

## 1.0 INTRODUCTION

It is proposed to erect a portal framed extension to the side of an existing structure to provide additional undercover training area.

## 2.0 HISTORY OF THE SITE

The land to which this application relates is currently open ground on which training exercises are undertaken by the applicant as part of their construction training business.

## 3.0 ENVIRONMENTAL IMPACT OF THE PROPOSAL

The application submitted for consideration is for the provision of a surface water soakaway system in connection with the erection of a portal framed structure, with a roof area on plan of 35 x 20m and a pitch of 6deg.

Therefore the rainfall calculation would be:

$$35 \times 20 \times 1.15 = 805\text{sqm}$$

Rainfall taken from table 1 to Part H of the Building Regulations gives a coefficient of 0.014.

Rainfall for this calculation would be  $805 \times 0.014 = 11.27$  say 12.

Trial pit have previously excavated in the area of the proposed soakaway system to a depth of 2m, which is 1.4m below the bottom of the proposed soakaway system. There was no ground water in the excavation.

The percolation test was undertaken during a period when the weather conditions were dry and bright.

In line with the requirements for the percolation test, 3 holes were excavated, 300mm square in the area in which the soakaway is to be located. These were taken down an initial 600mm to the line of the proposed soakaway system and a further 250mm excavated through soil to a gravelly clay substrata.

The holes were cleaned out and a marker inserted at the 300mm level. The excavation was not making any ground water and water was added into the trial holes to the 300mm depth and left overnight.

The site was revisited in late morning on the following day and the water had soaked away completely from all 3 trial holes.

The 3 holes were again topped up to the 300mm markers and the following results were observed:

Hole 1, Water drained from hole completely in 1500 seconds

Hole 2, " " " " " " 1800 seconds

Hole 3, " " " " " " 1620 seconds

Take above figures and divide each by the depth of water (300mm) to find the time to drop 1mm.

$$\frac{1500}{300} + \frac{1800}{300} + \frac{1620}{300} = 16.4 \text{ say } 17$$

The average of the above being  $\frac{17}{3} = 5.66 \text{ say } 6$

Therefore the area of the soakaway system required is

$$A = 6 \times 12 \times 0.25 = 18\text{sqm.}$$

Therefore the proposed saokaway system of 2 No 3m x 3m soakaways will be suitable for the development

#### 4.0 THE SYSTEM

It is proposed to install 100mm upvc underground drains from building, laid to minimum 1:40 fall, on granular bed and surround. 450mm diam pvcu access chambers, with patent cast iron covers, as indicated, discharging to underground soakaway system, minimum 5m from building.

Soakaway pits to have a surface area of 18sqm and be 1m in depth from invert of pipe. Place geotextile membrane between pipe and granular soakaway, to stop any ground contamination of the system.

#### 5.0 CONCLUSION

Overall the installation of the system will provide for dispersal of rainwater from the new development and in accordance with Part H of the Building Regulations.

Ken Thompson  
Coniston Consultants Ltd  
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