

PORTSLADE VILLAGE CENTRE

FLOOD RISK ASSESSMENT AND DRAINAGE STRATEGY

NOVEMBER 2023



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Client: Brighton & Hove City Council

Prepared by	Checked by	Approved by	Revision
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1.0 INTRODUCTION

- 1.1 HOP Consulting (HOP) has been instructed by Brighton & Hove City Council (BHCC), to undertake a Flood Risk Assessment and Drainage Strategy for the proposed redevelopment of the Portslade Village Centre site.
- 1.2 The proposal is to redevelop the site, with construction of a new apartment block, a new community centre and sports hub with apartments and hard play space.
- 1.3 The flood risk element of this report has been prepared broadly in accordance with the principles of the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance (PPG) for Development and Flood Risk. The purpose of this report is to demonstrate the risk of flooding from all sources, and that foul and surface water discharge from the proposed development can be managed effectively and in accordance with the Statutory Authorities' requirements.
- 1.4 Details of the proposals have been provided by Miller Bourne Architects to show the extent of the development and confirm the existing site layout. Information in this report has been received from a number of external parties and HOP does not accept liability for the accuracy of this information. Should there be material change in the development proposals or a change in end use, this report will need to be revised accordingly.

2.0 SITE DESCRIPTION AND LOCATION

- 2.1 The site is located in western Portslade, approximately 750m north of Fishersgate train station and 1.2km from Shoreham harbour / River Adur. The site's address is: Portslade Village Centre, 3 Courthope Close, Portslade, Brighton, BN41 2LZ. The total site area is 3,680m².

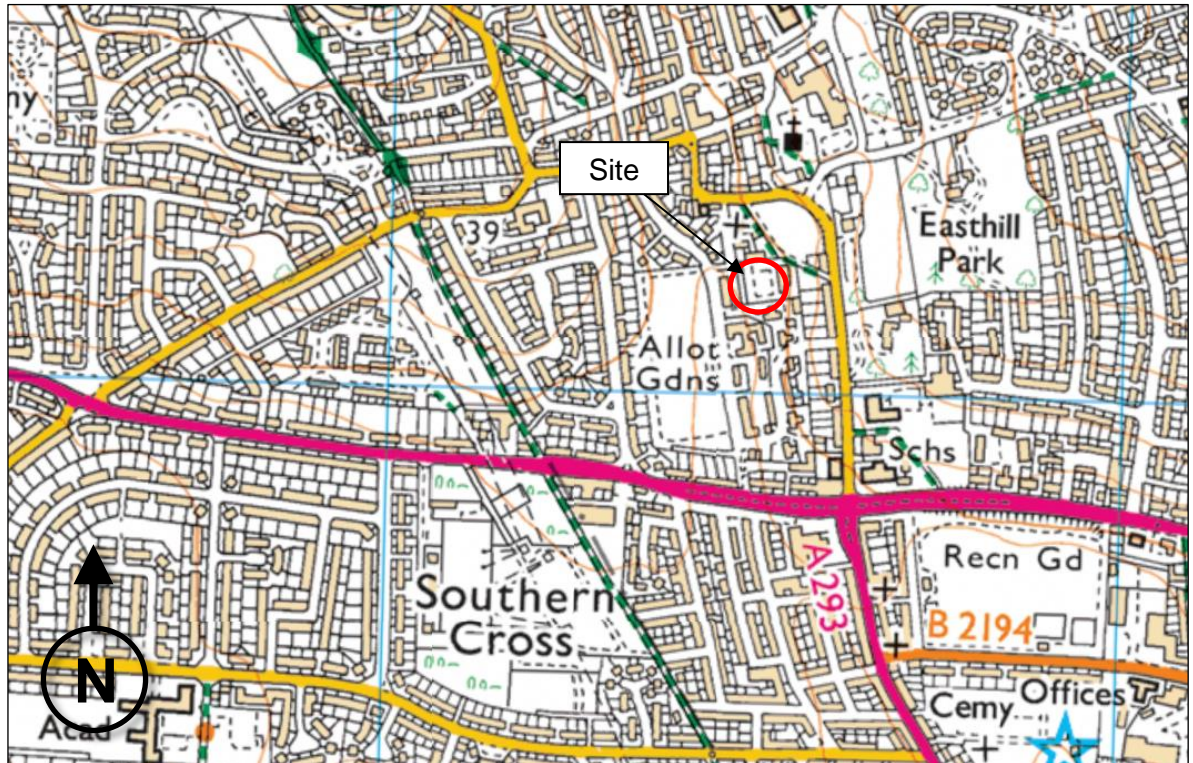


Figure 2.1 Site Location Plan

- 2.2 The site itself is comprised of several buildings including the village hall, and 2No rows of garages; one to the south-east and one adjacent to the western site boundary. In the central part of the site is a hard-surfaced playground.
- 2.3 The site is an irregular plot of land, bounded to the north by a small access road (Lindfield), to the east by a public footpath and residential properties, to the south by Kemps Court (flats), and to the west by two more blocks of flats on Windlesham Close. The surrounding land use is predominantly residential. A large allotment is located nearby to the west and a village green to the north-east.
- 2.4 The site can be accessed from the west via Windlesham Close / Lindfield, and from the south-east via Blakers Court. It is proposed that these will be maintained, and new vehicular

- access created as part of the development on the south-western corner of the site from Windlesham Close.
- 2.5 A topographical survey has been undertaken by SE Surveying, included in Appendix A. This shows the site to have a general fall to the west / south-west, with a high in the south-eastern corner of around 26m AOD, falling to around 20m AOD in the south-western corner.
 - 2.6 The site has not been subject to any known previous ground investigations.
 - 2.7 Based on BGS online geological mapping, the site is shown to be mostly underlain by superficial geology of Head (clay, silt, sand and gravel), over bedrock geology of Newhaven Chalk. Part of the site adjacent to the eastern site boundary is shown to have no Head deposits, and is underlain directly by Tarrant Chalk.
 - 2.8 Underlying rock layers and drift deposits have the potential to store groundwater that can be extracted, and the Environment Agency (EA) classifies these aquifers based on their geological properties. The Newhaven Chalk underlying the site has been designated as a Principal Aquifer.
 - 2.9 The Environment Agency has designated groundwater Source Protection Zones (SPZs) which is a classification given to aquifers to protect the quality of water at potable water abstraction points. The site is not located within a groundwater SPZ.
 - 2.10 A CCTV drainage survey was conducted to confirm the existing off site drainage and connections to the public sewer. A plan of the findings is attached in Appendix D.
 - 2.11 In total the site comprises of 2,260m² of impermeable surfacing and roofs. The remaining site boundary contains small areas of soft landscaping which comprises grassed areas, hedges, trees and shrubbery.

3.0 DEVELOPMENT PROPOSALS

- 3.1 The proposal is to demolish the existing village hall, garages and playground, to facilitate the construction of 2 No new buildings. The eastern building will be a new block of apartments, and to the west will be a new community centre and sports hub with apartments, with hard play space to the south.
- 3.2 The new access road from Windlesham Close will enter the site on the western boundary and turn to the north, connecting to Lindfield to the east of the flats. 6 No new parking spaces will be created in this area. Additional parking spaces will also be created in the south-eastern corner of the site to replace the garages.
- 3.3 A footpath will be constructed through the site. Soft landscaped areas will be created around the new buildings and hard play space, including trees and hedgerows, a sensory garden, and community fruit and vegetable patch.
- 3.4 Architect's proposals are included in Appendix B.

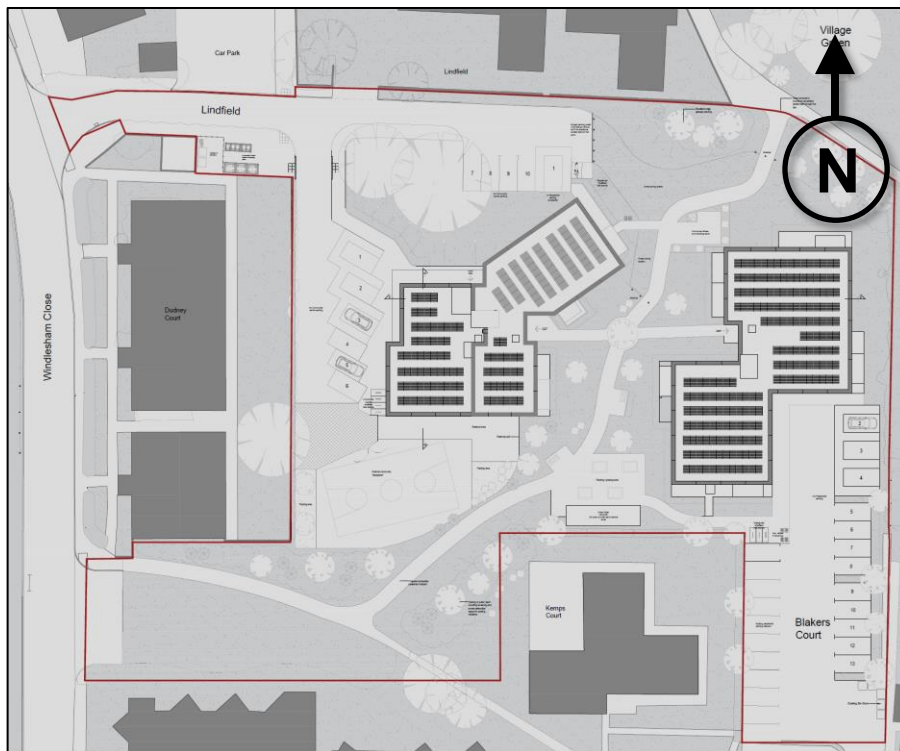


Figure 3.1 Architect's Proposed Site Layout (Miller Bourne)

4.0 DRAINAGE STRATEGY

4.1 Foul Water

Existing

- 4.1.1 Southern Water sewer records (attached as Appendix C with an extract shown in Figure 4.1) show a nearby combined sewer to the north of the site, and separate surface and foul water sewers to the west along Windlesham Close.



Figure 4.1 – Southern Water Sewer Records

- 4.1.2 A CCTV Survey was undertaken in February 2023 in order to establish the existing on-site foul and surface water drainage arrangement and prove any off-site connections. The results of the survey show that foul water is currently conveyed via the on-site drainage system to the public foul water sewer in Windlesham Close to the west, as indicated in Southern Water's sewer records. The CCTV survey report is included in Appendix D.

Proposed

- 4.1.3 New foul water drainage will be installed for the proposed development. It is proposed that this will continue to discharge via the existing off-site connection to the public foul water sewer in Windlesham Close. An indicative foul water drainage layout is shown in Appendix

E. This indicates likely routes and the arrangement of drainage infrastructure to serve the new buildings, which is to be developed further during the detailed design phase.

- 4.1.4 Using general sewage undertaker design guidance, an approximate foul water flow generated by the new buildings has been calculated based on 94No occupants, resulting in a peak flow of 0.326l/s. It should be noted that this calculated peak foul water flow rate is indicative and should be considered further at the detailed design phase to assist with discussions and applications with Southern Water.
- 4.1.5 A Connection to a Public Sewer Section 106 application will be required to gain approval for discharge to the public foul sewer. This should be applied for in due course and requires Planning Consent to be issued prior to submission.
- 4.1.6 Recently introduced Infrastructure Charges, applicable for new development, provide a mechanism through which any off-site network upgrades to the public sewer network to accommodate additional foul water flows are accounted for by the sewerage undertaker.

4.2 Surface Water

Existing

- 4.2.1 Based on Southern Water sewer records, the public surface water sewer is located immediately to the west, in Windlesham Close. Refer to Appendix C for existing records.
- 4.2.2 A CCTV Survey undertaken in February 2023 confirmed separate foul and surface water drainage systems on site. The surface water drainage network for the eastern structures was found to discharge into a soakaway, located south-east of the site. The existing western structures discharge westwards into the public surface water sewer. The CCTV survey is included in Appendix D.
- 4.2.3 Existing surface water runoff rates have been calculated based on a drained impermeable area of approximately 2,260m². The pre-development runoff for a range of design storms is shown in Table 4.2. InfoDrainage results are presented in Appendix F.

Table 4.2 – Summary of pre- and post-development surface water peak rates of runoff.

Design storm return period (years)	Pre-development surface water peak rate of runoff (l/s)	Post-development surface water peak rate of runoff (prior to mitigation) (l/s)
1	29.7	59.7
2	37.4	75.2
30	83.3	167.5
100	104.8	209.9

Proposed

- 4.2.4 A new surface water drainage system will be installed for the proposed development. This is presented on HOP drawing PVC-HOP-ZZ-XX-DR-C-9100, included as Appendix E.
- 4.2.5 Infiltration testing has been undertaken in accordance with BRE365. The minimum infiltration rate identified on the site is 2.39 x 10⁻⁵m/s. This has been used in the drainage strategy, the results can be reviewed in Appendix G.
- 4.2.6 It is proposed that roof runoff from the new development will be collected via downpipes and conveyed to a cellular crate soakaway located in the southwest landscaped area of the site.

This will be positioned greater than 5m from the building in line with Building Regulations guidance. The parking area and all footways are proposed to be constructed with permeable paving. The overall surface water drainage layout is shown in Appendix E. This indicates likely routes and the arrangement of drainage infrastructure to serve the new care home which is to be developed further during the detailed design phase.

- 4.2.7 As dictated by current guidance, the soakaway has been designed to accommodate surface water produced during a storm with 100-year return period (1% annual probability), with an additional 45% increase in rainfall intensity due to climate change InfoDrainage calculations have been included in Appendix F.
- 4.2.8 Flood flow routes have been considered as part of the drainage strategy. Immediate falls are directed away from and around the buildings towards the south-west, and exceedance overland flow routes convey runoff around the site to the south primarily along Windlesham Close. Levels for the external areas are to be confirmed and developed as part of the detailed design.

4.3 Surface Water Quality

- 4.3.1 The preferred solution for managing surface water runoff is to utilise infiltration SuDS techniques, with permeable paving used in the construction of the parking area and footpaths and grass paving, with roof runoff being drained to a soakaway. Consideration must be given to water quality treatment measures, to ensure the protection of groundwater.
- 4.3.2 Table 4.3 from the CIRIA SuDS Manual shows mitigation measures required for the different types of surfaces proposed as part of the development. Roof runoff requires only removal of gross solids and sediments, therefore it is recommended that silt traps are installed prior to discharging to the soakaway.

Table 4.2 – Extract of Table 4.3 from SuDS Manual

TABLE 4.3 Minimum water quality management requirements for discharges to receiving surface waters and groundwater			
Land use	Pollution hazard level	Requirements for discharge to surface waters, including coasts and estuaries ²	Requirements for discharge to groundwater
Residential roofs	Very low	Removal of gross solids and sediments only	
Individual property driveways, roofs (excluding residential), residential car parks, low traffic roads (eg cul de sacs, home zones, general access roads), non-residential car parking with infrequent change (eg schools, offices)	Low	Simple index approach ³ Note: extra measures may be required for discharges to protected resources ¹	

- 4.3.3 For a residential site, a ‘simple index approach’ is deemed sufficient. Table 26.1 shows that for discharge to groundwater it is necessary to use Tables 26.2 and 26.4 to quantify risk and pollution control methods.

Table 4.3 – Extract of Table 26.1 from SuDS Manual

TABLE 26.1 Approaches to water quality risk management			
Design method	Hazard characterisation	Risk reduction	
		For surface water	For groundwater
Simple index approach	Simple pollution hazard indices based on land use (eg Table 26.2 or equivalent)	Simple SuDS hazard mitigation indices (eg Table 26.3 or equivalent)	Simple SuDS hazard mitigation indices (eg Table 26.4 or equivalent)
Risk screening ¹	Factors characterising traffic density and extent of infiltration likely to occur (eg Table 26.5)	N/A	Factors characterising unsaturated soil depth and type, and predominant flow

4.3.4 Table 26.2 outlines the hazard indices for different surface uses. The proposed development will include a residential car park, therefore it will be necessary to provide treatment with indices greater than or equal to 0.5 for total suspended solids (TSS), 0.4 for metals and 0.4 for hydrocarbons.

Table 4.4 Extract of Table 26.2 from the SuDS Manual.

TABLE 26.2 Pollution hazard indices for different land use classifications				
Land use	Pollution hazard level	Total suspended solids (TSS)	Metals	Hydro-carbons
Residential roofs	Very low	0.2	0.2	0.05
Other roofs (typically commercial/ industrial roofs)	Low	0.3	0.2 (up to 0.8 where there is potential for metals to leach from the roof)	0.05
Individual property driveways, residential car parks, low traffic roads (eg cul de sacs, homezones and general access roads) and non-residential car parking with infrequent change (eg schools, offices) ie < 300 traffic movements/day	Low	0.5	0.4	0.4

4.3.5 For discharges to groundwater, Table 26.4 outlines the mitigation indices for each form of treatment. With the inclusion of permeable paving in the car park construction, the contaminant indices shown in Table 26.2 are exceeded, assuming 300mm minimum depth of underlying soil with ‘good contamination attenuation potential’.

Table 4.5 – Extract of Table 26.4 from SuDS Manual

TABLE 26.4 Indicative SuDS mitigation indices for discharges to groundwater			
Characteristics of the material overlying the proposed infiltration surface, through which the runoff percolates ¹	TSS	Metals	Hydrocarbons
A layer of dense vegetation underlain by a soil with good contaminant attenuation potential ² of at least 300 mm in depth ³	0.6 ⁴	0.5	0.6
A soil with good contaminant attenuation potential ² of at least 300 mm in depth ³	0.4 ⁴	0.3	0.3
Infiltration trench (where a suitable depth of filtration material is included that provides treatment, ie graded gravel with sufficient smaller particles but not single size coarse aggregate such as 20 mm gravel) underlain by a soil with good contaminant attenuation potential ² of at least 300 mm in depth ³	0.4 ⁴	0.4	0.4
Constructed permeable pavement (where a suitable filtration layer is included that provides treatment, and including a geotextile at the base separating the foundation from the subgrade) underlain by a soil with good contaminant attenuation potential ² of at least 300 mm in depth ³	0.7	0.6	0.7

4.3.6 A summary of the water quality treatment strategy is shown in Table 4.3.

Surface	Pre-Treatment	Outfall
Roof runoff	Silt / sediment traps	Crate-style soakaway in soft landscaping or concrete ring soakaway
Permeable car park	Not necessary	Permeable paving with granular subbase and minimum 300mm of underlying soil
Permeable footway & grass paving	Not necessary	Permeable paving with granular subbase

Table 5.3 – SuDS Water Quality Treatment Strategy

4.4 SuDS Maintenance and Management Plan

- 4.4.1 A maintenance regime has been established for the components within the drainage system, to ensure its ongoing functionality. Table 32.1 of the SuDS Manual shows necessary maintenance activities for different SuDS components.
- 4.4.2 A maintenance schedule for the drainage components including SuDS features is presented in Appendix H.

5.0 FLOOD HAZARD AND PROBABILITY

- 5.1 Flood risk data has been obtained from the online EA Flood Map, an extract of which is shown in Figure 5.1. The mapping shows the site to lie wholly within Flood Zone 1. The PPG to the NPPF defines Flood Zone 1 as having less than 1:1,000 annual probability of river or sea flooding (less than 0.1%).
- 5.2 Table 2 of the NPPF classifies residential developments of this nature as 'more vulnerable', which is deemed appropriate for Flood Zone 1.



Figure 5.1 Extract from EA Online Flood Map for Planning

5.3 Sewer Flooding

- 5.4 Brighton & Hove City Council Strategic Flood Risk Assessment (SFRA). contains historical data relating to past incidents of flooding. 52No. historic incidents were identified in the South Portslade area, with 6No. incidents identified and detailed in the Southern Water Sewage Incident Report File (SIRF).

5.4.1 The nearest public foul water sewer is to the west of the site and flows from north to south along Windlesham Close. Any flooding of these chambers would be evident in the road, with overland flows being constrained by the highway and flow southwards in line with the local topography.

5.4.2 Section 4.0 of this report demonstrates how the anticipated peak foul and surface water flow rates from the proposed development can be managed to ensure there is no additional flood risk posed by the new development to neighbouring and downstream properties.

5.5 Surface Water Flooding

- 5.5.1 The EA has produced surface water flood maps which indicate surface water flood risk at the site generally to be negligible. However, areas of low to medium risk are shown in the vicinity of the garages in the western part of the site, and the far south-western corner (Figure 5.2).



Figure 5.2 Extract from EA Online Surface Water Flood Risk mapping

5.6 Reservoir Flooding

5.6.1 The online EA maps show the site to be outside any flood risk associated with reservoir flooding, therefore the risk from this source is considered to be very low.

5.7 Groundwater Flooding

5.7.1 Based on BGS online geological mapping, the site is shown to be mostly underlain by superficial geology of Head (clay, silt, sand and gravel), over bedrock geology of Newhaven Chalk. Part of the site adjacent to the eastern site boundary is shown to have no Head deposits and is underlain directly by Tarrant Chalk.

5.8 The Magic Maps groundwater vulnerability map identifies that the site is at medium risk of groundwater flooding. Groundwater flood risk is discussed within the Brighton & Hove City Council SFRA. The site is identified as lying within the 'South Portslade' region and groundwater flooding is found generally between 0.5 – 5m below ground level based on the JBA Groundwater Map. Nearby historic borehole logs identify no groundwater to a depth of >5m.

5.9 The SFRA only identifies 6 historic incidents of groundwater flooding.

5.10 In the event of groundwater flooding, water will generally flow westwards towards Windlesham Close and would be picked up by the existing highway drainage. The site is not considered to be at risk of flooding from ground water, allowing for seasonal fluctuation.

5.10.1 A ground investigation has recently been undertaken by Constructive Evaluation in May 2023. A total of 14 trial pits and boreholes were excavated to a depth of 1.0 to 15.45m bgl.

Groundwater was encountered within CP1 only, at 12.6mbgl rising to 12.5mbgl after 20 minutes. Risk of groundwater flooding at the site is therefore considered to be low.

5.11 Climate Change

- 5.11.1 Increased rainfall intensity, longer storm durations and rising sea levels are all attributed to global climate change. The PPG to the NPPF states that an allowance for an increase in rainfall intensity over the design life of the development should be taken into account when designing surface water drainage systems. Current EA guidance dictates this allowance to be 45%.

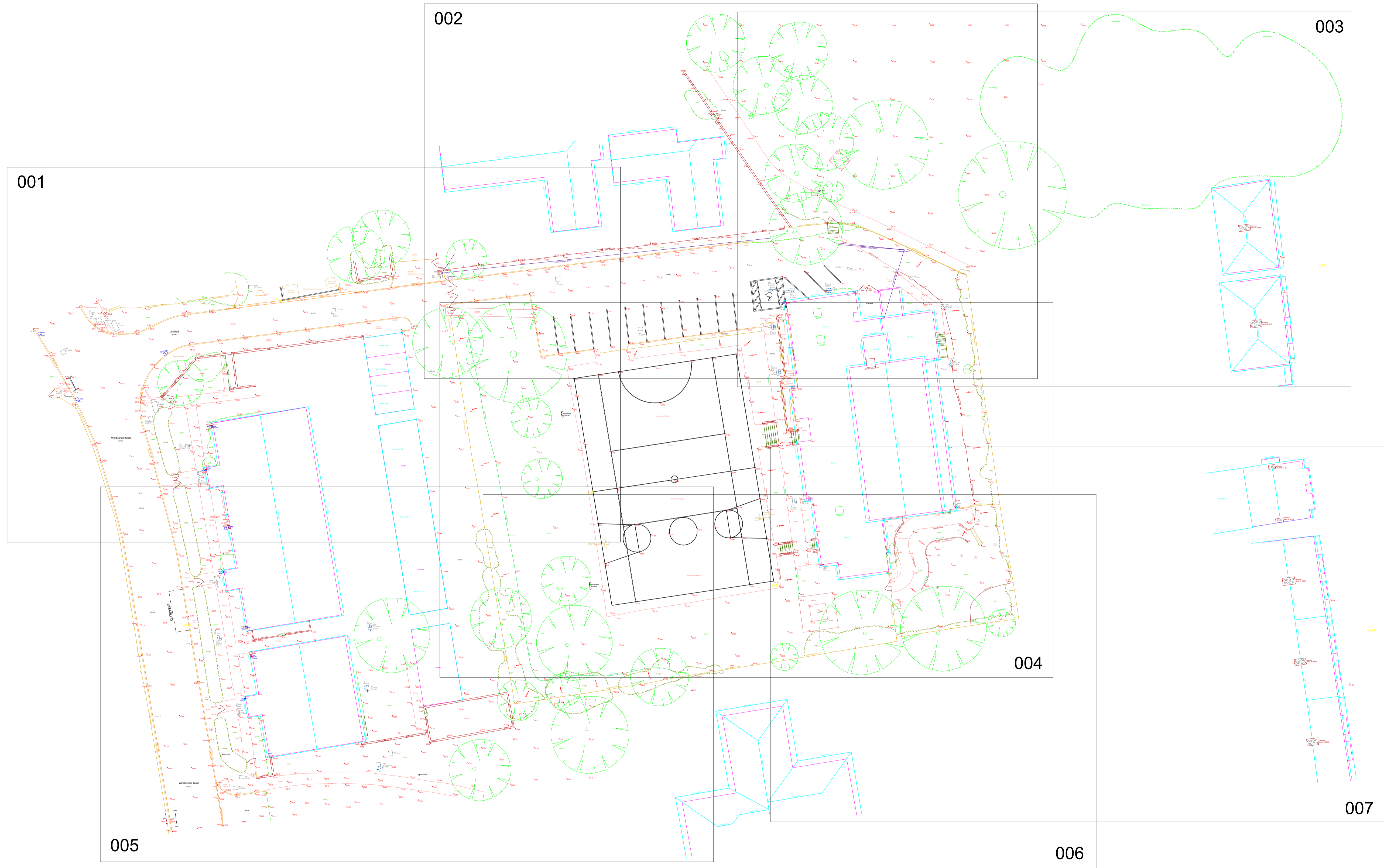
5.12 Residual Risk

- 5.12.1 Residual risks are limited to exceedance events above the design criteria and/or a blockage failure of the sewer network. Should sewer flooding occur due to excess rainfall or through infrastructure blockage or failure, the surrounding topography would suggest that overland flows established from such potential events would flow off site to the south-west, be constrained by the highways and directed to the south along Windlesham Close.

6.0 CONCLUSIONS

- 6.1 Site observations have identified that surface water runoff from the existing property and car parking is directed to a surface water sewer network located in the adjacent highway, west of the site.
- 6.2 There are no watercourses in the vicinity of the site that would allow a direct connection of surface water discharge from. It is therefore proposed that surface water is managed at source through attenuation SuDS with a limited flow to the surface water public sewer.
- 6.3 The development will include construction of new permeable paving and a soakaway. The SuDS proposals show that a runoff from the 1 in 100 year return period plus 45% allowance for CC can be accommodated, without any above ground flooding. This report includes proposals for a strategy to manage the surface water runoff which can be developed further during the detailed drainage design phase.
- 6.4 Southern Water sewer records show the nearest public foul sewer to flow from north to south along Windlesham Close. A CCTV inspection has confirmed an existing on-site connection to this sewer. It is proposed that foul water from the new development will continue to discharge to the public foul water sewer via the existing connection, subject to approval by Southern Water.
- 6.5 The surface water drainage network was found to discharge to a soakaway located to the south of the eastern building, with the western drainage discharging into the public surface water sewer. Infiltration testing confirmed favourable infiltration rates for the site. Therefore, it is proposed that roof runoff from the new development will be collected via downpipes and conveyed to a cellular crate soakaway located beneath the southwest landscaped area of the site. The remaining surface water will drain to permeable paving.
- 6.6 The anticipated additional foul water flows generated by the increased occupancy of the site post-development are proposed to be discharged to the existing foul sewer with no anticipated capacity issues.
- 6.7 The use of attenuation to manage surface water runoff from the site is considered compliant with the SuDS Manual guidance in terms of water quantity and quality for the impermeable areas. The site is not located within an SPZ catchment and there are no proposals to discharge water into the ground, therefore no additional pollution control measures are considered to be required in this regard.
- 6.8 This report has identified measures to manage surface water runoff and foul water discharge from the development and demonstrates how the risk of flooding from surface water runoff is mitigated using attenuation SuDS. This report shows that the development at Portslade Village Centre can be successfully implemented and managed sustainably and that there should be no increase in risk to future users and neighbouring properties in regard to foul or surface water flooding over the expected lifetime of the development.

APPENDIX A – TOPOGRAPHICAL SURVEY



NOTES
 SURVEY IS BASED ON OS GRID SYSTEM ORIGINATING FROM STATION 1 @ E 525460.349, N 106180.299, RL 21.119 No. L.S.F. applied
 Every effort has been made to survey the area as indicated. Where detail is either inaccessible or obscured from view it has been deemed unable to survey.
 Based on original survey job no 018 07 18 from 03/08/18 with extra regions added.

LAYER INFORMATION

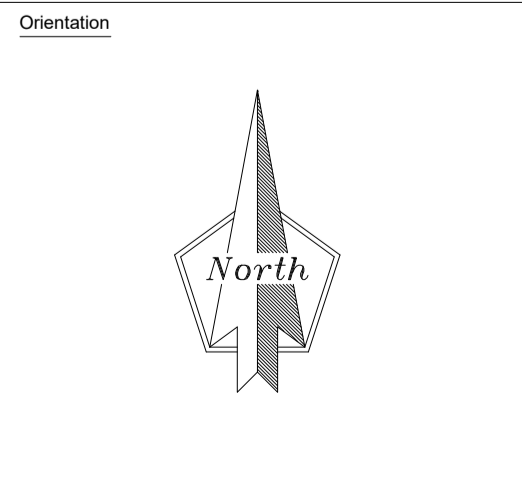
0 BORDER	EMPTY
BOTTOM/BANK	TITLEBLOCK & BORDER
BT	BOTTOM OF SLOPE/BANKS
BUILDING	BRITISH TELECOM ROUTES
EDGE/ROAD	EDGE OF CONCRETE SURFACE
ELECTRODE	EDGE OF ROAD SURFACE
FENCE	ELECTRIC POLE
FOOTPATH	LINE OF FENCES
GULLY	EDGE OF FOOTPATH
HV CABLES	GULLIES
KERBLINE	HV CABLES ROUTES
LOCABLES	KERBLINE @ CHANNEL LEVEL
MANHOLE	LV CABLE ROUTES
SIGNPOST	MANHOLES
SPOTLEVELS	SIGNPOST
STREETLIGHT DUCTS	SPOT LEVELS
SURVEYSTNS	STREETLIGHT DUCTS
STORM	SURVEY STATIONS
TOPBACKKERB	STORM WATER MANS, GULLYS ETC.
TREE	TOP AND BACK OF KERB
UNCLASSIFIED STRUCTURE	TOP OF BANK
WALL	TREE TRUNK & FOLIAGE
WATER MAIN	UNCLASSIFIED STRUCTURE
	WALLS
	WATER MAIN ROUTE

Line types and Symbols

Building Lines	100.34	Survey Station	Man holes
High Level Building Lines	100.34	Gullies	Gullies
Rooflines	100.34	Edge of Conc	Edge of Conc
Channel Line	100.34	Top of bank	Top of bank
Top & Back of Kerb	100.46	Bottom of bank	Bottom of bank
Edge of Surface	100.52	Sign Posts	Sign Posts
Overhead Cables	100.40	Lamp Posts	Lamp Posts
Fence	100.40	Trees	Trees
Edge of Road	100.40		

Control Stations

Point Number	Easting	Northing	Elevation	Description
Stn1	525460.349	106180.299	21.119	High rail
Stn2	525461.746	106181.064	21.305	High rail
Stn3	525463.593	106182.827	21.594	High rail
Stn4	525465.378	106184.589	21.949	High rail
Stn103	525468.484	106185.589	21.247	High rail
Stn104	525465.625	106186.589	21.881	High rail



Rev.	Date	Description

Client

Miller Bourne

Drawing Title: **Topographical Survey Layout**

Scale: **Not to Scale**

Date: **01/08/2019**

Drawn: **CS/DH/GA**

Surveyed by: **UG**

Checked: **CH**

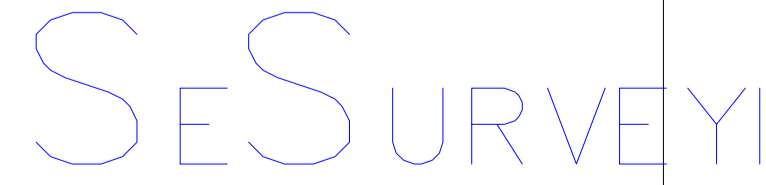
Job Title

Courthope Centre, Portslade

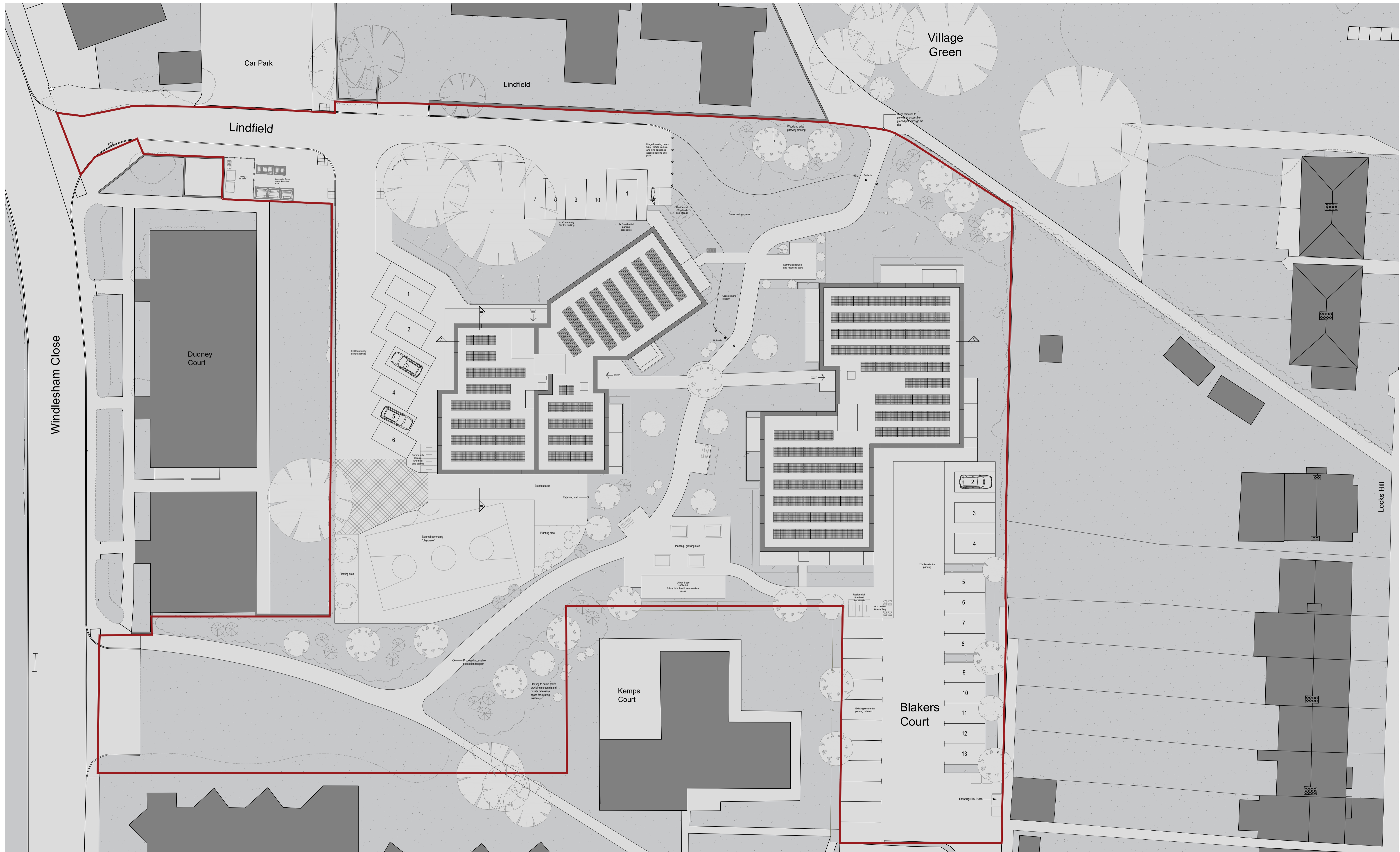
Job No: **021 07 19**

Drawing No: **Layout**

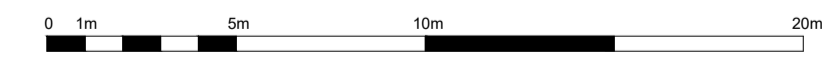
Rev.



APPENDIX B – ARCHITECTURAL PROPOSALS



Site Plan
1:200



Note:
Do not scale this drawing. All levels and dimensions are to be checked on site. This drawing is to be read in conjunction with all relevant consultants' requirements, drawings and specifications. Any discrepancies between consultants' drawings to be reported to the Contract Administrator before any relevant work commences.

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Rev	Date	Description	Drawn	Checked	Status
P01	09.10.23	First Issue	CT	CT	

PLANNING	Scale	1:200 @ A1	Drawing Reference	NN030-MBA-ZZZZ-0000-DR-A-001010	Rev	P01
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Portslade Village Pavilions Village Centre



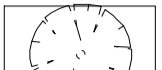
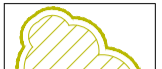









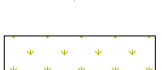


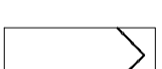


Proposed Site Plan

MILLER BOURNE ARCHITECTS

332 Kingsway
Hove
East Sussex
BN3 4QW
T:01273 411399
design@miller-bourne.co.uk
www.miller-bourne.co.uk



Existing trees to Portslade Village Green to be enhanced with new native species tree and shrub planting - creating woodland edge gateway

- KEY**
-  Proposed Community Centre / Apartments
Proposed Community Centre & Apartments - Refer to Miller Bourne Architects for further details.
 -  Existing Trees
Existing Trees to be retained and protected within the development proposal - Refer to the arboricultural package for further details.
 -  Existing Trees Proposed to be Removed [Indicative]
Existing trees proposed to be removed [subject to analysis / confirmation by tree consultant].
 -  Existing Hedgerow
Existing informal hedgerow to eastern boundary edge - to be retained.
 -  Proposed Tree Planting
Proposed medium (10-15m ht mature height / spread) tree specimens: 10-12 cm Girth Size / 3.0-3.5m height / 1.75-2.0m Clear Stem / Standard Selected Stock. Trees to be supplied and planted in accordance with BS 8545: 2014. Trees: from nursery to independence in the landscape: Recommendations.
 -  Proposed Tree Planting
Proposed small (< 10m ht mature height / spread) tree specimens: 10-12 cm Girth Size / 3.0-3.5m height / 1.75-2.0m Clear Stem / Standard Selected Stock. Trees to be supplied and planted in accordance with BS 8545: 2014. Trees: from nursery to independence in the landscape: Recommendations.
 -  Proposed Native Feathered Shrub Specimens
Proposed native shrub specimens to be 150-175cm height / feathered shrubs.
 -  Proposed Native Understorey Shrub Planting
Proposed areas of native understorey shrub planting [60-90cm transplants / 1 no. per m²].
 -  Proposed Native / Ornamental Species Hedgerows
Proposed native, mixed species and ornamental shrub hedgerows.
 -  Proposed Ornamental Specimen Shrubs
Proposed ornamental specimen shrubs.
 -  Proposed Ornamental Planting
Proposed ornamental shrubs / perennials within corten steel ring - 1.5m Ø [https://www.cor-ten-steel.co.uk].
 -  Proposed Ornamental Planting
Proposed ornamental shrub / perennial planting areas.
 -  Proposed Climber Planting
Proposed climber planting to eastern edge (adjacent to existing residential garden areas).
 -  Proposed Species Rich Grassland Areas
Proposed open grassland areas to be Emorsgate: EM2 Standard General Purpose Meadow Mixture.
 -  Proposed Amenity Grass Seeded Areas
Proposed amenity grass seeded areas.
 -  Proposed Grassland Enhancement Areas
Proposed open grassland areas to be enhanced with spring flowering bulbs / woodland edge perennials & annuals.
 -  Proposed Steel Railings
Proposed steel (nominally 1.2m height) railings that dip galvanised & powder coated to edges of private, ground floor external residential spaces.
 -  Proposed Timber Close Board Fencing
Proposed timber (1.8m min height) timber close board fencing to eastern edge.
 -  Proposed Steel Mesh Fencing
Proposed steel mesh (2.0m min height) fencing [and double gates] to community centre external space.

REV	DESCRIPTION	DATE	INITIALS



The Studio, 68 Cuckfield Road, Hurstpierpoint, West Sussex, BN6 9SB
T: 01273 834 198 M: 07973 770047 E: landscape@ramsayandco.com

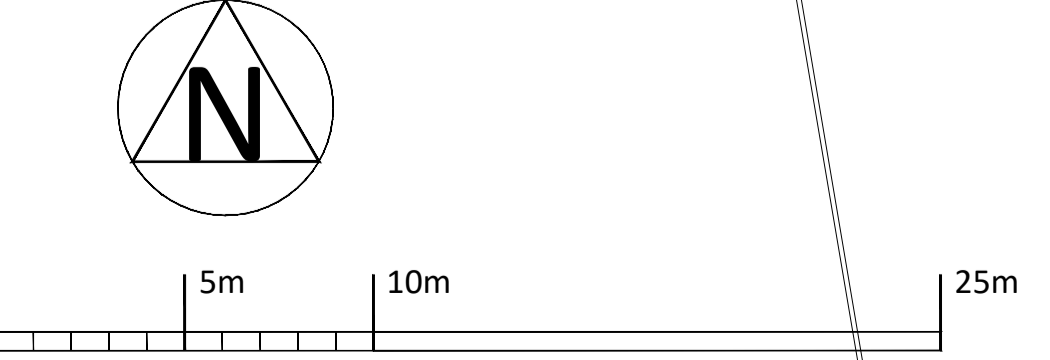
Project Title:
Portslade Village Centre, Portslade
Brighton & Hove City Council

Drawing Title:
Landscape Masterplan
For Planning

Scale: 1:200@A1
Drawing Number: NN030-RCO-XXXX-0000-PL-L-000001

Drawn: AR
Date: 02-10-23

Revision: P00



APPENDIX C – SOUTHERN WATER SEWER RECORDS

Drainage & Water Search (Commercial)



Search Details

Prepared for: Brighton & Hove Council

Matter: NC701.43

Client address: Legal Services, Room G101, Hove Town Hall, Norton Road, Hove, BN3 3BQ

Property:

Village Centre, 43 Windlesham Close, Portslade, Brighton, BN41 2LY

Water Company:

Southern Water Services Ltd

Southern House, Yeoman Road, Worthing, BN13 3NX

Date Returned:
28/02/2019

Property type:
Commercial

This search was compiled by the Water Company above and provided by InfoTrack Ltd – t: 0207 186 8090, e: helpdesk@infotrack.co.uk. This search is subject to terms and conditions issued by InfoTrack which can be viewed at www.infotrack.co.uk or supplied on request. This search is also subject to terms and conditions issued by the Water Company, available on request. InfoTrack are registered with the Property Codes Compliance Board (PCCB) as subscribers to the Search Code. The PCCB independently monitors how registered firms maintain compliance with the Code. Visit www.propertycodes.org.uk for more information.



InfoTrack UK Limited, Level 11, 91 Waterloo Road, London, SE1 8RT
T: 0207 186 8090 E: helpdesk@infotrack.co.uk

Order received: 26 February 2019

Order completed: 28 February 2019

Drainage and water enquiry

Commercial

Order reference: LS/U1422724

Your reference: C_d28c5f0a-e039-e911-a9c8-f52cf3e9d
c98

Search address:

Village Centre 43 Windlesham Close
Brighton
East Sussex
BN41 2LY

Ordered by:

STL Group Ltd
DX148060 Woking 12

For enquiries regarding the information provided in this report, please contact the LandSearch team:

Tel: 0845 270 0212
0330 303 0276 (individual consumers)

Email: searches@southernwater.co.uk

Web: www.southernwater.co.uk

LandSearch
Southern Water Services
Southern House
Capstone Road
Chatham
Kent
ME5 7QA

What you need to know about...

Private sewer transfer

On 1 October 2011, ownership of private sewers and lateral drains changed in accordance with The Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011. The contents of this search may not reflect these changes.

For further information please visit our website: www.southernwater.co.uk/sewer-ownership-changes.

Records searched

The following records were searched in compiling this report: the Map of Public Sewers, the Map of Waterworks, water and sewerage records, the Register of Properties subject to Internal Foul Flooding, the Register of Properties subject to Poor Water Pressure and the Drinking Water Register. Should the property not fall entirely within Southern Water's region, a copy of the records held by the relevant water company was searched.

Competition in the non-household retail market

From April 2017 non-household customers in England can choose their retailer. 'Retail' refers to the way in which customers are billed for their water and sewerage as well as customer services including meter reading.

The 'wholesale' part of the water industry was not opened for competition in April 2017. This means Southern Water continues to look after the pipes and infrastructure for all its customers across Kent, Sussex, Hampshire and the Isle of Wight.

Moving

There can be a lot to do and remember when you're moving. Whether you are moving within our area, moving into our area or moving out of the area please let your retailer know.

Your order summary

Maps

1.1	Where relevant, please include a copy of an extract from the public sewer map.	Map provided
1.2	Where relevant, please include a copy of an extract from the map of waterworks.	Map provided

Drainage

2.1	Does foul water from the property drain to a public sewer?	Yes
2.2	Does surface water from the property drain to a public sewer?	Yes
2.3	Is a surface water drainage charge payable?	See answer
2.4	Does the public sewer map indicate any public sewer, disposal main or lateral drain within the boundaries of the property?	No
2.4.1	Does the public sewer map indicate any public pumping station or any other ancillary apparatus within the boundaries of the property?	No
2.5	Does the public sewer map indicate any public sewer within 30.48 metres (100 feet) of any buildings within the property?	Yes
2.5.1	Does the public sewer map indicate any public pumping station or any other ancillary apparatus within 50 metres of any buildings within the property?	No
2.6	Are any sewers or lateral drains serving, or which are proposed to serve the property, the subject of an existing adoption agreement or an application for such an agreement?	No
2.7	Has any sewerage undertaker approved or been consulted about any plans to erect a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain?	No
2.8	Is the building which is or forms part of the property at risk of internal flooding due to overloaded public sewers?	No
2.9	Please state the distance from the property to the nearest boundary of the nearest sewage treatment works.	See answer

Water

3.1	Is the property connected to mains water supply?	Yes
3.2	Are there any water mains, resource mains or discharge pipes within the boundaries of the property?	No
3.3	Is any water main or service pipe serving, or which is proposed to serve the property, the subject of an existing adoption agreement or an application for such an agreement?	No
3.4	Is the property at risk of receiving low water pressure or flow?	No
3.5	What is the classification of the water supply for the property?	See answer
3.6	Is there a meter installed at this property?	See answer

Charging

4.1.1	Who is responsible for providing the sewerage services for the property?	Southern Water
4.1.2	Who is responsible for providing the water services for the property?	Southern Water
4.2	Who bills the property for sewerage services?	See answer
4.3	Who bills the property for water services?	See answer

Trade effluent information

4.4	Is there a consent on this property to discharge trade effluent under Section 118 of the Water Industry Act (1991) into the public sewerage system?	No
-----	---	----

Maps

Public sewer map

Q. 1.1: Where relevant, please include a copy of an extract from the public sewer map.

A.: A copy of an extract from the public sewer map is provided.

Guidance Notes:

The Water Industry Act 1991 defines public sewers as those which the Company has responsibility for. Other assets and rivers, watercourses, ponds, culverts or highway drains may be shown for information purpose only.

Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an "as constructed" record. It is recommended these details be checked with the developer.

Map of waterworks

Q. 1.2: Where relevant, please include a copy of an extract from the map of waterworks.

A.: A copy of an extract of the map of waterworks is provided.

Guidance Notes:

Assets other than vested water mains may be shown on the plan for information only.

The Company is not responsible for private supply pipes connecting the property to the public water main and does not hold details of these. These may pass through land outside of the control of the seller, or may be shared with adjacent properties. The buyer may wish to investigate whether separate rights or easements are needed for their inspection, repair or renewal.

If an extract of the public water main record is enclosed, this will show known public water mains in the vicinity of the property. It should be possible to estimate the likely length and route of any private water supply pipe connecting the property to the public water network.

Drainage

Foul water

Q. 2.1: Does foul water from the property drain to a public sewer?

A.: The Company's records indicate that foul water from the property does drain to the public sewerage system.

Guidance Notes:

The Company is not responsible for private drains and sewers that connect the property to the public sewerage system and does not hold details of these.

The property owner will normally have sole responsibility for private drains serving the property and may have shared responsibility, with other users, if the property is served by a private sewer which also serves other properties. These may pass through land outside of the control of the seller and the buyer may wish to investigate whether separate rights or easements are needed for their inspection, repair or renewal.

The copy extract will show known public sewers in the vicinity of the property. It should be possible to estimate the likely length and route of any private drains and/or sewers connecting the property to the public sewerage system.

If foul water does not drain to the public sewerage system the property may have private facilities in the form of a cesspit, septic tank or other type of treatment plant.

Surface water

Q. 2.2: Does surface water from the property drain to a public sewer?

A.: The Company's records indicate that surface water from the property does drain to the public sewerage system.

Guidance Notes:

The Company is not responsible for private drains and sewers that connect the property to the public sewerage system and does not hold details of these.

The property owner will normally have sole responsibility for private drains serving the property and may have shared responsibility, with other users, if the property is served by a private sewer which also serves other properties. These may pass through land outside of the control of the seller and the buyer may wish to investigate whether separate rights or easements are needed for their inspection, repair or renewal.

The copy extract will show known public sewers in the vicinity of the property. It should be possible to estimate the likely length and route of any private drains and/or sewers connecting the property to the public sewerage system.

In some cases company records do not distinguish between foul and surface water connections to the public sewerage system. If on inspection the buyer finds that the property is not connected for surface water drainage, the property may be eligible for a rebate of the surface water drainage charge. Details can be obtained from the Company.

If surface water does not drain to the public sewerage system the property may have private facilities in the form of a soakaway or private connection to a watercourse.

Surface water drainage charge

Q. 2.3: Is a surface water drainage charge payable?

A.: Records confirm that a surface water drainage charge is applicable at this property.

Guidance Notes:

Where surface water from a property does not drain to the public sewerage system no surface water drainage charges are applicable.

If on inspection the buyer finds that the property is not connected for surface water drainage, the buyer should contact their retailer.

Public sewers within the boundary of the property

Q. 2.4: Does the public sewer map indicate any public sewer, disposal main or lateral drain within the boundaries of the property?

A.: The public sewer map indicates that there are no public sewers, disposal mains or lateral drains within the boundaries of the property. However, from 1 October 2011 there may be additional public sewers, disposal mains or lateral drains which are not recorded on the public sewer map but which may further prevent or restrict development of the property. It is therefore recommended that investigations are made into the drainage arrangements of the property as the owner may be liable for repairs to the drainage system.

Guidance Notes:

The approximate boundary of the property has been determined by reference to the Ordnance Survey record or the map supplied.

The presence of a public sewer within the boundary of the property may restrict further development within it.

Southern Water Services has a statutory right of access to carry out work on their assets, subject to notice. This may result in employees of Southern Water Services or its contractors needing to enter the property to carry out work.

Please note if the property was constructed after 1 July 2011 any sewers and/or lateral drain within the boundary of the property are the responsibility of the householder.

Public pumping station within the boundary of the property

Q. 2.4.1: Does the public sewer map indicate any public pumping station or any other ancillary apparatus within the boundaries of the property?

A.: The public sewer map included indicates that there is no public pumping station within the boundaries of the property. Any other ancillary apparatus is shown on the public sewer map and referenced on the legend.

Guidance Notes:

The approximate boundary of the property has been determined by reference to the Ordnance Survey record or the map supplied.

The presence of a pumping station within the boundary of the property may restrict further development within it.

Southern Water Services has a statutory right of access to carry out work on their assets, subject to notice. This may result in employees of Southern Water Services or its contractors needing to enter the property to carry out work.

It should be noted that only private pumping stations installed before 1 July 2011 will be transferred into the ownership of Southern Water Services.

Public sewers near to the property

Q. 2.5: Does the public sewer map indicate any public sewer within 30.48 metres (100 feet) of any buildings within the property?

A.: The public sewer map included indicates that there is a public sewer within 30.48 metres (100 feet) of a building within the property

Guidance Notes:

From 1 October 2011 there may be additional lateral drains and/or public sewers which are not recorded on the public sewer map but are also within 30.48 metres (100 feet) of a building within the property.

The presence of a public sewer within 30.48 metres (100 feet) of a building within the property can result in the local authority requiring a property to be connected to the public sewer.

The measure is estimated from the Ordnance Survey record, between a building within the boundary of the property and the nearest public sewer.

Public pumping station near to the property

Q. 2.5.1: Does the public sewer map indicate any public pumping station or any other ancillary apparatus within 50 metres of any buildings within the property?

A.: The public sewer map included indicates that there is no public pumping station within 50 metres of any buildings within the property. Any other ancillary apparatus is shown on the public sewer map and referenced on the legend.

Guidance Notes:

The measure is estimated from the Ordnance Survey record, between a building within the boundary of the property and the nearest pumping station.

It should be noted that only private pumping stations installed before 1 July 2011 will be transferred into the ownership of Southern Water Services.

Public adoption of sewers and lateral drains

Q. 2.6: Are any sewers or lateral drains serving, or which are proposed to serve the property, the subject of an existing adoption agreement or an application for such an agreement?

A.: Records indicate that the sewers serving the development, of which this property forms part, are not the subject of an application for adoption under Section 104 of the Water Industry Act 1991. Where the property is part of an established development it would not normally be subject to an adoption agreement under Section 104 of the Water Industry Act 1991.

Guidance Notes:

This enquiry is of interest to purchasers of new homes who will want to know whether or not the property will be linked to a public sewer.

Where the property is part of a very recent or ongoing development and the sewers are not the subject of an adoption application, buyers should consult with the developer to ascertain the extent of private drains and sewers for which they will hold maintenance and renewal liabilities.

Final adoption is subject to the developer complying with the terms of the adoption agreement under Section 104 of the Water Industry Act 1991.

Any sewers and/or lateral drains within the boundary of the property are not the subject of an adoption agreement and remain the responsibility of the householder. Adoptable sewers are normally those situated in the public highway.

Building over a public sewer, disposal main or drain

Q. 2.7: Has the sewerage undertaker approved or been consulted about any plans to erect a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain?

A.: There are no records in relation to any approval or consultation about any plans to erect a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain. However, the sewerage undertaker might not be aware of a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain.

Guidance Notes:

Buildings or extensions erected over a sewer in contravention of Building Control may have to be removed or altered.

From 1 October 2011 private sewers, disposal mains and lateral drains were transferred into public ownership and the sewerage undertaker may not have approved or been consulted about any plans to erect a building or extension on the property or in the vicinity of these.

Risk of flooding due to overloading public sewers

Q. 2.8: Is the building which is or forms part of the property at risk of internal flooding due to overloaded public sewers?

A.: The building is not recorded as being at risk of internal flooding due to overloaded public sewers. From 1 October 2011 private sewers, disposal mains and lateral drains were transferred into public ownership. It is therefore possible that a building may be at risk of internal flooding due to an overloaded public sewer which the sewerage undertaker is not aware of. For further information it is recommended that enquiries are made of the vendor.

Guidance Notes:

A sewer is "overloaded" when the flow from a storm is unable to pass through it due to a permanent problem (e.g. flat gradient, small diameter). Flooding as a result of temporary problems such as blockages, siltation, collapses and equipment or operational failures are excluded.

"Internal flooding" from the public sewers is defined as flooding, which enters a building or passes below a suspended floor.

For reporting purposes, buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes.

"At Risk" properties are defined as properties that have suffered or are likely to suffer internal flooding from the public foul, combined or surface water sewers due to overloading of the sewerage system more frequently than the relevant reference period (either once or twice in ten years) as determined by the sewerage undertaker's reporting procedure.

Flooding as a result of storm events proven to be exceptional and beyond the reference period of one in ten years are not included.

Buildings may be at risk of flooding but not identified where flooding incidents have not been reported to the sewerage undertaker.

Public sewers are defined as those for which the sewerage undertaker holds statutory responsibility under the Water Industry Act 1991.

It should be noted that flooding can occur from private sewers and drains which are not the responsibility of the sewerage undertaker. This report excludes flooding from the private sewers and drains and the sewerage undertaker makes no comment upon this matter.

Sewage treatment works

Q. 2.9: Please state the distance from the property to the nearest boundary of the nearest sewage treatment works.

A.: The nearest sewage treatment works is 1.51 kilometres South South West of the property. The name of the sewage treatment works is SHOREHAM WTW, which is the responsibility of Southern Water Services, Southern House, Yeoman Road, Worthing, West Sussex, BN13 3NX.

Guidance Notes:

The nearest sewage treatment works will not always be the sewage treatment works serving the catchment within which the property is situated.

The sewerage undertaker's records were inspected to determine the nearest sewage treatment works.

It should be noted that there may be a private sewage treatment works closer than the one detailed above that have not been identified.

Water

Connection to mains water supply

Q. 3.1: Is the property connected to mains water supply?

A.: Records indicate that the property is connected to mains water supply.

Guidance Notes:

The situation should be checked with the current owner of the property.

Details of private supplies are not kept by the water undertaker.

Water mains, resource mains or discharge pipes

Q. 3.2: Are there any water mains, resource mains or discharge pipes within the boundaries of the property?

A.: The map of waterworks does not indicate any water mains, resource mains or discharge pipes within the boundaries of the property.

Guidance Notes:

The boundary of the property has been determined by reference to the Ordnance Survey record or the map supplied.

The presence of a public water main within the boundary of the property may restrict further development within it.

Water undertakers have a statutory right of access to carry out work on their assets, subject to notice. This may result in employees of the water undertaker or its contractors needing to enter the property to carry out work.

Adoption of water mains and services pipes

Q. 3.3: Is any water main or service pipe serving, or which is proposed to serve the property, the subject of an existing adoption agreement or an application for such an agreement?

A.: Records confirm that water mains or service pipes serving the property are not the subject of an existing adoption agreement or an application for such an agreement.

Guidance Notes:

This enquiry is of interest to purchasers of new homes who will want to know whether or not the property will be linked to the mains water supply.

Risk of low water pressure or flow

Q. 3.4: Is the property at risk of receiving low water pressure or flow?

A.: Records confirm that the property is not recorded by the water undertaker as being at risk of receiving low water pressure or flow.

Guidance Notes:

"Low water pressure" means water pressure below the regulatory reference level which is the minimum pressure when demand on the system is not abnormal.

The reference level of service is a flow of 9 litres/minute at a pressure of 10 metres head on the customer's side of the main stop tap (mst). The reference level of service must be applied on the customer's side of a meter or any other company fittings that are on the customer's side of the main stop tap.

The reference level applies to a single property. Where more than one property is served by a common service pipe, the flow assumed in the reference level must be appropriately increased to take account of the total number of properties served.

For two properties, a flow of 18 litres/minute at a pressure of 10 metres head on the customer's side of the mst is appropriate. For three or more properties the appropriate flow should be calculated from the standard loadings provided in BS6700 or Institute of Plumbing handbook.

Water companies include properties receiving pressure below the reference level, provided that allowable exclusions do not apply (i.e. events which can cause pressure to temporarily fall below the reference level). Refer to list below:

Abnormal demand: This exclusion is intended to cover abnormal peaks in demand and not the daily, weekly or monthly peaks in demand which are normally expected. Companies exclude properties which are affected by low pressure only on those days with the highest peak demands. During the year companies may exclude, for each property, up to five days of low pressure caused by peak demand.

Planned maintenance: Companies exclude low pressures caused by planned maintenance. It is not intended that companies identify the number of properties affected in each instance. However, companies must maintain sufficiently accurate records to verify that low pressure incidents that are excluded because of planned maintenance are actually caused by maintenance.

One-off incidents: This exclusion covers a number of causes of low pressure; mains bursts; failures of company equipment (such as PRVs or booster pumps); firefighting; and action by a third party. However, if problems of this type affect a property frequently, they cannot be classed as one-off events and further investigation will be required before they can be excluded.

Low pressure incidents of short duration: Properties affected by low pressures which only occur for a short period, and for which there is evidence that incidents of a longer duration would not occur during the course of the year, may be excluded.

Water hardness

Q. 3.5: What is the classification of the water supply for the property?

A.: The water supplied to the property has an average water hardness of 273 mg/l calcium carbonate which is defined as "Hard" by Southern Water.

Guidance Notes:

The hardness of water depends on the amount of calcium in it – the more it contains, the harder the water is.

There is no UK or European standard set for the hardness of drinking water. More information on water hardness can be found on the Drinking Water Inspectorates' website: <http://www.dwi.gov.uk/>

Water hardness can be expressed in various indices for example the hardness settings for dishwashers are commonly expressed in Clark's degrees, but check with the manufacturer as there are also other units. The following table explains how to convert mg/l calcium and mg/l calcium carbonate classifications.

To Convert from:	To Clark degrees	To French degrees	To German degrees
mg/l calcium	multiply by 0.18	multiply by 0.25	multiply by 0.14
mg/l calcium carbonate	multiply by 0.07	multiply by 0.10	multiply by 0.056

Water meters

Q. 3.6: Is there a meter installed at this property?

A.: Records indicate that the property is served by a water meter, which is not located within the property, and in particular is located precast mtr box SEO frontage.

Guidance Notes:

Where the property is not served by a water meter and the customer wishes to consider this method of charging they should contact their water retailer.

If a property is measured (metered) upon change of occupation this property will retain the meter.

Charging

Sewerage undertaker

Q. 4.1.1: Who is responsible for providing the sewerage services for the property?

A.: Southern Water is responsible for providing the sewerage services for the property.

Guidance Notes:

The 'wholesale' part of the water industry did not open for competition in April 2017. This means that Southern Water continues to operate the network of pipes, mains and treatment works.

As a wholesaler, Southern Water sells sewerage services to the companies who enter the retail market. In some instances, wholesalers will still need to interact directly with customers. For example, customers will still contact Southern Water to report internal sewer flooding.

Water undertakers

Q. 4.1.2: Who is responsible for providing the water services for the property?

A.: Southern Water is responsible for providing the water services for the property.

Guidance Notes:

The 'wholesale' part of the water industry did not open for competition in April 2017. This means that water undertakers continue to operate the network of pipes, mains and treatment works.

As a wholesaler, water undertakers sell water services to the companies who enter the retail market. In some instances, wholesalers will still need to interact directly with customers. For example, customers will still contact water undertakers to report leaks.

Sewerage bills

Q. 4.2: Who bills the property for sewerage services?

A.: If you wish to know who bills the sewerage services for this property then you will need to contact the current owner. For a list of all potential retailers of sewerage services for the property please visit www.open-water.org.uk.

Guidance Notes:

From April 2017 non-household customers in England can choose their retailer.

'Retail' refers to the way in which customers are billed for their water and sewerage as well as customer services including meter reading.

Water bills

Q. 4.3: Who bills the property for water services?

A.: If you wish to know who bills the water services for this property then you will need to contact the current owner. For a list of all potential retailers of water services for the property please visit www.open-water.org.uk.

Guidance Notes:

From April 2017 non-household customers in England can choose their retailer.

'Retail' refers to the way in which customers are billed for their water and sewerage as well as customer services including meter reading.

Trade effluent information

Q. 4.4: Is there a consent on this property to discharge trade effluent under Section 118 of the Water Industry Act (1991) into the public seweragesystem?

A.: The trader operating at this commercial property does not hold either a Trade Effluent Consent, or an acknowledgement of a trade effluent discharge, as issued by Southern Water.

Guidance Notes:

Please note, any existing consent is dependent on the business being carried out at the property and will not transfer automatically upon change of ownership.

Any change of ownership from the current incumbent of a property will require the negotiation of a new trade effluent consent or a new acknowledgement between the new incumbent and Southern Water.

Where consent or acknowledgement details have been provided, this does not represent a direct copy of the original.

Other Information

Additional meter information

No further information.

DISCLAIMER: These replies and information, including that shown on the enclosed plan(s), are given on the distinct understanding that neither the Company nor any of its representatives is legally liable for its accuracy or for any action or omission to act whatsoever by anyone on the strength of that information, save as to obvious error. In particular, any person proposing to construct or excavate on land on the basis of information hereby provided should carry out all necessary on-site investigations.

Appendix one: Terms and expressions

- "the 1991 Act" means the Water Industry Act 1991(i);
"the 2000 Regulations" means the Water Supply (Water Quality) Regulations 2000(ii);
"the 2001 Regulations" means the Water Supply (Water Quality) Regulations 2001(iii);
"adoption agreement" means an agreement made or to be made under Section 51A(1) or 104(1) of the 1991 Act(iv);
"bond" means a surety granted by a developer who is a party to an adoption agreement;
"bond waiver" means an agreement with a developer for the provision of a form of financial security as a substitute for a bond;
"calendar year" means the twelve months ending with 31 December;
"discharge pipe" means a pipe from which discharges are made or are to be made under Section 165(1) of the 1991 Act;
"disposal main" means (subject to Section 219(2) of the 1991 Act) any outfall pipe or other pipe which:
(a) is a pipe for the conveyance of effluent to or from any sewage disposal works, whether of a sewerage undertaker or of any other person; and
(b) is not a public sewer;
"drain" means (subject to Section 219(2) of the 1991 Act) a drain used for the drainage of one building or any buildings or yards appurtenant to buildings within the same curtilage;
"effluent" means any liquid, including particles of matter and other substances in suspension in the liquid;
"financial year" means the twelve months ending with 31 March;
"lateral drain" means:
(a) that part of a drain which runs from the curtilage of a building (or buildings or yards within the same curtilage) to the sewer with which the drain communicates or is to communicate; or
(b) (if different and the context so requires) the part of a drain identified in a declaration of vesting made under Section 102 of the 1991 Act or in an agreement made under Section 104 of that Act(v);
"licensed water supplier" means a company which is the holder for the time being of a water supply licence under Section 17A(1) of the 1991 Act(vi);
"maintenance period" means the period so specified in an adoption agreement as a period of time:
(a) from the date of issue of a certificate by a sewerage undertaker to the effect that a developer has built (or substantially built) a private sewer or lateral drain to that undertaker's satisfaction; and
(b) until the date that private sewer or lateral drain is vested in the sewerage undertaker;
"map of waterworks" means the map made available under section 198(3) of the 1991 Act(vii) in relation to the information specified in subsection (1A);
"private sewer" means a pipe or pipes which drain foul or surface water, or both, from premises, and are not vested in a sewerage undertaker;
"public sewer" means, subject to Section 106(1A) of the 1991 Act(viii), a sewer for the time being vested in a sewerage undertaker in its capacity as such, whether vested in that undertaker:
(a) by virtue of a scheme under Schedule 2 to the Water Act 1989(ix);
(b) by virtue of a scheme under Schedule 2 to the 1991 Act(x);
(c) under Section 179 of the 1991 Act(xi); or
(d) otherwise;
"public sewer map" means the map made available under Section 199(5) of the 1991 Act(xii);
"resource main" means (subject to Section 219(2) of the 1991 Act) any pipe, not being a trunk main, which is or is to be used for the purpose of:
(a) conveying water from one source of supply to another, from a source of supply to a regulating reservoir or from a regulating reservoir to a source of supply; or
(b) giving or taking a supply of water in bulk;
"sewerage services" includes the collection and disposal of foul and surface water and any other services which are required to be provided by a sewerage undertaker for the purpose of carrying out its functions;
"sewerage undertaker" means the company appointed to be the sewerage undertaker under Section 6(1) of the 1991 Act for the area in which the property is or will be situated;
"surface water" includes water from roofs and other impermeable surfaces within the curtilage of the property;
"water main" means (subject to Section 219(2) of the 1991 Act) any pipe, not being a pipe for the time being vested in a person other than the water undertaker, which is used or to be used by a water undertaker or licensed water supplier for the purpose of making a general supply of water available to customers or potential customers of the undertaker or supplier, as distinct from for the purpose of providing a supply to particular customers;
"water meter" means any apparatus for measuring or showing the volume of water supplied to, or of effluent discharged from any premises;
"water supplier" means the company supplying water in the water supply zone, whether a water undertaker or licensed water supplier;
"water supply zone" means the names and areas designated by a water undertaker within its area of supply that are to be its water supply zones for that year; and
"water undertaker" means the company appointed to be the water undertaker under Section 6(1) of the 1991 Act for the area in which the property is or will be situated.

In this report, references to a pipe, including references to a main, a drain or a sewer, shall include references to a tunnel or conduit which serves or is to serve as the pipe in question and to any accessories for the pipe.

- (i) 1991 c.56.
(ii) S.I. 2000/3184. These Regulations apply in relation to England.
(iii) S.I. 2001/3911. These Regulations apply in relation to Wales.
(iv) Section 51A was inserted by Section 92(2) of the Water Act 2003 (c. 37). Section 104(1) was amended by Section 96(4) of that Act.
(v) Various amendments have been made to Sections 102 and 104 by section 96 of the Water Act 2003.
(vi) Inserted by Section 56 of and Schedule 4 to the Water Act 2003.
(vii) Subsection (1A) was inserted by Section 92(5) of the Water Act 2003.
(viii) Section 106(1A) was inserted by Section 99 of the Water Act 2003.
(ix) 1989 c.15.
(x) To which there are various amendments made by Section 101(1) of and Schedule 8 to the Water Act 2003.
(xi) To which there are various amendments made by Section 101(1) of and Schedule 8 to the Water Act 2003.
(xii) Section 199 was amended by Section 97(1) and (8) of the Water Act 2003.

Appendix two: A guide to new development

The information contained below is for general guidance only. It is recommended that Southern Water's Developer Services department be contacted for further details concerning new infrastructure development.

Wastewater information

Sewer requisitions

It may be necessary for a developer to request that Southern Water provides a public sewer to connect a development site to the existing public system. The developer is responsible for the cost of the work, although a discount will be applied based on the future predicted income from the development served by the new sewer.

Sewer diversions

If a public sewer crosses private land, it may be possible for the landowner/developer to request the sewer be diverted. In the majority of cases Southern Water will allow the developer to undertake this work under close supervision. Whether Southern Water or the developer undertakes the diversionary works the costs are the responsibility of the developer.

Building-over sewers

Public sewers are afforded statutory protection and consequently there is no right to build over or in close proximity to a public sewer. If an existing public sewer either crosses a development site or is located in close proximity to a development site it is essential that a developer contact Southern Water.

Sewer connections

A developer can serve notice on Southern Water that it wishes to make a connection to the public sewerage system. The developer must provide 21 days' notice and the work will be supervised by Southern Water.

Water information

Water requisitions

It may be necessary for a developer to request that Southern Water provides both:

- (a) a public water main to connect a development site to the existing public system and,
- (b) on-site public water mains to serve the individual properties.

In both cases the developer is responsible for the cost of the work, although a discount will be applied based on the future predicted income from the development.

It is possible for the developer to lay the on-site mains themselves under a Self-Lay Agreement. Further details are available from Southern Water.

Water main diversions

The building over or in close proximity to public water mains is not permitted. A developer must request that Southern Water undertakes a diversion of a water main that is affected by a development.

Water connections

A developer can request a new connection to a public water main. This work will be undertaken by Southern Water.

Contact us

For specific information on Southern Water's Developer Services service, including details on how to contact the right person, please visit our website: www.southernwater.co.uk/developers-and-builders-overview.

Appendix three: Terms and conditions

The Customer the Client and the Purchaser are asked to note these terms, which govern the basis on which this drainage and water report is supplied.

Definitions

"The Company" means the water service company operating within the Southern Water drainage area that provides information to Southern Water for this commercial search Report.

"Order" means any request completed by the Customer requesting the Report.

"Report" means the drainage and/or water report prepared by The Company in respect of the Property.

"Property" means the address or location supplied by the Customer in the Order.

"Customer" means the person, company, firm or other legal body placing the Order, either on their own behalf as Client, or, as an agent for a Client.

"Client" means the person, company or body who is the intended recipient of the Report with an actual or potential interest in the Property.

"Purchaser" means the actual or potential purchaser of the Property including their mortgage lender.

1.0 Agreement

1.1 Southern Water agrees to supply the Report subject to these terms. The scope and limitations of the Report are described in paragraph 2 of these terms. Where the Customer is acting as an agent for the Client then the Customer shall be responsible for bringing these terms to the attention of the Client.

1.2 The Customer and Client agree that the placing of an Order for a Report indicates their acceptance of these terms.

2.0 The Report

Whilst Southern Water will use reasonable care and skill in producing the Report, it is provided to the Client on the basis that they acknowledge and agree to the following:

2.1 The information contained in the Report can change on a regular basis so Southern Water cannot be responsible to the Client for any change in the information contained in the Report after the date on which the Report was produced and sent to the Client.

2.2 The Report does not give details about the actual state or condition of the Property nor should it be used or taken to indicate or exclude actual suitability or unsuitability of the Property for any particular purpose, or relied upon for determining saleability or value, or used as a substitute for any physical investigation or inspection. Further advice and information from appropriate experts and professionals should always be obtained.

2.3 The information contained in the Report is based upon the accuracy of the address supplied by the Customer or Client.

2.4 The Report provides information as to the location and connection of existing services, and details of trade effluent consents. It should not be relied upon for any other purpose. The Report may contain opinions or general advice to the Customer and the Client and Southern Water cannot ensure that any such opinion or general advice is accurate, complete or valid and accepts no liability therefore.

2.5 The position and depth of apparatus shown on any maps attached to the Report are approximate, and are furnished as a general guide only, and no warranty as to its correctness is given or implied. The exact positions and depths should be obtained by excavation trial holes.

3.0 Liability

3.1 Southern Water shall not be liable to the Client for any failure defect or non-performance of its obligations arising from any failure of or defect in any machine, processing system or transmission link or anything beyond Southern Water's reasonable control or the acts or omissions or any party for whom Southern Water is not responsible.

3.2 Where a Report is requested for an address falling within a geographical area where Southern Water and another Company separately provide water and sewerage services, then it shall be deemed that liability for the information given by Southern Water or the Company as the case may be will remain with Southern Water or the Company as the case may be in respect of the accuracy of the information supplied. Where Southern Water is supplying information which has been provided to it by another Company for the purposes outlined in this agreement, Southern Water will therefore not be liable in any way for the accuracy of that information.

3.3 Where the Customer sells this Report to a Client (other than in the case of a bona fide legal adviser recharging the cost of the Report as a disbursement) Southern Water or the Company as the case may be shall not in any circumstances (whether for breach of contract, negligence or any other tort, under statute or statutory duty or otherwise at all) be liable for any loss or damage whatsoever (save to the extent provided by clause 3.4) and the Customer shall indemnify Southern Water in respect of any claim (other than a claim covered by clause 3.4) by the Client.

3.4 Southern Water shall accept liability for death or personal injury arising from its negligence.

3.5 The entire liability of Southern Water or the Company as the case may be in respect of all causes of action arising under or in connection with the Report (whether for breach of contract, negligence or any other tort, under statute or statutory duty or otherwise at all) shall not exceed £2,000,000 (two million pounds); and Southern Water or the Company as the case may be shall not in any circumstances (whether for breach of contract, negligence or any other tort, under statute or statutory duty or otherwise at all) be liable for any loss of profit, loss of goodwill, loss of reputation, loss of business or any indirect, special or consequential loss, damage or other claims, costs or expenses.

4.0 Copyright and confidentiality

4.1 The Customer and the Client acknowledge that the Report is confidential and is intended for the personal use of the Client. The copyright and any other intellectual property rights in the Report shall remain the property of Southern Water. No intellectual or other property rights are transferred or licensed to the Customer or the Client except to the extent expressly provided.

4.2 The Customer or Client is entitled to make copies of the Report (other than any maps contained in the, or attached to the Report, where no copying is permitted).

4.3 The Customer and Client agree (in respect of both the original and any copies made) to respect and not to alter any trademark, copyright notice or other property marking which appears on the Report.

4.4 The maps contained in the Report are protected by Crown Copyright and must not be used for any purpose outside the context of the Report.

4.5 The Customer and the Client agree to indemnify Southern Water or the Company as the case may be against any losses, costs, claims and damage suffered by Southern Water or the Company as the case may be, as a result of any breach by either of them of the terms of paragraphs 4.1 to 4.4 inclusive.

5.0 Payment

5.1 Unless otherwise stated all prices are inclusive of VAT. The Customer shall pay for the price of the Report specified by Southern Water, without any set off, deduction or counterclaim. Unless the Customer or Client has an account with Southern Water for payment for Reports, payments for Reports must be received in full by Southern Water before the Report is produced. For Customers or Clients with accounts, payment terms will be as agreed with Southern Water.

6.0 General

6.1 If any provision of these terms is or becomes invalid or unenforceable, it will be taken to be removed from the rest of these terms to the extent that it is invalid or unenforceable. No other provision of these terms shall be affected.

6.2 These terms shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts.

6.3 Nothing in this notice shall in any way restrict your statutory or any other rights of access to the information contained in the Report.

These Terms and conditions are available in larger print for those with impaired vision.

Appendix four: Complaints procedure

When we get it wrong

You deserve the highest standard of service from us, but sometimes we make mistakes. If we do, please let us know and we will investigate and review your concerns.

Whilst we always try to resolve all complaints straight away, if this is not possible and you are not happy with the course of action taken by us, you can ask us to escalate the issue internally or take your complaint to an independent third party.

How you contact us

Firstly please call us and we will try to sort out your problem straight away.

You can call us between 8am and 5pm, Monday to Friday on 0845 270 0212 or 0330 303 0276 (individual consumers);

Email us at searches@southernwater.co.uk; or

Write to us at LandSearch, Southern Water Services, Southern House, Capstone Road, Chatham, Kent, ME5 7QA.

What you can expect

You will receive a full, fair and courteous response from someone who can effectively deal with your problem.

If we can remedy the problem straight away we will do it but if we cannot immediately resolve your problem we will keep you informed of actions being taken.

The process

We will try to resolve any telephone contact or complaint at the time of the call, however, if that isn't possible, we will take the details of your complaint and we will investigate and get back to you within 10 working days.

We will respond to written complaints within 10 working days of the date received, but we will always aim to respond more quickly. Depending on the scale of investigation required, we will keep you informed of the progress and update you with new timescales if necessary.

If you are still not satisfied with our response or action we will refer the matter to a Senior Manager for resolution. At your request we will liaise with a third party representative acting on your behalf.

Our commitment to you

If we do not respond to your complaint within 10 working days of receipt of your contact, we will compensate you in line with Southern Water's Customer services — Guaranteed standards of service for business customers.

If we find your complaint to be justified, or we have made any errors that substantially change the outcome in your search result, we will refund the search fee. We will also provide you with a revised search and undertake the necessary action to put things right as soon as practically possible. You will be kept informed of the progress of any action required.

If you remain dissatisfied

While we aim to resolve your complaint first time, in the event that we are unable to resolve the issue to your satisfaction, ultimately you can contact a third party. Please make sure that you have followed the process above first, if not, your complaint will be passed back to us.

106308



106020

O.S. REF.
TQ2506SE

Title: Village Centre 43 Windlesham C

Drawn by: **dassuta**

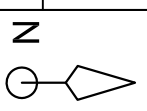
Scale: **1:1250**

Date: **28/02/2019**

The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy.
The actual positions should be determined on site.

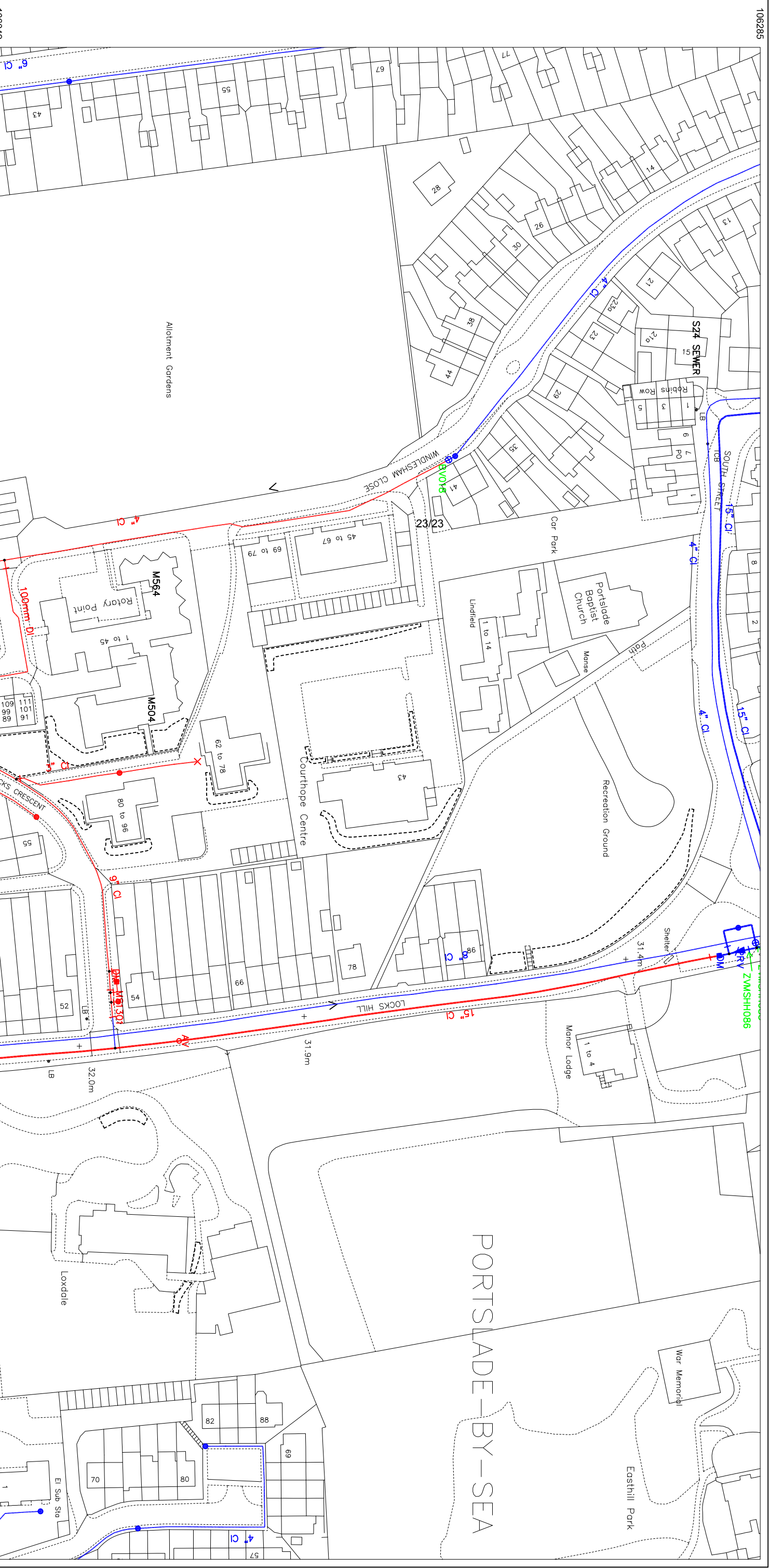
WARNING: BAC pipes are constructed of Bonded Asbestos Cement
WARNING: Unknown (UK) materials may include Bonded Asbestos Cement

Based upon Ordnance Survey Digital Data with the permission of the controller of H.M.S.O. Crown Copyright Reserved
Licence No. WU 298530.



525777

525306



106285
106042
525300

LEGEND - MAINS

- Distribution Main / Communication pipe
- Trunk Main
- Raw water main
- NP
- Abandoned main
- Proposed Main
- FM
- Fire main
- Non SWS
- Silted valve
- Closed valve
- Air valve
- Butterfly valve
- Pressure reducing valve
- Reflux valve
- Motorised valve
- Clockwise closing valve
- Fire Hydrant
- Washout
- Washout hydrant
- Meter
- Capped end
- Emptying plug
- Stopcock
- Leak Noise Correlator Survey Point
- Anode
- Telemetry cable
- Access point / hatchbox

MATERIALS

- AK Dialysis machine
- CI Break pressure tank
- SI Change node
- CO Pumping station
- DI Booster station
- DI Insertion Flow Water Point
- DI Water tower
- DI Service reservoir
- DI Water Supply Works
- DI Bore hole / Well
- DI Intake
- DI Customer site
- DI Swap insertion point
- AK Alkathene
- CI Cast iron
- SI Span (grey) iron
- CO Concrete
- DI Ductile iron
- DI Bonded Asbestos Cement
- GRP Glass reinforced plastic
- GRE Glass reinforced epoxy
- PVC (Unplasticised) Polyvinyl chloride
- PE Polyethylene
- ST Steel
- CSB Concrete segments bolted
- CSU Concrete segments unbolted
- GI Galvanised iron
- DS Ductile sleeve
- CPS Concrete pre-stressed
- HPE High performance polyethylene
- ?? Unknown

<p>Drawn by: dassuta</p> <p>Scale: 1:1250</p> <p>Date: 28/02/2019</p>	<p>O.S.Ref: TQ25006SE</p> <p>TITLE: Village Centre 43 Windlesham C</p>
<p>The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd. accept no responsibility in the event of inaccuracy. The actual positions of pipes should be determined on site.</p>	
<p>Based upon Ordnance Survey Digital Data with the permission of the controller of H.M.S.O. Crown Copyright Reserved Licence No. WU 298530.</p>	

WARNING: BAC pipes are constructed of Bonded Asbestos Cement

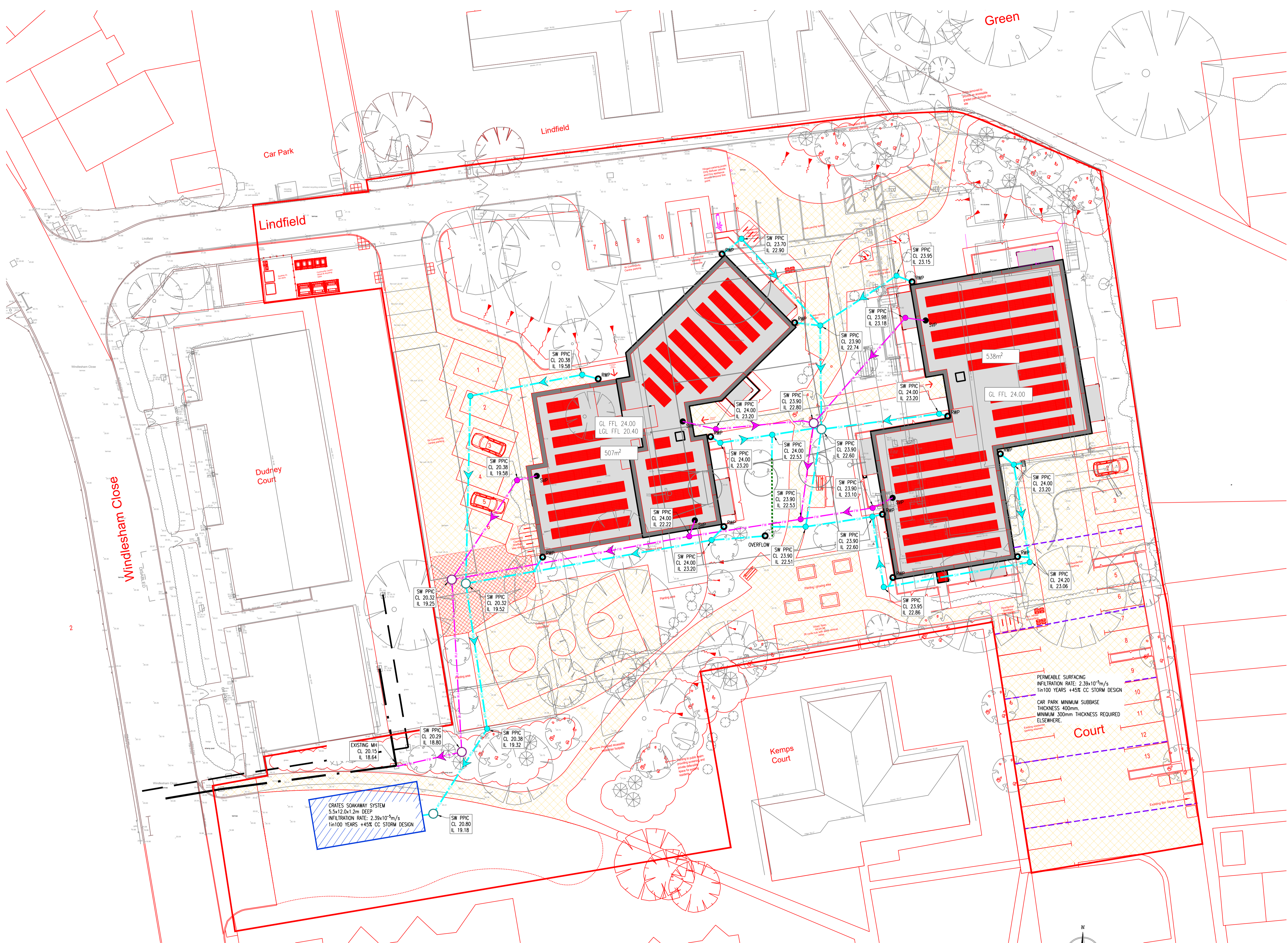
WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement

525782

APPENDIX D – CCTV DRAINAGE SURVEY



APPENDIX E – HOP PROPOSED DRAINAGE LAYOUT



1. GENERAL
 - (i) This drawing is not to be scaled, work to figured dimensions only, confirmed on site.
 - (ii) This drawing is to be read in conjunction with all relevant architectural drawings, detailed specifications where applicable and all associated drawings in this series.
 - (iii) Any discrepancy on this drawing is to be reported immediately to the partnership for clarification.
 - (iv) The contractor is responsible for all temporary works and for the stability of the works in progress.
2. DRAINAGE GENERAL
 - (i) All foul and storm water drains which are not to be adopted as public sewers under a section 104 Agreement must be constructed in accordance with the Building Regulations, BS EN 752 and where appropriate the relevant agreement certificates.
 - (ii) Manholes, gullies, gully connections, sewers and other sewerage structures intended to convey surface water are to be constructed in accordance with the Water Authorities Association Specification 'Sewers for Adoption' 7th Edition and relevant Council Design Guide.
 - (iii) All concrete used in drainage works to comply with BRE Digest 363 for Class 2 sulphate conditions.
3. BELOW GROUND DRAINAGE
 - (i) Pipework to be UPVC-U pipes to BS 4660 : 2000 and Inspection Chambers to BS 7158 : 2001.
 - (ii) All adoptable drainage to be constructed in accordance with 'Sewers for Adoption' 7th Edition and the relevant Council Design Guide.
 - (iii) All private surface water sewers to be laid at 1 in 80 unless otherwise stated on the drawing.
 - (iv) All private foul water sewers to be laid at 1 in 40 at the head of pipe runs and 1 in 80 elsewhere unless otherwise stated.
 - (v) All private foul sewer pipes to be 100mm diameter unless otherwise stated on the drawing. All private surface water sewer pipes to be 100mm diameter from downpipes and 150mm diameter elsewhere unless otherwise stated on the drawing.
 - (vi) Allow for rodding access above ground where rainwater downpipes do not have a direct connection to an inspection chamber.
 - (vii) Existing sewer pipe to be re-used to be surveyed and levelled prior to commencement of the drainage works and refurbished if necessary.
 - (viii) Connections to an adopted sewer only to be made following approval from the relevant adopting Authority.
 - (ix) All drains, sewer pipes and manholes to be cleaned and tested for water tightness on completion of construction.
4. MANHOLE COVERS & FRAMES
 - (i) Manhole covers to be class D400 in highways, class B125 in footways and verges, class C250 in external maintenance vehicle access areas and verges, and class A15 in non-traffic areas.
 - (ii) Manhole covers and frames to be bedded and surrounded in 1:3 mortar.
5. PIPES
 - (i) Plastic pipes shall be of unplasticized polyvinyl chloride (UPVC) complying with the requirements of BS EN 1401-1:2009.
 - (ii) Concrete pipes shall be spun by a centrifugal process or be vertically pressed. They shall possess self inverting sockets and shall comply with the requirements of and be tested in accordance with BS 5911:2002.

LEGEND

FOUL WATER	SURFACE WATER	
		PROPOSED DRAIN
		EXISTING DRAIN
		BAFFLE
		Ø150mm PERFORATED PIPE
		PROPOSED CONCRETE MANHOLE
		PROPOSED INSPECTION CHAMBER 450mmØ / 600mmØ
		SOIL AND VENT PIPE/WASTE STACK
		RAIN WATER PIPE
		ROAD GULLY

PERMEABLE PAVING
 SOAKAWAY
 SITE BOUNDARY

ALL WASTE STACK AND RWP LOCATIONS SHOWN INDICATIVELY. LOCATIONS TO BE CONFIRMED BY ARCHITECT/M&E CONSULTANT.

ISSUED WITH FRA&DS REPORT	PCA JAK	03.11.23	P2
ISSUED FOR INFORMATION	OFK IMR	16.05.22	P1
Description		By	Apprd. Date

PRELIMINARY DRAWING
NOT FOR CONSTRUCTION

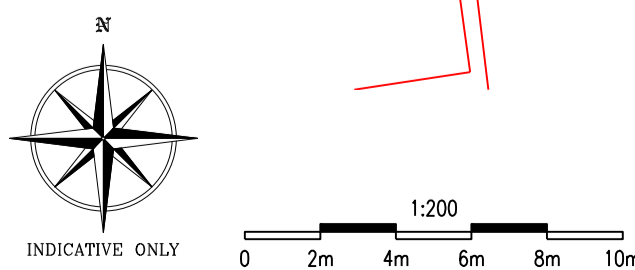
Title: **DRAINAGE LAYOUT PLAN**

Project: **PORTSLADE VILLAGE CENTRE**


Client: **BHCC**

HOP CONSULTING CIVIL AND STRUCTURAL ENGINEERS

HOP House, 41 Church Road Hove, East Sussex BN3 2BE
 www.hop.uk.com
 ask@hop.uk.com
 +44 (0)1273 223900



APPENDIX F – INFODRAINAGE CALCULATIONS

Project: 16458/02 Drainage Strategy Portslade Village Centre, Portslade	Date: 01/11/2023			
Report Details: Type: Junctions Storm Phase: Phase	Designed by: PA		Checked by:	Approved By:
Company Address: HOP Consulting 41 Church Road Hove, BN3 2BE				

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
Manhole 2	Manhole	154428.118	79913.346	22.000	0.800	21.200	Circular	1.200
Manhole 1	Manhole	154391.883	79932.173	24.000	0.200	23.800	Circular	1.200
Manhole 3	Manhole	154444.630	79883.651	24.000	0.200	23.800	Circular	1.200
Manhole	Manhole	154431.791	79852.328	24.000	0.200	23.800	Circular	1.200
Manhole (1)	Manhole	154355.924	79914.599	24.000	0.200	23.800	Circular	1.200
Manhole (2)	Manhole	154401.407	79852.174	24.000	0.200	23.800	Circular	1.200
Manhole (3)	Manhole	154405.351	79876.363	24.000	0.200	23.800	Circular	1.200
Manhole (4)	Manhole	154384.388	79901.327	24.000	0.200	23.800	Circular	1.200
Manhole (5)	Manhole	154349.587	79945.516	24.000	0.200	23.800	Circular	1.200


Name	Lock
Manhole 2	None
Manhole 1	None
Manhole 3	None
Manhole	None
Manhole (1)	None
Manhole (2)	None
Manhole (3)	None
Manhole (4)	None
Manhole (5)	None

Inlets

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
Manhole 2	Inlet	Buildings	(None)	No Restriction
Manhole 1	Inlet	Permeable Paving	(None)	No Restriction
Manhole 3	Inlet	Car Park	(None)	No Restriction
Manhole	Inlet	Car Park (1)	(None)	No Restriction
Manhole (1)	Inlet	Permeable Paving (1)	(None)	No Restriction
Manhole (2)	Inlet	Car Park (1) (1)	(None)	No Restriction
Manhole (3)	Inlet	Car Park (2)	(None)	No Restriction
Manhole (4)	Inlet	Permeable Paving (2) (1)	(None)	No Restriction
Manhole (5)	Inlet	Permeable Paving (2)	(None)	No Restriction

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
Manhole 2	Outlet	Pipe 2	Free Discharge
Manhole 1	Outlet	Pipe 1	Free Discharge
Manhole 3	Outlet	Pipe 3	Free Discharge
Manhole	Outlet	Pipe	Free Discharge
Manhole (1)	Outlet	Pipe (1)	Free Discharge
Manhole (2)	Outlet	Pipe (3)	Free Discharge
Manhole (3)	Outlet	Pipe (2)	Free Discharge
Manhole (4)	Outlet	Pipe (5)	Free Discharge
Manhole (5)	Outlet	Pipe (4)	Free Discharge

Project: 16458/02 Drainage Strategy Portslade Village Centre, Portslade	Date: 01/11/2023			
Report Details: Type: Stormwater Controls Storm Phase: Phase	Designed by: PA		Checked by:	Approved By:
Company Address: HOP Consulting 41 Church Road Hove, BN3 2BE				



Porous Paving 1

Type : Porous Paving

Dimensions

Exceedance Level (m)	24.000
Depth (m)	0.300
Base Level (m)	23.700
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	25.000
Long. Slope (1:X)	10000.00
Width (m)	42.000
Total Volume (m³)	59.735

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	150
No. of Barrels	20
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.009

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Pipe 1
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	Pipe (1)
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (2)


Inlet Type	Point Inflow
Incoming Item(s)	Pipe (4)
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (3)

Inlet Type	Point Inflow
Incoming Item(s)	Pipe (5)
Bypass Destination	(None)
Capacity Type	No Restriction

Advanced

Base Infiltration Rate (m/hr)	0.086
Side Infiltration Rate (m/hr)	0.086
Safety Factor	2.0
Conductivity (m/hr)	500.0

Project: 16458/02 Drainage Strategy Portslade Village Centre, Portslade	Date: 01/11/2023			
Report Details: Type: Stormwater Controls Storm Phase: Phase	Designed by: PA		Checked by:	Approved By:
Company Address: HOP Consulting 41 Church Road Hove, BN3 2BE				



Porous Paving 2

Type : Porous Paving

Dimensions

Exceedance Level (m)	24.000
Depth (m)	0.300
Base Level (m)	23.700
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	20.000
Long. Slope (1:X)	10000.00
Width (m)	37.000
Total Volume (m³)	42.688

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	150
No. of Barrels	20
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.009

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Pipe 3
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	Pipe
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (2)


Inlet Type	Point Inflow
Incoming Item(s)	Pipe (2)
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (3)

Inlet Type	Point Inflow
Incoming Item(s)	Pipe (3)
Bypass Destination	(None)
Capacity Type	No Restriction

Advanced

Base Infiltration Rate (m/hr)	0.086
Side Infiltration Rate (m/hr)	0.086
Safety Factor	2.0
Conductivity (m/hr)	500.0

Project: 16458/02 Drainage Strategy Portslade Village Centre, Portslade	Date: 01/11/2023			
Report Details: Type: Stormwater Controls Storm Phase: Phase	Designed by: PA		Checked by:	Approved By:
Company Address: HOP Consulting 41 Church Road Hove, BN3 2BE				



Cellular Storage

Type : Cellular Storage

Dimensions

Exceedance Level (m)	20.800
Depth (m)	1.200
Base Level (m)	19.150
Number of Crates Long	12
Number of Crates Wide	11
Number of Crates High	3
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m ³)	75.690


Inlets

Inlet


Inlet Type	Point Inflow
Incoming Item(s)	Pipe 2
Bypass Destination	(None)
Capacity Type	No Restriction

Advanced

Base Infiltration Rate (m/hr)	0.086
Side Infiltration Rate (m/hr)	0.086
Safety Factor	2.0

Project: 16458/02 Drainage Strategy Portslade Village Centre, Portslade		Date: 01/11/2023			
Report Details: Type: Inflow Summary Storm Phase: Phase		Designed by: PA	Checked by:		Approved By:
		Company Address: HOP Consulting 41 Church Road Hove, BN3 2BE			

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Buildings	Manhole 2		Time of Concentration	0.105	100	0	100	0.105
Car Park	Manhole 3		Time of Concentration	0.019	100	0	100	0.019
Car Park (1)	Manhole		Time of Concentration	0.019	100	0	100	0.019
Car Park (1) (1)	Manhole (2)		Time of Concentration	0.019	100	0	100	0.019
Car Park (2)	Manhole (3)		Time of Concentration	0.019	100	0	100	0.019
Permeable Paving	Manhole 1		Time of Concentration	0.026	100	0	100	0.026
Permeable Paving (1)	Manhole (1)		Time of Concentration	0.026	100	0	100	0.026
Permeable Paving (2)	Manhole (5)		Time of Concentration	0.026	100	0	100	0.026
Permeable Paving (2) (1)	Manhole (4)		Time of Concentration	0.026	100	0	100	0.026
TOTAL		0.0		0.285				0.285

Project: 16458/02 Drainage Strategy Portslade Village Centre, Portslade	Date: 01/11/2023			
Report Title: Rainfall Analysis Criteria	Designed by: PA		Checked by:	Approved By:
Company Address: HOP Consulting 41 Church Road Hove, BN3 2BE				

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	<input type="checkbox"/>

Rainfall

FEH	Type: FEH
Site Location	GB 525531 106165 TQ 25531 06165
Rainfall Version	2022
Summer	<input checked="" type="checkbox"/>
Winter	<input checked="" type="checkbox"/>

Return Period

Return Period (years)	Increase Rainfall (%)
2.0	45.000
30.0	45.000
100.0	45.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880

Project: 16458/02 Drainage Strategy Portslade Village Centre, Portslade		Date: 01/11/2023		
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: PA	Checked by:	Approved By:
		Company Address: HOP Consulting 41 Church Road Hove, BN3 2BE		



FEH: 2 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Depth


Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
Manhole 2	FEH: 2 years: +45 %: 15 mins: Winter	22.00 0	21.20 0	21.258	0.058	25.6	0.065	0.000	25.5	11.879	OK
Manhole 1	FEH: 2 years: +45 %: 15 mins: Winter	24.00 0	23.80 0	23.866	0.066	6.3	0.075	0.000	6.2	2.938	Flood Risk
Manhole 3	FEH: 2 years: +45 %: 15 mins: Winter	24.00 0	23.80 0	23.856	0.056	4.6	0.063	0.000	4.5	2.148	Flood Risk
Manhole	FEH: 2 years: +45 %: 15 mins: Winter	24.00 0	23.80 0	23.856	0.056	4.6	0.063	0.000	4.5	2.148	Flood Risk
Manhole (1)	FEH: 2 years: +45 %: 15 mins: Winter	24.00 0	23.80 0	23.867	0.067	6.3	0.075	0.000	6.2	2.938	Flood Risk
Manhole (2)	FEH: 2 years: +45 %: 15 mins: Winter	24.00 0	23.80 0	23.857	0.057	4.6	0.064	0.000	4.5	2.148	Flood Risk
Manhole (3)	FEH: 2 years: +45 %: 15 mins: Winter	24.00 0	23.80 0	23.855	0.055	4.6	0.062	0.000	4.5	2.148	Flood Risk
Manhole (4)	FEH: 2 years: +45 %: 15 mins: Winter	24.00 0	23.80 0	23.867	0.067	6.3	0.075	0.000	6.2	2.938	Flood Risk
Manhole (5)	FEH: 2 years: +45 %: 15 mins: Winter	24.00 0	23.80 0	23.866	0.066	6.3	0.075	0.000	6.2	2.938	Flood Risk

Project: 16458/02 Drainage Strategy Portslade Village Centre, Portslade		Date: 01/11/2023		
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: PA	Checked by:	Approved By:
		Company Address: HOP Consulting 41 Church Road Hove, BN3 2BE		



FEH: 30 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
Manhole 2	FEH: 30 years: +45 %: 15 mins: Winter	22.000	21.200	21.294	0.094	56.9	0.106	0.000	56.6	26.370	OK
Manhole 1	FEH: 30 years: +45 %: 15 mins: Winter	24.000	23.800	23.906	0.106	14.1	0.120	0.000	13.8	6.545	Flood Risk
Manhole 3	FEH: 30 years: +45 %: 15 mins: Winter	24.000	23.800	23.887	0.087	10.3	0.098	0.000	10.1	4.782	Flood Risk
Manhole	FEH: 30 years: +45 %: 15 mins: Winter	24.000	23.800	23.887	0.087	10.3	0.098	0.000	10.1	4.782	Flood Risk
Manhole (1)	FEH: 30 years: +45 %: 15 mins: Winter	24.000	23.800	23.906	0.106	14.1	0.120	0.000	13.7	6.545	Flood Risk
Manhole (2)	FEH: 30 years: +45 %: 15 mins: Winter	24.000	23.800	23.888	0.088	10.3	0.099	0.000	10.0	4.782	Flood Risk
Manhole (3)	FEH: 30 years: +45 %: 15 mins: Winter	24.000	23.800	23.885	0.085	10.3	0.097	0.000	10.1	4.781	Flood Risk
Manhole (4)	FEH: 30 years: +45 %: 15 mins: Winter	24.000	23.800	23.906	0.106	14.1	0.120	0.000	13.7	6.545	Flood Risk
Manhole (5)	FEH: 30 years: +45 %: 15 mins: Winter	24.000	23.800	23.905	0.105	14.1	0.119	0.000	13.8	6.544	Flood Risk

Project: 16458/02 Drainage Strategy Portslade Village Centre, Portslade	Date: 01/11/2023			
Report Details: Type: Junctions Summary Storm Phase: Phase	Designed by: PA		Checked by:	Approved By:
Company Address: HOP Consulting 41 Church Road Hove, BN3 2BE				



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Depth


Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
Manhole 2	FEH: 100 years: +45 %: 15 mins: Winter	22.00 0	21.20 0	21.311	0.111	71.3	0.126	0.000	71.0	33.183	OK
Manhole 1	FEH: 100 years: +45 %: 15 mins: Winter	24.00 0	23.80 0	23.925	0.125	17.7	0.142	0.000	17.2	8.233	Flood Risk
Manhole 3	FEH: 100 years: +45 %: 15 mins: Winter	24.00 0	23.80 0	23.900	0.100	12.9	0.113	0.000	12.6	6.017	Flood Risk
Manhole	FEH: 100 years: +45 %: 15 mins: Winter	24.00 0	23.80 0	23.900	0.100	12.9	0.113	0.000	12.6	6.017	Flood Risk
Manhole (1)	FEH: 100 years: +45 %: 15 mins: Winter	24.00 0	23.80 0	23.925	0.125	17.7	0.142	0.000	17.2	8.233	Flood Risk
Manhole (2)	FEH: 100 years: +45 %: 15 mins: Winter	24.00 0	23.80 0	23.901	0.101	12.9	0.114	0.000	12.6	6.017	Flood Risk
Manhole (3)	FEH: 100 years: +45 %: 15 mins: Winter	24.00 0	23.80 0	23.898	0.098	12.9	0.111	0.000	12.6	6.017	Flood Risk
Manhole (4)	FEH: 100 years: +45 %: 15 mins: Winter	24.00 0	23.80 0	23.925	0.125	17.7	0.142	0.000	17.2	8.233	Flood Risk
Manhole (5)	FEH: 100 years: +45 %: 15 mins: Winter	24.00 0	23.80 0	23.924	0.124	17.7	0.141	0.000	17.2	8.233	Flood Risk

Project: 16458/02 Drainage Strategy Portslade Village Centre, Portslade		Date: 01/11/2023		
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Designed by: PA	Checked by:	Approved By:
		Company Address: HOP Consulting 41 Church Road Hove, BN3 2BE		



FEH: 2 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Avg. Depth


Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Cellular Storage	FEH: 2 years: +45 %: 240 mins: Winter	19.523	19.523	0.373	0.373	6.2	23.409	0.000	25.066	0.0	0.000	69.072	OK
Porous Paving 1	FEH: 2 years: +45 %: 15 mins: Winter	23.734	23.700	0.031	0.000	24.7	5.615	0.000	11.783	0.0	0.000	90.600	OK
Porous Paving 2	FEH: 2 years: +45 %: 15 mins: Winter	23.729	23.703	0.027	0.003	18.0	3.646	0.000	8.619	0.0	0.000	91.458	OK

Project: 16458/02 Drainage Strategy Portslade Village Centre, Portslade	Date: 01/11/2023			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Designed by: PA		Checked by:	Approved By:
Company Address: HOP Consulting 41 Church Road Hove, BN3 2BE				



FEH: 30 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Avg. Depth


Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Cellular Storage	FEH: 30 years: +45 %: 360 mins: Winter	19.994	19.994	0.844	0.844	8.5	52.903	0.000	43.433	0.0	0.000	30.105	OK
Porous Paving 1	FEH: 30 years: +45 %: 30 mins: Winter	23.760	23.760	0.057	0.060	37.5	18.538	0.000	34.616	0.0	0.000	68.967	OK
Porous Paving 2	FEH: 30 years: +45 %: 30 mins: Winter	23.761	23.761	0.059	0.061	27.4	13.362	0.000	25.295	0.0	0.000	68.698	OK

Project: 16458/02 Drainage Strategy Portslade Village Centre, Portslade		Date: 01/11/2023			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Designed by: PA	Checked by:	Approved By:	
		Company Address: HOP Consulting 41 Church Road Hove, BN3 2BE			



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Cellular Storage	FEH: 100 years: +45 %: 360 mins: Winter	20.260	20.260	1.110	1.110	10.6	69.625	0.000	46.965	0.0	0.000	8.013	OK
Porous Paving 1	FEH: 100 years: +45 %: 30 mins: Winter	23.784	23.785	0.082	0.085	47.7	26.286	0.000	39.043	0.0	0.000	55.995	OK
Porous Paving 2	FEH: 100 years: +45 %: 30 mins: Winter	23.787	23.787	0.085	0.087	34.8	19.128	0.000	28.025	0.0	0.000	55.191	OK

Project: 16458/02 Drainage Strategy Portslade Village Centre, Portslade	Date: 01/11/2023			
Report Details: Type: Connections Summary Storm Phase: Phase	Designed by: PA		Checked by:	Approved By:
Company Address: HOP Consulting 41 Church Road Hove, BN3 2BE				



FEH: 2 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
Pipe 1	FEH: 2 years: +45 %: 15 mins: Winter	Pipe	Manhole 1	Porous Paving 1	24.000	23.866	0.049	2.938	1.2	0.35	6.2	Flood Risk
Pipe 2	FEH: 2 years: +45 %: 15 mins: Winter	Pipe	Manhole 2	Cellular Storage	22.000	21.258	0.095	11.879	3.9	0.32	25.5	OK
Pipe 3	FEH: 2 years: +45 %: 15 mins: Winter	Pipe	Manhole 3	Porous Paving 2	24.000	23.856	0.041	2.148	1.1	0.25	4.5	Flood Risk
Pipe	FEH: 2 years: +45 %: 15 mins: Winter	Pipe	Manhole	Porous Paving 2	24.000	23.856	0.041	2.148	1.1	0.25	4.5	Flood Risk
Pipe (1)	FEH: 2 years: +45 %: 15 mins: Winter	Pipe	Manhole (1)	Porous Paving 1	24.000	23.867	0.049	2.938	1.2	0.35	6.2	Flood Risk
Pipe (2)	FEH: 2 years: +45 %: 15 mins: Winter	Pipe	Manhole (3)	Porous Paving 2	24.000	23.855	0.041	2.148	1.2	0.25	4.5	Flood Risk
Pipe (3)	FEH: 2 years: +45 %: 15 mins: Winter	Pipe	Manhole (2)	Porous Paving 2	24.000	23.857	0.042	2.148	1.1	0.26	4.5	Flood Risk
Pipe (4)	FEH: 2 years: +45 %: 15 mins: Winter	Pipe	Manhole (5)	Porous Paving 1	24.000	23.866	0.049	2.938	1.2	0.35	6.2	Flood Risk
Pipe (5)	FEH: 2 years: +45 %: 15 mins: Winter	Pipe	Manhole (4)	Porous Paving 1	24.000	23.867	0.049	2.938	1.2	0.35	6.2	Flood Risk

Project: 16458/02 Drainage Strategy Portslade Village Centre, Portslade		Date: 01/11/2023		
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: PA	Checked by:	Approved By:
		Company Address: HOP Consulting 41 Church Road Hove, BN3 2BE		



FEH: 30 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
Pipe 1	FEH: 30 years: +45 %: 15 mins: Winter	Pipe	Manhole 1	Porous Paving 1	24.000	23.906	0.081	6.545	1.4	0.78	13.8	Flood Risk
Pipe 2	FEH: 30 years: +45 %: 15 mins: Winter	Pipe	Manhole 2	Cellular Storage	22.000	21.294	0.150	26.370	4.0	0.7	56.6	OK
Pipe 3	FEH: 30 years: +45 %: 15 mins: Winter	Pipe	Manhole 3	Porous Paving 2	24.000	23.887	0.067	4.782	1.3	0.57	10.1	Flood Risk
Pipe	FEH: 30 years: +45 %: 15 mins: Winter	Pipe	Manhole	Porous Paving 2	24.000	23.887	0.067	4.782	1.3	0.57	10.1	Flood Risk
Pipe (1)	FEH: 30 years: +45 %: 15 mins: Winter	Pipe	Manhole (1)	Porous Paving 1	24.000	23.906	0.081	6.545	1.4	0.78	13.7	Flood Risk
Pipe (2)	FEH: 30 years: +45 %: 15 mins: Winter	Pipe	Manhole (3)	Porous Paving 2	24.000	23.885	0.067	4.781	1.3	0.55	10.1	Flood Risk
Pipe (3)	FEH: 30 years: +45 %: 15 mins: Winter	Pipe	Manhole (2)	Porous Paving 2	24.000	23.888	0.068	4.782	1.3	0.58	10.0	Flood Risk
Pipe (4)	FEH: 30 years: +45 %: 15 mins: Winter	Pipe	Manhole (5)	Porous Paving 1	24.000	23.905	0.081	6.544	1.4	0.77	13.8	Flood Risk
Pipe (5)	FEH: 30 years: +45 %: 15 mins: Winter	Pipe	Manhole (4)	Porous Paving 1	24.000	23.906	0.081	6.545	1.4	0.78	13.7	Flood Risk

Project: 16458/02 Drainage Strategy Portslade Village Centre, Portslade		Date: 01/11/2023		
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: PA	Checked by:	Approved By:
		Company Address: HOP Consulting 41 Church Road Hove, BN3 2BE		



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
Pipe 1	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole 1	Porous Paving 1	24.000	23.925	0.095	8.233	1.5	0.98	17.2	Flood Risk
Pipe 2	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole 2	Cellular Storage	22.000	21.311	0.150	33.183	4.0	0.88	71.0	OK
Pipe 3	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole 3	Porous Paving 2	24.000	23.900	0.078	6.017	1.4	0.71	12.6	Flood Risk
Pipe	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole	Porous Paving 2	24.000	23.900	0.078	6.017	1.4	0.71	12.6	Flood Risk
Pipe (1)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (1)	Porous Paving 1	24.000	23.925	0.095	8.233	1.5	0.98	17.2	Flood Risk
Pipe (2)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (3)	Porous Paving 2	24.000	23.898	0.077	6.017	1.4	0.69	12.6	Flood Risk
Pipe (3)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (2)	Porous Paving 2	24.000	23.901	0.079	6.017	1.3	0.73	12.6	Flood Risk
Pipe (4)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (5)	Porous Paving 1	24.000	23.924	0.095	8.233	1.5	0.97	17.2	Flood Risk
Pipe (5)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole (4)	Porous Paving 1	24.000	23.925	0.095	8.233	1.5	0.98	17.2	Flood Risk

APPENDIX G – INFILTRATION TESTING RESULTS

Soakaway Test Results & Soil Infiltration Rate

Site: Portslade Village Centre

Ref: 23.1044

Trial Hole: SA1

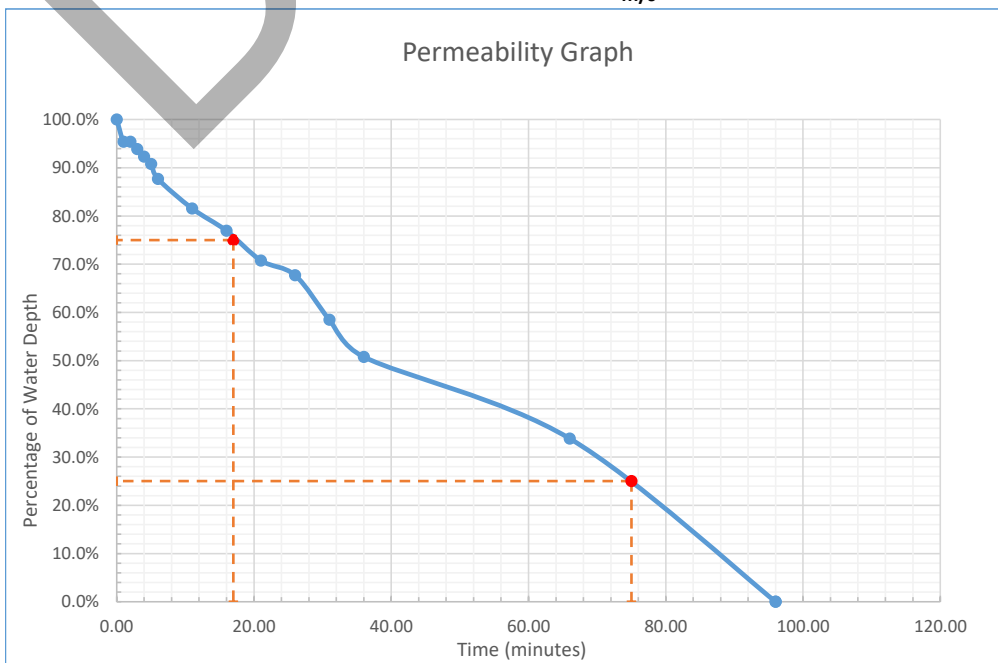
Test 1

Time in minutes	Depth in metres to water surface	Head of Water from Base of Pit	Percentage of water depth at start
0.00	1.850	0.650	100.0%
1.00	1.880	0.620	95.4%
2.00	1.880	0.620	95.4%
3.00	1.890	0.610	93.8%
4.00	1.900	0.600	92.3%
5.00	1.910	0.590	90.8%
6.00	1.930	0.570	87.7%
11.00	1.970	0.530	81.5%
16.00	2.000	0.500	76.9%
21.00	2.040	0.460	70.8%
26.00	2.060	0.440	67.7%
31.00	2.120	0.380	58.5%
36.00	2.170	0.330	50.8%
66.00	2.280	0.220	33.8%
96.00	2.500	0.000	0.0%
96.00			0.0%

INFILTRATION CALCULATED FROM 75%-25% WATER DEPTH RANGE

Pit Size		Time in mins	
Length	1.80	17.00	75%
Width	0.30	75.00	25%
Depth	2.50		

Infiltration Rate from 75%-25% **2.6473E-05 m/s**



Soakaway Test Results & Soil Infiltration Rate

Site: Portslade Village Centre

Ref: 23.1042

Trial Hole: SA1

Test 2

Time in minutes	Depth in metres to water surface	Head of Water from Base of Pit	Percentage of water depth at start
0.00	1.780	0.720	100.0%
1.00	1.790	0.710	98.6%
2.00	1.800	0.700	97.2%
3.00	1.810	0.690	95.8%
4.00	1.820	0.680	94.4%
5.00	1.830	0.670	93.1%
6.00	1.840	0.660	91.7%
11.00	1.860	0.640	88.9%
16.00	1.880	0.620	86.1%
21.00	1.910	0.590	81.9%
26.00	1.930	0.570	79.2%
31.00	1.940	0.560	77.8%
36.00	1.960	0.540	75.0%
66.00	2.090	0.410	56.9%
96.00	2.280	0.220	30.6%
126.00	2.470	0.030	4.2%
156.00	2.500	0.000	0.0%
156.00			0.0%

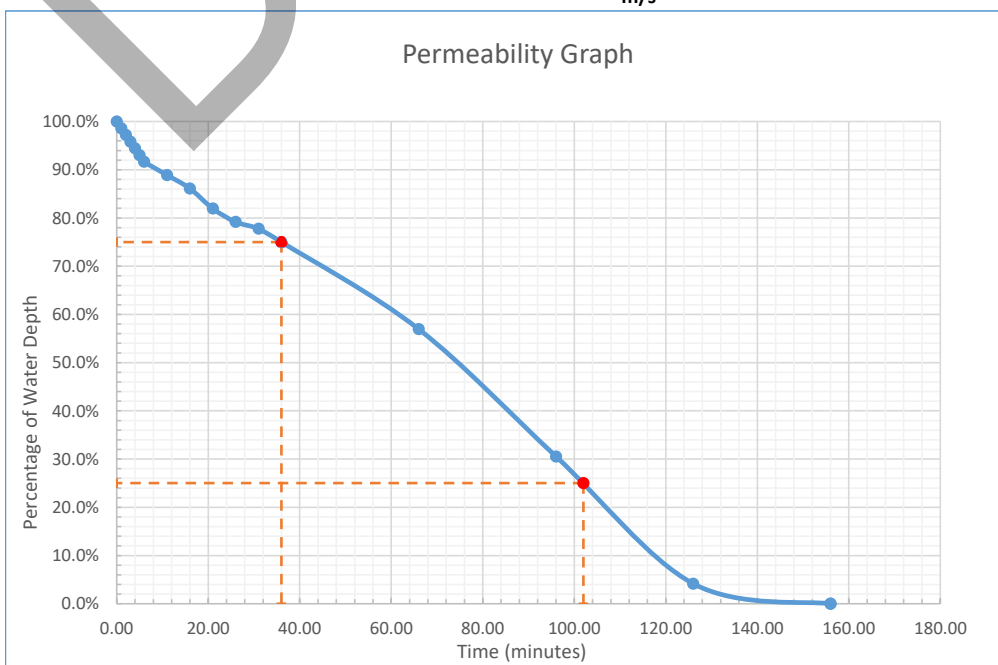
INFILTRATION CALCULATED FROM 75%-25% WATER DEPTH RANGE

Pit Size	
Length	1.80
Width	0.30
Depth	2.50

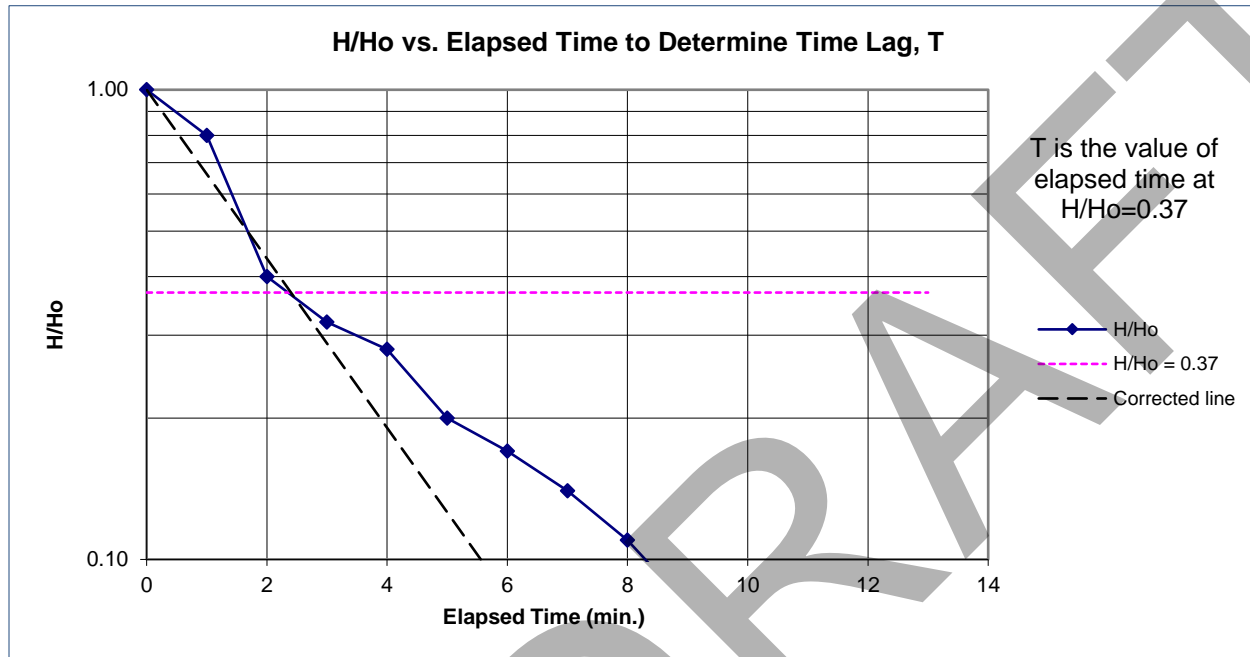
Time in mins	
36	75%
102	25%

Infiltration Rate from 75%-25%

2.39234E-05
m/s



Calculation of Permeability to B.S. 5930 : 1999 + A2 : 2010



Test Hole No:	WLS1
Test No:	1
Test Type:	Falling Head

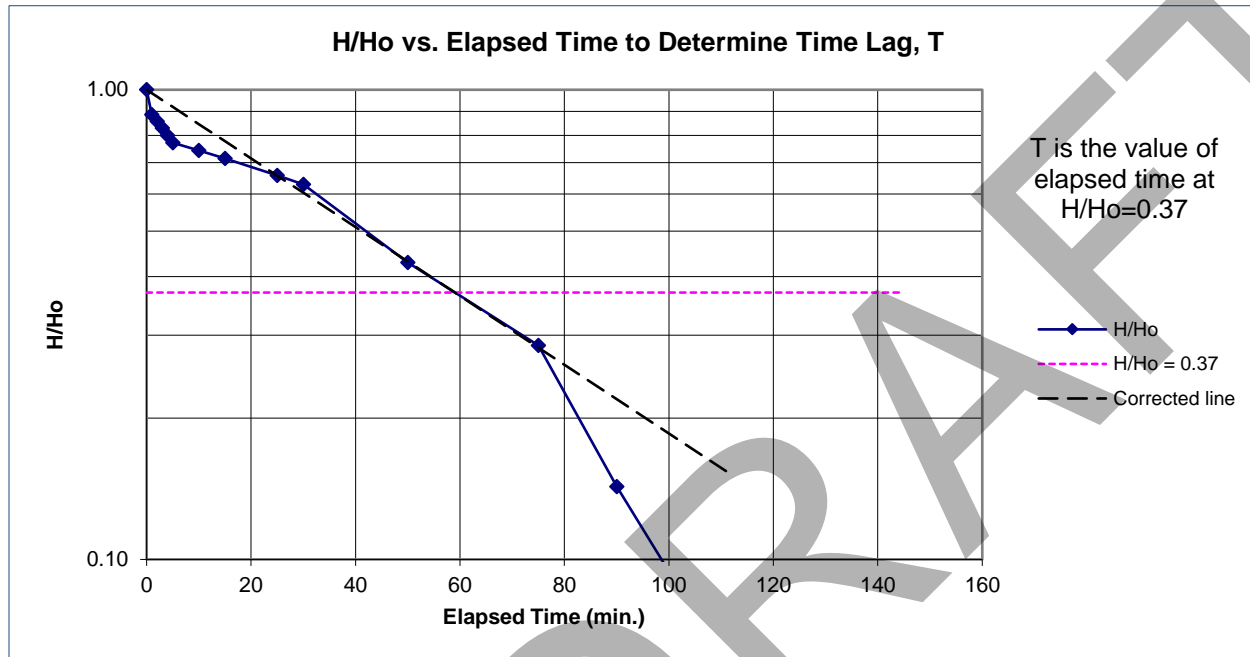
Client:	Brighton & Hove City Council
Site:	Portslade Village Centre
Tested By:	LS
Test Date:	05/05/23

Comments:
F for Condition(d) Well Point Extended in Uniform Soil

Diameter of Borehole (m)	0.1
Depth to End of Borehole Casing (m)	0.00
Depth to Borehole Base (m)	1.00
Internal Casing Diameter (m)	0.10
Depth to Groundwater (m)	N/A
Length of tested section (m)	1.00
Cross-sectional Area of Borehole (m ²)	0.008

Intake Factor F	2.10
Basic Time Factor (mins)	2.4
Borehole Permeability k (m/sec)	2.60E-05

Calculation of Permeability to B.S. 5930 : 1999 + A2 : 2010



Test Hole No:	WLS2
Test No:	1
Test Type:	Falling Head

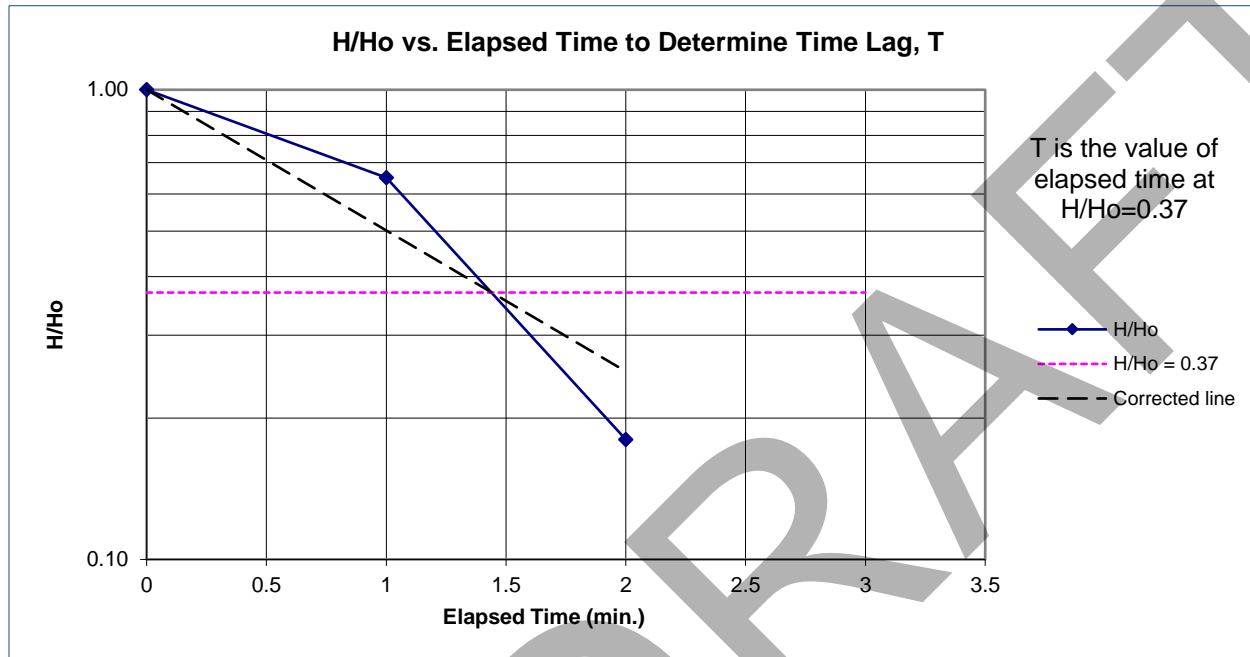
Client:	Brighton & Hove City Council
Site:	Portslade Village Centre
Tested By:	LS
Test Date:	05/05/23

Comments:
 F for Condition(d) Well Point Extended in Uniform Soil

Diameter of Borehole (m)	0.1
Depth to End of Borehole Casing (m)	2.82
Depth to Borehole Base (m)	3.17
Internal Casing Diameter (m)	0.10
Depth to Groundwater (m)	N/A
Length of tested section (m)	0.35
Cross-sectional Area of Borehole (m ²)	0.008

Intake Factor F	1.12
Basic Time Factor (mins)	59
Borehole Permeability k (m/sec)	1.98E-06

Calculation of Permeability to B.S. 5930 : 1999 + A2 : 2010



Test Hole No:	WLS5
Test No:	1
Test Type:	Falling Head

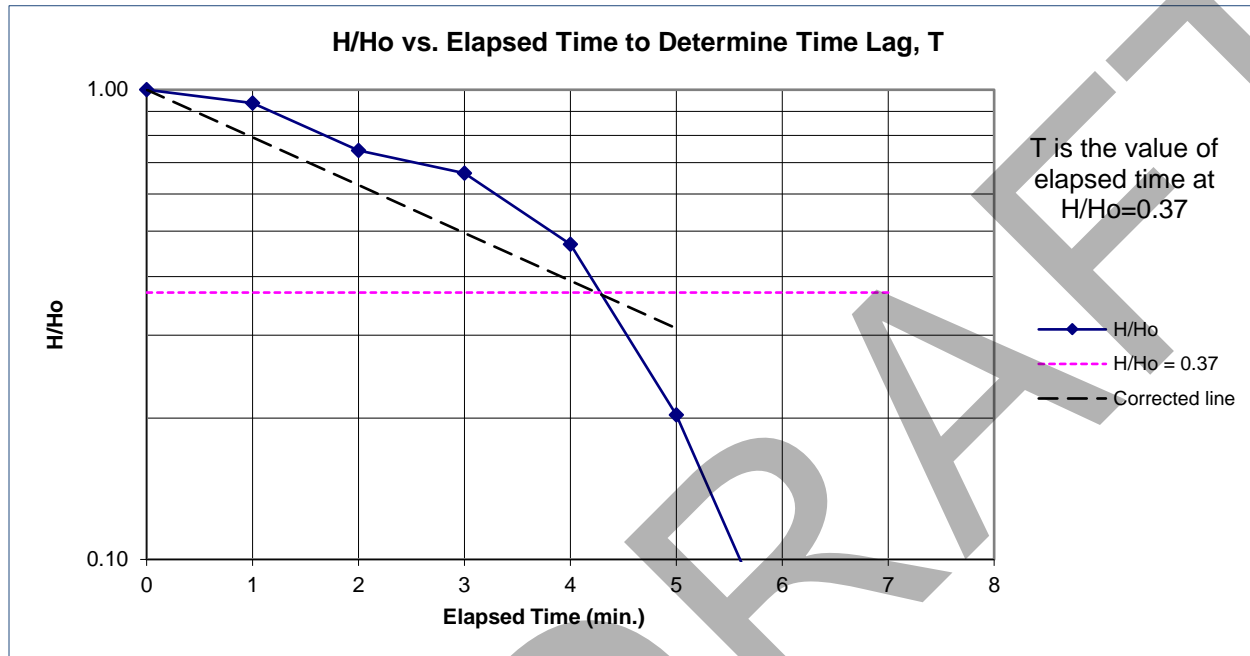
Client:	Brighton & Hove City Council
Site:	Portslade Village Centre
Tested By:	LS
Test Date:	05/05/23

Comments:
F for Condition(d) Well Point Extended in Uniform Soil

Diameter of Borehole (m)	0.1
Depth to End of Borehole Casing (m)	3.00
Depth to Borehole Base (m)	4.00
Internal Casing Diameter (m)	0.10
Depth to Groundwater (m)	N/A
Length of tested section (m)	1.00
Cross-sectional Area of Borehole (m ²)	0.008

Intake Factor F	2.10
Basic Time Factor (mins)	1.44
Borehole Permeability k (m/sec)	4.34E-05

Calculation of Permeability to B.S. 5930 : 1999 + A2 : 2010



Test Hole No:	WLS5
Test No:	2
Test Type:	Falling Head

Client:	Brighton & Hove City Council
Site:	Portslade Village Centre
Tested By:	LS
Test Date:	05/05/23

Comments:
F for Condition(d) Well Point Extended in Uniform Soil

Diameter of Borehole (m)	0.1
Depth to End of Borehole Casing (m)	3.00
Depth to Borehole Base (m)	4.00
Internal Casing Diameter (m)	0.10
Depth to Groundwater (m)	N/A
Length of tested section (m)	1.00
Cross-sectional Area of Borehole (m ²)	0.008

Intake Factor F	2.10
Basic Time Factor (mins)	4.25
Borehole Permeability k (m/sec)	1.47E-05

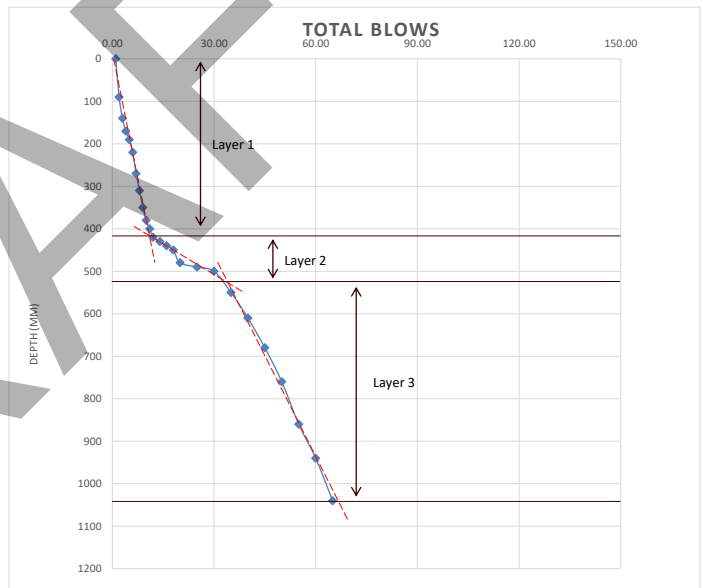
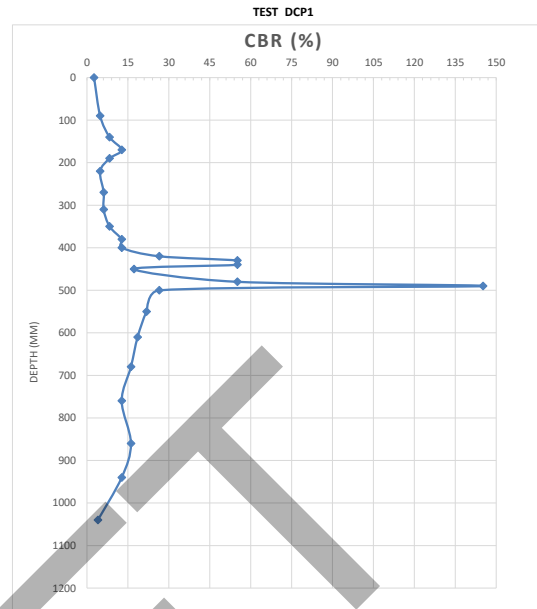
23.1044 - Portslade Village Centre

Determination of Penetration Value of Unbound Soil using Dynamic Cone Penetrometer (DCP)

Test Ref.	DCP1
Location	Southwest Corner adjacent to SA1
Date	04/05/2023
Material:	Made Ground
Level	20.00

Number of Blows	Total Blows	Rod 1 Reading (mm)	Total Depth	mm/Blow (S)	CBR (%)
START POSITION:					
	zero	0			
1	1	90	0	90.00	0.41
1	2	140	90	50.00	0.68
1	3	170	140	30.00	0.92
1	4	190	170	20.00	1.10
1	5	220	190	30.00	0.92
1	6	270	220	50.00	0.68
1	7	310	270	40.00	0.79
1	8	350	310	40.00	0.79
1	9	380	350	30.00	0.92
1	10	400	380	20.00	1.10
1	11	420	400	20.00	1.10
1	12	430	420	10.00	1.42
2	14	440	430	5.00	1.74
2	16	450	440	5.00	1.74
2	18	480	450	15.00	1.24
2	20	490	480	5.00	1.74
5	25	500	490	2.00	2.16
5	30	550	500	10.00	1.42
5	35	610	550	12.00	1.34
5	40	680	610	14.00	1.27
5	45	760	680	16.00	1.21
5	50	860	760	20.00	1.10
5	55	940	860	18.00	1.21
5	60	1040	940	20.00	1.10
5	65	1340	1040	60.00	0.60

Layer 1
Layer 2
Layer 3



Layer	Thickness (mm)	DCP Avg (mm/Blow)	CBR Avg (%)
1	420	35.83	9.5
2	130	7.00	59.0
3	490	22.57	14.6

Remarks
Test completed adjacent to SA1, recording Made Ground soils to 0.9mbgl.

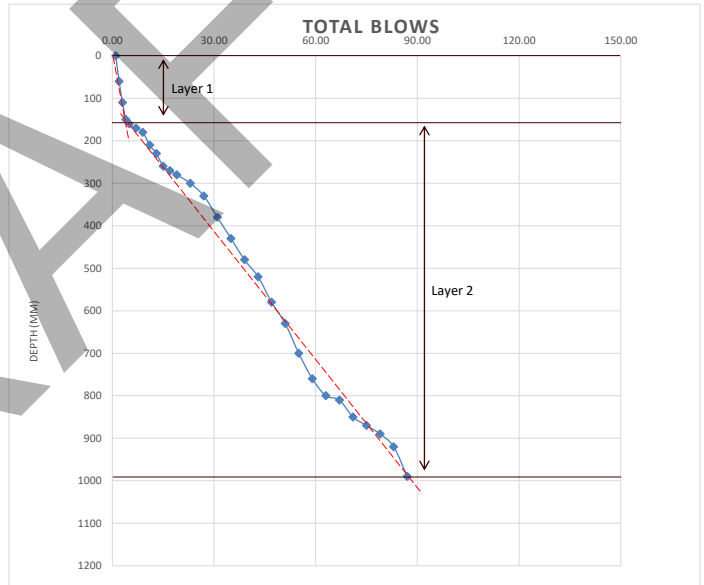
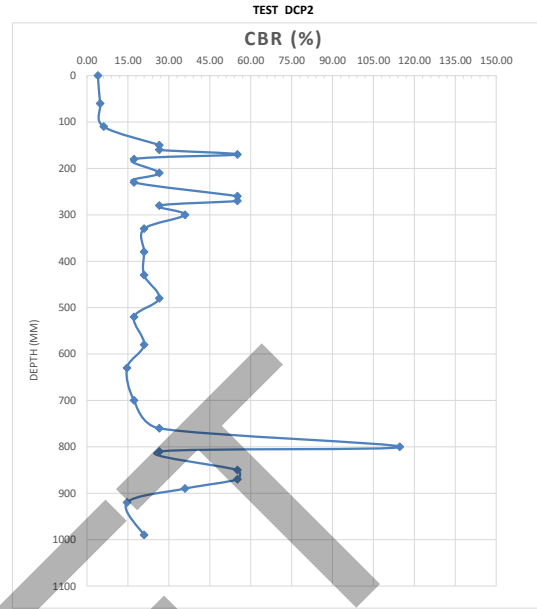
23.1044 - Portslade Village Centre

Determination of Penetration Value of Unbound Soil using Dynamic Cone Penetrometer (DCP)

Test Ref.	DCP2
Location	South of existing building - SE corner of site
Date	04/05/2023
Material:	Topsoil over Chalk
Level	24.73

Number of Blows	Total Blows	Rod 1 Reading (mm)	Total Depth	mm/Blow (S)	CBR (%)
START POSITION:					
	zero	0			
1	1	60	0	60.00	0.60
1	2	110	60	50.00	0.68
1	3	150	110	40.00	0.79
1	4	160	150	10.00	1.42
1	5	170	160	10.00	1.42
2	7	180	170	5.00	1.74
2	9	210	180	15.00	1.24
2	11	230	210	10.00	1.42
2	13	260	230	15.00	1.24
2	15	270	260	5.00	1.74
2	17	280	270	5.00	1.74
2	19	300	280	10.00	1.42
4	23	330	300	7.50	1.56
4	27	380	330	12.50	1.32
4	31	430	380	12.50	1.32
4	35	480	430	12.50	1.32
4	39	520	480	10.00	1.42
4	43	580	520	15.00	1.24
4	47	630	580	12.50	1.32
4	51	700	630	17.50	1.17
4	55	760	700	15.00	1.24
4	59	800	760	10.00	1.42
4	63	810	800	2.50	2.06
4	67	850	810	10.00	1.42
4	71	870	850	5.00	1.74
4	75	890	870	5.00	1.74
4	79	920	890	7.50	1.56
4	83	990	920	17.50	1.17
4	87	1040	990	12.50	1.32

Layer 1
Layer 2



Layer	Thickness (mm)	DCP Avg (mm/Blow)	CBR Avg (%)
1	160	34.00	13.6
2	-160	10.42	33.2

Remarks
Completed adjacent to WLS4, recording Topsoil to 0.3mbgl over chalk.

23.1044 - Portslade Village Centre

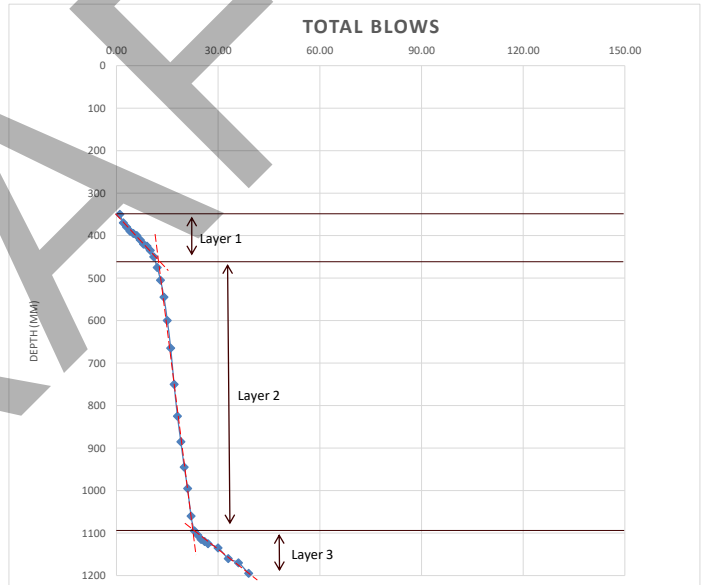
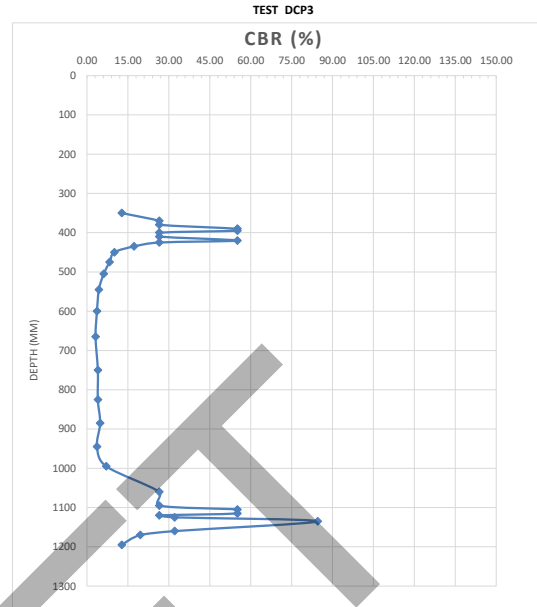
Determination of Penetration Value of Unbound Soil using Dynamic Cone Penetrometer (DCP)

Test Ref.	DCP3
Location	Garages (South)
Date	05/05/2023
Material:	Unknown
Level	20.43

Number of Blows	Total Blows	Rod 1 Reading (mm)	Total Depth (mm)	mm/Blow (S)	CBR (%)
START POSITION:		350			
	zero	55			
1	1	75	350	20.00	12.7
1	2	85	370	10.00	26.5
1	3	95	380	10.00	26.5
1	4	100	390	5.00	55.1
1	5	105	395	5.00	55.1
1	6	115	400	10.00	26.5
1	7	125	410	10.00	26.5
1	8	130	420	5.00	55.1
1	9	140	425	10.00	26.5
1	10	155	435	15.00	17.3
1	11	180	450	25.00	10.1
1	12	210	475	30.00	8.3
1	13	250	505	40.00	6.1
1	14	305	545	55.00	4.4
1	15	370	600	65.00	3.7
1	16	455	665	85.00	2.8
1	17	530	750	75.00	3.1
1	18	590	825	60.00	4.0
1	19	650	885	60.00	4.0
1	20	700	945	50.00	4.8
1	21	765	995	65.00	3.7
1	22	800	1060	35.00	8.5
1	23	810	1095	10.00	26.5
1	24	820	1105	10.00	26.5
1	25	825	1115	5.00	55.1
1	26	830	1120	5.00	55.1
1	27	840	1125	10.00	26.5
3	30	865	1135	8.33	15.1
3	33	875	1160	3.33	193
3	36	900	1170	8.33	15.1
3	39	940	1195	13.33	129
3	42	1000	1235	20.00	12.7

Layer 1
Layer 2

Layer 2
Layer 3



Layer	Thickness (mm)	DCP Avg (mm/Blow)	CBR Avg (%)
1	450	11.36	30.7
2	645	52.50	6.5
3	140	9.26	38.3

Remarks

23.1044 - Portslade Village Centre

Determination of Penetration Value of Unbound Soil using Dynamic Cone Penetrometer (DCP)

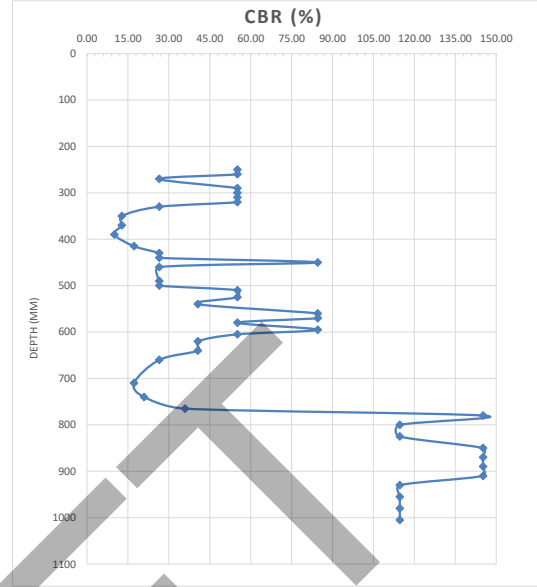
Test Ref.	DCP4
Location	Garages (North)
Date	05/05/2023
Material:	Unknown
Level	20.43

Number of Blows	Total Blows	Rod 1 Reading (mm)	Total Depth	mm/blow (S)	CBR (%)
START POSITION:		250			
zero		0			
2	2	10	250	5.00	1.74
2	4	20	260	5.00	1.74
2	6	40	270	10.00	1.42
2	8	50	290	5.00	1.74
2	10	60	300	5.00	1.74
2	12	70	310	5.00	1.74
2	14	80	320	5.00	1.74
2	16	100	330	10.00	1.42
1	17	120	350	20.00	1.10
1	18	140	370	20.00	1.10
1	19	165	390	25.00	1.00
1	20	180	415	15.00	1.24
1	21	190	430	10.00	1.42
1	22	200	440	10.00	1.42
3	25	210	450	3.33	1.93
3	28	240	460	10.00	1.42
1	29	250	490	10.00	1.42
1	30	260	500	10.00	1.42
3	33	275	510	5.00	1.74
3	36	290	525	5.00	1.74
3	39	310	540	6.67	1.61
3	42	320	560	3.33	1.93
3	45	330	570	3.33	1.93
3	48	345	580	5.00	1.74
3	51	355	595	3.33	1.93
3	54	370	605	5.00	1.74
3	57	390	620	6.67	1.61
3	60	410	640	6.67	1.61
5	65	460	660	10.00	1.42
2	67	490	710	15.00	1.24
2	69	515	740	12.50	1.32
2	71	530	765	7.50	1.56
10	81	550	780	2.00	2.16
10	91	575	800	2.50	2.06
10	101	600	825	2.50	2.06
10	111	620	850	2.00	2.16
10	121	640	870	2.00	2.16
10	131	660	890	2.00	2.16
10	141	680	910	2.00	2.16
10	151	705	930	2.50	2.06
10	161	730	955	2.50	2.06
10	171	755	980	2.50	2.06
10	181	780	1005	2.50	2.06
10	191	810	1030	3.00	1.98
10	201	845	1060	3.50	1.90
10	211	870	1095	2.50	2.06
10	221	890	1120	2.00	2.16
5	226	900	1140	2.00	2.16

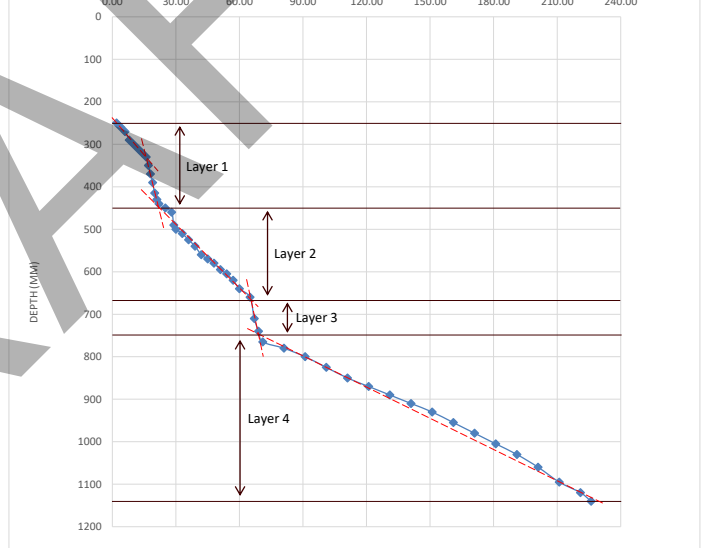
Layer	Thickness (mm)	DCP Avg (mm/Blow)	CBR Avg (%)
1	440	10.71	35.0
2	220	6.22	52.4
3	80	13.75	19.1
4	400	2.68	119.4

Remarks

TEST DCP4



TOTAL BLOWS



APPENDIX H – SuDS MAINTENANCE SCHEDULE

PORTSLADE VILLAGE CENTRE

PROPOSED MAINTENANCE & INSPECTION SCHEDULE FOR BELOW GROUND DRAINAGE

(FOUL WATER AND SURFACE WATER) INCLUDING SUSTAINABLE DRAINAGE SYSTEMS (SuDS)

Item	Required Maintenance/Monitoring	Suggested Frequency	Responsibility
Foul Water Drainage	Check inspection chambers and manholes for damage, condition and function.	Every six months	Management Company
	Undertake a CCTV drainage survey of the drainage network to establish condition.	Every ten years	Specialist
	Replace or repair malfunctioning parts or structures	As required	Specialist
Surface Water Drainage	Check inspection chambers and manholes for damage, condition and function.	Every six months	Management Company
	Undertake a CCTV drainage survey of the drainage network to establish condition.	Every ten years	Specialist
	Replace or repair malfunctioning parts or structures.	As required	Specialist
Permeable Paving	Sweep clean of debris and inspect integrity of bedding grit. Replace bedding grit locally if required.	Every six months	Management Company
	Lift blocks and remove bedding grit and replace and re-bed paving.	Full bedding replacement currently recommended by manufacturers every 20 years	Specialist
	Check underdrains are free flowing and inlets/outlets are blockage free.	Quarterly	Management Company
	Assess plants for health and invasive weed growth replace/remove as necessary.	Quarterly	Management Company
	Remove litter and general detritus.	Quarterly and after heavy storms	Management Company
	Remove and replace filter medium and vegetation	As required – SuDS Manual recommends every 20 years	Specialist
Surface Water Soakaway	Check silt traps and inspection chambers, and note the rate of sediment accumulation.	Every month for the first year and then annually, or as conditions require	Facilities Management
	Undertake a CCTV drainage survey of tanks and soakaway chambers. Note sediment build up and remove sediment/debris if present.	Every five years, or as conditions require	Specialist
	Full service and general inspection with separator system emptied.	Every 5 years	Specialist
General	Remove sediment, litter, debris and vegetation from the surface of pathways areas	As necessary and after heavy rainfall	Management Company
Flood Flow Routes	Ensure flood flow routes are not obstructed (i.e. lower lying portions of the land that will direct surface water runoff away from vulnerable assets in the event of drainage failure).	Every six months and during periods of heavy rainfall	Management Company

NOTES

The Management Company will be responsible for the implementation of the maintenance schedule for the shared below ground drainage infrastructure, by appointing appropriate persons and/or sub-consultants that are qualified to undertake these operations.

Maintenance is to be carried out by the Managing Company or by a specialist contractor, as noted in Responsibility column above.

This maintenance schedule has been produced with reference to the guidelines outlined in 'The SuDS Manual' (CIRIA C753: 2015). The suggested frequency of maintenance is considered a guide, and should not replace the guidance from manufacturers of proprietary systems.

Refer to Engineering drawings for location and details of below ground drainage assets and SuDS features.

(Issued November 2023 – Version 1.0)