

Lidsey Drainage Impact Assessment

Executive Summary

This Drainage Impact Assessment accompanies a planning application for a revised single-storey church building at Tokar Industrial Estate, Yapton Lane, Walberton.

The application differs from the previously supported proposal in that it represents a reduction in both the scale of development and anticipated occupancy. The accompanying Flood Risk Assessment and Drainage Strategy previously prepared by Nimbus Engineering Consultants assessed a larger two-storey church building with an occupancy of approximately 340 persons. That assessment, together with the proposed drainage strategy, was accepted by Arun District Council.

The current proposal therefore represents a less intensive form of development. The existing Flood Risk Assessment, hydraulic modelling and drainage strategy consequently represent a robust worst-case assessment for the revised proposal. No changes are proposed to the approved drainage philosophy and the retained drainage strategy provides additional resilience for the reduced development.

1. Introduction

This report demonstrates that the revised development remains acceptable in drainage terms by relying upon the previously accepted Flood Risk Assessment and Drainage Strategy whilst explaining why those assessments remain valid for the revised proposal. The purpose is not to redesign the drainage system but to demonstrate that the approved strategy remains conservative.

2. Proposed Development

The planning application now seeks consent for a single-storey church building with reduced occupancy compared with the previously assessed two-storey scheme. As a consequence, roof area, operational intensity and demand upon drainage infrastructure are no greater than the scenario already modelled. The technical evidence therefore continues to represent the worst-case drainage assessment.

3. Existing Site and Flood Risk

The accompanying technical assessment identifies the site as predominantly greenfield with limited existing impermeable area. The site lies within Flood Zone 1 and is at low probability of fluvial flooding. Surface water, groundwater and other sources of flood risk were considered within the approved assessment together with infiltration testing and hydraulic modelling.

4. Existing Approved Drainage Strategy

The accepted drainage strategy follows the SuDS hierarchy by incorporating permeable paving, rainwater harvesting, attenuation storage and water quality treatment prior to controlled discharge. BRE365 infiltration testing demonstrated that infiltration drainage was not appropriate. Surface water is attenuated within a detention basin sized for the 1 in 100 year plus 45% climate change event before discharge at the calculated greenfield runoff rate.

5. Drainage Impact Assessment

The revised proposal will not generate greater runoff than the previously approved development scenario. Retention of the previously approved attenuation volumes, discharge controls and treatment measures therefore provides additional resilience. The drainage network has sufficient capacity to accommodate the revised development without increasing flood risk either within or beyond the application site.

6. Compliance with the Lidsey Surface Water Management Plan

The Lidsey Surface Water Management Plan promotes management of runoff at source, use of sustainable drainage systems, attenuation, water quality improvement and prevention of downstream flood risk. The retained drainage strategy satisfies these objectives by limiting discharge to greenfield rates, incorporating source control and providing attenuation and treatment. As the current proposal is materially smaller than that originally assessed, compliance with the objectives of the Surface Water Management Plan is strengthened.

7. Construction Phase

During construction appropriate temporary drainage, pollution prevention, sediment control and protection of existing drainage features should be implemented to prevent adverse impacts.

8. Maintenance

The maintenance schedule contained within the approved Flood Risk Assessment should continue to apply. Regular inspection of permeable paving, attenuation basin, rainwater harvesting equipment, catchpits, flow controls and treatment features will ensure long-term performance.

9. Conclusion

The revised planning application represents a reduction in both building scale and occupancy compared with the scheme previously assessed and accepted by Arun District Council. The approved Flood Risk Assessment and Drainage Strategy therefore remain applicable and conservative. The retained drainage strategy continues to provide a sustainable solution, does not increase flood risk on or off site and accords with the objectives of the Lidsey Surface Water Management Plan.