

# ***Disposal of surface water by the use of a soakpit***

## **1 THE MATTER TO BE DETERMINED**

- 1.1 The matter before the Authority is a dispute as to whether building consent should be granted for the construction of a new house and associated siteworks with surface water to be discharged into a soakpit.
- 1.2 The Authority takes the view that it is being asked in effect to determine whether the proposed surface water disposal system complies with clause E1.3.1 of the building code (the First Schedule to the Building Regulations).
- 1.3 In making its determination the Authority has not considered whether the proposed building work will comply with any other provisions of the building code or of the Building Act.

## **2 THE BUILDING**

- 2.1 The proposed building is an “infill house”, that is a new detached house on a back section created by the subdivision of an existing house site, in an established suburb. In fact, the house was part of a larger development including the construction of two infill houses, each with its own soakpit and the upgrading of the surface water disposal systems of two existing houses by the provision of an additional soakpit for each of them.

## **3 THE PARTIES AND THEIR SUBMISSIONS**

- 3.1 The applicant was the owner of neighbouring property who was entitled to be a party under section 16(d) of the Building Act because the determination relates to a provision of the building code that has the purpose of protecting the applicant’s property.
- 3.2 The other parties were a building certifier, which was a party in its own right and also acted for the developer, and the territorial authority.
- 3.3 The applicant pointed to previous experience with building work in the immediate vicinity which had discharged surface water into a soakpit with the result that neighbours had experienced flooding. The applicant was unable to identify the magnitude of the storms in which such flooding had occurred. The situation had

since been alleviated by decommissioning the soakpit concerned and piping surface water to a territorial authority drain.

- 3.4 The building certifier submitted that a “Stormwater Soakage Investigation” had been undertaken by a firm of consulting geotechnical engineers (“the developer’s engineers”) and on the basis of that investigation surface water was proposed to be discharged into a soakpit which had been designed in accordance with the territorial authority’s *Stormwater Soakage Design Manual*.
- 3.5 The developer’s engineers made two very pertinent points:
- (a) The building code requires the surface water disposal system to cope with the runoff from a “10 year storm” and over recent years the area had experienced winter storms of much greater magnitude.
  - (b) In their opinion, most, if not all, of the older houses in the immediate vicinity “are likely to have poorly functioning or possibly totally ineffective on-site stormwater disposal systems”.
- 3.6 The territorial authority, in response to being named as a party to the determination, reviewed the investigation and raised certain queries to which the building certifier and the developer’s engineers responded.
- 3.7 The surface water collected in the soakpit discharges into a permeable layer of scoriaceous material, and one of the queries raised by the territorial authority was whether that layer might “daylight” on the applicant’s property. The consulting engineer had not made borehole investigations beyond the boundaries of the property under development, and considered such work to be beyond what was normally carried out for a typical residential development of this nature.
- 3.8 The Authority recognised that investigation made in accordance with the normal practice of an experienced firm of consulting engineers could generally be relied on as reasonable grounds for being satisfied as to compliance with the building code. However, as the question has been raised, and as it was possible that the previous flooding had resulted from daylighting of the permeable layer, the Authority engaged another firm of consulting engineers (“the Authority’s engineers”) to report on the matter.
- 3.9 The Authority’s engineers reviewed the relevant documents, visited the site, and made limited investigations by hand auger on the applicant’s property. Representatives of the building certifier and the developer’s engineers were in attendance during the site visit. The Authority’s engineers reported to the Authority, and that report was copied to the parties.
- 3.10 None of the parties wished the Authority to hold a hearing at which it could speak and call evidence.
- 4 THE BUILDING CODE**
- 4.1. The relevant provisions of the building code in respect of disposal of surface water, in clause E1 “Surface water”, are:

## 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 a storm 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.

## 5 DISCUSSION AND CONCLUSIONS

5.1 Except as noted in 3.8 above, the Authority was satisfied with the responses made by the building certifier and the developer's engineers to the queries raised by the territorial authority. The Authority has not examined the territorial authority's *Stormwater Soakage Design Manual*, but for the purposes of this determination assumes that compliance with the manual is sufficient to establish that the soakpit concerned complies with the building code. The Authority also accepts that the developer's engineers complied with the *Manual*.

5.2 As to the possible daylighting of the permeable layer mentioned in 3.7 above, the Authority's engineers said:

The 'scoraceous' drainage layer appears to be continuous between the new development and the applicant's land and the layer is at least a metre deep beneath the applicant's land, i.e. it does not "daylight" on the property.

Based on these observations, it is most unlikely that the disposal of the design rainfall water flow to the proposed soakpits . . . will result in significant flooding of the applicant's land. In addition, given that the development will reduce surface runoff, it is expected that once the soakpits are operational there will be less overland flow onto the applicant's land.

5.3 The Authority therefore concludes that the surface water disposal system for the development concerned has been properly designed to comply with clause E1.3.1 of the building code.

5.4 The Authority considers that past experiences of flooding in the vicinity could understandably have caused the applicant to be apprehensive about the effect of new developments on future flooding. Those apprehensions are not justified if new developments comply with the building code. However, although new developments will not make the 10 year flood any worse, they cannot reasonably be expected to make it very much better unless, as in this case, existing on-site stormwater disposal systems are upgraded at the same time.

**6 THE AUTHORITY'S DECISION**

6.1 In accordance with section 20(a) of the Building Act the Authority hereby:

- (a) Determines that the proposed surface water disposal system complies with clause E1.3.1 of the building code; and
- (b) Confirms the territorial authority's decision to issue a building consent for the development.

Signed for and on behalf of the Building Industry Authority on this 30<sup>th</sup> day of June 1999

W A Porteous  
Chief Executive