

Cooper & Withycombe

CONSULTING ENGINEERS

**Proposed Cottage
Longacre
Maypole Lane
Yapton
BN18 0DR**

Stormwater Drainage

September 2017

**Third Floor
Norwich House
14-15 North Street
Guildford
Surrey
GU1 4AF**

**Tel: 01483 457373
Fax: 01483 568116**

**E-mail: cw@cw-consult.co.uk
www.cooperwithycombe.co.uk**

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STORMWATER DRAINAGE

1. Introduction and Design Criteria

A new cottage is being erected on land adjoining Longacre, Maypole Lane, Yapton, West Sussex BN18 0DR.

As part of the Planning Approval, Condition 3 required the detailed design of the surface water drainage system be provided. This document describes the site situation, standards to be adopted and provides an assessment of the final drainage design for the proposed development. It should be read in conjunction with Philips Chartered Surveyors Foul and Surface water Drainage Statement dated April 2015 and their initial Surface Water Calculation.

As part of this design process it is intended that the civil engineering design for the building and its infrastructure shall take into account its use and serviceability requirements, for a minimum time to first maintenance of 25 years. The drainage systems shall meet the local Water Authority and Environment Agency standards and requirements together with the Building Regulations.

2. Sustainable Design

The design concept takes into account the requirements of the NPPF for sustainable drainage together with the local authorities sustainable development policies where appropriate, National Guidance and Policy and with current best practice, ensuring:

- ☐ Use of recycled building materials where appropriate.
- ☐ Use of materials from renewable resources.
- ☐ Use of recyclable materials.
- ☐ Use of materials that use low energy in their manufacturing, fabrication, transport and installation.
- ☐ Environmental good practice in the control and discharge of storm water outflows from the site to comply with The Environment Agency guidelines for Sustainable Urban Drainage and the local Water Authorities requirements.
- ☐ Compliance with National Standards for Sustainable Drainage Systems published by Defra

3. Existing Situation

The site is located on the north side of the village of Yapton, West Sussex and on the south west side of Maypole Lane.

It is on the south side of The Paddocks Longacre and surrounded on three sides by flat land. On the other side by the Maypole Inn.

The Environment Agency Flood Map, included in the initial assessment, indicates the site would not be at risk in a 1 in 1,000 (0.1 AEP) event. Hence, it is considered the site was generally not at risk from flooding.

No surface water drainage serves the site or is available for connection.

The Local Geological Survey Map indicates that the site is generally underlain by sand and silt of the River Terrace Deposits overlying the London Clay Formation.

A soakage test was also undertaken in the excavated trial holes in accordance with the procedure described in BRE Digest 365. The test has confirmed that soil infiltration may be adopted on the site as part of a surface water drainage system. The calculation for infiltration rate is included in Philips Chartered Surveyors Surface water Calculation

4. Storm Water

The building will increase the impermeable area of the site. This is principally on the east side of the site. The remainder of the area will be landscaped as garden.

With the underlying gravel of the River Terrace Deposits, although undifferentiated, the soakage test has demonstrated that infiltration is considered a viable option for stormwater drainage for the site. This complies with the hierarchy of destination preference for surface water run off from the site.

The design includes for:-

- Source control. Rainwater from the roof will discharge through water butts into the underground drainage system. Rainwater collected by the water butts will be used for irrigation of the gardens.
- Paved areas. Permeable paving will be provided.
- Infiltration. Surface water collected from the buildings will discharge to 2 No. soakaways constructed using proprietary storm cells manufactured from recycled plastic with high free volume and efficient surface discharge potential.

In accordance with the SUDS Guidance Table C1 for maintaining water quality, the level of hazard for roof discharge is considered low and only a single treatment stage (G3) is required before infiltration. This will be achieved by the rainwater butts allowing settlement of fine material.

The drainage system and location of the proposed soakaways is shown on the appended drawing 17-1779/01.

In accordance with Part H of the Building Regulations, the capacity of the soakaways is demonstrated in the appended calculation sheets together with an assessment of the drainage system for a range of storm durations and intensities.

5. **Maintenance**

To ensure the long term function and efficiency of the stormwater system, regular maintenance is essential. A Management Plan for this is appended.

Responsibility for the maintenance of the system will be by the site owner/
Landlord for the development.

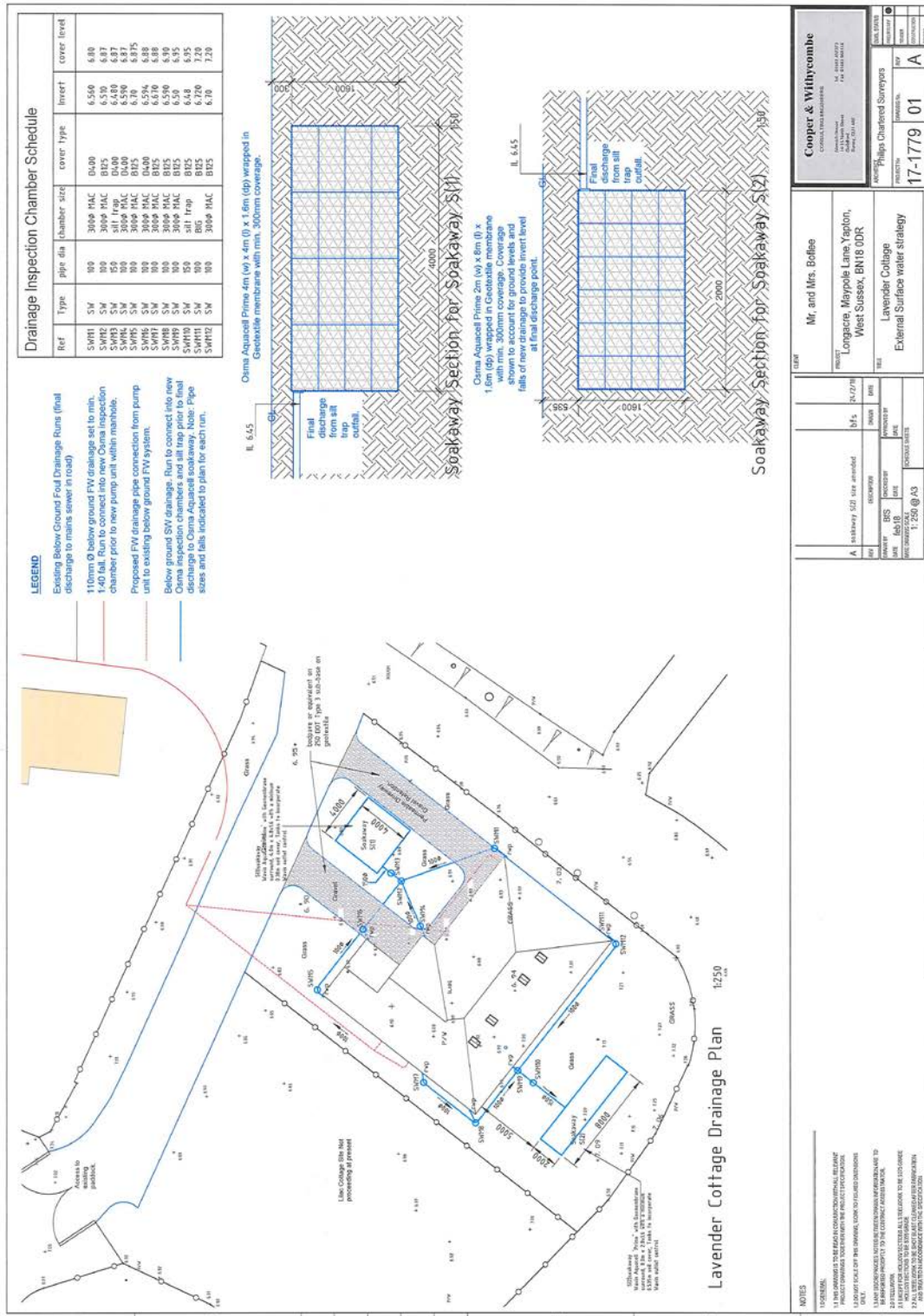
**PROPOSED NEW COTTAGE
LONGACRE
MAYPOLE LANE
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WEST SUSSEX BN18 0DR**

STORMWATER DRAINAGE

Appendix A - Site Plan – Drainage

**PROPOSED NEW COTTAGE
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Appendix B - Soakaway Estimate

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Soakaway Designed to 1 in 30 year flood event

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COUNCIL Y/52/17/DOC

**PROPOSED NEW COTTAGE
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**Appendix C - Drainage Assessment
Refer to separate document**