

Site: St John's Court, Penstone Close, Lancing
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1.0 Introduction

1.1 This Technical Note has been prepared by Motion to address Conditions 6 and 7 of planning consent AWDM/0949/22 (dated 6th June 2023).

1.2 Condition relates to surface water disposal, and specifies the following:

"Development shall not commence, other than works of site survey and investigation, until full details of the proposed foul and surface water drainage scheme have been submitted to and approved in writing by the Local Planning Authority in consultation with Southern Water. The design should follow the hierarchy of preference for different types of surface water drainage disposal systems as set out in Approved Document H of the Building Regulations, and the recommendations of the SuDS Manual produced by CIRIA. Winter groundwater monitoring to establish highest annual ground water levels and winter Percolation testing to BRE 365, or similar approved, will be required to support the design of any Infiltration drainage. No building / No part of the extended building shall be occupied until the complete surface water drainage system serving the property has been implemented in accordance with the agreed details and the details so agreed shall be maintained in good working order in perpetuity"

1.3 Condition 7 requires details of the long-term maintenance and management strategy for the development's surface water drainage, and requests the following:

"Development shall not commence until full details of the maintenance and management of the surface water drainage system is set out in a site-specific maintenance manual and submitted to, and approved in writing, by the Local Planning Authority. The manual is to include details of financial management and arrangements for the replacement of major components at the end of the manufacturer's recommended design life. Upon completed construction of the surface water drainage system, the owner or management company shall strictly adhere to and implement the recommendations contained within the manual"

1.4 The full decision notice and schedule of conditions can be seen in [Appendix A](#).

1.5 Motion has reviewed the nature of the proposed development against the requirements of the NPPF and surface water management policy, which has informed the approach taken and the information provided below.

2.0 Planning and Drainage History

2.1 Planning Application AWDM/0949/22 was submitted in May 2022 for Lincoln Estates' proposed development of:

Erection of a three-storey side extension to the existing building and recessed rooftop extension to the whole of the building to accommodate 9no. flats comprising 7no. 1-bedroom flats and 2no. 2-bedroom flats. Demolition of existing garage block, reconfiguration to existing car parking, proposed landscaping, and cycle/refuse storage

2.2 Full plans of the proposed development can be found in [Appendix B](#).

2.3 Motion Consultants prepared a drainage strategy and flood risk assessment (dated 7th December 2022) in support of the proposed development. Following a review of the local sewerage and the site's geoenvironmental context, it was concluded that there were no public surface water or combined sewers in the area, and no watercourses or other surface water bodies to which surface water from the development could be discharged.

- 2.4 Motion carried out a site visit, and lifted the manhole covers associated with the drainage serving the existing building and its surrounds, and this revealed that all surface water on the existing site discharges to soakaways. To augment this finding, a CCTV sewer survey was carried out, which noted the locations of three soakaways and the connecting pipework (that was possible to be surveyed). The CCTV sewer survey is in [Appendix C](#).
- 2.5 On that basis, Motion suggested a drainage strategy of infiltration and based the outline drainage strategy on literature values for River Terrace Deposits over chalk, which is the local superficial and bedrock geology, respectively. This rate was 1×10^{-5} m/s. The drainage strategy would cover the area of the extension to the block of flats and the new/refurbished parking areas. All the existing, unchanged areas of the site, such as the existing block of flats, the vehicular accesses, and their drainage, would be allowed to drain as existing.
- 2.6 Infiltration would be achieved through System A (total infiltration) permeable pavements in the areas of the new (and some of the existing) parking areas. Most of these would be 'self-draining', i.e. they would only need to discharge surface water falling directly onto them, but one of the areas would also be designed to accommodate surface water from the extension to the existing block of flats. The extension would have a footprint of 138m². Inclusive of this area, the development provided 411m² (0.041 ha) that would need to be considered for positive surface water drainage.
- 2.7 The development would also result in the removal of large areas of tarmacadam and concrete hardstanding and garages in the south/southwest of the site. The area of tarmacadam and concrete in the southwest corner of the site (c. 310m²) that is to be completely removed and replaced with soft landscaping and the extension to the block of flats can be seen in Figure 2.1, below.

Figure 2.1 – Existing hardstanding areas to be removed



- 2.8 This will yield a post-development net reduction in impermeable, contributing areas to surface water runoff on site of 123m².
- 2.9 This area of the site overlaid with the proposed development layout can be seen highlighted red in Figure 2.2 on the next page.

Figure 2.2 – Area of existing hardstanding to be removed



- 2.10 Planning application AWD/0949/22 received conditional consent on 6th June 2023, with Condition 6 being imposed on the drainage strategy as noted in the introduction to this technical note.
- 2.11 Subsequent to the planning consent, the client submitted a Section 73 application to vary several of the planning conditions on AWD/0949/22. The Section 73 application sought to vary the pre-commencement conditions to allow for demolition, site investigation and enabling works to take place prior to full discharge of conditions.
- 2.12 WSP, acting as agents for the assessment of all matters pertaining to drainage for Worthing and Adur Councils, were consulted and responded on 12th December 2025 by stating that:
- "Due to the site, size, location, and type of development we accept the proposed rewording of Condition 6 and Condition 7 to allow the commencement of demolition works."*
- 2.13 WSP's full response can be found in [Appendix D](#).
- 2.14 Southern Water were also consulted and stated that:
- "Southern Water are happy to allow the change requested to Condition 6 (drainage), noting that in order to protect and safeguard the existing water supply apparatus, Southern Water requests formal notification of any proposed demolition works prior to such works being undertaken"*
- 2.15 Southern Water's full response can be found in [Appendix E](#).
- 2.16 Variation of Condition Application AWD/1492/25 was approved in November 2025. This resulted in Condition 6 being modified to:
- "Development shall not commence, other than works of site survey and investigation or works of demolition, until full details of the proposed foul and surface water drainage scheme have been submitted to and approved in writing by the Local Planning Authority in consultation with Southern Water."*

- 2.17 And Condition 7 being modified to:

"Development shall not commence, other than works of site survey and investigation or works of demolition, until full details of the maintenance and management of the surface water drainage system is set out in a site-specific maintenance manual and submitted to, and approved in writing, by the Local Planning Authority."

- 2.18 Pursuant to AWD/1492/25, site enabling, demolition, and site investigation works have been able to proceed.

3.0 Site Investigation Work

- 3.1 Because of the site's existing drainage successfully discharges to soakaways, the proposed drainage strategy, which specified the same approach, required the results of site specific BRE365 soakage testing to understand the local infiltration coefficients and whether groundwater would prove a constraint to this strategy, noting that current guidance stipulates that a clear one metre must exist between the highest winter groundwater levels and the base of any infiltration features.

- 3.2 With this in mind, Motion commissioned Geo-Environmental Services Ltd (GESL) to carry out soakage testing and groundwater monitoring over the full winter period. The soakage testing would be carried out over a single day, and the groundwater monitoring would be provided through six readings taken at monthly intervals from November 2025 to April 2026.

Infiltration Testing

- 3.3 GESL's engineers carried out infiltration testing between the 25th and 26th November 2025. It is understood that the weather on these days was dry and overcast.
- 3.4 The scope of works comprised digging a trial pit (TP01) to a depth of 3.9 metres below ground level (mBGL) and undertaking a 1no. trial pit soakage test in general accordance with BRE Digest 365.
- 3.5 Falling head tests were also carried out in a window sampler borehole (WS01) to assess soil permeability in an alternative location to TP01.
- 3.6 The ground conditions encountered were a mantle of topsoil overlying a superficial geology of River Terrace Deposits with a solid geology of Newhaven Chalk Formation below. A full summary of the geological conditions are below in Figure 3.1 and the full infiltration testing report can be seen in [Appendix F](#).

Figure 3.1 – Summary of Ground Conditions

Top (m bgl)	Base (m bgl)	Geology
0.00	0.30	TOPSOIL: Typically, grass overlying silty slightly gravelly CLAY. Frequent rootlets and occasional roots. 2No. red bricks encountered at 0.2m (WS01 only).
0.30	1.90 – 3.60	RIVER TERRACE DEPOSITS: Typically, light brown silty gravelly occasionally sandy CLAY. Small pockets of black ferruginous material. Becoming sandier with depth until SAND (TP01 only)
1.90 – 3.60	>3.90 – >5.00	NEWHAVEN CHALK FORMATION: Typically, structureless CHALK recovered as off white, yellowish brown gravelly putty chalk. Gravel comprises fine to coarse subangular chalk and flint. Becoming less gravelly with depth. Low flint cobble content.

- 3.7 The soakage testing results are noted on the next page in Figure 3.2.

Figure 3.2 – Soakage Testing Results

Location	Pit depth (m bgl)	Groundwater depth (m bgl)	Permeability (m/s)		
			Test 1	Test 2	Test 3
TP01	3.90	N/A	Insufficient fall in water level to calculate rate	Insufficient fall in water level to calculate rate	Insufficient time for a third test.

- 3.8 2no. falling head tests were carried out in window sampler borehole WS01 and the results are in Figure 3.3 below.

Figure 3.3 – Infiltration rates derived from falling head tests

Location	Borehole depth (m bgl)	Groundwater depth (m bgl)	Permeability (m/s)	
			Test 1	Test 2
WS01	5.00	N/A	4.41×10^{-6}	2.05×10^{-6}

- 3.9 The infiltration testing undertaken by GESL indicates that conventional soakaways are unlikely to be suitable in the River Terrace Deposits. This advice is noted, but also conflicts with the evidence gained on Motion's site visit and within the CCTV survey report, which noted that the inverts of two of the existing soakaways are 2.6 mBGL and 2.1 mBGL – well within the River Terrace Deposits – and they are understood to be working well and have done so since the area was developed in the 1970s.
- 3.10 GESL commented that soakaways are potentially suitable if they are constructed further into the chalk, albeit that the falling head testing recorded relatively low permeability. GESL also noted that the required offset between structures (existing and proposed) and point-load sources of surface water discharge (soakaways) in chalk would range between 10m and 20m and that there is limited space for such easements in this built-up area.

Groundwater Monitoring

- 3.11 GESL installed window sampler borehole WS01 to 5.00 mBGL and, following the falling head tests undertaken on 25th November, installed a monitoring well to enable six groundwater level readings to be taken throughout the winter period.
- 3.12 The monitoring revealed that groundwater was largely absent within borehole WS01. The full set of recordings within WS01 are below in Figure 3.4

Figure 3.4 – Summary of groundwater monitoring results

WS01	Groundwater Results					
	26/11/25	22/12/25	26/01/26	26/02/26	26/03/26	17/04/26
Depth (m bgl)	Dry @ 5.00	Dry @ 4.80	Dry @ 4.74	4.53	Dry @ 4.90	Dry @ 4.80
Level (m AOD)	Dry @ 3.45	Dry @ 3.65	Dry @ 3.71	3.92	Dry @ 3.55	Dry @ 3.65

- 3.13 It shows that groundwater was only observed in WS01 on the 26th of February 2026 at 4.53 mBGL. This accords with other groundwater monitoring data from the southeast of England in the winter of 2025/2026, in which February exhibited the highest groundwater levels.
- 3.14 The groundwater levels noted in Figure 3.4 demonstrate that groundwater will not be an impediment to infiltration features or the existing soakaways.
- 3.15 The full GESL groundwater monitoring report can be found in [Appendix G](#).

4.0 The NPPF and the New National Standards for SuDS

4.1 While SuDS and drainage strategies apply to major and minor planning applications, and policy guidance on SuDS and drainage strategy defines that SuDS are required when:

- „ New hard surfaces are being created and there are increases in the impermeable area;
- „ Surface water runoff is being significantly altered and there are material changes in the surface water runoff;
- „ SuDS are needed to ensure the development remains safe due to local flood risks.

4.2 Specifically, Paragraph 182 of the NPPF states that:

“Applications which could affect drainage on or around the site should incorporate sustainable drainage systems to control flow rates and reduce volumes of runoff, and which are proportionate to the nature and scale of the proposal.”

4.3 Therefore, if a development scheme will not introduce new impermeable areas, will not alter or increase surface water runoff, and SuDS/drainage alterations are not needed to ensure the development remains safe for its lifetime, Paragraph 182 of the NPPF is not engaged and a drainage/SuDS strategy does not need to be provided. This is the case for the upwards extension to the block of flats, which will be built upon the existing structure of the block of flats and will not increase or alter the footprint of this structure.

4.4 This principle is augmented by the advice of the New National Standards for SuDS. The National Standards for SuDS confirm that they are not designed to apply to retrofit schemes, noting that retrofit projects “often have different objectives and face broader constraints” and that full compliance may not be achievable. In retrofit contexts, the standards serve as a “starting point” only. Specifically, the National Standards for SuDS state:

“It is important to acknowledge that constraints specific to retrofit projects may prevent the full application of the standards.”

4.5 This means that the New National Standards for SuDS cannot be mandatorily applied to retrofit projects such as that of the upward extension to the block of flats.

4.6 Therefore, the drainage strategy will only consider the area of new outwards extension to the block of flats (138m²) and the areas of new parking (spaces 1 – 7, 8 – 20, and 21 – 24 and the visitor parking space on the development layout plan in [Appendix B](#), which total 273m²).

5.0 Existing Drainage

5.1 The existing building, the tarmacadam hardstanding, and the garages that are to be demolished benefit from a drainage system that discharges to soakaways. As described above, these soakaways exist wholly within the River Terrace Gravels and have inverts of 2.6 mBGL and 2.1 mBGL. The third and final soakaway was unable to be surveyed in the CCTV drainage survey, but this soakaway serves the area of tarmacadam and concrete in the southwest corner of the site (c. 310m²) that is to be completely removed and replaced with soft landscaping and the extension to the block of flats.

5.2 As noted earlier in this technical note, the removal of the large amounts of hardstanding in the southwest of the site will result in a net reduction of 123m² of hard impermeable surfaces over the pre-development situation.

5.3 Also, as noted in the CCTV drainage survey in [Appendix C](#), some of the drainage in this area was unable to be surveyed. This is partly because the gulleys are completely blocked, as shown in the images on the next page.

Figures 5.2 and 5.3 – Blocked existing drainage gulley



- 5.4 Therefore, not only are the impermeable areas decreasing over the existing situation, but areas of poorly performing drainage are being decommissioned, which would have, in the existing situation, resulted in standing surface water and increased surface water runoff in heavy rainfall events. This means that the proposed development and the proposed drainage for the site will represent significant betterment over the existing situation and this should be considered.

6.0 Areas to be drained on the built site

- 6.1 It has already been discussed that the developed site will reduce the overall impermeable areas of the site over the existing situation.
- 6.2 Figures 2.1 and 2.2 showed the large area of existing tarmacadam and concrete hardstanding that is to be removed and, as noted above, the drainage serving this area is in poor condition.
- 6.3 Section 2 of this report also discussed the areas of the site that represent new or refurbished areas that require positive drainage and consideration in the drainage strategy, which total 411m².

Brownfield Runoff Rates

- 6.4 To provide a context and baseline against which the betterment of the proposed scheme can be compared, the brownfield runoff rate from the existing hardstanding areas that are to be changed as part of the development will be provided. These areas currently have no flow restriction, and a lot of the surface water runoff will not make its way into the drainage system due to the poorly performing drains/gullies. This will include the area of the tarmacadam and concrete hardstanding that is to be removed and shown in Figures 2.1 and 2.2, which measures 310m², and the area of current hardstanding and garages, which measures 138m², and can be seen covering vehicle spaces 8 - 20 in Figure 6.1 and in the proposed site layout in [Appendix B](#). Therefore, the total areas considered for existing, brownfield runoff are 448m².
- 6.5 The brownfield runoff rates have been calculated using the Modified Rational Method (MRM) with rainfall intensities for different return periods extracted from Table 1(a) of the Transport and Road Research Laboratory Report – Estimated Rainfall for Drainage Calculations in the United Kingdom (TRRL Report LR 595) by C. P. Young.
- 6.6 The Modified Rational Method Equation is:

$$Q_n = 2.78CiA$$

Where:

C = Runoff Coefficient (which is assumed to be '1' in this case to represent impermeable areas)

i_n = Rainfall intensity for a n return period (mm/hr) as prescribed by Table 1(a) of TRRL LR 595

A = Impermeable Area

Q_n = Runoff for n return period

- 6.7 The rainfall intensities for different return periods extracted from Table 1(a) of TRRL Report LR 595 are:

$$i_1 = 50.8 \text{ mm/hour}$$

$$i_{30} = 113.02 \text{ mm/hour}$$

$$i_{100} = 143.9 \text{ mm/hour}$$

- 6.8 Using the MRM brownfield runoff calculation, the existing runoff rates have been derived. As noted above, the impermeable areas considered in the calculation are 448m².
- 6.9 The existing runoff rates are in Table 6.1 below.

Table 6.1 – Existing runoff rates

Return Period	Brownfield Runoff Rate
1 in 1	6.33 l/s
1 in 30	14.08 l/s
1 in 100	17.92 l/s

- 6.10 The proposed drainage strategy for the development will look to offer betterment over the existing runoff rates from the impermeable areas changing as part of the development. Adur and Worthing Council's Supplementary Requirements for Surface Water Drainage Proposals¹ states that brownfield sites should provide a minimum of 50% betterment over the existing situation. Therefore, the proposed drainage strategy and approach to discharge of the amended Condition 6 will be to reduce surface water runoff rates by at least 50%.

7.0 Proposed Drainage Strategy

- 7.1 Section 2 of this report also discussed the areas of the site that represent new or refurbished areas that require positive drainage and consideration in the drainage strategy, which total 411m². These areas are shown and the individual areas are labelled in the drainage areas plan in Figure 7.1 below.

Figure 7.1 – Drainage areas plan



- 7.2 To confirm, the areas that are to be drained are those that are to undergo development or refurbishment and that will positively contribute to surface water runoff on site. These total 411m².
- 7.3 The drainage strategy prepared to support planning application AWD/0949/22 proposed that the new parking areas would be constructed from permeable pavements with an open-graded subbase. This approach is supported in the current drainage strategy and all the new and modified areas of parking, as highlighted blue in Figure 7.1 will be constructed from permeable pavements.
- 7.4 The soakage testing carried out in support of this drainage strategy (Appendix F) showed that total infiltration (at depth) is unlikely to be viable. Because groundwater is well below surface (4.53 mBGL at its winter shallowest) the permeable pavements will be unlined and are likely to be able to discharge some surface water via infiltration into the uppermost horizons of the superficial River Terrace Deposits, which will have greater permeability (due to less compaction) than the soils tested for infiltration at depths of 3.00 mBGL.
- 7.5 The permeable pavements' subbase will be 500mm deep and will have restricted outfalls into the existing soakaway system. The outfall will be set at 10mm above the invert of the subbase to encourage infiltration into the uppermost soils in lower order rainfall events. The outfalls from the permeable pavements, when brought

¹ <https://www.adur-worthing.gov.uk/media/Media,155909,smxx.pdf>

into use by heavier rainfall events, will connect into and discharge to the existing surface water drainage network, which successfully uses soakaways (these are labelled SA1 and SA2 in the CCTV survey in [Appendix C](#)).

- 7.6 The roof area of the extension to the block of flats will discharge into the subbase of the adjacent permeable pavements, which provides an opportunity to attenuate this surface water load.
- 7.7 In terms of an outfall of the new and modified areas of the site, it is acknowledged that the soakage testing in general accordance with BRE Digest 365 was unsuccessful. It is also acknowledged that there are no surface water sewers or other outfalls available locally, hence why the existing development discharges to soakaways. The evidence available also shows that these soakaways are operating successfully with the existing surface water loads entering into the system and have been in situ since the development occurred in this area of Lancing in the 1970s.
- 7.8 This drainage strategy report has demonstrated how the overall areas to be drained will reduce on the developed site over the existing situation. These existing areas have no flow restriction, no SuDS benefit, and the drainage system is in poor condition. Therefore, the proposals of this drainage strategy acknowledge that it must use the existing soakaways, and that these outfalls may not fully accord with the current requirements of the NPPF and the new national standards for SuDS. Therefore, the proposed drainage strategy will be based upon betterment and improving the existing situation so that surface water flood risk can be reduced in the local area. Betterment will take place on three counts:
 - „ The areas to be positively drained will reduce, thus surface water runoff will naturally reduce on the developed site. The development will also provide attenuation and restricted flow to the existing drainage system, ensuring that the existing surface water inputs to the soakaways will be significantly reduced.
 - „ The proposals will include elements of SuDS that provide pollution mitigation benefits.
 - „ The drainage system will be modernised and fully functioning, replacing and improving over the existing poorly performing systems, which are blocked and poorly maintained.
- 7.9 A plan of the proposed drainage strategy is included in [Appendix H](#) of this report. It shows the areas of the proposed permeable pavements and how they will have flow restricted before outfalling to the existing surface water system and the in-situ soakaways.

MicroDrainage Hydraulic Modelling

- 7.10 The drainage strategy outlined above has been designed in MicroDrainage's Network hydraulic modelling module.
- 7.11 The results of the MicroDrainage hydraulic modelling for the proposed development can be seen in [Appendix I](#).
- 7.12 The results of the hydraulic modelling show that the drainage strategy as outlined in this section can attenuate and discharge all surface water generated during the 1 in 100-year + 45% rainfall event without flooding.
- 7.13 It has been described how the proposed drainage strategy will provide betterment over the existing runoff rates from the site. The flow restrictions used will allow a maximum of 1.8 l/s in the 1 in 100-year + 45% rainfall event and because orifices with variable head discharges will be used, it means that the discharge rate in lower order rainfall events will be less than this.
- 7.14 Section 6 and Table 6.1 of this report provided the brownfield runoff rates from the 448m² area of the site that currently discharges to the soakaways and is to be developed. These discharges were 6.33 l/s in the 1 in 1-year event, 14.08 l/s in the 1 in 30-year event and 17.92 l/s in the 1 in 100-year event.
- 7.15 How these runoff rates compare to the discharge rates achieved from the developed and modified areas of the site can be seen in Table 7.1 on the next page. The percentage betterment has also been calculated for ease of reference.

Table 7.1 – Existing and proposed runoff rates

Return Period (present day)	Return Period (climate change)	Brownfield Runoff Rate	Post-Development Runoff Rate	Percentage Improvement
1 in 1	1 in 2 (QMED)	6.33 l/s	0.8 l/s	83%
1 in 30	1 in 30 (+ 40%)	14.08 l/s	1.5 l/s	89%
1 in 100	1 in 100 (+ 45%)	17.92 l/s	1.8 l/s	89%

- 7.16 Table 7.1 shows that the proposed drainage strategy offers a significant betterment, which increases as the storm return period increases. This ensures that the proposals substantially reduce surface water runoff, inputs to the existing drainage system, and local flood risk over the existing situation.
- 7.17 The maximum half drain time of the system is 372 minutes (in the 1 in 100-year + 45% rainfall event), which is less than the 1,440-minute (24-hour) requirement for this metric. The maximum half drain time for all storms is as follows:
- „ 1 in 2-year: 264 minutes
 - „ 1 in 10-year + 40%: 312 minutes
 - „ 1 in 30-year + 40%: 342 minutes
 - „ 1 in 100-year + 45%: 372 minutes

Design Criteria

- 7.18 The drainage strategy has been designed in accordance with specified design criteria and current LLFA best practice. This ensures that the current drainage strategy accords with local policy requirements (as well as those of the NPPF). This includes:
- „ Using FEH 2022 Annual Maximum Catchment data rather than FSR data. It should be noted that the MicroDrainage Results in [Appendix I](#) list 2013 data as being used, but we can assure that 2022 data has been used in full (this is a quirk of MicroDrainage).
 - „ Using a runoff coefficient (CV) value of 1.0 in all hydraulic modelling
 - „ Reducing the MADD Factor (which assumes 10m³ of pipe storage per hectare) to zero.
 - „ The full suite of rainfall events has been used (up to the 5,760-minute storm, which is maximum allowable when using FEH data).
 - „ The maximum rainfall intensity has been raised to 550mm/hr to ensure that the full hydrograph is included in the hydraulic calculations.

Urban Creep

- 7.19 An appropriate allowance should be made for urban creep where this is applicable. Because the development offers no areas that are within private (not shared) curtilages, the principles of urban creep do not apply.

8.0 Surface Water Runoff Quality

- 8.1 The NPPF states that development should not have a detrimental impact on the environment, including the water environment. The technical guidance to the NPPF provides further advice on the benefits of ensuring runoff quality is to an appropriate standard.

- 8.2 The CIRIA SuDS Manual provides guidance on the treatment of surface water runoff. With regards to the proposed development, Table 4.3 of the CIRIA SuDS Manual rates the pollution hazard from roof water runoff as 'very low'. The only requirement for roof water runoff is the removal of gross solids and sediments, which would be achieved using catchpits and silt traps upstream of the permeable surfacing and the inflow to the subbase.
- 8.3 With regard to the accesses and parking, Table 4.3 of the CIRIA SuDS Manual rates the pollution hazard from residential car parking and low traffic roads as 'low'. To mitigate a 'low' pollution hazard, the CIRIA SuDS Manual recommends using a simple index approach in line with Section 26.7.1. This is discussed below.
- 8.4 Table 26.2 of the CIRIA SuDS Manual provides pollution hazard indices for different land use classifications. The land use classification that requires consideration for low traffic roads and parking areas is in Table 8.1 below.

Table 8.1 - Excerpt from Table 26.2 of CIRIA SuDS Manual

Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydro-Carbons
Individual property driveways, residential car parks, low traffic roads (e.g. cul-de-sacs, homezones and general access roads) with less than 300 traffic movements per day.	Low	0.5	0.4	0.4

- 8.5 To deliver adequate pollution treatment and mitigation, the CIRIA SuDS Manual recommends using a SuDS component that has a total pollution mitigation index (for each contaminant type) that equals or exceeds the pollution hazard index (for each contaminant type).
- 8.6 Table 26.4 of the CIRIA SuDS Manual provides indicative SuDS mitigation indices for each SuDS type when discharging to ground. Table 8.2, below, which is an excerpt from Table 26.4, shows the mitigation index for permeable pavements.

Table 8.2 - Pollution Mitigation Indices for Permeable Pavements

Type of pollution removal component	Total Suspended Solids (TSS)	Metals	Hydro-Carbons
Permeable Pavements	0.7	0.6	0.7

- 8.7 The mitigation indices for permeable pavements exceed those of the highest pollution hazard index figures from Table 8.1.
- 8.8 This guarantees that every part of the site will receive adequate pollution mitigation prior to surface water being discharged to ground.

9.0 Residual Risk and Infrastructure Maintenance

- 9.1 Whilst the drainage strategy for the development has been designed to attenuate surface water from the 1 in 100-year plus 45% rainfall event, there could be a small residual risk of flooding due to blockage or failure or poor performance of on-site infrastructure. Therefore, appropriate and regular maintenance of the drainage infrastructure should be undertaken by the site management company or their agents.
- 9.2 Also, Condition 7 of planning consent AWDM/0949/22 requires details of the long-term maintenance and management strategy for the development's surface water drainage, and requests the following:

"Development shall not commence until full details of the maintenance and management of the surface water drainage system is set out in a site-specific maintenance manual and submitted to, and approved in writing, by the Local Planning Authority. The manual is to include details of financial management and arrangements for the replacement of major components at the end of the manufacturer's recommended design life. Upon completed construction of the surface water drainage system, the owner or management company shall strictly adhere to and implement the recommendations contained within the manual"

- 9.3 This aligns with Standard 7 of the New National Standards for SuDS, which requires that drainage systems should include clear, deliverable maintenance and management plans.
- 9.4 To assist with this process, a Drainage Management and Maintenance Plan has been prepared, which sets out the principles for the long-term management and maintenance of the proposed surface water drainage system on the development. The Drainage Management and Maintenance Plan can be seen in [Appendix J](#).
- 9.5 The purpose of this document is to ensure that those responsible for site maintenance have a robust inspection and maintenance plan going forwards. This will help ensure the optimum operation of the surface water drainage system and that it will be regularly maintained for the lifetime of the development. This will contribute to reducing the risk of surface water flooding both on- and off-site.

10.0 Exceedance Events

- 10.1 Exceedance events are those greater than the design rainfall event (i.e., greater than the 1 in 100-year rainfall event plus 45% for climate change).
- 10.2 Any rainfall events greater than the design rainfall event may cause flooding due to them 'exceeding' the capacity of the drainage system. In this situation it is imperative to check whether flooding would occur and, if so, whether it needs to be contained on site. Exceedance flows should not ingress into any properties on site and should not cause nuisance to any neighbouring sites or buildings.
- 10.3 Because the drainage system is not shown to flood in the MicroDrainage hydraulic model, it has some 'freeboard' within it that would provide attenuation during exceedance events. This allows for the attenuation of some surface water in storms beyond the 1 in 100-year + 45% event.
- 10.4 Should an exceedance event cause the drainage system to surcharge, the topography of the site is very flat and there would be little movement of surface water, so it would be expected to accumulate in the parking areas. A high-level plan of exceedance flows has been produced to show the pathway that exceedance flows would take across the site. This can be seen in [Appendix K](#).

11.0 Compliance with the National Standards for SuDS

- 11.1 It is acknowledged that the proposed drainage strategy does not fully comply with certain aspects of policy set out within the NPPF and the National Standards for SuDS. However, following the approval of the Section 73 application, and the agreement to vary Condition 6 from a pre-commencement position to allow demolition and site investigation works, there is an implicit acceptance that the final drainage solution would need to be developed post-commencement. As such, it is considered that a practicable and proportionate approach is required, having regard to the site's characteristics, scale, location, and the nature of the proposals.
- 11.2 Nevertheless, the drainage strategy has sought to achieve as many of the seven core standards within the National Standards. This section will review how the drainage strategy has approached the seven core standards for SuDS.

Standard 1 – Runoff destinations (Drainage hierarchy)

- 11.3 With regards to the proposed development and its drainage strategy, the tiers of the drainage hierarchy that have been achieved are outlined in Table 11.1, below. These are the highest available tiers, as demonstrated by the discussion of the geoenvironmental characteristics and constraints discussed earlier in this report.

Table 11.1 - Compliance with Standard 1 and the Drainage Hierarchy

Tier	Discharge Method	Used?	Notes
1	Collected for non-potable use	ü	Water Butts are suggested on the downpipes of the new and existing downpipes.
2	Use infiltration techniques	ü	The site currently discharges surface water through infiltration and soakaways. The proposed development will maintain this approach, but will reduce surface water inflow to the system through attenuation.
3	Discharged to an above ground surface water body	û	This tier of the drainage hierarchy will not be required.
4	Discharged to a surface water sewer, or another piped surface water drainage system	û	This tier of the drainage hierarchy will not be required.
5	Discharged to a combined sewer	û	This tier of the drainage hierarchy will not be required.

Standard 2 – Management of everyday rainfall (interception) - ü

- 11.4 Water butts are recommended.
- 11.5 Permeable surfacing is being used.
- 11.6 Infiltration is being used and no surface water will leave the site.
- 11.7 Between the water butts, the permeable surfacing and the infiltration strategy, there is confidence that adequate interception, as required by Standard 2 of the National Standards for SuDS, has been provided.

Standard 3 – Management of extreme rainfall and flooding - ü

- 11.8 The hydraulic modelling carried out in MicroDrainage, as presented in [Appendix I](#), shows that the proposed development can manage surface water arising from all impermeable areas (with inclusions for climate change). This can be achieved with no off-site discharge and without any flooding and is inclusive of all factors of safety.
- 11.9 Exceedance has also been considered and planned for.

Standard 4 – Water quality- ü

- 11.10 Section 8 of this report has demonstrated that the proposed development can mitigate all expected pollution hazards that will arise on site using the specified SuDS features, complying with the requirements of Chapter 26 of the CIRIA SuDS Manual (C753).

Standard 5 – Amenity- ü

- 11.11 The proposed development increases the amount of greenspace and landscaping on site; thus while amenity is not directly provided by the drainage strategy in this compact urban development, the site will have greater amenity than it currently does.

Standard 6 – Biodiversity - ü

- 11.12 The landscaping described above will be supported by a diverse range of planting and species to promote biodiversity and provide attractive habitats for pollinators. While this is not delivered directly as part of the drainage strategy, the provision of rainwater storage via water butts will support the irrigation of these areas and reduce demand for potable water. In this way, the proposed drainage measures will indirectly support biodiversity.

Standard 7 – Design for construction, operation, maintenance, and structural integrity- ü

- 11.13 By using surface-level SuDS in the drainage strategy, a system that is safe to construct and is sustainable to use and maintain, and safely integrates into the development, has been specified.
- 11.14 A clear and detailed management and maintenance plan has been produced, which specifies how the drainage system should be maintained in perpetuity.

12.0 Conclusion

- 12.1 This Technical Note has been prepared to support the discharge of Conditions 6 and 7 of planning consent AWD/0949/22, relating to surface water drainage design and the long-term maintenance and management of the system.
- 12.2 A comprehensive review of site conditions, planning history, and drainage constraints has been undertaken. This has confirmed that the site does not benefit from a positive outfall to a surface water sewer or watercourse, and site-specific infiltration testing has demonstrated limited permeability at depth within the River Terrace Deposits. Notwithstanding this, existing drainage infrastructure on site operates successfully via soakaways, and groundwater monitoring has confirmed that there is sufficient unsaturated depth to support infiltration-based approaches.
- 12.3 The approved Section 73 application (AWDM/1492/25) amended Conditions 6 and 7 from pre-commencement position, thereby establishing that detailed drainage design would be resolved following the commencement of works. The constraints identified through subsequent site investigations are therefore considered consistent with the site characteristics previously accepted within the planning process.
- 12.4 It is understood that the site does not benefit from a positive outfall, and soakage testing has demonstrated that infiltration is not viable. These constraints materially limit the extent to which a drainage strategy can fully align with current national SuDS standards and the aspirations of the NPPF and may present challenges in fully satisfying Condition 6.
- 12.5 It is recognised that, in other circumstances, such constraints might reasonably give rise to concerns from the LPA and its drainage advisors. However, it is important to note that, through the approval of the Section 73 application, the LPA agreed to vary the drainage condition from a pre-commencement requirement. In doing so, the LPA's consultees accepted that the detailed drainage solution should be resolved following the commencement of development, having regard to the site's characteristics, scale, location, and the nature of the proposals.
- 12.6 In this context, and with demolition and enabling works now underway, the constraints currently encountered cannot reasonably be considered unforeseen, but rather form part of the site conditions implicitly accepted through the Section 73 planning decision. It is therefore considered that the present situation reflects the practical consequences of that approach.
- 12.7 In response, a drainage strategy has been developed which reflects a pragmatic and proportionate approach to the known site constraints. The proposed solution utilises permeable paving with subbase attenuation, partial infiltration (when conditions allow), and controlled discharge to the existing soakaway system. Although this approach cannot fully align with all aspects of current SuDS standards and national policy due to the

absence of alternative outfalls and limited infiltration capacity, it has been demonstrated to deliver significant betterment over the existing situation. This directly satisfies Worthing and Adur's policy requirements on brownfield sites, which must provide at least 50% betterment. Discharge rates in the proposed development are significantly reduced compared to the existing scenario, achieving up to 89% betterment, thereby reducing surface water runoff and associated flood risk.

- 12.8 The proposed development reduces impermeable area overall and replaces poorly functioning drainage infrastructure with a modern, maintainable system. Hydraulic modelling confirms that the drainage network can accommodate events up to and including the 1 in 100-year storm with a 45% allowance for climate change, without flooding.
- 12.9 The drainage strategy also incorporates SuDS components that provide water quality treatment in accordance with CIRIA guidance, and includes measures such as permeable surfaces and rainwater harvesting to support interception, water reuse, and wider environmental benefits.
- 12.10 A site-specific Drainage Management and Maintenance Plan has been prepared to address the requirements of Condition 7. This document sets out clear responsibilities and procedures to ensure the drainage system is effectively managed and maintained for the lifetime of the development.
- 12.11 In summary, the proposed drainage strategy represents a robust, sustainable, and policy-responsive solution that accords with the principles of the NPPF and the National Standards for SuDS where practicable. It delivers demonstrable betterment over the existing situation and provides a safe and effective means of surface water management.
- 12.12 On this basis, it is considered that the requirements of Conditions 6 and 7 have been satisfactorily addressed, and the submitted details are suitable for approval.

Appendix A

Decision Notice AWDM/0949/22



ADUR DISTRICT
COUNCIL

Mr Chris Barker
ECE Planning Limited
64-68 Brighton Road
Worthing
BN11 2EN
United Kingdom

PLANNING PERMISSION

TOWN AND COUNTRY PLANNING ACT 1990
TOWN AND COUNTRY PLANNING (GENERAL PERMITTED DEVELOPMENT) (AMENDMENT) (ENGLAND) ORDER 2015

APPLICATION NUMBER: AWDM/0949/22

Details of Development

ERECTION OF A THREE-STOREY SIDE EXTENSION TO THE EXISTING BUILDING AND RECESSED ROOF TOP EXTENSION TO THE WHOLE OF THE BUILDING TO ACCOMMODATE 9NO. FLATS COMPRISING 7NO. 1-BEDROOM FLATS AND 2NO. 2-BEDROOM FLATS. DEMOLITION OF EXISTING GARAGE BLOCK, RECONFIGURATION TO EXISTING CAR PARKING, PROPOSED LANDSCAPING, AND CYCLE/REFUSE STORAGE

Location of Development

ST JOHNS COURT PENSTONE CLOSE LANCING WEST SUSSEX

In pursuance of their powers under the above-mentioned Act and Order the Council hereby notify you that they PERMIT the above development, in accordance with the application and relevant correspondence registered on 8th June 2022.

This is for reasons stated on the schedule overleaf and subject to compliance with the conditions specified thereon.

A handwritten signature in black ink that reads 'G Peck'.

Gary Peck
Planning Services Manager
06/06/2023

SCHEDULE

Conditions

01. The development hereby permitted shall be carried out in accordance with the following approved plans unless specified otherwise in a subsequent condition imposed on this decision notice.

Reference/Drawing Number	Version	Date Rec
DESIGN & ACCESS STATEMENT MAY 2023	DOC.01 REV B	12.05.2023
PLANNING & TRANSPORT STATEMENT MAY 2023	P1894 P5	12.05.2023
PROPOSED SITE PLAN	PL02 Rev P7	12.05.2023
PROPOSED ELEVATIONS & SECTION	PL04 Rev P2	12.05.2023
PROPOSED STREET SCENES	PL05 Rev P3	12.05.2023
PROPOSED BIKE & BIN STORE	PL06 Rev P5	12.05.2023
DRAINAGE STRATEGY	07.12.2022	12.12.2022
SITE SECTION	PL10	29.09.2022
STRUCTURAL SURVEY REPORT	SG/am/22108	08.06.2022
EXISTING ELEVATIONS	18051-02-E-GA-JC Rev A	08.06.2022
EXISTING ROOF PLAN	21155-02-B-R Rev A	08.06.2022
LOCATION PLAN	PL01 Rev P1	08.06.2022
PROPOSED FLOOR PLANS	PL03 Rev P2	08.06.2022

Reason: *For the avoidance of doubt and in the interests of proper planning.*

02. The development hereby permitted shall be begun before the expiration of 3 years from the date of this permission.

Reason: *To comply with Section 91 of the Town and Country Planning Act 1990.*

03. No development shall be carried out unless and until a schedule of materials and finishes to be used for the external walls (including windows and doors) and roofs of the proposed buildings has been submitted to and approved in writing by the Local Planning Authority and the development shall be completed in accordance with the approved schedule.

Reason: *In the interests of visual amenity and to comply with policy 15 of the Adur Local Plan.*

04. No development shall take place, including any works of demolition, until a Construction Management Plan has been submitted to and approved in writing by the Local Planning Authority. The development shall be carried out in accordance with the approved Management Plan and shall be adhered to throughout the construction period. The Plan shall provide for:-
- (i) the parking of vehicles of site operatives and visitors;
 - (ii) loading and unloading of plant and materials;
 - (iii) storage of plant and materials used in constructing the development;
 - (iv) the erection and maintenance of security hoarding;
 - (v) wheel-washing facilities;
 - (vi) measures to control the emission of dust and dirt during construction;
 - (vii) a scheme for recycling/disposing of waste resulting from demolition and construction works; and
 - (viii) details of resident liaison before and during the development

Reason: *In the interests of highway safety and amenity having regard to policies 28 and 34 of the Adur Local Plan.*

05. Work for the implementation of the development hereby permitted shall only be undertaken between the following hours:

8am-6pm Monday to Friday, 8.30am-1pm Saturdays

with **no** working on Sundays or Public Holidays

Reason: *To safeguard the amenities of the occupiers of neighbouring properties having regard to policies 15 and 34 of the Adur Local Plan.*

06. Development shall not commence, other than works of site survey and investigation, until full details of the proposed foul and surface water drainage scheme have been submitted to and approved in writing by the Local Planning Authority in consultation with Southern Water. The design should follow the hierarchy of preference for different types of surface water drainage disposal systems as set out in Approved Document H of the Building Regulations, and the recommendations of the SuDS Manual produced by CIRIA. Winter groundwater monitoring to establish highest annual ground water levels and winter Percolation testing to BRE 365, or similar approved, will be required to support the design of any Infiltration drainage. No building / No part of the extended building shall be occupied until the complete surface water drainage system serving the property has been implemented in accordance with the agreed details and the details so agreed shall be maintained in good working order in perpetuity

Reason: *To ensure adequate drainage and to comply with the National Planning Policy Framework and policy 36 of the Adur Local Plan.*

07. Development shall not commence until full details of the maintenance and management of the surface water drainage system is set out in a site-specific maintenance manual and submitted to, and approved in writing, by the Local Planning Authority. The manual is to include details of financial management and arrangements for the replacement of major components at the end of the manufacturer's recommended design life. Upon completed construction of the surface water drainage system, the owner or management company shall strictly adhere to and implement the recommendations contained within the manual.

Reason: *To ensure adequate drainage and to comply with the National Planning Policy Framework and policy 36 of the Adur Local Plan.*

08. The buildings shall not be occupied until the car parking spaces and cycle storage facilities have been provided in accordance with the approved plans. The spaces shall not thereafter be used for any purpose other than for parking of vehicles and cycles incidental to the use of the premises concerned.

Reason: *In the interests of amenity and highway safety and having regard to the National Planning Policy Framework and policies 15 and 28 of the Adur Local Plan.*

09. No buildings on the site shall be occupied until the associated facilities for storing refuse and waste, including for waste that can be recycled, have been provided in accordance with the approved details.

Reason: *In the interests of amenity and to comply with the West Sussex Waste Local Plan.*

10. The development shall not be occupied until the sustainability and energy efficiency measures have been installed in accordance with the approved details.

Reason: *To ensure that the development is sustainable and makes efficient use of energy having regard to the National Planning Policy Framework and policy 18 of the Adur Local Plan.*

11. No development shall take place until full details of all hard and soft landscaping works and the proposed times of planting have been approved in writing by the Local Planning Authority and all soft landscape works shall be carried out in accordance with those details and at those times. Any plants which within a period of five years from the time of planting die, are removed or become seriously damaged or diseased shall be replaced in the next planting season with others of similar size and species unless the Local Planning Authority gives written consent to any variation.

Reason: *In the interests of visual amenity and the environment and to comply with policies 15 and 30 of the Adur Local Plan.*

Informatives / Notes to Applicant

01. The Local Planning Authority has acted positively and proactively in determining this application by identifying matters of concern within the application (as originally submitted) and negotiating, with the Applicant, acceptable amendments to the proposal to address those concerns. As a result, the Local Planning Authority has been able to grant planning permission for an acceptable proposal, in accordance with the presumption in favour of sustainable development, as set out within the National Planning Policy Framework.
02. West Sussex Fire and Rescue Service require evidence that all points inside all flats are within 45 metres of a fire appliance in accordance with Approved Document B Volume 1 2019 Edition B5 section 13. This is to be measured along the hose lay route, not in a direct line or arc measurement. Any areas not within the 45 metre distance will need to be mitigated by the installation of domestic sprinkler or water mist system complying with BS9251 or BS8458 standard.

**TOWN AND COUNTRY PLANNING ACT 1990
TOWN AND COUNTRY PLANNING (GENERAL PERMITTED DEVELOPMENT)
(AMENDMENT) (ENGLAND) ORDER 2015**

YOUR ATTENTION IS DIRECTED TO THE FOLLOWING NOTES FROM THE ABOVE ORDER. THEY ARE FOR INFORMATION ONLY AND DO NOT PRETEND TO SET OUT THE WHOLE OF THE LAW ON THE SUBJECT. IT WOULD BE WELL FOR YOU TO CONSULT YOUR SOLICITOR IF YOU ARE IN ANY DOUBT

Appeals to the Secretary of State

1. If you are aggrieved by the decision of your local planning authority to refuse permission for the proposed development or to grant it subject to conditions, then you can appeal to the Secretary of State under section 78 of the Town and Country Planning Act 1990.
2. If the decision relates to a householder application or minor commercial application, and you want to appeal, then you must do so within 12 weeks of the date of this notice. If the decision relates to express consent for the display of an advertisement, then you must do so within 8 weeks of the date of this notice. If the decision relates to a non-householder application, an appeal must be lodged within 6 months of the date of the decision notice. Appeals must be made using a form which you can get from the Secretary of State at Temple Quay House, 2 The Square, Temple Quay, Bristol BS1 6PN (Tel: 0303 444 5000) or online at <https://www.gov.uk/appeal-planning-decision>.
3. The Secretary of State can allow a longer period for giving notice of an appeal, but he will not normally be prepared to use this power unless there are special circumstances, which excuse the delay in giving notice of appeal.
4. The Secretary of State need not consider an appeal if it seems to him that the local planning authority could not have granted planning permission for the proposed development or could not have granted it without the conditions they imposed, having regard to the statutory requirements, to the provisions of any development order and to any directions given under a development order.
5. In practice, the Secretary of State does not refuse to consider appeals solely because the local planning authority based their decision on a direction given by him.

Purchase Notices

6. If either the local planning authority or the Secretary of State refuses permission to develop land or grants it subject to conditions, the owner may claim that he can neither put the land to a reasonably beneficial use in its existing state nor render the land capable of a reasonably beneficial use by the carrying out of any development which has been or would be permitted. In these circumstances, the owner may serve a purchase notice on the District Council in whose area the land is situated. This notice will require the Council to purchase his interest in the land in accordance with the provisions of Part VI of the Town and Planning Act 1990..
7. Where this notice conveys approval or permission, conditional or unconditional, please note that the decision given does not purport to convey any consent or approval which may be required under the Building Act and Building Regulations, or any other legislation.

Reduced time for making a planning appeal where enforcement action is being taken

Where an enforcement notice has been served in relation to the same, or substantially the same, development as in the planning application no earlier than 2 years before the date the application was made, the period for receiving a planning appeal is within 28 days of the date on the planning application decision notice or of the date by which the LPA should have decided the application.

However, the LPA may formally decline to determine a retrospective planning application for permission for any development contained within a pre-existing enforcement notice served on or after 6 April 2012, where that notice was issued before the application was received by the LPA (see above). There is no right to make a planning appeal in such circumstances.

Where an enforcement notice was served in relation to the same, or substantially the same, development after the decision notice on the application was issued or after the end of the period the LPA had to determine the application, the period for receiving a planning appeal is within 28 days of the date the enforcement notice was served (unless this would extend the period beyond the normal 12 weeks or 6 months deadline).

Appendix B

Development Plans and Layouts



NOTE

Accommodation Schedule

St Davids Total Existing Flats: 24

St Johns Existing

9no. 2-Bedroom 3 Person Flats

Total Existing Flats: 9 Flats

St Johns New Build

7no. 1-Bedroom 2 Person Flats

2no. 2-Bedroom 3 Person Flats

Total New Build : 9 Flats

Overall Total: 42 Dwellings

Proposed Car Parking;

30 allocated spaces @ 0.71

1 visitor parking spaces @ 3%

Total : 31 parking spaces

Cycle Parking;

-9no. cycle spaces within shared store

-4no. cycle spaces via sheffield stands

Total : 13 no. Cycle spaces

Refuge storage;

4no. 1100 L Wheelie Bin within shared store

KEY:

1. Proposed vehicle site access.
2. Refuse storage
3. Substation
4. Cycle storage for 5 cycle spaces
5. Cycle storage for 4 cycle spaces

--- Site Boundary

--- Ownership Boundary
"not included in red line boundary"

P7	09.05.23	Layby visitors spaces are being removed. Total number of visitors spaces has been reduced.	AX	AK
P6	10.03.23	Cycle storage removed and replaced with landscaping. Enclosed cycle storage repositioned to the south west of the site.	AX	LT
P5	13.02.23	Bins and Cycle storage location amended. One extra parking space added.	AX	LT
P4	27.09.22	ASHP added	KT	LT
P3	27.07.22	Turning head indicator.	AX	LT
P2	06.06.22	Measurements added.	AX	LT
P1	27.05.22	Draft Planning Issue	AX	LT
Rev	Date	Revision Details	Dr	Ch



Client's Name
Lincoln Estates Ltd

Drawing Title
Proposed Site Plan

Drawn
AX

Checked
LT

Date
17.03.2022

Job No
7130

Drawing No
PL-02

Rev
P7

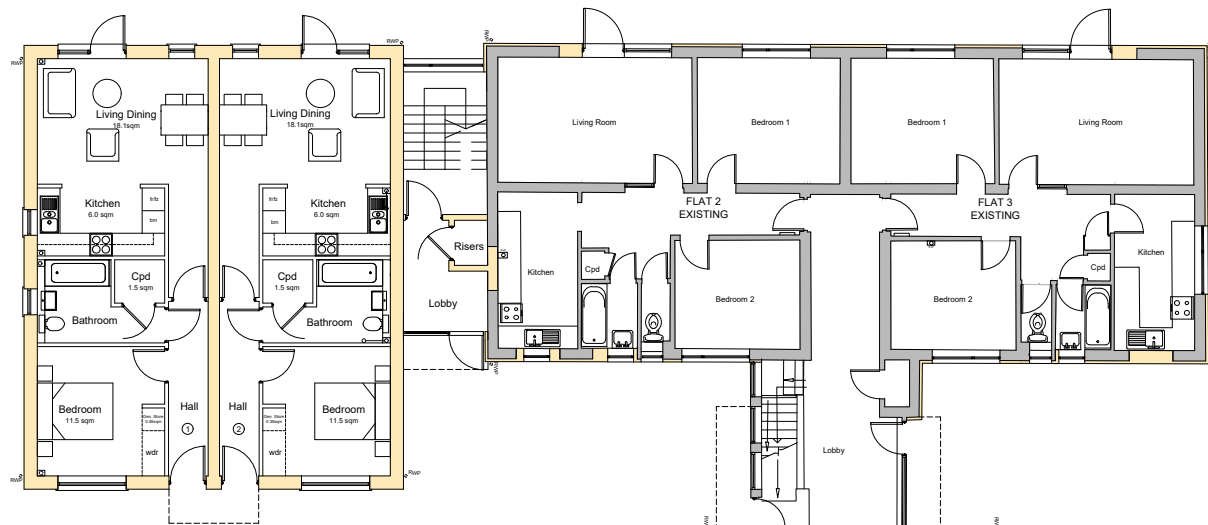
Status

APPROVAL

Job Title
**St Johns Court, Penstone Close
Lancing**

Scale
1:500 @ A3

metres 5 10 15 20



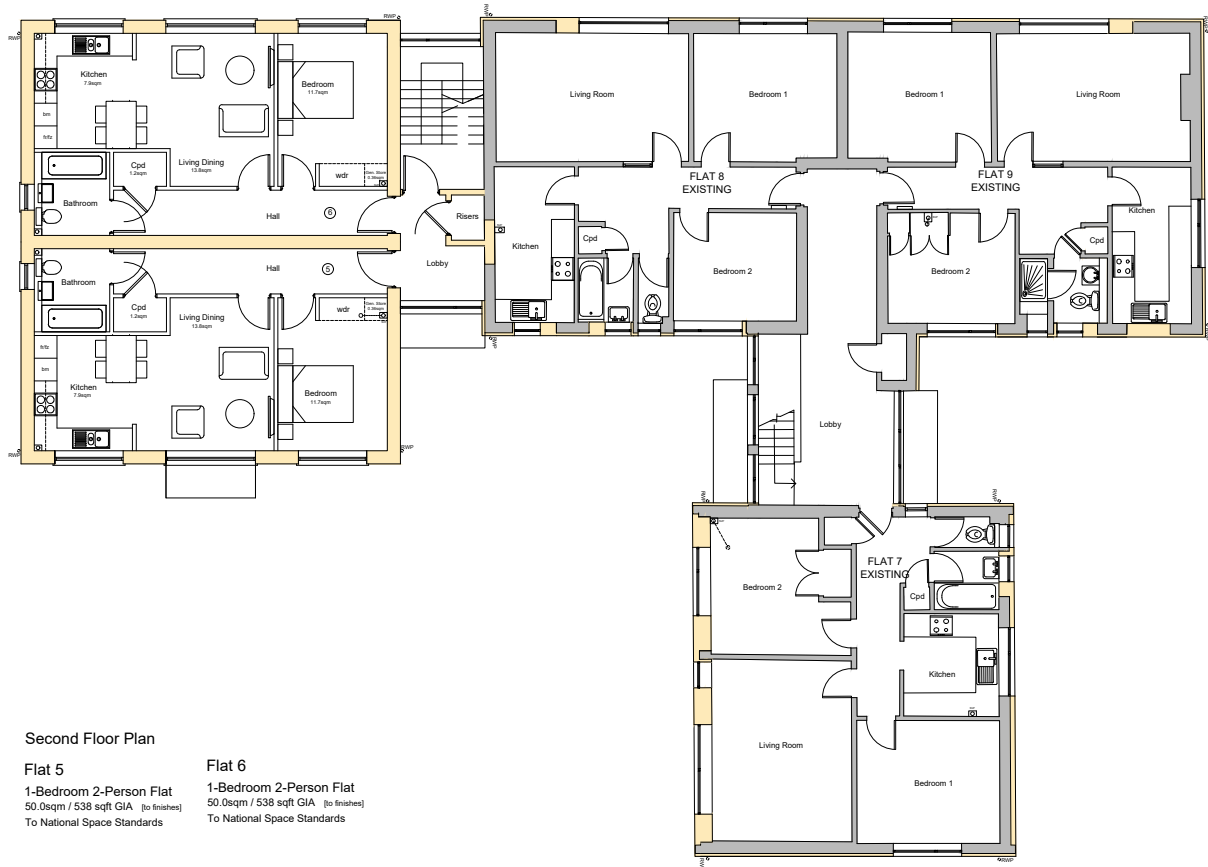
Ground Floor Plan

Flat 1

1-Bedroom 2-Person Flat
50.0sqm / 538 sqft GIA [to finishes]
To National Space Standards

Flat 2

1-Bedroom 2-Person Flat
50.0sqm / 538 sqft GIA [to finishes]
To National Space Standards



Second Floor Plan

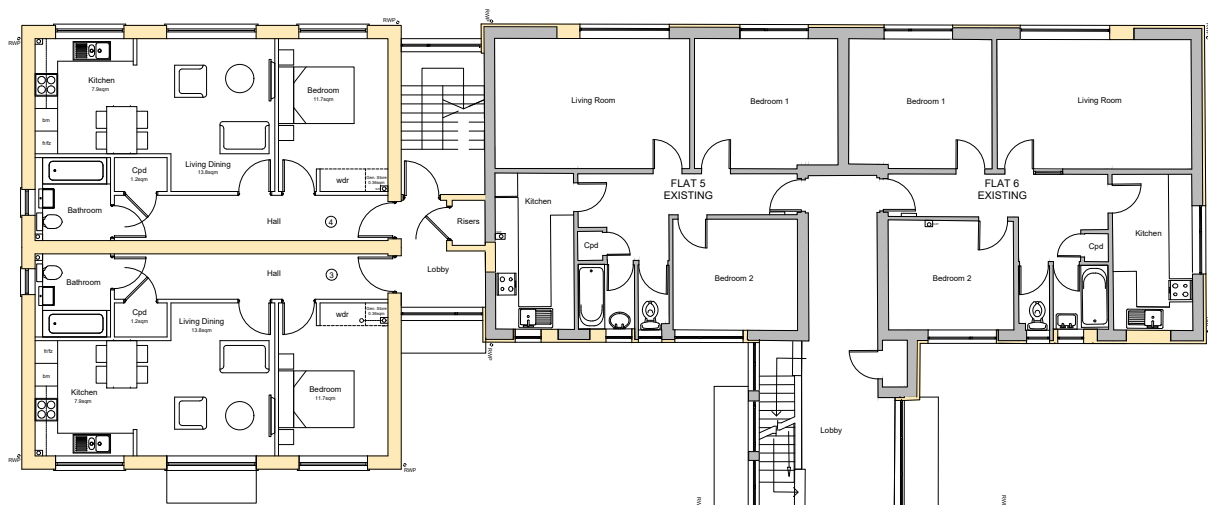
Flat 5

1-Bedroom 2-Person Flat
50.0sqm / 538 sqft GIA [to finishes]
To National Space Standards

Flat 6

1-Bedroom 2-Person Flat
50.0sqm / 538 sqft GIA [to finishes]
To National Space Standards

KEY



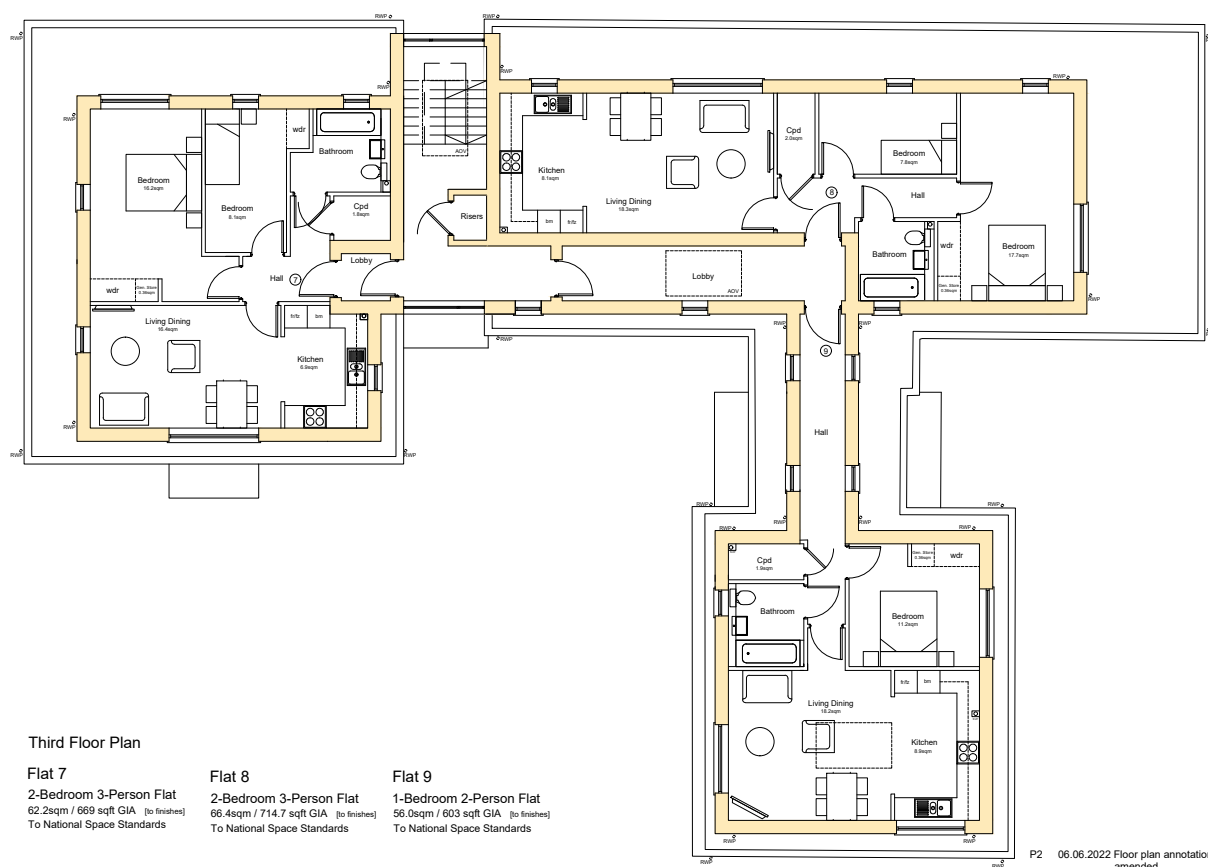
First Floor Plan

Flat 3

1-Bedroom 2-Person Flat
50.0sqm / 538 sqft GIA [to finishes]
To National Space Standards

Flat 4

1-Bedroom 2-Person Flat
50.0sqm / 538 sqft GIA [to finishes]
To National Space Standards



Third Floor Plan

Flat 7

2-Bedroom 3-Person Flat
62.2sqm / 669 sqft GIA [to finishes]
To National Space Standards

Flat 8

2-Bedroom 3-Person Flat
66.4sqm / 714.7 sqft GIA [to finishes]
To National Space Standards

Flat 9

1-Bedroom 2-Person Flat
56.0sqm / 603 sqft GIA [to finishes]
To National Space Standards

Client's Name
Lincoln Estates Ltd

Job Title
St Johns Court, Penstone Close
Lancing

Drawing Title
Proposed Floor Plans

Scale
1:100 @ A1 / 1:200 @ A3
metres 2 4 6 8

Drawn
AX
Job No
7130
Status

Checked
LT
Drawing No
PL-03

Date
17.03.2022
Rev
P2

APPROVAL

P2 06.06.2022 Floor plan annotations updated. Key colors amended. AX LT

P1 27.05.22 Draft Planning Issue AX LT

Rev Date Revision Details Dr Ch

ECE Architecture
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www.ecearchitecture.com

Appendix C

CCTV Survey Report

CCTV SURVEY REPORT



EXPRESS
SOLUTIONS
GROUP



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Ref: DP13492

Motion Highgate
84 North Street
Guildford
Surrey
GU1 4AU

24 November 2022

Dear Mr.Allen

Re: Fully Comprehensive CCTV Survey: St Johns Court, Penstone Park, Lancing, West Sussex, BN15 9AW

Firstly, thank you for using the services for Express Solutions Group. We are a Quality Assured, Health and Safety Accredited Company specializing in all aspects within the Drainage Industry.

As agreed, we carried out an investigative CCTV Survey to establish the condition of your Drainage System. Defects have been identified within your surveyed Drainage System.

The on-site engineer was unable to survey any rainwater pipes due to lack of access. Please contact the office if you require a quotation to create access and survey the rainwater pipes.

Pitch fibre drainage pipes were introduced in the 1940s and used extensively until the 1970s. They were thought at the time to be the latest wonder material, being cheaper than fired clay pipes and also lightweight and easy to handle.

They were made from wood fibre impregnated with coal tar and have performed adequately when dealing with normal wastewater. However, they have been found to react badly when subjected to large quantities of hot water and to oils and fats which can soften the tar and cause deformation and leaks.

The design life of pitch fibre pipes was recently estimated to be about 40 years, meaning that some will have reached the end of their life expectancy. In the worst cases, they can collapse, blocking the drain run. Please see our recommendations within the report to prolong the life of the drainage system.

The following is included within your report:

- Abbreviated condition summary index with recommendations and associated costings
- Full detailed condition report with still images
- Full CCTV footage
- Site plan showing the location of Inspection Chambers and Drain Runs
(Please note the plan is for interpretation purposes only and not to scale)





EXPRESS SOLUTIONS GROUP

Express Solutions Group

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surveys@expresssolutions.group
www.expresssolutions.group

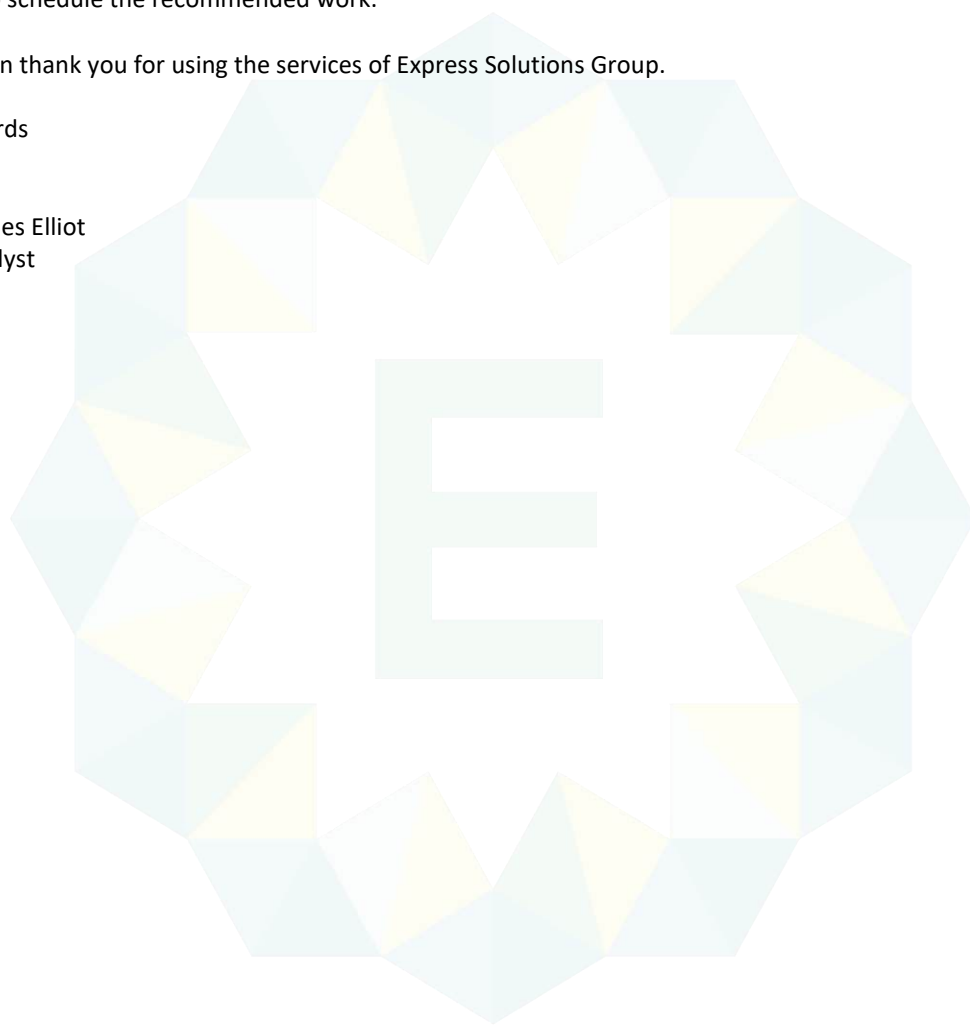
All work undertaken by Express Solutions Group is carried out by fully qualified operatives to the highest of standards and fully guaranteed.

Our aim is to always offer the right solution for your needs. As drainage specialists, we are able to undertake all recommended works within our report. We pride ourselves on being priced competitively. We understand the need to work expediently so please do not hesitate to contact us should you require clarity on your report or wish to schedule the recommended work.

Once again thank you for using the services of Express Solutions Group.

Kind regards

Lewis James Elliot
CCTV Analyst



EXPRESS
DRAINAGE
SOLUTIONS



EXPRESS
COMMERCIAL
SOLUTIONS



EXPRESS
HYDRO
SOLUTIONS



EXPRESS
DRAINAGE
SURVEYS



EXPRESS
RAIL
SOLUTIONS



Frontline
ENVIRONMENTAL

CCTV Summary Index

Job Reference: 13492

Address: St Johns Court, Penstone Park, Lancing, West Sussex, BN15 9AW

Recommendation Scale

- 1 No Further Action
- 2 Re-CCTV in 12 Months
(To Monitor Defects Identified)
- 3 Works Required



Sheet	Drainage section	Abbreviated Recommendations	Structural (S) or Serviceability/Maintenance Defect (M)	Grade (1-5)	Recommendation Scale (1-3)	Costs
A1:	Inspection Chamber Manhole 1	No Recommendations	-	-	1	-
A2:	Inspection Chamber Manhole 2	No Recommendations	-	-	1	-
A3:	Inspection Chamber Manhole 3	No Recommendations	-	-	1	-
A4:	Inspection Chamber Manhole 4	No Recommendations	-	-	1	-
A5:	Inspection Chamber Soakaway 1	1)HPWJ and extraction using a Combi tanker unit and man entry using a confined space entry kit to remove any silt and residual debris	M	2	3	Works1) £1,850.00 +155 per ton extracted Combined Price 1
A6:	Inspection Chamber Soakaway 2	1)HPWJ and extraction using a Combi tanker unit and man entry using a confined space entry kit to remove any silt and residual debris	M	2	3	Works1) Combined Price 1
A7:	Inspection Chamber Soakaway 3 (Buried)	No Recommendations	-	-	1	-

CCTV Summary Index

Recommendation Scale

- 1 No Further Action
- 2 Re-CCTV in 12 Months
(To Monitor Defects Identified)
- 3 Works Required



Sheet	Drainage section	Abbreviated Recommendations	Structural (S) or Serviceability/Maintenance Defect (M)	Grade (1-5)	Recommendation Scale (1-3)	Costs
A8:	Inspection Chamber Rain Water Gully 2&5	1)HPWJ using a combi tanker unit to remove a residual debris. 2)Re-CCTV (Any further works will be quoted accordingly)	S/M	3	3	Works1) Combined Price 1 Works2) £495.00 Combined Price 2
1:	Gully 1 – Buried Manhole	1)HPWJ using a Combi Tanker Unit to remove any residual debris 2)Re-line (100mm Super Flexi) for approx. 6m <i>Pitch fibre pipework composition identified, this is currently not deformed, recommendation has been made to prolong the life of this drainage run.</i>	S/M	2	2/3	Works1) Combined Price 1 Works2) £1,200.00
2:	Gully 3 – Soakaway 1	1)Excavate and replace Gully with new UPVC gully to the correct alignment and fall. 2)HPWJ using a Combi tanker unit to remove any residual debris. 3)Re-line (150mm Super Flexi) for Approx 5m <i>Pitch fibre pipework composition identified, this is currently not deformed, recommendation has been made to prolong the life of this drainage run.</i>	S/M	2	2/3	Work1) £1,250.00 Works2) Combined Price 1` Works3) £1,000.00
3:	Gully 4 – Soakaway 2	1)HPWJ using a Combination tanker unit to remove any residual debris. 2)Re-line (100mm Super Flexi) for Approx 6m	S/M	3	3	Works1) Combined Price 1 Works2)

CCTV Summary Index

Recommendation Scale

- 1 No Further Action
- 2 Re-CCTV in 12 Months
(To Monitor Defects Identified)
- 3 Works Required



Sheet	Drainage section	Abbreviated Recommendations	Structural (S) or Serviceability/Maintenance Defect (M)	Grade (1-5)	Recommendation Scale (1-3)	Costs
						£1,200.00
4:	Manhole 1 – Manhole 2	1)Excavate and replace entire section of drainage run with New UPVC pipework to the correct alignment and fall	S	2	3	Requires Site visit for Quotation
5:	Manhole 1 – Lateral 1 - Stack	1)HPWJ using a Combination tanker unit to remove any residual debris. 2)Re-line (100mm Super Flexi) for Approx 3m	S/M	3	3	Works1) Combined Price 1 Works2) £600.00
6:	Manhole 1 – Upstream - Rest Bend	1)HPWJ using a Combination tanker unit to remove any residual debris. 2)Re-line (100mm Super Flexi) for Approx 3m	S/M	3	3	Works1) Combined Price 1 Works2) £600.00
7:	Manhole 2 – Manhole 4	1)Excavate and replace entire section of drainage run with New UPVC pipework to the correct alignment and fall	S	2	3	Requires Site visit for Quotation
8:	Manhole 3 – Manhole 2	1)Excavate and replace entire section of drainage run with New UPVC pipework to the correct alignment and fall	S	2	3	Requires Site visit for Quotation
9:	Manhole 3 – Lateral 1 - WC	No Recommendations	-	-	1	-
10:	Manhole 3 – Lateral 2 - SVP	1)HPWJ to remove any residual debris 2)Re-line (100mm Super Flexi) for Approx 2m	S.M	2	3	Works1) £650.00

CCTV Summary Index

Recommendation Scale		
1	No Further Action	
2	Re-CCTV in 12 Months (To Monitor Defects Identified)	
3	Works Required	

Sheet	Drainage section	Abbreviated Recommendations	Structural (S) or Serviceability/Maintenance Defect (M)	Grade (1-5)	Recommendation Scale (1-3)	Costs
11:	Manhole 4 – Downstream - Survey Abandoned	1)HPWJ and extraction using a Combi tanker unit to remove any residual debris and reduce water flow 2)Re-CCTV (Any further works will be quoted accordingly)	M	3	3	Works1) Combine Price 1 Works2) Combined Price 2
12:	Manhole 4 – Upstream - Capped End	No Recommendations	-	-	1	-
Total Price						£8,845.00+VAT +155 per ton extracted <i>Please contact the office if you require a quotation for excavations recommended</i>



Inspection Chamber condition report

Sheet A2		Photo			
Job number	13492				
Inspection Chamber	Manhole 2				
Invert level (m)	2800mm				
Cover Size (mm)	660 Ø				
Chamber Size (mm)	900 Ø				
Condition	Good	☒			
	Fair	☐			
	Poor	☐			
Material	Brick	☐			
	Concrete	☐			
	UPVC	☒			
	Rendered Walls	☐			
Defects Yes ☐ No ☒		Covering frame seized	☐	Missing Covering Lid	☐
		Cracked benching	☐	Deteriorated Covering Lid	☐
		Root Ingress	☐	Scale/rubble/debris	☐
		Location unknown	☐	Blocked interceptor	☐
Details					
Recommendations		No recommendations			
Works Guarantee		N/A			
Are there any Health & Safety issues		N/A			
Risk & Method Statement supplied		N/A			
Any Special Site Requirements or Conditions		N/A			
Specialist Plant Requirement		N/A			





Inspection Chamber condition report

Sheet A3		Photo			
Job number	13492				
Inspection Chamber	Manhole 3				
Invert level (m)	1220mm				
Cover Size (mm)	650 x 500				
Chamber Size (mm)	600 x 450				
Condition	Good	☒			
	Fair	☐			
	Poor	☐			
Material	Brick	☒			
	Concrete	☐			
	UPVC	☐			
	Rendered Walls	☒			
Defects Yes ☐ No ☒		Covering frame seized	☐	Missing Covering Lid	☐
		Cracked benching	☐	Deteriorated Covering Lid	☐
		Root Ingress	☐	Scale/rubble/debris	☐
		Location unknown	☐	Blocked interceptor	☐
Details					
Recommendations		No recommendations			
Works Guarantee		N/A			
Are there any Health & Safety issues		N/A			
Risk & Method Statement supplied		N/A			
Any Special Site Requirements or Conditions		N/A			
Specialist Plant Requirement		N/A			





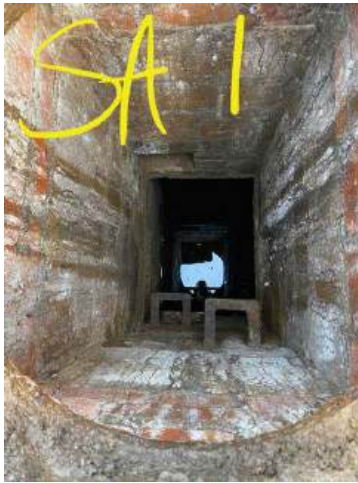
Inspection Chamber condition report

Sheet A4		Photo			
Job number	13492				
Inspection Chamber	Manhole 4				
Invert level (m)	2900mm				
Cover Size (mm)	660 Ø				
Chamber Size (mm)	1200 Ø				
Condition	Good	☐			
	Fair	☐			
	Poor	☐			
Material	Brick	☐			
	Concrete	☐			
	UPVC	☐			
	Rendered Walls	☐			
Defects Yes ☐ No ☐		Covering frame seized	☐	Missing Covering Lid	☐
		Cracked benching	☐	Deteriorated Covering Lid	☐
		Root Ingress	☐	Scale/rubble/debris	☐
		Location unknown	☐	Blocked interceptor	☐
Details					
Recommendations		No recommendations			
Works Guarantee		N/A			
Are there any Health & Safety issues		N/A			
Risk & Method Statement supplied		N/A			
Any Special Site Requirements or Conditions		N/A			
Specialist Plant Requirement		N/A			





Inspection Chamber condition report

Sheet A5		Photo	
Job number	13492		
Inspection Chamber	Soakaway 1		
Invert level (m)	2600mm		
Cover Size (mm)	600 × 600		
Chamber Size (mm)	1200 × 1200		
Condition	Good ☒		
	Fair ☐		
	Poor ☐		
Material	Brick ☒		
	Concrete ☐		
	UPVC ☐		
	Rendered Walls ☐		
Defects Yes ☐ No ☒		Covering frame seized ☐	Missing Covering Lid ☐
		Cracked benching ☐	Deteriorated Covering Lid ☐
		Root Ingress ☐	Scale/rubble/debris ☒
		Location unknown ☐	Blocked interceptor ☐
Details		The Soakaway is Honey Combe style Soakaway. The onsite engineer identified Heavy silt and Residual Debris within the Soakaway.	
Recommendations		Our recommendations are: 1. High Pressure Water Jetting and Extraction using a Combination Tanker Unit and man entry using a Confined Space Entry Kit to remove any Silt and Residual Debris. All work undertaken by EDS is carried out by fully qualified operatives to the highest standard.	
Works Guarantee		All lining works undertaken is guaranteed for 10 years & excavations 5 years	
Are there any Health & Safety issues		No	
Risk & Method Statement supplied		Will be supplied upon undertaking of works	
Any Special Site Requirements or Conditions		Will be supplied upon undertaking of works	
Specialist Plant Requirement		Will be supplied upon undertaking of works	





Inspection Chamber condition report

Sheet A6		Photo			
Job number	13492				
Inspection Chamber	Soakaway 2				
Invert level (m)	2100mm				
Cover Size (mm)	600 × 600				
Chamber Size (mm)	1200 × 1200				
Condition	Good	☒			
	Fair	☐			
	Poor	☐			
Material	Brick	☒			
	Concrete	☐			
	UPVC	☐			
	Rendered Walls	☐			
Defects Yes ☐ No ☐		Covering frame seized	☐	Missing Covering Lid	☐
		Cracked benching	☐	Deteriorated Covering Lid	☐
		Root Ingress	☐	Scale/rubble/debris	☐
		Location unknown	☐	Blocked interceptor	☐
Details		The Soakaway is Honey Combe style Soakaway. The onsite engineer identified Heavy silt and Residual Debris within the Soakaway			
Recommendations		Our recommendations are: 1. High Pressure Water Jetting and Extraction using a Combination Tanker Unit and man entry using a Confined Space Entry Kit to remove any Silt and Residual Debris. All work undertaken by EDS is carried out by fully qualified operatives to the highest standard.			
Works Guarantee		All lining works undertaken is guaranteed for 10 years & excavations 5 years			
Are there any Health & Safety issues		No			
Risk & Method Statement supplied		Will be supplied upon undertaking of works			
Any Special Site Requirements or Conditions		Will be supplied upon undertaking of works			
Specialist Plant Requirement		Will be supplied upon undertaking of works			





Inspection Chamber condition report

Sheet A7		Photo	
Job number	13492	N/A	
Inspection Chamber	Soakaway 3 (Buried)		
Invert level (m)	- m		
Cover Size (mm)	- x -		
Chamber Size (mm)	- x -		
Condition	Good ☐		
	Fair ☐		
	Poor ☐		
Material	Brick ☐		
	Concrete ☐		
	UPVC ☐		
	Rendered Walls ☐		
Defects Yes ☐ No ☒		Covering frame seized ☐	Missing Covering Lid ☐
		Cracked benching ☐	Deteriorated Covering Lid ☐
		Root Ingress ☐	Scale/rubble/debris ☐
		Location unknown ☐	Blocked interceptor ☐
Details			
Recommendations		No recommendations	
Works Guarantee		N/A	
Are there any Health & Safety issues		N/A	
Risk & Method Statement supplied		N/A	
Any Special Site Requirements or Conditions		N/A	
Specialist Plant Requirement		N/A	





Inspection Chamber condition report

Sheet A8		Photo	
Job number	13492	N/A	
Inspection Chamber	Rain Water Gully 2&5		
Invert level (m)	- mm		
Cover Size (mm)	- x -		
Chamber Size (mm)	- x -		
Condition	Good ☐		
	Fair ☐		
	Poor ☒		
Material	Brick ☐		
	Concrete ☐		
	UPVC ☐		
	Rendered Walls ☐		
Defects Yes ☒ No ☐		Covering frame seized ☐	Missing Covering Lid ☐
		Cracked benching ☐	Deteriorated Covering Lid ☐
		Root Ingress ☐	Scale/rubble/debris ☒
		Location unknown ☐	Blocked interceptor ☐
Details		The Onsite engineer identified these Rain Water Gully are heavily blocked and therefore was unable to survey.	
Recommendations		Our recommendations are: 1. High Pressure Water Jetting using a Combination Tanker Unit to remove any Residual Debris. 2. Re-CCTV to establish the true condition of the remaining drainage run and monitor if the identified defects have deteriorated. (Any further works will be quoted accordingly)	
Works Guarantee		All work undertaken by EDS is carried out by fully qualified operatives to the highest standard.	
Are there any Health & Safety issues		No	
Risk & Method Statement supplied		Will be supplied upon undertaking of works	
Any Special Site Requirements or Conditions		Will be supplied upon undertaking of works	
Specialist Plant Requirement		Will be supplied upon undertaking of works	





CCTV Survey Report

Invoice Address: Motion Highgate 84 North Street Guildford Surrey GU1 4AU		Site: St Johns Court Penstone Park Lancing West Sussex BN15 9AW		Job No: 13492	
				Eng No: DP743	
				Date: 24 November 2022	
				Sheet: 1	
Reason for Survey		CCTV Fully Comprehensive Survey		Survey Recorded ☒	
Pipe Dia	100mm	Run Length	5.18m	Foul / Surface	Clay/Pitch Fibre
Start Position		Gully 1	End Position		Buried Manhole
Invert Level		400mm	Invert Level		Not Confirmed
Survey direction		Downstream	Surface Area		Tarmac
Meterage	Code	Grade	Remark / Note		Image Supplied
0.00m	-	-	Start of Survey		Yes
1.92m	MC	-	Material Change in Drain (Clay to Pitch Fibre)		Yes
3.93m	MC	-	Material Change in Drain (Pitch to Pitch Fibre)		Yes
5.18m	-	-	Reached Buried Soakaway 3 & End of Survey		Yes
Drain Run in a serviceable condition?		No			
Details		The survey revealed Pitch Fibre Composition within the drainage run. If you have any further queries or questions in relation to any of the above noted defects, please don't hesitate to contact the office on the number supplied on the covering letter.			





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Gully 1 – Buried Manhole





CCTV Overview / Quote

Invoice Address: Motion Highgate 84 North Street Guildford Surrey GU1 4AU		Site: St Johns Court Penstone Park Lancing West Sussex BN15 9AW		Job No:	13492
				Eng No:	DP743
				Date:	24 November 2022
				Sheet:	1
Start Position	Gully 1	End Position	Buried Manhole		
Recommendations		Our recommendations are:			
		1. High Pressure Water Jetting using a Combination Tanker Unit to remove any Residual Debris.			
		2. Insertion of a Fibre Resin Linear Liner (100mm Super Flexi) for approximatively 6 metres.			
		All work undertaken by EDS is carried out by fully qualified operatives to the highest standard.			
Works Guarantee		All lining works undertaken is guaranteed for 10 years & excavations 5 years			
Are there any Health & Safety issues		No			
Risk & Method Statement supplied		Will be supplied upon undertaking of works			
Any Special Site Requirements or Conditions		Will be supplied upon undertaking of works			
Specialist Plant Requirement		Will be supplied upon undertaking of works			





CCTV Survey Report

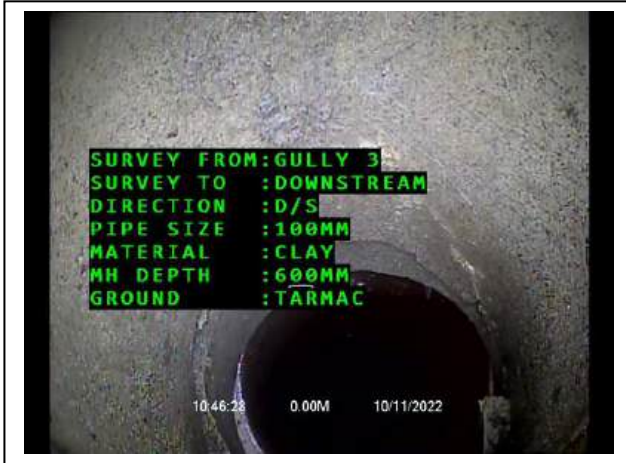
Invoice Address:		Site:		Job No:		13492	
Motion Highgate		St Johns Court		Eng No:		DP743	
84 North Street		Penstone Park		Date:		24 November 2022	
Guildford		Lancing		Sheet:		2	
Surrey		West Sussex					
GU1 4AU		BN15 9AW					
Reason for Survey		CCTV Fully Comprehensive Survey		Survey Recorded		☒	
Pipe Dia	150mm	Run Length	5.08m	Foul / Surface	Surface	Composition	Clay/Pitch Fibre
Start Position		Gully 3		End Position		Soakaway 1	
Invert Level		600mm		Invert Level		Not Confirmed	
Survey direction		Downstream		Surface Area		Tarmac	
Meterage	Code	Grade	Remark / Note			Image Supplied	
0.00m	-	-	Start of Survey			Yes	
0.19m	FL/BP/CN	4	Stress fractures/Broken Pipework/Dropper to Gully			Yes	
0.67m	MC	-	Material Change in Drain (Clay to Pitch Fibre)			Yes	
2.78m	MC	-	Material Change in Drain (Pitch Fibre to Clay)			Yes	
3.45m	DJ/SR	3	Displaced Joint/Scale(Concrete)			Yes	
5.08m	-	-	Reached Soakaway 1 & End of Survey			Yes	
Drain Run in a serviceable condition?		Yes					
Details		The survey revealed Pitch Fibre Composition, Stress fractures, Broken Pipework, Displaced Joint and Scale(Concrete) within the drainage run. If you have any further queries or questions in relation to any of the above noted defects, please don't hesitate to contact the office on the number supplied on the covering letter.					





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Gully 4 – Soakaway 2





CCTV Overview / Quote

Invoice Address: Motion Highgate 84 North Street Guildford Surrey GU1 4AU		Site: St Johns Court Penstone Park Lancing West Sussex BN15 9AW		Job No:	13492
				Eng No:	DP743
				Date:	24 November 2022
				Sheet:	2
Start Position	Gully 3		End Position	Soakaway 1	
Recommendations		Our recommendations are: 1. Excavate & replace Gully with new UPVC Gully to the correct alignment & fall. 2. High Pressure Water Jetting using a Combination Tanker Unit to remove any Residual Debris. 3. Insertion of a Fibre Resin Linear Liner (150 mm Super Flexi) for approximately 5 metres. All work undertaken by EDS is carried out by fully qualified operatives to the highest standard.			
		Works Guarantee		All lining works undertaken is guaranteed for 10 years & excavations 5 years	
		Are there any Health & Safety issues		No	
		Risk & Method Statement supplied		Will be supplied upon undertaking of works	
Any Special Site Requirements or Conditions		Will be supplied upon undertaking of works			
Specialist Plant Requirement		Will be supplied upon undertaking of works			





CCTV Survey Report

Invoice Address: Motion Highgate 84 North Street Guildford Surrey GU1 4AU		Site: St Johns Court Penstone Park Lancing West Sussex BN15 9AW		Job No: 13492	
				Eng No: DP743	
				Date: 24 November 2022	
				Sheet: 3	
Reason for Survey		CCTV Fully Comprehensive Survey		Survey Recorded ☒	
Pipe Dia	150mm	Run Length	5.18m	Foul / Surface	Surface
Composition		Clay/Pitch Fibre			
Start Position		Gully 4		End Position	
Soakaway 2					
Invert Level		600mm		Invert Level	
Not Confirmed					
Survey direction		Downstream		Surface Area	
Tarmac					
Meterage	Code	Grade	Remark / Note		Image Supplied
0.00m	-	-	Start of Survey		Yes
0.00m	FL/DJ	3	Stress fractures/Displaced Joint		Yes
0.38m	CC	3	Stress cracks (Circumferential cracks)		Yes
1.05m	DJ	2	Displaced Joint		Yes
3.16m	DJ	2	Displaced Joint		Yes
3.93m	DJ	2	Displaced Joint		Yes
5.18m	-	-	Reached Soakaway 2 & End of Survey		Yes
Drain Run in a serviceable condition?		Yes			
Details		The survey revealed Pitch Fibre Composition, Displaced Joint, Stress Fractures and Stress cracks within the drainage run. If you have any further queries or questions in relation to any of the above noted defects, please don't hesitate to contact the office on the number supplied on the covering letter.			





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Gully 4 – Soakaway 2







CCTV Overview / Quote

Invoice Address: Motion Highgate 84 North Street Guildford Surrey GU1 4AU		Site: St Johns Court Penstone Park Lancing West Sussex BN15 9AW	Job No:	13492
			Eng No:	DP743
			Date:	24 November 2022
			Sheet:	3
Start Position	Gully 4	End Position	Soakaway 2	
Recommendations		Our recommendations are: 1. High Pressure Water Jetting to remove any Residual Debris. 2. Insertion of a Fibre Resin Linear Liner (100mm Super Flexi) for approximately 6 metres - All work undertaken by EDS is carried out by fully qualified operatives to the highest standard.		
Works Guarantee		All lining works undertaken is guaranteed for 10 years & excavations 5 years		
Are there any Health & Safety issues		No		
Risk & Method Statement supplied		Will be supplied upon undertaking of works		
Any Special Site Requirements or Conditions		Will be supplied upon undertaking of works		
Specialist Plant Requirement		Will be supplied upon undertaking of works		





CCTV Survey Report

Invoice Address: Motion Highgate 84 North Street Guildford Surrey GU1 4AU			Site: St Johns Court Penstone Park Lancing West Sussex BN15 9AW			Job No: 13492	
						Eng No: DP743	
						Date: 24 November 2022	
						Sheet: 4	
Reason for Survey			CCTV Fully Comprehensive Survey			Survey Recorded ☒	
Pipe Dia	100mm	Run Length	17.40m	Foul / Surface	Foul	Composition Clay/Pitch Fibre	
Start Position		Manhole 1		End Position		Manhole 2	
Invert Level		900mm		Invert Level		Not Confirmed	
Survey direction		Upstream		Surface Area		Grass/Tarmac	
Meterage	Code	Grade	Remark / Note				Image Supplied
0.00m	-	-	Start of Survey				Yes
1.34m	D	3	Deformed Pipework				Yes
4.12m	D	3	Deformed Pipework				Yes
5.66m	D	3	Deformed Pipework				Yes
6.43m	D	3	Deformed Pipework				Yes
7/49m	D	3	Deformed Pipework				Yes
8.45m	D	3	Deformed Pipework				Yes
9.33m	D	3	Deformed Pipework				Yes
12.04m	D	3	Deformed Pipework				Yes
14.11m	D	3	Deformed Pipework				Yes
15.90m	MC	-	Material Change in Drain (Pitch Fibre to Clay)				Yes
17.40m	-	-	Reached Manhole 2 & End of Survey				Yes
Drain Run in a serviceable condition?			No				
Details			The survey revealed pitch f Deformed Pipework within the drainage run. If you have any further queries or questions in relation to any of the above noted defects, please don't hesitate to contact the office on the number supplied on the covering letter.				





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Manhole 1 – Manhole 2









CCTV Overview / Quote

Invoice Address: Motion Highgate 84 North Street Guildford Surrey GU1 4AU		Site: St Johns Court Penstone Park Lancing West Sussex BN15 9AW		Job No:	13492
				Eng No:	DP743
				Date:	24 November 2022
				Sheet:	4
Start Position	Manhole 1		End Position	Manhole 2	
Recommendations		Our recommendations are: 1. Excavate & replace entire section of drainage run with new UPVC pipework to the correct alignment & fall. All work undertaken by EDS is carried out by fully qualified operatives to the highest standard.			
Works Guarantee		All lining works undertaken is guaranteed for 10 years & excavations 5 years			
Are there any Health & Safety issues		No			
Risk & Method Statement supplied		Will be supplied upon undertaking of works			
Any Special Site Requirements or Conditions		Will be supplied upon undertaking of works			
Specialist Plant Requirement		Will be supplied upon undertaking of works			





CCTV Survey Report

Invoice Address: Motion Highgate 84 North Street Guildford Surrey GU1 4AU			Site: St Johns Court Penstone Park Lancing West Sussex BN15 9AW			Job No: 13492	
						Eng No: DP743	
						Date: 24 November 2022	
						Sheet: 5	
Reason for Survey			CCTV Fully Comprehensive Survey			Survey Recorded ☒	
Pipe Dia	100mm	Run Length	2.30m	Foul / Surface	Foul	Composition	Clay
Start Position		Manhole 1		End Position		Lateral 1 - Stack	
Invert Level		900mm		Invert Level		Not Confirmed	
Survey direction		Upstream		Surface Area		Concrete/Internal	
Meterage	Code	Grade	Remark / Note				Image Supplied
0.00m	-	-	Start of Survey				Yes
0.76m	DJ	2	Displaced Joint				Yes
2.30m	-	-	Reached Stack & End of Survey				Yes
Drain Run in a serviceable condition?			Yes				
Details			The survey revealed a displaced joint within the drainage run. If you have any further queries or questions in relation to any of the above noted defects, please don't hesitate to contact the office on the number supplied on the covering letter.				





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Manhole 1 – Lateral 1 - Stack





CCTV Overview / Quote

Invoice Address: Motion Highgate 84 North Street Guildford Surrey GU1 4AU		Site: St Johns Court Penstone Park Lancing West Sussex BN15 9AW		Job No:	13492
				Eng No:	DP743
				Date:	24 November 2022
				Sheet:	5
Start Position	Manhole 1	End Position	Lateral 1 - Stack		
Recommendations		Our recommendations are: 1. High Pressure Water Jetting using a combination Tanker Unit to remove any Residual Debris. 2. Insertion of a Fibre Resin Linear Liner (100mm Super Flexi) for approximatively 3 metres. All work undertaken by EDS is carried out by fully qualified operatives to the highest standard.			
		Works Guarantee			
		All lining works undertaken is guaranteed for 10 years & excavations 5 years			
Are there any Health & Safety issues		No			
Risk & Method Statement supplied		Will be supplied upon undertaking of works			
Any Special Site Requirements or Conditions		Will be supplied upon undertaking of works			
Specialist Plant Requirement		Will be supplied upon undertaking of works			





CCTV Survey Report

Invoice Address: Motion Highgate 84 North Street Guildford Surrey GU1 4AU			Site: St Johns Court Penstone Park Lancing West Sussex BN15 9AW			Job No: 13492	
						Eng No: DP743	
						Date: 24 November 2022	
						Sheet: 6	
Reason for Survey			CCTV Fully Comprehensive Survey			Survey Recorded ☒	
Pipe Dia	100mm	Run Length	2.11m	Foul / Surface	Foul	Composition	Clay
Start Position		Manhole 1		End Position		Upstream - Rest Bend	
Invert Level		900mm		Invert Level		Not Confirmed	
Survey direction		Upstream		Surface Area		Gravel/Internal	
Meterage	Code	Grade	Remark / Note				Image Supplied
0.00m	-	-	Start of Survey				Yes
0.09m	DJ	2	Displaced Joint				Yes
1.05m	DJ	2	Displaced Joint				Yes
2.11m	-	-	Reached Rest Bend & End of Survey				Yes
Drain Run in a serviceable condition?			Yes				
Details			The survey revealed displaced joints within the drainage run. If you have any further queries or questions in relation to any of the above noted defects, please don't hesitate to contact the office on the number supplied on the covering letter.				





Images Page

Manhole 1 — Upstream - Rest Bend





CCTV Overview / Quote

Invoice Address: Motion Highgate 84 North Street Guildford Surrey GU1 4AU		Site: St Johns Court Penstone Park Lancing West Sussex BN15 9AW		Job No:	13492
				Eng No:	DP743
				Date:	24 November 2022
				Sheet:	6
Start Position	Manhole 1	End Position	Upstream - Rest Bend		
Recommendations		Our recommendations are:			
		1. High Pressure Water Jetting using a Combination Tanker Unit to remove any Residual Debris.			
		2. Insertion of a Fibre Resin Linear Liner (100mm Super Flexi) for approximatively 3 metres.			
		All work undertaken by EDS is carried out by fully qualified operatives to the highest standard.			
Works Guarantee		All lining works undertaken is guaranteed for 10 years & excavations 5 years			
Are there any Health & Safety issues		No			
Risk & Method Statement supplied		Will be supplied upon undertaking of works			
Any Special Site Requirements or Conditions		Will be supplied upon undertaking of works			
Specialist Plant Requirement		Will be supplied upon undertaking of works			





CCTV Survey Report

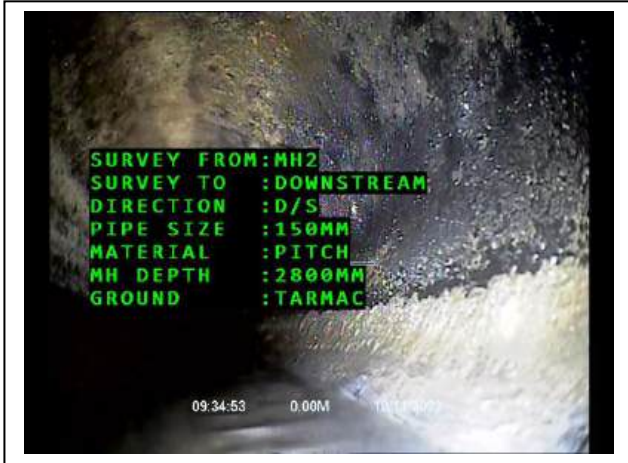
Invoice Address: Motion Highgate 84 North Street Guildford Surrey GU1 4AU		Site: St Johns Court Penstone Park Lancing West Sussex BN15 9AW		Job No: 13492	
				Eng No: DP743	
				Date: 24 November 2022	
				Sheet: 7	
Reason for Survey		CCTV Fully Comprehensive Survey		Survey Recorded ☒	
Pipe Dia	150mm	Run Length	29.40m	Foul / Surface	Combined
Composition		Pitch Fibre			
Start Position		Manhole 2		End Position	
Invert Level		2800mm		Invert Level	
Not Confirmed					
Survey direction		Downstream		Surface Area	
Tarmac					
Meterage	Code	Grade	Remark / Note		Image Supplied
0.00m	-	-	Start of Survey		Yes
1.34m	WL/D	3	Water levels due to deformed pipework		Yes
4.60m	D	2	Deformed Pipework		Yes
8.59m	WL/D	3	Water levels due to deformed pipework		Yes
9.77m	WL/D	3	Water levels due to deformed pipework		Yes
13.95m	WL/D	3	Water levels due to deformed pipework		Yes
15.75m	WL/D	3	Water levels due to deformed pipework		Yes
18.33m	WL/D	3	Water levels due to deformed pipework		Yes
19.23m	WL/D	3	Water levels due to deformed pipework		Yes
21.15m	WL/D	3	Water levels due to deformed pipework		Yes
24.92m	WL/D	3	Water levels due to deformed pipework		Yes
28.47m	WL/D	3	Water levels due to deformed pipework		Yes
29.40m	-	-	Reached Manhole 4 & End of Survey		Yes
Drain Run in a serviceable condition?		No			
Details		The survey revealed Pitch fibre compisition and Water levels due to deformed pipework within the drainage run. If you have any further queries or questions in relation to any of the above noted defects, please don't hesitate to contact the office on the number supplied on the covering letter.			





Images Page

Manhole 2 – Manhole 4



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DRAINAGE
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CCTV Overview / Quote

Invoice Address: Motion Highgate 84 North Street Guildford Surrey GU1 4AU		Site: St Johns Court Penstone Park Lancing West Sussex BN15 9AW	Job No:	13492
			Eng No:	DP743
			Date:	24 November 2022
			Sheet:	7
Start Position	Manhole 2	End Position	Manhole 4	
Recommendations		Our recommendations are: 1. Excavate & replace entire section of drainage run with new UPVC pipework to the correct alignment & fall. All work undertaken by EDS is carried out by fully qualified operatives to the highest standard.		
Works Guarantee		All lining works undertaken is guaranteed for 10 years & excavations 5 years		
Are there any Health & Safety issues		No		
Risk & Method Statement supplied		Will be supplied upon undertaking of works		
Any Special Site Requirements or Conditions		Will be supplied upon undertaking of works		
Specialist Plant Requirement		Will be supplied upon undertaking of works		





CCTV Survey Report

Invoice Address:			Site:			Job No:		13492		
Motion Highgate			St Johns Court			Eng No:		DP743		
84 North Street			Penstone Park			Date:		24 November 2022		
Guildford			Lancing			Sheet:		8		
Surrey			West Sussex							
GU1 4AU			BN15 9AW							
Reason for Survey			CCTV Fully Comprehensive Survey				Survey Recorded		☒	
Pipe Dia	150mm	Run Length	9.51m	Foul / Surface	Foul	Composition		Pitch Fibre		
Start Position		Manhole 3		End Position		Manhole 2				
Invert Level		1220mm		Invert Level		Not Confirmed				
Survey direction		Downstream		Surface Area		Grass/Tarmac				
Meterage	Code	Grade	Remark / Note					Image Supplied		
0.00m	-	-	Start of Survey					Yes		
0.88m	D	3	Deformed Pipework					Yes		
2.20m	D	3	Deformed Pipework					Yes		
4.21m	D	3	Deformed Pipework					Yes		
5.37m	D	3	Deformed Pipework					Yes		
5.85m	CN	-	Incoming blind lateral connection @12 O'clock					Yes		
7.52m	WL/D	3	Water levels due to Deformed Pipework					Yes		
8.35m	D	3	Deformed Pipework					Yes		
9.51m	CN	-	Blind Connecting Lateral					Yes		
11.31m	MC	-	Material Change in Drain (Clay to Pitch Fibre)					Yes		
13.30m	D	3	Deformed Pipework					Yes		
15.09m	D	3	Deformed Pipework					Yes		
17.68m	D	3	Deformed Pipework					Yes		
20.66m	D	3	Deformed Pipework					Yes		
23.01m	D	3	Deformed Pipework					Yes		
26.13m	D	3	Deformed Pipework					Yes		
28.85m	D	3	Deformed Pipework					Yes		
34.06m	-	-	Reached Manhole 2 & End of Survey					Yes		
Drain Run in a serviceable condition?			Yes							
Details			The survey revealed Pitch Fibre Composition and Deformed pipework within the drainage run. If you have any further queries or questions in relation to any of the above noted defects, please don't hesitate to contact the office on the number supplied on the covering letter.							





Images Page

Manhole 3 – Manhole 2



ISO
45001 : 2018
REGISTERED



ISO
14001 : 2015
REGISTERED



ISO
9001 : 2015
REGISTERED



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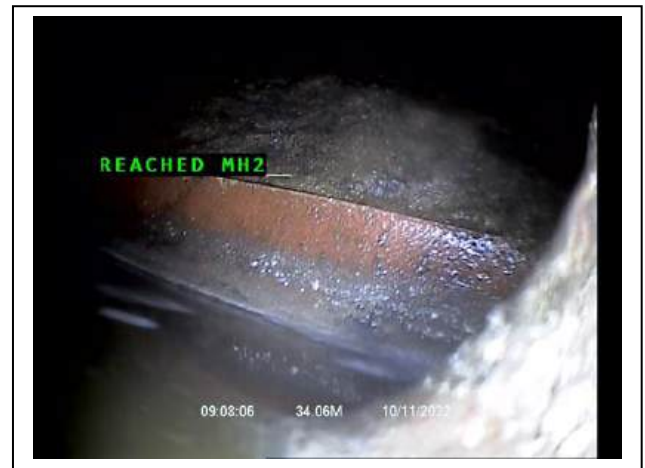
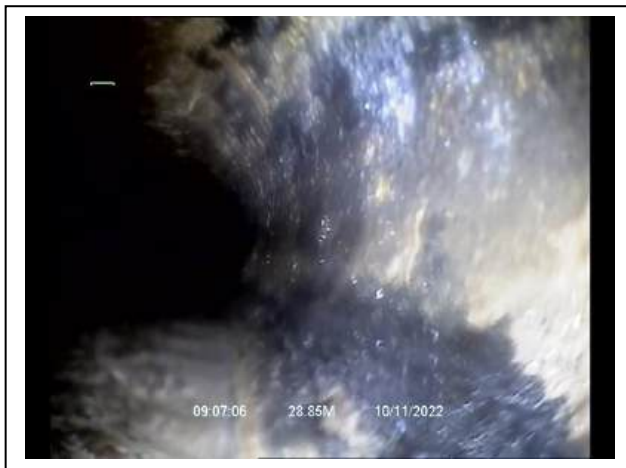


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Frontline
ENVIRONMENTAL







CCTV Overview / Quote

Invoice Address: Motion Highgate 84 North Street Guildford Surrey GU1 4AU		Site: St Johns Court Penstone Park Lancing West Sussex BN15 9AW	Job No:	13492
			Eng No:	DP743
			Date:	24 November 2022
			Sheet:	8
Start Position	Manhole 3	End Position	Manhole 2	
Recommendations		Our recommendations are: 1. Excavate & replace entire section of drainage run with new UPVC pipework to the correct alignment & fall. All work undertaken by EDS is carried out by fully qualified operatives to the highest standard.		
Works Guarantee		All lining works undertaken is guaranteed for 10 years & excavations 5 years		
Are there any Health & Safety issues		No		
Risk & Method Statement supplied		Will be supplied upon undertaking of works		
Any Special Site Requirements or Conditions		Will be supplied upon undertaking of works		
Specialist Plant Requirement		Will be supplied upon undertaking of works		





CCTV Survey Report

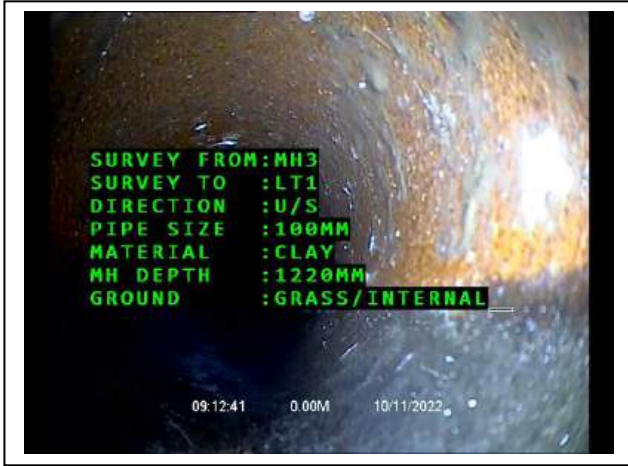
Invoice Address:		Site:		Job No:		13492	
Motion Highgate		St Johns Court		Eng No:		DP743	
84 North Street		Penstone Park		Date:		24 November 2022	
Guildford		Lancing		Sheet:		9	
Surrey		West Sussex					
GU1 4AU		BN15 9AW					
Reason for Survey		CCTV Fully Comprehensive Survey		Survey Recorded		☒	
Pipe Dia	100mm	Run Length	4.22m	Foul / Surface	Surface	Composition	Clay
Start Position		Mnashole 3		End Position		Lateral 1 - WC	
Invert Level		1220mm		Invert Level		Not Confirmed	
Survey direction		Upstream		Surface Area		Grass/Internal	
Meterage	Code	Grade	Remark / Note				Image Supplied
0.00m	-	-	Start of Survey				Yes
4.22m	-	-	Reached WC & End of Survey				Yes
Drain Run in a serviceable condition?		Yes					
Details		The survey revealed no significant structural defects within the drainage run.					





Images Page

Mnahole 3 – Lateral 1 - WC





CCTV Overview / Quote

Invoice Address: Motion Highgate 84 North Street Guildford Surrey GU1 4AU		Site: St Johns Court Penstone Park Lancing West Sussex BN15 9AW	Job No:	13492
			Eng No:	DP743
			Date:	24 November 2022
			Sheet:	9
Start Position	Mnahole 3	End Position	Lateral 1 - WC	
Recommendations		Our recommendations are 1. No recommendations All work undertaken by EDS is carried out by fully qualified operatives to the highest standard.		
Works Guarantee		All lining works undertaken is guaranteed for 10years &excavation 5years.		
Are there any Health & Safety issues		N/A		
Risk & Method Statement supplied		N/A		
Any Special Site Requirements or Conditions		N/A		
Specialist Plant Requirement		N/A		





CCTV Survey Report

Invoice Address:		Site:		Job No:		13492	
Motion Highgate		St Johns Court		Eng No:		DP743	
84 North Street		Penstone Park		Date:		24 November 2022	
Guildford		Lancing		Sheet:		10	
Surrey		West Sussex					
GU1 4AU		BN15 9AW					
Reason for Survey		CCTV Fully Comprehensive Survey		Survey Recorded		☒	
Pipe Dia	100mm	Run Length	1.71m	Foul / Surface	Foul	Composition	Pitch Fiber
Start Position		Manhole 3		End Position		Lateral 2 - SVP	
Invert Level		1220mm		Invert Level		Not Confirmed	
Survey direction		Upstream		Surface Area		Grass/Internal	
Meterage	Code	Grade	Remark / Note			Image Supplied	
0.00m	-	-	Start of Survey			Yes	
0.19m	MC	-	Material Change in Drain (Pitch Fibre to Clay)			Yes	
1.71m	-	-	Reached SVP & End of Survey			Yes	
Drain Run in a serviceable condition?		Yes					
Details		The survey revealed no significant structural defects within the drainage run.					





Images Page

Manhole 3 – Lateral 2 - SVP





CCTV Overview / Quote

Invoice Address: Motion Highgate 84 North Street Guildford Surrey GU1 4AU		Site: St Johns Court Penstone Park Lancing West Sussex BN15 9AW		Job No:	13492
				Eng No:	DP743
				Date:	24 November 2022
				Sheet:	10
Start Position	Manhole 3		End Position	Lateral 2 - SVP	
Recommendations		Our recommendations are: 1. High Pressure Water Jetting to remove any residual Debris. 2. Insertion of a Fibre Resin Linear Liner (100mm Super Flexi) for approximately 2 metres. All work undertaken by EDS is carried out by fully qualified operatives to the highest standard.			
Works Guarantee		All lining works undertaken is guaranteed for 10 years & excavations 5 years			
Are there any Health & Safety issues		No			
Risk & Method Statement supplied		Will be supplied upon undertaking of works			
Any Special Site Requirements or Conditions		Will be supplied upon undertaking of works			
Specialist Plant Requirement		Will be supplied upon undertaking of works			





CCTV Survey Report

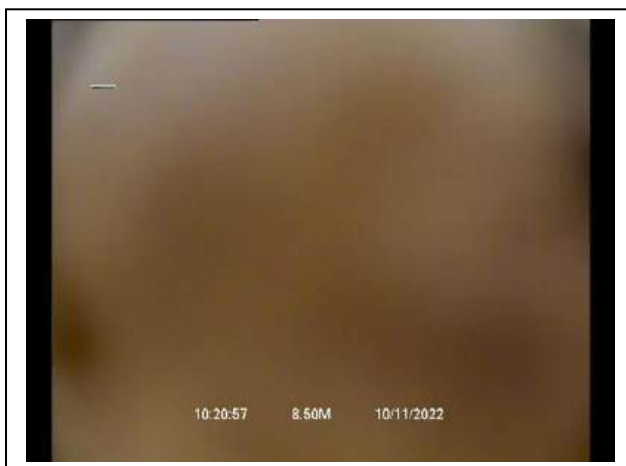
Invoice Address:		Site:		Job No:	13492
Motion Highgate		St Johns Court		Eng No:	DP743
84 North Street		Penstone Park		Date:	24 November 2022
Guildford		Lancing		Sheet:	11
Surrey		West Sussex			
GU1 4AU		BN15 9AW			
Reason for Survey		CCTV Fully Comprehensive Survey		Survey Recorded	☒
Pipe Dia	150mm	Run Length	18.45m	Foul / Surface	Pitch/Clay
Start Position	Manhole 4		End Position	Downstream - Survey Abandoned	
Invert Level	2900mm		Invert Level	Not Confirmed	
Survey direction	Downstream		Surface Area	Grass	
Meterage	Code	Grade	Remark / Note		Image Supplied
0.00m	-	-	Start of Survey		Yes
0.96m	D	2	Deformed Pipework		Yes
2.97m	WL/D	2	Water levels due to Deformed Pipework		Yes
4.70m	WL/D	2	Water levels due to Deformed Pipework		Yes
8.50m	WL/D	2	Water levels due to Deformed Pipework		Yes
10.89m	WL/D	2	Water levels due to Deformed Pipework		Yes
13.67m	WL/D	2	Water levels due to Deformed Pipework		Yes
18.05m	WL/D	2	Water levels due to Deformed Pipework		Yes
18.45m	SA	-	Survey Abandoned due to Heavy Flow		Yes
Drain Run in a serviceable condition?		No			
Details		The survey revealed Water level due to Deformed pipework within the drainage run. If you have any further queries or questions in relation to any of the above noted defects, please don't hesitate to contact the office on the number supplied on the covering letter.			





Images Page

Manhole 4 — Downstream - Survey Abandoned







CCTV Overview / Quote

Invoice Address: Motion Highgate 84 North Street Guildford Surrey GU1 4AU		Site: St Johns Court Penstone Park Lancing West Sussex BN15 9AW		Job No:	13492
				Eng No:	DP743
				Date:	24 November 2022
				Sheet:	11
Start Position	Manhole 4	End Position	Downstream - Survey Abandoned		
Recommendations		Our recommendations are: 1. High Pressure Water Jetting and Extraction using a Combination Tanker Unit to remove any residual Debris and Reduce water flow. 2. Re-CCTV to establish the true condition of the remaining drainage run (Any further works will be quoted accordingly) All work undertaken by EDS is carried out by fully qualified operatives to the highest standard.			
		Works Guarantee			
		Are there any Health & Safety issues			
		Risk & Method Statement supplied			
		Any Special Site Requirements or Conditions			
Specialist Plant Requirement		Will be supplied upon undertaking of works			





CCTV Survey Report

Invoice Address:		Site:		Job No:		13492	
Motion Highgate		St Johns Court		Eng No:		DP743	
84 North Street		Penstone Park		Date:		24 November 2022	
Guildford		Lancing		Sheet:		12	
Surrey		West Sussex					
GU1 4AU		BN15 9AW					
Reason for Survey		CCTV Fully Comprehensive Survey		Survey Recorded		☒	
Pipe Dia	150mm	Run Length	0.57m	Foul / Surface	Foul	Composition	Concreter
Start Position		Manhole 4		End Position		Upstream - Capped End	
Invert Level		2900mm		Invert Level		Not Confirmed	
Survey direction		Upstream		Surface Area		Concrete	
Meterage	Code	Grade	Remark / Note			Image Supplied	
0.00m	-	-	Start of Survey			Yes	
0.57m	-	-	Reached Capped Run & End of Survey			Yes	
Drain Run in a serviceable condition?		Yes					
Details		The survey revealed no significant structural defects within the drainage run.					





Images Page

Manhole 4 – Upstream - Capped End





CCTV Overview / Quote

Invoice Address: Motion Highgate 84 North Street Guildford Surrey GU1 4AU		Site: St Johns Court Penstone Park Lancing West Sussex BN15 9AW	Job No:	13492
			Eng No:	DP743
			Date:	24 November 2022
			Sheet:	12
Start Position	Manhole 4	End Position	Upstream - Capped End	
Recommendations		Our recommendations are 1. No recommendations All work undertaken by EDS is carried out by fully qualified operatives to the highest standard.		
Works Guarantee		All lining works undertaken is guaranteed for 10years & excavation 5years.		
Are there any Health & Safety issues		N/A		
Risk & Method Statement supplied		N/A		
Any Special Site Requirements or Conditions		N/A		
Specialist Plant Requirement		N/A		





Code Reference

SRD	Scale / Residual Debris
CL	Cracks. Longitudinal
CC	Cracks. Circumferential
CM	Cracks. Multiple
FL	Fractures. Longitudinal
FC	Fractures. Circumferential
FM	Fractures. Multiple
B	Broken Pipe Work
H	Hole in Drainage Run
D	Deformed Drain
XP	Collapsed Drain
DJ	Displaced Joint
OJ	Open Joint
S	Surface Drain
R	Roots
EC	Encrustation/Corrosion

I	Infiltration
OB	Other Obstacles
WL	Water Level
CN	Lateral Connection
LX	Lining Defect
LC	Inspection Chamber
MH	Inspection Chamber
RE	Rodding Eye
OF	Outfall
SA	Survey Abandoned
SC	Dimension Change in Drain
MC	Material Change in Drain
IL	Invert Level
LC	Lining of Drain
VR	Rat
CUW	Loss of Vision, Cover Underwater





Grading

Condition Grading	Structural condition	Serviceability Condition
1	Insignificant deterioration of the sewer has occurred. Appears to be in good condition	No or insignificant loss of hydraulic performance has occurred. Appears to be in good condition
2	Minor deterioration of the sewer has occurred.	Minor defects are present causing minor loss of hydraulic performance
3	Moderate deterioration has occurred, but defects do not affect short term structural integrity	Developed defects are present causing moderate loss of hydraulic performance
4	Serious deterioration of the sewer has occurred and affected structural integrity	Significant defects are present causing serious loss of hydraulic performance
5	Failure of the sewer has occurred or is imminent	Failure of the sewer has occurred or is imminent





Terms and Conditions

1. Definitions and Interpretation

The following definitions apply in these terms and conditions:

"Conditions" these terms and conditions. "Confirmation" our Confirmation of your order attached to these Conditions.

"Contract" the Confirmation together with Conditions. "Customer" the person, firm or company who purchases work from the supplier.

"Supplier" Express Drainage Solutions. "Work" the work and services to be provided by the Supplier under the Contract as set out in the Suppliers Confirmation or, (Where a Confirmation has not been Provided) the Quotation.

2. Limitations of the Report

2.1 It should be noted that the exact layout of the system cannot be confirmed without the exposure of inaccessible branches, connections and all other inaccessible sections.

2.2 A CCTV Survey alone should not be a guarantee of water tightness,

2.3 The Report is not a structural survey and must not be construed as such

2.4 The Views expressed in this report are based entirely upon a visual examination of the drainage, supported by information from a drainage CCTV inspection and/or a water pressure test.

2.5 The drawing contained within or accompanying the report is not a scaled drawing and is for reference purposes only.

3. Rights of Originator

3.1 The report is for the sole use of the customer

3.1.1 It must not be reproduced or transferred to any other third party without the express written consent of supplier.

3.2 This is a condition report of the drain/sewer at the time and date of the survey being carried out only.

3.3 We reserve the right to amend our opinions in the event of additional information being made available at some future date

4. Customer's Obligations

4.1 It is the Customer's responsibility to provide the Supplier, in sufficient time, with any information and instructions relating to the Work that is, or are, necessary to enable the supplier to provide the work in accordance with the contract.

4.2 The Customer shall inform the Supplier in writing in good time of any dangerous materials or hazards that may be present on the premises and which could constitute a danger to any person.

4.3 If the Customer fails to provide the information required in clause 4.2 above, or provide the Supplier with incomplete, incorrect or inaccurate information or instructions, the Supplier may:

4.3.1 Make an additional charge of a reasonable sum to cover any extra work that is required; or

4.3.2 Cancel the Contract by giving written notice to the Customer

5. Access

5.1 The Customer shall provide clear access to all drains, sewers, inspection covers and Inspection Chambers to enable the Supplier to carry out the Work.

5.2 Where the Customer's drains are shared with third parties, the Supplier will request written permission from the relevant third party (ies). In the event that permission cannot be obtained, the Supplier will have the right to cancel the Contract and shall have no liability to the Customer in respect of any such cancellation.

5.3 The Customer shall obtain permission for the Supplier to proceed over the property belonging to third parties and/or to carry out work on property belonging to third parties where this is necessary for the proper execution of the Work.

6. Water and Power

6.1 The Customer shall provide all necessary power and a clean water supply from the mains or fire hydrant.

6.2 Where it is necessary for the Supplier to use a metered hydrant and supply controlled by the water authorities, the Supplier will invoice all charges made by that authority to the Customer and the Customer shall pay such charges within 7 days of receipt of the Supplier's invoice.

7. Work Guarantee

7.1 Subject to the following provisions of this Condition 7, The Supplier guarantees completed unblock and survey Work for a period of 28 days from the date of completion.

7.2 The Customer shall inspect the Work as far as it is reasonably possible immediately on completion of it and shall as far as reasonably practicable notify the supplier of any reason for believing that the work carried out by the Supplier is not in accordance with Contract within seven days of completion.

7.3 If the Customer fails to give such notice the Work shall conclusively be presumed free from any defects which would be apparent on reasonable examination of the Work.

7.4 The Supplier reserves the right not to carry out Work requested under the guarantee until the Supplier has been paid. The Supplier also reserves the right to delay or withhold performance of the guarantee where the Supplier has advised the Customer that, although clear, the drains need further work or have a possible fault.

8. Limitation of Liability – The Customer's Attention is particularly drawn to the provisions of this condition.

8.1 The Supplier warrants to the Customer that the Work will be provided using reasonable care and skill and, unless the Supplier is prevented by circumstances beyond its reasonable control, in accordance with the Confirmation

8.2 The Supplier shall have no liability to the Customer for any loss, damage costs, expenses or other claims for compensation arising from:

8.2.1 Any information or instructions supplied by the Customer which is or are incomplete, incorrect or inaccurate; or

8.2.2 Any failure by the Customer to obtain proper access over any property of any third party required in accordance with clause 5: or

8.2.3 Any damage or defect caused by any third party.

8.3 The Supplier shall have no liability to the Customer for any loss, damage costs, expenses or other claims for compensation arising from any indirect or consequential loss, damage or expenses.

8.4 The Supplier's Liability in respect of any other loss or damage shall be limited to the price paid by the Customer.

8.5 The Supplier shall not be liable to the Customer by reason of any delay in performing, or any failure to perform, any of its obligations in relation to the Work, if the delay or failure was due to:

8.5.1 Any act of God, war, terrorism, power failure, or any other cause beyond the Supplier's reasonable control; or

8.5.2 Any risk to health and safety or the environment, however, the Supplier will try to minimise any such problems where reasonably practicable.

8.6 The Supplier will not be liable for any fractured or frozen pipes and cannot guarantee to clear blockages occurring in a frozen pipe or drain.

8.7 Nothing in these Conditions affects any liability for death or personal injury caused by the Supplier's negligence or for fraudulent misrepresentation, or the Customer's statutory rights as consumer.

9. Data Protection

9.1 The Supplier will use personal information provided by the Customer for the purposes of:

9.1.1 Providing the Work:

9.1.2 Carrying out marketing and statistical analysis and we may disclose your information to our service providers for these purposes;

9.1.3 Informing the Customer by post or telephone about similar products and services provided by the Supplier and/or its related companies.

9.2 The Customer acknowledges and agrees that details of the Customer's name, address and payment record may be submitted to a credit reference agency.

9.3 The Customer can correct any information or ask for information about the Customer to be deleted or opt-out from receiving any marketing information by post or by telephone by giving written notice to the Supplier at the address, fax number or email address shown on the Confirmation and/or any customer satisfaction questionnaire provided.

10. General

10.1 If any provision (or part of a provision) of this contract is found by any court or administrative body of competent jurisdiction to be invalid unenforceable or illegal, the other provisions will remain in force.

10.2 If any invalid, unenforceable or illegal provision of this Contract would be valid, enforceable or legal if some part of it were changed, deleted, that provision will apply with whatever changes are necessary to make the relevant provision valid, enforceable and legal.

10.3 A delay by either party in acting on a breach of this Contract will not prevent the other party from taking action in respect of that breach or any subsequent breach of this contract.





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Contact Us

0208 979 5444

info@expresssolutions.group

www.expresssolutions.group

152-154 Commercial Road, Staines-Upon-Thames, Surrey, TW18 2QW

Appendix D

WSP Section 73 Response



Peter Barnett
Adur & Worthing Councils
Portland House,
Richmond Road,
Worthing,
BN11 1LF

12 December 2025

Dear Peter,

RE: AWDM/1492/25 - St Johns Court Penstone Close Lancing West Sussex.

Thank you for your consultation on the above site. We have reviewed the application as the drainage consultant acting on behalf of the Council and wish to make the following comments.

The applicant is applying to vary condition numbers: 3 (materials), 6 (drainage), 7 (drainage maintenance) and 11 (landscaping) of approved application AWDM/0949/22 to allow for the commencement of demolition work before the full discharge of conditions. The application is to Adur District Council.

Following a review of the submitted information, we are happy to provide comments on the variation of conditions 6 and 7 due to their relation to flood risk and drainage. Due to the site, size, location, and type of development **we accept the proposed rewording of Condition 6 and Condition 7 to allow the commencement of demolition works.**

Yours sincerely,

Sustainable Water Management Officer

Appendix E

Southern Water Section 73 Response



Adur & Worthing Council
Portland House
44 Richmond Road
Worthing
West Sussex
BN11 1HS

Your ref
AWDM/1492/25

Our ref
DSA000049471

Date
28th November 2025

Contact
Tel 0330 303 0119

Dear Sir/Madam,

Proposal: Application to vary Condition Number(s): 3 (materials), 6 (drainage), 7 (drainage maintenance) and 11 (landscaping) of approved application AWDM/0949/22 to allow for the commencement of demolition work before the full discharge of conditions.

Condition 3 (materials) - wording should be amended to "No development above slab level shall be carried out unless and until a schedule of materials..." etc.

Condition 6 (drainage) - wording should be amended to "Development shall not commence, other than works of site survey and investigation or works of demolition, until full details of the proposed foul and surface..." etc.

Condition 7 (drainage maintenance) - wording should be amended to "Development shall not commence, other than works of demolition, until full details of the maintenance and management of the surface water drainage system..." etc.

Condition 11 (landscaping) - wording should be amended to "No development above slab level shall take place until full details of all hard and soft landscaping works..." etc.

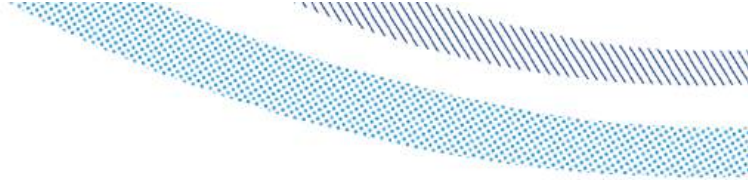
ORIGINAL DESCRIPTION: Erection of a three-storey side extension to the existing building and recessed roof top extension to the whole of the building to accommodate 9no. flats comprising 7no. 1-bedroom flats and 2no. 2-bedroom flats. Demolition of existing garage block, reconfiguration to existing car parking, proposed landscaping, and cycle/refuse storage.

Site: St Johns Court, Penstone Close, Lancing, West Sussex, BN15 9AW.

Thank you for your correspondence. Please see our comments below regarding the above planning consultation application.

Southern Water are happy to allow the change requested to Condition 6 (drainage), noting that in order to protect and safeguard the existing water supply apparatus, Southern Water requests formal notification of any proposed demolition works prior to such works being undertaken.

We cannot comment on Condition Number(s): 3 (materials), 7 (drainage maintenance) and 11 (landscaping).



For further advice, please contact Southern Water, Southern House, Yeoman Road, Worthing, West Sussex, BN13 3NX (Tel: 0330 303 0119).

Website: southernwater.co.uk or by email at: SouthernWaterPlanning@southernwater.co.uk

Yours faithfully,

Future Growth Planning Team

southernwater.co.uk/developing-building/planning-your-development

Appendix F

GESL Infiltration Testing Report

8 December 2025

Our ref: GE23510/JB01/251208

Lincoln Estates Limited
c/o Phil Allen
Motion
84 North Street
Guildford
United Kingdom
GU1 4AU



By email only

Dear Phil

RE: St Johns Court Lancing – Soakage Testing

Further to the receipt of instructions, we write to present the soaking testing information from the ground investigation undertaken at the above-named site (Figure 1).

The scope of works comprised:

- Attendance of a specialist surveyor to undertake a pre-dig buried utilities survey using radio detection and ground penetrating radar techniques. The survey included capture of co-ordinates and levels of exploratory holes using GPS surveying.
- Attendance of a Geo-Environmental Engineer to set out and supervise the intrusive investigation, in-situ testing and logging of recovered soils from exploratory holes.
- Construction of 1No. dynamic sampler boreholes (WS01) to a depth of 5.00m.
- Installation of 1No. groundwater monitoring wells to facilitate return monitoring.
- The construction of 1No. machine dug trial pit (TP01) to a depth of 3.9m bgl.
- Undertake 1No. trial pit soakage tests in general accordance with BRE Digest 365.
- Falling head testing was undertaken in WS01 to assess soil permeability in this location.

The exploratory positions are shown on Figure 2.

Geo-Environmental Engineers attended site between 25th and 26th November 2025 to undertake the intrusive investigation. The weather during the investigation was full cloud cover on 25th and 26th of November.

Background

It was understood that it was proposed to extend the existing block of flats.

Site Description

A walkover inspection was undertaken on 25th November 2025. The site comprised an irregularly shaped area of land formed from two blocks of flats and associated parking and garages centred at NGR 517941, 104564 and extending to approximately 0.3ha.

Along the southern border of site there were numerous Drainage covers and inspection chambers. These services continued to the north of site between the blocks of flats. There were gas services running alongside the western block of flats where the investigation was carried out. There was an electric substation in the southeastern corner of site.

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Unit 7 Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex BN6 9GL
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Environmental Consultants | Geotechnical Engineers | Site Investigations

Geo-Environmental Services Ltd incorporated in England number 3214980 VAT number 679544479



There were several trees and shrubs on site, mainly along the western and southern border of site and one tree located on a green outside the western block of flats.

Further residential properties surrounded the site.

A photographic record is included as Appendix A.

Ground Conditions

The ground conditions encountered in the exploratory holes comprised a mantle of Topsoil overlying superficial deposits of River Terrace Deposits. The Newhaven Chalk Formation was encountered below these superficial deposits. A generalised summary of the encountered conditions is presented in Table 1.

Top (m bgl)	Base (m bgl)	Geology	Locations
0.00	0.30	TOPSOIL: Typically, grass overlying silty slightly gravelly CLAY. Frequent rootlets and occasional roots. 2No. red bricks encountered at 0.2m (WS01 only).	All
0.30	1.90 – 3.60	RIVER TERRACE DEPOSITS: Typically, light brown silty gravelly occasionally sandy CLAY. Small pockets of black ferruginous material. Becoming sandier with depth until SAND (TP01 only)	All
1.90 – 3.60	>3.90 – >5.00	NEWHAVEN CHALK FORMATION: Typically, structureless CHALK recovered as off white, yellowish brown gravelly putty chalk. Gravel comprises fine to coarse subangular chalk and flint. Becoming less gravelly with depth. Low flint cobble content.	All

Table 1 Summary of ground conditions

With the exception of rootlets identified within the Topsoil and dead or relic rootlets, details of observed live roots within the exploratory holes are presented in Table 2 below.

Location	Depth (m bgl)	Roots encountered
WS01	0.30 – 1.40	Frequent rootlets. Decaying rootlets found at depth.

Table 2 Live roots encountered within the exploratory holes

For more detailed information reference should be made to the exploratory hole logs in Appendix B.

Obstructions

No natural or manmade obstructions were encountered. Obstructions elsewhere on the site cannot be completely ruled out.

Groundwater

Groundwater was not encountered within the trial pits during the investigation. However, wet ground was recorded from 3.8m bgl in TP01 and 2.5m bgl in WS01.

A monitoring well was installed into borehole WS01 on the 26th of November 2025 with six monitoring visits due to be completed. The groundwater depths and levels recorded to date are shown in Table 4 below.

Soakage Testing

Soakage testing in broad accordance with BRE365 was undertaken in trial pit TP01. Testing was undertaken between 25th and 26th of November 2025.

The results of the testing are summarised in Table 3 below. The soakage test results are included within Appendix C.

Location	Pit depth (m bgl)	Groundwater depth (m bgl)	Permeability (m/s)		
			Test 1	Test 2	Test 3
TP01	3.90	N/A	Insufficient fall in water level to calculate rate	Insufficient fall in water level to calculate rate	Insufficient time for a third test.

Table 3 Soakage test results

Falling head testing was undertaken at WS01 within the installed monitoring well. The results of the testing are summarised in Table 4 with the test data presented in Appendix C.

Location	Borehole depth (m bgl)	Groundwater depth (m bgl)	Permeability (m/s)	
			Test 1	Test 2
WS01	5.00	N/A	4.41×10^{-6}	2.05×10^{-6}

Table 4 Estimated infiltration values derived from borehole falling head tests

The testing undertaken indicates that conventional soakaways are unlikely to be suitable in the River Terrace Deposits. Soakaways are potentially suitable where constructed further into the Chalk albeit that the falling head testing recorded relatively low permeability. However, the required offset between structures (existing and proposed) and soakaways in chalk would range between 5m and up to 20m if chalk dissolution features are prevalent in the area. This offset could be confirmed by undertaking further research such as a Cavity Occurrence Assessment for the site.

Closure

The data collected from the investigation has been used to provide an interpretation of the geotechnical and/or environmental conditions pertaining to the site. The recommendations and opinions expressed in this report are based on the data obtained. Geo-Environmental takes no responsibility for conditions that either have not been revealed in the available records, or that occur between or under points of physical investigation. Whilst every effort has been made to interpret the conditions, such information is only indicative and liability cannot be accepted for its accuracy.

Information contained in this report is intended for the use of the Client and Geo-Environmental can take no responsibility for the use of this information by any party for uses other than that described in this report. Geo-Environmental makes no warranty or representation whatsoever express or implied with respect to the use of this information by any third party. Geo-Environmental does not indemnify the Client or any third parties against any dispute or claim arising from any finding or other result of this investigation report or any consequential losses.

This report remains the property of Geo-Environmental and the Client has no rights to, or reliance upon this document or supporting documents until such time as payment has been received in full for all invoices for works undertaken in connection with this report.

We trust we have interpreted your request correctly and provided sufficient information for your current requirements. Should you have any queries please do not hesitate to contact us.

Yours sincerely
For and on Behalf of Geo-Environmental



Jude Burch BSc (Hons)
Graduate Consultant Engineer
jude.burch@gesl.net

Enclosed:

Figure 1	Site Location Plan
Figure 2	Exploratory Hole Location Plan
Appendix A	Photographic Record
Appendix B	Exploratory Hole Logs
Appendix C	Soakage Test Results



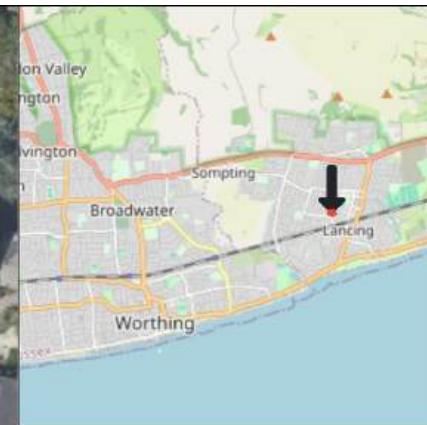
Legend

□ Site Boundary

0 10 m 20 m
© Mapbox


Geo-Environmental
Produced by **Datanest.earth**

Title: Site Location Plan		
Client: Lincoln Estates Limited		Size: A4
Project: St Johns Court Lancing	Drawn:	Figure No: 1
Date: 13-10-2025	Checked:	
Proj No: GE23510	Scale: 1:1000	Version: draft



- Legend**
- Trial Pitting For Soakage Testing
 - ⊙ Window sample locations
 - Site Boundary

0 10 m 20 m
© Mapbox



Geo-Environmental
Produced by **Datanest.earth**

Title: Exploratory Hole Location Plan		
Client: Lincoln Estates Limited		Size: A4
Project: St Johns Court Lancing	Drawn:	Figure No: 5
Date: 10-11-2025	Checked:	
Proj No: GE23510	Scale: 1:771	Version: draft



Plate 1 – North facing South



Plate 2 – East facing West



Plate 3 – South facing North



Plate 4 – West facing East



Plate 5 – Hard standing
parking western border



Plate 6 – Sub station
southeastern border



Plate 7 – drain system on
southern edge by garages



Plate 8 – drain system on
southern edge by garages



Plate 9 – Gas main down western block of flats - south side.



Plate 10 – western side of site



Plate 11 - garages present on southern border



Plate 12 - continuation of water line



Plate 13 - connecting services from north to south of site



Plate 14 - continuation of services down to eastern border



Plate 15 - buried service by substation



Plate 16 - guttering down western block of flats



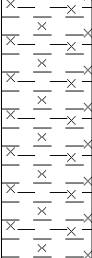
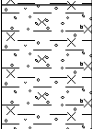
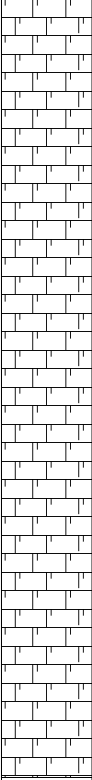
Plate 17 - services by northern border



Plate 18 - gas main down northern side of site

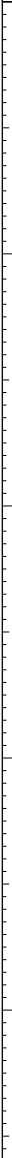
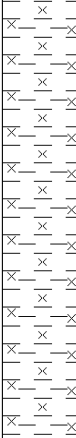


Plate 19 & 20 - hard standing on western border
of site

 Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net				Borehole Log				Borehole No. WS01 Sheet 1 of 1	
Project Name: St Johns Court Lancing				Project No. GE23510		Co-ords: 517909E - 104579N		Hole Type WLS	
Location: St Johns Court, Lancing				Level: 8.45		Scale 1:30			
Client: Lincoln Estates Limited				Dates: 26/11/2025		Logged By JB			
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30	8.15	 Grass overlain brown slightly gravelly silty CLAY. Gravels are fine to medium subangular flint. 2No. red brick at 0.2m. Frequent rootlets. TOPSOIL		
		1.00	PP	4.5kg/cm2			 Stiff light brown slightly silty CLAY. Occasional black pockets. Rare decaying black stained roots. RIVER TERRACE DEPOSITS		1
		1.50	PP	4.0kg/cm2	1.40	7.05	 Stiff light brown silty gravelly CLAY. Gravels are fine to medium subangular flint and rare fine chalk RIVER TERRACE DEPOSITS		
					1.90	6.55	 Structureless CHALK recovered as off white yellowish brown gravelly putty chalk. Gravels are fine to medium sub angular chalk and flint. Flint present until 4.3m. Yellowish brown becoming lighter with depth until white at 4.3m. NEWHAVEN CHALK FORMATION		2
									3
									4
					5.00	3.45		End of Borehole at 5.00m	5
									6
Dynamic Sampling Run Details		Water Strike Details (mbgl)		Remarks					
Depth Top	Depth Base	Diameter	Depth Strike	Rose To	Ground wet from 2.4m				



Status
PRELIM

 Geo-Environmental	Contract Name: St Johns Court Lancing		Client: Lincoln Estates Limited			Trial Pit ID: TP01																								
	Contract Number: GE23510	Date Started: 25/11/2025	Logged By: JB	Checked By: SA	Status: PRELIM	Sheet 1 of 1																								
	Easting: 517904.1	Northing: 104561.4	Ground Level: 8.43mOD	Plant Used: JCB 3CX	Date Printed: 08/12/2025	Scale: 1:30																								
Weather: Sunny		Hole Termination:			Stability: Sides stable																									
Samples & In Situ Testing			Strata Details					Water	Backfill																					
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description																								
		PP=1kg/cm2	8.13	(0.30)		Grass brown overlain silty slightly gravelly CLAY. Gravels are fine to coarse subangular to subrounded flint. Frequent roots and rootlets. TOPSOIL	0.5																							
				0.30		Firm brown silty CLAY. RIVER TERRACE DEPOSITS																								
			(2.00)		6.13	2.30	(0.60)			Orangish brown silty slightly sandy gravelly CLAY. Sand is fine. Gravel comprises fine to coarse subangular to angular flint and rare chalk. Occasional small pockets of dark brown to black ferruginous pockets. RIVER TERRACE DEPOSITS	2.5																			
												5.53	2.90	(0.70)	Orangish brown slightly gravelly fine SAND. Gravel comprised fine to medium weathered off-white chalk. Sand is fine to medium. RIVER TERRACE DEPOSITS	3.0														
																	4.83	3.60	(0.30)	Structureless CHALK recovered as off-white gravelly putty chalk. Gravel comprised very weak yellowish white chalk with rare black specks and coarse subangular to angular flint. Low flint cobble content. NEWHAVEN CHALK FORMATION	4.0									
																						4.53	3.90	End of Trial Pit at 3.90m	4.5					
Dimensions:					Photo:																									
Final Depth:		3.90m			 25/11/2025 09:43 Photo of Pit																									
Final Width:		0.50m																												
Final Length:		2.80m																												
Remarks					 25/11/2025 09:43 Photo of Spoil																									
Ground wet from 3.8m																														
Water Strikes (mbgl)																														
Depth Strike		Rose to		Time Elapsed (mins)																										

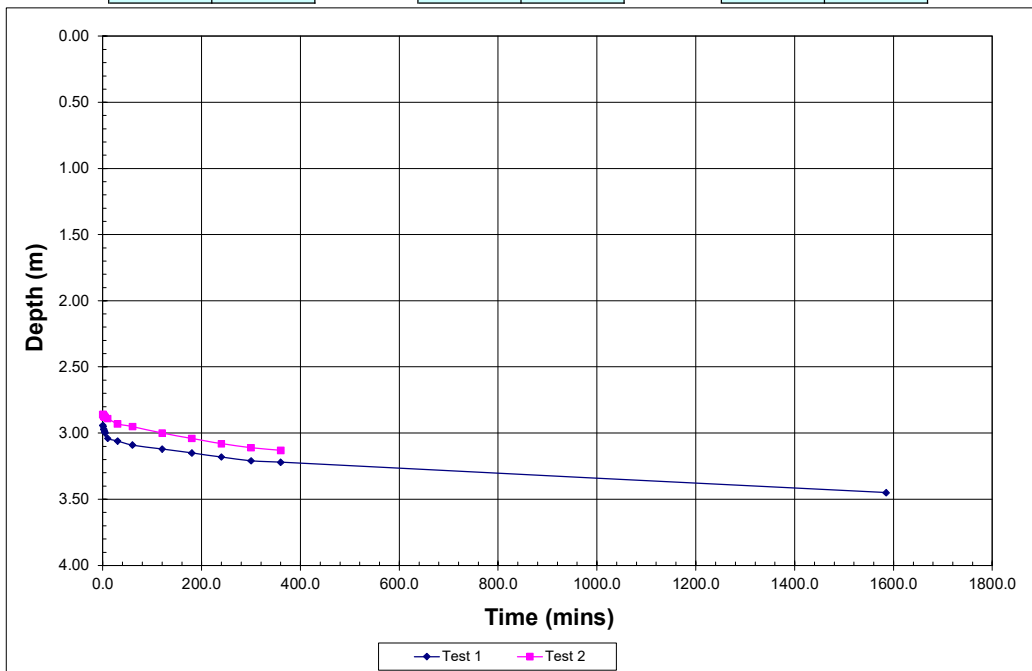
 Geo-Environmental	Soakaway Test Results (after BRE Digest 365)	Geo-Environmental Services Limited Unit 7 Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex BN6 9GL +44(0)1273 832972 www.gesi.net
Project Name : St Johns Court, Lancing Client : Lincoln Estates Limited		Job No. : GE23510 Date : 24/11/2025 - 25/11/2025

Pit reference	TP01		
Test reference	Test1	Test2	Test3
Pit depth (m)	3.90	3.90	
Pit width (m)	0.50	0.50	
Pit length (m)	2.80	2.80	
Depth to standing water (m)			

Test 1	
Time (min)	Depth (m)
0.0	2.94
1.0	2.95
2.0	2.97
3.0	2.98
4.0	2.99
5.0	3.00
10.0	3.04
30.0	3.06
60.0	3.09
120.0	3.12
180.0	3.15
240.0	3.18
300.0	3.21
360.0	3.22
1585.0	3.45

Test 2	
Time (min)	Depth (m)
0.0	2.86
1.0	2.86
2.0	2.87
3.0	2.87
4.0	2.88
5.0	2.88
10.0	2.89
30.0	2.93
60.0	2.95
120.0	3.00
180.0	3.04
240.0	3.08
300.0	3.11
360.0	3.13

Test 3	
Time (min)	Depth (m)



Max. depth (m)	3.90	3.90
Effective depth (m)	0.96	1.04
75% effective depth (m)	3.18	3.12
50% effective depth (m)	3.42	3.38
25% effective depth (m)	3.66	3.64
t75 (min)		
t50 (min)		
t25 (min)		
Vp 75-25	0.67	0.73
ap 50	4.568	4.832

Soil infiltration rate (m/s)	N/A	N/A	
Soil infiltration rate (mm/hr)	N/A	N/A	

Notes:

- 1 Blue cells require input data
- 2 Infiltration calculated to method in 'BRE Digest 365 (1991) - Soakaway Design'
- 3 First line of table must be depth at time = 0

 Geo-Environmental	Falling head test results	Geo-Environmental Services Limited Unit 7 Danworth Farm, Cuckfield Road,
Project Name : St Johns Court, Lancing		Job No. : GE23510
Client : Lincoln Estates Limited		Date : 25/11/2025

Test 1

WS01

Diameter (m)
Depth to End of Casing
Depth to top of permeable Soil
Depth to Groundwater Surface

0.05

Effective Depth 4.59
Depth at Start 0.41
Max water drop 3.42
Total Soakage Test Time 70
Mean Internal discharge area 0.36
Discharge rate 0.10 litres/min
Soakage Rate 0.26
Infiltration Rate 4.41E-06

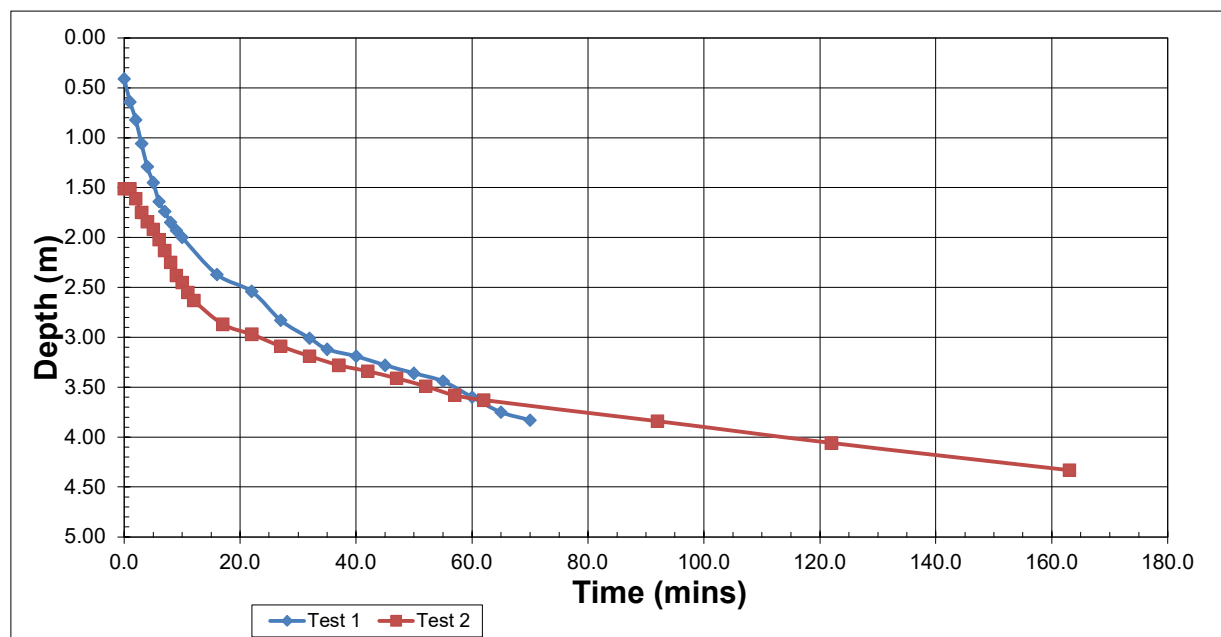
Test 2

WS01

Diameter (m)
Depth to End of Casing
Depth to top of permeable Soil
Depth to Groundwater Surface

0.05

Effective Depth 3.49
Depth at Start 1.51
Max water drop 2.82
Total Soakage Test Time 163
Mean Internal discharge area 0.28
Discharge rate 0.03 litres/min
Soakage Rate 0.12
Infiltration Rate 2.05E-06



Appendix G

GESL Groundwater Monitoring Report

23rd April 2026

Our ref: GE23510/JB02/260423

Lincoln Estates Limited
c/o Phil Allen
Motion
84 North Street
Guildford
GU1 4AU



By email only

Dear Phil

RE St Johns Court, Lancing– Winter Groundwater Monitoring Report

Geo-Environmental Services Limited (Geo-Environmental) was instructed by Motion on behalf of Lincoln Estates Limited (the Client) to undertake groundwater monitoring on the site over the 2025-2026 winter period. Soakage testing was reported in a separate letter report, ref:GE23510-JB01-251208.

This letter report presents the findings of the groundwater monitoring carried out in monitoring wells installed on the site between 22nd December 2025 and 17th April 2026.

Scope of Site Works

1No. groundwater monitoring well (WS01) was installed during the intrusive investigation undertaken by Geo-Environmental in November 2025 and was monitored over the winter period as instructed.

Encountered Ground Conditions

The ground conditions encountered in the exploratory holes comprised a mantle of Topsoil overlying superficial deposits of River Terrace Deposits and bedrock strata of the Newhaven Chalk Formation. A generalised summary of the encountered conditions is presented in Table 1.

Top (m bgl)	Base (m bgl)	Geology	Locations
0.00	0.30	TOPSOIL: Typically, grass overlain silty slightly gravelly CLAY. Frequent rootlets and occasional roots. 2No. red bricks encountered at 0.2m (WS01 only).	WS01 & TP01
0.30	1.90 – 3.60	RIVER TERRACE DEPOSITS: Typically, light brown silty gravelly occasionally sandy CLAY. Small pockets of black ferruginous material. Becoming sandier with depth until SAND (TP01 only)	WS01 & TP01
1.90 – 3.60	>3.90 – >5.00	NEWHAVEN CHALK FORMATION: Typically, structureless CHALK recovered as off white, yellowish brown gravelly putty chalk. Gravel comprises fine to coarse subangular chalk clasts and flint. Becoming less gravelly with depth. Low flint cobble content.	WS01 & TP01

NOTE: Dynamic sampling causes destructuring of chalk and thus description of chalk is limited by the method used and CIRIA chalk classification not feasible

Table 1 Summary of ground conditions

Geo-Environmental Services Ltd
Unit 7 Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex BN6 9GL
+44(0)1273 832972 www.gesl.net

Environmental Consultants | Geotechnical Engineers | Site Investigations

Geo-Environmental Services Ltd incorporated in England number 3214980 VAT number 679544479



No visual or olfactory evidence of Made Ground or gross contamination was encountered within the exploratory holes. For further description of the ground conditions, reference should be made to the individual exploratory hole logs enclosed in Appendix A.

Groundwater

The response zone for the monitoring well installed in WS01 is summarised in Table 2.

Location	Top of Response Zone (m bgl)	Base of Response Zone (m bgl)	Response Zone Strata
WS01	1.00	5.00	River Terrace Deposits & Newhaven Chalk Formation

Table 2 Monitoring Well Response Zones

Groundwater was monitored on 6No. occasions. The spot monitoring identified groundwater to be largely absent within the borehole, i.e. being recorded as dry during the monitoring visits. Table 3 below summarises the groundwater depths recorded and groundwater levels derived from the monitoring results.

WS01	Groundwater Results					
	26/11/25	22/12/25	26/01/26	26/02/26	26/03/26	17/04/26
Depth (m bgl)	Dry @ 5.00	Dry @ 4.80	Dry @ 4.74	4.53	Dry @ 4.90	Dry @ 4.80
Level (m AOD)	Dry @ 3.45	Dry @ 3.65	Dry @ 3.71	3.92	Dry @ 3.55	Dry @ 3.65

Table 3 Summary of Groundwater Monitoring Results

It should be noted that changes in groundwater and perched water levels do occur for a number of reasons including seasonal effects and variations in drainage. Such fluctuations may only be recorded by the measurement of the groundwater level within standpipes or piezometers installed within appropriate response zones.

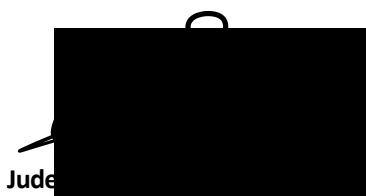
Closure

We trust we have interpreted your instructions correctly.

Should you have any queries please do not hesitate to contact us.

Yours sincerely

For and on Behalf of Geo-Environmental



Jude Burch
Graduate Consultant Engineer

jude.burch@gesl.net

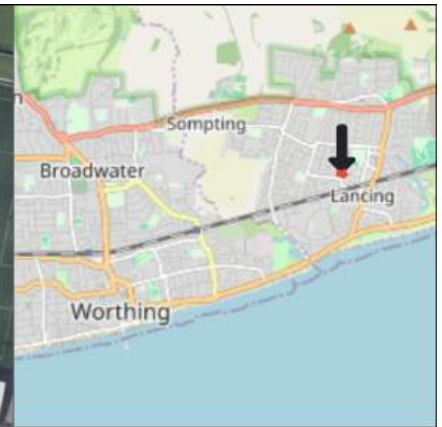
Enc Figure 1 Site Location Plan
 Figure 2 Exploratory Hole Location Plan
 Appendix A Exploratory Hole Logs
 Appendix B Groundwater Monitoring Results





FIGURES





Legend

 Site Boundary

0 25 m 50 m
© Mapbox



Geo-Environmental

Produced by **DatanestEarth**

Title:

Site Location Plan

Client: Lincoln Estates Limited

Size: A4

Project:
St Johns Court
Lancing

Drawn: JB

Figure No.: 1

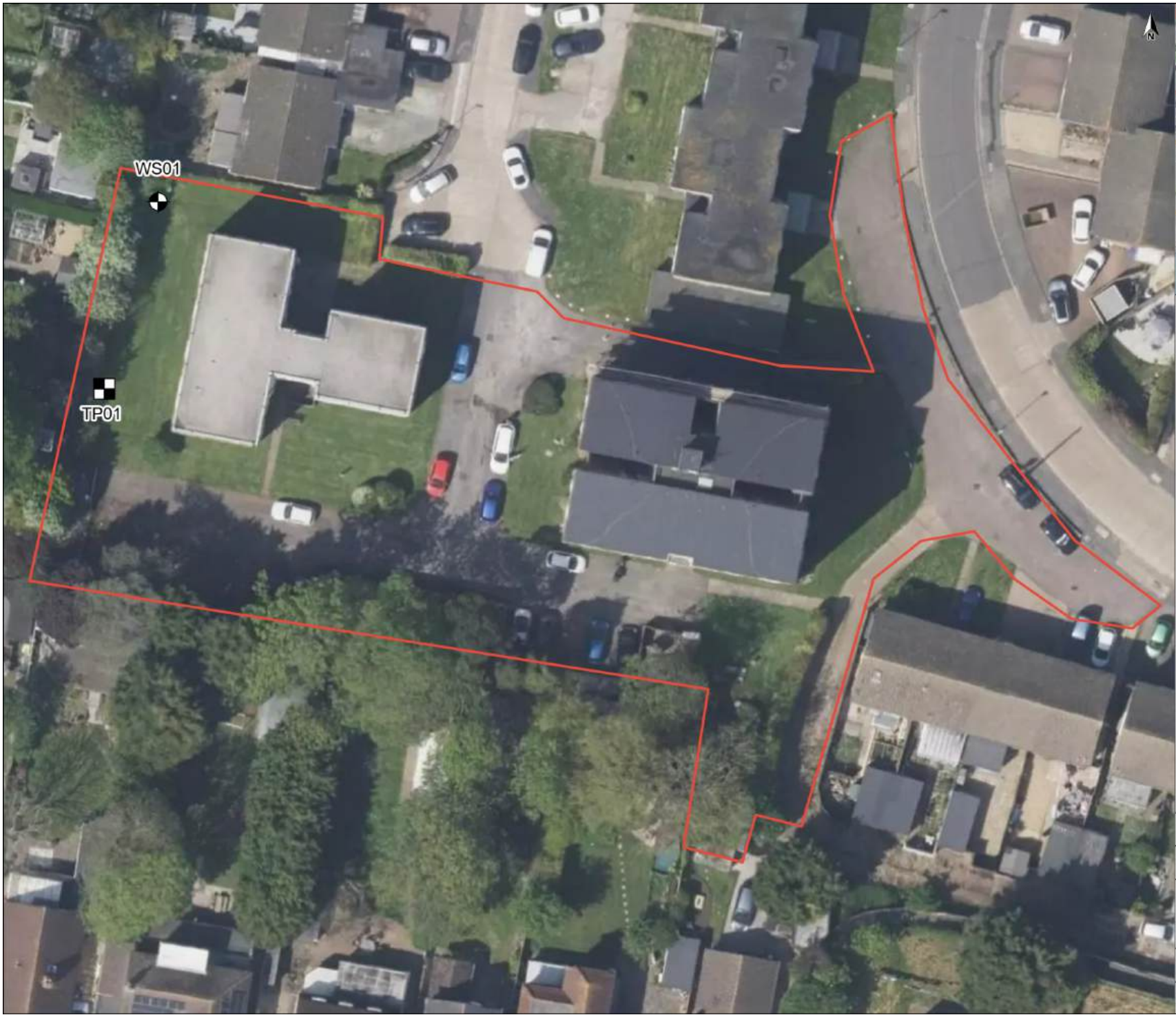
Date: 13-10-2025

Checked: JB

Proj No: GE23510

Scale: 1:2000

Version: Final



- Legend**
-  Trial Pitting For Soakage Testing
 -  Window sample locations
 -  Site Boundary



Geo-Environmental

Produced by **DatanestEarth**

Title: Exploratory Hole Location Plan		
Client: Lincoln Estates Limited		Size: A4
Project: St Johns Court Lancing	Drawn: JB	Figure No.: 2
Date: 13-10-2025	Checked: JB	
Proj No: GE23510	Scale: 1:500	Version: Final



APPENDIX A

Exploratory Hole Logs





Client:	Motion
---------	--------

Sheet 1 of 1

Contract Number: GE23510	Date Started: 25/11/2025	Logged By: JB	Checked By: SA	Status: FINAL
Easting: 517904.1	Northing: 104561.4	Ground Level: 8.43mOD	Plant Used: JCB 3CX	Date Printed: 22/04/2026

Hole Termination:	Stability: Sides stable
-------------------	-------------------------

Samples & In Situ Testing			Strata Details				Water	Backfill
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description		
		PP=1kg/cm2	8.13	(0.30)		Grass brown overlain silty slightly gravelly CLAY. Gravels are fine to coarse subangular to subrounded flint. Frequent roots and rootlets.	0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5	
				0.30		TOPSOIL		
						Firm brown silty CLAY.		
						RIVER TERRACE DEPOSITS		
			6.13	2.30		Orangish brown silty slightly sandy gravelly CLAY. Sand is fine. Gravel comprises fine to coarse subangular to angular flint and rare chalk. Occasional small pockets of dark brown to black ferruginous pockets.	2.5	
				(0.60)		RIVER TERRACE DEPOSITS		
			5.53	2.90		Orangish brown slightly gravelly fine SAND. Gravel comprised fine to medium weathered off-white chalk. Sand is fine to medium.	3.0	
				(0.70)		RIVER TERRACE DEPOSITS	3.5	
			4.83	3.60		Structureless CHALK recovered as off-white gravelly putty chalk. Gravel comprised very weak yellowish white chalk with rare black specks and coarse subangular to angular flint. Low flint cobble content.		
			4.53	3.90		NEWHAVEN CHALK FORMATION	4.0	
						End of Trial Pit at 3.90m		

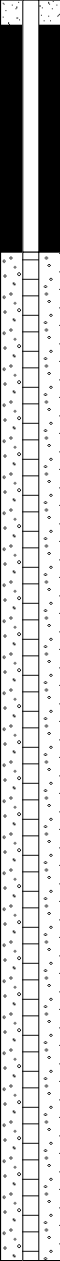
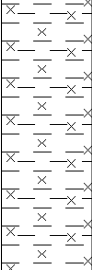
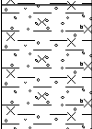
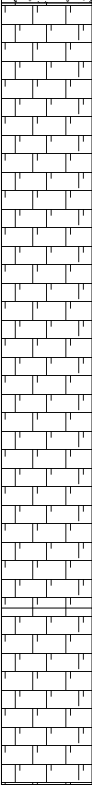
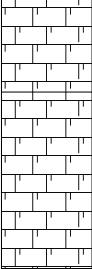
Photo:

A large pile of white, fluffy material, likely wool or cotton, is shown on a grassy area. In the background, there are parked cars and trees. The image is labeled with a date and time stamp: 25/11/2025 09:43.

Photo of Pit

Photo of Spoil

 Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net				Borehole Log				Borehole No. WS01 Sheet 1 of 1	
Project Name: St Johns Court Lancing				Project No. GE23510		Co-ords: 517909E - 104579N		Hole Type WLS	
Location: St Johns Court, Lancing				Level: 8.45		Scale 1:30			
Client: Motion				Dates: 26/11/2025		Logged By JB			

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30	8.15	 Grass overlain brown slightly gravelly silty CLAY. Gravels are fine to medium subangular flint. One red brick at 0.2m. TOPSOIL	1	
							 Light brown slightly silty CLAY. Occasional black pockets. Rare decaying black stained roots. RIVER TERRACE DEPOSITS		
	1.00	PP	4.5kg/cm2						
	1.50	PP	4.0kg/cm2	1.40	7.05	 Light brown silty gravelly CLAY. Gravels are fine to medium subangular flint and rare fine chalk. RIVER TERRACE DEPOSITS	2		
					1.90	6.55	 CHALK recovered as off white yellowish brown structureless gravelly putty CHALK. Gravels are fine to medium sub angular chalk and flint. Yellowish brown becoming lighter with depth. NEWHAVEN CHALK FORMATION Structureless CHALK recovered as off white yellowish brown gravelly putty chalk. Gravels are fine to medium sub angular chalk and flint. Flint present until 4.3m. Yellowish brown becoming lighter with depth until white at 4.3m. NEWHAVEN CHALK FORMATION	3	
					4.00	4.45	 CHALK recovered as white structureless gravelly putty chalk. Gravels are fine to medium subangular chalk. NEWHAVEN CHALK FORMATION	4	
					5.00	3.45	End of Borehole at 5.00m	5	
					5.00	3.45		6	

Dynamic Sampling Run Details			Water Strike Details (mbgl)		Remarks
Depth Top	Depth Base	Diameter	Depth Strike	Rose To	
					Ground wet from 2.5m.



Status
FINAL



APPENDIX B

Groundwater

Monitoring Results



Project: St Johns Court, Lancing
Ref: GE23510
Client: Motion



Data presented by Location:

Location	Date	GWD (m bgl)	GWL (m AOD)
WS01	26/11/2025	Dry @ 5.00	3.45
WS01	22/12/2025	Dry @ 4.8	3.65
WS01	26/01/2026	Dry @ 4.74	3.71
WS01	26/02/2026	4.53	3.92
WS01	26/03/2026	Dry @ 4.90	3.55
WS01	17/04/2026	Dry @ 4.80	3.65

Appendix H

Drainage Strategy Plan



- Notes
- Any discrepancies shall be reported to the engineer immediately, so that clarification can be sought prior to the commencement of works.
 - All levels and dimensions are approximate and not for construction purposes
 - This drawing shall be read in conjunction with all other relevant engineering details, drawings and specification.
 - The exact location of all private rainwater pipes & internal foul soil pipes are to be confirmed with the architect details prior to works commencing.
 - 350mm min cover to be provided for private pipes laid in soft/paved areas. 900mm min cover to be provided for private pipes laid beneath roads/driveways unless not practicable. Where unachievable, shallow private drains may require protection using concrete surround or paving slabs bridging the trench, subject to the NHBC inspector's requirements.
 - All pipes shall be laid soffit to soffit with outgoing pipes unless otherwise stated.
 - Manholes situated within areas accessible to motor vehicles are to be fitted with suitable strength covers and frames. Please refer to the manhole schedule for guidance on this.

Legend

- New Surface Water Gravity Pipe
- Surface Water Manhole
- Polystorm Diffuser Crate
- Silt Trap 6000
- Permeable Paviments (see drawing for details)
- Orifice Flow Control (see drawing for discharge rate)
- Rainwater Pipe

P01	First Issue	PA	PA	N3	21.05.2026
Rev.	Description	Drm	Chk	App	Date

Drawing Status:

FOR PLANNING
NOT FOR CONSTRUCTION



Client:
Lincoln Estates Ltd

Project:
St John's Court
Penstone Close, Lancing

Title:
Drainage Strategy Drawing

Scale: 1:200 (@ A1)

Drawing:
2510016-0500

Revision:
P01

Appendix I

MicroDrainage Hydraulic Model Outputs

Motion

84 North Street
Guildford
Surrey GU1 4AU

Date 21/05/2026 17:33
File 1lestj-MD-NW-Model-21.05.2026.MDX

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Page 1



STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FEH Rainfall Model

Return Period (years)	100	Volumetric Runoff Coeff.	1.000
		PIMP (%)	100
FEH Rainfall Version	2013	Add Flow / Climate Change (%)	0
Site Location	GB 518400 104350 TQ 18400 04350	Minimum Backdrop Height (m)	0.200
Data Type	Catchment	Maximum Backdrop Height (m)	1.500
Maximum Rainfall (mm/hr)	550	Min Design Depth for Optimisation (m)	0.400
Maximum Time of Concentration (mins)	30	Min Vel for Auto Design only (m/s)	1.00
Foul Sewage (l/s/ha)	0.000	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Storm at outfall Existing Soakaway SA1 (pipe 1.004)

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.028	4-8	0.004	8-12	0.004	12-16	0.003

Total Area Contributing (ha) = 0.039

Total Pipe Volume (m³) = 0.345

Time Area Diagram at outfall Existing Soakaway SA2 (pipe 6.002)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.002	4-8	0.000

Total Area Contributing (ha) = 0.002

Total Pipe Volume (m³) = 0.060

Network Design Table for Storm

- Indicates pipe length does not match coordinates

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	1.000#	0.064	15.6	0.005	15.00	0.0	0.600	o	100	Pipe/Conduit	
1.001	1.065	0.010	102.5	0.002	0.00	0.0	0.600	o	100	Pipe/Conduit	
1.002	9.287	0.094	99.2	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
2.000	1.054	0.011	100.0	0.000	15.00	0.0	0.600	o	100	Pipe/Conduit	
3.000	5.536	0.041	133.6	0.009	15.00	0.0	0.600	o	100	Pipe/Conduit	
3.001	0.500#	0.005	100.0	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	E I.Area (ha)	E Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	98.49	15.01	7.934	0.005	0.0	0.0	0.0	1.96	15.4	1.6
1.001	98.40	15.03	7.880	0.007	0.0	0.0	0.0	0.76	6.0	2.4
1.002	97.70	15.23	7.870	0.007	0.0	0.0	0.0	0.77	6.1	2.4
2.000	98.44	15.02	7.881	0.000	0.0	0.0	0.0	0.77	6.0	0.0
3.000	98.02	15.14	7.916	0.009	0.0	0.0	0.0	0.66	5.2	3.3
3.001	97.99	15.15	7.875	0.009	0.0	0.0	0.0	0.77	6.0	3.3

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
2.001	5.719	0.104	55.0	0.014	0.00	0.0	0.600	o	100	Pipe/Conduit	
1.003	3.645	0.061	59.5	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
4.000	0.894	0.008	109.0	0.000	15.00	0.0	0.600	o	100	Pipe/Conduit	
4.001	3.612	0.165	21.9	0.003	0.00	0.0	0.600	o	100	Pipe/Conduit	
5.000	0.742	0.007	106.6	0.000	15.00	0.0	0.600	o	100	Pipe/Conduit	
5.001	3.037	0.165	18.4	0.006	0.00	0.0	0.600	o	100	Pipe/Conduit	
1.004	1.463	0.017	88.4	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
6.000	0.990	0.010	100.0	0.000	15.00	0.0	0.600	o	100	Pipe/Conduit	
6.001	3.334	0.062	53.7	0.002	0.00	0.0	0.600	o	100	Pipe/Conduit	
6.002	3.320	0.041	80.0	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	E I.Area (ha)	E Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
2.001	97.67	15.24	7.880	0.023	0.0	0.0	0.0	1.04	8.2	8.1
1.003	97.51	15.29	7.726	0.030	0.0	0.0	0.0	1.31	23.1	10.4
4.000	98.45	15.02	7.878	0.000	0.0	0.0	0.0	0.74	5.8	0.0
4.001	98.31	15.06	7.880	0.003	0.0	0.0	0.0	1.66	13.0	1.2
5.000	98.46	15.02	7.877	0.000	0.0	0.0	0.0	0.74	5.8	0.0
5.001	98.36	15.04	7.880	0.006	0.0	0.0	0.0	1.81	14.2	2.1
1.004	97.43	15.31	7.665	0.039	0.0	0.0	0.0	1.07	18.9	13.7
6.000	98.44	15.02	7.880	0.000	0.0	0.0	0.0	0.77	6.0	0.0
6.001	98.25	15.07	7.880	0.002	0.0	0.0	0.0	1.05	8.3	0.8
6.002	98.03	15.14	7.818	0.002	0.0	0.0	0.0	0.86	6.8	0.8

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
4 - Silt Trap	8.500	0.566	Open Manhole	1200	1.000	7.934	100				
PP2	8.500	0.630	Open Manhole	1200	1.001	7.880	100	1.000	7.870	100	
5	8.500	0.630	Open Manhole	1200	1.002	7.870	100	1.001	7.870	100	
3	8.500	0.619	Junction		2.000	7.881	100				
1	8.500	0.584	Open Manhole	1200	3.000	7.916	100				
2 - Silt Trap	8.500	0.625	Open Manhole	1200	3.001	7.875	100	3.000	7.875	100	
PP1	8.500	0.630	Open Manhole	1200	2.001	7.880	100	2.000	7.870	100	
								3.001	7.870	100	
6	8.500	0.774	Open Manhole	1200	1.003	7.726	150	1.002	7.776	100	
								2.001	7.776	100	
7	8.500	0.622	Junction		4.000	7.878	100				
PP3	8.500	0.630	Open Manhole	1200	4.001	7.880	100	4.000	7.870	100	
8	8.500	0.623	Junction		5.000	7.877	100				
PP4	8.500	0.630	Open Manhole	1200	5.001	7.880	100	5.000	7.870	100	
9 - Silt Trap	8.500	0.835	Open Manhole	1200	1.004	7.665	150	1.003	7.665	150	
								4.001	7.715	100	
								5.001	7.715	100	
Existing Soakaway SA1	8.500	0.852	Open Manhole	0		OUTFALL		1.004	7.648	150	
10	8.500	0.620	Junction		6.000	7.880	100				
PP5	8.500	0.630	Open Manhole	1200	6.001	7.880	100	6.000	7.870	100	
11 - Silt Trap	8.500	0.682	Open Manhole	1200	6.002	7.818	100	6.001	7.818	100	
Existing Soakaway SA2	8.500	0.723	Open Manhole	0		OUTFALL		6.002	7.777	100	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
4 - Silt Trap	308890.042	-19015.593	308890.042	-19015.593	Required	
PP2	308896.321	-19016.878	308896.321	-19016.878	Required	
5	308896.207	-19017.936	308896.207	-19017.936	Required	
3	308904.557	-19025.920			No Entry	
1	308889.042	-19021.738	308889.042	-19021.738	Required	
2 - Silt Trap	308894.520	-19022.534	308894.520	-19022.534	Required	
PP1	308904.781	-19024.890	308904.781	-19024.890	Required	
6	308905.408	-19019.205	308905.408	-19019.205	Required	
7	308901.542	-19014.930			No Entry	
PP3	308902.422	-19015.086	308902.422	-19015.086	Required	
8	308909.718	-19016.257			No Entry	
PP4	308908.986	-19016.138	308908.986	-19016.138	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
9 - Silt Trap	308905.996	-19015.608	308905.996	-19015.608	Required	
Existing Soakaway SA1	308906.216	-19014.162			No Entry	
10	308904.469	-18998.015			No Entry	
PP5	308905.454	-18998.113	308905.454	-18998.113	Required	
11 - Silt Trap	308908.741	-18998.675	308908.741	-18998.675	Required	
Existing Soakaway SA2	308908.270	-19001.961			No Entry	

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	User	-	100	0.005	0.005	0.005
1.001	User	-	100	0.002	0.002	0.002
1.002	-	-	100	0.000	0.000	0.000
2.000	-	-	100	0.000	0.000	0.000
3.000	User	-	100	0.009	0.009	0.009
3.001	-	-	100	0.000	0.000	0.000
2.001	User	-	100	0.014	0.014	0.014
1.003	-	-	100	0.000	0.000	0.000
4.000	-	-	100	0.000	0.000	0.000
4.001	User	-	100	0.003	0.003	0.003
5.000	-	-	100	0.000	0.000	0.000
5.001	User	-	100	0.006	0.006	0.006
1.004	-	-	100	0.000	0.000	0.000
6.000	-	-	100	0.000	0.000	0.000
6.001	User	-	100	0.002	0.002	0.002
6.002	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				0.041	0.041	0.041

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
---------------------	--------------	--------------	--------------	------------------	----------	--------

1.004	Existing Soakaway SA1	8.500	7.648	0.000	0	0
-------	-----------------------	-------	-------	-------	---	---

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
---------------------	--------------	--------------	--------------	------------------	----------	--------

6.002	Existing Soakaway SA2	8.500	7.777	0.000	0	0
-------	-----------------------	-------	-------	-------	---	---

Simulation Criteria for Storm

Volumetric Runoff Coeff	1.000	Manhole Headloss Coeff (Global)	0.500	Inlet Coefficient	0.800
Areal Reduction Factor	1.000	Foul Sewage per hectare (l/s)	0.000	Flow per Person per Day (l/per/day)	0.000
Hot Start (mins)	0	Additional Flow - % of Total Flow	0.000	Run Time (mins)	60
Hot Start Level (mm)	0	MADD Factor * 10m³/ha Storage	0.000	Output Interval (mins)	1
Number of Input Hydrographs	0	Number of Offline Controls	0	Number of Time/Area Diagrams	0
Number of Online Controls	5	Number of Storage Structures	5	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH	Summer Storms	Yes
Return Period (years)	100	Winter Storms	No
FEH Rainfall Version	2013	Cv (Summer)	1.000
Site Location	GB 518400 104350 TQ 18400 04350	Cv (Winter)	1.000
Data Type	Catchment	Storm Duration (mins)	30

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Date 21/05/2026 17:33 File 1lestj-MD-NW-Model-21.05.2026.MDX	Designed by CommonUser Checked by	
Innovyze	Network 2020.1.3	
Online Controls for Storm Orifice Manhole: PP2, DS/PN: 1.001, Volume (m³): 0.7 Diameter (m) 0.021 Discharge Coefficient 0.600 Invert Level (m) 7.880 Orifice Manhole: PP1, DS/PN: 2.001, Volume (m³): 0.7 Diameter (m) 0.021 Discharge Coefficient 0.600 Invert Level (m) 7.880 Orifice Manhole: PP3, DS/PN: 4.001, Volume (m³): 0.7 Diameter (m) 0.018 Discharge Coefficient 0.600 Invert Level (m) 7.880 Orifice Manhole: PP4, DS/PN: 5.001, Volume (m³): 0.7 Diameter (m) 0.018 Discharge Coefficient 0.600 Invert Level (m) 7.880 Orifice Manhole: PP5, DS/PN: 6.001, Volume (m³): 0.7 Diameter (m) 0.018 Discharge Coefficient 0.600 Invert Level (m) 7.880		
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Storage Structures for Storm

Porous Car Park Manhole: PP2, DS/PN: 1.001

Infiltration Coefficient Base (m/hr)	0.00000	Porosity	0.30	Slope (1:X)	0.0
Membrane Percolation (mm/hr)	1000	Invert Level (m)	7.870	Depression Storage (mm)	5
Max Percolation (l/s)	5.6	Width (m)	5.0	Evaporation (mm/day)	3
Safety Factor	2.0	Length (m)	4.0	Cap Volume Depth (m)	0.500

Porous Car Park Manhole: PP1, DS/PN: 2.001

Infiltration Coefficient Base (m/hr)	0.00000	Porosity	0.30	Slope (1:X)	0.0
Membrane Percolation (mm/hr)	1000	Invert Level (m)	7.870	Depression Storage (mm)	5
Max Percolation (l/s)	38.9	Width (m)	28.0	Evaporation (mm/day)	3
Safety Factor	2.0	Length (m)	5.0	Cap Volume Depth (m)	0.500

Porous Car Park Manhole: PP3, DS/PN: 4.001

Infiltration Coefficient Base (m/hr)	0.00000	Porosity	0.30	Slope (1:X)	0.0
Membrane Percolation (mm/hr)	1000	Invert Level (m)	7.870	Depression Storage (mm)	5
Max Percolation (l/s)	8.3	Width (m)	5.0	Evaporation (mm/day)	3
Safety Factor	2.0	Length (m)	6.0	Cap Volume Depth (m)	0.500

Porous Car Park Manhole: PP4, DS/PN: 5.001

Infiltration Coefficient Base (m/hr)	0.00000	Porosity	0.30	Slope (1:X)	0.0
Membrane Percolation (mm/hr)	1000	Invert Level (m)	7.870	Depression Storage (mm)	5
Max Percolation (l/s)	16.7	Width (m)	5.0	Evaporation (mm/day)	3
Safety Factor	2.0	Length (m)	12.0	Cap Volume Depth (m)	0.500

Porous Car Park Manhole: PP5, DS/PN: 6.001

Infiltration Coefficient Base (m/hr)	0.00000	Porosity	0.30	Slope (1:X)	0.0
Membrane Percolation (mm/hr)	1000	Invert Level (m)	7.870	Depression Storage (mm)	5
Max Percolation (l/s)	5.6	Width (m)	5.0	Evaporation (mm/day)	3
Safety Factor	2.0	Length (m)	4.0	Cap Volume Depth (m)	0.500

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Innovyze	Network 2020.1.3	

Volume Summary (Static)

Length Calculations based on Centre-Centre

Pipe Number	USMH Name	Manhole Volume (m³)	Pipe Volume (m³)	Storage	Total	
				Structure Volume (m³)		
1.000	4 - Silt Trap	0.640	0.008	0.000	0.648	
1.001		0.701	0.008	3.000	3.710	
1.002		5	0.713	0.073	0.000	0.786
2.000		3	0.000	0.008	0.000	0.008
3.000	2 - Silt Trap	1	0.660	0.043	0.000	0.704
3.001		0.707	0.004	0.000	0.711	
2.001		PP1	0.701	0.045	21.000	21.746
1.003		6	0.875	0.064	0.000	0.940
4.000	9 - Silt Trap	7	0.000	0.007	0.000	0.007
4.001		PP3	0.701	0.028	4.500	5.230
5.000		8	0.000	0.006	0.000	0.006
5.001		PP4	0.701	0.024	9.000	9.725
1.004	11 - Silt Trap	PP4	0.944	0.026	0.000	0.970
6.000		10	0.000	0.008	0.000	0.008
6.001		PP5	0.701	0.026	3.000	3.727
6.002		11 - Silt Trap	0.771	0.026	0.000	0.797
Total		8.818	0.405	40.500	49.723	

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Manhole Headloss Coeff (Global)	0.500	MADD Factor * 10m ³ /ha Storage	0.000
Hot Start (mins)	0	Foul Sewage per hectare (l/s)	0.000	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Additional Flow - % of Total Flow	0.000	Flow per Person per Day (l/per/day)	0.000

Number of Input Hydrographs	0	Number of Offline Controls	0	Number of Time/Area Diagrams	0
Number of Online Controls	5	Number of Storage Structures	5	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH	Data Type	Catchment
FEH Rainfall Version	2013	Cv (Summer)	1.000
Site Location	GB 518400 104350 TQ 18400 04350	Cv (Winter)	1.000
Margin for Flood Risk Warning (mm)	300.0	DTS Status	OFF
Analysis Timestep	Fine	DVD Status	ON
Inertia Status	ON		

Profile(s)		Summer and Winter	
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760		
Return Period(s) (years)		2, 10, 30, 100	
Climate Change (%)		0, 40, 40, 45	

PN	US/MH Name	Event	Duration (mins)	US/CL	Water	Surcharged	Flooded	Overflow Vol (m³)	Infil. Vol (m³)	Maximum Vol (m³)	Discharge Vol (m³)
					Level (m)	Depth (m)	Volume (m³)				
1.000	4 - Silt Trap	180 minute 2 year Summer I+0%	180	8.500	7.983	-0.051	0.000			0.049	1.116
1.001	PP2	180 minute 2 year Summer I+0%	180	8.500	7.983	0.003	0.000		0.000	0.797	1.459
1.002	5	180 minute 2 year Summer I+0%	180	8.500	7.881	-0.088	0.000			0.008	1.458
2.000	3	480 minute 2 year Summer I+0%	480	8.500	7.964	-0.017	0.000			0.078	-0.002
3.000	1	480 minute 2 year Summer I+0%	480	8.500	7.964	-0.052	0.000			0.049	3.059
3.001	2 - Silt Trap	480 minute 2 year Summer I+0%	480	8.500	7.964	-0.011	0.000			0.119	3.044
2.001	PP1	480 minute 2 year Summer I+0%	480	8.500	7.964	-0.016	0.000		0.000	4.032	6.119
1.003	6	360 minute 2 year Summer I+0%	360	8.500	7.742	-0.134	0.000			0.014	7.219
4.000	7	240 minute 2 year Summer I+0%	240	8.500	7.909	-0.069	0.000			0.026	0.000
4.001	PP3	240 minute 2 year Summer I+0%	240	8.500	7.909	-0.071	0.000		0.000	0.393	0.650
5.000	8	480 minute 2 year Summer I+0%	480	8.500	7.913	-0.064	0.000			0.032	-0.001
5.001	PP4	480 minute 2 year Summer I+0%	480	8.500	7.914	-0.066	0.000		0.000	0.827	1.403
1.004	9 - Silt Trap	360 minute 2 year Summer I+0%	360	8.500	7.687	-0.128	0.000			0.024	9.237
6.000	10	240 minute 2 year Summer I+0%	240	8.500	7.904	-0.076	0.000			0.019	0.000
6.001	PP5	240 minute 2 year Summer I+0%	240	8.500	7.904	-0.076	0.000		0.000	0.237	0.436
6.002	11 - Silt Trap	240 minute 2 year Summer I+0%	240	8.500	7.825	-0.093	0.000			0.002	0.436

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status
1.000	4 - Silt Trap		0.3	OK
1.001	PP2	93	0.2	SURCHARGED
1.002	5		0.1	OK
2.000	3		0.0	OK*
3.000	1		0.4	OK
3.001	2 - Silt Trap		0.4	OK
2.001	PP1	288	0.2	OK
1.003	6		0.4	OK
4.000	7		0.0	OK*
4.001	PP3	132	0.1	OK
5.000	8		0.0	OK*
5.001	PP4	232	0.1	OK
1.004	9 - Silt Trap		0.6	OK
6.000	10		0.0	OK*
6.001	PP5	132	0.1	OK
6.002	11 - Silt Trap		0.1	OK

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10 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Manhole Headloss Coeff (Global)	0.500	MADD Factor * 10m ³ /ha Storage	0.000
Hot Start (mins)	0	Foul Sewage per hectare (l/s)	0.000	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Additional Flow - % of Total Flow	0.000	Flow per Person per Day (l/per/day)	0.000

Number of Input Hydrographs	0	Number of Offline Controls	0	Number of Time/Area Diagrams	0
Number of Online Controls	5	Number of Storage Structures	5	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH	Data Type	Catchment
FEH Rainfall Version	2013	Cv (Summer)	1.000
Site Location	GB 518400 104350 TQ 18400 04350	Cv (Winter)	1.000
Margin for Flood Risk Warning (mm)	300.0	DTS Status	OFF
Analysis Timestep	Fine	DVD Status	ON
Inertia Status	ON		

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760
Return Period(s) (years)	2, 10, 30, 100
Climate Change (%)	0, 40, 40, 45

PN	US/MH Name	Event	Duration (mins)	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m ³)	Overflow Vol (m ³)	Infil. Vol (m ³)	Maximum Vol (m ³)	Discharge Vol (m ³)
1.000	4 - Silt Trap	180 minute 10 year Summer I+40%	180	8.500	8.116	0.082	0.000			0.201	2.402
1.001	PP2	180 minute 10 year Summer I+40%	180	8.500	8.116	0.136	0.000		0.000	1.749	3.308
1.002	5	180 minute 10 year Summer I+40%	180	8.500	7.885	-0.084	0.000			0.012	3.307
2.000	3	2160 minute 10 year Winter I+40%	2160	8.500	7.981	0.000	0.000			0.106	0.000
3.000	1	360 minute 10 year Summer I+40%	360	8.500	8.081	0.065	0.000			0.181	5.874
3.001	2 - Silt Trap	360 minute 10 year Summer I+40%	360	8.500	8.080	0.105	0.000			0.261	5.797
2.001	PP1	360 minute 10 year Summer I+40%	360	8.500	8.080	0.100	0.000		0.000	9.046	11.116
1.003	6	240 minute 10 year Summer I+40%	240	8.500	7.747	-0.129	0.000			0.019	11.509
4.000	7	180 minute 10 year Summer I+40%	180	8.500	7.959	-0.019	0.000			0.076	-0.003
4.001	PP3	180 minute 10 year Summer I+40%	180	8.500	7.959	-0.021	0.000		0.000	0.894	1.499
5.000	8	240 minute 10 year Summer I+40%	240	8.500	7.969	-0.008	0.000			0.087	-0.008
5.001	PP4	240 minute 10 year Summer I+40%	240	8.500	7.969	-0.011	0.000		0.000	1.895	2.692
1.004	9 - Silt Trap	240 minute 10 year Summer I+40%	240	8.500	7.697	-0.118	0.000			0.036	15.859
6.000	10	180 minute 10 year Summer I+40%	180	8.500	7.942	-0.038	0.000			0.057	0.000
6.001	PP5	180 minute 10 year Summer I+40%	180	8.500	7.942	-0.038	0.000		0.000	0.513	1.012
6.002	11 - Silt Trap	180 minute 10 year Summer I+40%	180	8.500	7.829	-0.089	0.000			0.008	1.012

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status
1.000	4 - Silt Trap		0.6	SURCHARGED
1.001	PP2	120	0.3	SURCHARGED
1.002	5		0.3	OK
2.000	3		0.0	SURCHARGED*
3.000	1		0.9	SURCHARGED
3.001	2 - Silt Trap		0.9	SURCHARGED
2.001	PP1	324	0.4	SURCHARGED
1.003	6		0.7	OK
4.000	7		0.0	OK*
4.001	PP3	93	0.2	OK
5.000	8		0.0	OK*
5.001	PP4	160	0.2	OK
1.004	9 - Silt Trap		1.1	OK
6.000	10		0.0	OK*
6.001	PP5	75	0.2	OK
6.002	11 - Silt Trap		0.2	OK

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Manhole Headloss Coeff (Global)	0.500	MADD Factor * 10m³/ha Storage	0.000
Hot Start (mins)	0	Foul Sewage per hectare (l/s)	0.000	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Additional Flow - % of Total Flow	0.000	Flow per Person per Day (l/per/day)	0.000

Number of Input Hydrographs	0	Number of Offline Controls	0	Number of Time/Area Diagrams	0
Number of Online Controls	5	Number of Storage Structures	5	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH	Data Type	Catchment
FEH Rainfall Version	2013	Cv (Summer)	1.000
Site Location	GB 518400 104350 TQ 18400 04350	Cv (Winter)	1.000
Margin for Flood Risk Warning (mm)	300.0	DTS Status	OFF
Analysis Timestep	Fine	DVD Status	ON
Inertia Status	ON		

Profile(s)		Summer and Winter	
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760		
Return Period(s) (years)		2, 10, 30, 100	
Climate Change (%)		0, 40, 40, 45	

PN	US/MH Name	Event	Duration (mins)	US/CL (m)	Water	Surcharged	Flooded	Overflow Vol (m³)	Infil. Vol (m³)	Maximum Vol (m³)	Discharge Vol (m³)
					Level (m)	Depth (m)	Volume (m³)				
1.000	4 - Silt Trap	180 minute 30 year Summer I+40%	180	8.500	8.182	0.148	0.000			0.275	3.048
1.001	PP2	180 minute 30 year Summer I+40%	180	8.500	8.182	0.202	0.000		0.000	2.218	4.218
1.002	5	180 minute 30 year Summer I+40%	180	8.500	7.888	-0.082	0.000			0.015	4.214
2.000	3	15 minute 30 year Summer I+40%	15	8.500	7.981	0.000	0.000			0.100	-0.088
3.000	1	360 minute 30 year Summer I+40%	360	8.500	8.140	0.124	0.000			0.248	7.310
3.001	2 - Silt Trap	360 minute 30 year Summer I+40%	360	8.500	8.139	0.164	0.000			0.328	7.188
2.001	PP1	360 minute 30 year Summer I+40%	360	8.500	8.139	0.159	0.000		0.000	11.604	13.295
1.003	6	240 minute 30 year Summer I+40%	240	8.500	7.749	-0.127	0.000			0.022	13.955
4.000	7	120 minute 30 year Winter I+40%	120	8.500	7.978	0.000	0.000			0.098	-0.011
4.001	PP3	180 minute 30 year Summer I+40%	180	8.500	7.986	0.006	0.000		0.000	1.168	1.972
5.000	8	180 minute 30 year Winter I+40%	180	8.500	7.977	0.000	0.000			0.114	-0.025
5.001	PP4	240 minute 30 year Summer I+40%	240	8.500	7.999	0.019	0.000		0.000	2.464	3.488
1.004	9 - Silt Trap	240 minute 30 year Summer I+40%	240	8.500	7.699	-0.116	0.000			0.040	19.603
6.000	10	120 minute 30 year Summer I+40%	120	8.500	7.965	-0.015	0.000			0.080	-0.002
6.001	PP5	120 minute 30 year Summer I+40%	120	8.500	7.965	-0.015	0.000		0.000	0.673	1.141
6.002	11 - Silt Trap	120 minute 30 year Summer I+40%	120	8.500	7.830	-0.088	0.000			0.009	1.140

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status
1.000	4 - Silt Trap		0.8	SURCHARGED
1.001	PP2	111	0.4	SURCHARGED
1.002	5		0.4	OK
2.000	3		0.0	SURCHARGED*
3.000	1		1.2	SURCHARGED
3.001	2 - Silt Trap		1.1	SURCHARGED
2.001	PP1	348	0.5	SURCHARGED
1.003	6		0.9	OK
4.000	7		0.0	SURCHARGED*
4.001	PP3	99	0.2	SURCHARGED
5.000	8		0.0	SURCHARGED*
5.001	PP4	168	0.2	SURCHARGED
1.004	9 - Silt Trap		1.3	OK
6.000	10		0.0	OK*
6.001	PP5	72	0.2	OK
6.002	11 - Silt Trap		0.2	OK

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Manhole Headloss Coeff (Global)	0.500	MADD Factor * 10m ³ /ha Storage	0.000
Hot Start (mins)	0	Foul Sewage per hectare (l/s)	0.000	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Additional Flow - % of Total Flow	0.000	Flow per Person per Day (l/per/day)	0.000

Number of Input Hydrographs	0	Number of Offline Controls	0	Number of Time/Area Diagrams	0
Number of Online Controls	5	Number of Storage Structures	5	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH	Data Type	Catchment
FEH Rainfall Version	2013	Cv (Summer)	1.000
Site Location	GB 518400 104350 TQ 18400 04350	Cv (Winter)	1.000
Margin for Flood Risk Warning (mm)	300.0	DTS Status	OFF
Analysis Timestep	Fine	DVD Status	ON
Inertia Status	ON		

Profile(s)		Summer and Winter	
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760		
Return Period(s) (years)	2, 10, 30, 100		
Climate Change (%)	0, 40, 40, 45		

PN	US/MH Name	Event	Duration (mins)	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m ³)	Overflow Vol (m ³)	Infil. Vol (m ³)	Maximum Vol (m ³)	Discharge Vol (m ³)
1.000	4 - Silt Trap	120 minute 100 year Summer I+45%	120	8.500	8.280	0.246	0.000			0.385	3.455
1.001	PP2	120 minute 100 year Summer I+45%	120	8.500	8.279	0.299	0.000		0.000	2.912	4.135
1.002	5	120 minute 100 year Summer I+45%	120	8.500	7.890	-0.080	0.000			0.018	4.122
2.000	3	15 minute 100 year Summer I+45%	15	8.500	7.981	0.000	0.000			0.139	-0.125
3.000	1	360 minute 100 year Summer I+45%	360	8.500	8.228	0.212	0.000			0.347	9.363
3.001	2 - Silt Trap	360 minute 100 year Summer I+45%	360	8.500	8.227	0.252	0.000			0.427	9.173
2.001	PP1	360 minute 100 year Summer I+45%	360	8.500	8.227	0.247	0.000		0.000	15.379	16.076
1.003	6	180 minute 100 year Summer I+45%	180	8.500	7.751	-0.125	0.000			0.025	13.624
4.000	7	720 minute 100 year Summer I+45%	720	8.500	7.978	0.000	0.000			0.097	0.000
4.001	PP3	180 minute 100 year Summer I+45%	180	8.500	8.024	0.044	0.000		0.000	1.552	2.611
5.000	8	720 minute 100 year Winter I+45%	720	8.500	7.977	0.000	0.000			0.122	0.000
5.001	PP4	240 minute 100 year Summer I+45%	240	8.500	8.041	0.061	0.000		0.000	3.272	4.506
1.004	9 - Silt Trap	180 minute 100 year Summer I+45%	180	8.500	7.702	-0.113	0.000			0.044	19.848
6.000	10	120 minute 100 year Winter I+45%	120	8.500	7.980	0.000	0.000			0.107	-0.004
6.001	PP5	120 minute 100 year Summer I+45%	120	8.500	7.997	0.017	0.000		0.000	0.900	1.530
6.002	11 - Silt Trap	120 minute 100 year Summer I+45%	120	8.500	7.831	-0.087	0.000			0.010	1.529

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status
1.000	4 - Silt Trap		1.3	FLOOD RISK
1.001	PP2	100	0.5	FLOOD RISK
1.002	5		0.5	OK
2.000	3		0.0	SURCHARGED*
3.000	1		1.5	FLOOD RISK
3.001	2 - Silt Trap		1.4	FLOOD RISK
2.001	PP1	378	0.5	FLOOD RISK
1.003	6		1.0	OK
4.000	7		0.0	SURCHARGED*
4.001	PP3	108	0.2	SURCHARGED*
5.000	8		0.0	SURCHARGED*
5.001	PP4	184	0.3	SURCHARGED*
1.004	9 - Silt Trap		1.5	OK
6.000	10		0.0	SURCHARGED*
6.001	PP5	76	0.2	SURCHARGED*
6.002	11 - Silt Trap		0.2	OK

Appendix J

Management and Maintenance Plan



St John's Court, Penstone Close, Lancing

Drainage Management & Maintenance Plan

For

Lincoln Estates Ltd

Document Control Sheet

St John's Court, Penstone Close, Lancing

Lincoln Estates Ltd

This document has been issued and amended as follows:

Date	Issue	Prepared by	Approved by
21 st May 2026	FINAL	Phil Allen MCIWEM C.WEM	Neil Jaques

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1.0 Introduction

- 1.1 This document sets out the suggested principles for the long-term management and maintenance of the surface water drainage system on the proposed development at St John's Court, Penstone Close, Lancing, West Sussex.
- 1.2 The purpose of this document is to ensure that the adopting site management company has a robust inspection and maintenance plan in place for the lifetime of the development. This ensures the optimum operation of the surface water drainage system and that it will be maintained in perpetuity. This will contribute to reducing the risk of surface water flooding both on- and off-site.
- 1.3 All those responsible for maintenance should follow relevant health and safety legislation for all activities listed within this report (including lone working, if relevant). Method statements and risk assessments should always be undertaken and made available, if requested.
- 1.4 This document has been produced by Motion on behalf of their client, Lincoln Estates Ltd. This document describes the typical management and maintenance tasks that are known at the design stage (maintenance frequencies and typical tasks, for example). These have been drawn from industry guidance such as CIRIA C753 - The SuDS Manual – and manufacturer's own guidance.
- 1.5 Maintenance is considered as a construction activity under the CDM Regulations 2015. Under the CDM Regulations, it is a requirement that a competent person be appointed to carry out a required role. CDM defines a competent person as an individual with sufficient knowledge of the specific tasks to be undertaken, as well as sufficient experience and ability to carry out their duties in relation to the task in a way that secures health and safety on site.
- 1.6 In recognition of the requirements of the CDM Regulations 2015, this drainage management and maintenance plan expects that the maintenance work will be carried out by a competent person who must have prior knowledge of the drainage components and SuDS systems on site.
- 1.7 There are limitations on what this document can prescribe at the planning stage. At this stage this document cannot name the specific individuals who will carry out the maintenance and what equipment is to be used. Related to this, this document is unable to provide method statements for exactly how maintenance practices will be carried out. These can only be determined at the time of the maintenance being carried out and the exact maintenance need. Therefore, this is to be the responsibility of the adopting site management company and/or the individuals carrying out the work. We urge those who are carrying out the maintenance to record this information and make it available to the Local Planning Authority (LPA), if required to do so. This drainage management and maintenance plan needs to be a living document that is owned and maintained by the adopting site management company and should be adhered to for the lifetime of the development.

2.0 Maintenance Categories

2.1 There are three categories of maintenance activities referred to in this report. These are:

Inspection and Monitoring

- „ Inspection and monitoring tasks should be carried out frequently, nominally once a month, and should include a visual inspection of all components including all inlets and outlets.

Regular Maintenance (Monthly)

- „ Regular maintenance consists of basic tasks done on a frequent and predictable schedule, including vegetation management and litter removal.

Seasonal Maintenance (Quarterly)

- „ Seasonal maintenance comprises tasks that are likely to be required periodically, but on a much less frequent and predictable basis than the routine tasks (leaf litter and sediment removal is an example).

Remedial Maintenance

- „ Remedial maintenance comprises of intermittent tasks that may be required to rectify faults associated with the system that have been identified through visual inspections. The likelihood of faults can be minimised by correct installation, regular inspection and timely maintenance. Where remedial work is found to be necessary, it is likely to be due to site-specific characteristics or unforeseen events and, as such, timings are difficult to predict.

3.0 The Surface Water Drainage System

- 3.1 The proposed surface water drainage system is made up of a number of components/structures. These include:
- ” Permeable paving
 - ” Catchpit manholes/silt traps
 - ” Manholes
 - ” Pipes
 - ” Orifice Plate flow controls
- 3.2 Water All components should be installed in accordance with the manufacturer's instructions and to the levels/arrangement as defined on the designer's drawings. Not doing so will invalidate any warranty provided by the manufacturer.
- 3.3 All maintenance and cleaning must be carried out in accordance with manufacturer's recommendations and by competent and suitably qualified staff, as defined in the CDM regulations 2015.
- 3.4 This document should be read in conjunction with the design drawings of the drainage system, so that the location and type of each feature can be recognised and understood.
- 3.5 Manufacturer's instructions are to be added to this document once specific products have been selected and installed as part of the detailed design. This document will subsequently form the basis for a drainage maintenance regime.

4.0 General Maintenance Principles

- 4.1 All surface water drainage systems, whether piped gravity systems, Sustainable Drainage Systems (SuDS), or flow control devices and pumps, require regular maintenance to keep them working at optimum efficiency and capacity. The maintenance of the surface water drainage system on the St John's Court development should be carried out alongside other regular maintenance tasks on site.
- 4.2 Timely and adequate maintenance will increase the lifespan of all the drainage components. Inadequate maintenance will do the reverse. Therefore, the projected lifespan and anticipated replacement date of each drainage component cannot be forecast at the time of this document being produced.
- 4.3 The site management company (or their agents) are responsible for the maintenance of the surface water drainage system for the lifetime of the development.
- 4.4 Construction activities can create and discharge significant quantities of sediment that will quickly clog the surface water drainage system. Therefore, construction-stage sediment removal is required immediately post-construction. The construction site manager should assess this and carry out cleaning as necessary.
- 4.5 Catchpit manholes/silt traps will be specified upstream of the permeable surfacing and its associated subbase. They will remove gross solids and the majority of silts. It is important that any debris build-up in the catchpit manholes/silt traps is removed at regular intervals. This will reduce the risk of the permeable paved areas becoming silted up. It will maintain the design capacity and function of this part of the drainage system.
- 4.6 Cleaning should also take place after large storms when there have been increased surface water flows and visible entrainment and deposition of debris.
- 4.7 An increased frequency of inspection and maintenance should be programmed into the autumn and winter months in acknowledgement that:
 - „ Leaf fall from deciduous trees in autumn will result in an increased amount of leaf litter and an elevated blockage risk of drainage infrastructure.
 - „ Increased rainfall during winter months will result in greater quantities of water moving through the drainage system and a greater input of silt and other debris.
- 4.8 Table 4.1, below, gives an overview of required maintenance tasks and the frequency with which they need to be undertaken. Section 5 – Inspection and Maintenance Frequency of Components – will assign typical maintenance frequencies and tasks to the specific components used within the surface water drainage system proposed for the development at St John's Court.

Table 4.1: Typical maintenance tasks and frequencies

Activity	Indicative Frequency	Typical Tasks
Inspection and Monitoring	Monthly	Inspection of all inlets, outlets and control structures
Regular Maintenance	Monthly, for the lifetime of the development	- Litter picking and debris removal - Weed removal and invasive plant control
Seasonal Maintenance	Quarterly, for the lifetime of the development	- Vegetation management around components - Sweeping of pavement areas to remove surface silt - Silt removal from system, including catchpits, cellular storage structures and control structures
Remedial maintenance	As required as a result of inspections, for the lifetime of the development.	- Inlet/outlet repairs - Erosion repairs - Reinstatement of edgings - Reinstatement following pollution incidents - Removal of silt build-up and leaf litter after storms - Repair of vandalism - Replacement of any blocked filter membranes/materials

5.0 Inspection and Maintenance Frequency of Components

- 5.1 Table 5.1 below lists each of the components used within the site's surface water drainage system. It suggests an indicative maintenance frequency for each component and ascribes typical maintenance tasks to them.
- 5.2 This list is not exhaustive, nor is it prescriptive. As mentioned in Section 3, additional, unscheduled maintenance may be required following adverse weather conditions or after autumn leaf falls. Additional maintenance tasks may be required to adequately clean and maintain individual components.
- 5.3 The list of components should be cross-referenced with the designer's drawings so that the location of each component can be identified.
- 5.4 It is the responsibility of the adopting site management company (or their agents) to ensure that all necessary maintenance activities are carried out in a timely manner and that the design performance of each drainage component is preserved.
- 5.5 If there is any uncertainty regarding the correct and safe methods of cleaning, or what equipment should be used, the manufacturer should be consulted.

Table 5.1: Maintenance Frequency and Task for Drainage Components

Activity	Indicative Frequency	Anticipated Tasks
Pipes	As required	- Identify any pipes that may not be operating properly and employ a competent, qualified contractor to inspect using CCTV. - If the pipe is blocked with silt or debris, the pipe should be jetted clean from an upstream access point. All silt and debris should be captured and removed at a downstream access point. - Inspect once clean. - If any other defects are encountered (cracks, displaced joints, root ingress), appropriate solutions should be discussed with a competent and qualified contractor. These services are usually provided by the same companies that offer CCTV surveys and pipe jetting services.
Manholes	Annually and as required, for the lifetime of the development.	- Inspect/identify any damage or areas that are not operating correctly - Remove silt, litter, leaves and other detritus. - Inspect once clean.
Catchpit Manholes/Silt Traps	Annually and as required, for the lifetime of the development.	- Inspect/identify any damage or areas that are not operating correctly - Remove silt, litter, leaves and other detritus. - Inspect once clean.
Water Butts	Annually in Autumn to Winter	- Remove falling leaves and seeds from guttering or those that have found their way into the water butt. - Water may stagnate slightly. If so, use a water butt cleaning disc into the tank.

		” In autumn and winter, drain water off every 10 days (or less) to make sure that water butts don't overflow, and that water is kept moving. This will stop larvae and flies from using the water butt. ” Use safe products such as vinegar to clean the outside of the tank and the inside of the lid and be careful not to contaminate water with chemicals. ” At least once a year, completely empty the water butt and scrub it out with warm soapy water and then rinse thoroughly. This is best done at a time when the water butt is already nearly empty (end of summer) or when it can readily refill (winter).
Permeable pavements	Once a year after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations.	” Remove any vegetation or moss that has been allowed to establish and grow in the Golpla. ” Refilling any sections with the correct aggregate need only be carried out at intervals of 5 years or so. It should be borne in mind that Golpla should have 15mm or so of 'overfill'. ” Remove weeds from the surface through the application of glyphosate-based weed killers ” Stabilise and mow contributing and adjacent areas. ” Inspect once clean. ” When subjected to low level oil drips permeable pavements can continue to biodegrade hydrocarbons indefinitely. ” Major oil spills have the potential to contaminate the surface and the underlying crushed stone. In the event of a major oil spill, the area of block pavements and crushed stone that is affected should be removed, cleaned and reinstalled.
Orifice Plates and Chambers	Inspections at regular intervals (every 3 – 6 months).	” Orifice plates have no moving parts to fail and quality units are made of stainless steel to resist scour, degradation and chemical attack. ” The orifice plates in this scheme are to be downstream of the permeable pavements, so all contributing flows should be heavily filtered and free of any debris. ” Debris and silt should be removed if present ” Check wear on orifice to ensure no enlargement is taking place. ” Any visible fixing bolts should be checked. ” If there is a suspected blockage, the housing chamber can be inspected internally, the

		blockage cleared and the orifice returned to its working position.
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5.6 Upon completion of maintenance activities, a record should be kept of the work carried out. This should be retained, and an annual maintenance report should be compiled, which should include the following:

- ” Observations resulting from inspections
- ” Maintenance and operation activities undertaken during the year
- ” Recommendations for inspections and maintenance programmes for the following year

5.7 On the next page is a table with suggested information should be recorded and included with the maintenance plan. As mentioned in the introduction to this document, this should be a living document and regularly updated, as required and should be kept for the lifetime of the development.

5.8 The Local Planning Authority (Worthing and Adur District Council) may request to check and sign off any maintenance activities. Therefore, it is the recommendation that the LPA is contacted prior to any scheduled routine maintenance. The table mentioned above and on the next page, as well as the annual maintenance report, should be offered to the LPA for their records and approval.

Date	Component requiring maintenance	Issues prompting maintenance	Scheduled maintenance (Y/N)	Maintenance carried out	Additional works required (Y/N). If yes, please detail	Next scheduled date of inspection and maintenance

Appendix K

Exceedance Plan



- Notes
- Any discrepancies shall be reported to the engineer immediately, so that clarification can be sought prior to the commencement of works.
 - All levels and dimensions are approximate and not for construction purposes
 - This drawing shall be read in conjunction with all other relevant engineering details, drawings and specification.
 - The exact location of all private rainwater pipes & internal foul soil pipes are to be confirmed with the architect details prior to works commencing.
 - 350mm min cover to be provided for private pipes laid in soft/paved areas. 900mm min cover to be provided for private pipes laid beneath roads/driveways unless not practicable. Where unachievable, shallow private drains may require protection using concrete surround or paving slabs bridging the trench, subject to the NHBC inspector's requirements.
 - All pipes shall be laid soffit to soffit with outgoing pipes unless otherwise stated.
 - Manholes situated within areas accessible to motor vehicles are to be fitted with suitable strength covers and frames. Please refer to the manhole schedule for guidance on this.

- Legend
- New Surface Water Gravity Pipe
 - Surface Water Manhole
 - Polystorm Diffuser Crate
 - Silt Trap 6000
 - Permeable Pavours (see drawing for details)
 - Orifice Flow Control (see drawing for details)
 - Rainwater Pipe

P01	First Issue	PA	PA	N3	21.05.2026
Rev.	Description	Drm	Chk	App	Date

Drawing Status:

FOR PLANNING
NOT FOR CONSTRUCTION

motion

Guildford - Reading - London
www.motion.co.uk

Client:
Lincoln Estates Ltd

Project:
St John's Court
Penstone Close, Lancing

Title:
Drainage Strategy Drawing

Scale: 1:200 (@ A1)

Drawing:
2510016-0500

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