



Determination 2020/012

Regarding the compliance of building work with Building Code Clause E1 Surface water and the decision to issue a notice to fix in respect of it at 62A Awamoa Road, Oamaru



Summary

This determination considers whether a depression on semi-rural property can be considered a suitable outfall for a surface water drainage system. The authority issued the notice to fix because it considered the drainage system had not been constructed in accordance with the consented plans. The determination considers the compliance of the outfall and whether the authority was correct to issue the notice to fix.

1. The matter to be determined

- 1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004 (“the Act”) made under due authorisation by me, Katie Gordon, Manager Determinations, Ministry of Business, Innovation and Employment (“the Ministry”), for and on behalf of the Chief Executive of the Ministry.¹
- 1.2 The parties to the determination are:
 - The owner of the property, D Hawinkels, who is the applicant in this determination (“the applicant”)
 - Waitaki District Council, carrying out its duties as a territorial authority or building consent authority (“the authority”)

¹ The Building Act and Building Code are available at www.legislation.govt.nz. The Building Code is contained in Schedule 1 of the Building Regulations 1992. Information about the Building Act and Building Code is available at www.building.govt.nz, as well as past determinations, compliance documents and guidance issued by the Ministry.

- the owner of the neighbouring property, B Williamson, who is a party to this determination under section 176(e)(i)² (“the neighbour”).
- 1.3 This determination arises from the authority’s decision to issue a notice to fix for a surface water drainage system built on the applicant’s property. The authority issued the notice to fix because it considered the drainage system had not been constructed in accordance with the consented plans.
- 1.4 The matter to be determined³ is therefore whether the authority was correct in its decision to issue the notice to fix. In deciding this matter, I must consider the compliance of the as-built surface water drainage system with Clause E1.3.3(a) Surface water of the Building Code (Schedule 1 of the Building Regulations 1992).
- 1.5 In making my decision, I have considered the submissions of the parties, the report of the independent expert commissioned by the Ministry to advise on this dispute (“the expert”) and the other evidence in this matter. I have not considered any other aspects of the Act or Building Code, beyond those required to decide on the matter to be determined.
- 1.6 The relevant sections of the Act and the Building Code referred to in this determination are set out in Appendix A.

2. The building work and background

- 2.1 The applicant’s property (Lot 3 DP 464971) is a lifestyle block on the southern fringes of Oamaru. On the property’s eastern boundary, between the applicant’s property and the neighbour’s property, there is a natural depression in the land. This depression currently contains water and is acting as a semi-permanent pond (that is, the inflow to the depression exceeds the natural outflow from it, and it nearly always contains some water, of varying depths).
- 2.2 The neighbour built a dwelling on their land in 2014. As part of this process, the neighbour filled a 1m wide strip of the natural depression that formed part of their own and their then neighbour’s (now the applicant’s) properties, and subsequently converted this area into a garden. This work had the effect of raising the ground level on their side of the boundary by approximately 150mm, bringing it up to the same level as the bottom of the boundary fence, which had already been installed. All surface water from the neighbour’s property is directed to a surface water drain on the road to the east of the property; none is directed to drain to the depression.
- 2.3 In June 2015, the authority granted a building consent (No. 2015.2671) to the applicant to construct a single storey building comprising a 83m² two-bedroom dwelling and much larger adjoining garage and workshop (218m²). Construction began in August 2015, with the applicant as the owner-builder. As part of the building work, the applicant used clay fill excavated during the construction of the building to fill a 3m wide strip on the eastern side of the depression adjacent the boundary fence.
- 2.4 The applicant advises the building was substantially complete with surface water being collected and discharging to the depression in late September 2018.
- 2.5 The consented plans show the surface water from the building’s roof discharging via two drainage pipes to an unspecified ‘overflow and drain to natural watercourse’. I

² In this determination, references to sections are to sections of the Act and references to clauses are to clauses of the Building Code.

³ Under sections 177(2)(f) of the current Act

understand the ‘overflow’ was intended to be soakage within the applicant’s backyard to the southwest of the garage. This land slopes gradually down towards the western boundary, from where the surface water would drain eventually to the Awamoa Creek (being a ‘natural watercourse’).

- 2.6 When the authority inspected the surface water drainage works on 24 September 2018, it found that some of the roof runoff from the new garage and dwelling had in fact been directed to discharge into the natural depression near the boundary, and that the water was ponding in it. The authority was satisfied with the workmanship, pipework, trenches and bedding for the new surface water outfall, but was concerned about the proposed disposal location, as no calculations or outfall design had been provided for it.
- 2.7 The authority’s inspecting officer proposed that the new outfall discharge to the depression could be treated as a ‘minor variation’ to the building consent, provided an overflow was provided. The authority advises that the applicant accepted this proposal. The authority’s drainage inspection record describes the minor variation as:
- [the applicant has] directed the [surface water] to a pond – from there the over flow to go to the natural water course when completed.
- 2.8 The inspection record also notes that the applicant was ‘Ok to continue & cover’ the surface water drain, and contains a directive that an overflow was to be installed to the depression, as discussed.



Figure 1: Site plan of the two properties (not to scale)

- 2.9 On 2 October 2018, the authority sent the applicant an email confirming that the surface water discharge to the depression would be treated as a minor variation and requesting that the overflow for the depression be “installed, inspected and passed” by 31 October 2018. The applicant replied in an email on the same day stating that they (being himself and his wife, who is the other co-owner) had “subsequently decided that this overflow is not required as we have discharged into a natural water

course which drains naturally”. The applicant stated this had previously been discussed and agreed to by the authority.

- 2.10 Further emails then passed between the parties, with the applicant advising he was no longer willing to install an overflow for the depression. The authority maintained that installing an overflow had been part of the minor variation requested by the applicant, and advised that if they were no longer willing to “install an overflow of sufficient capacity from the pond away from the neighbours” they would have to apply for a formal amendment to the building consent.
- 2.11 On 12 November 2018, the authority issued Notice to Fix No. 2018.40 (“the first notice to fix”) to the applicant. The notice gave the following particulars of contravention or non-compliance (emphasis is the authority’s).

Particulars of contravention or non-compliance:

On 30th August 2018. [An officer of the authority] attended a drainage inspection at 62a Awamoa Road, Oamaru

The building work concerned, relates to the unauthorised change of drainage layout not being consistent with the consented plans at 62A Awamoa Road.

The Authority believes; on reasonable grounds, the drainage works fail to comply with the conditions agreed upon by means of a ‘Minor variation’ agreement between [the applicant] and the inspecting Building Control Officer.

1. Pursuant to section 164(1) (a) of the Building Act 2004; [the authority], as the responsible authority, considers on reasonable grounds that the above specified persons are contravening or failing to comply with the Act.

2. In particular, work has been carried out in breach of section 14E(2)(a) of the Act.

To remedy the contravention or non-compliance you must:

1. Comply with the requirements set-out in the ‘Minor-variation’ in relation to the drainage work: install overflow to pond,

or;

2. Remove the current drainage system and re-instate as per consented plans,

or;

3. Apply for a certificate of acceptance under S:97 of the Act for the building work that has been carried out. The application must:...

4. Notify the council within 5 Working days (being Friday, November 22nd) of your intentions, by written format (email or letter)

This notice must be complied with by 30 November 2018...

- 2.12 The applicant emailed the authority on 12 November 2018, stating that they believed the first notice to fix had been issued in error, as they had complied with the authority’s directive “to install over flow to pond **to go to the natural water course**”, (emphasis is the applicant’s) and asking that it be withdrawn. The applicant also stated that they had been advised by the Otago Regional Council (“the regional council”) that the depression was “part of a natural watercourse”, and that the depression complied with regional council guidelines and “standard AS3.1⁴”, and accordingly no overflow was required. The applicant indicated that they intended to apply for a determination. The authority acknowledged this, and as a result took no further enforcement action on the first notice to fix.

⁴ The standard is not otherwise identified.

- 2.13 Following high-intensity rainfall on 18 November 2018, the neighbour complained that water that had collected in the depression had inundated their property (but not their house) by approximately 300mm, causing a nuisance and damage to their property. Data taken from the Oamaru EWS⁵ rain gauge station showed that during this storm, 18.4mm of rain fell over 4 hours, with peak rainfall intensity of 13.6mm, giving this an annual exceedance probability (AEP) of 20% (or once every 5 years). The neighbour advised that the depression had never flooded prior to this event, and that over the winter of 2018 the water in the depression had not fully drained.
- 2.14 On 7 December 2018, the authority issued Notice to Fix No. 2018-40-2 (“the second notice to fix”). The notice gave the following particulars of contravention or non-compliance (emphasis is the authority’s).

Particulars of contravention or non-compliance:

Pursuant to the Building Act 2004 section 168(1) it is an offence to not comply with a Notice to Fix. Notice 2018.40 has not been complied with within the specified timeframe.

To remedy the contravention or non-compliance you must:

1. Comply with the requirements set-out in the ‘Minor-variation’ in relation to the drainage work: *install overflow to pond*. The over-flow will need to be of sufficient capacity and direction so as not to cause nuisance to neighbouring properties.
- or;
2. Remove the current drainage system and re-instate as per consented plans 2015.2671,
- and
3. Notify the council within 5 Working days (being Friday, December 14th) of your intentions, by written format (email or letter)
4. All rectification works need to be inspected and compliant by **28 January 2019**

This notice must be complied with by: 28 January 2019

- 2.15 The applicant disputed the validity of the second notice to fix in an email dated 11 December 2018 on the same grounds as they had for the first notice.
- 2.16 On 17 December 2018, the authority issued an infringement notice (No. 1104) to the applicant for “failing to comply with a Notice to Fix”. The notice replaced an earlier infringement notice (No. 1103) that had been wrongly addressed.
- 2.17 On 20 December 2018, the regional authority⁶ engaged a company of environmental science and engineering consultants (“the regional authority’s consultant”) to inspect the applicant’s property in order to gain an understanding of the ponding that was occurring in the depression on the boundary and whether this was being caused by the discharge of surface water from the applicant’s buildings. The regional authority’s consultant conducted the inspection and provided a report dated 20 December 2018.
- 2.18 The report described the geology and characteristics of both the applicant’s and neighbour’s properties, and the configuration and catchment for the depression. The report concludes that the discharge of surface water from the applicant’s dwelling into the depression is causing ‘more frequent flooding’ of the neighbour’s property,

⁵ Electronic weather station.

⁶ Otago Regional Council

but notes that such flooding may have occurred anyway, even if the applicant had not built on their property, albeit less frequently. The consultant also concluded that such ponding would cause the surrounding land to be saturated and may have an adverse effect on nearby vegetation and the fence, but was unlikely to cause damage to the neighbour's buildings.

- 2.19 On 13 January 2019, the applicant wrote to the authority denying liability for the offence cited in the infringement notice and requesting a court hearing.
- 2.20 On 3 May 2019, the authority issued a further notice to fix, also numbered No. 2018.40 ("the third notice to fix") to the applicant. This notice was stated to supersede the two previous notices. The authority decided to issue the third notice to fix after seeking legal advice, which raised queries about the adequacy of the wording of the first and second notices. A letter with the notice to fix advised that the authority had also withdrawn the infringement notice and that payment of the fee was not required.
- 2.21 The particulars of contravention of the third notice to fix were given as:

Particulars of contravention or non-compliance:

1. Pursuant to S: 164(1) of the Building Act 2004 (the Act), Waitaki District Council, as a responsible authority, considers on reasonable grounds that the above specified persons are contravening or failing to comply with the Act.
2. In particular, they have carried out building work not in accordance with the building consent, in breach of S:40(1) of the Act.

To remedy the contravention or non-compliance you must:

1. Remove those parts of the current [surface water] disposal system which have been built other than in accordance with the approved plans for building consent ref. 2015.2671 and;
2. Complete the [surface water] drainage system in accordance with the approved plans for building consent ref 2015.2671,
3. All rectification works need to be notified to [the authority], inspected and compliant by 31/05/19...

- 2.22 The applicant applied for a determination, and this was received by the Ministry on 17 May 2019.
- 2.23 The Ministry wrote to the parties on 27 May 2019, and 3, 10 and 11 July 2019 seeking further information, including the location of the natural watercourses mentioned in the consented plans and the minor variation.
- 2.24 The applicant responded to these requests, as follows.
- On 30 May 2019, providing photos and a diagram showing the location of the natural watercourse on the property.
 - On 3 July 2019, submitting that the depression was "only a remnant" of its former size, and had only been dry since the subdivision was formed; prior to this there was water in it. The pond in the depression reappeared before the surface water was piped into it and "naturally filled right up". The surface water collected from the building would make "little difference" to the amount of water entering the depression; the depression fills quicker now because of its decreased size. The neighbour has breached Clause E1.3.1 by filling the portion of the depression on their land as this has increased the amount of surface water that the applicant has had to deal with.

- On 15 September 2019, providing information about the depression and the filled area next to it.

2.25 On 10 July 2019, the authority emailed the Ministry confirming the grounds on which the notices to fix had been issued. With regard to the third notice to fix, the authority confirmed it had withdrawn the earlier notices, and reissued the third notice to fix:

...for noncompliance with the consented plans, as the performance requirement in [Clause] E1.3.1 requires surface water collected or concentrated by buildings or siteworks, shall be disposed of in a way that avoids the likelihood of damage or nuisance to other property.

3. The submissions, the draft determination and responses received

3.1 The applicant's submission

3.1.1 The applicant made a submission with the application for a determination. The submission set out the background to the dispute between the parties. The other main points made in the submission are as follows.

- When the applicant applied for the building consent there was no water present in the depression on the property, so the surface water was designed to discharge as consented. Water first accumulated in the depression after a wet month in January 2017, after which it seemed logical to discharge the surface water to it instead.
- At building inspections in May 2017 and August 2018 the applicant was told by the authority's building inspector that it was acceptable to drain the surface water to the depression. Based on this advice, the applicant installed the surface water drainage to the depression. It was not until the neighbour complained about the installation of the surface water drainage in September 2018 that the authority decided an overflow from the depression was needed. The applicant agreed to do this as part of the minor variation.
- Discussions with another neighbour (not a party to this determination) show that there had been a pond in the depression over the past 30 years, and that in the past it had been bigger, with the outfall located on the neighbour's property. The neighbour has blocked the outfall for the depression when they filled the portion of the depression on their property.
- The officer of the regional authority (refer paragraph 2.172.17) advised that installing an overflow to the depression "would be against [regional authority] rules and could have legal repercussions". This advice formed the basis for the applicant's subsequent refusal to comply with the notices to fix, as the surface water was already draining to the depression as a natural watercourse.

3.1.2 The applicant concluded that they had "complied with [the authority's] minor variation requirement to install an overflow from the pond to the natural watercourse", and that the authority was trying to force them through the notices to fix to either install an overflow or revert to the consented surface water drainage system. The applicant was reluctant to do this, as the authority had not given any reason why the existing arrangement "does not comply".

3.1.3 With their submission, the applicant provided copies of:

- the consented plans, including the consented drainage plan
- the as-built drainage plan
- the drainage inspection report, recording the minor variation
- the first, second and third notices to fix; and the infringement notice
- the correspondence between the parties.

3.1.4 On 14 July 2019, the applicant provided a further submission in response to the authority's submission.

3.1.5 The submission reiterated previous statements and the position that the requirement to provide an overflow from the depression had been met, as the depression itself constituted a natural watercourse. The applicant also submitted that the rainfall at the end of 2018 was 'due to a record breaking period of rain' and despite the high rainfall the depression did not overflow. The applicant also provided calculations showing the depression could act as a soakage pit for surface water runoff from the building. The applicant considered that these calculations demonstrated that the depression complied with Clause E1.3.1.

3.2 The authority's submission

3.2.1 The authority made a submission on 28 June 2019 in relation to the application for a determination. The submission set out the background to the matter and made the following main points.

- The authority has no record of any communications between it and the applicant about allowing the surface water to drain to the depression or of allowing a minor variation to the consented plans, before the drainage inspection. It is the authority's policy for inspectors to notify minor variation changes in writing on its inspection records, as occurred here.
- The authority had checked with the regional authority who advised it had no record of its officers giving a directive to the applicant regarding the surface water overflow. The authority contended that if the regional authority had made such a directive it would be acting outside its designated role as it has no authority to do so under the Act.
- To date, the authority has not been supplied with any calculations, details or specifications to show how the installed surface water disposal system complies with the Building Code.
- "Since the drainage system has been installed, the neighbouring property has been inundated several times by flooding directly caused by the acceleration of water supplied to the pond via surface water collection from the buildings roofed area." Previously this rain would have been absorbed by the "surrounding earth".

3.2.2 With its submission, the authority provided copies of:

- photos of the applicants' property and the depression, the drainage works, and of flooding from the depression
- the authority's building inspections record relating to the consent
- the consented drainage plan
- the as-built drainage plan

- the first, second and third notices to fix, and the infringement notice
- the correspondence between the parties
- the regional authority's consultant's report.

3.3 The neighbour's submission

- 3.3.1 The neighbour made a submission dated 25 July 2019. The neighbour noted that in the period between purchasing their section in 2013 and September 2018, water was observed in the depression on the applicant's property 'two to three times', and that the depression used to have grass on its bottom and 'be dry probably 95% of the time'. Since September 2018, there is always water in the depression and in heavy rain this comes up to and through the boundary fence and into the neighbour's garden. The ground remains saturated and they have lost plants as a result. There was never a natural drain for the depression on the neighbour's property as the ground level rises gradually up from the northern end of the depression. The neighbour "did not fill in a drain" leading from the depression.
- 3.3.2 The neighbour subsequently provided photographs showing flooding from the depression following rain events in November and December 2018.

3.4 The draft determination and additional submissions

- 3.4.1 A draft of this determination was issued to the parties for comment on 12 December 2019.
- 3.4.2 The draft concluded that the applicant's as-built surface water drainage system does not comply with Clause E1.3.3(a) of the Building Code, and that the authority decided correctly in issuing the third notice to fix in respect of it.
- 3.4.3 The neighbour accepted the draft determination without comment on 23 December 2019. The authority accepted the draft determination without comment on 14 January 2020.
- 3.4.4 The applicant did not accept the draft determination, and made a submission dated 17 January 2020, containing the following points. I have taken these points into account in my decision, as I considered appropriate.
- The amount of filling of the depression done by the neighbour on his property has been understated. The difference in ground levels between the applicant's and the neighbour's property is approximately 300mm.
 - It is incorrect that all of the surface water on the neighbour's property is directed away from the depression, as 20% of its catchment area is on their property.
 - The authority never requested calculations or an outfall design for the minor variation, and the authority added the requirement for an overflow after the variation had been agreed to.
 - Water from the depression could not flood the neighbour's property due to its raised ground levels. Any flooding was water running off the neighbour's own property. The neighbour has provided no photos of flooding on their property.
 - No clay fill was added to the floor of the pond, only along the fence line. A 'less permeable soil' may have been added to the base of the depression in the past, but this was not done by the applicant.

- The expert's calculations as to the depression's capacity are 'incorrect'. The applicant also disagreed with various other observations and comments made by the expert in their report, and requested that the report should be reviewed and its conclusions redrafted.

3.4.5 The applicant concluded that the depression 'can act as a suitable soak pit' and complies with Clause E1. The applicant also provided:

- additional calculations to 'back up' the applicant's previous estimate of the depression's total storage capacity as 200m³
- an email from another neighbour confirming that 'there has always been a pond' on the applicant's and neighbour's property over the past 45 years. This pond was often empty but would fill during 'periods of extended rainfall'; and overflow when full 'towards Awamoa Road through a natural watercourse'. The contours of the neighbour's property had been altered during its development preventing this 'natural drainage'.

4. The expert's report

4.1 As mentioned in paragraph 1.5, I engaged an independent expert to assist me in this matter; the expert has particular expertise in civil engineering and is employed by a multidisciplinary consultancy. The expert provided a report on 23 October 2019 which was provided to the parties for comment on the same day.

4.2 The expert's report was to verify whether the depression on the applicant's land could be considered a soak pit, and to test the validity of the applicant's calculations and conclusions in this regard. In preparing the report, the expert researched geotechnical and hydrological information relating to the applicant's property and surrounding areas; assessed the available documentation; conducted a site visit at the applicant's property on 26 September 2019; carried out shallow (200mm) and deep (1600 to 1800mm) soakage tests and catchment-capacity calculations in accordance with Verification Method E1/VM1⁷; took hand augured soil samples; and held discussions with the parties.

4.3 In the report, the expert measured the depression as approximately 8m long and 7.5m wide, with a maximum depth of 500mm at its centre, and maximum water height of around 700mm before it overflows its banks; giving it an area of approximately 200m², and a maximum storage volume of 16m³. (Note that the expert subsequently revised and updated these, and other calculations in a later memorandum, which took into account additional data relating to the 2018 rainfall event, and in response to matters raised by the parties in their submissions.) The expert noted that satellite imagery of the applicant's property taken periodically since 2003 only showed water in the depression in the most recent 2019 image.

4.4 The expert also confirmed that the area where the depression is located is one of 'poorly drained soils' and sits completely within a 'sandstone and siltstone geological unit', which generally has low permeability. The depression has a catchment of approximately 3200m², including 200m² of the roof area of the applicant's building that is piped directly to the depression. The additional runoff from the roof would add approximately 1 litre/second to the water volumes entering the depression during a '1-hour 10% AEP design storm peak runoff'.

⁷ Verification Method E1/VM1 for Clause E1 Surface water.

- 4.5 The expert concluded that the soil in the area of the depression was not suitable to be used as a soak pit, and that the depression was currently operating as a wet pond (i.e. never draining completely), with a constant depth of around 200mm. The expert stated that the depression's failure to drain would cause more frequent flooding during the winter due to cumulative rainfall.
- 4.6 In addition, the depression's calculated soakage rate of 50mm/hour was lowered by approximately 70% to 15mm/hour due to an impermeable layer of soil below the depression and the addition of clay fill material alongside the fence/eastern side of the depression, which was acting as an impermeable liner in that location. (The expert subsequently clarified (in the memorandum April 2020, refer paragraph 4.8) that some of this fill had 'migrated' to the bottom of the depression, and although not purposefully placed there, was now creating an impermeable layer in that location. The expert also adjusted her calculations as to soakage rates.)
- 4.7 All of these factors combined meant that, in the expert's opinion using the depression as soakage 'was not a viable option for [surface water] disposal' unless ground improvements were made to improve the permeability of the soils and allow the depression to drain.

4.8 The expert's memorandum in response to the parties' submission

- 4.8.1 At my request, the expert provided a further memorandum dated 24 April 2020. The memorandum responded to specific matters raised by the applicant in their 17 January 2020 submission made in reply to the expert's initial report and the draft determination. A copy of the memorandum was provided to the parties on 28 April 2020.
- 4.8.2 The additional main points made by the expert in the memorandum are as follows.
- The amount of filling on the neighbour's side of the fence was approximately to the top of the first board, which was approximately 150mm in height. However, there may be other sections along the boundary line, where there is greater clearance between the base board and the ground, and the depth of the fill may vary between 150mm and 350mm above ground level. Had the ground level not been built up on the neighbour's side of the fence, then ponding would 'inundate' the neighbour's property.
 - The regional council's consultant's report included photos showing darker soils adjacent to the boundary. This confirmed that:
 surface flooding of the depression are on [the applicant's property] results in subsurface inundation and spoil saturation for [the neighbour] (due to raising the ground level on [the neighbour's] side) that may cause an adverse effect on plant health ...
 - The expert agrees with the applicant that the area that is permanently ponded ("the permanent water level") as observed during the expert's site visit, is 200m²:
 However, the applicant has not accounted for the fact that because the water in the pond does not drain down, effectively no soakage can occur over this area and the available storage volume to contain runoff from future rainfall events is held above this 'permanent' pond level.
 - The large discrepancy between the expert's calculation of the depression's storage capacity and the applicant's calculations, was because the applicant did not exclude the area of the permanent water level, which had been recorded as

present since 2016, and could not be included in either the storage capacity of the depression or its soakage calculations.

- The expert is confident that the pond ‘overflow’ area, being the maximum extent that water will pond without crossing into the neighbour’s property is approximately 300m², with a depth of approximately 300mm above the permanent pond level, giving an available storage area of 75m². The pond has been filled by an estimated 4m strip on its eastern side, and 200mm at its base, giving an original volume of approximately 145m². This equates to an approximately 50% reduction in its storage volume. The surface area available for soakage is approximately 100m².
- The expert reviewed and adjusted the catchment area and run-off coefficient for the depression, based on the ponding observed during the November 2018 rainfall event (refer paragraph 2.13), saying:
Following these changes, our revised assessment of the pond as a soakage basin show that the water level is likely to breach the boundary line in rainfall in excess of 26 mm (roughly equivalent to a 10% AEP 2hr event).
- The 200mm layer of low-permeability silts at the bottom of the depression had migrated there from adjacent earthworks.
- The expert did not consider that ‘soakage via the pond area is a viable option for [surface water] disposal without provision of an outlet/overland flow path’. The ‘discharge of [surface water] to the depression/pond area is acting like a [surface water] infiltration basin, it is not a soak pit, therefore the Clause E1 verification method for soak pits used by the applicant is not appropriate’. The expert’s calculations show that ‘the system is unable to provide an adequate 10% AEP level of service’.
- The expert concluded that the depression is not a natural watercourse. The applicant’s use of the term ‘watercourse’ implies ‘a defined channel’ along which water will flow. The current ponding area is ‘poorly defined but somewhat visible’ in historic satellite imagery as ‘a low-lying ‘greener’ area prior to 2015’. There is no defined watercourse leading from the depression in any of these images.

4.8.3 The expert revised the conclusions in its September 2019 report to read as follows:

From our findings, the [applicant’s] assessment that the pond can be treated as a soak pit is inaccurate; discharging [surface water] runoff to a natural depression area more closely represents an infiltration basin in form and function. The native clay soils around the pond have low soakage potential with no soakage occurring within the permanently ponded area. The permanently ponded area is likely to have been created as a result of both landowners placing fill material along the boundary on the eastern side of the basin and migration of fine clay material into the base of the pond. ...

The combination of the reduction in storage capacity, a permanent water level in the pond and the additional runoff from the roof area directed to the pond means that the pond will fill quicker and more frequently. ...

We consider that the discharge of [surface water] to the pond in its current form (assuming performance as a soakage basin, not a soak pit) will not meet the functional and performance requirements of the ... Building Code.

5. Discussion

5.1 General

- 5.1.1 The matter for determination is whether the authority was correct in its decision to issue the third notice to fix with respect to the surface water drainage system on the applicant's land. The third notice to fix replaced the two earlier notices to fix and the infringement notice issued by the authority. The authority has accepted that there were difficulties with the wording of the earlier notices that may have rendered them invalid. As such, there is no need for me to consider these earlier notices further.
- 5.1.2 The third notice to fix has been issued pursuant to section 164(1)(a) and gives as its particulars of non-compliance that the applicant is contravening or failing to comply with the Building Act, because they have carried out building work (namely the disposal of surface water from their site and buildings) other than in accordance with a building consent. This is a contravention of section 40(1) of the Act.
- 5.1.3 The consented plans for the building work show the surface water from both the dwelling and the garage being collected and directed to drain, via two outlets, to an unspecified natural watercourse on the south-west of the property beyond the garage. However, this was not what was constructed, and the applicant and authority subsequently agreed to a minor variation to the building consent to allow the surface water to drain to the natural depression on the applicant's land, which is now a semi-permanent pond, which contains water for long periods.
- 5.1.4 This is the crux of the determination, as it is the adequacy of this depression as a surface water drainage system that is in dispute. The authority considers that the minor variation to the building consent has not been complied with, because the directive that an 'overflow' was to be installed to the depression has not been installed. The applicant considers that it has been complied with because the depression is part of a natural water course and is acting as a soak pit, to dispose of the surface water.

5.2 The depression's compliance with Clause E1 as an appropriate outfall

- 5.2.1 Accordingly, the first matter I must consider is whether the depression is providing an appropriate outfall for the surface water drainage system on the applicant's property.
- 5.2.2 The relevant provision of the Building Code is Clause E1 Surface water, with the particular performance requirement being Clause E1.3.3.

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,

- 5.2.3 The terms "surface water" and "outfall" are defined in Clause A2 Interpretation as follows:

outfall that part of the disposal system receiving *surface water* or *foul water* from the *drainage system*. For *foul water* the *outfall* may include a *sewer* or a septic tank. For *surface water*, the outfall may include a natural water course, kerb and channel, or soakage system

surface water all naturally occurring water, other than sub-surface water, which results from rainfall on the site or water flowing onto the site, including that flowing from a *drain*, stream, river, lake or sea

5.3 Is the depression a soakage system?

- 5.3.1 Dealing first with the question of whether the depression constitutes a soakage system and therefore is an appropriate outfall, the applicant has provided calculations, made using the Verification Method for Clause E1, being E1/VM1, to show that the depression provides adequate soakage to deal with the surface water from a rainfall event having a 10% AEP. These calculations are based on an observed soakage rate of 0.3mm/hour. The expert considers that this rate may be conservative, and from the tests conducted on site considers that the average optimal soakage rate of the soils tested is closer to 50mm/hour.
- 5.3.2 However, the expert also notes that the soil in the depression is not in fact providing this optimal drainage capacity and that this is due to the presence of a layer of poor draining soils immediately below the depression, plus a 200mm thick layer of low-permeability silts that had migrated to the bottom of the depression, which is acting as an impermeable liner. Therefore, the E1/VM1 methodology that the applicant has used cannot be applied in this situation. These factors have reduced the operating soakage rate of the depression by 50% and the depression is unlikely to ever drain below the 200mm of water that is now permanently covering the bottom of the depression. The outcome of this is that in a 10% AEP rainfall event, the depression would flood after 2 hours, after 20 minutes in a larger 1% AEP event.
- 5.3.3 However, the expert further noted that even the 15mm/hour soakage rate (noted in paragraph 4.6) may be optimistic, as the centre of the depression is now permanently covered by water. Samples taken using a hand auger from this area showed the presence of hard clays beneath the bottom of the depression. This means that soakage is likely to be negligible at the base of the depression, creating in effect a perched or artificial water table and preventing proper drainage. Any soakage capacity is limited to the sides of the depression, which will only drain the accumulated water down to the level of the water table (the depression's now effectively permanent water level), hence forming a pond.
- 5.3.4 From these observations, the expert concluded that the soakage capacities of the depression were not adequate for it to be considered a soakage system for surface water management.
- 5.3.5 I agree with this assessment. The expert has explained the reasons for the difference between their own and the applicant's soakage calculations, including the large discrepancies in the depression's storage capacity (applicant at 200m³, versus the expert at 75m³) and the rates at which any water captured in the depression can be expected to drain (applicant at 0.3mm/hour versus the expert at 15mm/hour). These differences can largely be accounted for by the fact that the applicant has not taken into account the water that is now more or less permanently in the pond, and the effect that this has both on the depression's overall storage capacity and the area available for soakage. The expert has calculated this area of the depression permanently covered by water to be approximately 200m², which the applicant has not taken into account in his calculations.
- 5.3.6 I consider that the expert's calculations are based on sufficiently robust investigations and testing, and accordingly conclude that the applicant's depression is not currently operating as a soakage system outfall for the purposes of Clause E1.3.3(a). This conclusion is backed up by the evidence provided by the parties that the depression now nearly always contains some water, particularly over the winter months, and that during heavy rainfall events it tends to overflow its banks. This verifies that the depression provides inadequate soakage capacity for the surface

water it captures (including when calculated using the Verification method in E1/VM1) for it to be considered a soakage system.

5.4 Is the depression a water course?

5.4.1 The applicant has also submitted that the depression can be considered an outfall in terms of Clause E1.3.3(a) because it is a natural water course. The term “water course” is not defined in either the Act or the Building Code, so I must consider its natural and ordinary meaning.

5.4.2 One source of such meaning is the dictionary⁸, which gives this definition:

watercourse

NOUN

1 A brook, stream, or artificially constructed water channel...

1.1 The bed along which a watercourse flows.

Likewise the term “course” is defined as:

course

NOUN

1 The route or direction followed by a ship, aircraft, road, or river...

1.1 The way in which something progresses or develops.

5.4.3 Both of these definitions encapsulate the concept of something flowing, moving or progressing. In particular, it is clear that the dictionary definition of ‘watercourse’ refers to a moving or uncontained body of water: one in a channel or path that takes it from one place to another. This is backed up by the definition of course, which is to do with movement and direction. Neither of these definitions could be applied to a contained body of water that does not have the ability to move to another place.

5.4.4 In addition to the dictionary definition, I must consider how the term ‘watercourse’ is used in natural everyday speech. In my opinion, it would be used in a way similar to the dictionary definition; that is in relation to a flowing or moving body of water. So, for example, a river, drain or stream might be referred to as a ‘watercourse’, but a pond would not; the latter is more likely to be called a ‘body of water’. I consider a pond or lake can be treated as part of a watercourse in cases where the surface water is temporarily stored and is discharged via a river or stream. Similarly collecting surface water in a soakage pit allows the collected water to be reintroduced water back into natural subterranean water systems.

5.4.5 Insight into what is meant by an undefined statutory term can also be gained from the purpose of the provisions within which it occurs. I consider that the purpose of Clause E1 is to remove surface water, so that it cannot harm people or damage other property. The objectives of the clause include safeguarding both people from injury or illness, and other property from damage that may be caused by surface water. The functional requirements all deal with ways to dispose of and remove surface water, and to allow its passage to a natural watercourse, so it does not cause such injury, illness or damage.

5.4.6 The emphasis throughout the clause is on the removal of the surface water via a suitable outfall, and this removal can be rapid (via a kerb and channel) or more gradually (through a soakage system), with the point being that the water must be able to move through whatever outfall is used and away.

⁸ Oxford Online Dictionary, refer www.oed.com

- 5.4.7 This purpose reinforces both the dictionary and natural meanings of ‘watercourse’, as discussed above, as a flowing or moving body of water, and accordingly I take this to be the meaning intended by the legislators. I note that this is also the expert’s understanding of the term, which she considered ‘implies a defined channel along which water flows’.
- 5.4.8 It is conceivable that a depression that water flowed into at one point, and out of it another, might be considered part of a natural water course; and the applicant has argued that the depression on their property once had a natural outfall and that this was located on the neighbour’s land. I consider this unlikely given the relative topographies of the two properties. In its memorandum, the expert has confirmed that there is no evidence of an ‘overland flow path’ in the historic satellite imagery. In any event, it was not the case at the point that the applicant applied for the building consent, as by that stage the neighbour had raised the ground level on their side of the fence. I do not think that it is open to the applicant to argue that because the water from the depression flows onto the neighbour’s land when it floods, this makes the neighbour’s land an outlet from the depression, and that makes the depression part of a larger water course.
- 5.4.9 I also consider it questionable whether the applicant’s depression could be considered a “natural water course” (emphasis is mine), as described in the definition of an outfall in Clause A2 Interpretation (refer Appendix A.2). The majority of the evidence points to the depression being largely dry before the applicant directed the surface water run-off to it. The propensity of a lower lying area of land to occasionally collect rainwater is not, in my opinion, sufficient to make it a natural water course.

5.5 Conclusion

- 5.5.1 Accordingly, I conclude that the applicant’s as-built surface water drainage system does not comply with Clause E1.3.3(a) of the Building Code, as the depression that the system drains to is neither a soakage system or a natural water course and does not constitute an appropriate outfall.
- 5.5.2 I note that some of parties’ arguments have focussed on the issue of whether the overflow from the applicants’ depression is causing damage or a nuisance on the neighbour’s land. As I have concluded that the applicant’s surface water drainage system does not comply with Clause E1.3.3, there is no need for me to consider further whether the amount of water entering the neighbour’s land is sufficient to constitute a nuisance in terms of Clause E1.3.1.

5.6 The notice to fix

- 5.6.1 I turn now to the authority’s decision in issuing the third notice to fix. The grounds given in the notice are the failure to carry out the building work other than in accordance with the building consent. The authority accepted a minor variation to this consent, but the applicant has not complied with this, as they have not provided an overflow to the depression as directed.
- 5.6.2 A minor variation to a building consent forms part of the building consent but does not require an amendment to the consent to be issued. It must be recorded in writing by the authority, and must in all other respects comply with the provisions in the Act relating to building consents (refer section 45A). These provisions have been met in the current case, but by carrying out building work other than in accordance with the consent the applicant is in contravention of section 40(1).

5.6.3 This is the grounds cited in the third notice to fix, and I consider that the authority decided correctly in issuing this notice. I note that the notice could also have been issued on the grounds that the building work did not comply with section 17 of the Act (requiring building work to comply with the Building Code), which in this instance is Clause E1 Surface water.

6. What happens next?

6.1 In the third notice to fix, the authority states that to remedy the contravention or non-compliance the applicant must both “remove those parts of the current surface water disposal system which have been built other than in accordance with the approved plans”, and “complete the surface water drainage system in accordance with the approved plans”. I assume from this that the authority is withdrawing its previous agreement to the minor variation, but in granting the minor variation the authority was satisfied that it would have complied with Clause E1 had a suitable overflow to the depression been installed.

6.2 I suggest that the authority should now modify and re-issue the third notice to fix, with an additional remedy requiring the surface water drainage system to be brought into compliance with Clause E1. The applicant can then provide a remedial proposal to the authority seeking its approval as a formal amendment to the building consent.

6.3 I note that the expert has provided several options in their report for how the depression could be made compliant, which the parties may wish to consider.

7. The decision

7.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the authority was correct to issue the third notice to fix, but require the authority to reissue a modified notice to provide for the option of bringing the as-built surface water drainage system into compliance with Building Code Clause E1.3.3(a) Surface water.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 29 June 2020.

Katie Gordon
Manager Determinations

Appendix A – The Act and the Building Code

A.1 The relevant sections of the Building Act 2004 include:

17 All building work must comply with building code

All building work must comply with the building code to the extent required by this Act, whether or not a building consent is required in respect of that building work.

40 Buildings not to be constructed, altered, demolished, or removed without consent

- (1) A person must not carry out any building work except in accordance with a building consent.
- (2) A person commits an offence if the person fails to comply with this section.
- (3) A person who commits an offence under this section is liable on conviction to a fine not exceeding \$200,000 and, in the case of a continuing offence, to a further fine not exceeding \$10,000 for every day or part of a day during which the offence has continued.

45A Minor variations to building consents

- (1) An application for a minor variation to a building consent—
 - (a) is not required to be made in the prescribed form; but
 - (b) must comply with all other applicable requirements of section 45.
- (2) Sections 48 to 50 apply, with all necessary modifications, to an application for a minor variation.
- (3) A building consent authority that grants a minor variation—
 - (a) must record the minor variation in writing; but
 - (b) is not required to issue an amended building consent.

164 Issue of notice to fix

- (1) This section applies if a responsible authority considers on reasonable grounds that—
 - (a) a specified person is contravening or failing to comply with this Act or the regulations (for example, the requirement to obtain a building consent); or ...
- (2) A responsible authority must issue to the specified person concerned a notice (a notice to fix) requiring the person—
 - (a) to remedy the contravention of, or to comply with, this Act or the regulations; or ...

A.2 The relevant sections of the Building Code (Schedule 1 of the Building Regulations 1992) include:

Clause A2—Interpretation

outfall that part of the disposal system receiving *surface water* or *foul water* from the *drainage system*. For *foul water* the *outfall* may include a *sewer* or a septic tank. For *surface water*, the *outfall* may include a natural water course, kerb and channel, or soakage system

surface water all naturally occurring water, other than sub-surface water, which results from rainfall on the site or water flowing onto the site, including that flowing from a *drain*, stream, river, lake or sea

Clause E1—Surface water**Objective****E1.1**

The objective of this provision is to:

(a)

safeguard people from injury or illness, and *other property* from damage, caused by *surface water*, and

(b)

protect the *outfalls* of drainage systems.

Functional requirement**E1.2**

Buildings and *sitework* shall be constructed in a way that protects people and *other property* from the adverse effects of *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...**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)...