

5 December 2025

Project No.: 25288

**Hayley Sorenson c/o Smartlift Solutions Ltd
t/a Smartlift Solutions**

Dear Sir/Madam,

**SUBJECT: STRUCTURAL INSPECTIONS AND SIGN-OFF FOR REPAIR / RE-LEVEL TO EXISTING
RESIDENTIAL BUILDING AT 19 BELFIELD STREET, DALLINGTON, CHRISTCHURCH 8061.**

Please find enclosed our structural documents for the sign-off of the remedial structural works completed at the above address. Referring to the above captioned, Peridot Engineering Limited (Peridot) has attached the relevant structural documents in order (listed below), and anticipates that this documentation will cover the completion of the remedial works, proposed by Peridot:

1. Producer Statement 4 (PS4).
2. Supporting documents:
 - Structural Repair Assessment.
 - Structural Repair Drawings.
 - Construction Monitoring Records.

We trust the above and attached is sufficient to cover the remedial structural works completed; however, if you require any further information or have any queries, please do not hesitate to contact the undersigned.

Yours faithfully



Leo Zhang
Structural Engineer / Director
M: +64 27 936 5822
E: leo@peridoteng.nz

STRUCTURAL REPAIR ASSESSMENT

Project Number 25288

Issue Date 05 December 2025

Prepared to Hayley Sorensen c/o Smartlift Solutions
Ltd t/a Smartlift Solutions

Revision A

19 Belfield Street, Dallington, Christchurch 8061



Prepared by:



Kiran Joshi

Structural Engineer
BEngTech (Civil)

Reviewed and Approved by:

Nam Nguyen

Senior Structural Engineer
BE(Hons), CPEng, CMEngNZ

1. INTRODUCTION AND SCOPE OF ENGAGEMENT

Peridot Engineering Limited (Peridot) has been engaged by Hayley Sorenson c/o Smartlift Solutions Ltd t/a Smartlift Solutions, to provide construction supervision in relation to the re-levelling of existing floor carried out to the existing residential property at 19 Belfield Street, Dallington, Christchurch 8061. The purpose of the construction monitoring and reporting is to evaluate the extent of the structural re-levelling of existing floor of the dwelling following the recommendations provided in Peridot's design.

The recommended repair works were designed in accordance with the standards and guidance outlined in the Structural Repair Design for Existing Residential Building by Peridot, dated 30 September 2025, Ref.: 25288, Rev.: A.

The construction monitoring was carried out in accordance with Peridot's inspection schedule attached in the design package mentioned above, including the following inspections:

- Excavation inspection on 11 November 2025, to check the pits size, soil condition and soil bearing verification for underpinning pads.
- Final inspection on 20 November 2025 to check the final floor levels, sub-floor connections, and crack repairs.

2. STRUCTURAL REPAIR ASSESSMENT

Foundation re-level – Main Dwelling (Type B)

- The external perimeter foundation of existing dwelling was partially re-levelled by mechanical lifting (underpinning) method, as per the MBIE Guidance and Engineering Details.
- The perimeter foundation at west corner of Lounge was partially re-levelled by overpinning method as per the MBIE Guidance and Engineering Details.
- The internal timber floor was partially re-levelled by jacking and packing of piles, pile replacement and bearer notching method, as per the MBIE Guidance and Engineering Details.
- Sub-floor connections provided as per our details.
- Cracking damage to the concrete perimeter foundation repaired as per our details.

The floor levels post remediation measured showed a maximum floor level variation of 14mm (0, -14) across the main dwelling footprint, within the 50mm suggested threshold of “no foundation re-level considered necessary” set out in Table 2.3 of the MBIE Guidance. Minor localised floor slope exceeding the limit of 0.5% was identified at the centre of sunroom. Re-levelling has been completed to the maximum possible extent, and any further re-levelling is likely to result in adverse impact on surrounding levels. Therefore, the localised slope at the centre of the Sunroom is considered to be associated with as built condition. All the earthquake related floor slopes have been remediated. Any identified localised slopes were a subject of as-built / historical.

No further cracking damage to the perimeter foundation was observed during our final inspection. Therefore, Peridot considers that the crack repairs to type B foundation have been completed and there is no further cracking damage to the foundation of the dwelling.

Other repairs

The repairs work to the superstructure was outside of our scope of engagement and, therefore, was not included in our site inspections or this report.

3. CONCLUSIONS

Based on the observation and data collected during our inspections, Peridot believes, on reasonable grounds, that the repair and re-levelling works to the foundation of the existing dwelling have been carried out in accordance with the design and recommendations by Peridot.

After any potential future moderate earthquakes, the suitability for occupancy must be re-assessed by a structural engineer.

LIMITATIONS

- a. This report has been prepared on behalf of and for the exclusive use of our client and is subject to and issued in accordance with the provisions of the contract between Peridot Engineering Limited and our Client. Peridot Engineering Limited accepts no liability or responsibility, whatsoever, for or in respect of any use or reliance upon this report by any third party. The basis of Peridot's advice and our responsibility to our client is set out in the terms of the engagement with our Client.
- b. This report is the copyright of Peridot Engineering Limited. Except for the use of the client and subject to the conditions in the agreement, no part of this publication may be copied without the express permission in writing from Peridot.
- c. The investigation of the existing building comprised a visual inspection, limited onsite non-destructive investigation and the review of available documentation.
- d. This report is for the structural aspects of the building only. Peridot Engineering Limited does not report on cosmetic damage or provide recommendations for cosmetic repairs or those required for weathertightness.
- e. The above report does not constitute our confirmation that the building is "safe", "earthquake resistant" or similar. Peridot Engineering Limited has not checked the level of actual structural compliance with the current Building Code, nor assessed the level of actual past seismic activity at the particular site on which the building is situated. Peridot Engineering Limited has carried out visual inspection of readily accessible areas and has used our professional judgement to assess the repair works are in accordance with MBIE and the repair methodology (recommended by others) based on the conditions encountered and information received and reviewed. Peridot Engineering Limited accepts no liability for any original latent or hidden construction defects or any changes that may have occurred after this time.
- f. Carrying out works documented in this report does not preclude damage to the building, internal fixtures and fittings resulting from future earthquakes. Buildings with a New Building Standard (NBS) rating of 100% can still experience significant structural and non-structural damage (e.g. internal wall and ceiling treatments, fixtures and fittings, shelves, lights, services, etc.) following a design earthquake event and may be deemed impractical to repair or be unusable for a period.
- g. The scope of any foundation re-levelling is to return the building foundations to as close to as reasonably practicable to its structural pre-earthquake condition (i.e. NZBC Section 112 repair). This clause states that the repair strategy does not have to improve the overall performance of the structure; rather it cannot be made any worse than it was prior to the earthquake sequence. The re-levelling of the foundations will not lead to any "betterment" of the existing foundation structure. Similar performance is likely to be observed, should we experience a further significant seismic event.

APPENDICES

A.1: SITE PHOTOS



Photo 1. View of excavated pits for underpinning pads.



Photo 2. View of excavated pits for underpinning pads (1).



Photo 3. View of excavated pits for underpinning pads (2).



Photo 4. View of excavated pits for underpinning pads (3).



Photo 5. View of excavated pit for underpinning pads (4).



Photo 6. View of excavated pit for underpinning pads (5).



Photo 7. View of subfloor connections.



Photo 8. View of subfloor connections (1).



Photo 9. View of subfloor connections (2).



Photo 10. View of subfloor connections (3).



Photo 11. View of crack repaired to the perimeter foundation.



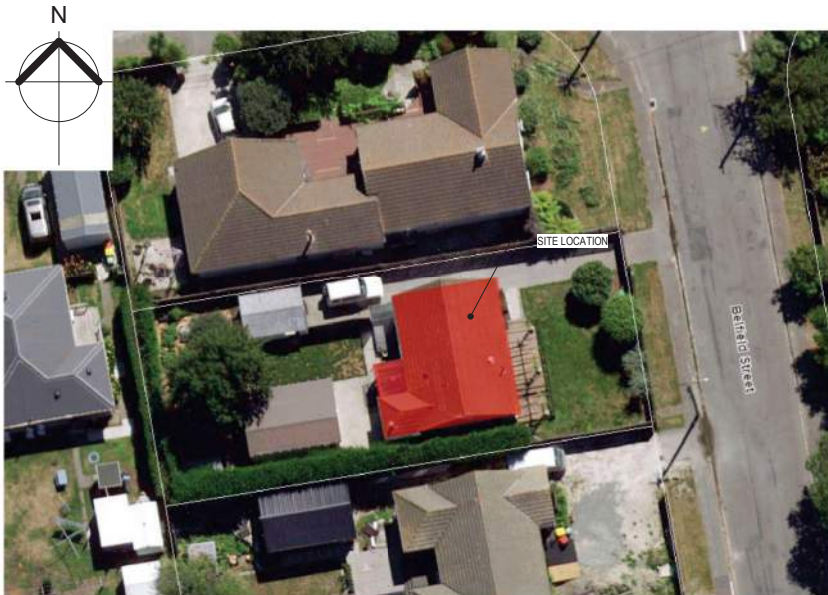
Photo 12. View of internal slab floor in Sunroom post re-levelling .

A.2: STRUCTURAL REPAIR ASSESSMENT DRAWINGS

STRUCTURAL ASSESSMENT - SIGN OFF

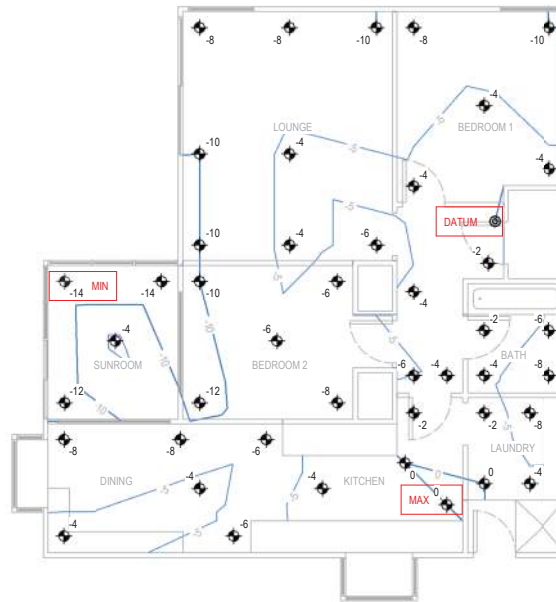
19 BELFIELD STREET, DALLINGTON, CHRISTCHURCH

PROJECT - 25288



SURVEY PLANS		
SHEET NO.	SHEET TITLE	SHEET REV.
SA-01	FLOOR LEVELS - FINAL	1

DATE: 05/12/2025, REV: A



FLOOR LEVEL SURVEY - FINAL

1 : 100

FLOOR LEVELS LEGEND:

- DATUM
- $\pm XX$ FLOOR LEVEL (mm)
- $\pm X$ MIN MINIMUM FLOOR LEVEL (mm)
- $\pm X$ MAX MAXIMUM FLOOR LEVEL (mm)

FLOOR LEVELS - FINAL

FOR INFORMATION

JOB NO.
25288
SHEET NO.
SA-01
SHEET REV.
1

STRUCTURAL DRAWINGS TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL AND OTHER RELEVANT DRAWINGS AND SPECIFICATIONS IF ANY. REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, LEVELS, DUCTS, AND OTHER SETTING OUT INFORMATION. CONTRACTORS MUST VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK AND ORDERING MATERIALS.
DO NOT SCALE.



REV	DATE	DESCRIPTION
1	05/12/2025	FOR INFORMATION

DESIGNED BY: K.J.
DRAWN BY: D.Y.
REVIEWED BY: N.N.
DATE: 05/12/2025
A3 SCALE: 1 : 100

STRUCTURAL ASSESSMENT - SIGN OFF

19 BELFIELD STREET, DALLINGTON, CHRISTCHURCH

PRODUCER STATEMENT – PS4

CONSTRUCTION REVIEW

BUILDING CODE CLAUSE(S): B1/VM1, VM4, AS1, MBIE Guide

JOB NUMBER: 25288

ISSUED BY: Peridot Engineering Limited

(Construction Monitoring Firm)

TO: Hayley Sorensen c/o Smartlift Solutions Ltd t/a Smartlift Systems

(Owner/Developer)

TO BE SUPPLIED TO: Christchurch City Council

(Building Consent Authority)

IN RESPECT OF: Foundation Re-levelling/Repair to Existing Residential Dwelling as per the site notes attached.

(Description of Building Work)

AT: 19 Belfield Street, Dallington, Christchurch 8061

(Address, Town/City)

LEGAL DESCRIPTION: Lot 9 DP 16872

N/A ☐

We have been engaged by the owner/developer referred to above to provide CM 3 **level of construction monitoring** relating to the Clause(s) named above of the Building Code for the building work which is covered by PS1(s) issued by Peridot Engineering Limited (Engineering Design Firm) and which is described in the documents relating to the Building Consent No. BCN/2025/7826 and those relating to Building Consent Amendment(s) No. N/A issued during the course of the works, .

We have sighted these Building Consents and the conditions attached to them.

If any of the fields above are too small, please write "refer the Schedule".

Authorised instructions/variation(s) detailed/listed in the Schedule have been issued during the course of the works.

On the basis of these review(s) and information supplied by the contractor during the course of the works and **on behalf of the engineering firm** undertaking this Construction Monitoring, **I believe on reasonable grounds** that the building works covered by the above-mentioned PS1(s) have been completed in accordance with the relevant requirements of the Building Consent and Building Consent Amendments identified above or in the Schedule on page 2, with respect to Clause(s) B1/VM1, VM4, AS1, MBIE Guide of the Building Code. I also believe on reasonable grounds that the persons who have undertaken this construction review have the necessary competency to do so.

I, (Name of Construction Monitoring Professional) Nam Nguyen , am:

- CPEng number 1020176
- I hold the following qualifications BE(Hons), CMEngNZ, CPEng

The Construction Monitoring Firm holds a current policy of Professional Indemnity Insurance no less than \$200,000 The Construction Monitoring Firm Is not a member of ACE New Zealand.

SIGNED BY (Name of Construction Monitoring Professional): Nam Nguyen

(Signature below):

N/D Nam

ON BEHALF OF (Construction Monitoring Firm): Peridot Engineering Limited

Date: 05/12/25

Note: This statement has been prepared solely for the Building Consent Authority named above and shall not be relied upon by any other person or entity. Any liability in relation to this statement accrues to the Construction Monitoring Firm only. As a condition of reliance on this statement, the Building Consent Authority accepts that the total maximum amount of liability of any kind arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in tort or otherwise, is limited to the sum of \$200,000.

This form is to accompany **Forms 6 or 8 of the Building (Forms) Regulations 2004** for the issue of a Code Compliance Certificate.

THIS FORM AND ITS CONDITIONS ARE COPYRIGHT TO ACE NEW ZEALAND AND ENGINEERING NEW ZEALAND

SCHEDULE to PS4

Please include an itemised list of all referenced documents, drawings, or other supporting materials in relation to this producer statement below: |

1. Producer Statement 4 (PS4).
2. Supporting documents:
 - Construction Monitoring Records.

GUIDANCE ON USE OF PRODUCER STATEMENTS

Information on the use of Producer Statements and Construction Monitoring Guidelines can be found on the Engineering New Zealand website

<https://www.engineeringnz.org/engineer-tools/engineering-documents/producer-statements/>

Producer statements were first introduced with the Building Act 1991. The producer statements were developed by a combined task committee consisting of members of the New Zealand Institute of Architects (NZIA), Institution of Professional Engineers New Zealand (now Engineering New Zealand), Association of Consulting and Engineering New Zealand (ACE NZ) in consultation with the Building Officials Institute of New Zealand (BOINZ). The original suite of producer statements has been revised at the date of this form to ensure standard use within the industry.

The producer statement system is intended to provide Building Consent Authorities (BCAs) with part of the reasonable grounds necessary for the issue of a Building Consent or a Code Compliance Certificate, without necessarily having to duplicate review of design or construction monitoring undertaken by others.

PS1 DESIGN Intended for use by a suitably qualified independent engineering design professional in circumstances where the BCA accepts a producer statement for establishing reasonable grounds to issue a Building Consent;

PS2 DESIGN REVIEW Intended for use by a suitably qualified independent engineering design review professional where the BCA accepts an independent design professional's review as the basis for establishing reasonable grounds to issue a Building Consent;

PS3 CONSTRUCTION Forms commonly used as a certificate of completion of building work are Schedule 6 of NZS 3910:2013 or Schedules E1/E2 of NZIA's SCC 2011²

PS4 CONSTRUCTION REVIEW Intended for use by a suitably qualified independent engineering construction monitoring professional who either undertakes or supervises construction monitoring of the building works where the BCA requests a producer statement prior to issuing a Code Compliance Certificate.

This must be accompanied by a statement of completion of building work (Schedule 6).

The following guidelines are provided by ACE New Zealand and Engineering New Zealand to interpret the Producer Statement.

Competence of Engineering Professional

This statement is made by an engineering firm that has undertaken a contract of services for the services named, and is signed by a person authorised by that firm to verify the processes within the firm and competence of its personnel.

The person signing the Producer Statement on behalf of the engineering firm will have a professional qualification and proven current competence through registration on a national competence-based register such as a Chartered Professional Engineer (CPEng).

Membership of a professional body, such as Engineering New Zealand provides additional assurance of the designer's standing within the profession. If the engineering firm is a member of ACE New Zealand, this provides additional assurance about the standing of the firm.

Persons or firms meeting these criteria satisfy the term "suitably qualified independent engineering professional".

Professional Indemnity Insurance

As part of membership requirements, ACE New Zealand requires all member firms to hold Professional Indemnity Insurance to a minimum level.

The PI Insurance minimum stated on the front of this form reflects standard practice for the relationship between the BCA and the engineering firm.

Professional Services during Construction Phase

There are several levels of service that an engineering firm may provide during the construction phase of a project (CM1-CM5 for engineers³). The building Consent Authority is encouraged to require that the service to be provided by the engineering firm is appropriate for the project concerned.

Requirement to provide Producer Statement PS4

Building Consent Authorities should ensure that the applicant is aware of any requirement for producer statements for the construction phase of building work at the time the building consent is issued as no design professional should be expected to provide a producer statement unless such a requirement forms part of the Design Firm's engagement.

Refer Also:

- ¹ Conditions of Contract for Building & Civil Engineering Construction NZS 3910: 2013
- ² NZIA Standard Conditions of Contract SCC 2011
- ³ Guideline on the Briefing & Engagement for Consulting Engineering Services (ACE New Zealand/Engineering New Zealand 2004)
- ⁴ PN01 Guidelines on Producer Statements

www.acenz.org.nz

www.engineeringnz.org



SITE INSPECTION REPORT

JOB NUMBER:	25288	BUILDING CONSENT:	BCN/2025/7826
SITE ADDRESS:	19 Belfield Street	CONTRACTOR:	Smartlift
DATE:	11/11/2025	CONTACT:	Adam - 021515028
REASON FOR SITE VISIT:	Excavation Inspection		

OBSERVATIONS AND INSTRUCTIONS

Underpinning pads

- Excavation for underpinning pads has been carried out. as per plan .
- Dimensions observed at site :

A. External perimeter & at the centre of the internal foundation between Bedroom 2 and Sunroom

Min. 750mm x 750mm size - OK
Min. 700mm below NGL - OK
Max. spacing of 1700crs - OK

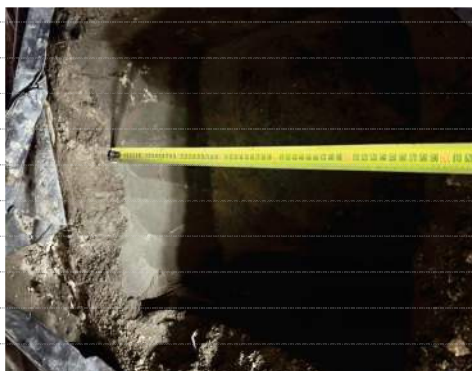
B. Internal foundation between Bedroom 2 and Sunroom.

Min. 800mm x 800mm size - OK
Min. 700mm below NGL - OK
Max. spacing of 2000crs - OK

- Bearing capacity of 150kPa achieved at excavated depth. - OK
- Mesh and chair cover provided to the excavated pits. - OK

Pile footings

- Photos of pile footings for pile replacement of 2 piles was provided by the contractor. Dimensions observed from photos for load bearing and non-load bearing piles were as per our plan.
- No topsoil was observed at the excavated depth based on the photos received. Due to inaccessibility, the bearing conditions for the pile footings could not be checked. However, soil bearing was inspected at a nearby excavated pad footing and was OK.



☒ Proceed with work once Council has inspected and approved

☐ Rectify and proceed once Council has inspected and approved

☐ Rectify and provide photos for engineer's approval

☐ Rectify and re-inspect

NEXT SITE INSPECTION: Final

- Contractor to advise when the next inspection is due, providing a minimum of 24 hours' notice
- Any approvals of monitored work by us must also be passed by Council. It is the responsibility of the Building Consent applicant to ensure that any changes made are supported either by a formal amendment or a minor variation, unless an agreement is reached with Council. This form together with any design changes must be passed on to a Council representative at the earliest opportunity for them to advise accordingly. Contractor must notify the engineer if Council does not pass the work and must NOT proceed.
- Site inspection is limited to non-intrusive observations and reviews of random samples of critical work, either prior to enclosure or upon completion, as appropriate.

Consultant representative: Kiran Joshi

Signature: K.J.



SITE INSPECTION REPORT

JOB NUMBER:	25288	BUILDING CONSENT:	BCN/2025/7826
SITE ADDRESS:	19 Belfield Street	CONTRACTOR:	Smartlift
DATE:	20-11-2025	CONTACT:	Adam - 021515028
REASON FOR SITE VISIT:	Final Inspection		

OBSERVATIONS AND INSTRUCTIONS

- a) The perimeter foundation of existing dwelling has been partially re-levelled by mechanical lifting (underpinning) method as per our specific engineering design. OK.
- b) The perimeter foundation at west corner of Lounge was partially re-levelled by overpinning method - OK
- c) The internal timber floor has been partially re-levelled by jacking and packing pile, bearer notching and pile replacement method as per our specific engineering design. OK.
- d) The internal concrete slab of Sunroom was fully re-levelled by mechanical lifting method. - OK
- e) Overall, the floor level variation measured on site during our inspection post re-levelling was 14mm (0, -14) within the 50mm required by the MBIE Guidance. - OK.
- f) Minor localised floor slope exceeding the limit of 0.5% was identified at the centre of the sunroom. Re-levelling has been completed to the maximum practicable extent, and any further re-levelling is likely to result in adverse impacts on surrounding levels. Therefore, the localised slope at the centre of the Sunroom is considered to be associated with as built condition. - OK.
- g) Sub-floor connections carried out as per our specification. OK.
- h) Cracking damages to the perimeter foundation repaired as per details. - OK

☐ Proceed with work once Council has inspected and approved

☐ Rectify and proceed once Council has inspected and approved

☐ Rectify and provide photos for engineer's approval

☐ Rectify and re-inspect

NEXT SITE INSPECTION: N/A

- Contractor to advise when the next inspection is due, providing a minimum of 24 hours' notice
- Any approvals of monitored work by us must also be passed by Council. It is the responsibility of the Building Consent applicant to ensure that any changes made are supported either by a formal amendment or a minor variation, unless an agreement is reached with Council. This form together with any design changes must be passed on to a Council representative at the earliest opportunity for them to advise accordingly. Contractor must notify the engineer if Council does not pass the work and must NOT proceed.
- Site inspection is limited to non-intrusive observations and reviews of random samples of critical work, either prior to enclosure or upon completion, as appropriate.

Consultant representative: Kiran Joshi

Signature: 





3284


1. POST CAST INSPECTION OF THE UNDERPINNING AREA (RE-LEVELING, MATERIAL, CONCRETE FLOORS (IF ANY), FOUNDATION BEAM (IF REQUIRED), THE SITE, GROUND CONDITIONS AND THE BEARING CAPACITY AT THE EXCAVATED DEPTH)
 2. PRE-POLAR INSPECTION TO CHECK REINFORCING STEEL OF THE UNDERPINNING AND (RE-LEVELING, FOUNDATION BEAM) (IF ANY) PRIOR TO POLARING OR CONCRETE
 3. FINAL FLOOR LEVEL, SLAB/FLOOR CONNECTIONS, AND CRACK REPAIRS (IF ANY).
- NOTE: MINIMUM 48 HOURS NOTICE IS REQUIRED FOR ALL INSPECTIONS.





LEGENDA


 **PAD TYPE A**
PROJECTIVE MAX. 750.00mm CONCRETE PAD, MIN. 50.00mm BELOW WOL.

 **PAD TYPE B**
PROJECTIVE MAX. 750.00mm CONCRETE PAD, MIN. 50.00mm BELOW WOL.

 **INTERNAL**
TIEBARS R. 10.00mm @ 150.00mm C/C, 1.00m LONG AND 1.00m SPACING

 **CONCRETE SLAB**
MIN. 150.00mm THICK, 1.00m SPACING

 **EXTERNAL**
TIEBARS R. 10.00mm @ 150.00mm C/C, 1.00m LONG AND 1.00m SPACING

 **CONCRETE FOUNDATION**
MIN. 150.00mm THICK, 1.00m SPACING

CONCRETE FOUNDATION TO BE CONFINED AT SITE

CONCRETE SLAB - THE SLAB FOUNDATION TO BE RE-LEVELLED BY REINFORCED LIFTING MEANS, ANY VOIDS UNDER THE SLAB TO BE FILLED WITH NON-SHrinkABLE FLOWABLE GROUT AS PER DETAILS ON SO2.

THUNDER FLOOR - SIMILAR STRATEGIES AS REST OF THE DWELLING TO BE APPLIED

EXTERNAL - REINFORCER REINFORCEMENT TO BE RE-LEVELLED BY OVERLAYING METHOD AS PER OUR SPECIFIC ENGINEERING DETAIL.

CONCRETE FOUNDATION TO BE CONFINED AT SITE BY CONFINATION - TO BE CONFINED ON SITE BY CONFINATION.



PERIDOT
engineering

REV	DATE	DESCRIPTION
1	30/09/2025	FOR BUILDING CONSENT

DRAWN BY:	D.Y.
REVIEWED BY:	M.M.
DATE:	30/09/2021
AS SCALE:	1:100

REPAIR DESIGN FOR EXISTING RESIDENTIAL DWELLING

19 BELFIELD STREET, DALLINGTON, CHRISTCHURCH

RE-LEVELLING PLAN

FOR BUILDING CONSENT

JOB NO.
25288
SHEET NO.
S101
SHEET REV