



Determination 2016/053

Regarding the exemption from the requirement for a building consent for foundation releveling using expanding resin to a house at 25 Birkett Street, Temuka

Summary

This determination considers whether the authority was correct in requiring an application for building consent or whether the proposed building work, to relevel the house foundations by injecting expanding resin, was exempt under Schedule 1. The determination discusses the whether the expanding resin is a ‘comparable component’ in terms of the foundation system, and whether the proposed building work is a ‘substantial replacement’.

1. The matter to be determined

- 1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004¹ (“the Act”) made under due authorisation by me, John Gardiner, Manager Determinations and Assurance, Ministry of Business, Innovation and Employment (“the Ministry”), for and on behalf of the Chief Executive of the Ministry.
- 1.2 The parties to the determination are:
 - The consulting engineering company engaged to provide Producer Statements in respect of the building work, Ashby Consulting Engineering (Christchurch) Ltd. The company is represented by a Chartered Professional Engineer who is deemed to be a licensed building practitioner and therefore a party to the matter². The consulting engineering company is the applicant in the determination (“the applicant”).
 - The owner of the house and property, C Fletcher (“the owner”).
 - Timaru District Council carrying out its duties and functions as a territorial authority or a building consent authority (“the authority”).
- 1.3 I consider Mainmark Ground Engineering (NZ) Ltd (“the ground engineers”) is a person with an interest in the matter. The applicant is acting as an agent for the ground engineers.
- 1.4 This determination arises from a dispute as to whether the proposed building work to the owner’s house is exempt from the requirement for a building consent under Sections 41, 42A, and Schedule 1 of the Building Act 2004.

¹ The Building Act, Building Code, compliance documents, past determinations and guidance documents issued by the Ministry are all available at www.building.govt.nz or by contacting the Ministry on 0800 242 243.

² Chartered Professional Engineers under the *Chartered Professional Engineers of New Zealand Act 2002* are treated as if they are licensed in the building work licensing class Design 3 under the *Building (Designation of Building Work Licensing Classes) Order 2010*.

- 1.5 Accordingly, the matter to be determined³ is the authority's exercise of its power of decision in requiring the owner to apply for a building consent for the proposed building work. In making this decision, I must consider whether the building work qualifies for exemption from the requirement for a building consent under Sections 41, 42A, and Schedule 1 of the Act.
- 1.6 In making my decision, I have considered the application and the submissions of the parties, and the other evidence in this matter. I have also referred to the Ministry's guidance document, *Guidance: Building work that does not require a building consent: Building Act 2004* [Third Edition 2014, Amended June 2016] ("the Ministry's technical guidance").
- 1.7 It is important to note that in making my decision I have not considered any other aspects of the Act or Building Code. In particular, I have not considered whether the proposed building work would comply with the relevant provisions of the Building Code to the extent required by the Act, as it was not necessary to consider this as part of the matter to be determined.

2. The background and proposed building work

- 2.1 The house is a single-level dwelling on a flat site in a residential area of Temuka. Constructed in the 1950s, it has a simple rectangular design. It has concrete perimeter foundations and a concrete slab on grade floor. The walls are of double-brick construction.
- 2.2 According to a sketch plan provided with the application, the house has a floor area of approximately 106m², and a total perimeter foundation of approximately 40m.
- 2.3 At some stage, a portion of the floor slab and foundations have sunk, causing settlement of up to 50mm in the external walls, and up to 30mm in places for the floor slab. It appears that the settlement is due to the ground level beneath the house sinking, although the reasons that this has occurred are not clear. The documentation I have been provided with variously cites earthquake damage, 'soft ground' resulting from localised fill under a portion of the house, and a 'leaking Council water main' as the reason. I have not been advised of when the settlement occurred.
- 2.4 Whatever the cause of the settlement, it appears that approximately 27⁴m of the house foundation has been affected (around 65% of the foundation), and 66m² of the floor slab (around 62% of the floor area). Settlement is located predominantly on the house's eastern side, with a small area also affected on the western side around the back door. As a result of the settlement, differences in level of between 20mm and 55mm were measured around various points on the house's perimeter foundation. Step cracking in the external wall brickwork and sagging in the 'concrete bond beam at lintel height' were also noted.
- 2.5 In late 2015, the previous owners of the house contacted the ground engineers about carrying out works to correct the ground levels under the house. The ground engineers completed a site inspection on 26 December 2015. On 6 January 2016, they provided the previous owners with a schedule of work and quote 'to re-support and correct sections of concrete foundations and slab on grade' in order to relevel the house. The proposed works were stated to involve 'injecting directly below the sunken floor slab and foundations, filling voids and lifting the structure back towards

³ Under section 177(1)(b) and 177(2)(a) of the Act.

⁴ It is noted these figures vary from the figures supplied by the applicant; being 40m of foundation being injected and 50m² floor area being injected.

level in a uniform and controlled manner'. The scope of works included a site plan showing the then current levels of the house and the areas where the injections were to be made.

- 2.6 The material to be injected into the foundation soil beneath the house was a proprietary brand of expanding and hardening structural resin ("the expanding resin"). The manufacturer's technical materials, supplied with the scope of works, explain that the expanding resin is injected through 'tiny pattern-drilled holes, immediately below the slab or footing'. The resin is then:

...chemically expanded almost immediately, exerting a mould pressure that fills voids encountered, re-establishing or confirming structural support. They cure, again almost immediately, to a strong stable and long lasting material that is immediately trafficable and environmentally neutral.

The system is stated to be suitable for:

...raising, re-levelling, re-supporting and strengthening moving and sunken construction resting on or in the ground. Applications include buildings and other structures, concrete floors and pavements, in residential, commercial, industrial and civil environments.

- 2.7 On 10 March 2016, the applicant applied to the authority, on behalf of the ground engineers, for an exemption from the need for a building consent for the proposed releveling works. The application was made on the authority's form 'BA Form 103: Notification of exempt building work'. In the form, the applicant identified that application was being made under clause 1 of Schedule 1 of the Act 'General repair, maintenance and replacement'. With the application, the applicant provided a 'Design Features Report' dated 9 March 2016, outlining his professional opinion about the proposed works and their suitability for exemption under Schedule 1 of the Act.
- 2.8 On 29 March 2016, the applicant resubmitted the application for exemption, together with:
- the Design Features Report; and
 - a 'Certificate of design work' under sections 30C and 45 of the Act, dated 8 March 2016, stating that he had supervised the design work relating to the foundations and subfloor releveling work; and
 - a Producer Statement PS1 – Design "Building Assessment for Foundation Releveling", dated 29 March 2016. The PS1 certified that in his professional opinion the owner's house was 'suitable for foundation remediation by releveling and void fill' and recognised that the proposed works were an 'alternative solution' in terms of Clause B1 of the Building Code.
- 2.9 On 29 March 2016, the authority wrote to the applicant advising that it had refused the application because the building work 'does not meet the requirements for Exempt Building Work under Schedule 1 of the [Act]'. The reason given for this assessment was that, 'This work effects the structural stability of the dwelling and therefore a building consent is required'. The letter advised that a building consent was required before the work could commence.
- 2.10 Email correspondence subsequently passed between the parties, and on 6 April 2016 the authority reiterated its position that the proposed works required a building consent before they could be carried out.
- 2.11 The Ministry received an application for a determination on 27 June 2016.

3. The submissions

3.1 The applicant made two submissions, dated 8 April 2016 and 24 June 2016, with the application for a determination received by the Ministry on 27 June. For the purposes of this decision, I will refer to them together as the applicant's submission.

3.2 The applicant's submission outlined the reasons he believed that the proposed building work qualified for an exemption under clause 1 of Schedule 1 of the Act, and why the authority was wrong in requiring a building consent for the work. These reasons can be summarised as follows:

- Replacing any component or assembly within a building could be argued to affect its structural stability; taking this approach makes Schedule 1 'invalid'.
- The Government's reasons for allowing exemptions was to 'facilitate repair, without unreasonable time delays and costs'. The intention of 'recent amendments' to the Act 'was to streamline the building consent process and to extend the scope of works exempt from building consent'.
- The proposed work is repair work, using comparable materials, and 'fits the criteria for exemption under the Act'.
- 'The proposed work is likely to have no adverse effect on the stability of the building and in fact will improve it'.
- Other authorities accept this type of work as exempt, and do not require a building consent.
- The applicant has provided a 'before and after report' about the building work, as well as a PS1 – Design and a PS4 – Construction monitoring, and the authority should accept this as sufficient and keep the information on the property file as a record of the work that has been done.

3.3 The applicant also set out his opinion about why the expanding resin used in the building work is a 'comparable material', with equivalent properties to the silts and sands that would have originally formed the ground beneath the house. In his opinion this has returned the ground to 'a state of "Good ground" in terms of NZS 3604⁵, suitable to support a house'. The applicant concluded that:

In my view releveling work undertaken is no different from replacing like for like. We are replacing soil which has settled with an equivalent stable, inert material. This is no different from replacing like for like with any part of the building fabric such as weather boards. It is not an addition to the house or an alteration. It is making good existing damage and should be exempt from the full and reasonably onerous process of building consent.

3.4 With his submission, the applicant provided copies of:

- the correspondence between the parties
- the application for exemption, dated 10 March 2016
- the Design Features Report, dated 9 March 2016
- the Certificate of design work, dated 8 March 2016
- the Producer Statement PS1, dated 29 March 2016
- the ground engineers' schedule of work and quote, dated 6 January 2016

⁵ New Zealand Standard NZS 3604 Timber-framed buildings

- the manufacturer's technical materials
 - BRANZ Appraisal No. 698 [2010; amended 28 October 2015] relating to the expanding resin and its installation methods.
- 3.5 In response to a query from me, the applicant clarified in an email dated 29 August 2016 that the proposed building work to relevel the house had not commenced, and that no previous re-levelling work had been undertaken on the site.
- 3.6 In this email, and a subsequent email dated 30 August 2016, the applicant also provided further details of situations where he stated that other building consent authorities had accepted equivalent work to the proposed building work as 'exempt work'. The applicant also clarified that what he was seeking was middle ground, with a formal exemption 'recorded on the [authority's] property file', but no requirement for a building consent.
- 3.7 The authority acknowledged the application for a determination but made no submission in response.

4. The draft determination and parties' further submissions

- 4.1 A draft of this determination was sent to the parties for comment on 8 September 2016.
- 4.2 On 12 September 2016, the authority advised that it accepted the draft determination, and confirmed that it would not consider a discretionary exemption under clause 2 of Schedule 1 for the proposed building work.
- 4.3 The applicant did not accept the draft determination. In an email dated 20 September 2016, he made a further submission on the proposed building work's eligibility for exemption under clause 1(3)(b) of Schedule 1 of the Act. The main points of this submission can be summarised as follows.
- The issue is the degree of replacement of the foundation soil supporting the building. The volume increase of the subgrade that the expanding resin would be injected into would be 2.5% by volume in the current subgrade. This is 'minor' and not 'substantial replacement' so qualifies as exempt work.
 - Use of the expanding resin will not 'endanger people or any building' and 'relieves stresses already induced by settlement'.
 - Requiring a full building consent will not 'improve the outcome' and will add 'costs and delays'.
 - The building work meets the criteria for exemption under clause 2 of Schedule 1, but the authority has advised it will not consider providing one. This is why the applicant is relying on clause 1 of the Schedule.
- 4.4 I have considered the parties' submissions and amended the determination as I see appropriate.

5. Discussion

5.1 General

- 5.1.1 The applicant has applied for a determination about the authority's requirement for a building consent for the building work. In the applicant's opinion, this work constitutes a general repair, maintenance or replacement with a comparable material and so is exempt under clause 1 of Schedule 1 of the Act.
- 5.1.2 The legislation relating to exemptions from the requirement for a building consent is found in sections 41 and 42A, and Schedule 1 of the Act (refer Appendix 1).
- 5.1.3 Section 41 exempts certain types of buildings and building work from requiring a building consent, including the types of work listed in Schedule 1. Section 42A imposes some general conditions and limits on the Schedule 1 exemptions, including the need for the exempt building work to comply with the Building Code, and the degree to which the altered building as a whole must comply with the Building Code after the building work is complete. Schedule 1 lists a range of possible exemptions and describes when these could apply.
- 5.1.4 In essence, the purpose of Schedule 1 is to exempt low-risk building work from the need for a building consent. The Ministry's technical guidance states that this is because the costs associated with obtaining a building consent in these situations are likely to outweigh any benefits that requiring consent may offer. The clauses of Schedule 1 that are relevant in the current case are clauses 1 and 2.

5.2 The application of Schedule 1

- 5.2.1 I will deal first with clause 1 of Schedule 1, which relates to general repair, maintenance and replacement and is the clause relied on by the applicant. The relevant parts of it read:
- 1 General repair, maintenance, and replacement**
- (1) The repair and maintenance of any component or assembly incorporated in or associated with a building, provided that comparable materials are used.
- (2) Replacement of any component or assembly incorporated in or associated with a building, provided that—
- (a) a comparable component or assembly is used; and
- (b) the replacement is in the same position.
- (3) However, subclauses (1) and (2) do not include the following building work:
- (a) ...
- (b) complete or substantial replacement of any component or assembly contributing to the building's structural behaviour or fire-safety properties; or ...
- 5.2.2 The applicant has argued that the work is merely a repair involving replacement with a comparable material, and as such has no more impact than the repair of any other component or assembly in the building. He states that any repair or replacement could be viewed as affecting a building's structural behaviour. He estimates that only around 2.5% by volume of the existing subgrade under the house is being replaced, and submits that this does not amount to 'complete or substantial replacement'.

- 5.2.3 I have considered the application of Schedule 1 exemptions in relation to house foundations in previous determinations⁶ and these are cited in the Ministry's technical guidance (page 15 of the guidance).
- 5.2.4 In Determination 2013/058, I put forward my view that the foundation system is a building assembly made up of components. I maintain that view, and in the current case consider that the foundation soil beneath the house is a component in both the house foundations and the floor system.
- 5.2.5 Under clause 1(2) of Schedule 1, replacement of a component incorporated within or associated with a building may be exempt, provided a comparable material is used. (The same qualification also applies to repair and maintenance under clause 1(1).) The question in the current case therefore becomes whether the expanding resin is a comparable component to the foundation soil it is intended to replace.
- 5.2.6 The applicant has submitted that the resin possesses 'equivalent properties' to the foundation soil, but I do not consider this to be the case. The manufacturer's technical materials describe the resin as a thermoset polymer: 'Thermoset polymers are those that change irreversibly during their formation reaction into a material that is infusible and insoluble.' The resin is stated to be 'inert' and 'stable' with an 'indefinite lifespan'. It is resistant to a host of chemicals, as well as water, and is capable of supporting large loads without compaction or creep (up to 400 kPa). In my view this is clearly not a comparable material to a typical foundation soil, which is organic, malleable, and capable of being both compacted and washed away. In addition, the resin is injected in liquid form, then expanded and cured to its solid inert form through a chemical reaction. This is not comparable to any process of foundation soil formation.
- 5.2.7 For these reasons, I do not consider the building work comes within the exemption described in clause 1(2) of Schedule 1, as the expanding resin used in the work is not a comparable component to the foundation soil it is intended to replace.
- 5.2.8 However, it is important to note that even if the resin was considered a comparable component, and clause 1(2) was found to apply, the building work would still have to be considered in terms of clause 1(3) before it could be exempt. The relevant sub-clause in the current case would be (3)(b) which says:
- complete or substantial replacement of any component or assembly contributing to the building's structural behaviour or fire-safety properties; or ...
- 5.2.9 It is clear that in the current case the component to be replaced contributes to the house's structural behaviour. Both the foundations and floor slab are to be relevelled using the expanding resin, and both are integral to the structural integrity of the house. The issue therefore becomes whether the proposed building work is a 'substantial replacement'.
- 5.2.10 In Determination 2013/071, I considered in depth what is meant by "substantial" in relation to previous versions of Schedule 1, and the need to consider both quantitative and qualitative measures when deciding whether or not a replacement can be considered "substantial".
- 5.2.11 The applicant has stated that only 2.5% by volume of the subgrade is being replaced in the current case. He has submitted that this does not amount to a substantial replacement. I do not accept this argument. The building work involves releveling

⁶ *Determination 2013/058: Regarding the authority's exercise of its powers of decisions in respect of a notice to fix issued for work done under Schedule 1(a); and Determination 2013/071: The compliance of proposed repairs to an earthquake-damaged foundation including partial replacement of a concrete perimeter foundation wall.*

the foundations and floor slab of the house, which have sunk. Regardless of the volume of foundation soil being replaced, the level of the soil beneath approximately two-thirds of the house has dropped to the point where the foundations and floor slab are affected. This amounts to approximately 27 lineal metres of the foundation and 66m² of the floor slab. In my opinion, rectifying this situation, by releveling the foundation soil, by whatever means, will amount to a substantial replacement of a component under clause 1(3)(b) of Schedule 1.

- 5.2.12 Accordingly, I consider that the proposed building work is not eligible for an exemption under clause 1 of Schedule 1 of the Act, and the authority was correct to require a building consent for the building work in the current case.

5.3 The application of clause 2

- 5.3.1 I will now comment on the application of clause 2 of Schedule 1 of the Act to the current situation. I note that my comments are only included as guidance, and do not affect my finding in this determination. I am making them because the parties have discussed this clause in their submissions.

- 5.3.2 In the Ministry's technical guidance on work that does not require consent, the Ministry recommends that, in situations where it is unclear whether an exemption under clause 1 applies, then the parties undertaking the building work should apply either for an exemption under clause 2 of Schedule 1, or for a building consent.

- 5.3.3 Under clause 2, territorial authorities have the discretion to exempt any proposed building work from the requirement to obtain a building consent where they consider that either: the completed building work is likely to comply with the Building Code; or it won't comply, but is unlikely to endanger any people or building.

- 5.3.4 I have considered in previous determinations the types of matters that an authority must turn its mind to when considering whether to grant a discretionary exemption. In Determination 2013/058, I considered this in relation to house foundations under what was Schedule 1(k) (the predecessor of the current clause 2). In paragraph 5.3.2 of that determination I stated:

...when considering whether to grant such an exemption an authority must turn its mind to the nature of the proposed work, the personnel who will be undertaking it, and the likelihood of it being completed other than in accordance with the Building Code...

- 5.3.5 I also provided a more in-depth analysis in Determination 2013/008⁷ of the types of matters that authorities should take into account in considering whether to grant a discretionary exemption.

- 5.3.6 In my opinion, applying for an exemption under clause 2 of Schedule 1 of the Act would have been the correct path for the applicant to pursue in the current case (rather than clause 1). This would have then left it open for the authority to consider the nature of the building work, its application in other situations, and the competency, experience and track record of the people undertaking it.

⁷ *Determination 2013/008: Regarding the refusal to issue an exemption under Schedule 1(k) for a proposed farm implement shed.*

- 5.3.7 This is not to say that the authority would necessarily have granted the exemption. Indeed, the authority has indicated in its submissions that it would not. The authority's decision under clause 2 is discretionary, and it is entitled to hold this view. However, given the nature of the replacement materials to be used and the structural impact of the building work in the current case, I consider that this would have been the correct path for the applicant to pursue initially.
- 5.3.8 I note also, by way of comment, that in his submission the applicant has described exemptions granted by other authorities in relation to building work using expanding resins. Without access to the details of these cases I cannot comment on whether the exemptions have been properly granted, or on what grounds. It may be that the authorities in those situations have satisfied themselves of the factors that I have discussed in paragraph 5.3, and decided to exercise their discretion to grant an exemption.

5.4 What should be done now

- 5.4.1 The authority has indicated that it will not consider an application for an exemption under clause 2 of Schedule 1. The authority may choose to continue with this decision. Alternatively, it may revisit the decision and reassess the proposed building work in terms of the matters discussed in this determination. In either scenario, the authority may still choose not to exercise its discretion under clause 2 and would be acting fully within its powers in doing so.
- 5.4.2 If the authority confirms that it will not allow a discretionary exemption, then the applicant must apply for a building consent for the proposed building work. The authority must then assess whether the building work complies with the relevant clauses of the Building Code to the extent required by the Act.
- 5.4.3 In making its assessment, the authority should have regard to section 49, which sets out the extent of compliance required for building work, followed by section 112 of the Act, which sets out the extent of compliance required for the building as a whole after the alterations.

6. The decision

- 6.1 In accordance with section 188 of the Building Act 2004, I confirm that the authority correctly exercised its power of decision in requiring the owner to apply for a building consent for the building.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 1 November 2016.

John Gardiner
Manager Determinations and Assurance

Appendix A: The legislation

A.1 The Building Act 2004

41 Building consent not required in certain cases

- (1) Despite section 40, a building consent is not required in relation to—
- (a) a Crown building or Crown building work to which, under section 6, this Act does not apply; or
 - (b) any building work described in Schedule 1 for which a building consent is not required (see section 42A); or
 - (c) any building work in respect of which a building consent cannot practicably be obtained in advance because the building work has to be carried out urgently—
 - (i) for the purpose of saving or protecting life or health or preventing serious damage to property; or
 - (ii) in order to ensure that a specified system in a building that is covered by a compliance schedule, or would be covered if a compliance schedule were issued in respect of the building, is maintained in a safe condition or is made safe; or
 - (d) any energy work that, under section 43, does not require a building consent; or
 - (e) any building work that a territorial authority is authorised to carry out under this Act.
- (2) ...

42A Building work for which building consent is not required under Schedule 1

- (1) Despite section 40, subject to the conditions set out in subsection (2) and whether or not a building consent would otherwise have been required, a building consent is not required for building work in the following categories:
- (a) building work described in Part 1 of Schedule 1; or
 - (b) building work described in Part 2 of Schedule 1 that is carried out by an authorised person (see subsection (3)); or
 - (c) building work described in Part 3 of Schedule 1 if the design of the building work has been carried out or reviewed by a chartered professional engineer and the building work has been carried out in accordance with that design.
- (2) Subsection (1) is subject to the following conditions:
- (a) the building work complies with the building code to the extent required by this Act;
 - (b) after the building work is completed, the building,—
 - (i) if it complied with the building code immediately before the building work began, continues to comply with the building code; or
 - (ii) if it did not comply with the building code immediately before the building work began, continues to comply at least to the same extent as it did then comply;
 - (c) the building work does not breach any other enactment;
 - (d) the building to which the building work relates is not a building that is required to be licensed under the Hazardous Substances and New Organisms Act 1996.
- (3)...

Schedule 1 Building work for which building consent not required**Part 1 Exempted building work****1 General repair, maintenance, and replacement**

- (1) The repair and maintenance of any component or assembly incorporated in or associated with a building, provided that comparable materials are used.
- (2) Replacement of any component or assembly incorporated in or associated with a building, provided that—
 - (a) a comparable component or assembly is used; and
 - (b) the replacement is in the same position.
- (3) However, subclauses (1) and (2) do not include the following building work:
 - (a) complete or substantial replacement of a specified system; or
 - (b) complete or substantial replacement of any component or assembly contributing to the building's structural behaviour or fire-safety properties; or
 - (c) repair or replacement (other than maintenance) of any component or assembly that has failed to satisfy the provisions of the building code for durability, for example, through a failure to comply with the external moisture requirements of the building code; or
 - (d) sanitary plumbing or drainlaying under the Plumbers, Gasfitters, and Drainlayers Act 2006.

2 Territorial and regional authority discretionary exemptions

- Any building work in respect of which the territorial authority or regional authority considers that a building consent is not necessary for the purposes of this Act because the authority considers that—
- (a) the completed building work is likely to comply with the building code; or
 - (b) if the completed building work does not comply with the building code, it is unlikely to endanger people or any building, whether on the same land or on other property.