



Land to the rear of 5-7 Don Street, Penistone Barnsley, South Yorkshire, S36 6HA

Flood Risk Assessment & Drainage Strategy

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Contents

Executive Summary.....	4
1.0 Introduction.....	5
2.0 Site Description.....	6
3.0 Planning Policy and Guidance.....	7
4.0 Flood Risk to the Site.....	9
5.0 Flood Risk from the Development.....	12
6.0 Sustainable Drainage Systems.....	13
7.0 Drainage Strategy.....	15
8.0 Building Regulations Part H Assessment.....	16
9.0 Flood Mitigation and Finished Levels.....	17
10.0 Conclusions.....	18
11.0 References.....	18

Appendices

Appendix A EA Flood Map for Planning.....	20
Appendix B EA Risk of Flooding from Surface Water.....	23
Appendix C Yorkshire Water Asset Search.....	27
Appendix D Greenfield Runoff Rate Calculations.....	33
Appendix E Surface Water Drainage Calculations.....	36
Appendix F Proposed Architectural Drawings.....	43
Appendix G Outline Drainage Strategy Drawing.....	48

Executive Summary

This combined Flood Risk Assessment (FRA) and Drainage Strategy has been prepared by Arbtech Consulting Ltd on behalf of Mr Andrew Finch in support of an outline planning application to Barnsley Metropolitan Borough Council (BMBC, planning reference 2026/0350) for the erection of 2 No. detached dwellings on land to the rear of 5-7 Don Street, Penistone, Barnsley, S36 6HA.

The Environment Agency (EA) Flood Map for Planning (Appendix A) confirms the application site lies wholly within Flood Zone 1 (low probability of fluvial flooding; the site is inland and not subject to tidal influence). The site remains outside the Flood Zone 2, Flood Zone 3 and climate change flood extents shown on the EA Flood Map for Planning. The nearest mapped flood zones are associated with the watercourse to the north-east and the Kirkwood Beck corridor to the south-east, both of which lie down-gradient of, and separated from, the application site. The proposed dwellings are classified as 'More Vulnerable' development under the PPG Flood Risk Vulnerability Classification; More Vulnerable development is appropriate in Flood Zone 1 without the application of the Sequential or Exception Tests.

An FRA has been prepared because the site lies in an area shown to be at risk from surface water (pluvial) flooding when assessed with climate change, and the proposed change from garden land and ancillary outbuildings to residential dwellings increases the vulnerability of the use. The EA Risk of Flooding from Surface Water (RoFSW) mapping, including the 2061-2125 climate change epoch (Appendix B), confirms that both proposed dwelling footprints fall outside the mapped surface water extent at the 1 in 30, 1 in 100 and 1 in 1000 annual chance events. A surface water flow path is mapped across lower ground to the west and north-west of the site, and the western vehicular access and frontage onto the unadopted access road are at residual risk in the 1 in 1000 (0.1% AEP) event only. Surface water flood risk to the proposed dwellings is therefore assessed as LOW.

Surface water from the development will be managed by permeable paving acting as the principal SuDS feature, in accordance with the SuDS hierarchy and Part H of the Building Regulations. Two options are presented. Option 1 (preferred) is infiltration to ground, supported by the Grenoside Sandstone bedrock and the absence of superficial deposits and to be confirmed by BRE 365 / BS 8004 testing; using a conservative design infiltration rate of 0.00001 m/s this requires a permeable paving sub-base of the order of 0.3 m. Option 2, adopted if infiltration proves unviable, attenuates the same paving (tanked) and discharges to the adopted public combined sewer through a 20 mm orifice at a peak of approximately 0.6 l/s, requiring a sub-base of the order of 0.55 m and around 27 m³ of storage for the 1 in 100 (1% AEP) plus 40% climate change event. Both options are close to or below greenfield rates and represent a betterment on the existing unrestricted connection. Foul drainage will connect to the public combined sewer operated by Yorkshire Water. Supporting calculations are at Appendix E and the outline drainage strategy drawing at Appendix G.

Subject to the finished floor and external level setting described in Section 9, the infiltration testing and Yorkshire Water build-over / connection agreements described in Sections 7 and 8, the proposed development is considered to be safe over its design lifetime including climate change, will not increase flood risk elsewhere, and satisfies the requirements of the NPPF (December 2024) and the PPG (Flood Risk and Coastal Change).

Summary of Flood Risk to the Development

Flood Risk Source	Proposed Dwellings	Parking / Access	Residual Risk
Fluvial (Flood Zone)	Not at Risk (FZ1)	Not at Risk (FZ1)	Very Low
Surface Water 1 in 30 (+CC)	Not at Risk	Not at Risk	Low
Surface Water 1 in 100 (+CC)	Not at Risk	Not at Risk	Low
Surface Water 1 in 1000 (+CC)	Not at Risk	At Risk (access)	Low
Groundwater	Not at Risk	Not at Risk	Low
Sewer	Not at Risk	Not at Risk	Low
Reservoir	Not at Risk	Not at Risk	Very Low

Table 1: Summary of flood risk to the proposed development by source.

1.0 Introduction

- 1.1** This Flood Risk Assessment and Drainage Strategy has been commissioned by Mr Andrew Finch to assess flood risk and surface water drainage at land to the rear of 5-7 Don Street, Penistone, Barnsley, S36 6HA, in support of an outline planning application to Barnsley Metropolitan Borough Council (planning reference 2026/0350) for the erection of 2 No. new-build detached dwellings (Use Class C3).
- 1.2** The assessment has been carried out in accordance with the National Planning Policy Framework (NPPF, December 2024) and the Planning Practice Guidance on Flood Risk and Coastal Change (PPG).
- 1.3** Reference has been made to the EA Flood Map for Planning, the EA Risk of Flooding from Surface Water (RoFSW) mapping including the 2061–2125 climate change epoch, the EA Risk of Flooding from Groundwater and Reservoirs information, the Yorkshire Water Asset Search (Ref: CAS-437832-X3M4Q7), the Barnsley Local Plan (2019) and the Barnsley Strategic Flood Risk Assessment.
- 1.4** The purpose of this report is to provide the information necessary to satisfy planning policy on flood risk and drainage, and to demonstrate that the development is safe for its intended use over its lifetime and does not increase flood risk elsewhere.
- 1.5** The assessment is based on the following information:
- EA Flood Map for Planning (Rivers and Sea), accessed 29 May 2026 (location easting/northing 425740/402956).
 - EA Risk of Flooding from Surface Water (RoFSW) including climate change, 2061–2125 epoch — 1 in 30, 1 in 100 and 1 in 1000 annual chance extents.
 - EA Risk of Flooding from Groundwater and Reservoirs information.

- Yorkshire Water Asset Search (clean water and waste water network records), Ref: CAS-437832-X3M4Q7, dated 13 May 2026.
- HR Wallingford UKSuDS Greenfield Runoff Rate Estimation Tool v2.2.3 (Appendix D), dated 01 June 2026.
- tractus:dma architectural drawings EX-01 (existing site/location plan), PL-01 (proposed site/block plan), PL-02 (proposed floor and roof plans) and PL-03 (proposed elevations), project 26-003.
- Project Start Sheet completed by the client, and British Geological Survey 1:50,000 geological mapping.

1.6 All comments and opinions are based on the information available at the time of writing. No liability is accepted if that information is found to be inaccurate, incomplete or misleading.

1.7 This report has been prepared for the benefit of Mr Andrew Finch, Barnsley Metropolitan Borough Council (as LPA and Lead Local Flood Authority) and Yorkshire Water. Third parties should not rely upon its contents without the written approval of Arbtech Consulting Ltd.

2.0 Site Description

Site Location and Surroundings

2.1 The application site comprises land to the rear (north-east) of the existing dwelling at 5-7 Don Street, in the Spring Vale area of Penistone, Barnsley (approximate OS BNG 425758E / 402940N). The site has an area of approximately 748 m² (0.075 ha) and is currently in use as garden land and ancillary curtilage associated with 5-7 Don Street, containing outbuildings that are to be demolished. The site is bounded by residential properties and gardens to the north, east and south, by the existing dwelling 5-7 Don Street to the south-west, and is accessed from Don Street via an unadopted access road (private highway) running between Nos. 107 and 109 Sheffield Road. The wider area is predominantly residential.

2.2 The proposed development is the erection of 2 No. detached dwellings (Use Class C3), each providing three bedrooms over two storeys with a total gross internal area of approximately 133 m² per dwelling, served by a new shared access drive with two parking spaces per dwelling. The existing dwelling at 5-7 Don Street is retained.

Topography

2.3 The site is generally level, lying at approximately 204 m AOD (a benchmark of 203.7 m AOD is recorded on the adjacent Sheffield Road frontage). The wider land falls gently from the higher ground to the north-west down towards Sheffield Road, the Kirkwood Beck corridor and the valley to the south-east. No topographical survey has been undertaken to date; finished floor and external levels are to be confirmed against a level survey at the detailed design stage (Section 9).

Geology and Ground Conditions

2.4 British Geological Survey 1:50,000 mapping records the bedrock geology at the site as the Grenoside Sandstone (sandstone; sedimentary, fluvial origin; Pennine Coal Measures). No superficial deposits are recorded at the site. Sandstone bedrock of this type is potentially

capable of supporting infiltration drainage; however, Coal Measures sandstones are commonly interbedded with mudstones and siltstones and their permeability is variable. Infiltration potential is therefore considered promising but unproven, and is to be confirmed by site-specific BRE 365 / BS 8004 infiltration testing (Sections 6 and 7). No soakaway or infiltration testing has been undertaken to date.

Hydrology and Existing Drainage

- 2.5** There are no watercourses, ponds, springs or other water features within the application site. The nearest watercourse is Kirkwood Beck, located in the valley to the south-east of the site (down-gradient), with a further watercourse shown as Main River on the EA Flood Map for Planning to the north-east. No Ordinary Watercourse Consent is required for the proposed development. Yorkshire Water is the water and sewerage undertaker for the area.
- 2.6** The Yorkshire Water Asset Search (Ref: CAS-437832-X3M4Q7; Appendix C) confirms that the public sewer network in the vicinity is combined. Adopted combined sewers are present within Don Street, Sheffield Road and the surrounding highway, and a 225 mm adopted combined sewer is recorded within the access serving the site, leading to Sheffield Road. The existing dwelling at 5-7 Don Street is understood to drain both foul and surface water to the public combined sewer. The exact position and depth of all apparatus must be confirmed on site by the contractor prior to construction in accordance with the Yorkshire Water protection-of-mains requirements reproduced at Appendix C.

Historical Flooding

- 2.7** No record of historical flooding affecting the application site has been identified from review of the EA Flood Map for Planning, the EA RoFSW mapping or the Barnsley Strategic Flood Risk Assessment. The site lies within Flood Zone 1 and outside the recorded flood outlines. Surface water flood risk in the immediate vicinity is generally low, with a mapped surface water flow path on lower ground to the west and north-west of the site (Section 4).

3.0 Planning Policy and Guidance

National Planning Policy Framework (NPPF)

- 3.1** The NPPF (December 2024) requires a sequential, risk-based approach to the location of development to avoid, where possible, flood risk to people and property, and to manage any residual risk. Inappropriate development in areas at risk of flooding should be avoided by directing development away from the areas at highest risk; where development is necessary in such areas it should be made safe for its lifetime without increasing flood risk elsewhere.
- 3.2** Footnote 55 of the NPPF sets out when a site-specific FRA is required. The application site is below 1 ha and lies within Flood Zone 1; an FRA is nonetheless required and has been prepared because the site is *at risk from other sources of flooding (surface water)* and the proposed development — a change from garden land and outbuildings to residential dwellings — increases the vulnerability of the use.

Planning Practice Guidance — Flood Risk and Coastal Change

3.3 The PPG (Flood Risk and Coastal Change) provides the Flood Risk Vulnerability Classification. The proposed dwellings are classified as ‘More Vulnerable’ development. The compatibility of each vulnerability class with each flood zone is summarised in Table 2.

Flood Zone	Ess. Infra.	Water Comp.	Highly Vuln.	More Vuln.	Less Vuln.
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	✓	Exc. Test	✓	✓
Zone 3a	Exc. Test	✓	✗	Exc. Test	✓
Zone 3b	Exc. Test	✓	✗	✗	✗

Table 2: PPG Flood Risk Vulnerability and Flood Zone compatibility. The site is Flood Zone 1; More Vulnerable development is appropriate without the Sequential or Exception Tests.

3.4 Sequential Test. The application of the Sequential Test is a matter for the Local Planning Authority under NPPF paragraph 173 and the PPG (Flood Risk and Coastal Change). The information in this report is provided to support the LPA’s consideration; it does not constitute a planning judgement on the availability or suitability of alternative sites. As the application site lies wholly within Flood Zone 1 (the lowest probability of flooding), the Sequential Test is not engaged for the flood zones, and the Exception Test is not required.

Flood and Water Management Act 2010

3.5 The Flood and Water Management Act 2010 establishes Barnsley Metropolitan Borough Council as the Lead Local Flood Authority (LLFA), with responsibility for managing local flood risk from surface water, groundwater and ordinary watercourses. As a unitary authority, Barnsley MBC is both the LPA and the LLFA. The LLFA is a statutory consultee on major development; for a minor scheme of this scale it is consulted at the discretion of the LPA, and its local SuDS standards nonetheless inform the drainage strategy.

Sustainable Drainage and Local Policy

3.6 The non-statutory technical standards for sustainable drainage systems (Defra, 2015) and the SuDS Manual (CIRIA C753) require surface water runoff from new development to be managed in line with the SuDS hierarchy and, where practicable, restricted to greenfield runoff rates. The Barnsley Local Plan (adopted 2019) seeks to ensure that development does not increase flood risk on or off site, incorporates SuDS, and restricts surface water runoff to greenfield rates or, on constrained sites, achieves the lowest practicable discharge with demonstrable betterment. The drainage strategy set out at Section 7 is consistent with these requirements.

Barnsley Strategic Flood Risk Assessment (SFRA)

3.7 The Barnsley SFRA provides the strategic flood risk evidence base for the Local Plan, identifying areas of fluvial and surface water flood risk across the Borough. The SFRA informs the Sequential Test at the plan-making stage and does not replace site-specific FRAs. The application site lies within Flood Zone 1 and is not identified by the SFRA as a Critical Drainage Area.

Environment Agency Climate Change Allowances

3.8 The EA's 'Flood Risk Assessments: Climate Change Allowances' guidance provides peak rainfall intensity and peak river flow allowances by management catchment, epoch and development lifetime. For the surface water drainage design, the appropriate EA peak rainfall intensity allowance for the relevant management catchment and the 2070s epoch (development lifetime to 2125, residential/More Vulnerable use) is to be applied to the 1 in 100 (1% AEP) design event — commonly the upper-end allowance of +40% — as confirmed in the attenuation calculations at Appendix E.

4.0 Flood Risk to the Site

Fluvial and Tidal Flooding

4.1 Fluvial flood risk has been assessed using the EA Flood Map for Planning (Appendix A). The mapping confirms that the application site lies wholly within Flood Zone 1 — land assessed as having a less than 0.1% (1 in 1000) annual probability of river or sea flooding. The site also lies outside the Flood Zone 2, Flood Zone 3 and climate change extents shown on the EA Flood Map for Planning. The nearest mapped flood zones are associated with the watercourse to the north-east and the Kirkwood Beck corridor to the south-east, both of which are down-gradient of, and physically separated from, the application site (Figure 1).



Figure 1: EA Flood Map for Planning. The application site (red boundary) lies within Flood Zone 1. Source: EA Flood Map for Planning, accessed 29 May 2026.

4.2 The site is located well inland and is not subject to any tidal or coastal influence. Fluvial and tidal flood risk to the proposed development is assessed as VERY LOW. No fluvial flood mitigation is required.

Surface Water (Pluvial) Flooding

4.3 Surface water flood risk has been assessed using the EA Risk of Flooding from Surface Water (RoFSW) mapping including the 2061–2125 climate change epoch, for the 1 in 30, 1 in 100 and 1 in 1000 annual chance events (Figures 2–4; Appendix B). This reflects the

EA's current surface water dataset, updated in May 2026 to adopt the upper-end (95th percentile) 2070s peak rainfall climate change allowance and banded flood depths.

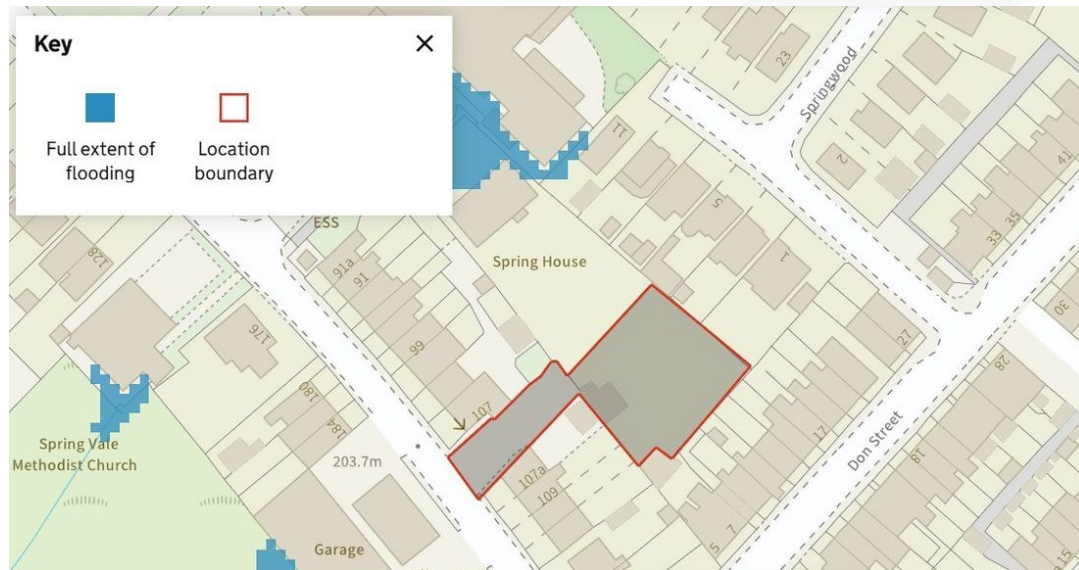


Figure 2: EA Risk of Flooding from Surface Water including climate change (2061-2125) — 1 in 30 annual chance. Both proposed dwelling footprints lie outside the mapped extent; surface water is shown on lower ground to the west / north-west.

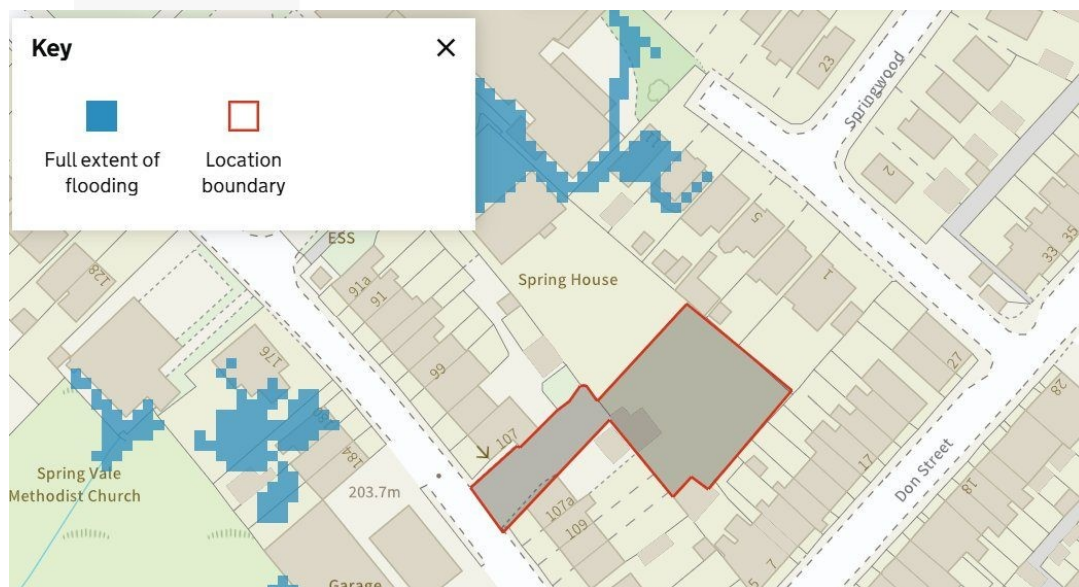


Figure 3: EA Risk of Flooding from Surface Water including climate change (2061-2125) — 1 in 100 annual chance. Both proposed dwelling footprints lie outside the mapped extent.

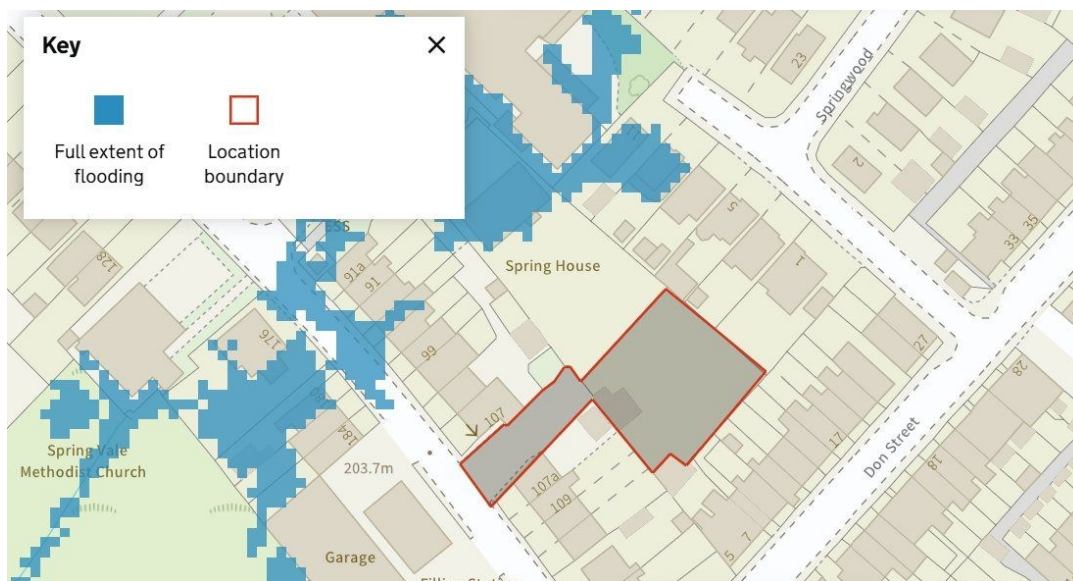


Figure 4: EA Risk of Flooding from Surface Water including climate change (2061-2125) — 1 in 1000 annual chance. The dwelling footprints remain outside the mapped extent; the western vehicular access / frontage onto the unadopted access road is at residual risk, and a surface water flow path is mapped to the west / north-west.

4.4 The RoFSW review is summarised in Table 3.

Event (incl. climate change)	Surface water flood extent on the application site
1 in 30 annual chance	Both proposed dwelling footprints and the parking areas lie outside the mapped extent. Surface water is shown on lower ground to the west / north-west.
1 in 100 annual chance	Both proposed dwelling footprints lie outside the mapped extent. The western frontage onto the unadopted access road lies close to the mapped edge.
1 in 1000 annual chance	The dwelling footprints remain outside the mapped extent. The western vehicular access / frontage falls within / adjacent to the mapped extent, and a north-west to south-east surface water flow path passes to the west of the site.

Table 3: Summary of EA RoFSW (including climate change) flood extents on the application site.

4.5 The proposed dwelling footprints sit outside the mapped surface water extent at all three return periods, including climate change. The residual surface water risk affects the western vehicular access only, in the 1 in 1000 event, where the consequence is low (vehicle access rather than habitable accommodation). Surface water flood risk to the proposed dwellings is assessed as LOW. Finished floor and external level setting (Section 9) and the proposed surface water drainage (Section 7) ensure that on-site runoff is managed and that overland flows are directed away from the dwellings.

Groundwater Flooding

4.6 The site is not identified as being within a groundwater flood risk area. The site is underlain by Grenoside Sandstone bedrock with no superficial deposits. No record of groundwater flooding has been identified. Groundwater flood risk is assessed as LOW. The dwellings will be constructed at ground level with no basement or sub-floor void, providing inherent resilience to any localised groundwater rise.

Sewer Flooding

4.7 The Yorkshire Water Asset Search (Appendix C) confirms public combined sewers in the surrounding highway and access. No record of sewer flooding affecting the site has been identified. The proposed surface water strategy restricts and attenuates on-site runoff (Section 7), reducing any contribution to surcharge of the downstream combined network. Sewer flood risk is assessed as LOW.

Reservoir Flooding

4.8 The EA Risk of Flooding from Reservoirs mapping has been reviewed. The site is not shown to be at risk from reservoir flooding. Reservoir flood risk is assessed as VERY LOW.

5.0 Flood Risk from the Development

5.1 The PPG requires the FRA to demonstrate that the development will not increase flood risk elsewhere, that runoff from the completed development is managed, and that opportunities to reduce flood risk are taken. The proposed development introduces 2 No. dwellings with associated roof and hardstanding areas on land currently in garden / ancillary use.

Existing Site Characteristics

5.2 The site (approximately 748 m²) currently comprises garden land and ancillary outbuildings (to be demolished) within the curtilage of 5-7 Don Street, draining to the public combined sewer. For the purpose of establishing target discharge rates the site is treated conservatively against the greenfield (undeveloped) condition.

Proposed Changes to Impermeable Area

5.3 The proposed impermeable areas, taken from the architectural drawings, are: proposed roof area 170.1 m² and proposed paved area (parking and shared access) 167.7 m², giving a total proposed impermeable area of approximately 337.8 m² within the 748.1 m² site. The remaining area is retained as soft landscaping / private garden.

Greenfield Runoff Rates

5.4 Notional greenfield runoff rates for the site have been calculated using the IH124 method via the HR Wallingford UKSuDS Greenfield Runoff Rate Estimation Tool v2.2.3 (Appendix D). Key parameters: site area 0.0748 ha, SAAR 891 mm, WRAP Soil Type 2, Hydrological Region 3 (OS BNG 425758E / 402940N). The resulting rates are shown in Table 4.

Storm event	Greenfield runoff rate (l/s)
QBAR (mean annual flood)	0.3

1 in 1 year	0.2
1 in 30 year	0.3
1 in 100 year	0.4
1 in 200 year	0.4

Table 4: Greenfield runoff rates (HR Wallingford UKSuDS tool v2.2.3, IH124, 01 June 2026; Appendix D).

5.5 Limiting discharge rate and flow control. The greenfield rates above are very low (QBAR 0.3 l/s; 1 in 100 year 0.4 l/s) owing to the small site area. Under Option 2 the controlled discharge to the public sewer is set to a peak of approximately 0.6 l/s at the 1 in 100 (1% AEP) plus 40% climate change event — close to greenfield and a substantial betterment on the existing unrestricted connection. A discharge of this order requires a small-aperture control, here a 20 mm orifice. The SuDS Manual (CIRIA C753) addresses the blockage risk of low-flow controls by requiring orifices to be protected rather than left as a bare plate; accordingly the control will be a protected orifice, comprising (i) upstream filtration and pre-treatment through the permeable paving and its sub-base, (ii) a removable debris screen at the flow-control chamber, and (iii) a high-level overflow / bypass connection to the sewer so that, in line with C753 Section 21.9.10, any blockage of the orifice cannot cause flooding of the development. As an equally acceptable alternative, a proprietary vortex flow control (e.g. a Hydro-Brake-type device), which delivers the same low discharge through a substantially larger flow path, may be adopted at detailed design or if preferred by the Lead Local Flood Authority. The flow-control type and discharge rate will be agreed with Barnsley MBC LLFA. The supporting storage calculation is provided at Appendix E.

Impact on Flood Risk Elsewhere

5.6 Post-development surface water will be disposed of by infiltration where viable (no off-site discharge), or otherwise discharged to the public combined sewer at a peak of approximately 0.6 l/s with attenuation for the 1 in 100 plus 40% climate change event. Either route ensures that peak runoff leaving the site is no greater than — and in practice substantially lower than — the existing rate, so the development will not increase flood risk elsewhere. The site is not within a floodplain and no floodplain compensation is required.

6.0 Sustainable Drainage Systems

6.1 Surface water runoff is to be managed sustainably to minimise on- and off-site flood risk and to deliver water-quality benefits. The SuDS hierarchy (the SuDS Manual CIRIA C753 and Building Regulations Approved Document H3) requires infiltration to be considered first; where not viable, discharge to a watercourse; and only as a last resort, discharge to a public sewer. The application of the hierarchy to this site is set out in Table 5, with the resulting strategy developed at Section 7.

Disposal route (priority)	Assessment for this site	Outcome
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1. Infiltration to ground	Grenoside Sandstone bedrock with no superficial deposits — potentially suitable but unproven. Coal Measures sandstones are variable. To be confirmed by BRE 365 / BS 8004 testing at detailed design.	Preferred, subject to testing
2. Watercourse	No watercourse on site. Kirkwood Beck lies in the valley to the south-east, down-gradient and beyond third-party land; no practicable gravity connection.	Not practicable
3. Public sewer	Adopted 225 mm combined sewer in the access (leading to Sheffield Road) and surrounding highway (Yorkshire Water). Available as a fallback, with attenuation and flow control, subject to Yorkshire Water consent.	Fallback if infiltration unviable

Table 5: Application of the SuDS / Part H surface water disposal hierarchy.

6.2 Site-specific infiltration testing (BRE 365 / BS 8004) has not yet been undertaken and is recommended at the detailed design stage. Given the sandstone bedrock and absence of superficial deposits, there is a reasonable prospect that infiltration will be viable, in which case soakaways and/or permeable paving with infiltration would form the primary surface water disposal route and no positive connection to the sewer would be required. Where testing demonstrates that infiltration is not viable, the strategy proceeds on the basis of attenuated discharge to the public combined sewer (Section 7).

Water Quality — CIRIA C753 Pollution Hazard Assessment

6.3 In accordance with CIRIA C753 Table 26.2, the pollution hazard for the proposed land uses (residential roofs and a low-traffic residential access / parking area) is low. A single treatment stage is required (C753 Table 26.3). This is readily provided within the proposed SuDS train — by filtration through permeable paving and its sub-base and/or by a proprietary treatment/pre-treatment device upstream of any soakaway or flow control — which exceeds the single stage required for these low-hazard surfaces.

Land use	TSS	Metals	Hydrocarbons
Residential roof	0.2	0.2	0.05
Residential access / parking	0.5	0.4	0.4
Permeable paving (mitigation index)	0.7	0.6	0.7

Table 6: CIRIA C753 pollution hazard indices and indicative SuDS mitigation indices.

7.0 Drainage Strategy

Surface Water

- 7.1** The surface water drainage strategy is illustrated on the Outline Drainage Strategy Drawing (Appendix G) with supporting attenuation calculations at Appendix E, both prepared by the project drainage engineer. The strategy applies the SuDS hierarchy set out at Section 6 and is taken forward as two options: Option 1 — infiltration to ground, subject to confirmatory BRE 365 / BS 8004 testing; and Option 2 — attenuated discharge to the public combined sewer where infiltration is shown to be unviable. Option 1 is the preferred route under the SuDS hierarchy and Approved Document H3.
- 7.2 Option 1 — infiltration (preferred).** Subject to favourable BRE 365 / BS 8004 infiltration testing, roof and paved-area runoff (337.8 m² total) will discharge to ground through a permeable paving system with infiltration from the base and sides. Using the conservative assumed design infiltration rate of 1×10^{-5} m/s (0.00001 m/s) appropriate to the Grenoside Sandstone bedrock, a factor of safety of 2 and the 1 in 100 (1% AEP) plus 40% climate change event (FEH22 rainfall), the permeable paving requires a sub-base storage depth of the order of 0.3 m within the proposed ~167 m² paving footprint, with a half-drain-down time of approximately 2.6 hours — well within best-practice guidance. The supporting calculation is provided at Appendix E. This rate is conservative for a sandstone (clean sandstones can exceed 0.0001 m/s) and is to be confirmed by site-specific BRE 365 testing at the detailed design stage: where testing returns a higher rate the storage depth reduces accordingly; where it returns a rate at or below approximately 1×10^{-6} m/s (0.000001 m/s) infiltration is unlikely to be viable and Option 2 will be adopted. This route provides full source control with no off-site discharge.
- 7.3 Option 2 — attenuated discharge to the combined sewer.** Where infiltration is shown to be unviable, the same permeable paving is tanked (lined) and used for attenuation storage, discharging to the adopted 225 mm combined sewer in the access (leading to Sheffield Road) through a protected 20 mm orifice (or a proprietary vortex flow control) at a peak rate of approximately 0.6 l/s, with the flow-control protection and high-level bypass described at Section 5.5. Sized for the 1 in 100 (1% AEP) plus 40% climate change event using FEH22 rainfall, the system requires approximately 27 m³ of water storage, accommodated within a sub-base depth of the order of 0.55 m (30% voids) across the ~167 m² paving footprint, with no flooding of the development in the 1 in 30 event and no off-site flooding in the 1 in 100 plus climate change event. The supporting storage calculation is provided at Appendix E. The connection to the public sewer requires Yorkshire Water consent (Section 8).
- 7.4** The impermeable areas to be drained are the roof (170.1 m²) and the parking / shared access (167.7 m²), a total of 337.8 m². Under both options the parking and access are constructed as permeable paving, which acts as the single SuDS feature — providing source control and treatment at source, and the storage volume for whichever disposal route applies (infiltration through the base under Option 1, or tanked attenuation with orifice control under Option 2). The roof drains to the permeable paving sub-base. Soft landscaping is retained to limit the impermeable footprint. Detailed sizing is set out in the

calculations at Appendix E and will be finalised on the Outline Drainage Strategy Drawing (Appendix G).

- 7.5** Exceedance flows from events that exceed the design standard, or in the event of a blockage, will be managed by site grading so that surface flows are directed along the access towards the Sheffield Road / Don Street highway drainage, away from the proposed and existing dwellings (Section 9).

Foul Water

- 7.6** Foul drainage from the 2 No. dwellings will connect to the 225 mm public combined sewer in the access (leading to Sheffield Road), operated by Yorkshire Water (Appendix C). Foul and surface water will be kept as separate systems on site, combining only at the point of connection to the combined sewer. The additional foul load from two dwellings is modest. A Yorkshire Water pre-development / new-connection enquiry (Section 106 of the Water Industry Act 1991) will be made at the detailed design stage to confirm the connection point and capacity; this is a matter that can be addressed by planning condition.

Maintenance

- 7.7** A simple SuDS maintenance regime appropriate to a two-dwelling scheme will be provided to discharge any maintenance condition. Routine maintenance will include sweeping of permeable surfaces, inspection and clean-out of any silt traps / pre-treatment devices, soakaways and flow-control chamber, on a defined cycle. Maintenance responsibility will rest with the individual dwelling owners (and, for any shared elements, jointly under the access / management arrangement).

8.0 Building Regulations Part H Assessment

- 8.1** This section assesses the proposed drainage against Approved Document H (Drainage and Waste Disposal) of the Building Regulations 2010 (as amended). The relevant parts are H1 (foul water drainage), H3 (rainwater drainage), H4 (building over sewers) and H5 (separate systems of drainage). H2 (wastewater treatment systems and cesspools) is not applicable as a public sewer connection is available, and H6 (solid waste storage) is addressed by the bin storage shown on the architectural drawings.

H1 — Foul Water Drainage

- 8.2** Foul drainage from the dwellings will discharge to the public combined sewer operated by Yorkshire Water (Section 7.6). On-site foul drainage will be designed and constructed in accordance with Approved Document H1, BS EN 752 and the Sewerage Sector Guidance / Design and Construction Guidance (Water UK). Pipe gradients, access (rodding eyes / inspection chambers) and ventilation will be confirmed at detailed design. A Yorkshire Water connection consent under Section 106 of the Water Industry Act 1991 will be obtained.

H3 — Rainwater Drainage

- 8.3** Surface water drainage follows the Approved Document H3 disposal hierarchy (adequate soakaway or other infiltration system; where not reasonably practicable, a watercourse; and only then a sewer), as assessed at Section 6 and developed at Section 7. Rainwater

gutters and downpipes will be sized to BS EN 12056-3. The permeable paving and any infiltration system will be designed for the relevant design rainfall including the EA climate change allowance, with infiltration design to BRE Digest 365. Where discharge to the combined sewer is required, the rate will be restricted to approximately 0.6 l/s by a protected 20 mm orifice (or vortex flow control) with on-site attenuation and a high-level bypass (Sections 5.5 and 7.3).

H4 – Building Over or Near Public Sewers

8.4 The Yorkshire Water Asset Search records a 225 mm adopted combined sewer within the access serving the site (leading to Sheffield Road), and combined sewers within the surrounding highway. Any construction (including foundations) within 3 m of a public sewer, and the new drainage connections to it, will require a Yorkshire Water build-over / build-near agreement and connection approval. The exact position and depth of the public apparatus must be confirmed on site by trial holes prior to construction, and the protective measures set out in the Yorkshire Water protection-of-mains requirements (Appendix C) followed. The proposed dwelling footprints are to be set out to avoid building over the public sewer where reasonably practicable.

H5 – Separate Systems of Drainage

8.5 The public network in this location is combined, so foul and surface water may be combined only at the point of connection to the public combined sewer. Within the site, foul and surface water drainage will be kept as separate systems. Where infiltration is adopted for surface water (the preferred route), only foul drainage will connect to the public sewer, which represents the most sustainable outcome and reduces flow to the combined network.

9.0 Flood Mitigation and Finished Levels

9.1 As the site lies within Flood Zone 1 with low surface water risk to the proposed dwellings, no fluvial flood mitigation, raised-defence or safe-haven provision is required. The following standard measures ensure the development is safe and does not increase flood risk on or off site.

9.2 Finished floor levels. Ground-floor finished floor levels (FFLs) will be set a minimum of 150 mm above the adjacent existing ground level and above the highest adjacent surface water level. A measured topographic / level survey has not been undertaken at this stage; existing, external and finished floor levels are to be confirmed by survey and finalised at the detailed design stage, with the 150 mm minimum freeboard secured by planning condition or at building-control stage.

9.3 External levels and threshold protection. Finished external levels will be graded to fall away from the dwellings towards the access and highway. Threshold / channel drainage (e.g. ACO-type channel drains) will be provided at external door thresholds. No ground re-profiling will be undertaken that would create ponding against the proposed or neighbouring dwellings.

9.4 Exceedance routing. Overland flow from events exceeding the design standard will be routed along the shared access towards the Sheffield Road / Don Street highway drainage,

away from the proposed dwellings, the retained dwelling at 5-7 Don Street, and neighbouring properties.

9.5 No basements. The dwellings will be constructed at ground level with no basement or habitable sub-floor accommodation.

10.0 Conclusions

10.1 The application site at land to the rear of 5-7 Don Street, Penistone, lies wholly within Flood Zone 1 and outside the Flood Zone 2, Flood Zone 3 and climate change extents of the EA Flood Map for Planning. Fluvial, groundwater, sewer and reservoir flood risks are all assessed as low or very low.

10.2 The proposed dwelling footprints lie outside the EA surface water (RoFSW) extents at the 1 in 30, 1 in 100 and 1 in 1000 annual chance events, including climate change. Residual surface water risk affects the western vehicular access in the 1 in 1000 event only, where the consequence is low. Surface water flood risk to the dwellings is LOW.

10.3 Surface water will be managed by permeable paving in accordance with the SuDS hierarchy and Approved Document H. Infiltration (Option 1) is the preferred route and is to be confirmed by BRE 365 testing, using a conservative design rate of 0.00001 m/s and a sub-base of the order of 0.3 m; where unviable, the paving is tanked and discharges to the public combined sewer (Option 2) through a 20 mm orifice at a peak of approximately 0.6 l/s, with around 27 m³ of storage for the 1 in 100 plus 40% climate change event. Foul drainage connects to the Yorkshire Water combined sewer. The development will not increase flood risk elsewhere.

10.4 Subject to the finished-level setting (Section 9), infiltration testing and the Yorkshire Water build-over / connection agreements (Sections 7 and 8) — all of which can be secured by condition — the proposed development is safe over its lifetime including climate change and accords with the NPPF (December 2024) and the PPG (Flood Risk and Coastal Change).

11.0 References

- The Building Regulations 2010 (as amended), Approved Document H — Drainage and Waste Disposal.
- National Planning Policy Framework, December 2024.
- Planning Practice Guidance — Flood Risk and Coastal Change.
- Environment Agency — Flood Risk Assessments: Climate Change Allowances.
- Environment Agency — Flood Map for Planning; Risk of Flooding from Surface Water (including climate change, 2061–2125); Groundwater and Reservoir flood risk information.
- The SuDS Manual — CIRIA C753 (2015).
- BRE Digest 365:2016 — Soakaway Design; BS 8004 — Code of practice for foundations.
- BS EN 752 (Drain and sewer systems outside buildings) and BS EN 12056-3 (rainwater drainage).
- Non-Statutory Technical Standards for Sustainable Drainage Systems (Defra, 2015).

- Environment Agency — Flood risk assessments: applying for planning permission (developer and consultant guidance).
- Flood and Water Management Act 2010; Water Industry Act 1991; Land Drainage Act 1991.
- Barnsley Local Plan (adopted 2019) and Barnsley Strategic Flood Risk Assessment.
- Yorkshire Water Asset Search, Ref: CAS-437832-X3M4Q7, dated 13 May 2026.
- HR Wallingford UKSuDS Greenfield Runoff Rate Estimation Tool v2.2.3, 01 June 2026.
- British Geological Survey — Geology of Britain Viewer (1:50,000 mapping).
- tractus:dma architectural drawings, project 26-003 (EX-01, PL-01, PL-02, PL-03).



Appendix A

EA Flood Map for Planning

Environment Agency Flood Map for Planning. Site location 425740/402956, accessed 29 May 2026.

Flood map for planning

Your reference
Unspecified

Location (easting/northing)
425740/402956

Created
29 May 2026 15:56

Your selected location is in flood zone 1, an area with a low probability of flooding.

You will need to do a flood risk assessment if your site is **any of the following**:

- bigger than 1 hectare (ha)
- in an area with critical drainage problems as notified by the Environment Agency
- identified as being at increased flood risk in future by the local authority's strategic flood risk assessment
- at risk from other sources of flooding (such as surface water or reservoirs) and its development would increase the vulnerability of its use (such as constructing an office on an undeveloped site or converting a shop to a dwelling)

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence which sets out the terms and conditions for using government data. <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3>

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2026 AC0000807064. <https://flood-map-for-planning.service.gov.uk/os-terms>



Flood map for planning

Your reference

Unspecified

Location (easting/northing)
425740/402956

Scale
1:2,500

Created
29 May 2026 15:57

-  Selected area
-  Flood zone 3
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Water storage area


0 20 40 60m

Appendix B

EA Risk of Flooding from Surface Water

RoFSW including climate change (2061-2125 epoch). 1 in 30, 1 in 100 and 1 in 1000 annual chance extents.

Key



Full extent of
flooding



Location
boundary





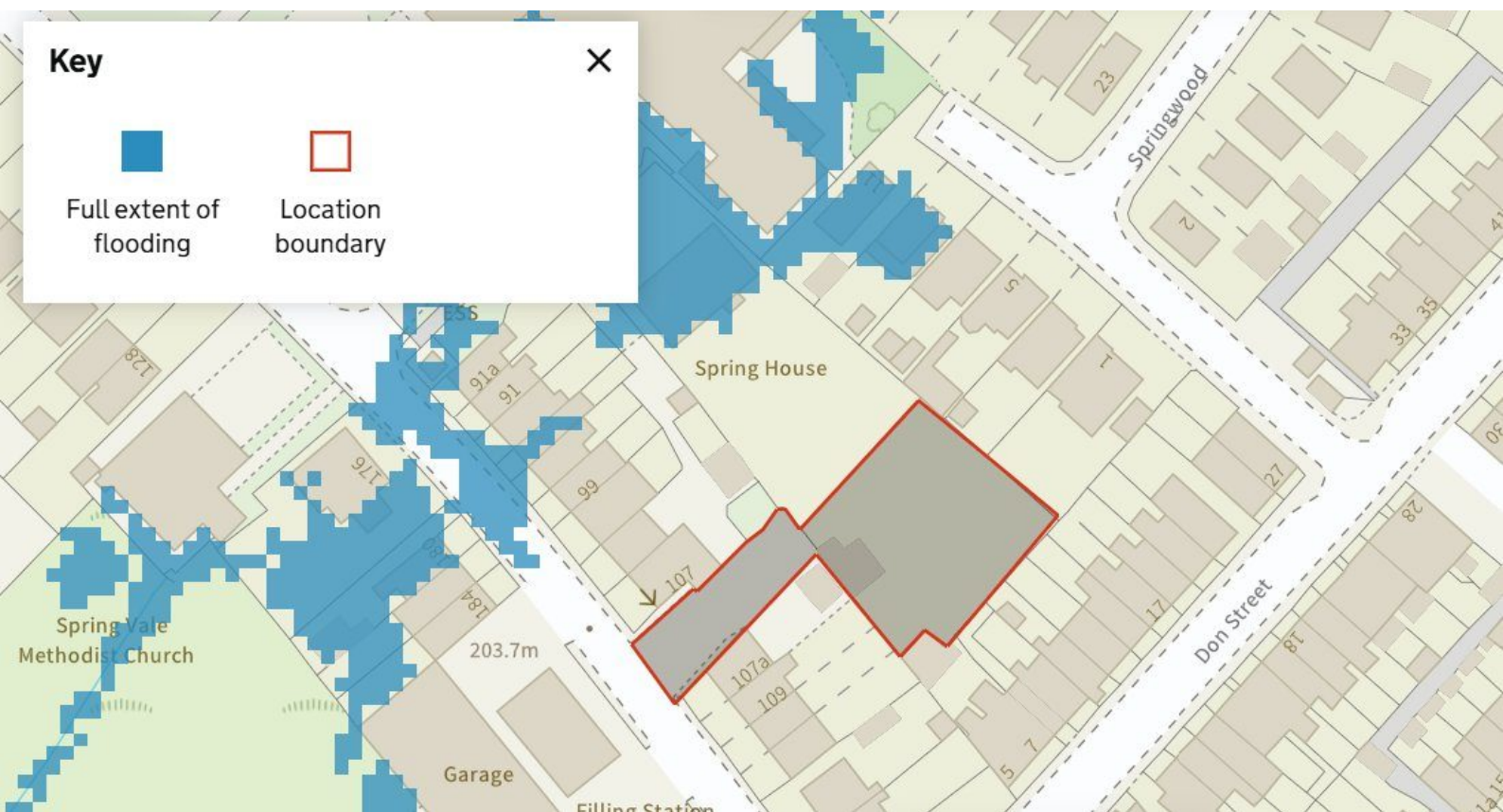
Key



Full extent of
flooding



Location
boundary





Appendix C

Yorkshire Water Asset Search

Ref: CAS-437832-X3M4Q7, dated 13 May 2026. Combined sewer records and protection-of-mains requirements.

YORKSHIRE WATER PROTECTION OF MAINS AND SERVICES

1. The position of Yorkshire Water Services Ltd (YWS) apparatus shown on the existing mains record drawing(s) indicates the **general** position and nature of our apparatus and the accuracy of this information cannot be guaranteed. Any damage to YWS apparatus as a result of your works may have serious consequences and you will be held responsible for all costs incurred. Prior to commencing major works, the exact location of apparatus must be determined on site, if necessary by excavating trial holes. The actual position of such apparatus and that of service pipes which have not been indicated must be established on site by contacting the Customer Helpline on 0345 124 24 24 for both water and sewerage.
2. The public sewer and water network is lawfully retained in its existing position and the sewerage and water undertaker is entitled to have it remain so without any disturbance. The provisions of section 159 of the Water Industry Act 1991 provides that the undertaker may "inspect, maintain, adjust, repair or alter" the network. Those rights are given to enable the undertaker to perform its statutory duties. Any development of the land or any other action that unacceptably hindered the exercise of those rights would be unlawful. The provisions contained in Section 185 of the Water Industry Act 1991 state that where it is reasonable to do so, a person may require the water supply undertaker to alter or remove a pipe where it is necessary to enable that person to carry out a proposed change of use of the land. The provisions contained in Section 185 also require the person making the request to pay the full cost of carrying out the necessary works.
3. Ground levels over existing YWS apparatus are to be maintained. Sewers in highways will **generally** be laid to give 1200mm of cover from finished ground level working to kerb races, other permanent identification of the limits of the road or to an agreed line and level. Substantial increases or decreases to this 1200mm depth of cover will result in the sewer being re-laid at your expense. Water mains and services will **generally** be laid with a minimum of 750mm depth of cover however some mains and services usually those installed over 50 years ago may have less ground cover.
4. If surface levels are to be decreased / increased significantly the effects on existing water supply apparatus will be carefully considered and if any alterations are necessary, the costs of the alterations will be recharged to you in full. Outlets on fire hydrants must be no more than 300mm below the new levels and all surface boxes must be adjusted as part of the scheme.
5. To enable future repair works to be carried out without hindrance; any pipe, cable, duct, etc. installed parallel to a water main or service pipe should not be installed directly over or within 300mm of a water main or service pipe or 1000mm of a waste water asset. Where a pipe, cable, duct, etc. crosses a main or service it should preferably cross perpendicular or at an angle of no less than 45° and with a minimum clearance of 150mm. These requirements apply to activities within an existing highway and are relevant to the installation of pipes, cables, ducts, etc. up to and including 250mm in diameter (*see illustration below*). Necessary protection measures for installations greater than 250mm in diameter and/or in private land will need to be agreed on an individual basis. Installations within a new development site must comply with the National Joint Utilities Group publication Volume 2: NJUG Guidelines On The Positioning Of Underground Utilities Apparatus For New Development Sites.
6. All excavation works near to YW apparatus should be by hand digging only.
7. Backfilling with a suitable material to a minimum 300mm above YW apparatus is required.
8. Adequate support must be provided where any works pass under YW apparatus.
9. Jointing chambers, lighting columns and other structures must be installed in such a way that future repair or maintenance works to YW apparatus will not be hindered.
10. Apparatus such as; railings, sign posts, etc. must not be placed in such a way that they prevent access to or full operation of controlling valves, hydrants or similar apparatus. YWS surface boxes must not be covered or buried. Any adjustment, alteration or replacement of manhole covers must be agreed on site prior to the commencement of the works with a YWS Inspector who may be contacted via our Call Centre on 0345 124 24 24.
11. Explosives shall not be used within 100 metres of any Yorkshire Water Services apparatus or installations.
12. Vibrating plant should not be used directly over any apparatus. Movement or operation by vehicles or heavy plant is not to be permitted in the immediate vicinity of YWS plant or apparatus unless there has been prior consultation and, if necessary, adequate protection provided without cost to YWS.
13. **Under no circumstances** should thrust boring or similar trenchless techniques commence until the actual position of the Company's mains/services along the proposed route have been confirmed by trial holes.
14. Any alterations to the highway should be notified following the procedures outlined in the New Road and Street Works Act 1991 Code of Practice; Measures Necessary Where Apparatus Is Affected By Major Works (Diversionsary Works).
15. You will be held responsible for any damage or loss to YWS apparatus during and after completion of work, caused by yourselves, your servant or agent. Any damage caused or observed to YWS plant or apparatus should be immediately reported to YWS. Should YW incur any costs as a result of non-compliance with the above, all costs will be rechargeable in full.
16. You should ensure that nothing is done on the site to prejudice the safety or operation of YWS employees, plant or apparatus.
17. In accordance with the New Roads and Street Works Act 1991, Chapter 22, Part 3, Section 80. The location of any identified YW asset "which is not marked, or is wrongly marked, on the records made available" should be communicated back to Yorkshire Water. The location of the apparatus should be identified on copies of the supplied plans which should be returned to Yorkshire Water (Asset Records Team) with photographic supporting evidence where possible.
18. The Government has decided that responsibility for private sewers serving two or more properties and lateral drains (the section of pipe beyond the boundary of a single property, connecting it to the public sewer) will be transferred to the water companies on Oct 1 2011.

Private pumping stations will also transfer during the period 1 October 2011 – 1 Oct 2016. Records of these assets may not yet be shown on the existing mains record drawing(s). If you encounter any of these assets you must inform Yorkshire Water Services Ltd (YWS).

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20. This information is for guidance only and the position and depth of any YW apparatus is approximate only. Likewise, the nature and condition of any YW apparatus cannot be guaranteed. YW has no responsibility for recording the locations of privately owned apparatus. As of 1 October 2011, there may be some lateral drains and/or public sewers which are not documented on YW records but may still be present. For the avoidance of doubt, this information is not a substitute for appropriate professional and/or legal advice. YW accepts no responsibility for any inaccuracy or omissions in this information. The actual position of YW apparatus must be determined on site by excavating trial holes by hand. YW requires a minimum of two working days' written notice of the intention to excavate any trial holes before any excavation can be undertaken. If there are any queries in this respect please contact Yorkshire Water on 0345 124 24 24.

Property Identifier



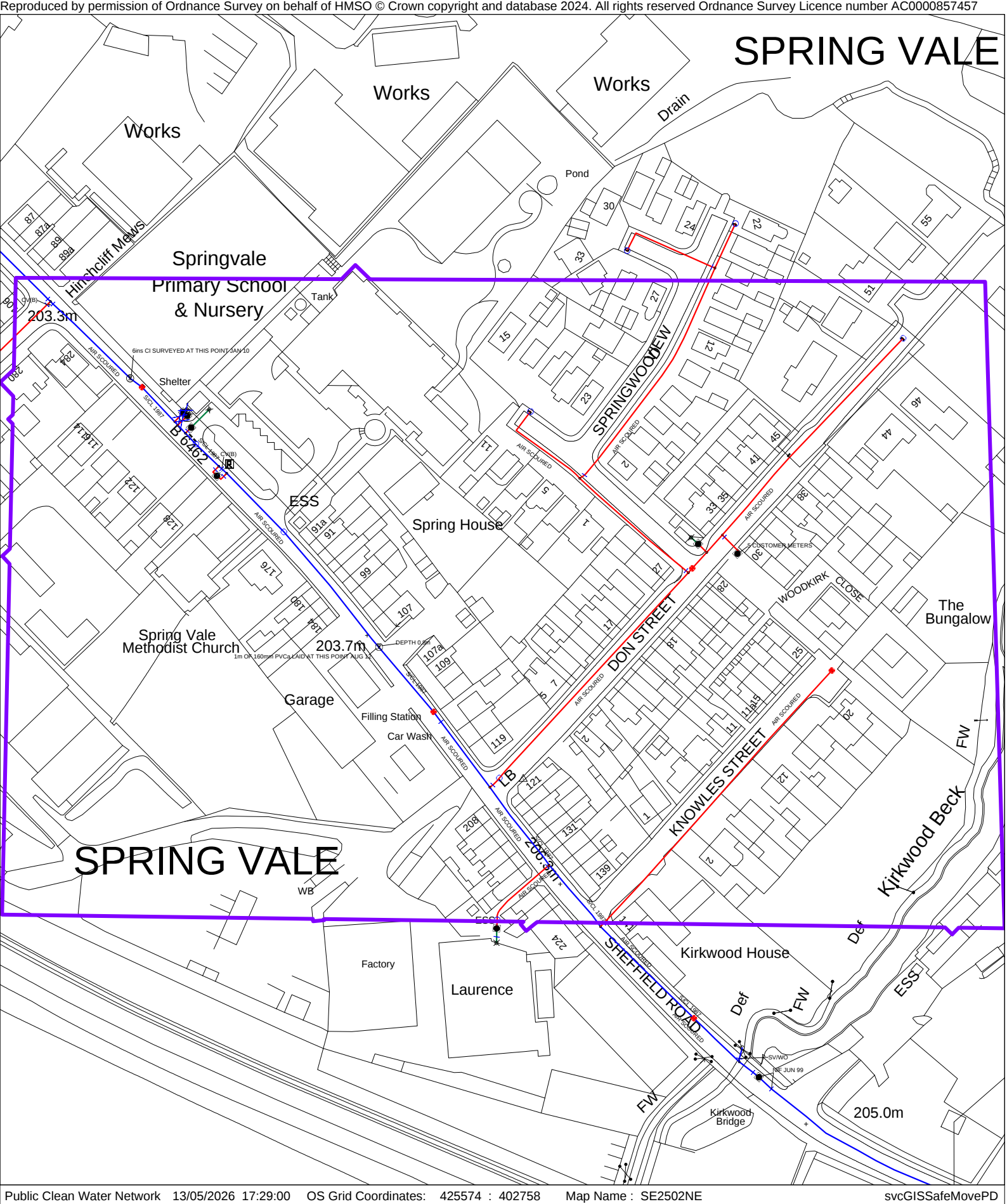
Sewer Legend

	Combined Sewer		S24 Combined Sewer
	Surface Water Sewer		S24 Surface Water Sewer
	Foul Sewer		S24 Foul Sewer
	Section 104 Sewer		Rising Main
	Overflow Sewer		Abandoned Sewer
	Manhole		Syphone Sewer & Vacuum Sewer
	Pumping Station		Public Sewer Treatment Works

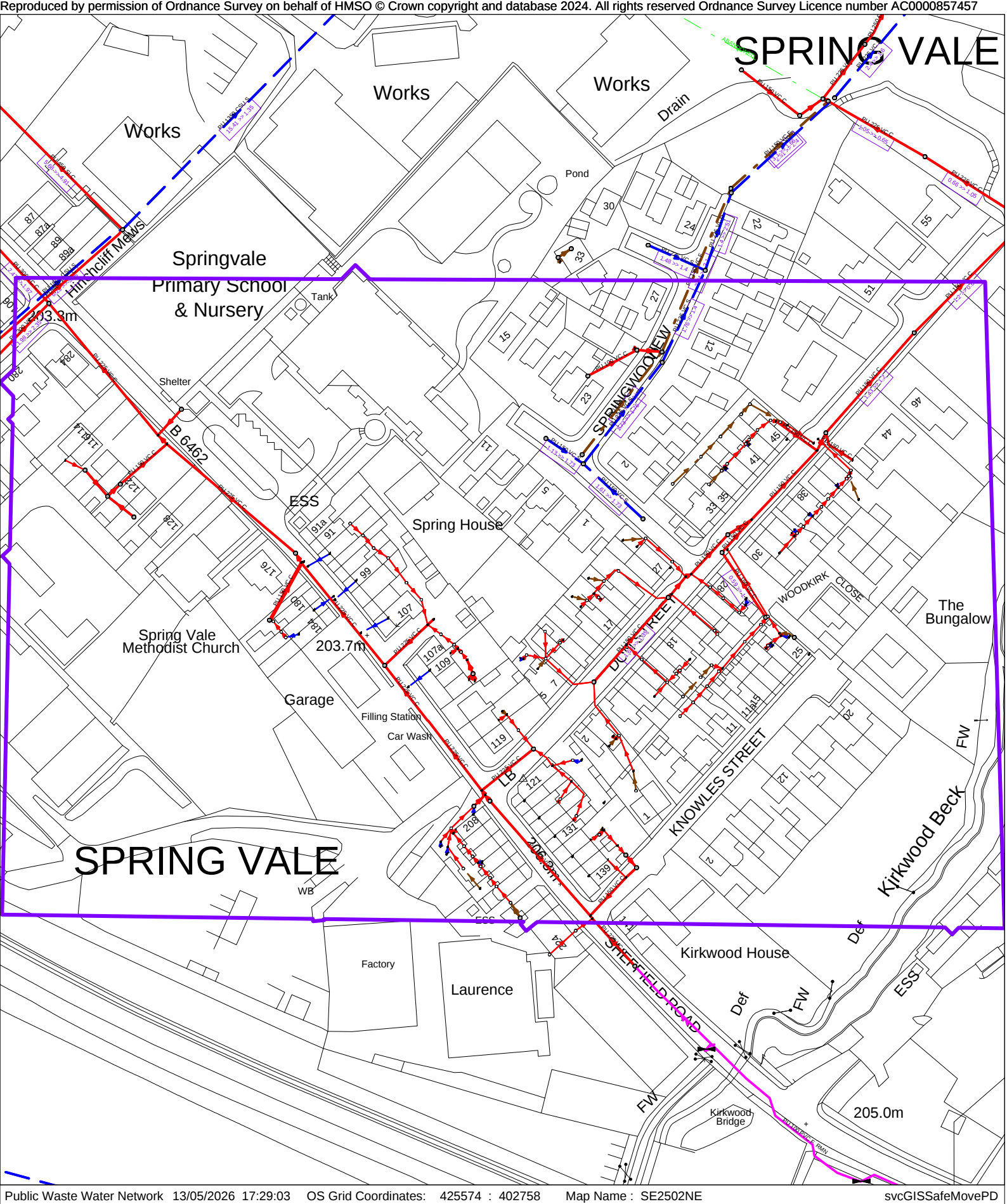
Please note that the direction of flow arrows may not always appear depending on the scale of the map.

Water Legend

	Water Main 4" and below
	Water Main 4" and above
	Raw Water Main
	Private Water Main
	Fire Hydrant
	Pumping Station
	The assets in this area are the responsibility of another Water Undertaker



Public Clean Water Network 13/05/2026 17:29:00 OS Grid Coordinates: 425574 : 402758 Map Name : SE2502NE svcGISSafeMovePD



Public Waste Water Network 13/05/2026 17:29:03 OS Grid Coordinates: 425574 : 402758 Map Name : SE2502NE svcGISSafeMovePD

Appendix D

Greenfield Runoff Rate Calculations

HR Wallingford UKSuDS Greenfield Runoff Rate Estimation Tool v2.2.3,
01 June 2026.

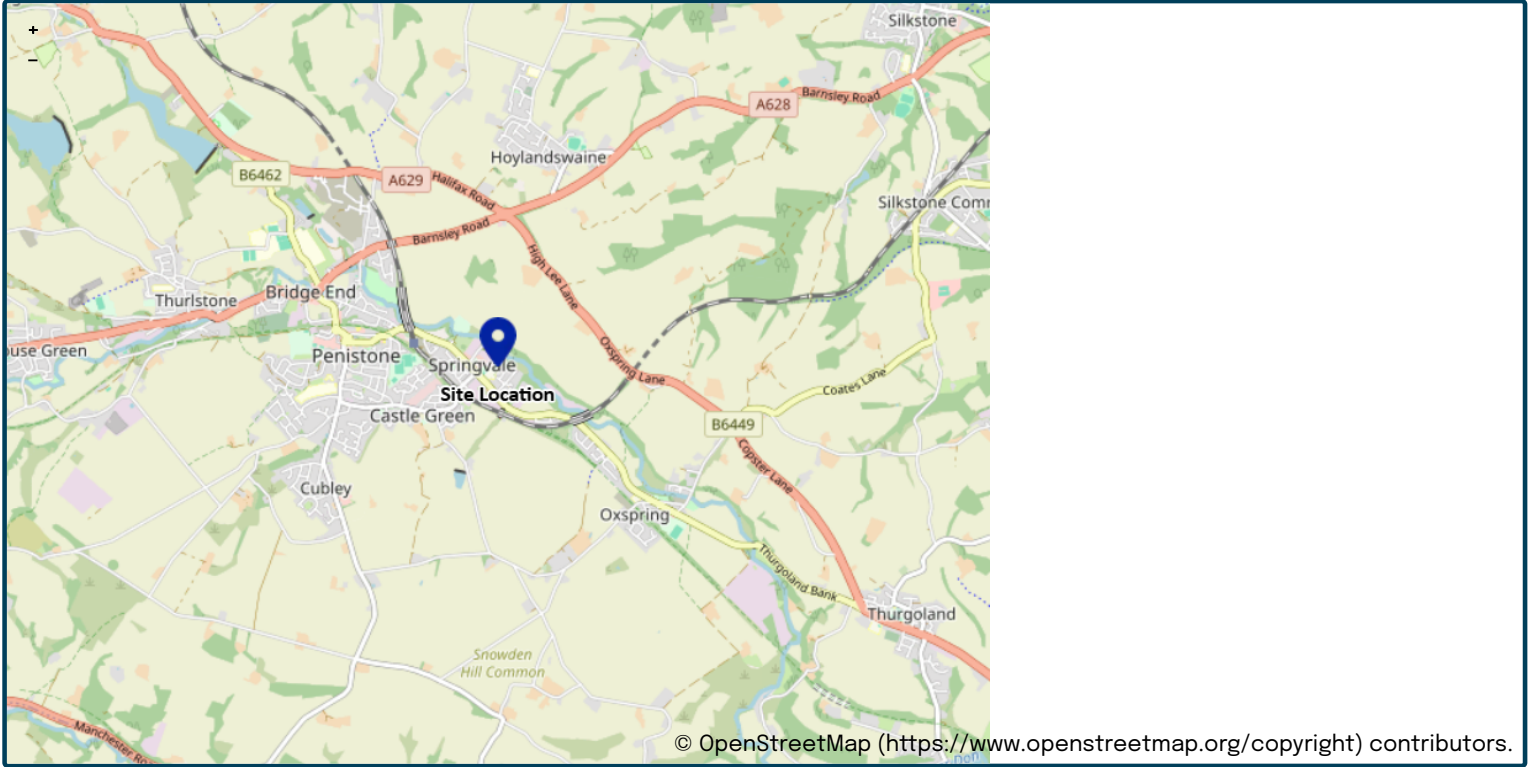
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Project details

Date	01/06/2026
Calculated by	
Reference	
Model version	2.2.3

Location

Site name	
Site location	



Site easting (British National Grid)	425758
Site northing (British National Grid)	402940

Site details

Total site area (ha)	0.07481	ha
----------------------	--------------------------------------	----

Greenfield runoff

Method

Method	IH124		
IH124			
	<u>My value</u>	<u>Map value</u>	
SAAR (mm)	891 mm	☐	891
How should SPR be derived?	WRAP soil type		
WRAP soil type	2	☐	2
SPR	0.3		
QBar (IH124) (l/s)	0.2 l/s		

Growth curve factors

	<u>My value</u>	<u>Map value</u>	
Hydrological region	3	☐	3
1 year growth factor	0.86		
2 year growth factor	0.94		
10 year growth factor	1.45		
30 year growth factor	1.75		
100 year growth factor	2.08		
200 year growth factor	2.37		

Results

Method	IH124	
Flow rate 1 year (l/s)	0.2 l/s	
Flow rate 2 year (l/s)	0.2 l/s	
Flow rate 10 years (l/s)	0.3 l/s	
Flow rate 30 years (l/s)	0.3 l/s	
Flow rate 100 years (l/s)	0.4 l/s	
Flow rate 200 years (l/s)	0.4 l/s	

Please note runoff estimation is subject to significant uncertainty. Results are therefore normally reported to only 1 decimal place. Where 2 decimal places are provided, this does not indicate accuracy to this level, it has been adopted to prevent ‘zero’ figures from being reported. Outputs less than 0.01 l/s are reported as 0.01 l/s.

Disclaimer

This report was produced using the Greenfield runoff rate estimation tool (2.2.3) developed by HR Wallingford and available at [uksuds.com](https://www.uksuds.com/) (<https://www.uksuds.com/>). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at [uksuds.com/terms-conditions](https://www.uksuds.com/terms-conditions) (<https://www.uksuds.com/terms-conditions>). The outputs from this tool have been used to estimate Greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

Appendix E

Surface Water Drainage Calculations

HR Wallingford UKSuDS Infiltration Volume and Surface Water Storage
Volume Design Tools v2.2.3, 01 June 2026.



Infiltration volume design tool

www.uksuds.com | Infiltration volume design tool (<https://www.uksuds.com/>)

This is an estimation of the infiltration volumes and drain-down time to half empty the infiltration system in line with the on CIRIA infiltration drainage R156 guidance (1996) and CIRIA SuDS manual (C753, 2015). This information may be used as the basis for designing an infiltration system for the drainage of surface water runoff from sites.

Project details

Date	01/06/2026
Calculated by	Antony Riozzi
Reference	5-7 Don Street S36 6HA
Model version	2.2.3

Site details

Site name	S36 6HA
Site location	

Infiltration system

Infiltration system	Soakaway
Type	Rectangular soakaway with infiltration from sides and base

Geometry, porosity and infiltration

Width (m)	6.8	m
Length (m)	24.6	m
Infiltration coefficient (m/s)	0.00001	m/s
Porosity of fill material	30% - e.g. High-porosity sand/gravel	

Area to be drained

Total area (m ²)	337.8	m ²
Factor of safety	2	

Rainfall

Rainfall input type	FEH22 CSV file	
	FEH_Point_Rainfall_FEH22_AM_425736_402954.csv	
Return period (years)	100	
Climate change allowance factor	140%	

Results

Soakaway minimum height (m)	0.3	m
Time for half-emptying (hours)	2.6	hours
Critical duration (hours)	2.0	hours

Please note storage volume estimation are subject to uncertainty. Infiltration system height and base area are reported to the nearest 1m or 1m² value when the height or base area are greater than 10m or 10m²; and reported to the nearest to 0.1m or 0.1m² value when the height or base area are less than 10m or 10m².

Disclaimer

This report was produced using the infiltration volume design tool (2.2.3) developed by HR Wallingford and available at [uksuds.com](https://www.uksuds.com) (<https://www.uksuds.com/>). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at [uksuds.com/terms-conditions](https://www.uksuds.com/terms-conditions) (<https://www.uksuds.com/terms-conditions>). The outputs from this tool have been used to estimate infiltration volumes and drain-down times. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

HR Wallingford are not responsible for any rainfall data shared that is subject to licensing terms imposed by UK Centre for Ecology & Hydrology's Flood Estimation Handbook web service (<https://fehweb.ceh.ac.uk/Home/Terms> (<https://fehweb.ceh.ac.uk/Home/Terms>)).

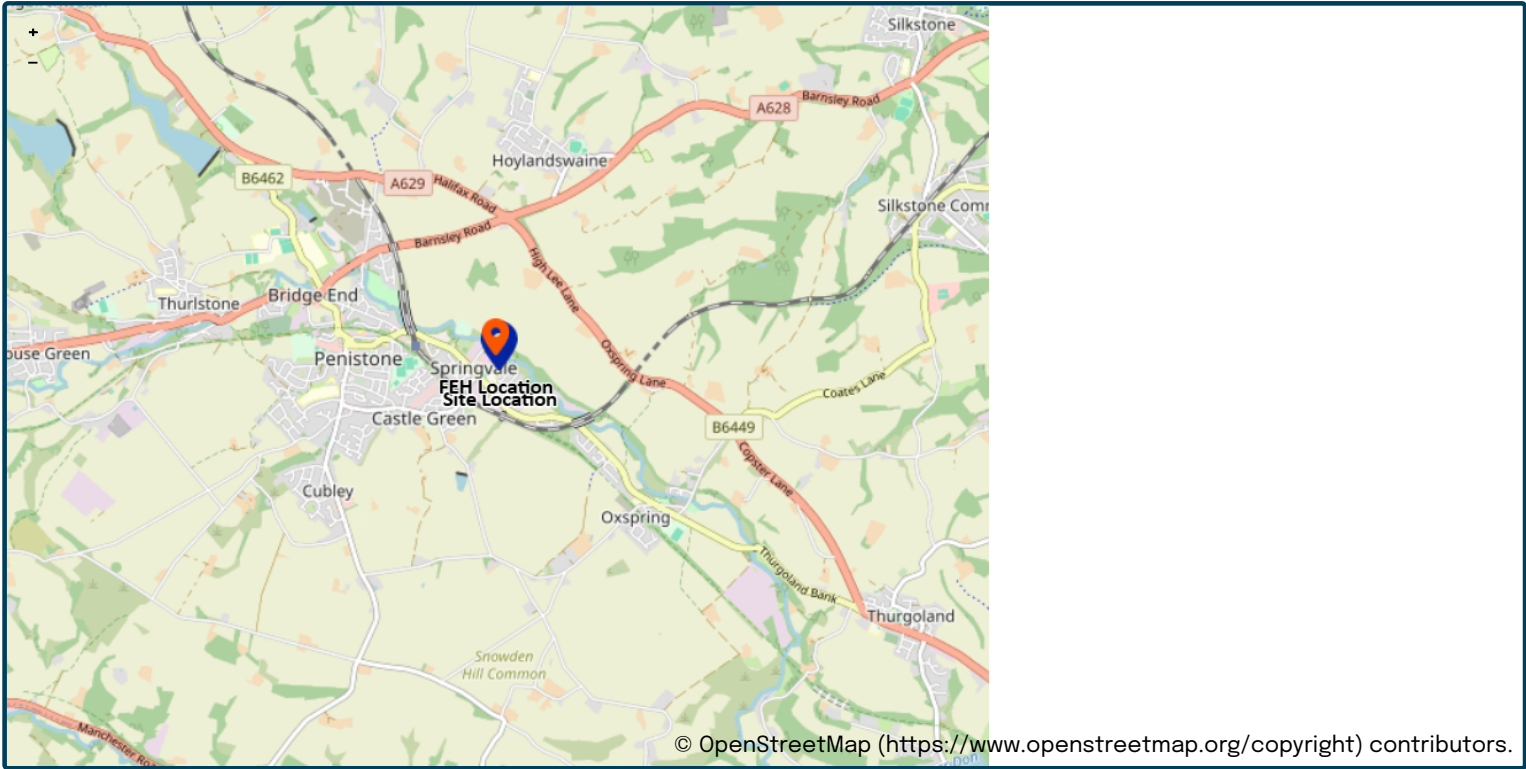
This is an estimation of the storage volume requirements that are needed to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). It is recommended that the total storage volume for the site is distributed across the site using multiple SuDS and that hydraulic modelling software is used to undertake and finalise the detailed design of the drainage system.

Project details

Date	01/06/2026
Calculated by	AR
Reference	Star WON Land to the rear of 5-7 Don Street, Spring Vale, Barnsley, S36 6HA
Model version	2.2.3

Location

Site name	
Site location	



Site easting (British National Grid)	425762
Site northing (British National Grid)	402929

Site areas

Total site area (ha)	0.07481	ha
----------------------	--------------------	----

Roof area

Total roof area (ha)	0.01701	ha
----------------------	--------------------	----

Contributing roof area (ha)	0.01701	ha
-----------------------------	--------------------	----

Non-contributing roof area (ha)	0	ha
---------------------------------	--------------	----

Paved area

Total paved area (ha)	0.01677	ha
-----------------------	--------------------	----

Contributing paved area (ha)	0.01677	ha
------------------------------	--------------------	----

Non-contributing paved area (ha)	0	ha
----------------------------------	--------------	----

Grass / vegetated area

Total grass / vegetated area (ha)		ha
-----------------------------------	-------------	----

Contributing grass / vegetated area (ha)		ha
--	-------------	----

Non-contributing grass / vegetated area (ha)	0	ha
--	--------------	----

Total area

Total contributing area (ha)	0.03378	ha
------------------------------	--------------------	----

Contributing areas with urban creep allowance

Urban creep allowance factor	+10%
------------------------------	-----------------

Contributing roof area (adjusted for urban creep) (ha)	0.01701	ha
--	--------------------	----

Contributing paved area (adjusted for urban creep) (ha)	0.01677	ha
---	--------------------	----

Contributing grass / vegetated area (adjusted for urban creep) (ha)	0	ha
---	--------------	----

Storage design parameters

Storage base shape	Rectangular / square
--------------------	---------------------------------

Storage base length to width ratio	3:1
------------------------------------	----------------

Storage design depth (m)	0.55	m
--------------------------	-----------------	---

Storage side slope (1 in x)	Vertical sided
-----------------------------	---------------------------

Storage voids ratio (%)	30% (e.g. aggregate filled structure)
-------------------------	--

Storage volume design return period (years)	1:100 years
---	------------------------

Discharge flow rate from the site

Method

Type of site	Greenfield
Specify the method	IH124

IH124

	<u>My value</u>		<u>Map/default value</u>
SAAR (mm)	891mm		891
How should SPR be derived?	WRAP soil type		
WRAP soil type	2		2
SPR	0.3		
Total area for greenfield runoff calculation (ha)	0.03378ha		0.03378
QBar (l/s)	0.1l/s		
Hydrological region	3		3
Return period (years)	Qbar (1:2.3 years)		
Growth curve factor	1		
Flow rate (IH124) (l/s)	0.1l/s		

Final discharge rate

Runoff calculation method	IH124
Design flow rate (l/s)	0.1l/s

Blockage risk

Specify the method	Orifice diameter		
Minimum orifice diameter to prevent blockage (mm)	20		mm
	<u>My value</u>		<u>Calculated value</u>
Design orifice diameter (mm)	20mm		20
Flow rate of orifice (l/s)	0.61l/s		

Rainfall and runoff

Rainfall input type	FEH22 CSV file		
	FEH_Point_Rainfall_FEH22_AM_425736_402954.csv		
Distance from FEH location to site (km)	0		km
Climate change allowance factor	140%		

Model results

- **Maximum discharge flow rate:** 0.6 (l/s)
- **Outflow orifice diameter:** 20 (mm)
- **Storage base length:** 22 (m)
- **Storage base width:** 7.4 (m)
- **Storage base area:** 165 (m²)
- **Storage total volume:** 90 (m³)
- **Storage total water volume:** 27 (m³)
- **Storm return periods run:** 1, 2, 10, 30, 100, 200 (years)
- **Storm durations run:** 15, 30, 60, 120, 180, 240, 360, 540, 720, 900, 1080, 1440, 1800, 2160, 2880, 3600, 4320, 5040, 5760 (minutes)

Return Period (years)	Critical Duration (minutes)	Peak Flow Rate (l/s)	Max Depth (m)	Max water volume (m ³)	Max storage volume (m ³)
1	720	0.3	0.16	7.8	26
2	720	0.4	0.19	9.3	31
10	720	0.5	0.31	15	50
30	900	0.5	0.40	20	67
<u>100</u>	<u>1080</u>	<u>0.6</u>	<u>0.55</u>	<u>27</u>	<u>90</u>
200	1080	0.6	0.58	32	107

Please note runoff estimation and storage volume estimation are subject to uncertainty. Storage volume results are therefore reported to the nearest 1 m³ value, unless storage volumes are less than 10 m³, in which case, storage volumes are provided to 1 decimal place.

Disclaimer

This report was produced using the surface water storage volume design tool (2.2.3) developed by HR Wallingford and available at [uksuds.com](https://www.uksuds.com) (<https://www.uksuds.com/>). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at [uksuds.com/terms-conditions](https://www.uksuds.com/terms-conditions) (<https://www.uksuds.com/terms-conditions>). The outputs from this tool have been used to estimate surface water storage volumes for the whole site based on a limiting discharge rate from the site. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

HR Wallingford are not responsible for any rainfall data shared that is subject to licensing terms imposed by UK Centre for Ecology & Hydrology's Flood Estimation Handbook web service (<https://fehweb.ceh.ac.uk/Home/Terms> (<https://fehweb.ceh.ac.uk/Home/Terms>)).



Appendix F

Proposed Architectural Drawings

tractus:dma, project 26-003. EX-01, PL-01, PL-02, PL-03.

NOTES

All efforts have been made in measuring existing site.
However the contractor / builder is responsible, for checking & confirming all given dimensions on site prior to pricing & works.

Extent of boundary ownership confirmed by applicant.

Proposal -

Outline Planning Application for -

Proposed Construction of 2No. New-Build Detached Dwellings on land to the rear of 5-7 Don Street, Penistone, S36 6HA to meet the applicants requirements and as illustrated on the outline application drawings.

Existing and Proposed Planning Use Class - C3 (Dwellinghouses)

1) GENERAL BUILDING NOTES

- All works to be in accordance with Building Regulations, current editions and amendments and to the satisfaction of the Building Control Authority.
- All works within the contract and by the contractor must be carried out in such a way that all requirements under the Health and Safety at Work Act are satisfied and maintained.
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2) APPROVED DOCUMENT A STRUCTURE

- All structural details and calculations if required to be submitted for approval to Building Control Authority by client appointed Structural Engineer.

OUTLINE PLANNING

A Red edge revised to include access up to adopted highway. 26/05/26 AM -

Rev	Description	Date	By	App'd
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tractus:dma
architectural design

Stross House, Scout Hill Mills, Broad Street
Dewsbury, West Yorkshire, WF13 3SA
t: 01924 462 550 m: 07791 717 404
e: asif@tractusad.co.uk

Client
MR. ANDREW FINCH

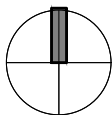
Project
5-7, DON STREET
PENISTONE, S36 6HA

Drawing title
SITE LOCATION & EXTG.
SITE/BLOCK PLAN

Drawn by AM	Date 04/26	App'd -
Drawing no EX-01	Project no 26-003	Scale @ A3 A.S.
		Rev A

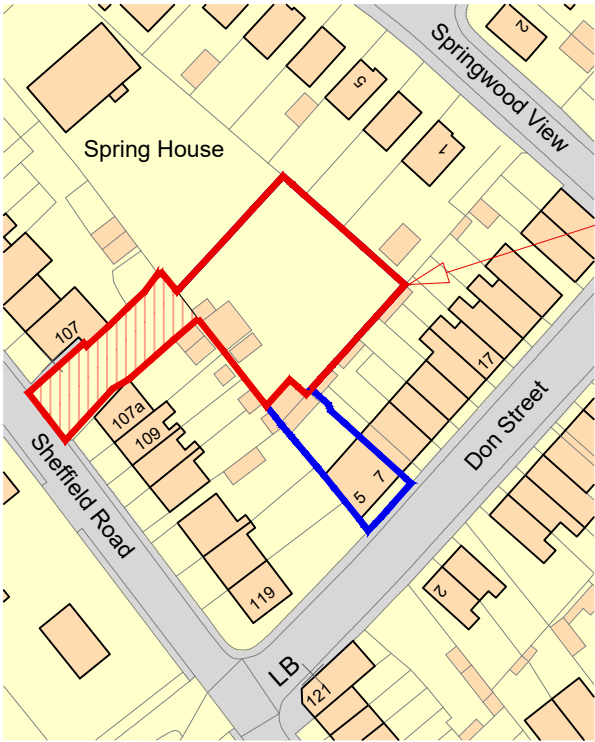
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NORTH



SITE

5-7, DON STREET
SPRING VALE
PENISTONE
SOUTH YORKSHIRE
S36 6HA



SITE LOCATION PLAN
SCALE - 1:1250

1:1250
0 10 20 30 40 50m
Scale

LEGEND:

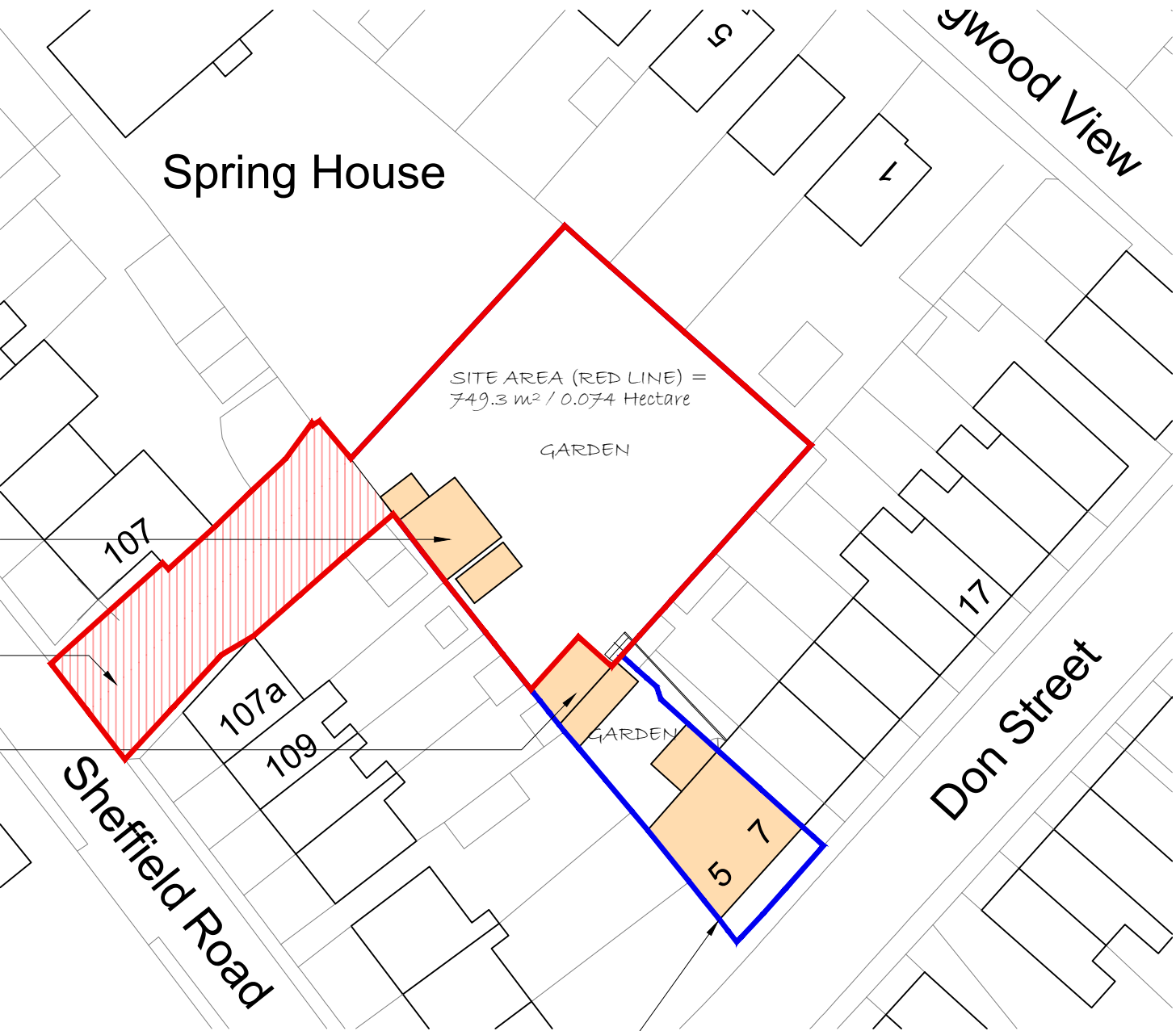
- RED LINE = OUTLINE APPLICATION SITE BOUNDARY.
- BLUE LINE = OTHER ADJACENT LAND OWNED BY THE APPLICANT.

SITE AREA (OUTLINE APPLICATION SITE BOUNDARY - RED LINE) = 749.3 m² / 0.074 Hectare

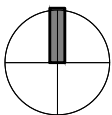
EXISTING OUT-BUILDING(S).

HATCHED AREA DENOTES UNADOPTED ACCESS ROAD (PRIVATE HIGHWAY).

EXISTING ANCILLARY DWELLING.



NORTH



EXISTING DWELLING
ADDRESSED 5-7 DON STREET.

EXISTING SITE/BLOCK PLAN
SCALE - 1:500

1:500
0m 5m 10m 20m
Scale

CDM 2015

RISKS

- RESTRICTED ACCESS TO SITE
- SITE WELFARE REQUIREMENTS
- SITE CLEARANCE
- INSTALLATION OF TEMPORARY AND RE-ROUTED SERVICES
- NEW FOUNDATIONS
- WORKING AT HEIGHT

NOTES

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OUTLINE PLANNING

A Red edge revised to include access up to adopted highway. 26/05/26 AM

Rev	Description	Date	By	App'd
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tractus:dma
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Stross House, Scout Hill Mills, Broad Street
Dewsbury, West Yorkshire, WF13 3SA
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e: asif@tractusad.co.uk

Client
MR. ANDREW FINCH

Project
5-7, DON STREET
PENISTONE, S36 6HA

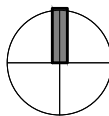
Drawing title
PROPOSED SITE/ BLOCK
PLAN

Drawn by AM	Date 04/26	App'd -
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Drawing no PL-01	Project no 26-003	Scale @ A3 A.S.	Rev A
---------------------	----------------------	--------------------	----------

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NORTH



SITE AREA
(RED LINE) =
749.3 m²
0.074 Hectare

FORM NEW SHARED DRIVE WITH
ON SITE PARKING (2NO. FOR
EACH DWELLING) INCLUDING
PLANTER(S) AS SHOWN.

DASHED LINES
DENOTE EXISTING
OUT-BUILDING(S) TO
BE DEMOLISHED.

EXISTING
ANCILLARY
DWELLING
RETAINED.

HATCHED AREA DENOTES
UNADOPTED ACCESS ROAD
(PRIVATE HIGHWAY) TO BE USED
TO ACCESS THE EXISTING &
PROPOSED DWELLINGS.

Spring House

SITE AREA
(RED LINE) =
749.3 m²
0.074 Hectare

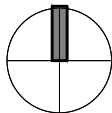
PROPOSED SITE/BLOCK PLAN
SCALE - 1:500

1:500 0m 5m 10m 20m
Scale

PROPOSED SITE/BLOCK PLAN
SCALE - 1:200

1:200 0 5m 10m
Scale

NORTH

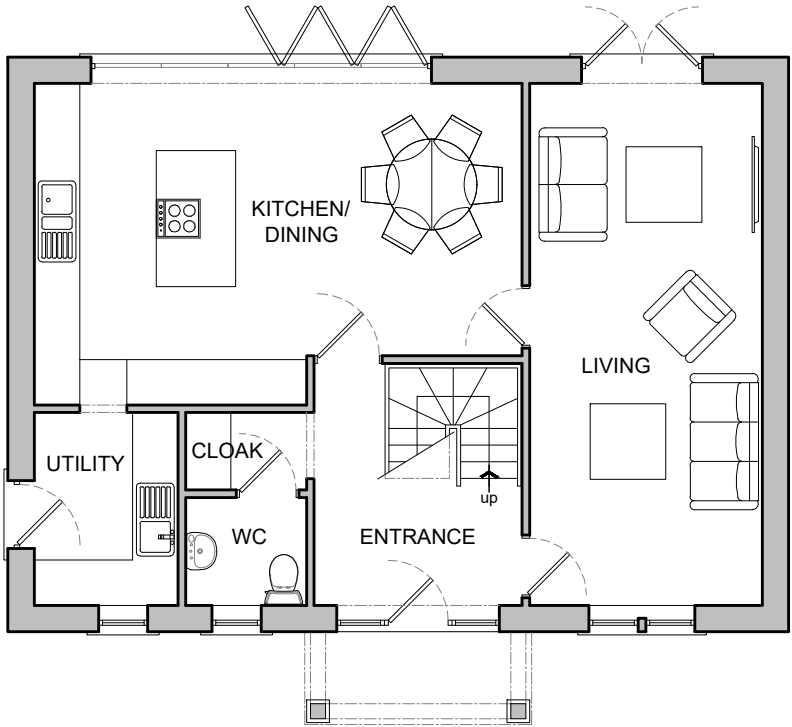


CDM 2015

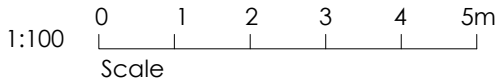
RISKS

- RESTRICTED ACCESS TO SITE
- SITE WELFARE REQUIREMENTS
- SITE CLEARANCE
- INSTALLATION OF TEMPORARY AND RE-ROUTED SERVICES
- NEW FOUNDATIONS
- WORKING AT HEIGHT

PLOT 1 AND 2
TYPICAL FLOOR & ROOF PLAN

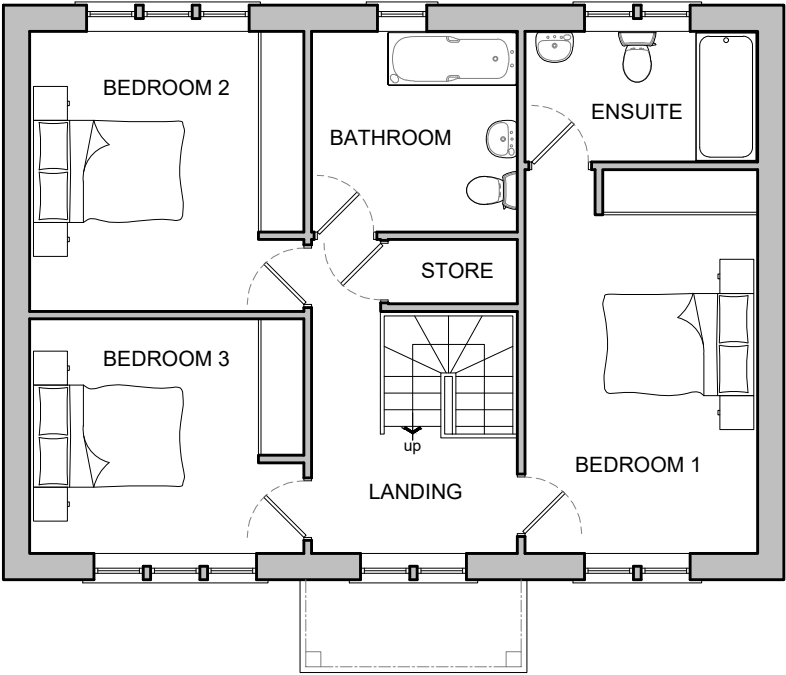


PROPOSED GROUND FLOOR PLAN
SCALE - 1:100



GROUND FLOOR GIA = 66.4 m²
FIRST FLOOR GIA = 66.4 m²

TOTAL GIA = 132.8 m²



PROPOSED FIRST FLOOR PLAN
SCALE - 1:100



PROPOSED ROOF PLAN
SCALE - 1:100

Do not scale from this drawing. **tractus:dma** must be notified immediately should any discrepancies be found. The contractor must check all dimensions on site before construction or manufacture of materials. This drawing or any portion of it may not be reproduced without the consent of **tractus:dma**

NOTES

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OUTLINE PLANNING

Rev	Description	Date	By	App'd
-----	-------------	------	----	-------

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Client
MR. ANDREW FINCH

Project
5-7, DON STREET
PENISTONE, S36 6HA

Drawing title
PROPOSED FLOOR PLANS
AND ROOF PLAN

Drawn by AM	Date 04/26	App'd -
Drawing no PL-02	Project no 26-003	Scale @ A3 1:100
		Rev -

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CDM 2015

RISKS

- RESTRICTED ACCESS TO SITE
- SITE WELFARE REQUIREMENTS
- SITE CLEARANCE
- INSTALLATION OF TEMPORARY AND RE-ROUTED SERVICES
- NEW FOUNDATIONS
- WORKING AT HEIGHT

PLOT 1 AND 2
TYPICAL ELEVATIONS

Do not scale from this drawing. **tractus:dma** must be notified immediately should any discrepancies be found. The contractor must check all dimensions on site before construction or manufacture of materials. This drawing or any portion of it may not be reproduced without the consent of **tractus:dma**.

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a) All structural details and calculations if required to be submitted for approval to Building Control Authority by client appointed Structural Engineer.

OUTLINE PLANNING

Rev	Description	Date	By	App'd
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tractus:dma
architectural design

Stross House, Scout Hill Mills, Broad Street
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t: 01924 462 550 m: 07791 717 404
e: asif@tractusad.co.uk

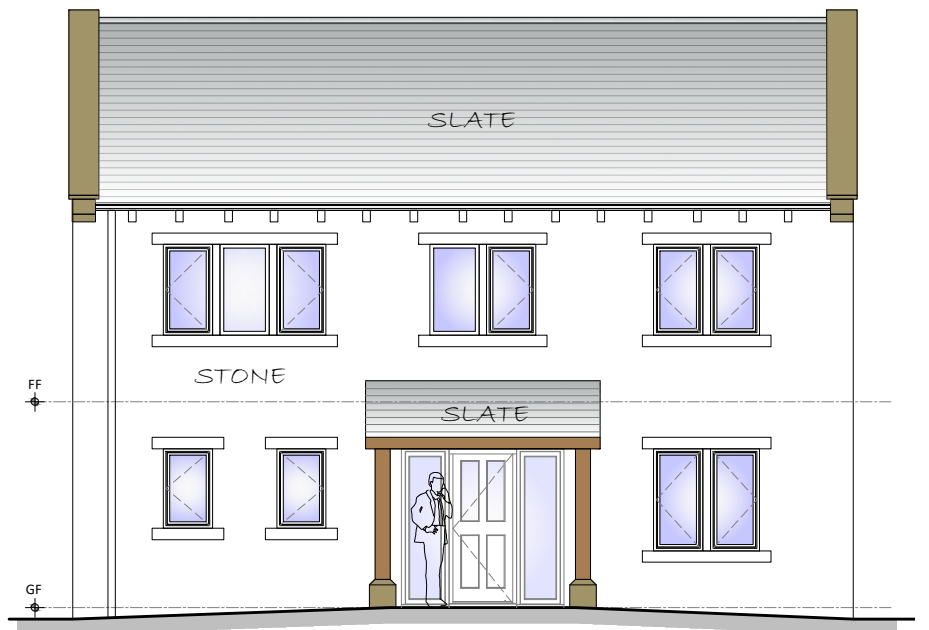
Client
MR. ANDREW FINCH

Project
5-7, DON STREET
PENISTONE, S36 6HA

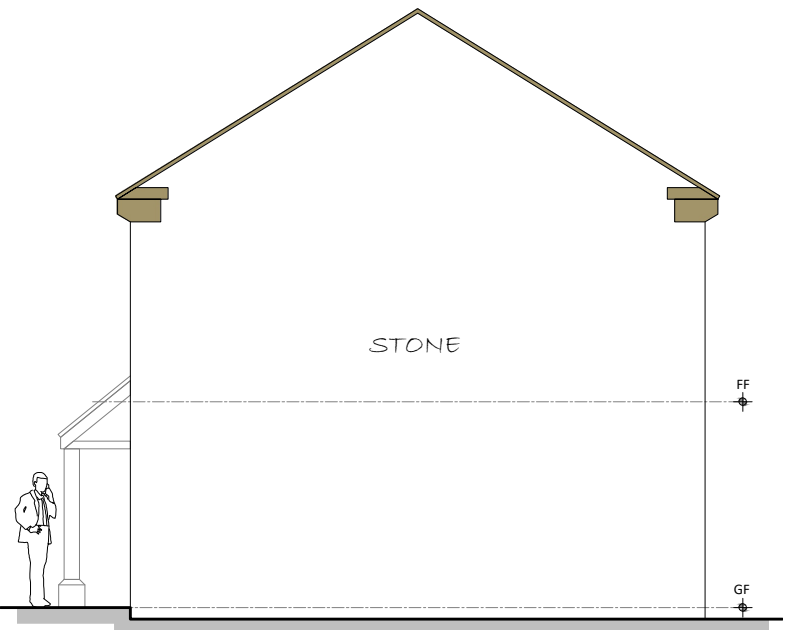
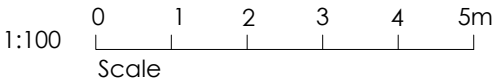
Drawing title
PROPOSED ELEVATIONS

Drawn by AM	Date 04/26	App'd -
Drawing no PL-03	Project no 26-003	Scale @ A3 1:100
		Rev -

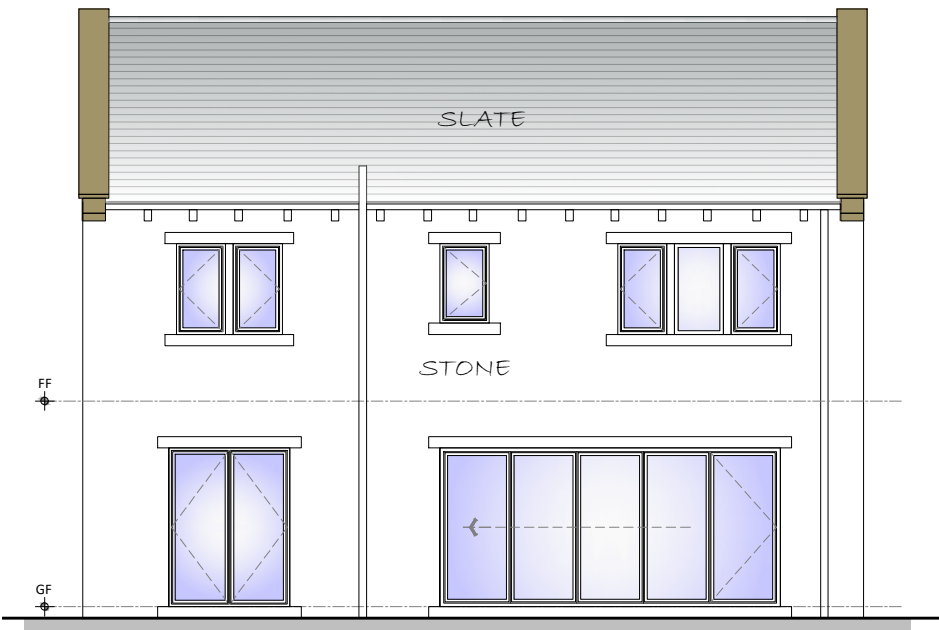
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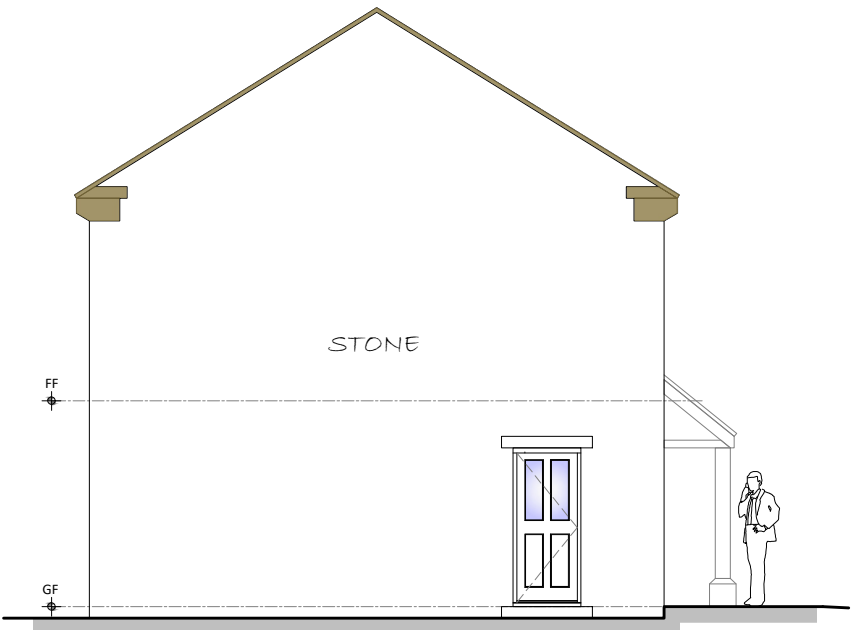
PROPOSED FRONT ELEVATION
SCALE - 1:100



PROPOSED SIDE ELEVATION
SCALE - 1:100



PROPOSED REAR ELEVATION
SCALE - 1:100



PROPOSED SIDE ELEVATION
SCALE - 1:100

CDM 2015

RISKS

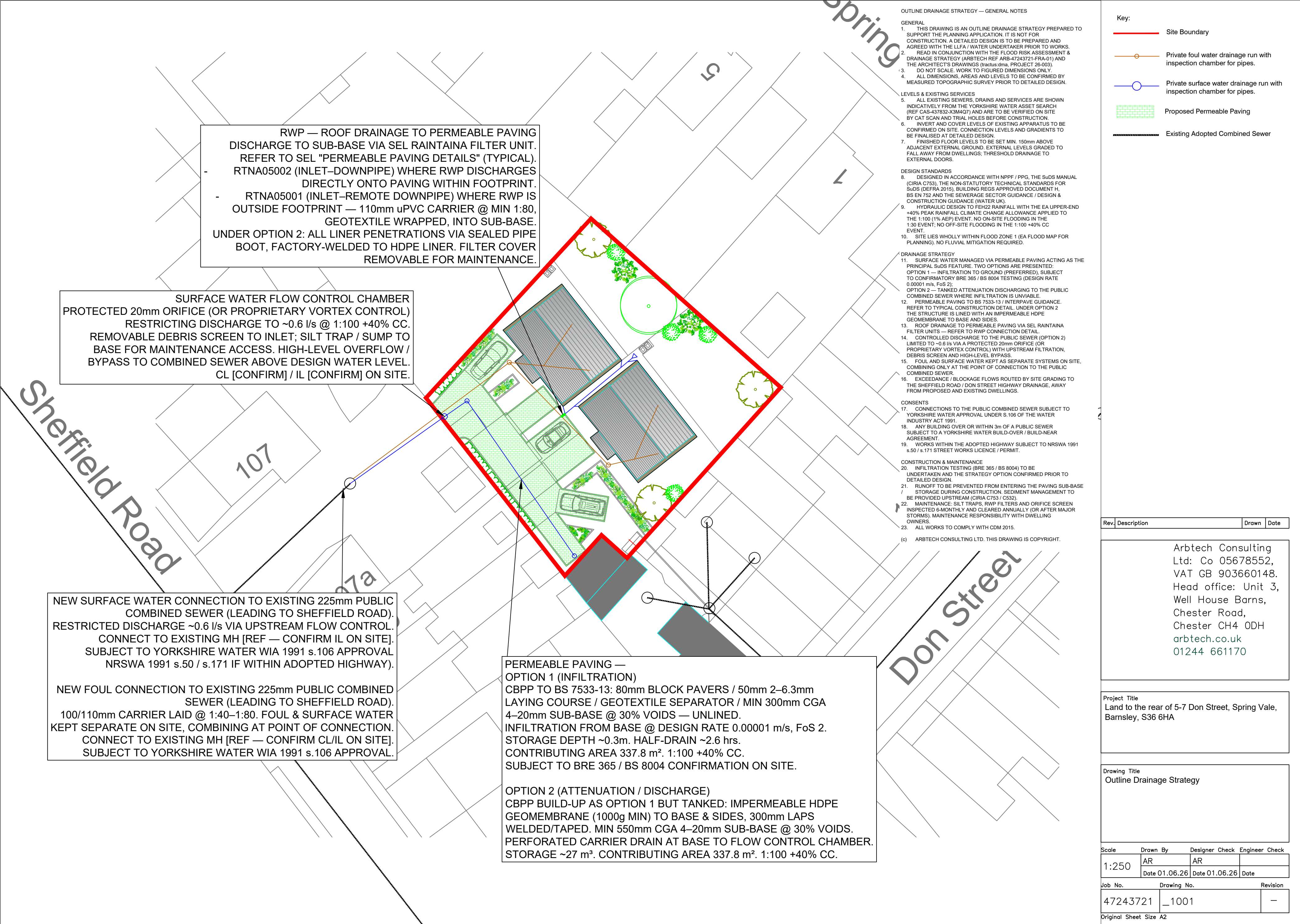
1. RESTRICTED ACCESS TO SITE
2. SITE WELFARE REQUIREMENTS
3. SITE CLEARANCE
4. INSTALLATION OF TEMPORARY AND RE-ROUTED SERVICES
5. NEW FOUNDATIONS
6. WORKING AT HEIGHT



Appendix G

Outline Drainage Strategy Drawing

Arbtech drawing 47243721/_1001, scale 1:250 @ A2.



OUTLINE DRAINAGE STRATEGY — GENERAL NOTES

- GENERAL
- THIS DRAWING IS AN OUTLINE DRAINAGE STRATEGY PREPARED TO SUPPORT THE PLANNING APPLICATION. IT IS NOT FOR CONSTRUCTION. A DETAILED DESIGN IS TO BE PREPARED AND AGREED WITH THE LLFA / WATER UNDERTAKER PRIOR TO WORKS.
 - READ IN CONJUNCTION WITH THE FLOOD RISK ASSESSMENT & DRAINAGE STRATEGY (ARBTECH REF ARB-47243721-FRA-01) AND THE ARCHITECT'S DRAWINGS (EXCLUS.DWG, PROJECT 28-003).
 - DO NOT SCALE. WORK TO FIGURED DIMENSIONS ONLY.
 - ALL DIMENSIONS, AREAS AND LEVELS TO BE CONFIRMED BY MEASURED TOPOGRAPHIC SURVEY PRIOR TO DETAILED DESIGN.
- LEVELS & EXISTING SERVICES
- ALL EXISTING SEWERS, DRAINS AND SERVICES ARE SHOWN INDICATIVELY FROM THE YORKSHIRE WATER ASSET SEARCH (REF CAS-437832-X3M4Q7) AND ARE TO BE VERIFIED ON SITE BY CAT SCAN AND TRIAL HOLES BEFORE CONSTRUCTION.
 - INVERT AND COVER LEVELS OF EXISTING APPARATUS TO BE CONFIRMED ON SITE. CONNECTION LEVELS AND GRADIENTS TO BE FINALISED AT DETAILED DESIGN.
 - FINISHED FLOOR LEVELS TO BE SET MIN. 150mm ABOVE ADJACENT EXTERNAL GROUND. EXTERNAL LEVELS GRADED TO FALL AWAY FROM DWELLINGS; THRESHOLD DRAINAGE TO EXTERNAL DOORS.
- DESIGN STANDARDS
- DESIGNED IN ACCORDANCE WITH NPPF / PPG, THE SUDS MANUAL (CIRIA C753), THE NON-STATUTORY TECHNICAL STANDARDS FOR SUDS (DEFRA 2015), BUILDING REGS APPROVED DOCUMENT H, BS EN 752 AND THE SEWERAGE SECTOR GUIDANCE / DESIGN & CONSTRUCTION GUIDANCE (WATER UK).
 - HYDRAULIC DESIGN TO FEH2Z RAINFALL WITH THE EA UPPER-END +40% PEAK RAINFALL CLIMATE CHANGE ALLOWANCE APPLIED TO THE 1:100 (1% AEP) EVENT. NO ON-SITE FLOODING IN THE 1:30 EVENT; NO OFF-SITE FLOODING IN THE 1:100 +40% CC EVENT.
 - SITE LIES WHOLLY WITHIN FLOOD ZONE 1 (EA FLOOD MAP FOR PLANNING). NO FLUVIAL MITIGATION REQUIRED.
- DRAINAGE STRATEGY
- SURFACE WATER MANAGED VIA PERMEABLE PAVING ACTING AS THE PRINCIPAL SUDS FEATURE. TWO OPTIONS ARE PRESENTED:
OPTION 1 — INFILTRATION TO GROUND (PREFERRED), SUBJECT TO CONFIRMATORY BRE 365 / BS 8004 TESTING (DESIGN RATE 0.00001 m/s, FoS 2);
OPTION 2 — TANKED ATTENUATION DISCHARGING TO THE PUBLIC COMBINED SEWER WHERE INFILTRATION IS UNVIALE.
 - PERMEABLE PAVING TO BS 7533-13 / INTERPAVE GUIDANCE. REFER TO TYPICAL CONSTRUCTION DETAIL. UNDER OPTION 2 THE STRUCTURE IS LINED WITH AN IMPERMEABLE HDPE GEOMEMBRANE TO BASE AND SIDES.
 - ROOF DRAINAGE TO PERMEABLE PAVING VIA SEL RAINTAINA FILTER UNITS — REFER TO RWP CONNECTION DETAIL.
 - CONTROLLED DISCHARGE TO THE PUBLIC SEWER (OPTION 2) LIMITED TO ~0.6 l/s VIA A PROTECTED 20mm ORIFICE (OR PROPRIETARY VORTEX CONTROL) WITH UPSTREAM FILTRATION, DEBRIS SCREEN AND HIGH-LEVEL BYPASS.
 - FOUL AND SURFACE WATER KEPT AS SEPARATE SYSTEMS ON SITE, COMBINING ONLY AT THE POINT OF CONNECTION TO THE PUBLIC COMBINED SEWER.
 - EXCEEDANCE / BLOCKAGE FLOWS ROUTED BY SITE GRADING TO THE SHEFFIELD ROAD / DON STREET HIGHWAY DRAINAGE, AWAY FROM PROPOSED AND EXISTING DWELLINGS.
- CONSENTS
- CONNECTIONS TO THE PUBLIC COMBINED SEWER SUBJECT TO YORKSHIRE WATER APPROVAL UNDER S.106 OF THE WATER INDUSTRY ACT 1991.
 - ANY BUILDING OVER OR WITHIN 3m OF A PUBLIC SEWER SUBJECT TO A YORKSHIRE WATER BUILD-OVER / BUILD-NEAR AGREEMENT.
 - WORKS WITHIN THE ADOPTED HIGHWAY SUBJECT TO NRSWA 1991 s.50 / s.171 STREET WORKS LICENCE / PERMIT.
- CONSTRUCTION & MAINTENANCE
- INFILTRATION TESTING (BRE 365 / BS 8004) TO BE UNDERTAKEN AND THE STRATEGY OPTION CONFIRMED PRIOR TO DETAILED DESIGN.
 - RUNOFF TO BE PREVENTED FROM ENTERING THE PAVING SUB-BASE / STORAGE DURING CONSTRUCTION. SEDIMENT MANAGEMENT TO BE PROVIDED UPSTREAM (CIRIA C753 / C532).
 - MAINTENANCE: SILT TRAPS, RWP FILTERS AND ORIFICE SCREEN INSPECTED 6-MONTHLY AND CLEARED ANNUALLY (OR AFTER MAJOR STORMS). MAINTENANCE RESPONSIBILITY WITH DWELLING OWNERS.
 - ALL WORKS TO COMPLY WITH CDM 2015.
- (c) ARBTECH CONSULTING LTD. THIS DRAWING IS COPYRIGHT.

- Key:
- Site Boundary
 - Private foul water drainage run with inspection chamber for pipes.
 - Private surface water drainage run with inspection chamber for pipes.
 - Proposed Permeable Paving
 - Existing Adopted Combined Sewer

RWP — ROOF DRAINAGE TO PERMEABLE PAVING DISCHARGE TO SUB-BASE VIA SEL RAINTAINA FILTER UNIT. REFER TO SEL "PERMEABLE PAVING DETAILS" (TYPICAL).
- RTNA05002 (INLET-DOWNSPIPE) WHERE RWP DISCHARGES DIRECTLY ONTO PAVING WITHIN FOOTPRINT.
- RTNA05001 (INLET-REMOTE DOWNSPIPE) WHERE RWP IS OUTSIDE FOOTPRINT — 110mm uPVC CARRIER @ MIN 1:80, GEOTEXTILE WRAPPED, INTO SUB-BASE.
UNDER OPTION 2: ALL LINER PENETRATIONS VIA SEALED PIPE BOOT, FACTORY-WELDED TO HDPE LINER. FILTER COVER REMOVABLE FOR MAINTENANCE.

SURFACE WATER FLOW CONTROL CHAMBER PROTECTED 20mm ORIFICE (OR PROPRIETARY VORTEX CONTROL) RESTRICTING DISCHARGE TO ~0.6 l/s @ 1:100 +40% CC. REMOVABLE DEBRIS SCREEN TO INLET; SILT TRAP / SUMP TO BASE FOR MAINTENANCE ACCESS. HIGH-LEVEL OVERFLOW / BYPASS TO COMBINED SEWER ABOVE DESIGN WATER LEVEL. CL [CONFIRM] / IL [CONFIRM] ON SITE.

NEW SURFACE WATER CONNECTION TO EXISTING 225mm PUBLIC COMBINED SEWER (LEADING TO SHEFFIELD ROAD). RESTRICTED DISCHARGE ~0.6 l/s VIA UPSTREAM FLOW CONTROL. CONNECT TO EXISTING MH [REF — CONFIRM IL ON SITE]. SUBJECT TO YORKSHIRE WATER WIA 1991 s.106 APPROVAL NRSWA 1991 s.50 / s.171 IF WITHIN ADOPTED HIGHWAY).

NEW FOUL CONNECTION TO EXISTING 225mm PUBLIC COMBINED SEWER (LEADING TO SHEFFIELD ROAD). 100/110mm CARRIER LAID @ 1:40-1:80. FOUL & SURFACE WATER KEPT SEPARATE ON SITE, COMBINING AT POINT OF CONNECTION. CONNECT TO EXISTING MH [REF — CONFIRM CL/IL ON SITE]. SUBJECT TO YORKSHIRE WATER WIA 1991 s.106 APPROVAL.

PERMEABLE PAVING —
OPTION 1 (INFILTRATION)
CBPP TO BS 7533-13: 80mm BLOCK PAVERS / 50mm 2-6.3mm LAYING COURSE / GEOTEXTILE SEPARATOR / MIN 300mm CGA 4-20mm SUB-BASE @ 30% VOIDS — UNLINED.
INFILTRATION FROM BASE @ DESIGN RATE 0.00001 m/s, FoS 2. STORAGE DEPTH ~0.3m. HALF-DRAIN ~2.6 hrs. CONTRIBUTING AREA 337.8 m². 1:100 +40% CC. SUBJECT TO BRE 365 / BS 8004 CONFIRMATION ON SITE.

OPTION 2 (ATTENUATION / DISCHARGE)
CBPP BUILD-UP AS OPTION 1 BUT TANKED: IMPERMEABLE HDPE GEOMEMBRANE (1000g MIN) TO BASE & SIDES, 300mm LAPS WELDED/TAPED. MIN 550mm CGA 4-20mm SUB-BASE @ 30% VOIDS. PERFORATED CARRIER DRAIN AT BASE TO FLOW CONTROL CHAMBER. STORAGE ~27 m³. CONTRIBUTING AREA 337.8 m². 1:100 +40% CC.

Rev.	Description	Drawn	Date
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Ltd: Co 05678552,
VAT GB 903660148.
Head office: Unit 3,
Well House Barns,
Chester Road,
Chester CH4 0DH
arbtech.co.uk
01244 661170

Project Title
Land to the rear of 5-7 Don Street, Spring Vale,
Barnsley, S36 6HA

Drawing Title
Outline Drainage Strategy

Scale	Drawn By	Designer Check	Engineer Check
1:250	AR	AR	
	Date 01.06.26	Date 01.06.26	Date
Job No.	Drawing No.	Revision	
47243721	_1001	—	
Original Sheet Size A2			