

Drainage Impact Assessment (DIA)

Proposed Development: Single-Storey Rear Extension

Site Address: 37 Briar Close, BN18 0ES

1. Introduction

This Drainage Impact Assessment has been prepared to support a householder planning application for a proposed single-storey rear extension. The purpose of this report is to demonstrate that the development will not increase flood risk and will manage surface water in accordance with sustainable drainage principles.

2. Site Description

The application site is an existing residential property located within a suburban area. The site comprises:

- A detached
- Rear garden area
- Existing Patio and grass

The site is previously developed land (brownfield) and is relatively flat.

3. Proposed Development

The proposal consists of a **single-storey rear extension**, increasing the building footprint by a modest amount. The extension includes a flat roof with a total area of approximately **64 m²**.

4. Planning Policy Context

The development has been designed in accordance with:

- Arun Local Plan (2011–2031) – Policy W DM1 (Water)
- National Planning Policy Framework
- Non-Statutory Technical Standards for Sustainable Drainage Systems

The key requirement is that development should not increase surface water runoff and should prioritise Sustainable Drainage Systems (SuDS).

5. Flood Risk

Based on mapping from the Environment Agency:

- The site is located in **Flood Zone 1 (low probability)**
- The development is small-scale and domestic
- A full Flood Risk Assessment is not required

The proposal is therefore considered **low risk in flood terms**.

6. Existing Drainage

6.1 Surface Water

Surface water from the existing property to discharge via:

- A surface water sewer

6.2 Foul Water

Foul water currently drains to the public sewer network by Southern Water.

7. Drainage Impact

7.1 Increase in Impermeable Area

The proposed extension introduces an additional **64 m² of impermeable roof area**.

This results in:

- A small increase in surface water runoff
 - No significant impact due to the limited scale of development
-

8. Surface Water Drainage Strategy

8.1 SuDS Hierarchy

In accordance with best practice, the following drainage hierarchy has been applied:

1. Infiltration to ground (soakaway) – **preferred**
 2. Discharge to surface water sewer
-

8.2 Proposed Solution

Surface water from the new roof will be directed to a **soakaway system** located within the rear garden.

Design basis:

- Designed in accordance with BRE Digest 365
 - Sized for a **1 in 100 year storm event + 40% climate change allowance**
 - Minimum 5m from the building
-

9. Soakaway Design Summary

- Roof area: **64 m²**
- Design rainfall: **~75 mm**
- Runoff volume: **~4.8 m³**

Proposed soakaway:

- Size: **2.5 m (L) × 2.5 m (W) × 1.0 m (D)**
- Storage capacity: **~7.1 m³** (95% void ratio crates)
- Drain-down time: **~18 hours**

Compliance:

- Meets BRE 365 requirement (<24 hours)
 - Provides adequate capacity for extreme rainfall events
-

10. Foul Water Drainage

- No significant increase in foul discharge is anticipated
 - Any new plumbing will connect to the existing system
 - All works will comply with Building Regulations Part H
-

11. Construction Considerations

During construction:

- Temporary drainage measures will be implemented
 - Existing drainage will be protected
 - No pollutants will enter the drainage system
-

12. Maintenance

The drainage system will be maintained by the property owner.

Maintenance includes:

- Clearing gutters and downpipes
 - Inspecting the soakaway periodically
 - Ensuring no blockages occur
-

13. Conclusion

The proposed development:

- Will not increase flood risk on-site or off-site
- Incorporates sustainable drainage in line with policy
- Complies with the requirements of Arun District Council
- Provides adequate attenuation and infiltration of surface water

The drainage strategy is therefore considered **appropriate and acceptable** for planning approval.