

Demolition of existing 3-bed house and construction of 2 no. 2-bed terraced houses at 86 West Street, Havant, Hampshire. PO9 1LN

Planning Application Ref No. APP/13/00386

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Discharge of Condition 11, Planning Consent dated 31 July 2013: Surface water drainage scheme.

The following is to be read in conjunction with RHBD drawing no.732.10a.

The following calculations are based on BS CP 303 (1952) setting out appropriate calculation methodologies for soakaway sizing.

Storage capacity (C) requirement: $1/3^{\text{rd}}$ hourly rainfall. Hourly rainfall (R) England & Wales 0.05 m.

$$C = AR/3$$

Front roofs:

Area of front roof for each house = $2.5 \times 4.5 = 11.25\text{m}^2$

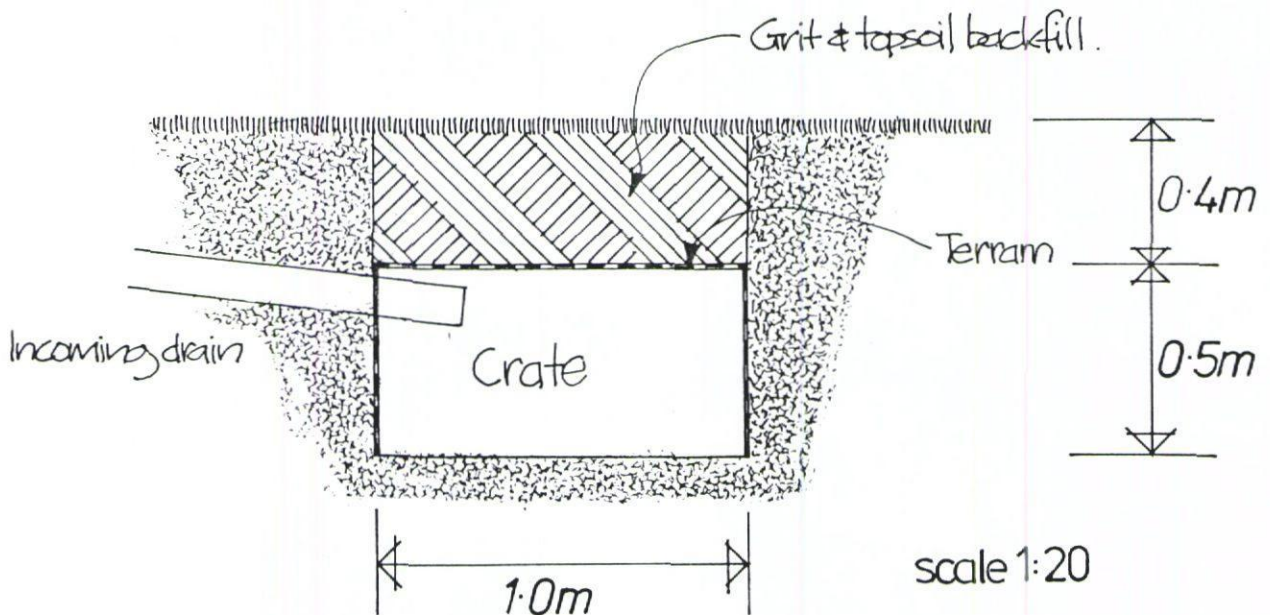
$C = (11.25 \times 0.05) / 3 = 0.19\text{m}^3$ Front wall = Back edge of pavement, therefore soakaway impractical. Rainwater to discharge onto pavement as for original building.

Rear roofs:

Area of rear roof for each house = $13.5 \times 4.5 = 60.75\text{m}^2$

$$C = (60.75 \times 0.05) / 3 = 1.01\text{m}^3$$

Proposed method of drainage: Modular attenuation cells (light plastic crates), placed in in-line trench, 1m wide, as per cross-section below.



Capacity of trench soakaway ($w \times h \times l$) = $1.0 \times 0.5 \times 4.0 = 2\text{m}^3$

Soakaway is therefore able to accommodate twice the volume of rainfall, ie 0.1m per hour, significantly exceeding that anticipated in a 1 in 50 year event.

Supporting information

A trial pit was mechanically excavated on 22 Nov.2013, approximately in line with the proposed trench soakaway nearest to the extensions of both units. The following was recorded:

Depth	Content	Porosity
GL – 0.5m	Gravelly topsoil	High
0.5 – 0.9m	Dense dark grey/black fine/medium/coarse flint gravel & cobbles	Med/high
0.9 – 1.8m	Dense grey brown coarse gravel & cobbles with angular & some well-rounded particles.	Medium

Water encountered at 1.3m depth.

Conclusion

Trial pit results consistent with known local geology, therefore good horizontal dispersal anticipated. Base of trench soakaways to be at GL – 0.9m (0.4m above November water table).

A second trench soakaway of similar dimensions is proposed, as shown on drawing no.733.10a. This is to arrest surface water running from a higher level in the area of the private car park, and to prevent any overflow into the main watercourse system (Brockhampton Stream) beyond the end of the application site.