



Determination 2010/116

The issuing of a code compliance certificate for a house at 12 Fairhaven Walk, Wade Heads, Whangaparaoa

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1. The matters 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, Department of Building and Housing (“the Department”), for and on behalf of the Chief Executive of that Department.

1.2 The parties to the determination are:

- Mr K Jerard, the owner of the property at No 12 Fairhaven Walk (“No 12”) (“the applicant”) acting through an agent (“the applicant’s agent”)
- Mr R Howse, the owner of the adjoining property at No 10 Fairhaven Walk (“No 10”) (“the adjoining owner”)
- Rodney District Council (“the authority²”) carrying out its duties and functions as a territorial authority and a building consent authority.

1.3 I also consider that the following are persons with an interest in this matter:

- B and A Paxton, the developers and vendors of the property at No 12 (“the original owners”).

1.4 I take the view that the matters to be determined, in terms of sections³ 177(a), 177(b)(i) (prior to 7 July 2010) of the Act, are:

Matter 1: Compliance with the relevant Clauses of the Building Code

- Whether the building work complies with the following clauses of the Building Code⁴: B1 Structure, B2 Durability, D1 Access Routes, E1 Surface water, E2 External moisture, and F4 Safety from falling.

Matter 2: The authority’s statutory decisions

- Whether the authority’s decisions to issue the building consent and the code compliance certificate were correct.

1.5 With regard to the above matters, the applicant has requested that the Department also consider issues relating to the resource consent. In general, these matters are outside those that can be considered in a determination issued under the Act. However, while I have not made any decisions in this regard, I have referred to the resource consent where it impacts on those matters that I am authorised to determine.

1.6 The determination refers to the reports, correspondence, and statements from a variety of consultants, engineers and the like. Those entities are described herein as:

- The firm of consulting engineers who originally inspected the property (“the original engineers”).

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

² After the application was made, and before the determination was completed, Rodney District Council was transitioned into the new Auckland Council. The term “authority” is used for both.

³ In this determination, unless otherwise stated, references to sections are to sections of the Act and references to clauses are to clauses of the Building Code.

⁴ First Schedule of the Building Regulations 1992 - current at the time the building consent was issued

- The firm of civil and structural consultants who provided the producer statements (PS1 and PS4) for the building work (“the design engineers”)
- The firm of geotechnical engineers who were engaged to comment on the as-built work by the original owners (“the geotechnical engineers”).

1.7 In making my decision, I have considered the submissions of the parties, the report of the independent expert commissioned by the Department (“the expert”), and the other evidence in this matter.

2. The building work

2.1 The building work comprises a single-storey free-standing house and certain retaining walls situated on an excavated steeply sloping site. The house is of timber framed construction and is built on a timber-framed platform supported by timber poles.

2.2 The site is in a bush setting. Various earthworks and the building of timber retaining walls have been carried out in association with the house construction. A concrete slab has been built on a car parking area adjacent to the house (refer to Figure 1).

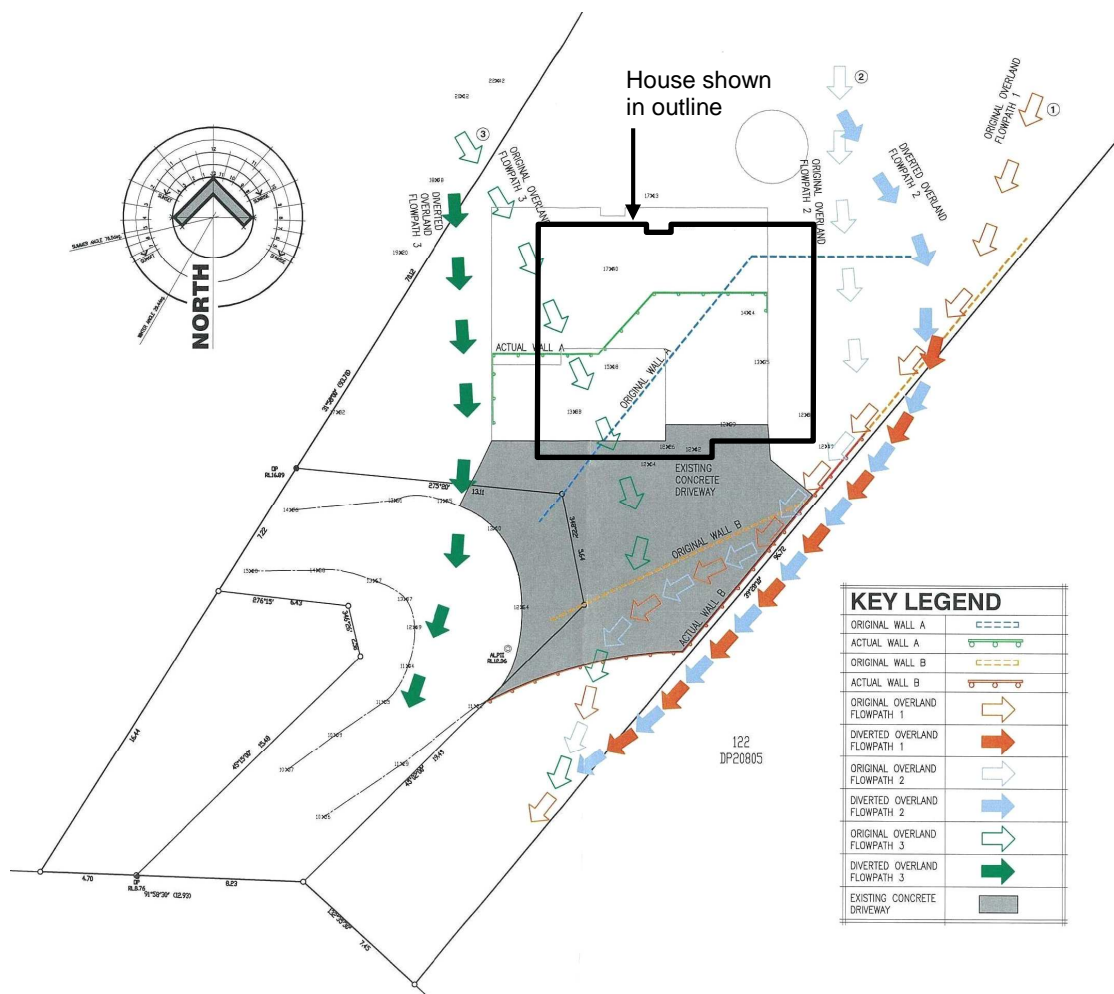


Figure 1: Site plan showing the house and the overland flow paths

- 2.3 The No 10 property shares a common boundary on the east side of the applicant's property, and an overland water flow path (watercourse) runs along this boundary. Two other flow paths also pass through the applicant's site and all three of the flow paths have been diverted significantly from their original positions by work performed under the resource consent and by the building work carried out under the building consent.
- 2.4 Two retaining walls have been erected on the site as follows:
- Retaining wall A, constructed to protect the cut excavation beneath the house.
 - Retaining wall B, situated to the south east of the house and along the common boundary with No 10.

3. Background

3.1 Prior to the issue of the building consent

- 3.1.1 In December 1987, the original engineers prepared a 'Subsoil Investigation Report' which was for the two lots defined here as No 10 and No 12. The report described the site conditions for both lots but specifically only made recommendations regarding building on a cut platform for No 10 only. The recommendations included:
- The timber pole foundations should be 'taken into underlying siltstone or sandstone'
 - Any retaining work as a result of landscaping be designed by a 'registered geotechnical engineer'.
 - The existing cut bank should 'if left exposed be retained'.
- 3.1.2 Following a resource consent application dated 19 December 2003, the authority issued a resource consent for No 12 on 5 February 2004.
- 3.1.3 The authority wrote to the original owners on 14 April 2004, noting its concerns regarding the blockage of a drain along the boundary with No 10.
- 3.1.4 In an internal email to the authority dated 20 April 2004, a staff member of the authority reported on a visit made to the site. It was recommended that a geotechnical engineer be engaged to confirm whether the site was stable and to recommend any necessary rehabilitation of the site. The email also said:
- There are no silt control measures in place.
- It appears that an overland flowpath [overland flow path 2 in Figure 1] used to go through the earthworks area that has now been diverted to the minor watercourse at the eastern end of the site.
- The deposition of waste material from the tree removal has been pushed in the direction of the minor watercourse and unless stable, could potentially block the flowpath or be affected by a large storm event.
- 3.1.5 The authority wrote to the original owners on 26 April 2004 regarding the need for an engineer's report before the authority could confirm compliance with the resource consent.

- 3.1.6 The design engineers issued a ‘Producer Statement–PS1–Design’ dated 16 June 2004 for a specific structural design computation for the house in respect of Clause ‘B1 (VM1) (VM4) (AS1)’. The statement was subject to assumptions that the ground conditions were in accordance with the original engineers’ report of December 1987.
- 3.1.7 The authority wrote to the original owners on 30 June 2004 regarding the imposition of a section 36(2)⁵ notice on the property title. The letter said ‘[y]our consent is needed to have this notice applied.’ The authority wrote again to the original owners on 9 July 2004 stating that effective silt control measures must immediately be installed to ‘ensure compliance’.
- 3.1.8 The original owners wrote to the authority on 11 July 2004 consenting to the section 36(2) notice being applied to the title. The letter also noted that a geotechnical engineer’s report had been arranged to further review stability of the site.
- 3.1.9 The authority issued a project information memorandum (“the PIM”) dated 17 August 2004, in regard to building work proposed for No 12. The PIM referred to special features of the land concerned as follows:

The design of the building works shall be in accordance with the recommendations of the [original engineers], Reference 336042, dated 10/87.

A building consent will be issued subject to a s36(2) of the Building Act 1991.

3.2 The building consent and the code compliance certificate

- 3.2.1 The authority issued a building consent (No ABA41955) dated 17 August 2004 for a dwelling on Lot 12, consent being issued under the Building Act 1991 (“the former Act”). An advice note attached to the consent noted the need to include a section 36(2) condition on the title.
- 3.2.2 The authority carried out site inspections during the construction of the house and retaining walls, with the final inspection taking place on 27 July 2005. The design engineers issued a ‘Producer Statement–Construction Review (PS4)’ dated 24 June 2005.
- 3.2.3 The authority issued a code compliance certificate on 9 August 2005.

3.3 Correspondence

- 3.3.1 An email from a ‘senior staff engineer’ of the authority dated 13 October 2005, advised other authority personnel of his assessment of the upstream catchment for the watercourses through the property. It was recommended that No 10 and No 12 be notified as being subject to a hazard due to the overland flows, and that ‘the consents’ issued for No 12 be checked due to concerns regarding the filling on the site.
- 3.3.2 The email said, in respect of the main stream through the properties at No 10 and No 12, the flow rates were considered to be:

| | |
|-------------------------|-----------------------|
| 1 in 2 year storm event | 400 litres per second |
| 1 in 5 | 530 |

⁵ A notice issued under the Building Act 1991 (“the former Act”) to advise of a hazard on the site, which in this instance was possible slope instability.

| | |
|----------|------|
| 1 in 10 | 700 |
| 1 in 20 | 800 |
| 1 in 100 | 1050 |

3.3.3 The email assumed one tenth of these flow rates for the secondary stream and concluded that:

For the main stream the concern could be collapse of the filling to the north of the dwelling and potential damage to the shed/garage over the stream.

In respect of the side catchment:

the concern . . . could be water entering the dwelling if it is not adequately catered for and guided past the dwelling.

3.3.4 The authority wrote to the original owners on 2 November 2005 regarding the filling adjacent to a watercourse on the common boundary. The letter noted that the property owner must assess the potential for damage and take action to eliminate risks.

3.3.5 On 3 November 2005, the authority wrote to the original owners regarding the engineer's report with regard to the earthworks that was outstanding (see paragraph 3.1.5). A second letter to the original owners sent on the same day noted:

- the authority's verbal acceptance of remedial work regarding the earthworks
- that a notice would be put on the property file to the effect that the earthworks could cause instability
- the resource consent would be signed off as completed.

The authority signed off the resource consent on 11 November 2005, and included an 'Outstanding Requirement Notice' that the earthworks conducted under the resource consent close to the north eastern boundary may be unstable.

3.3.6 The applicant's agent wrote to the authority on 30 November 2005 questioning 'the consent' sign-off process given the requirement for an engineer's report that was never obtained.

3.3.7 The applicant emailed the authority on 12 December 2005 requesting written confirmation that the conditions of the building and resource consents had been complied with.

3.3.8 The authority replied to the applicant on 16 December 2005 confirming the resource consent had been signed as completed and all conditions under the consent met compliance standards. The letter also noted that there were no outstanding matters.

3.4 The engineer's report

3.4.1 The authority wrote again to the applicant's agent on 28 December 2005 noting that the outstanding request for an engineer's report was not part of the 'consent conditions', hence no enforcement action had been taken, but a notice was added to the property file. The report had since been received and the notice removed from the file. The letter confirmed that the resource consent had been 'signed-off as completed'.

3.4.2 The report was from the geotechnical engineers, who in a fax to the authority dated 1 December 2005, reported that in their brief they had been 'directed to a position at

the north end of a new retaining wall [wall (B)], where spoils from the retaining wall pile hole drillings were placed'. The report concluded that the fill in question:

- was 'not likely to cause instability at this site'
- where it was placed at the creek sides, was considered to be 'as stable as the naturally occurring creek banks'
- had 'been placed in an active area, where surface erosion would be normal, especially during rainfall'
- had 'been placed appropriately for the position [it is] in.

3.5 Flooding of the neighbouring property

3.5.1 Some time after the signing off of the resource consent, the property was subject to flooding with overland flows through the basement of No 12.

3.5.2 Following a further site visit, the authority's engineer reported to the authority in an email dated 20 May 2006, in which he:

- noted that the volume of additional earthworks completed on the site was significantly greater than indicated in the approved resource consent application to the authority
- recommended that a geotechnical engineer investigate the site stability
- suggested that retaining walls and additional drainage may be required
- noted that the placement of the retaining wall supporting the driveway had reduced the capacity of the existing drainage channel to the east of the house and was likely lead to the diversion of flows in an easterly direction towards the adjoining property.

3.5.3 The design engineers (refer paragraph 3.1.6) wrote to the applicant on 28 June 2006 providing a summary of their involvement relating to the construction of the dwelling and certain retaining walls. The design engineers noted they had advised the original owners that the authority would likely require an updated geotechnical report for the site but that this had not been requested by the authority.

3.5.4 The design engineers advised they had issued the Producer Statement PS4 dated 24 June 2005, and that the extent of the associated inspections (four in number) was limited to confirming that the target embedment depths and founding criteria had been met for 'the retaining walls and the dwelling pole foundations ...'. The PS4 statement itself was issued in respect of 'timber pole retaining wall foundation excavation observation'.

3.5.5 On 23 August 2006, the original engineers wrote to the authority expressing their concern over events relating to the property at No 12. The letter noted that their report of December 1987 (see paragraph 3.1.1) did not refer to any building platform in respect of No 12. The original engineers also raised further concerns, which I summarise as:

- The site works as carried out do not appear to comply with the resource consent conditions.

- The sub floor bracing to the house does not appear to comply with the building consent.
- The fill under the house does not appear to have been certified.
- The original watercourse appears to have been filled in and, as there is now no clear overland flow path, water appears to be flooding directly beneath the house.
- The retaining of banks that have been cut since 2000 is unsatisfactory 'to the effect that minor slippages have been occurring'.
- The uncertified fill placed around the house and the concreted parking areas contains tree stumps and vegetation and appears to contain a subsurface flow path.
- There is evidence of seasonal movement in the house structure.
- Resource consent and building approvals appear to have been given for work that does not seem to comply with the building consent conditions.

3.5.6 The authority wrote to the original engineers on 31 August 2006, stating that it was 'fair to say with hindsight that further Geotechnical investigation should have been required'.

3.6 The authority's position

3.6.1 Following further correspondence between the applicant and the authority, the authority set out its views on the matter in a letter to the applicant dated 22 May 2008. In summary, the authority said that:

- Based on another geotechnical report obtained by the authority (I take this to be the legally privileged site stability assessment referred to in paragraph 6.1.1, and which I have not seen), it was satisfied that the building platform, including the cut bank immediately behind the house, complied with 'all the requirements to enable the house to have been built safely on it'.
- The instability of the bush covered bank above the cut had been identified, and was recorded on the title under section 36(2) of the former Act.
- The areas around the house were not areas that involve input from the authority. For example, no consents in respect of driveways and paths were required.
- While some of the work in relation to the site may 'not be in exact compliance with the consents' it generally was compliant.

3.7 The application for a determination was received by the Department on 28 January 2010.

4. The submissions

4.1 The original application

- 4.1.1 The applicant provided a synopsis of the application for a determination and stated that the authority had wrongly issued a code compliance certificate in respect of the house and retaining walls as the ‘requirements of ...building consent were not met’. The applicant also provided a summary of events in relation to the matters to be determined.
- 4.1.2 The applicant also raised matters concerning the duties carried out by the authority and compliance with the resource consent. I am of the opinion that I cannot consider matters concerning the resource consent in this determination (refer paragraph 1.5)
- 4.1.3 The applicant forwarded copies of:
- some of the plans and specifications for the building and retaining walls
 - the PIM and the land title
 - the building consent and the code compliance certificate
 - some of the authority’s inspection details
 - the original engineers’ report of December 1987
 - the Producer Statement – Design (PS1) dated 16 June 2004 issued by the design engineers
 - the Producer Statement – Construction Review (PS4) dated 24 June 2005 issued by the design engineers
 - the correspondence between the parties and other associated persons and consultants
 - a set of photographs showing various aspects of the site and the house.

4.2 Response to the expert’s report

- 4.2.1 The authority responded to the expert’s report in a letter to the Department dated 3 May 2010, noting its concern that the expert had commented on the Resource Management Act and that this may not be relevant in terms of this determination. The authority also listed items in the applicant’s submission for a determination that it considered were outside the ambit of the determination process described in the Act. I have discussed this matter in paragraph 1.5.
- 4.2.2 Further submissions were received from the parties in response to the expert’s report, the draft determinations, and in response to the submissions themselves.

4.3 The first draft determination

- 4.3.1 The first draft determination was issued to the parties and to the original owners for comment on 25 May 2010. The applicant did not accept the draft determination. The authority did not accept the draft determination and its response was received by the Department on 15 June 2010.

- 4.3.2 In a submission to the Department dated 29 June 2010, the adjoining owner also commented on the authority's response to the draft determination and I have summarised the content of that submission and included it in the discussion.
- 4.3.3 The applicant also submitted that the authority's 'legally privileged' report should:
...be excluded from consideration unless all parties receive a complete and unabridged copy. It is disingenuous at best for [the authority] to quote select passages in support of their submissions and one can reasonably infer that the suppressed passages do not support [the authority's] position.
- 4.3.4 I note that in an email to the Department dated 9 August 2010, the authority responded to the adjoining owner's letter of 29 June 2010. Due to a delay in receiving a copy of this email, the authority's response arrived after the first draft determination was forwarded to the parties. The adjoining owner (in an email to the Department dated 13 September 2010) and the applicant (in an email to the Department dated 16 September), commented on the authority's response. With due respect to the parties, I consider that these comments and responses are background issues. While these are genuine concerns, I do not believe that they affect the technical matters that are at issue in this determination.

4.4 The second draft determination

- 4.4.1 After considering the submissions of the parties regarding the first draft determination, I amended it as I deemed appropriate and issued a second draft determination to the parties and to the original owners for comment on 2 August 2010.
- 4.4.2 The applicant did not accept the second draft determination. The applicant reiterated their objection to only parts of the 'privileged document' quoted by the authority being disclosed (see paragraphs 3.6.1 and 6.1.1).
- 4.4.3 The authority also did not accept the second draft determination and sought a hearing. The authority submitted that some wording used in the second draft did not reflect the authority's position and should therefore be revised in accordance with the wording supplied by the authority. The authority stated that it was clear from the relevant documentation that the bulk of the earthworks carried out on the property occurred prior to the application for a building consent and were carried out in terms of the resource consent.
- 4.4.4 In a further response to the second draft determination, the applicant noted:
- The cavity system behind the external cavity cannot drain as it is enclosed by a batten fixed at its based.
 - The applicant also made comments concerning the validity of the resource consent information, the authority's correspondence, and the opinions given after the code compliance certificate was issued.
 - The applicant also requested that the Department identify the items that should be included on any notice to fix that was issued.

5. The expert's report

5.1 General

- 5.1.1 As set out in paragraph 1.7, I engaged an independent expert, who is a Chartered Professional Engineer, to provide an assessment of the building site that is the subject of this determination.
- 5.1.2 The expert inspected the property on 30 March 2010, and provided me with a report dated 14 April 2010. The report, which had photographs and site plans attached, set out the expert's observations and comments. I have summarised the salient points in the following.

5.2 Site inspection observations

- 5.2.1 The expert inspected the site and made the following comments:
- The excavation cut behind the building platform is not retained.
 - The three distinct overflow paths through the site have been altered in some way by the building work and this has led to some blockages, subterranean activity, and scouring on the site.
 - Retaining walls (A) and (B) have not been constructed to the extent and alignment shown on the consent documentation. There are no apparent structural concerns about the retaining walls apart from scouring at the base retaining wall (B).
 - There are no handrails installed to retaining wall (B) where the fall-height exceeds 1 metre.
 - Despite concerns about the backfill material, the driveway shows no sign of failing, apart from a small crack along the line of the original overland flow path.
 - The pole frame sub-floor complies with the consented plans, with the exception that the ground to first floor height behind retaining wall (A) is considerably less than indicated. However, the sub-floor braces are not in accordance with the consent and there is a lack of compliance with NZS 3604. In addition, the uncontrolled fill behind retaining wall (A) may affect the validity of the anchor piles and their height above the original ground level. Two braced piles are also missing.
 - There is evidence that the deck gutter is leaking and the exposed house bearers lack cappings or sealant.
 - While there is no evidence that the structure is settling, there is evidence of settlement of the filled ground above retaining wall (A), and it is possible that the tank overflow discharge pipe is broken.
 - The consented roofing material has been substituted with another material, which is not considered suitable for the environment and is already rusting.

5.3 The report of the original engineer

5.3.1 The expert did not have any concerns arising from the ‘Subsoil Investigation Report’ dated December 1987 as issued by the original engineers. However, the expert was of the opinion that a supplementary report should have been requested by the authority that covered:

- the suitability of the actual platform proposed for No 12
- foundation recommendations for the proposed structure , including design parameters
- recommendations regarding any cuts, fills, and retaining walls, including cutting the existing face. In this respect, the expert believed the recommended retaining of the No 10 excavation cut face would apply to No 12.
- whether or not the requirements of section 36(2) of the former Act were applicable.

5.4 The building consent documents and processes

5.4.1 I summarise the expert’s comments regarding the building consent documents and processes as follows:

- The consented plans lack the details that a building consent application requires.
- In reviewing the design engineers’ calculations for the sub-floor construction and retaining walls, while the expert had no issue with the technical content, the expert noted:
 - anomalies regarding the bearer sizes
 - the lack of calculations covering the pile diameters and embedment
 - a mixture of braced piles and anchor piles have been used for sub-floor bracing
 - no additional fixings were specified or have been installed for the connections between the floor joists and the bearer at the head of the braced and anchor piles
 - 100kPa safe bearing, which is relevant to ‘good ground’, was assumed for the ‘resistive’ soils in the retaining calculations
 - the PS1 accompanying the calculations refers to assumptions made with respect to ‘ground conditions in accordance with the report by [the original engineers] dated [December] 1987 ...’.
- There was no evidence provided to confirm that the authority considered the effects of surface water in their processing of the building consent application. Neither have there been assessments based on a particular storm event made regarding the diversions that have since been put in place.
- It is not apparent that the geotechnical issues raised by the authority’s staff member on 20 April 2004, and acknowledged in the authority’s letter of 26 April 2004, have been taken account of by the authority.

5.5 The construction and relevant correspondence

5.5.1 The expert's report considered the construction and also the various exchanges between the authority and the consultants who had been engaged to comment on the construction.

5.5.2 In this regard, I refer to the expert's comments regarding the following:

- The PS4 statement issued by the design engineers on 24 June 2005 did not cover the house foundations and there was conflict between the content of the covering letter and the PS4 statement.
- The report issued by the geotechnical engineers on 1 December 2005:
 - only addressed a small area of filling in, and adjoining, one overflow path immediately above retaining wall (B)
 - did not address the concerns raised by the authority's engineer in his email to the authority of 20 April 2004
 - did not address the fact that the filling has diverted one overflow path onto No 10.
- The expert noted the authority has taken no action following the authority's engineer's report forwarded by email on 20 May 2006.
- The expert was concerned that the recommendation made by the design engineers on 28 June 2006, for the provision of a specific geotechnical report for No12, was not followed through.
- The retaining walls, despite their extent and alignment issues, have been approved. However, there is no record of the inspection and approval of the pole foundations to the dwelling, the sub-floor bracing, bearer sizes, and pole/bearer connections.
- The expert was concerned that the authority was satisfied that the No 12 building platform was compliant, despite the lack of a geotechnical report on which to base this assumption. The areas around the house and driveway also require authority input.
- A number of significant deviations from the consented plans have not been addressed by the authority.

5.6 Conclusions

5.6.1 Finally, the report set out the expert's conclusions as follows:

- Clause B1 had not been complied with regard to:
 - the stability of the building platform and the cut face of the excavation behind it
 - the bearer sizes
 - the sub-floor bracing and required connections
 - the certification of the house foundations
 - the long-term stability of retaining wall (B) should scouring continue.

- Clause E1 had not been complied with regard to:
 - the lack of provision to accommodate the passage of surface water through the property to ensure that surface water does not enter the building
 - the non-avoidance of damage or nuisance to other property caused by surface water being diverted by the buildings and the sitework
 - the lack of surface water outfall protection.

5.7 A copy of the expert's report was provided to the parties for comment on 27 April 2010.

Matter 1: Compliance with the relevant Clauses of the Building Code

6. Site stability and structure (Clause B1)

6.1 The submissions

6.1.1 In response to the expert's report, the authority took issue with the expert's comment that it should have arranged for a geotechnical report to be carried out for the building platform. The authority made reference to a 'legally privileged' site stability assessment report that it had commissioned and that it 'might [make] part of this report available' to the Department.

6.1.2 The authority also maintained that as no calculations or evidence has been provided by the expert in terms of the specific design of the pole frame sub floor construction, more information is required to show that these elements are not code-compliant and there is no evidence in the expert's report that the building consent was incorrectly issued, or that the house in question does not comply with Clause B1.

6.1.3 In the authority's opinion it was reasonable at the time the building consent was issued and when the building was constructed, for the authority to accept the design engineers' PS1 and PS4 producer statements as confirmation that the requirements of Clause B1 were met. Apart from the large tree trunks located at the stream edge, the various reports showed that the post bore holes were reasonably free from vegetation.

6.1.4 The authority referred to the following extract from the 'legally privileged' site assessment report that it commissioned (refer paragraph 6.1.1):

The [original engineers'] 1987 report provided enough information to allow for the assessment and design of foundation conditions at No 12 [subject to] specific foundation assessment to allow for any variability in ground conditions.

(I note that this specific foundation assessment was a requirement of the building consent).

The pole foundations were constructed and inspected and encountered foundation conditions consistent with the 1987 report.

We have no geotechnical concerns regarding the suitability of the foundation conditions or pole foundation[s] . . .

The cut face at the rear of the house . . . is cut at an angle and height considered stable...

- 6.1.5 In the applicant's submission to the first draft determination, and in response to the authorities submission, the applicant stated:
- the un-retained banks to the side and rear of the house are unstable
 - there are concerns regarding the house foundations and ground conditions and the house appears to be sinking
 - as the report from the geotechnical engineers was limited in its scope, the authority could not now rely on it as evidence that the building platform was stable. The applicant noted 'fill appears to have been placed with out compaction and is not suitable for building. This is the side of the house which appears to be built on fill and is the area that is sinking...'. The applicant also noted similar problems with the fill supporting the water tank.
 - it was not reasonable for the authority to rely on the PS1 and PS4 producer statements only and the authority should have undertaken its own investigations
 - the various consultants' reports raised concerns regarding the compliance of the building works and the authority failed to ensure that the requirements of the December 1987 report (refer paragraph 3.1.1) regarding the retaining of the cut banks were complied with.
- 6.1.6 The authority noted in its response to the first draft determination that the landscaped area behind the house directly below the cut bank was not part of the building work consented to by the authority.
- 6.1.7 The adjoining owner submitted that applicant had not undertaken any significant landscaping, that it had been carried out by the original owner and that the bank behind the house in question was cut by the original owner on 11 April 2004.

6.2 Discussion

- 6.2.1 I note that prior to the Resource or Building Consent sign-off the authority did not follow up a site-specific geotechnical report, which the authority accepted in 2004 and 2006 as being necessary. However, the appropriateness of No 10's geotechnical report, when considering the requirements of No 12, was addressed in that extract of the 'legally privileged' site assessment report that formed part of the authority's submission regarding the draft determination. This confirmed the adequacy of the founding conditions and pole embedment.
- 6.2.2 However, I am concerned about the filling that has occurred subsequently and which may be causing sinking in the house, car parking area and driveway; as well as the water tank. That filling, which is not included in the legally privileged report extract, may not just be providing vertical support for the house but also lateral restraint. The poor compaction, presence of tree debris in the fill, and the likelihood of subterranean flows, all point to problems that need to be further investigated.
- 6.2.3 In its submission regarding the draft determination, the authority has stated that '[t]here is no basis that the acceptance of the PS1 and PS4 producer statements indicates a non compliance with Clause B1 of the Building Act'. The authority relied on the confirmation in the covering letter from the engineer with the PS4,

which stated that the engineer had inspected foundations to the poles supporting the dwelling.

6.2.4 As a firm of engineers qualified to make such a statement produced the PS1 statement, I believe that it was reasonable for the authority to accept it as a basis for assessing compliance with the Building Code for the elements covered by the statement.

6.2.5 In addition, I note the authority's own site inspection records include the requirement for the design engineers 'to observe the inspection of the pole [construction] for the dwelling and [for] the retaining walls'. However, there appears to be some confusion arising from the scope of work included in the design engineers' PS4 (refer paragraph 3.5.4) for the 'timber pole retaining wall foundation ...'

6.3 Conclusion

6.3.1 Accordingly, I am of the opinion that reliance by the authority on the PS4 statement and covering letter was insufficient for the authority to establish that the foundations for the dwelling met the requirements of the Building Code.

6.3.2 The authority has questioned the lack of calculations and evidence from the expert to show that the sub-floor construction is not code-compliant. However, the expert has described those elements of the sub-floor construction that do not comply, and I am satisfied that the expert has provided sufficient evidence of non-compliance.

7. Surface water (Clause E1)

7.1 The submissions

7.1.1 In its response to the experts report the authority submitted that information sources used by the expert were not available to the authority when it considered the building consent request and it would not have been possible to determine the overflow paths. The authority also commented that the secondary overland flow path was not drawn to the attention of the authority's inspectors during the protracted building process.

7.1.2 The authority also submitted that in respect of surface water:

- As to Clause E1.3.1, there is no known damage or nuisance to other property. 'The water course on the...boundary [with No 10] is very much located on [No 10]'. The garage built on [No 10], and which straddles a water course, does not have a building consent.

(I note that the adjoining owner has referred to correspondence showing that the garage on his property did receive a building consent).

- As to Clause E1.3.2, there is no evidence that the overland flow path enters the building. The authority noted that '[t]he overland flow path is in an unusual form as it flows down the hill above the site'.
- There is no evidence that the drainage on the site does not comply with Clause E1.

- The authority was not initially aware of existence overland flow path 3 which is the basis used in the determination to establish non-compliance with Clauses E1 and E2.
- The authority ‘accepted that the fill placed on the edge of [the water course on the boundary with No 10] has the potential of diverting flow towards [No 10]’ but ‘was not aware of any [structural] damage to [No 10] or likelihood of any substantial the risk of such damage’
- No evidence has been provided to show that any damage has occurred to the suspended floor elements as a result of the secondary overland flow path. The significant landscaping constructed since the code compliance certificate was issued could adversely affect any ventilation that would assist in drying the space under the suspended floor.

7.1.3 The applicant, in response to the first draft determination, submitted that where the ground levels along the rear of the house are low, the rooms adjacent to this area are damp during the winter months, and that the water tank impedes water course 2, is sinking, and is leaning towards the house.

7.1.4 In response to the authority, the applicant submitted that:

- The claimed lack of knowledge of certain flow paths on No. 12 by the authority is irrelevant, as is whether or not building work on No 10 has a building consent. ‘The garage [on No 10] did not ‘straddle a stream’ until the watercourse was diverted’.
- The Building Code requires protection from certain rainfall events. An event which the authority’s engineer ‘notes . . . has a fifty percent chance per year of occurring [caused] surface water to flow to such an extent it was hitting the side of the house as it flowed down under the house...’
- In the applicant’s opinion, supported by an email dated 28 March 2010 written by a then authority staff member responsible for the site inspections on No 12, the authority was aware of the existence of all three flow paths on No 12 before the building consent was issued.
- All the sitework contours indicate that water will run towards the foundations of the house. During heavy rain, the water flows over the full length of the area between the house and the cut bank.
- The applicant stated he was present when bore holes were drilled for the purposes of the authority’s ‘legally privileged’ report and noted ‘Because of the tree debris in the fill and the fact that it was placed on the original flow paths...there are subterranean (sic) water flow which has caused slumping and undermining of the parking and drive way’.
- The diversion of the water courses has caused actual damage to the adjacent property as there is now a stream running underneath the garage where previously there was not.

7.1.5 The adjoining owner submitted that:

- he had complained to the authority with regard to the diversion of the water course that now flows under his garage, as well as the diversion of the main water course on the applicant's property
- there are concerns regarding the stability of his shed, the water flow diversion, and erosion of the banks
- he had voiced concerns regarding the risk of damage to his property on several occasions.

7.1.6 I note that the owner of another adjacent property (No 14) had written to the authority on 18 September (presumably 2006) and forwarded an email to the applicant on 27 June 2010. This correspondence expressed concerns regarding 'the shear volume of uncontrolled water which flows 6 to 9 times a year' as well as land stability.

7.2 Discussion

7.2.1 I accept the expert's opinion that there is a lack of evidence to show that the authority properly considered the effects of surface water during its consenting process. In my opinion it would be normal practice for an authority to consider the effects of surface water runoff on any site, and particularly so after earthworks allowed by the resource consent had been completed. In this instance the potential problems associated with the surface water runoff were clearly raised not only by the authority's own staff (refer paragraphs 3.3), but also by the owners of the two adjoining properties.

7.2.2 The authority maintains that there is no evidence that damage has occurred to the suspended floor elements as a result of the secondary overland flow path. However, surface water has entered the area under the house in sufficient quantities for it to cause undue dampness that, unless properly diverted away, will eventually lead to damage of the building elements. I consider this is sufficient to establish to that the building work also does not comply with Clause E2.3.4, and as a consequence, the requirements of Clause B2 will not be met in the future.

7.3 Conclusion

7.3.1 I accept the findings of the expert and conclude that the building work does not comply with Clauses B2, E1, and E2 of the Building Code.

8. The barrier to the retaining wall (Clause F4)

8.1 The submissions

8.1.1 Initially, in response to the expert's report, the authority submitted that a barrier to retaining walls was not a requirement in all instances and depended on the 'proximity of a pedestrian route to the entrance of the property'. The authority considered that a barrier was unnecessary in this instance as 'the retaining wall is not close to the route that unfamiliar visitors to the site will take'.

- 8.1.2 In its submission to the first draft determination the authority agreed that there are parts of the retaining wall that require a barrier in order for the building work to comply with Clause F4.

8.2 Conclusion

- 8.2.1 No barrier has been installed to retaining wall (B) where the fall height exceeds 1 metre and therefore retaining wall does not comply with Clause F4. I note that the authority now accepts that a barrier will be required to be installed at the relevant locations in order for the wall to comply with Clause F4.

9. The outside steps (Clause D1)

9.1 The submissions

- 9.1.1 The applicant has submitted that the steps built along the side of the house are not built in accordance with the plans and do not comply with Clause D1 as the steps have no handrail (there are in the order of 22 risers). The authority has submitted that the steps were not part of the building consent, so have no bearing on the issuing of the consent or the code compliance certificate.
- 9.1.2 In response the applicant noted that the stair and deck at the porch were shown on the site plan, were not built by the applicant, and were referred to in the final inspection. The applicant also noted the steps were required for access and were detailed on the plans, and therefore should be part of the building consent.

9.2 Discussion and conclusion

- 9.2.1 The steps are shown on what I accept to be the approved consent drawings, I therefore accept that the steps formed part of the consent, and a handrail is required in order to comply with Clause D1.3.3(j).

10. The weathertightness and durability of the roof (Clauses E2 and B2)

10.1 The submissions

- 10.1.1 The applicant submitted that the roofing material, which is rusting, is not suitable for the roof pitch or the environmental conditions. The applicant noted that consented plans indicated that a pre-finished roofing material was to be installed. The substituted material was showing signs of rust at an early stage, despite the maintenance undertaken by the applicant.
- 10.1.2 The authority's view was that providing that it was adequately maintained, the roofing product used on the house was suitable for the local environment.
- 10.1.3 The applicant submitted that the roofing material was not appropriate to the environment in which it was fixed as the authority had designated the property as being in a 'sea spray' area and the roofing material manufacturer had stated that the roofing material installed was not recommended for high risk areas. The applicant attached information from the manufacturer and also information relating to environmental classifications from a steel manufacturer.

- 10.1.4 In emails to the Department dated 13 September 2010, the applicant noted that a fire in the roof space of the house had revealed that water had been entering the roof space. The applicant claimed that this ingress was via the roof flashing and that the water had soaked the roof timbers. The applicant considered that Clause E2.3.5 had been breached, and accordingly, this should be included in the matters to be considered for determination. The applicant supplied photographs of the roof areas and a report from a firm of certified builders dated 10 September 2010.
- 10.1.5 The certified builders' report stated that when inspecting the roof area for an insurance reinstatement, water was found to be pooling on the building paper. The building paper was not supported by netting or tape and was not laid parallel to the gutters.
- 10.1.6 The authority responded in an email the Department also dated 13 September 2010. The authority considered that it was not reasonable to raise this issue at this late stage and that it also appeared that there was fire damage to the rafters.
- 10.1.7 In a further email from the applicant to the Department, dated 15 September 2010, the applicant stated that, according to the Fire Department, the fire in the roof space was already extinguished when they arrived at the property. The Fire Department were of the opinion that water present in the roof space had effectively extinguished the fire.

10.2 Discussion

- 10.2.1 The applicant has requested that the issue discovered by the fire insurance inspection of the roof be considered in this determination. The authority has objected to this, stating that it should not be considered at this late stage. Based on the evidence that has been provided by the applicant, I am of the opinion that the roof does not meet the requirements of Clause E2.3.5. While this is a late request, I consider that it is relevant to add it to the other Clause E2 matters that have already been discussed (refer paragraph 7.2.2). In any event, the applicant could make an application for a separate determination if the roofing question is not included at this stage.
- 10.2.2 The expert has questioned the suitability of the substituted roofing and noted that it is rusting. This brings into doubt the durability of the materials used and their compliance with Clause B2. The applicant has also noted that despite regular maintenance, the roof is already showing signs of rust. The applicant has also provided documentation that is claimed to show that the roofing is not suitable for the environment in which it has been fixed.
- 10.2.3 However, while there are obvious concerns, which have been further elaborated upon, the roof has only to last 15 years with 'normal maintenance'. While manufacturer's instructions can be taken into consideration, the Building Code is not prescriptive and is performance based. Minor rusting appearing after some six years of use does not indicate to me that the Clause B2 requirements will not be met during the total required period of time.

Matter 2: The authority's statutory decisions

11. The issue of the building consent and code compliance certificate

11.1 The submissions

11.1.1 In the applicant's submission to the first draft determination the applicant stated that there were no site-specific geotechnical reports in respect of the altered ground levels, site stability hazards, and the natural water courses, and that crucial details regarding the parking and manoeuvring areas were not provided on the consented plans.

11.1.2 The authority accepted that the issues of potential instability and overland flow paths should have been dealt with under the building consent, however in the authority's opinion the determination issues should be based on what was known to the authority at the time the building consent application was made.

11.1.3 The authority has submitted that:

- as the building consent was issued in terms of the former Act, the building work did not have to fully comply with the building consent before a code compliance certificate could be issued
- as the authority was not aware of the overland flows paths affecting the site, there was no basis for withholding the code compliance certificate for non-compliance with Clause E1
- the authority was not aware that overland flow path 3 existed until well after the issue of the code compliance certificate. Therefore, it was unreasonable to reverse the decision to issue the code compliance certificate based on this fact.
- any correspondence and opinions given after the code compliance certificate was issued are not relevant to the issuing of that certificate.

11.1.4 In response to the first draft determination the applicant submitted that:

- non-compliant building work was not caused by the applicant's efforts to lessen damage and mitigate loss
- if the authority had reviewed the building work in terms of the consented plans and concerns raised by its staff, it would not have been satisfied that the work complied with Clauses B1 and E1.

11.2 Discussion

11.2.1 The building consent was issued in terms of the former Act and the transition provisions of the current Act therefore apply. Section 43 of the former Act requires a territorial authority to issue a code compliance certificate only if it is satisfied on reasonable grounds that the building work to which the certificate relates complies with the Building Code.

- 11.2.2 I accept the expert's comments with respect to the design for the sub-floor structure and the retaining walls and consideration of Clause E1; that the building consent lacked sufficient detail for the authority to be satisfied on reasonable grounds that the proposed building work, when completed, would comply with the requirements of the Building Code.
- 11.2.3 The authority maintains that it would not have been possible to identify the overflow path that crosses the western boundary of the site, when considering the building consent application. I do not accept this position for the reasons stated in paragraph 7.2.1.

11.3 Conclusion

- 11.3.1 I am of the opinion that the authority should not have issued a building consent based upon the information submitted to it for approval. The granting of a building consent is a statutory decision authorising particular building work to be undertaken which was relied upon by the original owners, and on which the now completed building was built and occupied since 2005. I consider it would be unreasonable to now reverse that statutory decision made by the authority. However, I also accept that there are several areas where the finished work, as constructed, does not comply with the Building Code.
- 11.3.2 I am also of the opinion that the authority did not have sufficient grounds on which to issue the code compliance certificate. While the omission of barriers to the retaining walls by itself might not be a sufficient reason for the authority not to have issued the code compliance certificate, there are other areas of non-compliance that have significant structural, surface water, and durability implications. Accordingly, the code compliance certificate should now be withdrawn.
- 11.3.3 The applicant has queried what would be the effect of withdrawing the code compliance certificate on the section 36(2) condition that was applied to the original building consent. I note that, as the consent was issued in August 2004, this was the correct reference. As I have stated that it would be unreasonable to reverse the decision of the authority to issue the building consent, the application of section 36(2) has not been changed. Accordingly, the withdrawal of the code compliance certificate does not affect this notice.

12. What is to be done now?

- 12.1 Once the code compliance certificate has been withdrawn, the authority should issue a notice to fix requiring the owners to bring the building work up to compliance with the Building Code. It is not for the notice to fix to specify how the defects are to be fixed. That is a matter for the current owners to propose and for the authority to accept or reject. It is important to note that the Building Code allows for more than one method of achieving compliance.
- 12.2 The expert has noted that there have been several departures from the original consented documentation in the construction of the building work. These items should be included on any notice to fix that the authority issues.

12.3 The applicant has requested that the determination list the items that should be included on the notice to fix. However, as these are matter for the authority to decide, I am unable to comply with that request.

13. The decision

13.1 In accordance with section 188 of the Building Act 2004, I hereby determine that:

- the building work does not comply with Building Code Clauses B1, B2, D1, E1, E2, and F4

and accordingly I reverse the authority's decision to issue a code compliance certificate.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 26 November 2010.

John Gardiner
Manager Determinations

Appendix A: The legislation

A.1 The former Act

A.1.1 The relevant provisions of the former Act are:

34 Processing building consents

- (3) After considering an application for a building consent, the territorial authority shall grant the consent if it is satisfied on reasonable grounds that the provisions of the building code would be met if the building work was properly completed in accordance with the plans and specifications submitted with the application.

34 Code compliance certificate

- (3) ...the territorial authority shall issue to the applicant in the prescribed form, on payment of any charge fixed by the territorial authority, a code compliance certificate, if it is satisfied on reasonable grounds that—
- (a) The building work to which the certificate relates complies with the building code...

A.2 The current Act

A.2.1 The relevant provisions of the current Act are:

433 Transitional provision for building consents granted under former Act

- (1) A building consent that was granted under section 34 of the former Act before the commencement of this section must, on that commencement, be treated as if it were a building consent granted under section 49.
- (2) However—
- (a) section 93 does not apply; and
- (b) accordingly, a building consent authority is not required to issue a code compliance certificate for the building work concerned within the period specified in that section.

438 Transitional provision for code compliance certificates and compliance schedules issued under former Act

- (1) On the commencement of this section,—
- (a) a code compliance certificate issued under section 43 of the former Act has effect as if it had been issued under section 95 of this Act...

A.3 The Building Code

A.3.1 The relevant provisions of the Building Code current at the time the building consent was issued are:

CLAUSE B1 STRUCTURE

PERFORMANCE

B1.3.1 Buildings, building elements and sitework shall have a low probability of causing loss of amenity through undue deformation, vibratory response, degradation, or other physical characteristics throughout their lives.

B1.3.6 Sitework, where necessary, shall be carried out to:

- (a) Provide stability for construction on the site, and

- (b) Avoid the likelihood of damage to other property.

B1.3.7 Any sitework, and associated supports shall take account of the effects of:

- (a) Changes in ground water level
- (b) Water, weather and vegetation, and
- (c) Ground loss and slumping.

CLAUSE B2 Durability

FUNCTIONAL REQUIREMENT

B2.2 Building materials, components and construction methods shall be sufficiently durable to ensure that the building, without reconstruction or major renovation, satisfies the other functional requirements of this code throughout the life of the building.

PERFORMANCE

B2.3.1 Building elements must, with only normal maintenance, continue to satisfy the performance requirements of this code for the lesser of the specified intended life of the building, if stated, or:

- (a) The life of the building, being not less than 50 years, if:
 - (i) Those building elements (including floors, walls, and fixings) provide structural stability to the building or
 - (ii) Those building elements are difficult to access or replace or
 - (iii) Failure of those building elements to comply with the building code *would go undetected* during both normal use and maintenance of the building
- (b) 15 years if:
 - (i) Those building elements (including the building envelope, exposed plumbing in the subfloor space, and in-built chimneys and flues) are moderately difficult to access or replace, or
 - (ii) Failure of those building elements to comply with the building code would go undetected during normal use of the building, but would be easily detected during normal maintenance.
- (c) 5 years if:
 - (i) The building elements (including services, linings, renewable protective coatings, and *fixtures*) are easy to access and replace, and
 - (ii) Failure of those building elements to comply with the building code would be easily detected during normal use of the building.

Clause E1 Surface water

PERFORMANCE

E1.3.1 Except as otherwise required under the Resource Management Act 1991 for the protection of other property, surface water, resulting from an event having a 10% probability of occurring annually and which is collected or concentrated by buildings or sitework, shall be disposed of in a way that avoids the likelihood of damage or nuisance to other property.

E1.3.2 Surface water, resulting from an event having a 2% probability of occurring annually, shall not enter buildings.

[Performance E1.3.2 shall apply only to Housing, Communal Residential and Communal Non-Residential Buildings].

- E1.3.3** Drainage systems for the disposal of surface water shall be constructed to:
- (a) Convey surface water to an appropriate outfall using gravity flow where possible,
 - (b) Avoid the likelihood of blockages,
 - (c) Avoid the likelihood of leakage, penetration by roots, or the entry of ground water where pipes or lined channels are used,
 - (d) Provide reasonable access for maintenance and clearing blockages,
 - (e) Avoid the likelihood of damage to any outfall, in a manner acceptable to the network utility operator, and
 - (f) Avoid the likelihood of damage from superimposed loads or normal ground movements.

Clause E2 External moisture

PERFORMANCE

- E2.3.4** Building elements susceptible to damage must be protected from the adverse effects of moisture entering the space below suspended floors.
- E2.3.5** Concealed spaces and cavities in buildings must be constructed in a way that prevents external moisture being accumulated or transferred and causing condensation, fungal growth, or the degradation of building *elements*.

Clause D1 Access Routes

PERFORMANCE

- D1.3.3** Access routes shall:
- (j) Have smooth, reachable and graspable *handrails* to provide support and assist with movement along a stair or ladder, ...

Clause F4 SAFETY FROM FALLING

PERFORMANCE

- F4.3.1** Where people could fall 1 metre or more from an opening in the external envelope or floor of a building, or from a sudden change of level within or associated with a building, a barrier shall be provided.