

**Structural Assessment of Building
223-227 Bronte Road
Charing Cross**

**Prepared for
Barbary Coast Investments Pty Ltd
5/139 Bathurst Street, Sydney**

19.05.16

Our Reference
16.132
Computer File
C:161321905.16

Structural Assessment of Building 223-227 Bronte Road, Charing Cross

1.00 Introduction

Ashby Doble Pty Limited was contacted by Daniel Whitten, of Barbary Coast Investments Pty Ltd, 5/139 Bathurst Street, Sydney, and requested to complete a structural assessment of the existing commercial/residential building located at 223-227 Bronte Road. The purpose of the inspection was to assess the condition of the existing building fabric to allow the owners to consider the appropriate redevelopment options for the site.

A walkthrough inspection of the property was completed on 19th May 2016 to undertake a visual assessment of the property.

2.00 Description of Building

The existing building is an 80 year old masonry building. The building has a combination of residential and commercial uses. The property is located on the western side of Bronte Road, with the site extending back to a rear frontage at 94 Carrington Road.

The building has three commercial tenancies at street level fronting onto Bronte Road. The upper level of the Bronte Road frontage contains three split level apartments, which step down the site. These are constructed over three lower level apartments located at the rear of the property. The attached layout plan in Annexure A provides the layout configuration of the building,

At the time of the inspection the three shops were tenanted, and two of the six units were tenanted.

3.00 Structural Configuration

The structural configuration of the building is load-bearing masonry walls with floor structures consisting of either timber framing or reinforced concrete elements. The roof is a lightweight timber framed roof.

The building steps down the site from the Bronte Road entrance heading towards Carrington Road. As a result of the building terracing down the site, there are a series of roof decks over habitable areas below. These decks are constructed of reinforced concrete and topped with what appears to be a trafficable membrane.

4.00 Condition of Building

2.01 General Condition of Apartments

The apartments were all in original condition, and varying in state of repair, with Apartments 1 and 4 being the tenanted apartments. The untenanted apartments were all in an extremely dilapidated condition, showing signs of severe degradation of the building fabric.

2.02 General Condition of Shops

The shops were all in a reasonably maintained condition for a building of this age.

2.03 Walls to Apartments

There was evidence of water damage to the walls, as can be seen in attached photographs 5, 6 and 8, which were taken in Apartment 2, being the central apartment on the lower level.

There is evidence of rising damp within the lower level apartments. This is consistent with the age of the building where the damp-proof courses will have deteriorated over time.

Walls to the upper level apartments were in better condition than the walls to the lower level apartments. The upper level walls over the retail tenancies had some cracks evident. These cracks varied from slight to moderate. Examples of the cracking observed can be seen in attached photographs 25 through 31.

2.04 Floor Structures

Concrete Elements

The suspended concrete slabs which form the roof terraces extending over the rear of the lower and upper level apartments are in extremely poor condition. The concrete elements show signs of significant water penetration and concrete cancer. Photographs 9 through 14 show examples of the extent of concrete cancer to the slabs. This was a consistent issue with all the slabs which form the terraces over the apartments.

In some of the apartments there were sections of the render to the underside of the slabs that appeared to be concealing additional concrete cancer, however the render had yet to delaminate. As can be seen in attached photographs 15 and 16, the delamination of the render/concrete is only a matter of time.

Timber Floors

Based on walking on the timber floors they appeared to be in reasonable condition, however none of the floor structures were opened up to assess the condition of the joists to determine if there had been any deterioration due to water or termite damage.

2.05 External Elements

The access to the rear apartments is via a series of reinforced concrete staircases. These staircases are in a severely dilapidated state. Photographs 17 and 18 show evidence of concrete cancer to the staircases. The concrete cancer to the lower staircase is in an extremely advanced state (photograph 17). The damage to the upper level staircase has been repaired in the past, however the concrete structure is likely to have been compromised as a result of the past damage.

The balustrades to the lower level section of staircase are masonry, and are in extremely poor condition, as can be seen in attached photographs 19 and 20. These balustrades are crumbling due to the impact of time and the environment. It is clear in photographs 19 and 20 that there is foliage growth within the cracks in the masonry balustrades.

The balustrades to some of the upper level sections of terrace are in poor condition, as can be seen in photograph 24.

It is our recommendation that access to these areas where the balustrades are falling apart be closed off immediately.

2.06 Roof Structure

As noted previously, the roof structures over the rear portion of the building are waterproofed concrete terraces, an example of which can be seen in photographs 21 through 23. When assessed from below, these concrete structures were seen to be in an extremely poor condition.

Timber Framed Roof

Based on our inspection it appears that the timber framed roof has been re-sheeted in the past. At the time of the inspection there was some evidence of localised water damage to the upper level ceilings, but generally the ceilings were in reasonable condition.

2.07 External Facades

The external facades across the Bronte Road frontage are masonry and appeared to be in reasonable condition.

The facades within the internal courtyards and across the rear of the building were typically rendered. There was evidence of both current and historical deterioration of the facades, in particular in relation to the lintels over windows and doors.

There was evidence of significant spalling to the reinforced concrete decorative elements around the building, an example of which can be seen in attached photograph 34.

2.07 Garages

A standalone structure containing four garages is located at the frontage of the site at 94 Carrington Road. A separate report into the condition of the garages has been completed. This report is provided in Annexure C to this report.

3.00 Conclusion

Based on our assessment of the building, it is our opinion that the building requires extensive upgrade works to bring the structure to a habitable standard. The extent of work to remediate the building would require extensive demolition and rebuilding of significant sections of the structure. This would likely include:

- Demolition and replacement of all concrete roof structures. (It should be noted that these make up well over 65% of the roofs to the apartments.)
- Demolition and rebuilding of all access stairs.
- New damp-proof courses to be installed throughout.
- All lintels to be replaced.
- All services such as plumbing, electrical and fire to be replaced.
- Assessment of all timber floors and remedial works completed as required.
- Repairs to the metal roof structure as required.
- Replacement of all windows.

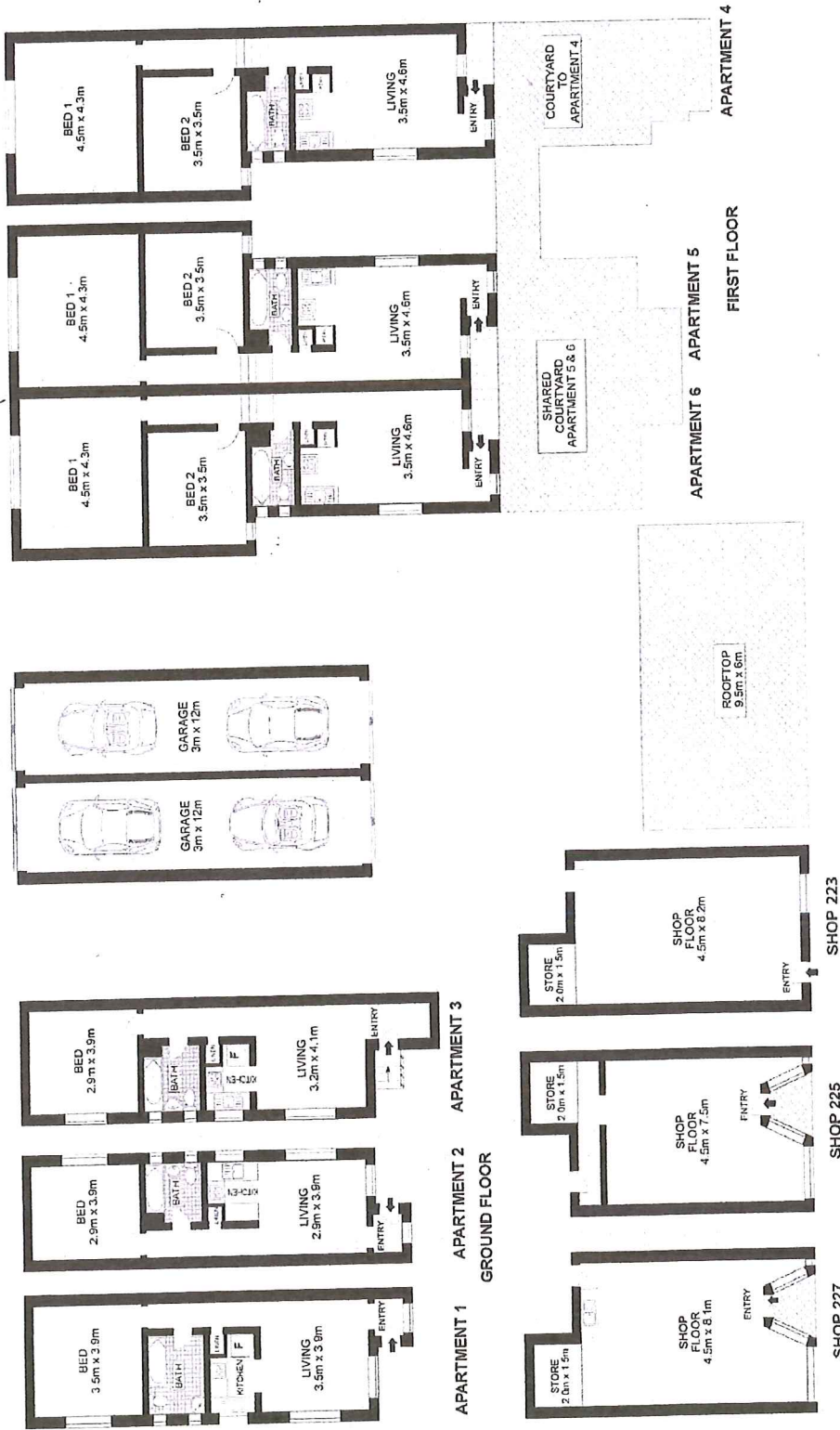
Effectively the works would amount to almost an entire rebuild of the existing structure.

END

Annexure A

Layout Plan

FLOOR PLAN



Scale in metres. Indicative only. Dimensions are approximate. All information contained herein is gathered from sources we believe to be reliable. However, we cannot guarantee its accuracy and interested persons should rely on their own enquiries.

94 Carrington Road, Waverley Including 223 - 227 Bronte Road, Waverley

Annexure B
Photographs



Photo 1 - 223 - 227 Bronte Rd,
Charing Cross



Photo 2 - 223 Bronte Rd, Charing Cross



Photo 3 - 225 Bronte Rd, Charing Cross



Photo 4 - 227 Bronte Rd, Charing Cross



Photo 5 - Example of water damage to walls to lower level apartments. This wall is the rear wall of the bedroom to apartment 2.



Photo 6 - Example of water damage to walls to lower level apartments. This wall is the side wall of the bedroom to apartment 2.



Photo 7 - Water damage to ceiling in unit 2



Photo 8 - Frame work around windows is in poor condition.



Photo 9 - Evidence of concrete cancer to suspended slabs. This is a significant issue throughout the building through all concrete slabs.



Photo 10 - Evidence of concrete cancer to suspended slabs. This is a significant issue throughout the building through all concrete slabs.



Photo 11 - Evidence of concrete cancer to suspended slabs. This is a significant issue throughout the building through all concrete slabs.



Photo 12 - Evidence of concrete cancer to suspended slabs. This is a significant issue throughout the building through all concrete slabs.



Photo 13 - Evidence of concrete cancer to suspended slabs. This is a significant issue throughout the building through all concrete slabs.



Photo 14 - Evidence of concrete cancer to the steel beams.



Photo 15 - The undulations in the render to the underside of the slabs are impacted by concrete cancer and spalling of the concrete is immanent



Photo 16 - The undulations in the render to the underside of the slabs are impacted by concrete cancer and spalling of the concrete is immanent

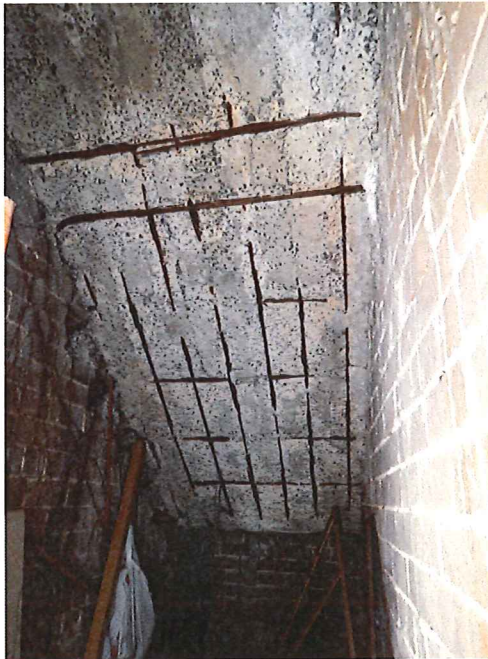


Photo 17 - Severe concrete cancer to underside of stair at south western corner of building



Photo 18 - Evidence of concrete cancer to the underside of the upper level stair leading to the roof top deck



Photo 19 - Cracking to masonry balustrade running up external stair



Photo 20 - Cracking to masonry balustrade running up external stair



Photo 21 - Concrete terrace, underside of which is showing signs of significant concrete cancer



Photo 22 - Concrete terrace, underside of which is showing signs of significant concrete cancer



Photo 23 - Concrete terrace, underside of which is showing signs of significant concrete cancer



Photo 24 - Balustrade to upper level walkway is in extremely poor condition and needs to be replaced



Photo 25 - Evidence of cracking to the internal walls of the upper level apartments



Photo 26 - Evidence of cracking to the internal walls of the upper level apartments



Photo 27 - Evidence of cracking to the internal walls of the upper level apartments



Photo 28 - Evidence of cracking to the internal walls of the upper level apartments



Photo 29 - Evidence of cracking to the internal walls of the upper level apartments



Photo 30 - Evidence of cracking to the internal walls of the upper level apartments



Photo 31 - Damage to roof of upper level apartment



Photo 32 - Damage to roof of upper level apartment



Photo 33 - Evidence of corrosion of lintels embedded within masonry. This is a consistent issue throughout the structure



Photo 34 - Concrete cancer to exposed slab details. This is a consistent issue throughout the building



Photo 33 - Facade to internal courtyard. There is evidence of previous repairs to the walls

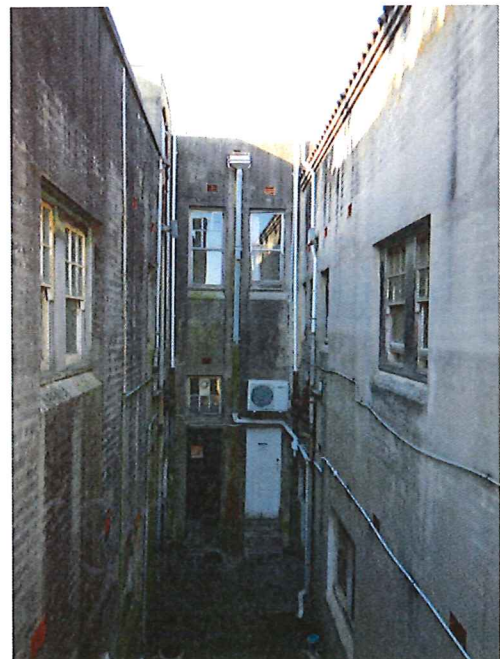


Photo 36 - Facade to internal courtyard. There is evidence of previous repairs to the walls

Annexure C

Report on condition of existing garages

CONDITION SURVEY

Client: Robin Hood Hotel
203 Bronte Road
Waverley NSW 2024

Attention: Daniel Whitten

Project: Condition Survey of Existing Garages
94 Carrington Road, Waverley

Our Reference 16.112
Computer File

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Cert. No.:01
Page 1 of 2

Present:

Daniel Whitten Owner
Scott Doble Ashby Doble Pty Limited

Distribution:

Daniel Whitten
AD File

Commenced:	12.00 noon	Concluded:	12.30 pm	Date:	28.04.16
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1.00 Introduction

Ashby Doble Pty Limited was contacted by Dan Whitten and requested to attend site at 94 Carrington Road to inspect four existing garages to assess their suitability for refurbishment.

2.00 Inspection

The existing garages are incorporated in a complex involving residential and commercial properties, with the garages fronting onto the rear street frontage of the site at 94 Carrington Road, Waverley. The existing four garages are configured with two off the front and two off the back, as can be seen in attached photographs 1 through 4.

The garages are constructed of a combination of 230 and 110 masonry walls with timber framed roof structures. The sections of floor that were visible appeared to be poorly constructed concrete. It is likely that the foundations for the buildings are brick.

At the time of the inspection access was available to the two garages on the western side of the structure. No access was available to the interior of the two garages to the eastern side of the structure. Limited visual access was available through holes in the walls into each of these compartments.

A walkthrough of the structure was completed and the following observed. A photographic survey of the building is contained in Annexure A to this report.

- Based on the information available, it appears that the structure is approximately 80 years old.
- The walls to the building are constructed of masonry with lime mortar. There is significant evidence of deterioration of the lime mortar, as can be seen in attached photographs 5 through 16. In some locations you can simply extract bricks from the wall by pulling on the brick.
- There was significant damage observed above the window in the northern wall of the building, as can be seen by the exterior in attached photograph 11 and the interior in attached photograph 10. This is a result of significant corrosion in the steel lintel.
- There is evidence that there has been corrosion in the lintels above the garage doors in the past. These lintels have been replaced some time ago with what appear to be gal angles.
- There is a significant amount of stepped cracking evident within the masonry.
- The roofs of the structures are completely dilapidated, as can be seen in attached photograph 19.
- There are several trees that have attached themselves to the structure, with the growth of the trunks impacting the masonry, as can be seen in attached photographs 15 and 16. It is noted that there are several trees quite close to the structure, which will most likely be impacting the foundations to the structure, as can be seen in attached photograph 17.

3.00 Conclusion

It is our opinion that rehabilitation of the existing structures would be both uneconomical and inappropriate due to the severe deterioration in the existing building fabric. Given the condition of the sections of building observed, it is our opinion that the building is in a dangerous condition, and it would be our recommendation that the building be demolished sooner rather than later to prevent potential collapse of sections of the structure. Given the location of the building on the access path to residential sections of the building and near the Carrington Road footpath, failure of the existing structure could potentially be dangerous to life and property.

END



Photo 1 - Front facade of
garages at 94 Carrington Rd,
Charing Cross



Photo 2 - Rear facade of
garages at 94 Carrington Rd,
Charing Cross



Photo 3 - Existing garage structure



Photo 4 - Existing garage structure



Photo 5 - Internal wall. The walls are typically in poor condition and display significant dilapidation of the lime mortar joints



Photo 6 - Deteriorated section of internal wall



Photo 7 - Deteriorated section of internal wall



Photo 8 - Deteriorated section of internal wall



Photo 9 - Deteriorated section of internal wall



Photo 10 - Damage over window as a result of corroded lintel



Photo 11 - Damage over window as a result of corroded lintel



Photo 12 - Damage over window as a result of corroded lintel



Photo 13 - Damage over garage door opening. Note repairs to previous damage as a result of corroded lintel.



Photo 14 - Cracking to external corner of masonry wall



Photo 15 - Tree trunk growing within wall. Significant damage to wall and it would be anticipated that there significant damage to the floor and footings



Photo 16 - Tree trunk growing within wall. Significant damage to wall and it would be anticipated that there significant damage to the floor and footings



Photo 17 - Tree adjacent building footings



Photo 18 - Damage to ground floor slab



Photo 19 - Significant damage to roof

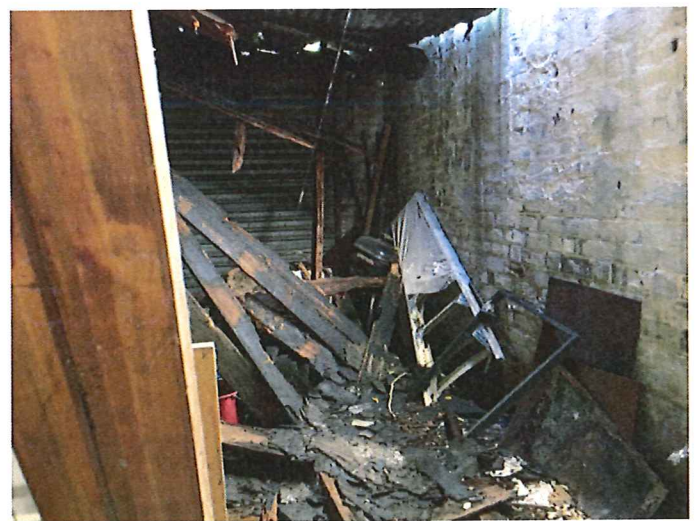


Photo 20 - Interior of the garage in the south eastern corner, no access to the garage was available. Visual access was achieved through a missing brick in the wall