Completion Report

for

BC 359630 – 41-43 Cambridge Terrace Apartments

Earthquake Structural Strengthening and Repairs



October 2019

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1.0 INTRODUCTION

The purpose of this report is to provide an overall summary of the Earthquake Structural Strengthening and Repairs Project that was undertaken at 41-43 Cambridge Terrace between 1st August 2018 and 29th August 2019, the insurance settlement and design work that lead up to the physical repairs, and the completion documentation resulting from, and as a record of the project.

The 29 unit Cambridge Apartments complex located at 41-43 Cambridge Terrace, Christchurch suffered earthquake damage as a result of the Canterbury earthquakes of 4th September 2010, 22nd February 2011 and the intervening and subsequent aftershocks. The site was rendered as uninhabitable following the earthquake of 22nd of February, and remained unoccupied for a period of approximately 12 months due to central city cordons restricting access back into the site.

The buildings at 41-43 Cambridge Terrace, 'Cambridge Apartments', consist of 29 residential units in four separate towers supported on a transfer structure at ground level that sits over a common basement car park. North and South Towers are approximately 26 metres to the apex above ground, while the East and West Towers are approximately 21 metres. The construction is generally reinforced concrete blockwork, precast concrete floors with in-situ concrete topping and pitched timber framed roofs. Both the North and South Towers, and the East and West Towers are near identical structures, about a central ground floor courtyard.

1.1 Scoping

Focus Project Services Ltd ('Focus') were engaged by Pitcaithly Body Corporate Services Ltd ('PBCS') on behalf of the Cambridge Apartments body corporate to assess the various consultant reports, evaluate the scope of earthquake strengthening and consequential earthquake related repairs, and determine the associated value attributed to that scope for the purposes of achieving a comprehensive and robust repair strategy for the owners of the Cambridge Apartments units. Utilising the EQC Scoping document dated 5/9/11, and the associated EQC Scope Change document as the basis, Focus undertook detailed scoping of the Cambridge Apartments complex.

The detailed scoping and costing tasks were completed by Focus from December 2015 to February 2016. The scoping and reporting exercise included programming and sequencing drawings for the repair, site visits with specialist product suppliers / specifiers and contractors to ensure that the repair methodology, products, scope and costings were suitably adequate for the purposes of the repair, and that the costings associated were current and market tested.

Geotechnical Engineering Assessment

A geotechnical inspection report had been carried out by Geotech Consulting Limited in January 2012 following the 2010 / 2011 earthquake sequence. This comprised an inspection from the street frontage in December 2011 and a basement inspection in January 2012. The summary of this short report stated that if there is any residual building tilt, it is minor in nature and therefore correction in the form of compaction grouting or similar was unlikely to be justified.

Verticality and Levels Survey

A verticality and level survey was undertaken by Clark Land Surveyors on 6th and 7th June 2015. In general, these results indicated that the verticality of the wall elements were within normal construction tolerances with the exception of the damaged stairwell fin walls to the South elevation of the South Tower (above the main entranceway). In general, the results from the survey indicated that the overall building levelness and verticality was within acceptable construction tolerances with the exception of the South Tower stairwell fin walls.

Structural Engineering Assessment

Utilising the results of the Verticality and Levels Survey, a Detailed Engineering Evaluation ('DEE') was subsequently completed by Batchelar McDougall Consulting ('BMC'). The DEE also utilised information sourced from Invasive Investigations that were carried out in accordance with the prescribed Instruction to Contractor (IC) no. 1. The North and South Towers were found to have a global capacity of greater than 70% of New Building Standard ('NBS') in the north-south direction but only 20-30% of NBS in the east-west direction. These two towers were subsequently considered, or defined to be 'Earthquake-Prone' as defined in Section 122 of the Building Act. The East and West Towers were found to have a capacity of greater than 70% of NBS in both the north-south and east-west directions and were considered to be of low earthquake risk. The basement structure was found to have a capacity of greater than 70% of NBS in both the north-south and east-west directions and was subsequently considered to be of low earthquake risk. As instructed by BMC, emergency work was immediately undertaken to the basement entrance concrete beam in order to provide a safe, unobstructed entry to the basement carpark and an invasive investigation was undertaken on the beam for depth of cracking and corrosion of reinforcing steelwork.

1.2 Insurance Submission Process

Following the detailed scoping, Focus prepared a report for issue to EQC and the insurer, including a cost recommendation for completing the earthquake strengthening and repairs. The Focus repair report was issued to EQC and to the insurer (AIG) on 11/5/16. The claim was subsequently reported by EQC as 'over-cap' on 17/1/17, and the insurer began a full review of the report. The insurer's representatives, Cunningham Lindsay (Loss Adjustors), Thornton Tomasetti (Structural Engineers) and BBD (Quantity Surveyors) attended site for a site visit on 31/1/17. Thornton Tomasetti issued their findings via a Structural report on 22/5/17.

BBD issued a Draft Repair estimate on 2/6/17, and later provided a detailed breakdown of this estimate on 13/6/17, to enable a review of their findings by Focus. In response to the BBD costing exercise, Focus completed a detailed interrogation into the BBD review on required repair scope and associated costings, and submitted a report reaffirming these costings arrived at by Focus on 15/9/17.

Following submission of the above Focus report, a meeting was held with the Insurer on 26/9/17 and a settlement offer was agreed on that day, with a Settlement and Discharge Agreement to that

amount being signed by the owners in early-December 2017, with the final insurance payment being received on 13/12/17.

1.3 Design and Consent Process

Following settlement of the claim with EQC and the Insurer, and agreement on the value to be paid, the project went into the Design phase in late January 2018, to enable documentation for consent and construction to be produced.

BMC were engaged to progress the Structural Engineering design (previously completed suitable only for the DEE and Insurance settlement purposes) through the Concept, Developed and into Detailed Design phases suitable for Building Consent submission and for Construction.

Ikon Architects ('Ikon') were engaged to support the Structural design documentation with architectural detailing, specifications and architectural support as required also for Building Consent submission and for Construction purposes. Ikon were responsible for lodging the Building Consent with CCC and managing the Building Consent approval process.

Powell Fenwick Consulting ('PFC') were engaged to provide Fire Engineering advice and to support the Building Consent submission as well as provide design support and advice during the repair as needed.

1.4 Earthquake Strengthening and Repairs Process

Simon Construction Ltd ('SCL') were selected as the main contractor to complete the earthquake strengthening and repairs contract and commenced work on site on the 31st July 2018 with a completion date of the 29th August 2019. Contract works were completed on site on the 29th August 2019.

SCL went through a negotiated process to establish the contract value. This included providing a minimum of three subcontractors trade pricing for assessment against the approved scope of works which was in a detailed measured Schedule of Quantities format.

The contracted scope of works was focused solely on repairing the earthquake damage and for strengthening the facility to 67% of New Building Standard ('NBS'). At the time the insurance settlement was scoped, agreed, and settled, it was on the basis that the insurer agreed that the scope of works included earthquake strengthening works and consequential repairs only. The scope of works was prepared following extensive site scoping visits to evaluate the earthquake damage and determine the best method of repair. Apartment owners were then given the opportunity to review the scope of works prepared and notify of any items that they believed should have been included. These items were reviewed and included if they were deemed to have been caused by the earthquake. Non earthquake related damage including the likes of cracked floor tiles which were considered to not have been caused by the earthquakes, and bathroom porcelain basins which had

fissured hairline cracks due to normal wear and tear, were not covered by insurance and therefore not included in the scope of works.

During construction there were opportunities presented and accepted for cost savings based on trade lettings and various revisions of the repair methodology. Repair methodology changes included the works undertaken to the internal courtyard, which previously included complete slab demolition and a new concrete slab laid over new waterproofing membrane. A revised detail was worked through with the project Architect and waterproofing subcontractor to allow a new waterproofing membrane to be laid over the existing concrete slab with paver tiles installed on pedestals above. The added advantage to this chosen methodology was the ability to easily attend to any leaks in the waterproofing membrane should they occur, something that would not be possible if a 'like for like' repair had been undertaken.

The repair methodology for the external blockwork wall works was also revisited once the existing landscaping was removed, and rather than a full demolition and rebuild of the entire perimeter wall, a 30 metre section only was demolished and rebuilt with the remainder having isolated cracked blocks replaced and cracked joints raked out and re-mortared.

These savings were then reinvested into the facility as a whole in terms of completing GPR (X-ray) scanning to all blockwork and subsequent grout fill of previously unfilled large sections of external blockwork; undertaking extensive roofing design improvements and relocating downpipes to external faces wherever possible to remediate pre-existing poor detailing and construction leaks from previously internally routed stormwater pipes; the complete internal and external redecoration including the flat membrane roofs; repairs to kitchen joinery edging that had delaminated due to a poor batch of glue when it was original manufactured; the design and fabrication of storm flood barrier to the basement ramp; and installation of new LED lights throughout the facility - to mention but a few of the additional non-earthquake improvements that were completed within the fund allowance.

Works were completed on 29th August 2019, with a few minor items being attended to thereafter. Residents commenced moving back into the facility within a week of completion.

1.5 Project Timeline – Summary

Insurance Settlement

- EQC initial settlement payment made pre August 2015;
- Focus engaged for Project Management and Quantity Surveying services on 23/7/15;
- Verticality and levels survey completed by Clark Land Surveyors on 23/8/15;
- Structural Engineering DEE completed by BMC on 24/11/15;
- Detailed scoping exercise was completed by Focus between December 2015 and February 2016. Scope, costings and report submitted to EQC on 11/5/16;
- EQC documentation review 11/5/16 to 17/1/17. EQC deem repair overcap on 17/1/17;
- EQC final cap payment received 26/5/17;

- Insurer (and their agent's) review of Focus scope, costings and report from 17/1/17 to 13/6/17. Insurer assessment of repair scope and cost issued 13/6/17;
- Focus analysis and response to Insurer assessment of cost completed from 13/6/17 to 15/9/17. Issued to Insurer on 15/9/17;
- Insurer review of Focus response from 15/9/17 to 26/9/17;
- Meeting held between Insurer, Body Corporate, Broker and Focus on 26/9/17. Settlement figure agreed based on Focus scope and associated costings same day;
- Insurer payment received to the agreed total on 13/12/17.

Design and Cost Check

- Concept Design for repair / structural strengthening completed between 15/1/18 and 9/3/18. Client approval of the repair concept design received 12/3/18;
- Developed Design rev 1 completed between 13/3/18 and 5/4/18. Developed Design rev 1 report issued for review 6/4/18. Report reviewed and additional detail requested for a rev 2 issue on 9/4/18;
- Developed Design rev 2 completed between 10/4/18 and 7/5/18. Developed Design rev 2 report issued for review 8/5/18. Report reviewed and approved 15/5/18;
- Detailed Design for Building Consent and Construction commenced 14/5/18;
- Design completed for Building Consent lodgement on 12/6/18.

Building Consent

- Building Consent lodged with CCC on 15/6/18.
- Receipt of the Building Consent approval received from CCC on 10/8/18;
- Stamped Building Consent documentation received from CCC on 17/8/18.

Procurement

- Main Contractor procurement and contract formation completed from 14/5/18 to 18/7/18.
- Contract signed by Simon Construction Ltd ('SCL') on 19/7/18.

Construction and Completion

- Site establishment commenced on 30/7/18 with works commencing on site on 10/8/18;
- Construction works completed on 29/8/19;
- Code of Compliance Certificate received from CCC on 30/10/19.

2.0 CONSTRUCTION DOCUMENTATION

2.1 Completion Documentation

Code of Compliance Documentation (as per Appendix 1A)

Handover Documentation List	Simon Construction (SCL)
Application for Code of Compliance Certification	Simon Construction (SCL)
Crack Injection (PS3)	Connect Group
Structural Steel (PS3)	VIP Steel
Structural strengthening – General (PS3)	Simon Construction (SCL)
Under tile membrane (PS3)	Ash Tiling
Plumbing & Pipework Testing (B084)	Willcox Plumbing
Electrical Certificate of Compliance	Caltec Electrical
Emergency lighting (PS3)	Caltec Electrical
Fire Sprinkler and Fire Alarm (PS3)	Fire Fighting Pacific (FFP)
Membrane Waterproofing (PS3)	Adhesion Sealing
Structural Engineers (PS4)	Batchelar McDougall (BMC)
Independent Fire System Inspection Letter (IANZ)	AON / Fire Fighting Pacific (FFP)

Producer Statements (as per Appendix 1B)

Sealants (PS3)	Adhesion Sealing	clause 4.10
Metal roofing (PS3)	Robinson Roofing	clause 5.17
Membrane waterproofing (PS3)	Adhesion Sealing	clause 6.17
Aluminium windows & doors (PS3)	Rylock	clause 7.18
Glazing (PS3)	Rylock	clause 8.9
Plasterboard linings (PS3)	Stripes Group	clause 9.12
Painting (PS3)	Spencer Group	clause 11.13
Suspended ceilings (PS3)	Simon Construction	clause 15.11

Tiling and waterproofing (PS3)	Ash Tiling
Crack Repair (PS3)	Connect Group
Electrical (PS3)	Caltec Electrical
Fire Sprinkler and Fire Alarm (PS3)	Fire Fighting Pacific (FFP)
Structural Steelwork (PS3)	VIP Steel
Plumbing Works (PS3)	Willcox Plumbing
Plumbing Pipework Testing	Willcox Plumbing
Electrical Certificate of Compliance	Caltec Electrical
Structural Strengthening Works (PS3)	Simon Construction (SCL)
Structural Engineering (PS4)	Batchelar McDougall (BMC)
Fire Engineering (PS4)	Powell Fenwick (PFC)

Schedule of Warranties (as per Appendix 1C)

Sealants: Materials & workmanship 10 yrs	Adhesion Sealing	clause 4.9
Metal roofing: Materials & workmanship 15 yrs	Robinson Roofing	clause 5.16
Membrane waterproofing: Mats & workmanship 15 yrs	Adhesion Sealing	clause 6.16
Aluminium windows & doors: Mats & workmanship 10 yrs	Rylock	clause 7.17
Glazing: Materials & workmanship 10 yrs	Rylock	clause 8.8
Plasterboard linings: Materials & workmanship 5 yrs	Stripes Group	clause 9.11
Tiling: Materials & workmanship 5 yrs	Ash Tiling	clause 10.12
Painting: Materials & workmanship 5 yrs	Spencer Group	clause 11.12
Plumbing fixtures: Materials & workmanship 5 yrs	Willcox Plumbing	clause 12.8
Joinery: Materials & workmanship 5 yrs	JB Joinery	clause 13.8
Suspended Ceilings: Materials & workmanship 5 yrs	Incl. in below	clause 15.10
Main Contractor Guarantee	Simon Construction	

User Manuals (as per Appendix 1D)

DEVI Touch Underfloor Heating

2.2 Territorial Authority Documentation

Building Consents (as per Appendix 2A)

- Building Consent BCN/2018/4300 was approved dated 17th August 2018, 'BCN/2018/4300 for 29/41 Cambridge Terrace, Alterations to apartment complex - earthquake repairs and structural strengthening to 67% NBS'.
- Building Consent Minor Variation #01 for 'Alterations to apartment complex - earthquake repairs and structural strengthening to 67% NBS' was approved on the 7th May 2019.
- Building Consent Minor Variation #02 for 'Revised drawings for waterproofing membrane over existing concrete topping slab' was approved on the 22nd May 2019.

Record of Council Inspections

- 23/10/2018 - Pre-pour of the North Tower shear wall - Pass.
- 23/11/2018 - Roof Inspection - Fail with approval to continue, due to the South Tower not being available for inspection (a Pass cannot be awarded until all areas of the consent item are completed and inspected).
- 11/02/2019 - Pre-pour of the South Tower shear wall - Pass.
- 28/02/2019 - Pre Line (Pre Line including Plumbing) - Fail with approval to continue, due to the South Tower not being available for inspection (a Pass cannot be awarded until all areas of the consent item are completed and inspected).
- 19/03/2019 - Interior Tanking (Pre Tile Tanking) - Fail with approval to continue, due to the South Tower not being available for inspection (a Pass cannot be awarded until all areas of the consent item are completed and inspected).

- 03/04/2019 - Interior Tanking (Pre Tile Tanking) - Fail with approval to continue, due to the South Tower not being available for inspection (a Pass cannot be awarded until all areas of the consent item are completed and inspected).
- 21/05/2019 - Pre Line (Pre Line including Plumbing) - Pass.
- 05/06/2019 - Interior Tanking (Pre Tile Tanking) - Approved to continue.

Code of Compliance (as per Appendix 2B)

- Code of Compliance was received on the 30th October 2019. Refer to Appendix 2B for a copy of the Code of Compliance Certificate.
- Compliance Schedule letter for Compliance Schedule WOF53269 was received on the 30th October 2019. Refer to Appendix 2B for a copy of the Compliance Schedule letter.
- Compliance Schedule WOF53269 was received on the 30th October 2019. Refer to Appendix 2B for a copy of the Compliance Schedule.

3.0 FINISHES SCHEDULE

Generally all apartment finishes selections are as below. Please note that there are typically two colour schemes repeated throughout the facility, a dark colour scheme (North and West apartments) and a light colour scheme (South and East apartments). There are however five apartments which do not necessarily follow the dark / light finishes selections. These are apartments 16, 21, 22, 25, and 27. The different finishes selections for these apartments are listed separately.

Internal Paint Colours

Dark Scheme: North and West apartments

- Walls – Resene Thorndon Cream (Y87-016-090) – Low sheen
- Interior Ceilings – Resene Eighth Thorndon Cream (N94-007-096) – Matt
- Doors & Surrounds – Resene Hurricane (BR62-012-045) – Semi gloss
- External Door – Resene Double Mondo (BR38-014-074) – Semi gloss
- Kitchen Joinery (closest determinable match to the Melteca) – Resene Tom Tom (BR64-013-030)

Light Scheme: South and East apartments

- Walls – Resene Thorndon Cream (Y87-016-090) – Low sheen
- Interior Ceilings – Resene Eighth Thorndon Cream (N94-007-096) – Matt
- Doors & Surrounds – Resene Nomad (Y72-019-083) – Semi gloss
- External Door – Resene Double Mondo (BR38-014-074) – Semi gloss
- Kitchen Joinery (closest determinable match to the Melteca) – Resene Mondo (BR43-014-073)

External Paint Colours

- Paint specification: All paint is Resene X200
- Concrete Blockwork External and Intertenancy Walls – Resene Half Concrete (N91-001-126)
- Concrete Blockwork Planters – Resene Double Mondo (BR38-014-074)
- Exterior Blockwork Walls (Selection 1) – Resene Half Taupe Grey (Y71-009-090)
- Exterior Blockwork Walls (Selection 2) – Resene Half Tapa (G66-009-097)

Internal Tiles Specifications (where new tiles were laid only)

- Internal floors (kitchen and bathroom): Super White TF607 600mm x 600mm. Supplied by Ash Tiling, Hooman Sholehpak, 027 496 2772.
- Shower walls and splashbacks: Matt White 300mm x 100mm. Supplied by Ash Tiling, Hooman Sholehpak, 027 496 2772.

External Tiles Specifications

- Ground Floor External patios and courtyard: EB266322 600mm x 600mm x 20mm with 3mm spacer. Supplied by Ash Tiling, Hooman Sholehpak, 027 496 2772.
- Entry steps: Super White ATF607 600mm x 600mm. Supplied by Ash Tiling, Hooman Sholehpak, 027 496 2772.
- Upper Floors External terraces and Juliet balconies: Super White ATF607 600mm x 600mm. Supplied by Ash Tiling, Hooman Sholehpak, 027 496 2772.
- External stair nosing: Full-bodied porcelain nosing 60x150x10mm Matte finish. Supplied by The Tile Warehouse, 0800 289 845.

Carpet Selection Specification (where new carpet was laid only)

- Carpet Dark Scheme: Godfrey Hirst Colombia – Paua
- Carpet Light Scheme: Godfrey Hirst Colombia – Oilskin
- Underlay: Dunlop Ultimate Springtred 11mm underlay

Light Fittings Specifications

- Wall Lights – 230V Interior Brushed Aluminium Surface Mounted Up / Down Orthodox Wall Light. Eurotech Lighting Product Code: A024LED-AL.
- Circular Ceiling Lights – Switch Lighting, White SL55 LED Downlight.
- Rectangular Ceiling Lights – R334 KWUDL White, 3000k Warm White Twin Tilt / Rotate Kit. Halycon Product Code: R334 KWUDL.
- Main Entrance Foyer ceiling lights – 45W Commercial Kit, 4000K Natural White Colour Temperature Aluminium White finish. Halycon Product Code: R769 KWNDL
- Rectangular Balcony Exterior Lights – 230V Exterior Wall Light. Eurotech Lighting Product Code: LKB3213-WH.
- Circular Shared Space Exterior Lights – VEGA 14W LED bulkhead, IP65, 300mm, Black, 4000K, emergency, plain diffuser. Robus Product Code: RVE01440E-04.
- Basement Lights – THO96665580 Julie Underverandah LED 840 1500MM 5FT 6000LM.

Non-Standard Apartment Finishes Selections

Apartment 16

- Trim and doors – Resene Tom Tom (BR64-013-030) – Semi gloss
- Kitchen Joinery (closest determinable match to the Melteca) – Resene Half Friar Grey (N69-008-089)
- Kitchen bookshelf and bench (closest determinable match to the Melteca) – Resene Tom Tom (BR64-013-030)

Apartment 21

- Finishes left uncompleted

Apartment 22

- Finishes left uncompleted

Apartment 25

- Trim and HWC doors – Resene Cloudy (BR75-009-070) – Semi gloss
- Kitchen joinery (closest determinable match to the Melteca) – Resene Tom Tom (BR64-013-030)
- Comms cabinet doors (closest determinable match to the Melteca) – Resene Tom Tom (BR64-013-030)

Apartment 27

- Walls – all except for the bathroom – Resene Sea Fog (N92-005-100) – Low sheen
- Skirting – all except for the bathroom – Resene Sea Fog (N92-005-100) – Semi gloss
- Ceilings – all except for the bathroom – Resene Quarter Sea Fog (N95-004-106) – Matt
- Bathroom walls – Resene Quarter Thorndon Cream (G93-011-091) – Semi gloss
- Bathroom ceiling – Resene Eighth Thorndon Cream (N94-007-096) – Matt
- Doors and architraves – Resene Quarter Sea Fog (N92-005-100) – Semi gloss
- Wood Flooring: Dominion Flooring – Ekowood – Oak White Sand, G5 Construction, Wide Plank, Matt Brushed with Eternity underlay.

4.0 CONTACT DETAILS

4.1 Contractor Contact Details

Contractor	Trade	Contact Name	Contact Number
Simon Construction	Main Contractor (Direct Works - Carpentry, Concrete, Suspended Ceilings)	Geoff Atkinson Izaac Simon	03 385 2881
Adhesion Sealing	Waterproofing Membrane to internal and external courtyards & flat roof membrane	Clinton Williams	03 365 9014
Ash Tile Supply	Tiling and waterproofing to bathrooms and terraces	Hooman Sholehpak	027 496 2772
Caltec Electrical	Electrical and Underfloor Heating	Mike Harrison	021 279 6080
Connect Group	Epoxy concrete crack repair & concrete block fill and repair	Vali Filimon	03 374 6849
FFP Canterbury	Fire Sprinklers & Fire Alarms	Damon Ruki	03 366 7889
JB Joinery	Joinery	Bryce Young	03-338 4159
Texture Plants	Soft Landscaping and Irrigation	Stephen Mapletoft	03 281 7780
Robinsons Roofing	Roofing	Hamish Robinson	03 347 9045
Rylock Aluminium	Aluminium Joinery	Ricky Manaler	03 981 2261
Spencer Painters & Decorators	Internal & External Decoration (Painting)	Jeremy Spencer	03 335 0205
Stripes Group	Plasterboard & Plastering (Gib stopping)	Tim Braid	03 341 0502

Contractor	Trade	Contact Name	Contact Number
The Flooring Centre	Carpet	David Burke	03 341 1753
Willcox Plumbing	Plumbing	Barry Willcox	03 365 7813

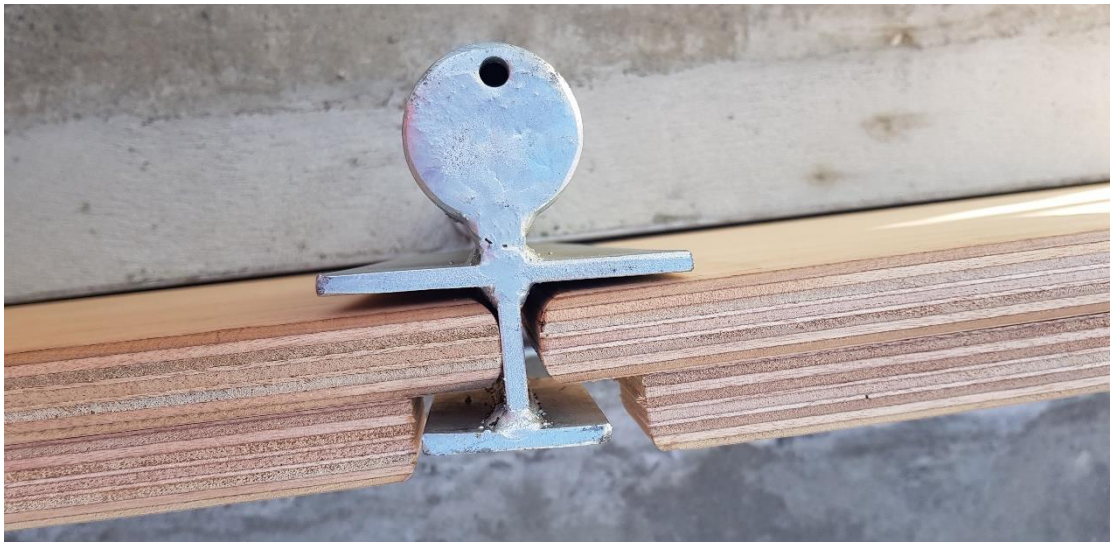
4.2 Consultant Contact Details

Consultant	Discipline	Contact Name	Contact Number
Focus Project Services	Project Manager and Quantity Surveyor	Nathan Lang	021 313 684
IKON Architects	Architect	Tony Clarke	03 352 9207
Batchelar McDougall Consulting	Structural Engineer	Warren Batchelar	03 338 3351
Powell Fenwick Consulting	Fire Engineer	David James	03 366 1777

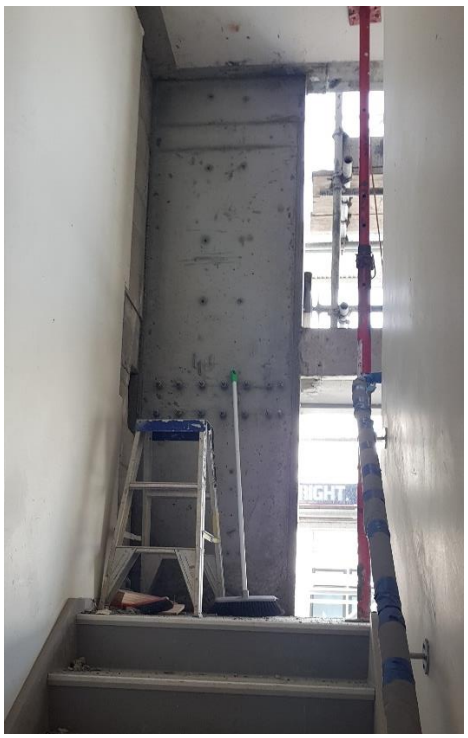
5.0 PROGRESS PHOTOS



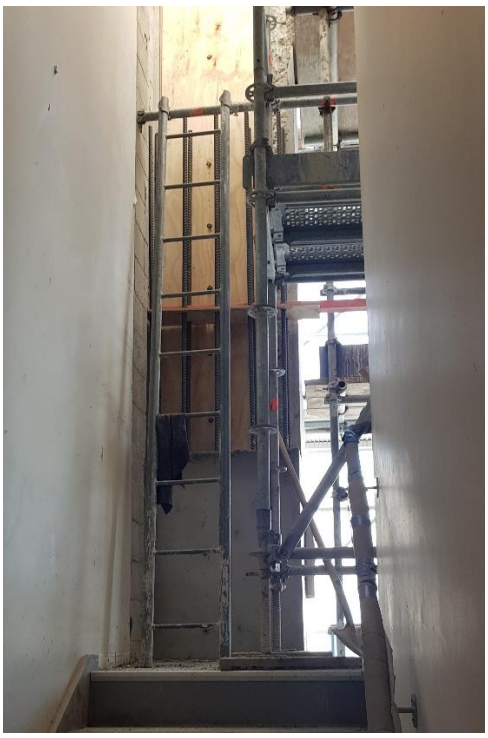
Flood protection barrier with timber panels in place



Plan view of timber panels and steel joiner of flood protection barrier



Concrete in North Block Shear Wall Level 1



Concrete in North Block Shear Wall Level 2



Bolts cast in to the concrete ready for Structural Steel beam

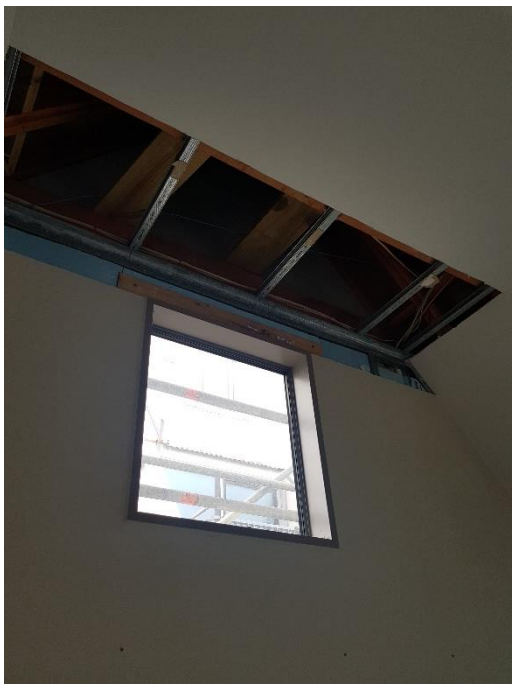


Join between new concrete shear wall and existing blockwork to pier





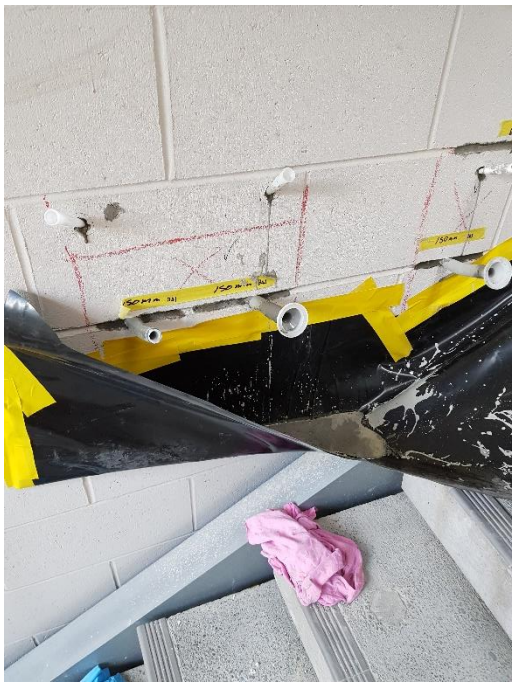
Blockwork shells at gable ends which dislodged when preparation for the void fill was attempted



Removal of wall and ceiling linings in Apartment 26 to enable void fill of gable end blockwork



Piping ready for grout fill in the south west external stairwell



Grout fill being undertaken in the south west external stairwell



Structural Steel collector beam in place in Apartment 24



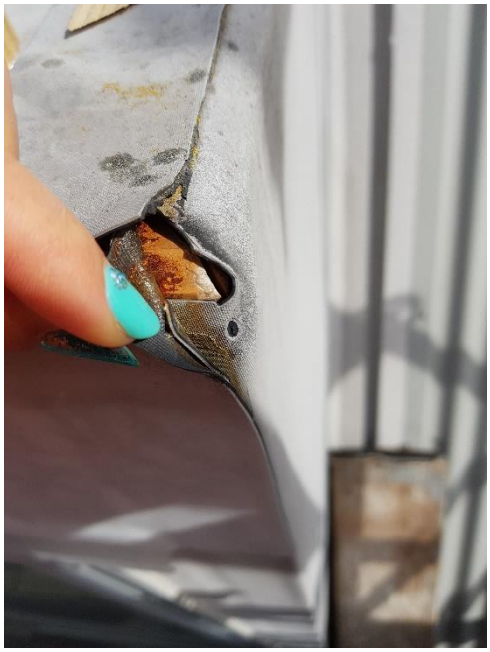
X-bracing in place in Apartment 24 bathroom / bedroom wall awaiting site welding



PFC bond beam fixed to new shear wall in the North Tower stairwell



Site welding completed to X-bracing in Apartment 24



Typical original detail to corner of membrane roof around dormer windows - timber shown beneath the Butynol is the roof framing within the roof cavity



New detail to corner of membrane roof around dormer window – built up over the original membrane which was direct fixed to timber roof framing



Timber framing in place for plywood roof substrate and new membrane roofing over dormer windows



Plywood roof substrate and cavity battens completed, ready for membrane roofing and external cladding



Base of new shear wall in the South Tower stairwell



Reinforcing in place for second pour of shear wall to South Block internal stairwell



Side view of the cantilevered blockwork wall at the top landing of the South Tower



Direct view of the cantilevered blockwork wall at the top of the South Tower, showing the steel 'L' angle, which transfers the load of the roof to the cantilevered blockwork



Installation of the South Tower structural steel – X bracing



Installation of the South Tower structural steel – K bracing for roof load transfer



Reinforcing in place for shear wall in South Tower stairwell



Concrete poured to South Tower shear wall



Newly painted flat roofs to the East and West Towers



New roof spouting and new leaf guard installed to West Tower



Core sample testing to crack injection in North Tower stair landings



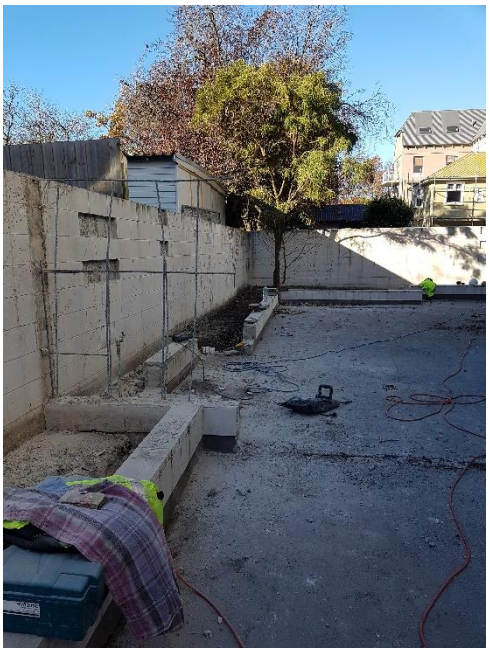
Replacement under tile heating installed to Apartment 05



Removal of all soft landscaping to the perimeter patios to enable installation of waterproofing membrane to required detail



Removal of all soft landscaping to the perimeter patios to enable installation of waterproofing membrane to required detail



Removal of damaged blockwork wall and landscaping to the North facing perimeter patios to enable installation of waterproofing membrane



Concrete screed laid to falls for drainage to Apartment 07 external patio ready to receive waterproofing membrane and new paving

 Apartment 08 exterior patio waterproofing membrane beginning to be laid and starter bars for blockwork intertenancy walls	 Apartment 08 waterproofing membrane completed and perimeter 'L' angle in place for deck jack tiles
 Internal courtyard with blockwork wall removed to the planter box for the waterproofing membrane to be laid	 Apartment 01 concrete patio broken out and removed. Formwork in place for concrete nib walls to be poured



Completion photo taken from above the internal courtyard facing the West and North Tower



Completion photo taken from the internal courtyard facing the North Tower



Completion photo taken from Cambridge Terrace



Completion photo taken from the river's edge of Cambridge Terrace

6.0 APPENDICES

Appendix 1: Completion Documentation

a. Code of Compliance Documentation
b. Producer Statements
c. Schedule of Warranties
d. User Manuals

Appendix 2: Territorial Authority Documentation

a. Building Consent Approval and Amendments
b. Code of Compliance Certificate