

## **CITY OF YARRA**

**RSL MEMORIAL HALL**  
**152 Hoddle Street, Abbotsford**

### **STRUCTURAL INSPECTION AND REPORT**

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Checker: Lou Piovesan  
Report No: 30 11879 02S  
Date: 23<sup>rd</sup> January 2019

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This report has been prepared for City of Yarra in accordance with the terms and conditions of appointment for the RSL Memorial Hall, Abbotsford, dated 23<sup>rd</sup> January 2019 and email correspondence from City of Yarra dated 08 2019. Bonacci Group cannot accept responsibility for any use of or reliance on the contents of this report by any third party.

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## **1. INTRODUCTION**

City of Yarra recently requested that Bonacci Group prepare a structural report re-assessing the existing condition (dilapidation) of RSL Memorial Hall located at 152 Hoddle Street, Abbotsford. The structural report outlines, the extent of works required to make the existing building structurally sound.

Bonacci Group conducted a walk-through of the building on Tuesday 8<sup>th</sup> of January 2019 at 9:00 am. This report has been written based on a visual inspection of the buildings current state and is limited to the parts of the building that were visible and accessible. It incorporates the findings of the previous report to provide a consolidated report of the structural condition of the building.

## **2. BUILDING INVESTIGATION & CURRENT BUILDING CONDITION – JANUARY 2019**

In carrying out our investigation of the existing RSL Memorial hall, there was a high focus in comparing the current state of the building to the previous state of the building encompassed in previous reports.

Since our last report there were evidently more cracks within both perimeter loadbearing and internal walls, with visible cracks both externally and internally within brickwork. Previous remedial works that were conducted on external brickwork of the building were starting to re-crack in some cases due to insufficient stiffness within footings on highly reactive clay.

Internal ceilings were falling apart due to water ingress entering via gutters and roof tiling, there were large amounts of rot within ceiling across the building in particular within room 8 which was severely rotted and cracked.

The condition of the walls varied between fair and poor with most walls predominantly in a poor condition. Most existing cracking within the building appear to be in a similar condition to the previous site investigation report, with many more additional cracks formed within walls over time since the last report. Majority of the cracks were formed around the door and arch openings.

In carrying out our investigation of the existing RSL Memorial hall, there are five (5) areas of interest that have been reviewed and addressed in this report;

- Foundations
- Ground floor framing (and first floor to 2-storey)
- Walls
- Hoddle street façade
- Roof framing

## **3. REGULATORY REQUIREMENTS**

A review of the building should be conducted by a building surveyor, to assess what would be required over and above the structural rectification to bring it in line with the current Building Code of Australia (BCA) requirements. Our report only focussed on structural issues with the building in its current state.

## **4. REMEDIAL WORKS & RECOMMENDATIONS**

### **4.1 Foundations:**

- Given the extent of consistent cracking throughout the whole building both internally and externally, strengthening works to all footings involving underpinning a minimum founding depth of 1200 mm below natural ground (200 mm into the underlying silty clay) is required. Jacking of the foundation, may be required where the existing footings have rotated. The southern wall, that has been previously underpinned appears structurally adequate and requires no further remediation work.
- The construction of a 1500 mm wide apron slab to all the building perimeter to mitigate moisture variation and changes in sub-grade adjacent foundations. This would include north, east and along south perimeter walls.
- A root barrier should be installed at the north wall which would be required to substantially mitigate foundation movement and any reflective cracking to the walls over.

**NOTE: That all remediation work of other structural elements can commence after underpinning works are completed.**

### **4.2 Ground Floor Framing**

- The natural ground under the stage floor framing will need to have a weatherproof and vermin proof barrier, we recommend pouring a 100 mm slab on ground in and around the existing stumps after all loose material and soft ground has been removed.
- Main hall ground floor framing and supporting stumps should be inspected to confirm structural soundness and adequacy. Remediation works may be required to those elements and can only be confirmed after the inspection.
- At the rear of the premises, beneath the two-storey section the existing ground floor is in poor condition and should be replaced or alternatively replaced with a raft slab, that includes stiffening beams at 4.0-meter maximum centres.
- Stair access and landing to the first floor has cracks and the lower section of the pier needs to be demolished and reconstructed. The existing footing should be strengthened as required. The brick balustrading will need to be replaced with a handrail and the locations of cracked brickwork re-pointed. We advise that the staircase be demolished and be reconstructed

### **4.3 Wall Construction**

- The arch from room 7 to entrance corridor (room 8) has failed and this section of the wall will need to be reconstructed.
- The North-west wall has severe signs of cracking throughout the whole part of the wall and through lintels. The entire North wall will need to be re-pointed to restore structural integrity.
- The door way from room 1 to room 3 has failed and this section of the wall will need to be re-pointed.
- The entire internal wall that separates room 1 to room 4,5,6 will have to be re-pointed due to the door way from room 1 to room 6 has failed and door way room 1 to 5 has cracking. There is cracking extended through the entire section of the masonry wall.

- The door that connects room 9 to 10 has a large crack, the wall which divides the stage to the hallway will need to be repointed.
- The corner of the building that connects room 9 to 10B will need to be re-pointed due to cracking at lintel support locations over both doors.
- The entire section of the south wall which did not undergo re-construction works will need to be re-pointed due to external patchwork having re-cracked and there are internal cracks running across the whole wall.
- The south west corner of the perimeter wall will need to be repointed due to being heavily cracked both internally and externally.
- South east corner of the first floor within room 12 the upper wall section will need to be repointed due to having failed at window location.
- The entire lintel on the west wall next to the entrance on the South side has failed and will need to be repointed as it has cracked right through at the location where the lintel is bearing on the brickwork.
- Due to the limitation of observation of all cracks within brickwork due to render over brickwork. The render will need to be removed to identify all cracks within the building. This will give you the full extent of any secondary cracking within brickwork. The cracks will need to be repointed with a compatible mortar at all cracked locations, to re-establish the integrity of the wall.
- Places where walls show large amounts of rot will need to be replaced once water ingress has stopped due to roof being fixed and replaced.
- We recommend that vertical control joints be installed after underpinning works completed to allow for future foundation movement in clay. No control joints were evident in the existing building masonry walls.

#### **4.4 Hoddle Street Façade**

- The façade is heavily cracked and out of alignment. We recommend that the west wall be surveyed to establish its current vertical alignment and then assess the wall for its structural stability. Given the extent of cracking to the return wall, temporary propping may be required.
- The entire west wall will have to firstly undergo strengthening underpinning works. Then the entire top section of the wall will need to be reconstructed to allow the wall to be realigned or wall to be completely reconstructed in correct vertical alignment.
- The existing gable facades require further lateral stabilization to correct 'out of vertical' alignment. Install supplementary steelwork mullions and whaler to support wall and fix profile or alternatively gable façade to be rebuilt.
- All cracks in the western façade will need to be patched up or repointed as required.
- The roof flashing will need to be replaced as there was clear signs of water ingress observed within the hall area, near the location of the 'gable ridge'.

#### 4.4 Roof Framing

Access to the roof was generally not possible during our current inspection and we therefore rely on our previous investigation report for the findings. It is understood that the building has a concrete tile roof supported off battens, with insulation sarking, rafters, under purlins, hip beams, ceiling joints and a number of discrete roof trusses.

In the previous report we note: The roof space was able to be viewed in three (3) discrete locations, namely;

- Above the stage area in the main hall (room 10) where there is no ceiling;
- In the main entrance hall (room 8) where a section of the ceiling has been removed;
- In the north east corner of room 1 where a section of the ceiling has been removed.

From the limited visibility available by viewing into the ceiling space above the stage and hall area (rooms 9 and 10) the timber framing appears in reasonable condition with no obvious signs of distress.

There are roof trusses located along the length of the hall corresponding with the position of the 'engaged piers' on each side wall.

- Roof at front of RSL memorial hall behind turret structure is in poor condition and needs to be replaced.
- North Perimeter and north-east corner where tiles are broken and water is entering will have to be retiled and replaced.
- Strengthening roof works will need to be undertaken to stiffen up the west façade to securely tie it back to the side walls of the hall, unless the wall is rebuilt and properly tied in to the return walls.
- Access through the ceiling above the main entrance confirms that timber trusses are showing signs of rotation and excessive deflection. Bonacci Group believes the trusses require strengthening.
- In many locations internally, there is signs of water ingress at perimeter walls and ceilings. This was evident by the darker staining from water and severe rotting in ceiling plasterboard. Additional investigation of the existing roof truss will be required to establish the structural integrity of the element along with the condition of the existing rafters and battens given the likely damage to these elements by water ingress.
- The entire roof drainage system and down pipes should be redesigned and rebuilt.
- It is recommended that all in-ground storm water drainage to be removed and replaced.
- Any Asbestos roof sheeting to roof above two storey wing (above room 12) to be removed and replaced with insulation and colour bond sheeting and new colour bond gutters.

## **5. CONCLUSION**

The building has a number of fundamental structural issues including foundations that, from the observations made on site as part of the inspection and review process, are undersized and supported on reactive clays. Seasonal movements and lack of footing stiffness has caused reflective cracking in the walls throughout the building. All walls will require underpinning.

After underpinning has completed then all cracking of the façade should be identified and appropriately repaired.

Whilst the first-floor framing appeared sound, further investigation should be carried out to ascertain the structural adequacy of these floors and establish if any remedial works are required.

The condition of the existing roof is questionable, and the full extent of remediation work unquantifiable with additional investigation. Given the visible water damage to ceiling and walls we expect that large portions of roof will require remedial work to be carried out. Asbestos should be removed.

Given the buildings age (approximately 90 years), and the findings of our investigation along with the fact that there are still undefined areas where remedial work cannot be quantified. Rectification works that are described in this report will be slow and difficult and ultimately costly.

Having resolved the foundation issue and repairs to the building, there may require further medium to long term remedial work which may still be required as the building ages. Further structural costs may be incurred to bring this facility to code compliant.

We trust that the above report is sufficient to identify the quantum of work required to the existing building to make it structurally sound.

BONACCI GROUP PTY LTD

23<sup>rd</sup> January 2019

3011 87902S rep 150 – 152 Hoddle St Abbotsford – RSL Memorial Hall 2019

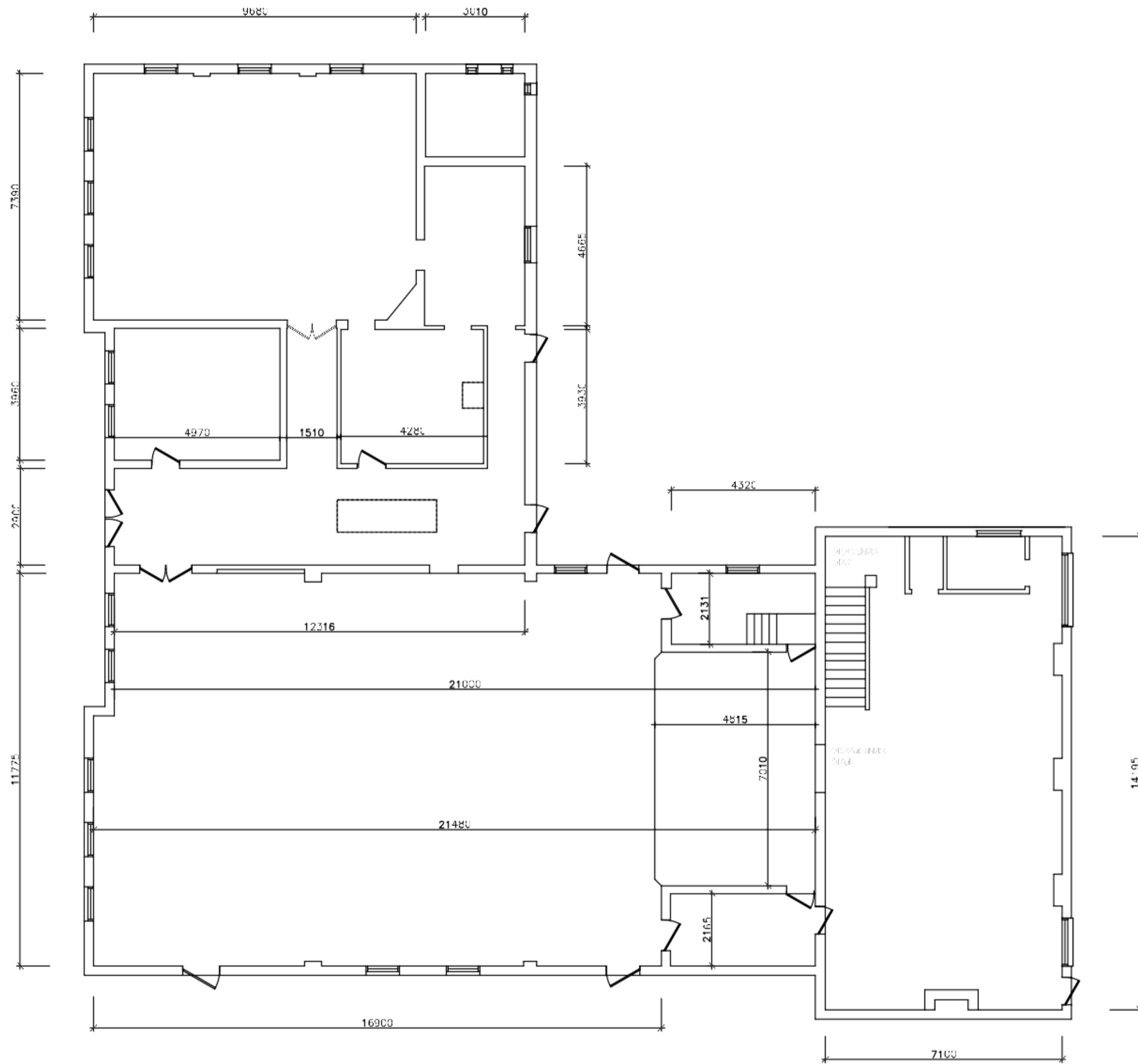


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STRUCTURAL INSPECTION AND REPORT**

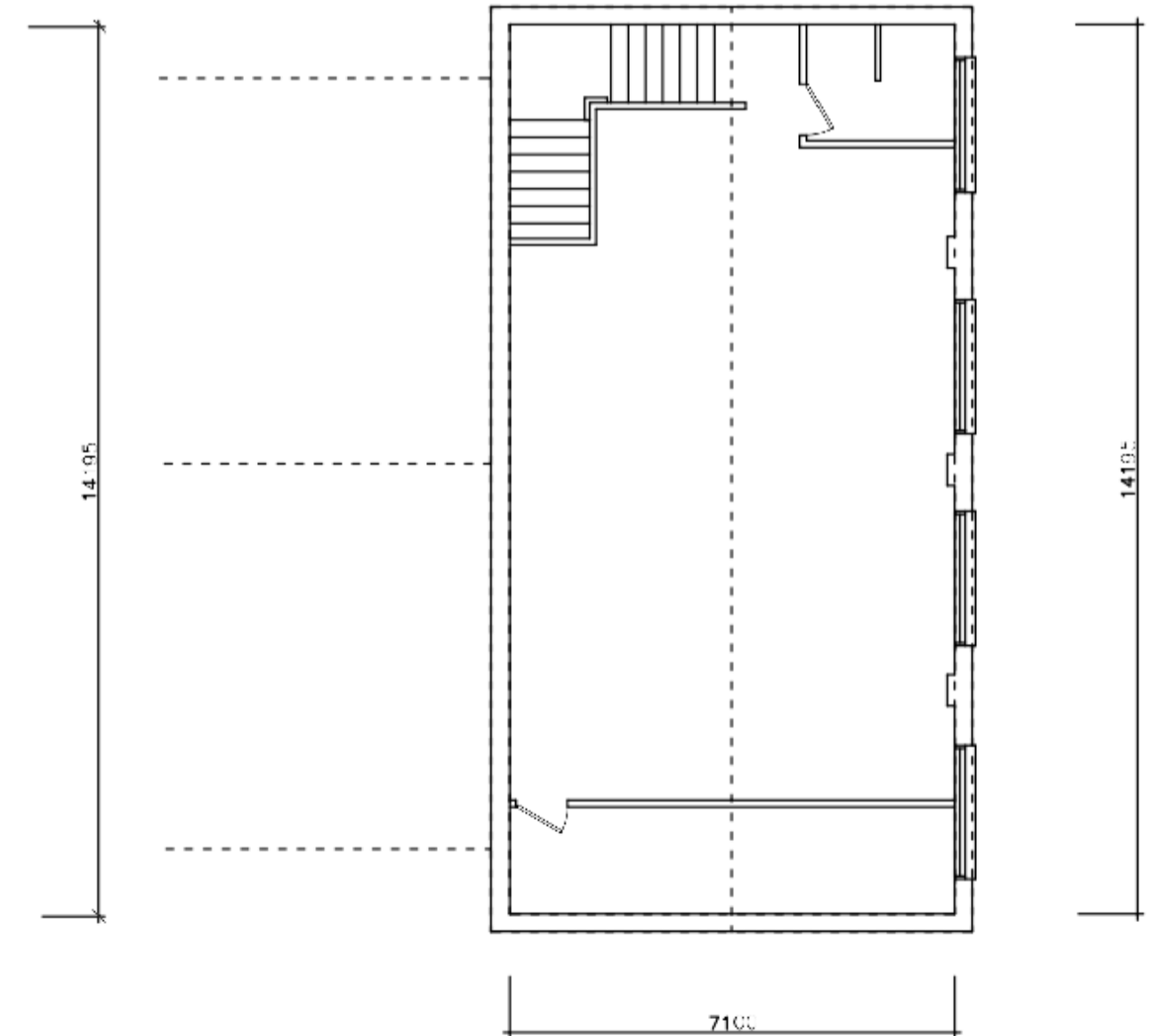
**APPENDIX A**

**CITY OF YARRA DRAWINGS**

File Drawing No. Yarra 0312	A01/02 Floor Plans
	A02/03 Elevations
	A03/03 Elevations



GROUND FLOOR PLAN



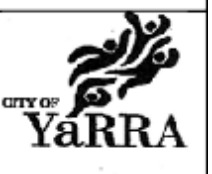
FIRST FLOOR PLAN

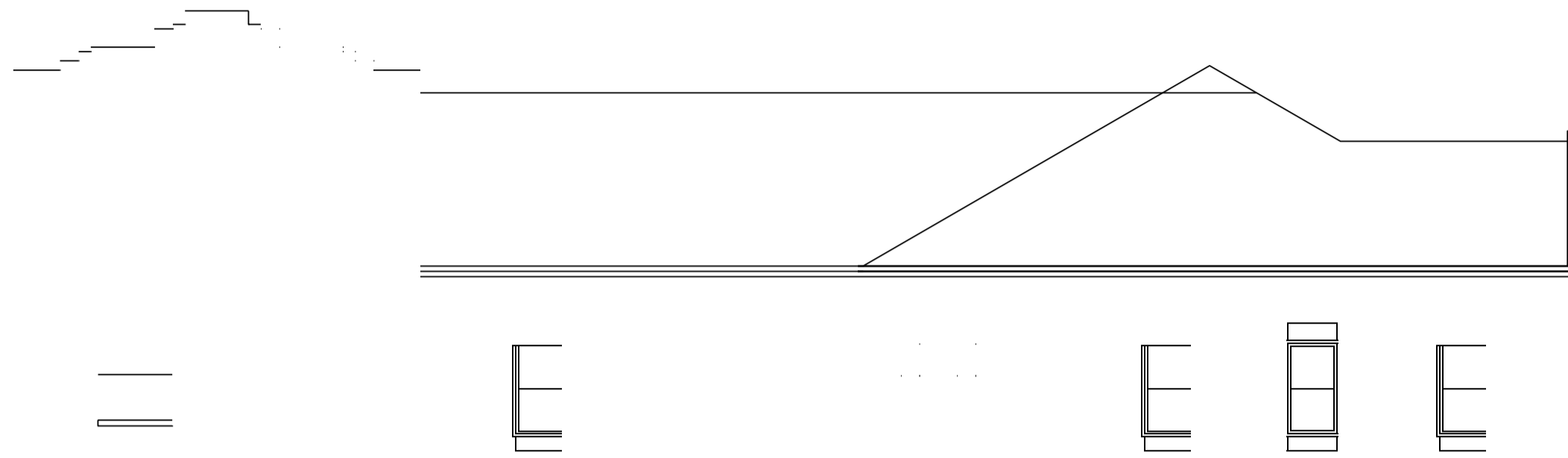


CITY YARRA  
**RSL BUILDING**  
**152A HODDLE STREET**  
**ABBOTSFORD**

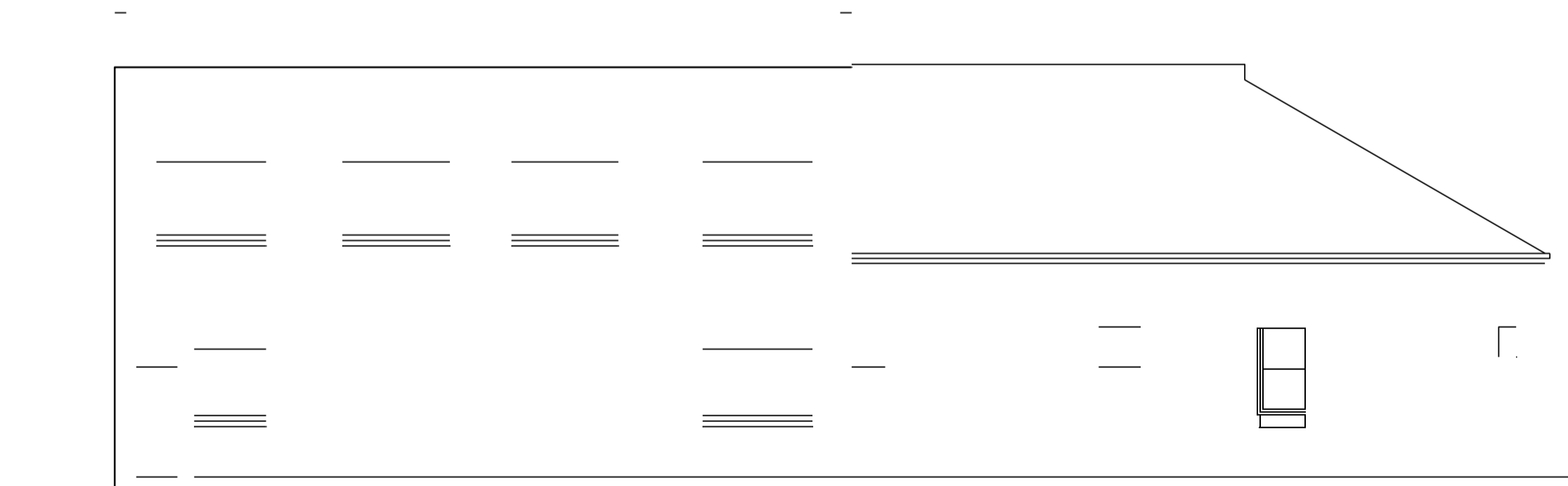


FLOOR PLANS	
DATE: APRIL 2012	SCALE: 1:100





NORTH ELEVATION



EAST ELEVATION

REVNO	DATE	DETAILS

DRAWING SCALE:  
ALL DIMENSIONS TO BE IN ACCORDANCE WITH ALL RELEVANT CODES AND REGULATIONS UNLESS INDICATED OTHERWISE.

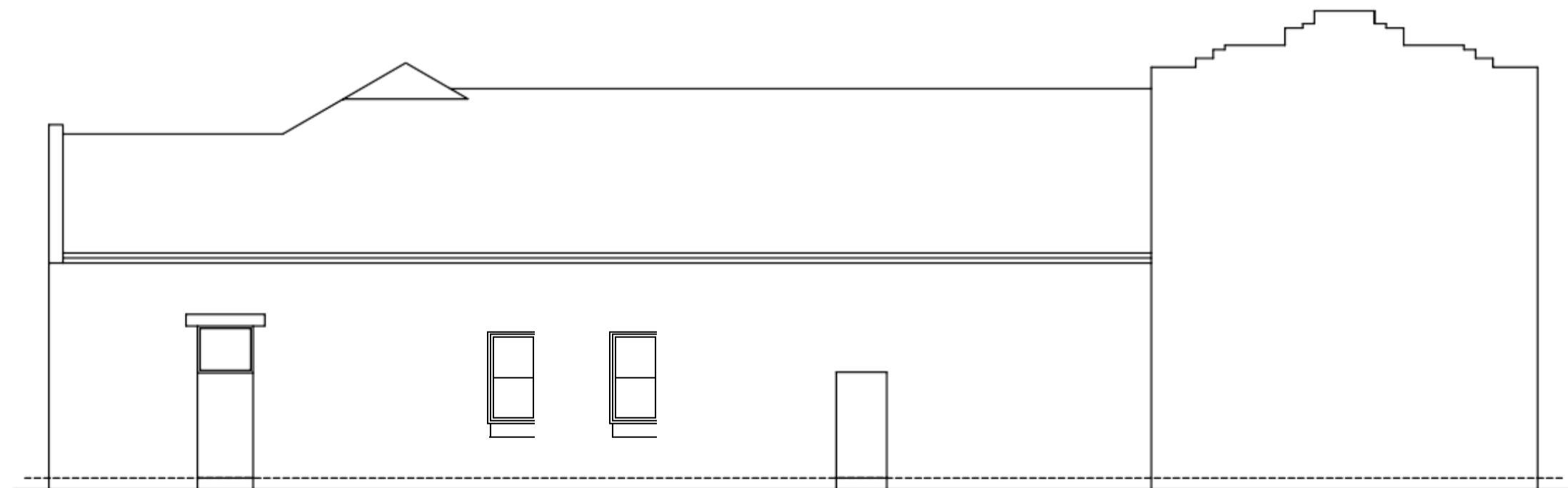
TO: THE  
CITY YARRA  
PROJECT  
**RSL BUILDING**  
**152 A HODDLE STREET**  
**ABBOTSFORD**  
JOB NUMBER: YARRA00312

DRAWING TITLE	
ELEVATIONS	
SCALE: 1:100	SHEET NO: A03/03
DATE: APRIL 12	ISSUE NO: 2
DRAWN BY: CC	ORIGINAL SHEET SIZE: A2
CHECKED BY:	FILE PATH: \\CITY\YARRA\0312





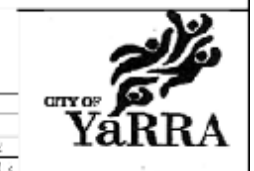
WEST ELEVATION



SOUTH ELEVATION







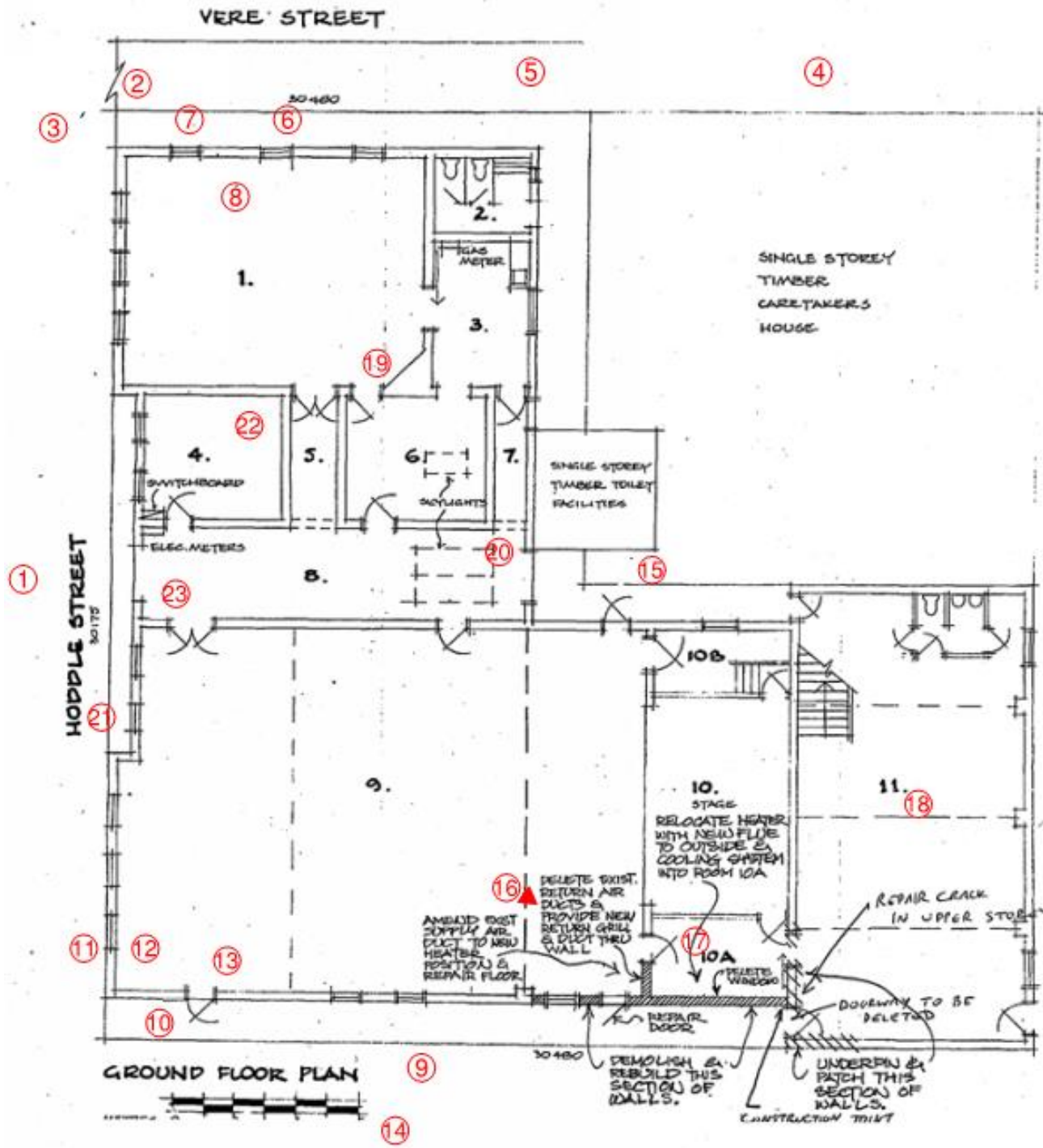
CITY OF YARRA  
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 152A HODDLE STREET  
 ABBOTSFORD

REVISIONS  
 NO. DATE  
 01 APR 22  
 02 APR 22

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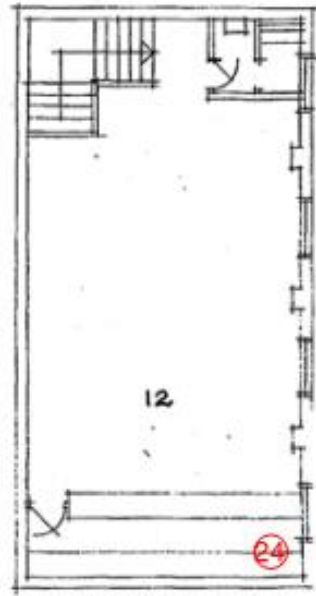
**APPENDIX B**

Photographic Record and Photographic Key Plan, 10 January 2019



SINGLE STOREY  
TIMBER  
CARETAKERS  
HOUSE

SINGLE STOREY  
TIMBER TOILET  
FACILITIES



FIRST FLOOR PLAN

16/5/04 10A R  
 Prepared  
 CITY OF COLLIS  
 Project  
 RED L HALL  
 150 HODDLE ST  
 ARBOTHFORD  
 Reid Partners  
 82 Cornsidge Street, Collis  
 Telephone: 03 417 4949  
 Drawing  
 EXISTING CON  
 Scale  
 Date SEPT 05  
 Issue 001  
 Drawing Number  
 1345 - EC1

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Photo 1: RSL (Collingwood Sailors and Soldiers) Memorial Hall viewed from Hoddle Street pedestrian footbridge.



Photo 2: Turret structure above main entry. North and South gable walls warped and leaning outwards. By observation current state looks similar to previous report photos.

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Photo 3: Main roof viewed from North-West. Remove tiles, re-level battens and re-instate tiles, central part of roof looks bowed which was also stated in previous report.



Photo 4: Existing tiled roof viewed from pedestrian footbridge, Timber caretakers & timber toilets have been demolished since previous report photos.



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Photo 5: Tiled roof at North-East corner. Tiles to be removed, repaired and re-pointed. Eaves, gutters and downpipes to be replaced.

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Photo 6: North Wall looking externally. Re-constructed where ivy had penetrated brick courses, Large crack right through lintel & reflective cracks right along north wall.



Photo 7: North wall has new formation of cracking above lintel, cracks are new and was not observed and documented in previous report.

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Photo 8: North Wall looking internally both previous photos 6 & 7 are the same cracks viewed externally.

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Photo 9: South wall reconstructed. Tie backs within the brickwork restraining wall.



Photo 10: South-West corner of Hall. Foundation may have dropped. Wall repaired previously, in buildings current observation repair is starting to crack again at top of brick wall.

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Photo 11: South-West corner of Hall – west wall. Cracks to wall repaired externally. Internal crack not repaired.

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Photo 12: South-West corner of Room 9 (Hall). Crack to west wall not repaired, internally. Crack looks to have got larger compared to the photos in previous report.



Photo 13: Looking at South Wall internally, cracks have not been repaired internally and run continuously across whole wall. Also brick ties can be seen just below roof level. Patchwork was only done externally, and no work has been done on internal face.

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Photo 14: South wall of hall. Two number tie backs at line of internal engaged piers. Wall at east re-constructed.

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Photo 15: Rear Exit at east end of main entry hall. Disconnected downpipe and heavy water damage to external render. Single story toilet block has been demolished and external brickwork exposed which is heavily cracked.



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Photo 16: Cracking above door (leading from Hall (9) to Room 10A, cracking looks to not have gotten worse since previous report.



Photo 17: Other side of wall shown in photo 16, crack is on both faces of internal brick work wall.

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Photo 18: Room 11 viewed looking North. Concrete stair at left.



Photo 19: Large cracking at internal wall, room 1/6 interface

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Photo 20: Internal arch leading from room 8 to 7, crack looks to have got worse since previous report.

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Photo 21: Front Façade West Wall (Hoddle St) has a large crack through lintel at support where lintel is bearing on brickwork. Was not observed and documented in previous report.



Photo 22: Large cracking in room 4 where brick wall meets each other at corner. Was not overserved and documented in previous report.

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Photo 23: Large cracks & rotting of timber walls from settlement movement and water damage. Crack was observed at entrance of room 8 & 6.



Photo 24: Room 12, first floor at corner of south east wall, cracks starting to form, and roof is starting to fall down from heavy water damage. Walls are heavily water damaged also with large amounts of rot.

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Roof Truss above Room 1 (viewed looking South-West).



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Tie back from North-West gable into North wall Timber truss above Room 1.



Strengthening beam to roof framing above Hall (viewed looking South).

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**APPENDIX C**

Foundation Underpinning Works, BDC Group Pty Ltd, Drawings 0506/7 S1, S2 and S3,  
dated 7 June 2005



- C11. 2 No. 10's, 2 No. 12's and 2 No. 14's shall be placed diagonally across each corner of any slab or wall.
- C12. Formwork shall be set in place, unless otherwise noted for the following formwork:
  - 4 days for walls, vertical walls and columns
  - 7 days for horizontal walls and slabs
  - 10 days for slabs on edge
  - 14 days for slabs on top
- C13. Concrete shall be placed in layers not exceeding 1200mm or span width.
- C14. Concrete shall be placed in layers not exceeding 1200mm or span width.
- C15. Concrete shall be placed in layers not exceeding 1200mm or span width.
- C16. Concrete shall be placed in layers not exceeding 1200mm or span width.
- C17. Concrete shall be placed in layers not exceeding 1200mm or span width.
- C18. Concrete shall be placed in layers not exceeding 1200mm or span width.
- C19. Concrete shall be placed in layers not exceeding 1200mm or span width.
- C20. Concrete shall be placed in layers not exceeding 1200mm or span width.

**BDC group Pty. Ltd.** ABN 540 950 54318  
 Building consultants  
 structural engineers  
 PO Box 46 CRENSHAW, 3086  
 218 Memorial Drive PLANT, 3080  
 TELE: (03) 9435 8521  
 MOB: 0408 019255  
 FAX: (03) 9435 3046  
 Email: bdc@bdcgroup.com

ISSUE A - TO CLIENT  
 PROJECT  
**FOUNDATION UNDERPINNING AT 150 HODDLE STREET COLLINGWOOD RSL CITY OF YARRA**  
 DRAWING TITLE **STRUCTURAL**  
 DESIGNED : F. C. JOB No **050617**  
 DRAWN : N. L.  
 SCALE : 1:100  
 DATE : 7 JUNE, 2005 DRG No **SI**  
 SHEET 1 OF 3

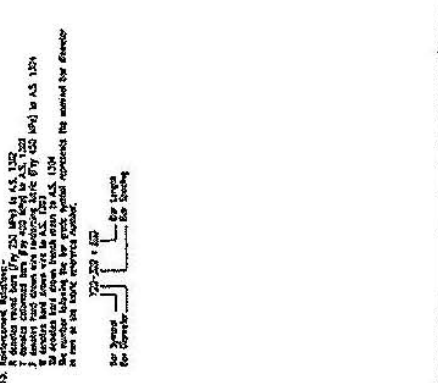
- 21. Concrete reinforcement shall be set in place in accordance with the drawings. Working shall be carried out in accordance with the drawings.
- 22. Clear concrete cover to reinforcement shall be as follows:
 

Location	Clear concrete cover to reinforcement (mm)
Slabs	25
Walls	25
Columns	25
Beams	25
Stairs	25
Other	25
- 23. Clear concrete cover to reinforcement shall be as follows:
 

Location	Clear concrete cover to reinforcement (mm)
Slabs	25
Walls	25
Columns	25
Beams	25
Stairs	25
Other	25

MINIMUM LAP SPACES FOR BARS (mm)

Bar Size	110	116	122	128	134	140	146	152	158	164	170	176	182	188	194	200
Minimum lap space for bars	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300



- UNDERPINNING CONSTRUCTION PROCEDURE:**
- THIS PROCEDURE PRESUMES AN EXISTING REINFORCED CONCRETE FOOTING WITH SUFFICIENT STRUCTURAL CAPACITY TO SPAN 1.5M.
1. ARRANGE FOR A GEOTECHNICAL INVESTIGATION TO CONFIRM FOOTING SIZE & FOUNDING DEPTH
  2. GRADE GROUND SURFACE AWAY FROM UNDERPINNING AREA AT 1 IN 10
  3. REMOVE ALL TREES WITHIN THEIR MATURE HEIGHT FROM THE BUILDING
  4. ALTERNATE ALL APPROVED ROOT BARRIERS
  5. PERMITS ALL CORRODED & LEAKING CUTTERS
  6. CONNECT ALL DOWN PIPES TO NEW UPVC STORM WATER DRAINS
  7. EXCAVATE UNDERPIN SLOTS TO THE APPROVED FOUNDING DEPTH
  8. THE CONTRACTOR MUST NOTIFY THE OWNER OF UNDERGROUND SERVICES ENCOUNTERED. ANY DAMAGE OF SERVICES IS TO BE REPAIRED BY THE CONTRACTOR
  9. THE CONTRACTOR IS TO ARRANGE INSPECTIONS WITH THE BUILDING SURVEYOR
  10. COPIES OF THE INSPECTION CERTIFICATES ARE TO BE FORWARDED TO THE BUILDING OFFICER.
  11. PROVIDE APPROVED TIMBER SHORING TO ALL EXCAVATIONS > 1200MM DEEP
  12. HAVE MANAGERS INSPECTIONS, IF REQUIRED, TO BE INCLUDED IN THE CONTRACT PRICE.
  13. LATERALLY BRACE OUTSIDE OF WALL WITH TUBER BRACES AS INSTRUCTED BY THE BUILDING OFFICER.
  14. POUR THE UNDERPIN PADS (M20-75 SLUMP) ALLOW JACKING RECESSES & CURE FOR MIN. 5 DAYS.
  15. THEN, CAREFULLY JACK THE BUILDING TO CLOSE CRACKS AS CLOSE AS POSSIBLE
  16. CLEAN & DRY THE EXPOSED FACE OF THE PAD
  17. INSERT PATENT NON-SHRINK GROUT INTO THE SHRINKAGE CAVITY BETWEEN THE PAD AND THE FOOTING. HARD RAM INTO JOINTS AS SPECIFIED.
  18. TECHNICAL SPECIFICATIONS OF THE GROUT MUST BE TO BE FORWARDED TO THE BUILDING OFFICER.
  19. CURE GROUT FOR MIN. 5 DAYS BEFORE BACKFILLING
  20. RESTATE THE GROUND SURFACE SUCH THAT IT GRADES AWAY FROM THE BUILDING FOR 2.0M.
  21. REINSTATE BRICKWORK TO MATCH EXISTING AS PER THE AGREED SCOPE OF WORKS
  22. ADJUST ALL EXISTING DOORS & DOOR FURNITURE AS PER THE AGREED SCOPE OF WORKS
  23. REPAIR MASONRY & REPAINT INTERNAL WALLS/CEILING AS PER THE AGREED SCOPE OF WORKS
  24. LIFT PART OF FLOORING TO REPLACE DAMAGED STUMPS OR 'SHIM' STUMPS & REINSTATE AS PER THE AGREED SCOPE OF WORKS
  25. INSTALL FULL HEIGHT BRICK ARTICULATION @ MAX. 5.0M SPACES (PER BCA) AS PER THE AGREED SCOPE OF WORKS
  26. THE OWNER/OCCUPIER IS TO PROVIDE Ongoing MAINTENANCE TO AS 2870 & C.S.I.R.O. - BUILDING RESEARCH SHEET No. 10-91.

REINSTATE THE GROUND SURFACE SUCH THAT IT GRADES AWAY FROM THE BUILDING FOR 2.0M.

REINSTATE BRICKWORK TO MATCH EXISTING AS PER THE AGREED SCOPE OF WORKS

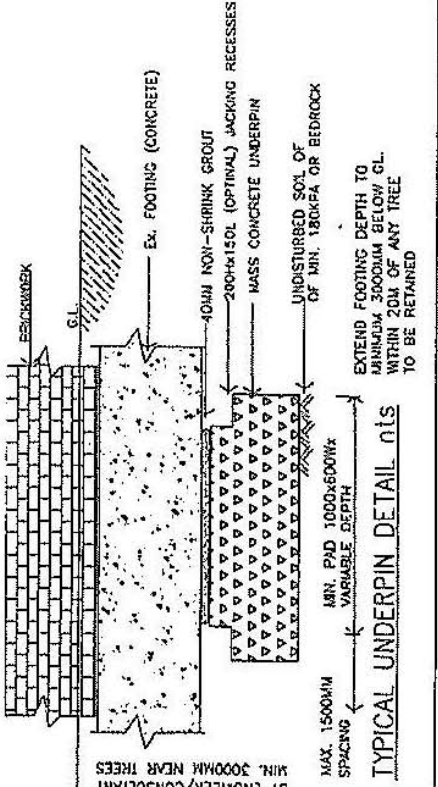
ADJUST ALL EXISTING DOORS & DOOR FURNITURE AS PER THE AGREED SCOPE OF WORKS

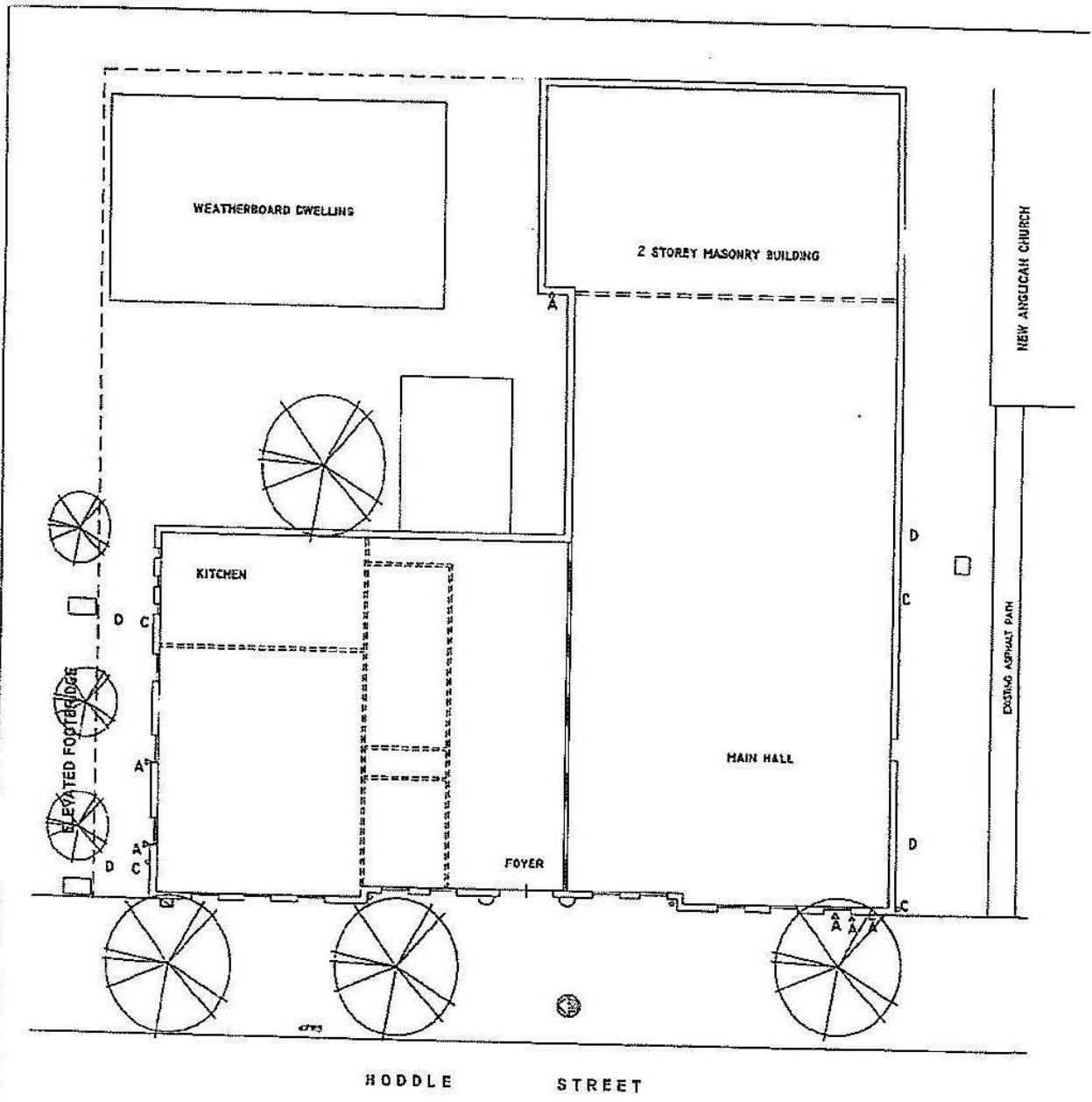
REPAIR MASONRY & REPAINT INTERNAL WALLS/CEILING AS PER THE AGREED SCOPE OF WORKS

LIFT PART OF FLOORING TO REPLACE DAMAGED STUMPS OR 'SHIM' STUMPS & REINSTATE AS PER THE AGREED SCOPE OF WORKS

INSTALL FULL HEIGHT BRICK ARTICULATION @ MAX. 5.0M SPACES (PER BCA) AS PER THE AGREED SCOPE OF WORKS

THE OWNER/OCCUPIER IS TO PROVIDE Ongoing MAINTENANCE TO AS 2870 & C.S.I.R.O. - BUILDING RESEARCH SHEET No. 10-91.





EXISTING PART FLOOR PLAN

**BDC** group Pty. Ltd. 9435 540 550 54318  
 building consultants  
 structural engineers  
 PO Box 48 GREENSBOROUGH, 3055  
 25 Memorial Drive FLENTY, 3030  
 TELE: (03) 9435 8521  
 MOB: 0408 019255  
 FAX: (03) 9435 3646  
 Email: bdc@bdc.com.au

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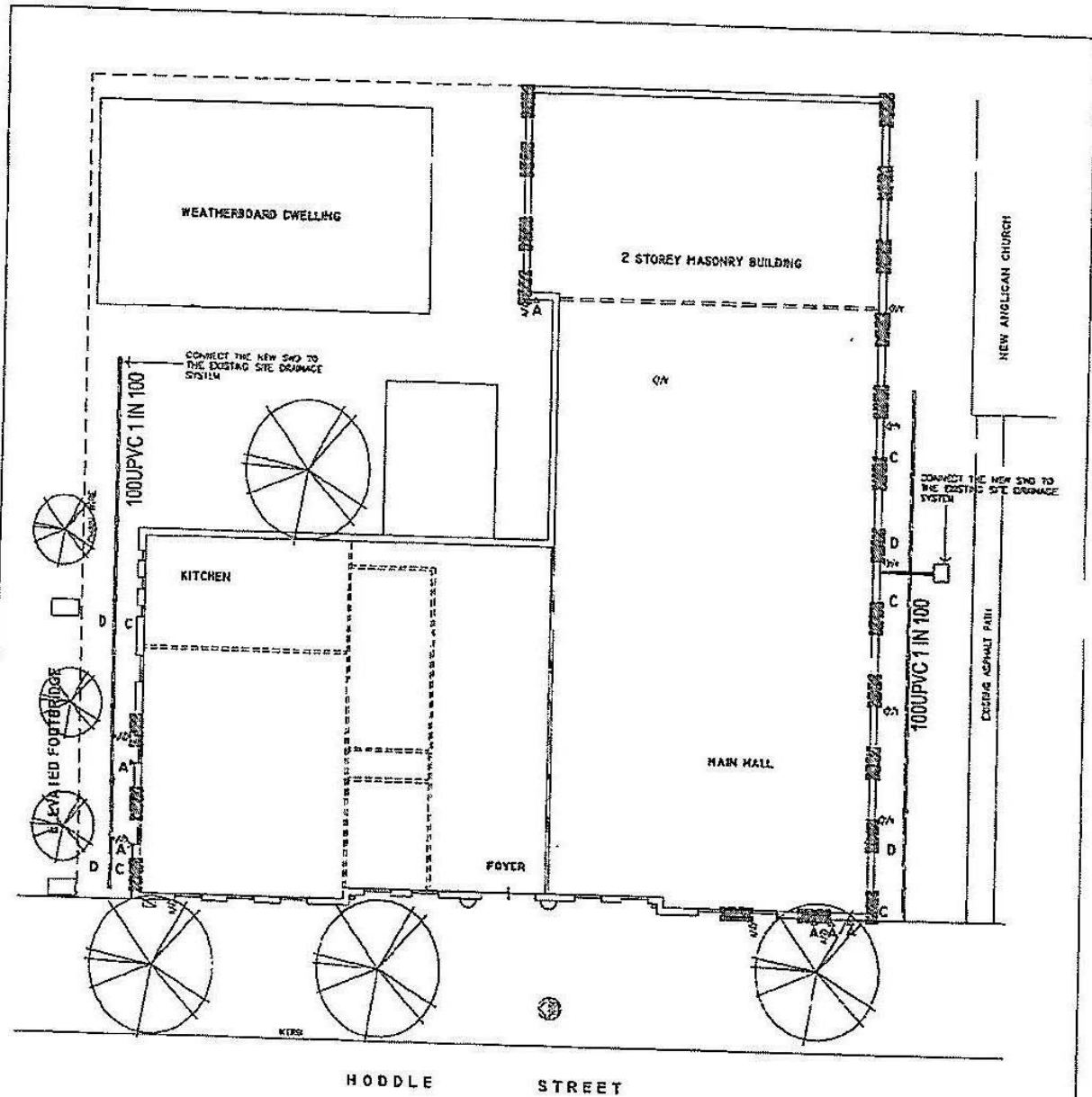
FIGURE TO CLUDIT

PROJECT  
**FOUNDATION UNDERPINNIN**  
**AT 150 HODDLE STREET**  
**COLLINGWOOD**  
**COLLINGWOOD RSL**  
**CITY OF YARRA**

DRAWING TITLE **STRUCTURAL**

DESIGNED : F. C.	JOB No
DRAWN : K. L.	<b>0506/7</b>
SCALE : 1:100	REV No <b>S2</b>

Received via City of Yarra FAX server.



**PROPOSED FOUNDATION UNDERPIN PLAN**

- BUILDING DAMAGE & FAULTS KEY**
- A DENOTES CRACKED BRICKWORK
  - B DENOTES CRACKED OR DISSED PAVEMENT
  - C DENOTES DOWNPIPE DISCHARGING ONTO GROUND
  - D FLOOR DRAINAGE OF GROUND
- NEW FULL HEIGHT "BED" BRICK ARTICULATION  
 NEW UNDERPIN PAD AS SCHEDULED

**BDC** GROUP Pty. Ltd. 404 540 850 54311  
 building consultants  
 structural engineers  
 19 Box Hill CRENSHAW ROAD, 3085  
 216 Memorial Ave. PLANTY, 3220  
 TEL: (03) 9435 8521  
 MOB: 0408 019255  
 FAX: (03) 9435 3046  
 E-MAIL: bdc@bdc.com.au

CLIENT - FS CLIENT	
PROJECT <b>FOUNDATION UNDERPINNING AT 150 HODDLE STREET COLLINGWOOD COLLINGWOOD RSL CITY OF YARRA</b>	
DRAWING TITLE <b>STRUCTURAL</b>	
DESIGNED : F. C.	JOB No <b>0506/7</b>
DRAWN : H. L.	
SCALE : 1:100	DRG No <b>S3</b>