Strood Park Farm House – New Dwelling

RH12 3PF

Planning application: RE: DC/24/1663

Drainage Strategy for Foul and Surface Water for a Single Dwelling

1. Introduction:

This drainage strategy outlines the approach to managing both foul and surface water drainage for the new dwelling at the above address, incorporating a septic tank for foul water management and Sustainable Drainage Systems (SuDS) for surface water management. The aim is to ensure compliance with environmental standards, reduce flood risk, and maintain water quality in the surrounding environment.

2. Foul Water Drainage:

Foul water generated by the dwelling will be managed through a septic tank system. This system is chosen due to its suitability for locations where connection to the public sewer system is not available or practical.

See attached document supplied by digdat that there are no 'assets' within the area.

2.1 Septic Tank Design:

- The septic tank shall be sized according to the flow and capacity requirements for a single dwelling, typically designed to handle at least 2.2 cubic meters per bedroom, as per local regulations.
- The septic tank will be constructed with durable, watertight materials to prevent leakage into surrounding soil or watercourses.
- The tank will include two compartments to ensure proper settlement of solids and allow for anaerobic digestion of organic matter.
- The tank will have a sufficient inlet and outlet arrangement, with a filter to prevent solids from entering the soakaway system.
- An appropriate venting system will be installed to allow for gas escape and prevent build-up of pressure within the tank.

2.2 Soakaway for Effluent Disposal:

- The septic tank will discharge treated effluent into a suitable soakaway system. The soakaway will be designed to allow the effluent to percolate into the surrounding ground, where it will undergo further treatment through natural filtration.
- A percolation test will be conducted to determine the suitability of the ground for soakaway. The soakaway will be designed according to the test results.
- The soakaway will be located at a minimum distance of 5 meters from the dwelling, watercourses, and other sensitive receptors such as wells and boreholes, in line with regulatory guidelines.
- If a soakaway is not appropriate then it will be replaced with an outlet as per the existing property.

3. Surface Water Drainage:

To manage surface water runoff, Sustainable Drainage Systems (SuDS) will be employed to mimic natural drainage processes and reduce the impact of surface water on the surrounding environment.

3.1 SuDS Features:

- **Permeable Paving:** Hardstanding areas such as driveways or parking areas will be constructed with permeable paving materials to allow surface water to infiltrate into the ground. This will reduce runoff and promote groundwater recharge.
- **Rainwater Harvesting:** A rainwater harvesting system will be implemented to collect rainwater from the roof. The collected water will be stored in a tank and can be used for non-potable purposes such as irrigation, reducing the volume of surface water runoff.
- **Infiltration Trenches or Soakaways:** Surface water runoff from areas not covered by permeable paving will be directed to an infiltration trench or soakaway. These features will allow for the natural infiltration of water into the ground, reducing the impact of runoff on the drainage system and preventing localized flooding.

3.2 Surface Water Management Principles:

- **Water Quality:** Surface water drainage systems will be designed to include measures such as silt traps or oil separators to prevent pollutants from entering watercourses. These measures will ensure that surface water runoff meets environmental quality standards before being released to the ground or a watercourse.
- **Discharge Points:** Where infiltration is not possible due to soil or geological conditions, surface water may be discharged to a watercourse. The discharge will be controlled through a flow attenuation device such as a swale or detention basin, which will slow the flow of water and reduce peak discharge rates.

4. Maintenance and Monitoring:

To ensure the ongoing effectiveness of the drainage strategy, regular maintenance and monitoring will be carried out:

- The septic tank will be emptied at regular intervals (usually every 1-3 years) to remove accumulated sludge and scum.
- The soakaway and infiltration systems will be inspected periodically to ensure they are functioning correctly and not blocked.
- Any SuDS features, such as permeable paving, rainwater harvesting systems, and infiltration devices, will be checked and maintained to ensure continued operation.

5. Conclusion:

This drainage strategy provides an effective and sustainable solution for the management of both foul and surface water at the proposed dwelling. By integrating a septic tank for foul water management and SuDS features for surface water management, the development will mitigate flood risk, reduce environmental impact, and comply with best practice drainage principles. Regular maintenance will ensure the long-term performance of the system, promoting sustainability and water quality protection.

ENDS