HydroGround Civils

Flood Risk Assessment & Drainage Strategy

Location: Springfield Farm Barn, Lewes Road, Scaynes Hill, RH17 7NG

Client: D Chewter

Project: Conversion of agricultural barn into 3 dwellings

Revision: A

Reference: RH112801

Date: 14 December 2025

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1.0 Introduction

1.01 HydroGround Civils has been instructed by Ashdown Planning Consultants, on behalf of Mr. D Chewter, to prepare a Flood Risk Assessment report for a proposed conversion of an existing storage barn into 3 dwellings with associated gardens and parking spaces. The proposed scheme is at Springfield Farm Barn, Lewes Road, Scaynes Hill, RH17 7NG.

1.02 Mid-Sussex District Council has requested that the applicant provides a Flood Risk Assessment and Drainage Strategy as the application site is within an area of surface water flood risk.

1.03 The application site comprises an L-shaped barn building previously used for storage with a number of containers.

Figure 1: Existing plan

Figure 2: Proposed plan

1.04 The site lies to the southwest of the A272, Lewes Road, between North Chailey and Scaynes Hill. The site is centered at approximate National Grid Reference TQ 37292 22092 (Easting: 537292, Northing: 122092).

1.05 Site location plan, existing and proposed site plans can be found in Appendix A.

1.06 The EA flood map for planning shows that the site is within Flood Zone 1 at present day and when taking climate change into account.

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2.0 Policies

National Planning Policy Framework (NPPF)

2.01 Paragraphs 170–182 of the NPPF outline the Government's approach to managing flood risk and supporting climate-resilient development. The policy requires that all proposals consider all sources of flooding, including fluvial, tidal, surface-water, groundwater and artificial sources, and that flood risk is managed over the lifetime of the development, accounting for future climate change.

2.02 The NPPF applies a risk-based sequential approach, steering development to areas of lowest flood probability. Ordinarily, the Sequential Test ensures that new development avoids areas at risk of flooding where possible. However, Paragraph 175 clarifies that the Sequential Test is not required where a site-specific Flood Risk Assessment demonstrates that the proposed development — including any access, egress, or land raising — lies entirely outside areas of flood risk now or in the future.

2.03 Additionally, changes of use or internal conversions that do not increase vulnerability classification or expand the building footprint are exempt from the Sequential Test, since the development is confined to an existing structure in an already established location.

2.04 Paragraphs 176–178 require that development be safe for its lifetime, with consideration given to residual and climate-change risks, and with appropriate flood-resilient construction or design. Paragraphs 179–182 extend the expectation that sustainable drainage systems (SuDS) should be incorporated in all developments that could affect surface-water runoff, unless demonstrably inappropriate.

Local Policies

2.05 Flood risk and drainage in Mid Sussex are governed by the adopted Mid Sussex District Plan (2014–2031), supported by various Neighbourhood Plans and technical guidance from the Lead Local Flood Authority (West Sussex County Council). Together, these documents provide a clear and locally relevant framework aligned with the NPPF (December 2024), requiring the assessment of all flood sources and ensuring that development is safe for its lifetime without increasing flood risk elsewhere.

2.06 Policy DP41 requires development proposals to take full account of flood risk from all sources, following the sequential approach and incorporating measures to ensure safety throughout the lifetime of the development. Proposals must demonstrate that there is no increase in flood risk either on-site or off-site, including through careful consideration of surface water management, exceedance routing and the effects of climate change. Development in Flood Zone 1 is generally supported where the risk is shown to be low and appropriately managed.

2.07 Policy DP42 promotes the use of Sustainable Drainage Systems (SuDS) in all developments, unless clearly demonstrated to be inappropriate. SuDS solutions should seek to reduce runoff rates and volumes to greenfield conditions where feasible, improve water quality, enhance biodiversity, and provide long-term resilience to extreme rainfall. Proposals must include adequate arrangements for the future maintenance and management of all drainage features.

2.08 Policy DP39 requires development to incorporate design measures that mitigate the impacts of climate change, including the use of water-efficient systems, flood-resilient construction, and layouts that minimise surface water flood risk. The policy emphasises reducing vulnerability to climate-related hazards and ensuring new development is adaptable to future conditions.

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3.0 Development Proposals

3.01 The existing barn building has been used for storage. According to Annex 3: Flood Risk Vulnerability Classification of the National Planning Policy Framework (December 2024), the existing development is classed as 'less vulnerable', defined as: "*Land and buildings used for agriculture and forestry*".

3.02 The proposed development consists of converting the existing barn building into 3 dwellings. The proposed residential scheme falls within the 'more vulnerable' category, defined as: "*Buildings used for dwelling houses*".

3.03 The change of use therefore represents an increase in vulnerability classification under the NPPF; however, as the conversion remains within the existing building footprint and is located in Flood Zone 1, the proposal does not introduce new built development or increase flood risk elsewhere.

4.0 Sequential Test and Exception Tet

4.01 The purpose of the sequential test as described in paragraphs 170 to 175 of the National Planning Policy Framework (NPPF, December 2024) is to steer new development to areas with the lowest probability of flooding. The test ensures that development at risk of flooding is only permitted when there are no reasonably available sites in areas of lower risk.

4.02 Paragraph 176 of the NPPF highlight that applications for some minor development and changes of use should also not be subject to the sequential test, nor the exception test set out, but should still meet the requirements for site-specific flood risk assessments as advised in footnote 63.

4.03 As the proposal does not seek to change the footprint but to carry out internal conversions, sequential test is not required in accordance to Paragraph 176 of the NPPF.

4.04 According to footnote 63: A site-specific flood risk assessment should be provided for all development in Flood Zones 2 and 3. In Flood Zone 1, an assessment should accompany all proposals involving: sites of 1 hectare or more; land which has been identified by the Environment Agency as having critical drainage problems; land identified in a strategic flood risk assessment as being at increased flood risk in future; or land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.

4.05 According to Table 2 of Flood Risk and Coastal Change guidance (Figure 3), the exception test is not required as the 'more vulnerable' proposed scheme is within Flood Zone 1.

Table 2: Flood risk vulnerability and flood zone 'incompatibility'

Flood Zones	**Flood Risk Vulnerability Classification**				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a †	Exception Test required †	X	Exception Test required	✓	✓
Zone 3b *	Exception Test required *	X	X	X	✓ *

Key:

✓ Exception test is not required

X Development should not be permitted

Figure 3: Flood risk vulnerability and Flood Zone incompatibility

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5.0 Site Specific Flood Risk

Flood Risk from Rivers or Sea

5.01 The application site is located approximately 95 metres northeast of Pellingford Brook, an EA main river.

5.02 The EA flood map for planning shows that the site lies within Flood Zone 1 (Figure 4).

Figure 4: Flood Zones

5.03 Flood risk from this source for the present day and when taking climate change into consideration is assessed to be very low.

Flood Risk from Surface Water

5.04 Surface water flooding occurs when the volume and intensity of rainfall exceed the capacity of local drainage systems, resulting in rainwater flowing over the ground surface or temporarily ponding rather than draining away or infiltrating into the ground. At this site, the identified surface water flood risk is associated with the existing pond located to the south of the application site. The mapped surface water extent suggests that, under extreme rainfall conditions, there is a potential for the pond to surcharge or for exceedance flows to occur should its overflow mechanism be temporarily overwhelmed.

5.05 In 2025, the Environment Agency updated the national Risk of Flooding from Surface Water (RoFSW) mapping to reflect improvements in national-scale surface water modelling. These maps provide a strategic assessment of where surface water flooding may occur during rainfall events of varying probability and are intended as a screening tool rather than a property-specific assessment of flood risk.

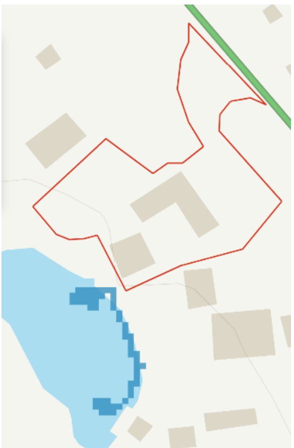
Figure 5a: 1 in 30 (high risk)

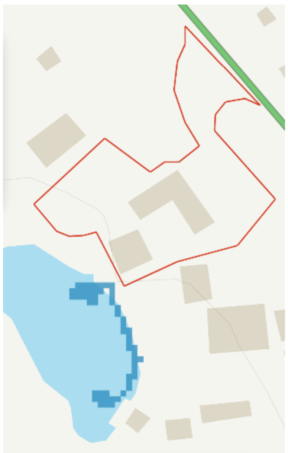
Figure 5b: 1 in 100 (medium risk)

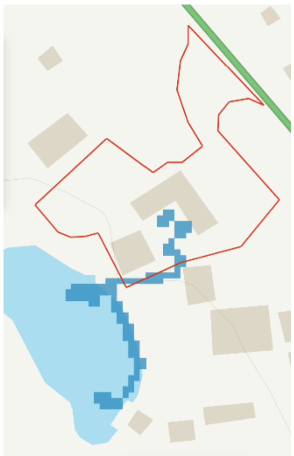
Figure 5c: 1 in 1000 (low risk)

5.06 Figures 5a, 5b and 5c present the RoFSW extents for the 1 in 30-year (high risk), 1 in 100-year (medium risk), and 1 in 1000-year (low risk) surface water events, respectively. These figures demonstrate that the application site is not affected by the high- or medium-risk surface water scenarios. Only the low-risk (1 in 1000 year, 0.1% AEP) extent marginally affects a small portion of the site. This indicates that surface water flooding in the direction of the proposed dwellings would only be expected during an exceptionally rare rainfall event, with a probability of approximately 0.1% in any given year.

5.07 In assessing the significance of this mapped extent, it is important to distinguish between the presence of a flood outline and the actual level of flood risk. In flood risk management, risk is generally understood as a function of both the likelihood of a flooding event and the severity of its potential consequences (Figure 6).

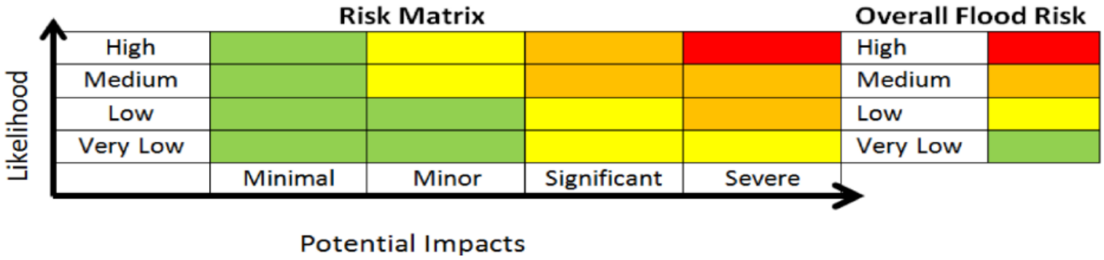

Figure 6: Flood Risk Matrix

5.08 In addition to its low probability, the potential consequences associated with this surface water scenario are limited. The mapped low-risk extent is confined to external garden areas serving Units 1 and 2 and does not affect proposed dwellings usability, entrances or access and egress routes. Even in the unlikely event that surface water were to reach these garden areas during an extreme rainfall event, the impact would be shallow, temporary, and would not compromise the safe occupation or use of the dwellings. The development therefore retains safe access, safe refuge, and functional residential use under all foreseeable conditions.

5.09 When both components of flood risk are considered together—namely the very low likelihood of occurrence and the minimal potential consequences—the overall flood risk to the proposed development from surface water is assessed to be very low. This position is consistent with national guidance, the interpretation of RoFSW mapping, and the principles of proportionate flood risk management

5.10 On this basis, and with no predicted inundation of buildings, entrances, or access routes, the proposed development is considered to be safe for its lifetime with respect to surface water flooding and thus flood risk from this source is considered to be very low.

Risk of Flooding from Groundwater

5.11 Groundwater flooding usually occurs in low-lying areas underlain by permeable rock and aquifers that allow groundwater to rise to the surface through the permeable subsoil following long periods of wet weather. Low-lying areas may be more susceptible to groundwater flooding because the water table is usually at a much shallower depth, and groundwater flow paths tend to travel from higher to lower ground.

5.12 The application site ownership boundary follows directly the boundary of the West Sussex County boundary line to the east. Figure 3 of the SFRA shows risk from groundwater flooding and the application site is not within an area of flood risk from this source (Figure 7).

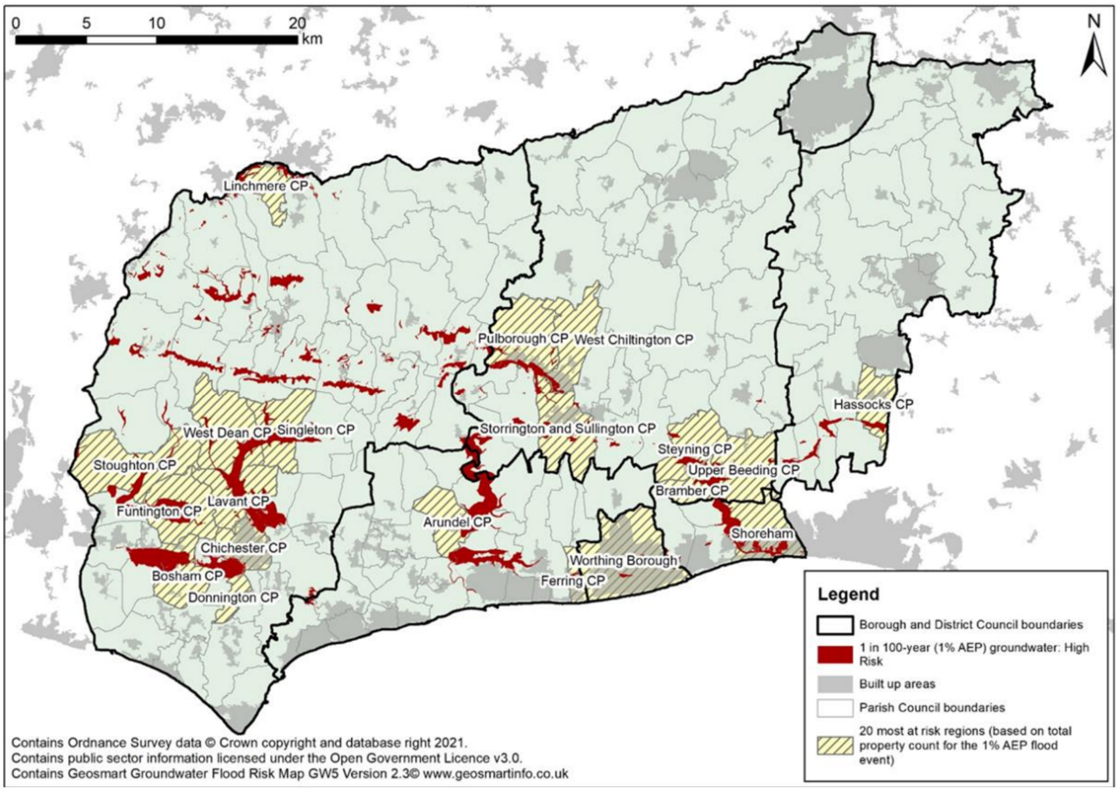

Figure 7: Groundwater Flood Risk (SFRA Figure 3)

5.13 In addition to the strategic mapping, the nature of the proposed development further limits any potential susceptibility to groundwater flooding. The scheme comprises the conversion of an existing building with no proposed basement, no deep excavations, and no lowering of existing ground levels. As such, there is no creation of new below-ground structures that could intercept the water table or be vulnerable to rising groundwater levels.

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5.14 Groundwater flooding is typically associated with prolonged periods of elevated groundwater levels affecting basements, cellars, or other below-ground structures. The proposed dwellings are confined to above-ground accommodation, with finished floor levels set above surrounding ground levels. This significantly reduces both the likelihood and potential consequences of groundwater emergence affecting the development.

5.15 The proposals do not involve any works that would alter local groundwater flow paths, such as cut-and-fill operations, land reprofiling, or dewatering. The existing hydrological regime will therefore remain unchanged, and there is no mechanism by which the development would increase groundwater flood risk either on-site or elsewhere.

5.16 On the basis of the SFRA mapping, the absence of any recorded groundwater flood risk at the site, and the above-ground nature of the proposed development, the risk of flooding from groundwater is assessed to be negligible.

Risk of Flooding from Artificial Sources – Sewers

5.17 Southern Water sewer records indicate that there are no public foul or surface water sewers within the vicinity of the application site. This information is presented in Appendix B. As such, the site is not connected to, nor influenced by, the capacity or performance of the public sewerage network.

5.18 Sewer flooding typically occurs where public sewer systems surcharge during periods of intense rainfall or where network capacity is exceeded, resulting in flooding from manholes or internal plumbing systems. In the absence of nearby public sewers, there is no identified mechanism by which surcharge from the public sewer network could affect the site.

5.19 Any existing drainage serving the site is therefore understood to be private in nature. The proposed development does not include basements, below-ground accommodation, or pumped drainage systems that would increase vulnerability to internal sewer surcharge. Finished floor levels will remain above surrounding ground levels, further limiting potential consequences.

5.20 Given the absence of public sewers in the vicinity, the lack of known historic sewer flooding incidents, and the above-ground nature of the proposed development, the likelihood of sewer flooding affecting the site is considered to be very low.

5.21 When both the likelihood and potential consequences are considered together, flood risk from sewer flooding is assessed to be negligible. The proposed development is therefore considered to be safe for its lifetime with respect to sewer flooding, in accordance with national planning guidance.

<u>Flood Risk from Reservoirs</u>

5.22 Reservoirs and other artificial sources of flooding, such as canals, basins or even private water storage pose a risk of flooding, generally as a result of a catastrophic failure of the storage facility.

5.23 The Environment Agency's long-term flood risk mapping for reservoirs (Figure 8) indicates that the application site is not located within an area at risk of flooding from reservoir failure or breach.

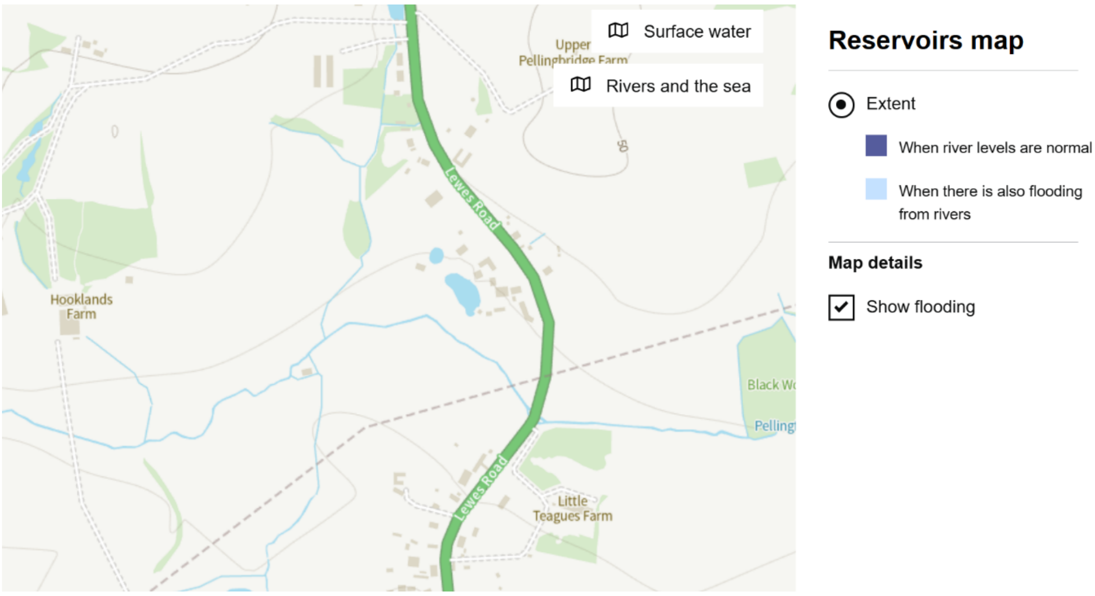


Figure 8: Flood Risk from Reservoir

5.24 The existing pond to the south is a small-scale, shallow, artificial water body that functions as a local surface water feature rather than a regulated reservoir. It is not raised above surrounding ground levels, does not incorporate engineered embankments or containment structures, and is not classified as a reservoir under the Reservoirs Act 1975.

5.25 No other artificial sources of flood risk have been identified.

5.26 Flood risk from these sources is considered to be very low.

6.0 Climate Change

6.01 Climate change is likely to increase the flows in rivers, raise sea levels and increase storms intensity. Climate change allowance are the predictions of anticipated change for:

- Peak river flow
- Peak rainfall intensity
- Sea level rise
- Offshore wind speed and extreme wave height

6.02 The EA flood map for planning shows that, when taking climate change into account and ignoring the presence of flood defences, the application site still lies outside fluvial flood risk extent (Figure 9).

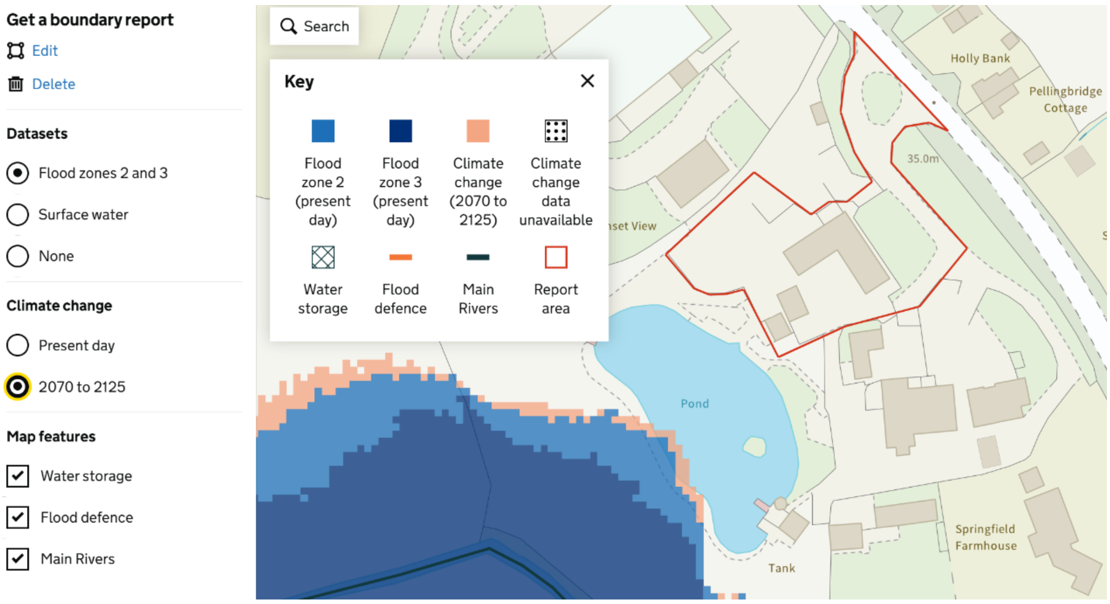
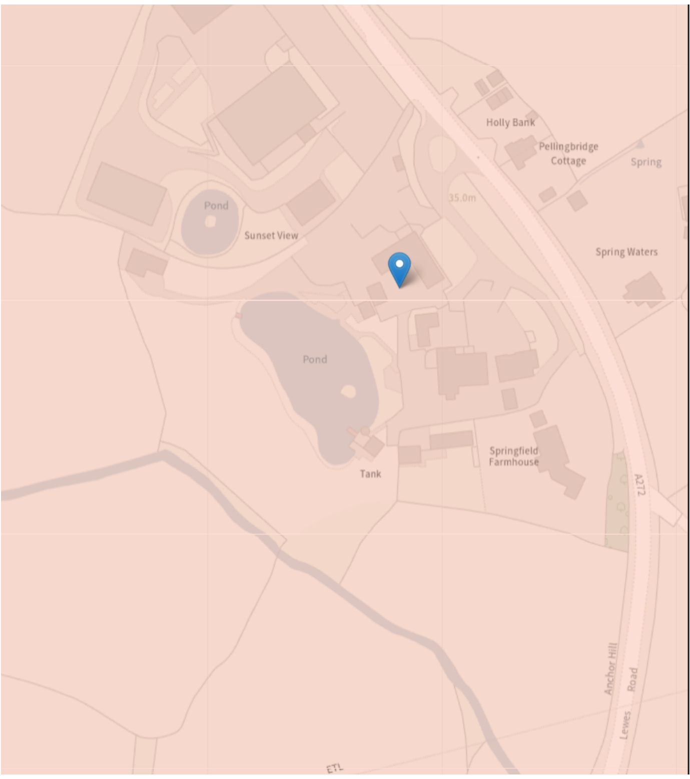


Figure 9: Fluvial flood risk (Climate Change)

6.03 The application site is within the Adur and Ouse Management Catchment and peak rainfall allowances for this catchment were used for the proposed surface water drainage strategy.



Adur and Ouse Management Catchment peak rainfall allowances

3.3% annual exceedance rainfall event

Epoch	Central allowance	Upper end allowance
2050s	20%	35%
2070s	20%	40%

1% annual exceedance rainfall event

Epoch	Central allowance	Upper end allowance
2050s	20%	45%
2070s	25%	45%

*Use '2050s' for development with a lifetime up 2060 and use the 2070s epoch for development with a lifetime between 2061 and 2125.

Figure 10: Peak rainfall intensity climate change allowances

6.04 Proposed drainage system has increased rainfall intensities by 40% and 45% for the 1 in 30 year and 1 in 100 year storm events respectively.

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7.0 Surface Water & Foul Water Management

Surface Water

7.01 The proposed development involves the conversion of an existing barn building into three dwellings, with no increase in building footprint, roof area, or extent of impermeable surfacing. As such, the proposed development will not increase surface water runoff rates or volumes compared to the existing situation.

7.02 Surface water drainage has been designed in accordance with the principles of Sustainable Drainage Systems (SuDS), with a focus on managing runoff at source, maintaining infiltration where feasible.

7.03 Roof runoff will be collected via gutters and downpipes and managed through a combination of source-control and infiltration measures. Water butts are proposed at selected downpipe locations to provide interception and water reuse, reducing runoff volumes during small and moderate rainfall events.

7.04 Pervious paving is proposed within parking and circulation areas to allow rainfall to infiltrate locally and reduce surface water runoff. As there is no risk of flooding from surface water in this area and given the local geology it is reasonable to expect water to infiltrate the ground.

7.05 Causeway Flow hydraulic software was used to preliminarily size soakaways (geocellular crates) based on assumed rate of 1.0×10^{-5} m/s (0.036 m/hr). The hydraulic results output demonstrates the adequacy of soakaway 1 (3.0m x 3.0m x 0.8m) and soakaway 2 (5.0m x 3.0m x 0.8m) to provide infiltration for larger storm events up to the 1 in 100 year plus climate change allowance. Soakaways are subject to BRE365 soakage testing at detailed design stage to confirm ground suitability and final sizing.

7.06 If infiltration is found to be unsuitable, surface water will be discharged via the existing private below-ground drainage system, subject to confirmation of connectivity and condition through further investigation (e.g. CCTV survey). A nearby watercourse south of the existing pond is identified as a potential ultimate outfall, subject to necessary approvals.

7.07 If infiltration is found to be unsuitable due to poor infiltration rate or high groundwater levels for example, surface water will be discharged via the existing private below-ground drainage system, subject to confirmation of connectivity and condition through further investigation (e.g. CCTV survey). A nearby watercourse south of the existing pond is identified as a potential ultimate outfall, subject to necessary approvals.

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Foul Water

7.08 Foul water drainage will be managed via privately owned and maintained package treatment plants serving each dwelling, as indicated on the proposed drainage layout. The final discharge arrangement will be confirmed at detailed design stage in accordance with the Environment Agency's General Binding Rules, ensuring no risk of pollution to groundwater or surface water receptors.

7.09 Surface water and foul water drainage layout can be found in Appendix C.

8.0 Maintenance Plan

Soakaway

8.01 To ensure the long-term effectiveness of the soakaway tank asset, sediments that may enter and accumulate within this SuDS system must periodically be removed upstream to prevent them from entering the geocellular units and slowing the functionality of the system. The frequency of this maintenance operation will vary depending on the density of the site, vegetation, design of the drainage system, other permeable areas and if the site is pre or post construction.

8.02 Replacement of the geocellular units will be necessary if the system becomes blocked with silt. Effective monitoring upstream will provide a warning of potential failure in the long term and enable acting sooner to mitigate this risk.

8.03 Maintenance responsibility should be placed with the homeowners, and maintenance schedules and operations are to be carried out in accordance with the manufacturer's recommendations. A typical maintenance plan is given in Table 1.

Table 1: Typical maintenance plan – Geocellular soakaway crates

Element	Maintenance Activity	Frequency	Responsible Party	Notes / Purpose
Inlet pipework	Visual inspection for blockage, silt build-up or damage	Every 6 months and after extreme rainfall events	Property owner / Management company	Ensures free flow of runoff into the soakaway
Catchpit / silt trap	Inspect and remove accumulated silt and debris	Every 6 months (or when 25–50% full)	Property owner / Management company	Prevents fine sediment entering soakaway crates
Inspection chambers	Visual inspection for standing water or sediment	Annually	Property owner / Management company	Standing water may indicate reduced infiltration
Geotextile integrity	Indirect inspection via chambers (signs of sediment migration)	Annually	Property owner / Management company	Full excavation not required unless failure suspected
Soakaway performance	Monitor drain-down time following heavy rainfall	Annually and after prolonged rainfall	Property owner / Management company	Slow drainage may indicate clogging or reduced permeability
Structural integrity	Check chambers for deformation or collapse	Every 5 years	Property owner / Specialist contractor	Ensures long-term structural stability
Vegetation above soakaway	Maintain soft landscaping, avoid deep-rooting plants	Ongoing	Property owner	Prevents root intrusion into system
Remedial works	Jetting or partial replacement if performance declines	As required	Specialist contractor	Triggered only if inspections identify issues

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Pervious Pavement

8.04 Regular inspection and maintenance is important for the effective operation of pervious pavements. After construction, pavement should be inspected for clogging, litter, weeds and water ponding, and all failures should be rectified. The pavement should be inspected regularly, preferably during and after heavy rainfall to check effective operation and to identify any areas of ponding.

8.05 Pervious pavements need to be regularly cleaned of silt and other sediments to preserve their infiltration capacity. Extensive experience suggests that sweeping once per year should be sufficient to maintain an acceptable infiltration rate on most sites. However, in some instances, more or less sweeping may be required and the frequency should be adjusted to suit site-specific circumstances and should be informed by inspection reports.

8.06 Maintenance responsibility should be placed with the homeowners, and maintenance schedules and operations are to be carried out in accordance with the manufacturer's recommendations. Typical maintenance plan is given in Table 2.

Table 2: Typical maintenance plan - pervious pavement

Element	Maintenance Activity	Frequency	Responsible Party	Notes / Purpose
Surface condition	Visual inspection for sediment build-up, damage or rutting	Quarterly	Property owner / Management company	Early identification of clogging or surface wear
Surface sweeping	Remove loose debris and sediment (vacuum sweep preferred)	Twice yearly (spring and autumn)	Property owner / Management company	Maintains surface permeability
Weed growth	Remove weeds manually or with approved methods	As required	Property owner	Avoid use of sand or soil-based treatments
Oil / fuel spills	Immediate clean-up using absorbent materials	As required	Property owner	Prevents contamination of sub-base
Inlets / edges	Inspect and clear adjacent drainage inlets and edges	Twice yearly	Property owner / Management company	Prevents sediment migration onto surface
Sub-base performance	Observe for signs of standing water after rainfall	Annually	Property owner / Management company	Persistent ponding may indicate clogging
Joint condition	Inspect joints for infill loss or compaction	Annually	Property owner / Management company	Replace with clean permeable aggregate only
Resurfacing	Localised repair or surface rejuvenation	As required (typically >10 years)	Specialist contractor	Extends service life of pavement

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9.0 Flood Mitigation Measures

9.01 Given the site's location within Flood Zone 1 and the low assessed risk from all sources of flooding, no formal flood defence measures are required.

9.02 Mitigation is provided through appropriate site layout and drainage design, including the retention of existing ground levels, avoidance of basements or below-ground accommodation, and the use of SuDS measures to manage surface water at source.

9.03 Finished floor levels will remain above surrounding external ground levels, and access and egress routes will remain available during all foreseeable flood scenarios.

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10.0 Residual Risk

10.01 Residual flood risk refers to the risk that remains after mitigation measures have been implemented or where flooding occurs as a result of events exceeding the design capacity of drainage systems.

10.02 Residual risks at the site are limited to exceptionally rare rainfall events exceeding the 1 in 1000 year surface water scenario. In such circumstances, any flooding would be shallow, temporary, and confined to external garden areas, with no impact on buildings, entrances, or access routes.

10.03 There is no residual risk associated with fluvial, groundwater, sewer, or reservoir flooding. The site retains safe refuge and safe access under all foreseeable conditions.

11.0 Conclusion

11.01 This Flood Risk Assessment and Drainage Strategy has assessed the proposed conversion of an existing barn to three residential dwellings at Springfield Farm Barn against the requirements of national and local planning policy, including the National Planning Policy Framework (NPPF) and the relevant flood risk and drainage policies set out in Section 2.0 of this report.

11.02 The site lies within Flood Zone 1 and is not affected by fluvial flooding. In accordance with the NPPF's sequential approach, development is therefore appropriately located in an area of lowest flood probability. No Sequential or Exception Test is required.

11.03 Assessment of surface water flood risk, undertaken with reference to the Environment Agency's Risk of Flooding from Surface Water mapping, confirms that the site is not affected by high- or medium-risk surface water events. Only the 1 in 1000 year (0.1% AEP) low-risk extent marginally affects a small portion of the site. This represents an exceptionally rare rainfall scenario and does not constitute a material flood hazard to the proposed dwellings.

11.04 Consistent with the NPPF requirement that development be safe for its lifetime, the mapped low-risk surface water extent is confined to external garden areas and does not affect building footprints, entrances, or access and egress routes. Even in the unlikely event of surface water flooding during extreme rainfall, impacts would be shallow, temporary, and would not compromise safe occupation or use of the dwellings. When both likelihood and consequence are considered together, surface water flooding does not present an unacceptable or material risk.

11.05 The proposed development does not increase building footprint, roof area, or impermeable surfacing. In line with local policy requirements for flood risk management and sustainable design, the proposals therefore do not increase surface water runoff rates or volumes and do not exacerbate flood risk elsewhere.

11.06 Surface water drainage has been designed in accordance with the principles of Sustainable Drainage Systems promoted by the NPPF and local policy. The strategy prioritises source control and interception through rainwater reuse, permeable surfacing, and localised infiltration measures, representing a clear improvement over the existing unmanaged discharge of roof water from the barn. Exceedance flows are managed safely via existing overland pathways away from buildings, consistent with policy requirements to manage extreme events.

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11.07 Indicative infiltration measures are shown subject to confirmation through BRE365 testing at detailed design stage, ensuring that the final drainage solution remains evidence-led and proportionate, as required by policy. Where infiltration is not feasible, the strategy provides for controlled discharge via the existing private drainage network, maintaining flexibility while ensuring no increase in flood risk on-site or off-site.

11.08 Flood risk from all other sources, including groundwater, sewer, and reservoirs, has been assessed in accordance with national guidance and local policy and is considered to be very low or negligible. The development includes no basements or below-ground accommodation and retains safe access and refuge under all foreseeable conditions.

11.09 Overall, the proposed development fully accords with the flood risk and drainage objectives of the NPPF and the relevant policies identified in Section 2.0 of this report. The development is safe for its lifetime, surface water flooding does not represent a material planning constraint, and the proposed drainage strategy is robust, sustainable, and appropriate to the nature of the development. The proposals will not increase flood risk elsewhere and are therefore acceptable in flood risk and drainage terms.

Appendix A

Site Location, Existing and Proposed Plans

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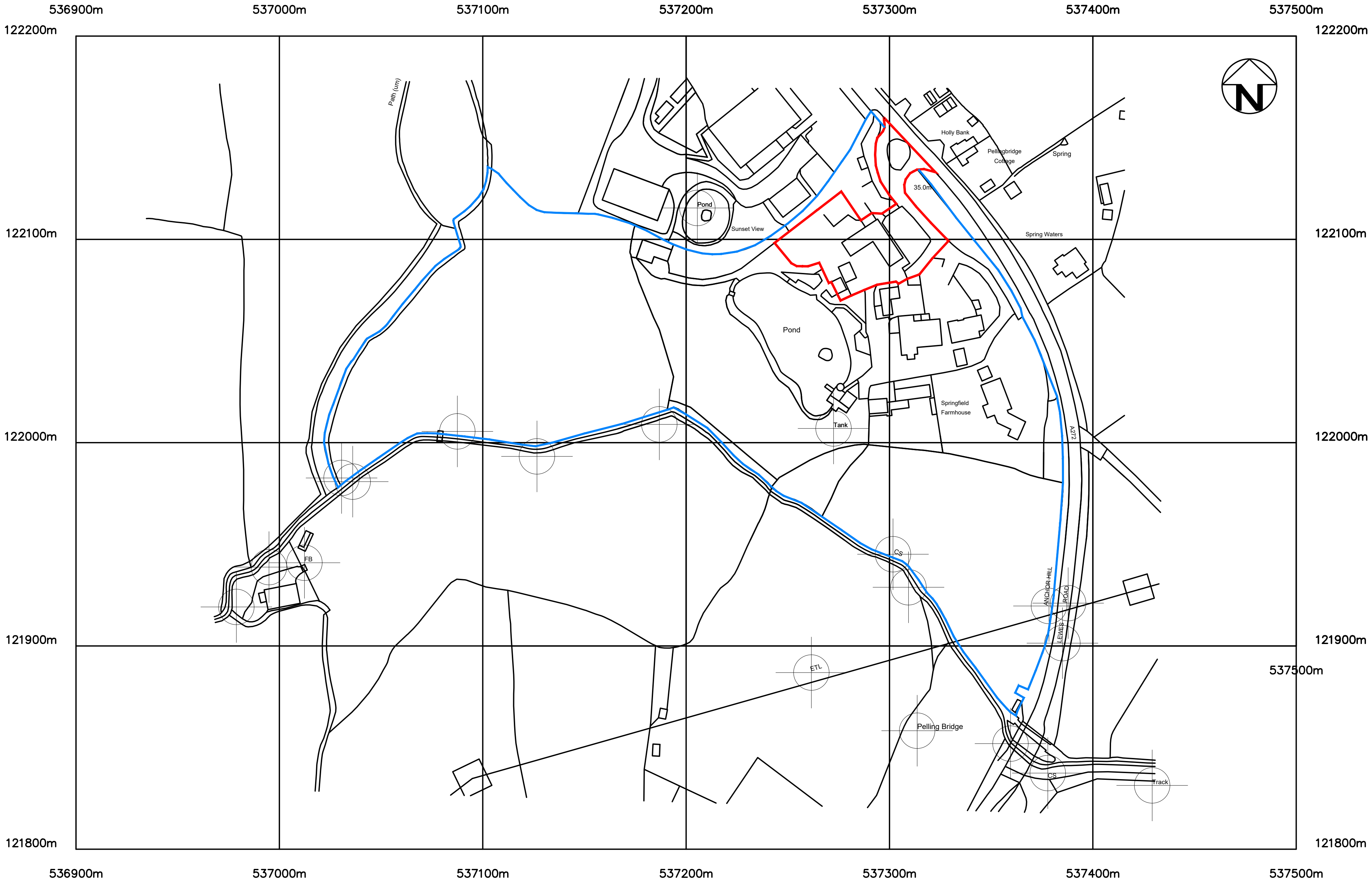

Site Location Plan
Scale 1:2500

Application site.

Land owned by applicant.

1:2500 - scale 0 50m 100m 200m

AMENDMENTS

Springfield Farm Barn,
Lewes Road, Scaynes Hill,
RH17 7NG

PLANNING

Site Location Plan

JOB NO.	DRG. NO
243234	01

DATE	AMEND.
Nov 2024	A
SCALE 1:2500@A3	

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AMENDMENTS

Springfield Farm Barn,
Lewes Road, Scaynes Hill,
RH17 7NG

PLANNING

Block Plan - Existing

JOB NO.	DRG. NO
243234	02

DATE	AMEND.
Nov 2024	-
SCALE 1:200@A3	

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Block Plan - Existing
Scale 1:200

1:200 - scale 0 2m 4m 6m 8m 10m

Block Plan - Proposed
Scale 1:200

1:200 - scale 0 2m 4m 6m 8m 10m

AMENDMENTS

Springfield Farm Barn,
Lewes Road, Scaynes Hill,
RH17 7NG

PLANNING

Block Plan - Proposed

JOB NO.	DRG. NO
243234	03

DATE	AMEND.
Nov 2024	A
SCALE 1:200@A3	

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AMENDMENTS

Springfield Farm Barn,
Lewes Road, Scaynes Hill,
RH17 7NG

PLANNING

Ground Floor Plan
- Proposed

JOB NO.	DRG. NO
243234	08

DATE	AMEND.
July 2024	A
SCALE 1:100@A3	

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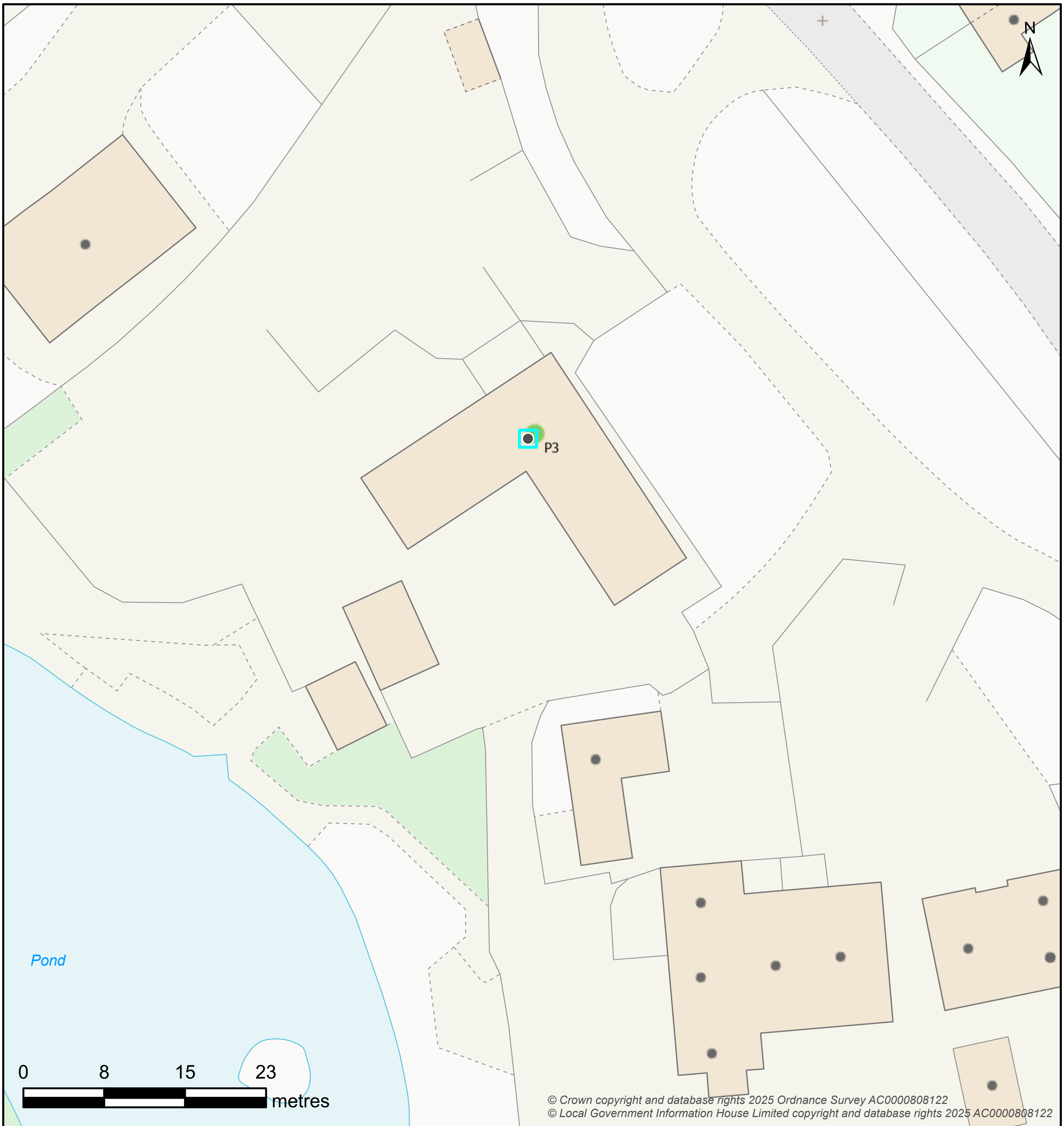
Ground Floor Plan - Proposed
Scale 1:100

1:100 - scale 0 1m 2m 3m 4m 5m 6m

Appendix B

Southern Water Sewer Record Map

info@hydrogroundcivils.co.uk 07960740561 www.hydrogroundcivils.co.uk



Controllable Valve: Damboards | Penstock | Valve

Flow Control: Anti Flood Device | Pumped Anti Flood Device | Reflux Valve

Inlet-Outfall: Inlet | Outfall

Manhole: BIF Bifurcation | Cascade | CP Catchpit | Head Of Public Sewer | IC Interceptor Chamber | Manhole | S Soakaway | WO Washout

Outfall Headworks: Outfall Headworks

Overflow Chamber: CSO Combined Sewer Overflow | EMO Emergency Overflow

Pipe Bridge: Pipe Bridge

Pumping Station: Micro Pumping Station | Pumping Station

Sewer Level Monitor: Sewer Level Monitor

Storage: Storm Tank | Tidal Storage Tank

Treatment Works: Treatment Works

Weir: Weir

Wastewater Site: Wastewater Site

Wastewater Pipe: Culverted Water Course | Drain | Outfall | Overflow | Rising Main | Sewer | Syphon | Tank Sewer | Trunk Sewer | Vacuum Main | Decommissioned Pipe

Wastewater Use: Foul | Combined | Sludge | Treated Effluent | Surface Water | Private

Developer Services: Build Over Agreement | Section 104

Wastewater Area: Catchment | Sub-Catchment

Map Title: DSA000048665 GIS

Printed By: Kelly.Donaldson

Date Printed: 31/10/2025

Map Scale: 500

The information provided is believed to be correct but is provided on an 'as is' basis and without any warranty or condition express or implied, statutory or otherwise as to its quality or fitness for purpose. Actual positions of assets should always be determined on site.

WATER for LIFE from Southern Water.

Appendix C

Surface Water and Foul Water Drainage Layout

info@hydrogroundcivils.co.uk 07960740561 www.hydrogroundcivils.co.uk

Private Drainage Notes:

1. British Geological Survey indicates that the site is underlain by Upper Tunbridge Wells Sand Formation.
2. Existing barn areas discharge stormwater via downpipes. A downpipe can be seen on the southwest corner of the building on the Planning Statement.
3. Soakaways are preliminarily sized using Causeway Flow Hydraulics software, using an an infiltration rate of 1.0×10^{-5} m/s (0.036 m/h).
4. BRE365 soakage testing will be required at detailed design stage to confirm infiltration rate and groundwater levels by visual inspection and thus suitability of soakaways. Should this test show poor soakage, surface water can be discharged to the existing private below ground drainage. Further investigation (CCTV Survey) of this drainage will be necessary to establish condition and destination of surface water.
5. The nearest watercourse is south of the existing pond. This could be a potential destination for surface water drainage should soakage test prove infiltration to be unsuitable and should a CCTV survey investigation indicate that the existing below ground drainage to be inadequate or inappropriate for re-use (eg - foul only system).
6. Water butts are recommended to provide some water conservation measures.
7. Foul water drainage to be discharged into privately owned and maintained package treatment plants - Biodisc BA (Population Equivalent = 6) has been recommended.

LEGEND

- Application site boundary
- Proposed surface water drainage
- Proposed foul water drainage
- Proposed water butt

5m
4m
3m
2m
1m
0m

SCALE
1:100

GENERAL NOTES

1. This drawing is to be read in conjunction with all relevant architects, engineers drawings & specifications.
2. The contractor is to be responsible for all dimensions & for the correct setting out of the works on site.
3. Do not scale from this drawing.

REV	BY	DATE	Revision Notes
P01	CM	13 Dec 2025	Preliminary drainage layout

PROJECT NAME
Springfield Farm
Lewes Road
Scaynes Hill
RH17 7NG

PROJECT DESCRIPTION
Drainage Strategy
Surface Water & Foul Water

Revision	Prepared CM	Approved CM	Scale: 1:100 [A1]
Original	Approved CM	Date 13 Dec 2025	Dwg No: RH112801/5010
STATUS	For Planning		REVISION P01

HGC HydroGround Civils

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	2	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
Soakaway 1	0.009	30.700	537277.302	122104.960	1.300	29.400

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Detailed
Rainfall Events	Singular	Skip Steady State	x
FSR Region	England and Wales	Drain Down Time (mins)	240
M5-60 (mm)	20.000	Additional Storage (m³/ha)	20.0
Ratio-R	0.400	Starting Level (m)	
Summer CV	0.750	Check Discharge Rate(s)	x
Winter CV	0.840	Check Discharge Volume	x

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
30	0	0	0
30	40	0	0
100	0	0	0
100	45	0	0

Node Soakaway 1 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.03600	Invert Level (m)	29.400	Depth (m)	0.800
Side Inf Coefficient (m/hr)	0.03600	Time to half empty (mins)	826	Inf Depth (m)	0.800
Safety Factor	2.0	Pit Width (m)	3.000	Number Required	1
Porosity	0.95	Pit Length (m)	3.000		

Results for 1 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
180 minute winter	Soakaway 1	168	29.525	0.125	0.3	1.0880	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
180 minute winter	Soakaway 1	Infiltration	0.1

Results for 30 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	Soakaway 1	456	29.733	0.333	0.3	2.8899	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
480 minute winter	Soakaway 1	Infiltration	0.1

Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
720 minute winter	Soakaway 1	675	29.875	0.475	0.3	4.1228	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
720 minute winter	Soakaway 1	Infiltration	0.1

Results for 100 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
720 minute winter	Soakaway 1	675	29.838	0.438	0.3	3.8056	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
720 minute winter	Soakaway 1	Infiltration	0.1

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	Soakaway 1	915	30.050	0.650	0.4	5.6455	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
960 minute winter	Soakaway 1	Infiltration	0.1

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	2	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
Soakaway 2	0.016	30.650	537284.809	122082.102	1.250	29.400

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Detailed
Rainfall Events	Singular	Skip Steady State	x
FSR Region	England and Wales	Drain Down Time (mins)	240
M5-60 (mm)	20.000	Additional Storage (m³/ha)	20.0
Ratio-R	0.400	Starting Level (m)	
Summer CV	0.750	Check Discharge Rate(s)	x
Winter CV	0.840	Check Discharge Volume	x

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
30	0	0	0
30	40	0	0
100	0	0	0
100	45	0	0

Node Soakaway 2 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.03600	Invert Level (m)	29.400	Depth (m)	0.800
Side Inf Coefficient (m/hr)	0.03600	Time to half empty (mins)	888	Inf Depth (m)	0.800
Safety Factor	2.0	Pit Width (m)	3.000	Number Required	1
Porosity	0.95	Pit Length (m)	5.000		

Results for 1 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	Soakaway 2	232	29.528	0.128	0.5	1.8582	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
240 minute winter	Soakaway 2	Infiltration	0.1

Results for 30 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
240 minute winter	Soakaway 2	232	29.739	0.339	1.0	4.9158	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
240 minute winter	Soakaway 2	Infiltration	0.1

Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	Soakaway 2	352	29.901	0.501	1.1	7.2714	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
360 minute winter	Soakaway 2	Infiltration	0.1

Results for 100 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	Soakaway 2	344	29.875	0.475	1.0	6.8839	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
360 minute winter	Soakaway 2	Infiltration	0.1

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
600 minute winter	Soakaway 2	570	30.113	0.713	0.9	10.3483	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
600 minute winter	Soakaway 2	Infiltration	0.1