A
Item	Floor lining	Material	Vinyl

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo

Close Up Photo

Recommendation: No action required

Comments: N/A

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Second
Room	Hallway	Location	Ceiling
Sample Number	S26	Extent	N/A
Item	Coating	Material	Textured coating

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo
Close Up Photo


Recommendation:	No action required
Comments:	Located in Hallways and Landing

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Second
Room	All	Location	Walls
Sample Number	S27	Extent	N/A
Item	Plaster	Material	Plaster

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo
Close Up Photo


Recommendation: No action required

Comments: Skim coat to all walls

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Second
Room	Room 24A	Location	Ceiling
Sample Number	S28	Extent	N/A
Item	Coating	Material	Textured coating

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo
Close Up Photo


Recommendation: No action required

Comments: Different pattern to Hallway T/C and less friable

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Second
Room	Room 24	Location	Ceiling
Sample Number	S29	Extent	N/A
Item	Coating	Material	Plaster

MATERIAL ASSESSMENT

Product Type	N/A	Material Score	
Extent of Damage	N/A		N/A
Surface Treatment	N/A	Risk	
Asbestos Type	No Asbestos Detected		N/A

Main Photo
Close Up Photo

Recommendation: No action required

Comments: Sample collected from accessible floor, walls, ledges, and fixtures.

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Second
Room	Room 29B	Location	Floor
Sample Number	S30	Extent	N/A
Item	Floor lining	Material	Vinyl

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo
Close Up Photo

Recommendation: No action required

Comments: N/A

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Second
Room	Room 29B	Location	Floor
Sample Number	S31	Extent	N/A
Item	Floor lining	Material	Vinyl

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo
Close Up Photo

Recommendation: No action required

Comments: N/A

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Roof
Room	Roof	Location	Floor
Sample Number	S34	Extent	N/A
Item	Lining	Material	Fibre glass

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo
Close Up Photo


Recommendation: No action required

Comments: Top layer

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	First
Room	External	Location	Pipework
Sample Number	S35	Extent	N/A
Item	Lagging	Material	Textile

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo
Close Up Photo

No photo available

Recommendation: No action required

Comments: N/A

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	All
Room	External	Location	Windows
Sample Number	S36	Extent	N/A
Item	Putty	Material	Putty

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo
Close Up Photo

Recommendation: No action required

Comments: Composite sample from numerous windows

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Roof
Room	Roof	Location	Floor
Sample Number	S37	Extent	N/A
Item	Lining	Material	Butynol

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo
Close Up Photo


Recommendation: No action required

Comments: To parapets

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Roof
Room	Roof	Location	Floor
Sample Number	S38	Extent	N/A
Item	Lining	Material	Textile

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo
Close Up Photo

No photo available

Recommendation: No action required

Comments: Mid layer

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Ground
Room	External	Location	Walls
Sample Number	S40	Extent	N/A
Item	Plaster	Material	Plaster

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo
Close Up Photo


Recommendation:	No action required
Comments:	N/A

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Ground
Room	External	Location	Lift Control Room walls
Sample Number	S41	Extent	N/A
Item	Linings	Material	Fibre board

MATERIAL ASSESSMENT

Product Type	N/A	Material Score	
Extent of Damage	N/A		N/A
Surface Treatment	N/A	Risk	
Asbestos Type	No Asbestos Detected		N/A

Main Photo
Close Up Photo

Recommendation: No action required

Comments: Internal and external linings

SURVEY RESULT SHEETS

Building	137 Cambridge Terrace	Floor	Ground
Room	External	Location	Ground at north end
Sample Number	S41	Extent	N/A
Item	Debris	Material	Fibre board

MATERIAL ASSESSMENT

Product Type	N/A	Material Score
Extent of Damage	N/A	N/A
Surface Treatment	N/A	Risk
Asbestos Type	No Asbestos Detected	N/A

Main Photo
Close Up Photo

Recommendation: No action required

Comments: Debris along edge of property.

APPENDIX B: Site Photos

Asbestos Refurbishment Survey Report:	137 Cambridge Terrace, Christchurch Central
Job Reference:	J000107
Prepared For:	Southern Demolition and Salvage Ltd
Client Reference:	N/A



Photo 1: Entrance – no suspect materials



Photo 2: Subfloor



Photo 3: Subfloor – Lagged pipes



Photo 4: Example of space above ceiling panels

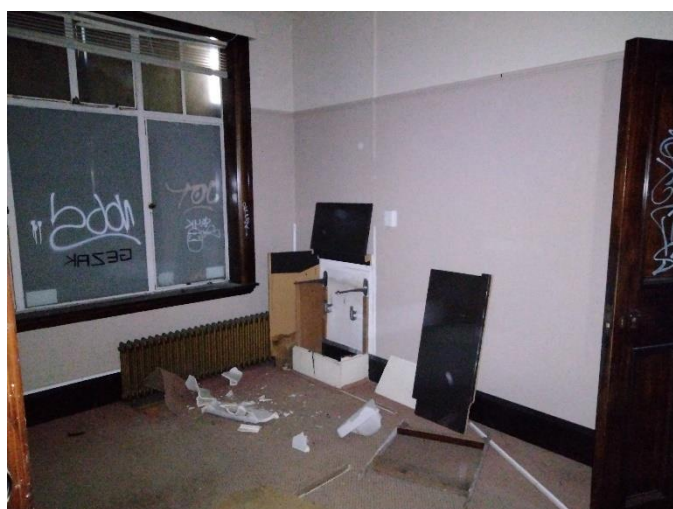


Photo 5: Evidence of condition – Room 7



Photo 6: Evidence of condition – Room 8



Photo 7: Evidence of condition – Room 5



Photo 8: Evidence of condition – Room 9



Photo 9: Evidence of condition – Room 9



Photo 10: Flooded Basement



Photo 11: Evidence of condition – Room 3



Photo 12: Evidence of condition – Fire damaged parts of Room 1



Photo 13: Evidence of condition – Fire damaged parts of Room 1



Photo 14: Limited access to Subfloor in Room 2



Photo 15: Evidence of condition – Ground Floor Lobby



Photo 16: Evidence of condition – First Floor Hallway



Photo 17: Evidence of condition – Room 20



Photo 18: Evidence of condition – First Floor Ladies W/C



Photo 19: Evidence of condition – Room 19



Photo 20: Evidence of condition – Second Floor Hallway



Photo 21: Evidence of condition – Floor space in Room 29



Photo 22: Evidence of condition –Room 30



Photo 23: Evidence of condition – Room 30 ceilings



Photo 24: Evidence of condition – Vent to wall



Photo 25: Evidence of condition - Flue within wall in Room 21



Photo 26: Evidence of condition - Water tanks on roof



Photo 27: Evidence of condition - Roof to northern section of building



Photo 28: Evidence of condition - Top of lift shaft

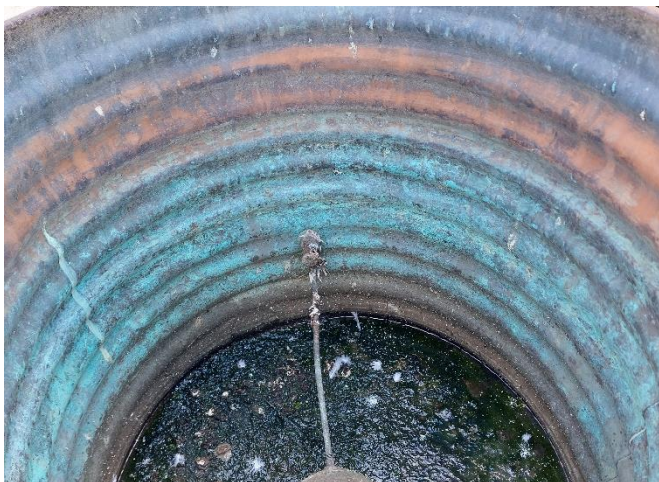


Photo 29: Evidence of condition - Inside of water tank



Photo 30: Evidence of condition - Roof to northern section of building



Photo 31: Evidence of condition – Roof to northern section of building



Photo 20: Evidence of condition – Water tank

APPENDIX C: Laboratory Report

Asbestos Refurbishment Survey Report:	137 Cambridge Terrace, Christchurch Central
Job Reference:	J000107
Prepared For:	Southern Demolition and Salvage Ltd
Client Reference:	N/A



Version Number: 9

Date Issued: Oct 2021

Authorised By: LB

Controlled Document

Client Name:	SC Environmental	Job Number:	T010727	Total Samples Received:	43
Client Address:	243 Rangiora Leithfield Road, Sefton	Site Reference / Address:	137 Cambridge Terrace	Date Received:	25/08/2023
Client Reference:	J000107			Date Analysed:	28-30/08/2023
Client Contact:	Stu Cole			Date Reported:	30/08/2023

ASBESTOS ANALYSIS REPORT

Laboratory Sample Number	Client Sample Number	General Description	Results	Comments
T010727.1	S01	GF walls, Lath and plaster	Organic Fibres	No Asbestos Detected QA/QC Reviewed
		Multicoloured painted brown fibrous material with plaster and grey course particulate attached		
		Sample Weight (g): 97.19		
T010727.2	S02	GF hallway ceiling, T/C	Organic Fibres	No Asbestos Detected QA/QC Reviewed
		Off-white painted decorative coating with brown fibrous material attached		
		Sample Weight (g): 43.73		
T010727.3	S03	GF Hallway, Cement sheet	Amosite (Brown Asbestos) Organic Fibres	QA/QC Reviewed
		Unpainted compressed board		
		Sample Weight (g): 14.90		
T010727.4	S04	GF room 8 floor, Vinyl	Organic Fibres	No Asbestos Detected
		Green vinyl sheeting		
		Sample Weight (g): 6.01		
T010727.5	S05	GF hallway floor, Lino	Organic Fibres	No Asbestos Detected
		Brown vinyl sheeting		
		Black rubber backing		
		Sample Weight (g): 22.77		
T010727.6	S06	Subfloor pipes, Lagging	Chrysotile (White Asbestos) Organic Fibres	
		Brown and white fibrous material		
		Sample Weight (g): 10.29		



Version Number: 9

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Controlled Document

Client Name:	SC Environmental	Job Number:	T010727	Total Samples Received:	43
Client Address:	243 Rangiora Leithfield Road, Sefton	Site Reference / Address:	137 Cambridge Terrace	Date Received:	25/08/2023
Client Reference:	J000107			Date Analysed:	28-30/08/2023
Client Contact:	Stu Cole			Date Reported:	30/08/2023
T010727.7	S07	GF fuse board cupboard, wiring, Textile		Organic Fibres	No Asbestos Detected QA/QC Reviewed
		Red fibrous material with brown particulate attached			
		Black rubber material			
		Metal wire			
		Sample Weight (g):	8.73		
T010727.8	S08	GF fuse board cupboard, flash guard, Paper		Chrysotile (White Asbestos) Organic Fibres	
		White fibrous material			
		Sample Weight (g):	4.48		
T010727.9	S09	GF room 1A floor, Paper/felt		Chrysotile (White Asbestos) Organic Fibres	
		Grey and pink fibrous material			
		Sample Weight (g):	18.54		
T010727.10	S10	GF room 1A floor, Lino		Organic Fibres	No Asbestos Detected QA/QC Reviewed
		Red vinyl tile with hessian material and red adhesive attached			
		Sample Weight (g):	10.51		
T010727.11	S11	GF hallway floor, Bitumen		Organic Fibres	No Asbestos Detected QA/QC Reviewed
		Unpainted compressed board with black bituminous material and yellow particulate attached			
		Sample Weight (g):	20.82		
T010727.12	S12	GF room 2B floor, Paper backed vinyl		Chrysotile (White Asbestos) Organic Fibres Synthetic Mineral Fibres	
		Green vinyl sheeting with hessian material and grey fibrous material attached			
		Sample Weight (g):	19.93		
T010727.13	S13	L1 landing floor, Bituminous backing to lino		Organic Fibres	No Asbestos Detected QA/QC Reviewed
		Black bituminous material with brown fibrous material attached			
		Brown vinyl tile with hessian material and red adhesive attached			
		Sample Weight (g):	26.74		



Version Number: 9

Date Issued: Oct 2021

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Controlled Document

Client Name:	SC Environmental	Job Number:	T010727	Total Samples Received:	43
Client Address:	243 Rangiora Leithfield Road, Sefton	Site Reference / Address:	137 Cambridge Terrace	Date Received:	25/08/2023
Client Reference:	J000107			Date Analysed:	28-30/08/2023
Client Contact:	Stu Cole			Date Reported:	30/08/2023
T010727.14	S14	L1 hallway ceiling, T/C		Organic Fibres	No Asbestos Detected QA/QC Reviewed
		Off-white painted decorative coating with brown fibrous material attached			
		Sample Weight (g):	30.60		
T010727.15	S15	L1 walls, Plaster		Organic Fibres	No Asbestos Detected
		White painted brown fibrous material and plaster			
		Sample Weight (g):	29.48		
T010727.16	S16	L1 hallway ceiling tiles, Soft board backing		Organic Fibres	No Asbestos Detected QA/QC Reviewed
		Brown fibrous material			
		Sample Weight (g):	5.59		
T010727.17	S17	L1 room 15 ceiling void, Bituminous paper		Organic Fibres	No Asbestos Detected QA/QC Reviewed
		Black bituminous material			
		Sample Weight (g):	9.26		
T010727.18	S18	L1 walls, Plaster		Organic Fibres	No Asbestos Detected
		Multicoloured painted plaster with grey coarse particulate attached			
		Sample Weight (g):	58.13		
T010727.19	S19	L1 room 18A floor, Paper backed vinyl		Chrysotile (White Asbestos) Organic Fibres	Chrysotile Detected in Paper Backing
		Off-white patterned vinyl sheeting			
		White vinyl inner			
		Grey paper backing with adhesive attached			
		Sample Weight (g):	6.96		



Version Number: 9

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Controlled Document

Client Name:	SC Environmental	Job Number:	T010727	Total Samples Received:	43
Client Address:	243 Rangiora Leithfield Road, Sefton	Site Reference / Address:	137 Cambridge Terrace	Date Received:	25/08/2023
Client Reference:	J000107			Date Analysed:	28-30/08/2023
Client Contact:	Stu Cole			Date Reported:	30/08/2023
T010727.20	S20	L1 room 18B floor, Paper backed vinyl		Chrysotile (White Asbestos) Organic Fibres	Chrysotile Detected in Paper Backing
		Beige patterned vinyl sheeting			
		White vinyl inner			
		Grey paper backing with adhesive attached			
		Sample Weight (g):	20.41		
T010727.21	S21	L1 room 18C floor, Paper backed vinyl		Chrysotile (White Asbestos) Organic Fibres	Chrysotile Detected in Paper Backing
		Brown patterned vinyl sheeting			
		Grey paper backing with adhesive attached			
		Sample Weight (g):	22.32		
T010727.22	S22	L1 room 18D floor, Paper backed vinyl		Chrysotile (White Asbestos) Organic Fibres	Chrysotile Detected in Paper Backing
		Brown patterned vinyl sheeting with grey coarse particulate and amber adhesive attached			
		White vinyl inner			
		Grey paper backing with adhesive attached			
		Sample Weight (g):	8.13		
T010727.23	S23	L1 room 14 ceiling, Plaster		Organic Fibres	No Asbestos Detected QA/QC Reviewed
		White painted plaster			
		Sample Weight (g):	46.24		
T010727.24	S24	L1 room 12C floor, Paper		Chrysotile (White Asbestos) Organic Fibres	Chrysotile Detected in Paper Backing
		Brown patterned vinyl sheeting			
		White vinyl inner			
		Grey paper backing with adhesive attached			
		Sample Weight (g):	13.74		



Version Number: 9

Date Issued: Oct 2021

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Controlled Document

Client Name:	SC Environmental	Job Number:	T010727	Total Samples Received:	43
Client Address:	243 Rangiora Leithfield Road, Sefton	Site Reference / Address:	137 Cambridge Terrace	Date Received:	25/08/2023
Client Reference:	J000107			Date Analysed:	28-30/08/2023
Client Contact:	Stu Cole			Date Reported:	30/08/2023
T010727.25	S25	L1 room 10 floor, Vinyl		Organic Fibres	No Asbestos Detected
		Beige patterned vinyl sheeting			
		White vinyl inner with brown fibrous material attached			
		Sample Weight (g):	25.44		
T010727.26	S26	L2 hallway ceiling, T/C		Organic Fibres	No Asbestos Detected QA/QC Reviewed
		White painted decorative coating with brown fibrous material attached			
		Sample Weight (g):	37.15		
T010727.27	S27	L2 walls, Plaster		Organic Fibres	No Asbestos Detected
		Off-white painted brown fibrous material with plaster and grey coarse particulate attached			
		Sample Weight (g):	70.82		
T010727.28	S28	L2 room 24A ceiling, T/C		Organic Fibres	No Asbestos Detected QA/QC Reviewed
		Off-white painted decorative coating with brown fibrous material attached			
		Sample Weight (g):	21.31		
T010727.29	S29	L2 room 24 ceiling, Plaster		Organic Fibres	No Asbestos Detected QA/QC Reviewed
		White painted plaster with brown fibrous material and white particulate attached			
		Sample Weight (g):	14.98		
T010727.30	S30	L2 room 29B floor, Vinyl		Organic Fibres Synthetic Mineral Fibres	No Asbestos Detected QA/QC Reviewed
		Brown patterned vinyl sheeting			
		Grey vinyl inner			
		Sample Weight (g):	17.62		
T010727.31	S31	L2 room 29E floor, Lino and backing		Organic Fibres	No Asbestos Detected QA/QC Reviewed
		Off-white vinyl tile with hessian material and amber adhesive attached			
		Sample Weight (g):	39.72		



Version Number: 9

Date Issued: Oct 2021

Authorised By: LB

Controlled Document

Client Name:	SC Environmental	Job Number:	T010727	Total Samples Received:	43
Client Address:	243 Rangiora Leithfield Road, Sefton	Site Reference / Address:	137 Cambridge Terrace	Date Received:	25/08/2023
Client Reference:	J000107			Date Analysed:	28-30/08/2023
Client Contact:	Stu Cole			Date Reported:	30/08/2023
T010727.32	S32	L2 room 21 wall, Cement sheet		Chrysotile (White Asbestos) Organic Fibres	
		Unpainted cement			
		Sample Weight (g):	49.63		
T010727.33	S33	L2 room 21 floor, Bituminous paper		Chrysotile (White Asbestos) Organic Fibres	
		Black bituminous material			
		Sample Weight (g):	13.08		
T010727.34	S34	Roof lining, Fibre glass		Organic Fibres Synthetic Mineral Fibres	No Asbestos Detected QA/QC Reviewed
		Grey fibre glass material with debris attached			
		Sample Weight (g):	10.20		
T010727.35	S35	L1 external pipe, Textile		Organic Fibres Synthetic Mineral Fibres	No Asbestos Detected QA/QC Reviewed
		Woven fibrous material with amber adhesive and black particulate attached			
		Sample Weight (g):	29.96		
T010727.36	S36	External windows, Putty		Organic Fibres	No Asbestos Detected
		Off-white painted putty			
		Sample Weight (g):	28.48		
T010727.37	S37	Roof lining, Butynol		Organic Fibres Synthetic Mineral Fibres	No Asbestos Detected QA/QC Reviewed
		Grey painted silver coating attached to rubber material			
		Sample Weight (g):	7.45		
T010727.38	S38	Roof lining, Textile		Organic Fibres Synthetic Mineral Fibres	No Asbestos Detected QA/QC Reviewed
		Black bituminous material with woven fibrous material attached			
		Sample Weight (g):	5.53		



Version Number: 9		Date Issued: Oct 2021		Authorised By: LB		Controlled Document	
Client Name:	SC Environmental	Job Number:	T010727	Total Samples Received:	43		
Client Address:	243 Rangiora Leithfield Road, Sefton	Site Reference / Address:	137 Cambridge Terrace	Date Received:	25/08/2023		
Client Reference:	J000107			Date Analysed:	28-30/08/2023		
Client Contact:	Stu Cole			Date Reported:	30/08/2023		
T010727.39	S39	Roof lining, Bitumen		Chrysotile (White Asbestos) Organic Fibres			
		Black bituminous material with silver particulate attached					
		Sample Weight (g):	8.14				
T010727.40	S40	External walls, Paster		Organic Fibres			No Asbestos Detected QA/QC Reviewed
		Off-white painted plaster with grey coarse particulate attached					
		Sample Weight (g):	16.56				
T010727.41	S41	External lift motor room, Cement sheet		Organic Fibres Synthetic Mineral Fibres			No Asbestos Detected QA/QC Reviewed
		White and unpainted compressed board with debris attached					
		Sample Weight (g):	68.14				
T010727.42	S42	External GF chimney, Rope		Chrysotile (White Asbestos) Organic Fibres			
		Brown fibrous material with black particulate attached					
		Sample Weight (g):	12.26				
T010727.43	S43	External GF debris, Cement sheet		Organic Fibres Synthetic Mineral Fibres			No Asbestos Detected QA/QC Reviewed
		Dirt-covered unpainted compressed board					
		Sample Weight (g):	15.78				

Method References and Disclaimers

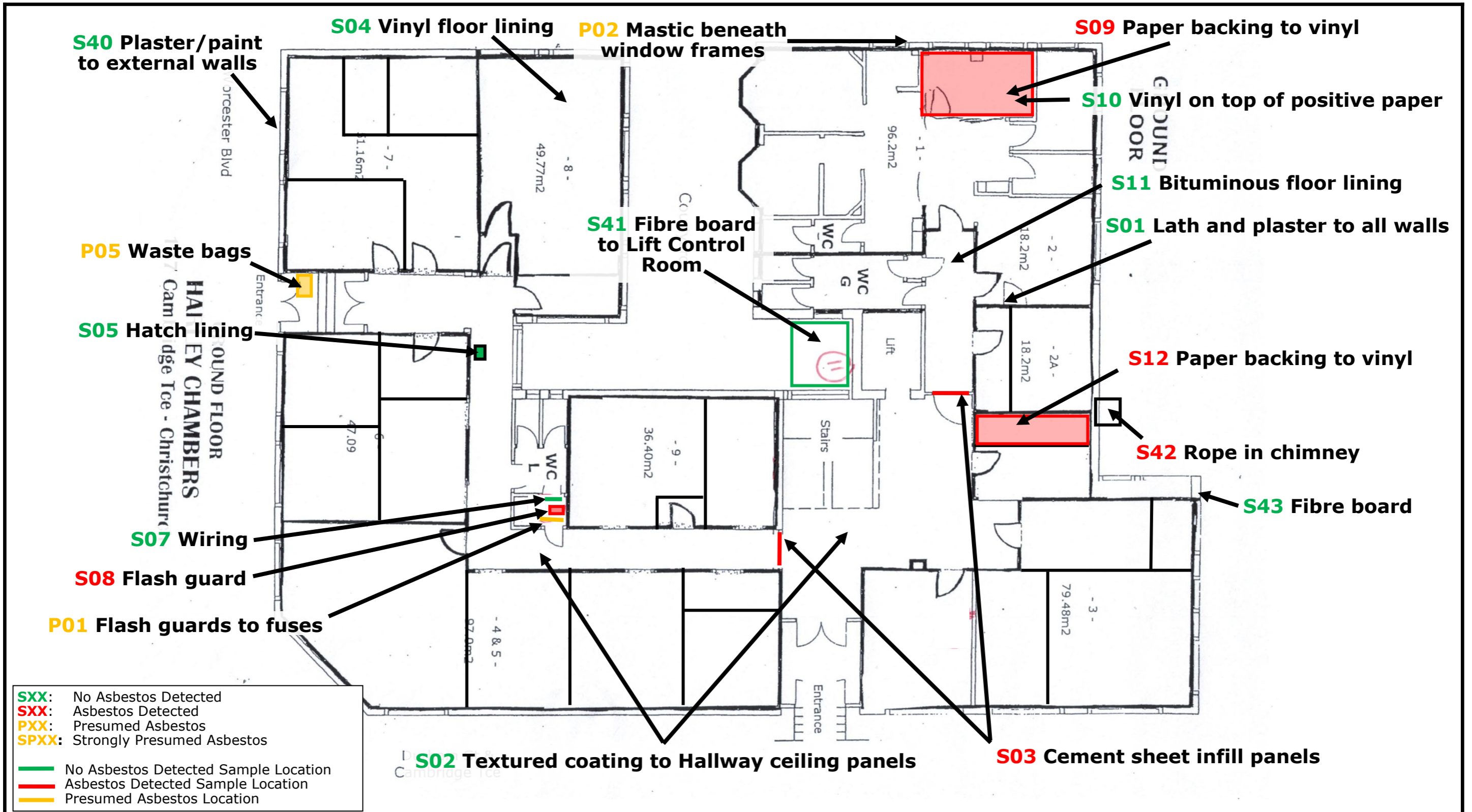
Samples were analysed in accordance with: AS4964-2004 Australian Standard - Method for Qualitative Identification of Asbestos in Bulk Samples
 Samples are reported 'As Received'. Terra Scientific takes no responsibility for sampling processes, client sample descriptions and sample locations as these were provided by the client.
 Disclaimers: The results presented in this report relate specifically to the samples submitted for this job.
 The detection limit is 0.1g/1kg as stated in the AS4964-2004.
 This report shall not be reproduced, except in full, without the written consent of the Key Technical Person assigned to this report.

For any queries regarding this report, please do not hesitate to contact the laboratory and speak with the Key Technical Person.

Jessica Griffin
Managing Director
Key Technical Person

APPENDIX D: Site Map

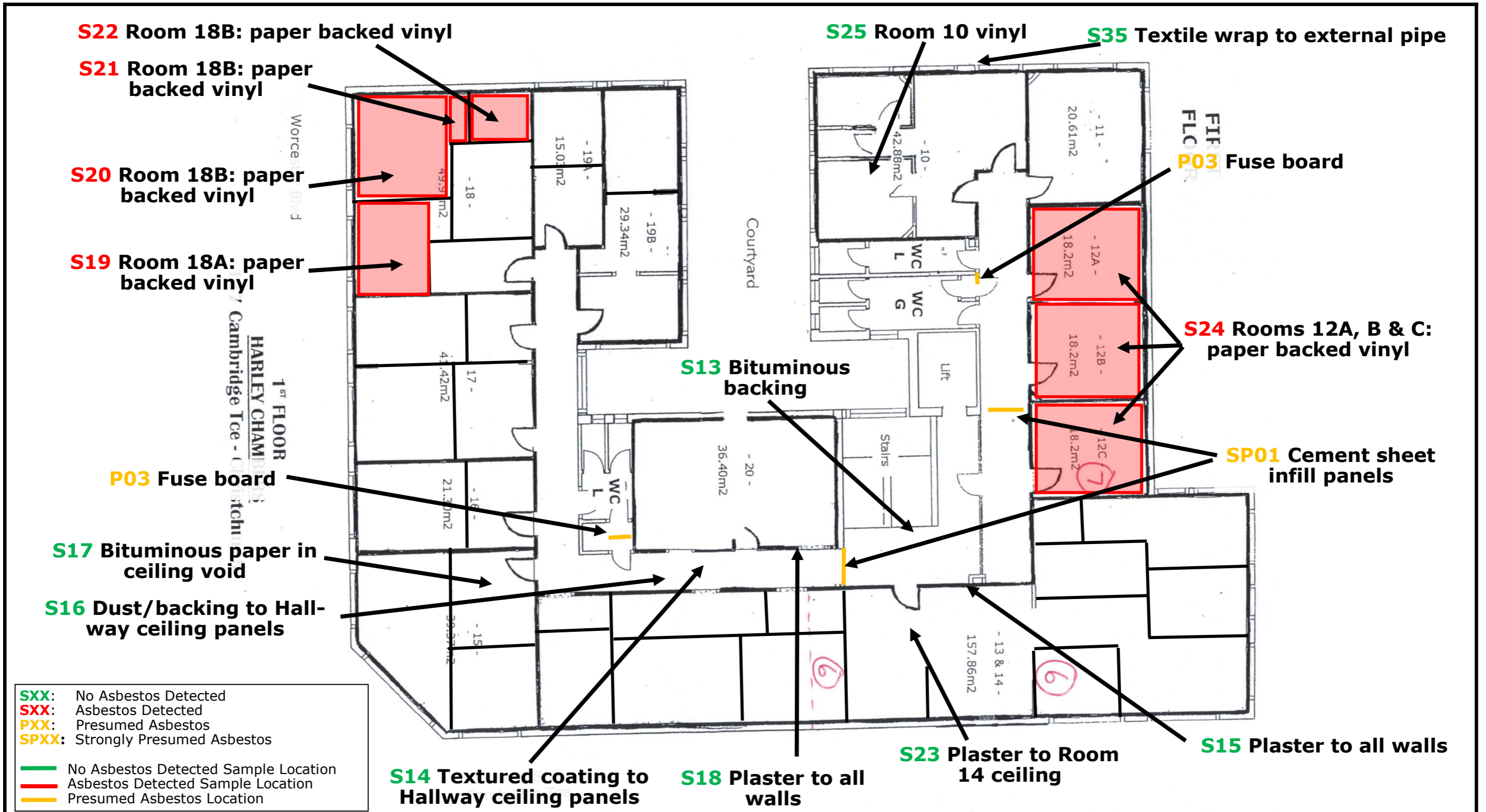
Asbestos Refurbishment Survey Report:	137 Cambridge Terrace, Christchurch Central
Job Reference:	J000107
Prepared For:	Southern Demolition and Salvage Ltd
Client Reference:	N/A



137 Cambridge Terrace, Christchurch Central Sample Locations, Ground Floor

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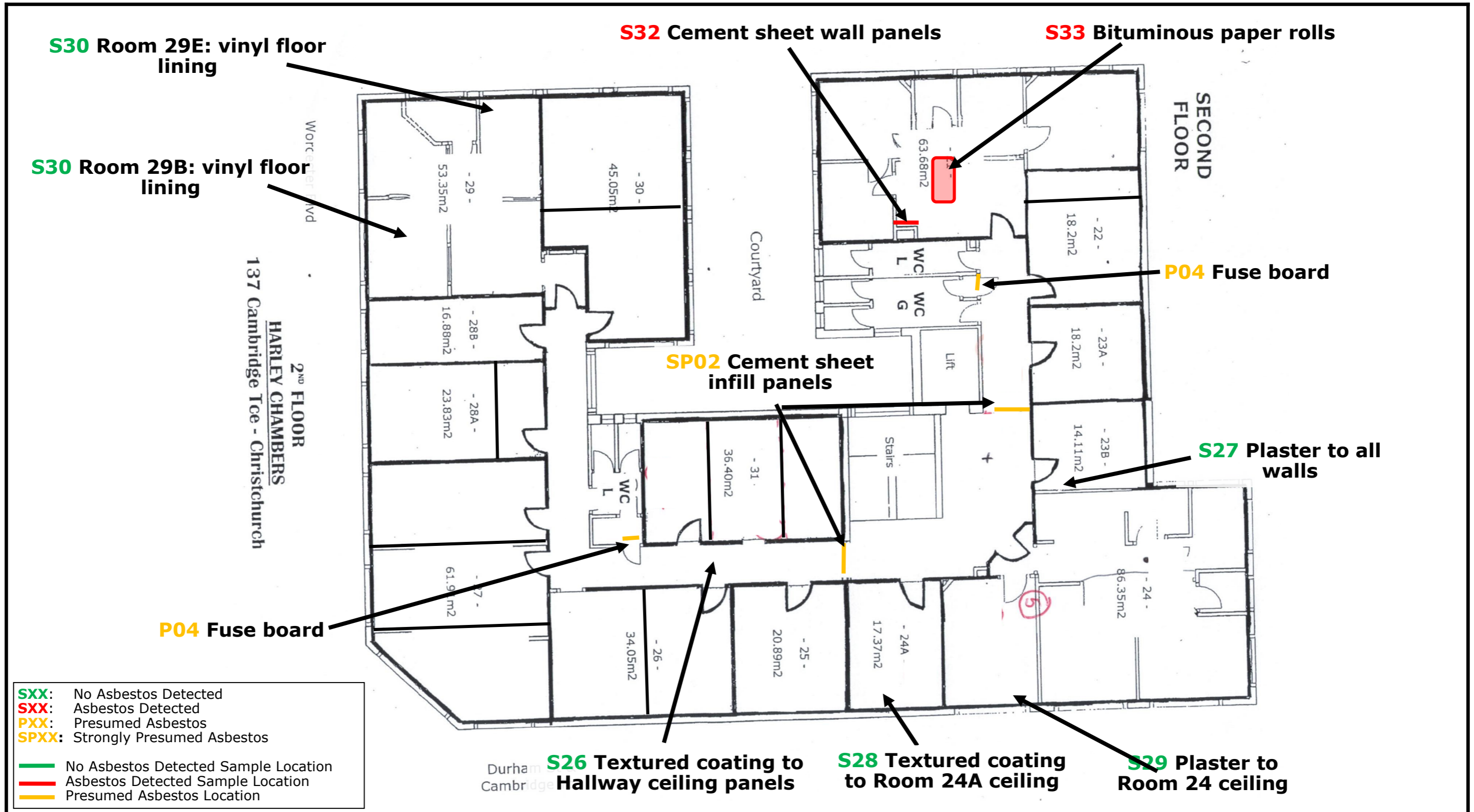


137 Cambridge Terrace, Christchurch Central Sample Locations, First Floor



Not to scale

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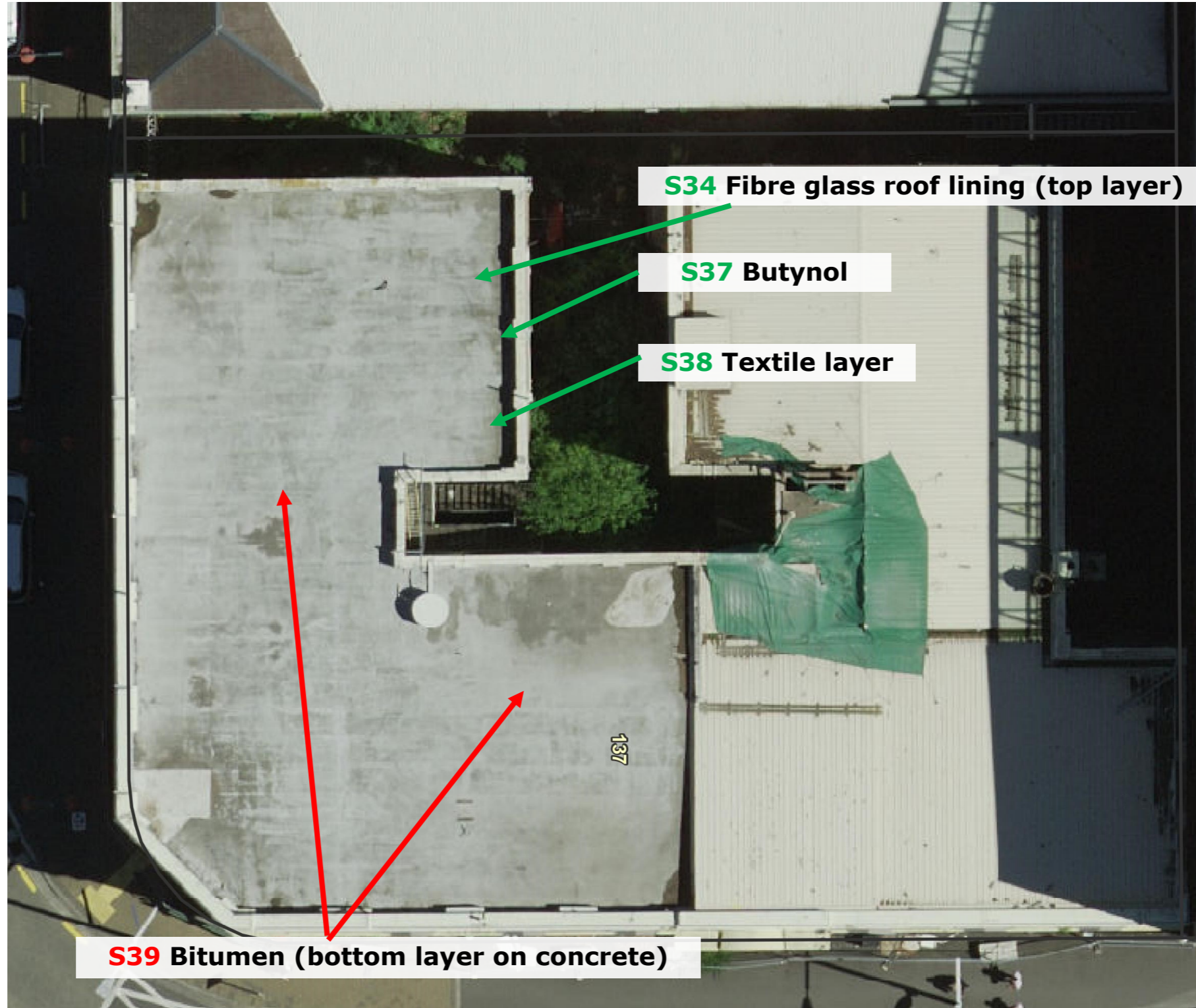
137 Cambridge Terrace, Christchurch Central Sample Locations, Second Floor



Not to scale

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Version: V1



Not to scale

137 Cambridge Terrace, Christchurch Central Sample Locations, Roof

Appendix D

Earthquake Prone Building Notice issued 23 May 2019

EARTHQUAKE-PRONE BUILDING



Notice under section 133AL of the Building Act 2004

This notice is for -

The building situated at 137 Cambridge Terrace, Christchurch, Pt Lots 1,1 DP 6773.

Building Name: Harley Chambers

224123

0% to less than 20% NBS

The building has been determined by Christchurch City Council as earthquake prone.

The building is a priority building (as defined in section 133AE of the Building Act 2004).

The owner of the building is required to carry out building work to ensure that the building is no longer earthquake prone (seismic work). The owner is required to complete seismic work by: 14 June 2025.

The owner of the building may apply to Christchurch City Council, under section 133AN of the Building Act 2004, for an exemption from the requirement to carry out seismic work. The building must have certain characteristics to be granted an exemption (see the Building (Specified Systems, Change the Use, and Earthquake-prone Buildings) Regulations 2005).

This building is a heritage building to which section 133AO of the Building Act 2004 applies. The owner may apply to Christchurch City Council under section 133AO for an extension of time to complete seismic work.

The owner is not required to complete seismic work if Christchurch City Council determines or is satisfied, in accordance with section 133AQ of the Building Act 2004, that the building is not earthquake prone.

In the event that Christchurch City Council determines or is satisfied, in accordance with section 133AQ of the Building Act 2004, that the building is not earthquake prone, the owner is not required to complete the seismic work.

A handwritten signature in blue ink, appearing to read "R. Wright".

Signature:

Position: Robert Wright, Head of Building Consenting

On behalf of: Christchurch City Council

Date: 23 May 2019