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Our Ref: MT/6096

20th May 2025

Flood and Water Management Team
Hampshire County Council
The Castle
Upper High Street
Winchester
SO23 8UJ

Dear Sir, Madam

Re: Interbridges Site, New Brighton Road, Emsworth (LPA ref. APP/24/01010)

Bellamy Roberts has been instructed by PNH Properties to provide a written response to the LLFA's consultation comments dated 17th April 2025, which are enclosed for reference.

Previous comments were received from the LLFA dated 10th February 2025 and Bellamy Roberts prepared a response to those comments dated 20th March 2025.

The matters considered in the LLFA's most recent response are as follows:

- Flood Risk Mapping.
- Flood Risk from Groundwater.
- Access Road Drainage.
- Routing of Perforated Pipes.
- Hydraulic Calculations – Network Model.
- External Levels Plan.
- Maintenance Plan.
- Proposed Point of Discharge

The matters raised by the LLFA have been addressed in turn.

Flood Risk Mapping

The Environment Agency published an updated flood map for planning in March 2025. A copy of this is enclosed for reference.

As stated by the LLFA, the updated mapping has corrected the discrepancy shown on the previous mapping. However, the updated mapping does show that part of the site, towards the eastern and south-eastern boundaries is within flood zone 2. In addition to this, an area within flood zone 3 is shown along the southern boundary, albeit this area is very small.

Regarding surface water flood risk, the EA mapping shows the site is not at risk from this source of flooding, during any of the annual likelihoods.

Flood Risk from Groundwater

Extracts from the Ashdown SI Report were presented at Appendix 4 of the Flood Risk Assessment. To assist the LLFA, these extracts including a plan of the testing locations, are enclosed.



Director:
IT Roberts MCIHT
Associate Director:
MJ Twinberrow BEng MCIHT
Consultant:
GD Bellamy BSc CEng MICE

Bellamy Roberts Partners Ltd. (trading as Bellamy Roberts) is a Limited Company registered in England.



Page 2: Interbridges Site, New Brighton Road, Emsworth

The LLFA state that winter groundwater monitoring is required before planning permission is granted. Given that winter monitoring would be undertaken between November and April, and this response is being prepared in May, undertaking such monitoring before the granting of permission would cause unacceptable delays to the process.

It is therefore suggested that this be secured via a Grampian Condition, should this be agreeable to the Local Planning Authority.

Access Road Drainage

This matter is addressed.

A copy of the revised surface water drainage strategy is enclosed.

Routing of Perforated Pipes

The amended surface water drainage strategy shows the routing of the proposed perforated pipes within the open yard areas.

Hydraulic Calculations – Network Model

The network model has been developed using the Infodrainage software and this is enclosed.

The discharge rate from the attenuation tank will be restricted via a hydrobrake prior to being pumped to the surface water sewer.

External Levels Plan

The architect has advised that FLLs for the units have not been considered yet. This would normally be part of stage 4 design discussion with groundworks contractor and their engineer, to minimise earth moving / cart away etc.

To assist, the proposed surface water drainage strategy incorporates proposed levels.

Maintenance Plan

This matter can be dealt with by an appropriately worded planning condition, as advised by the LLFA.

Proposed Point of Discharge

The enclosed topographical survey shows the site levels fall towards the east. Along the eastern boundary, the survey shows the presence of a bank. This would restrict the flow of surface water runoff from the site entering the watercourse further to the east.

It is likely therefore that the pre-development discharge point is along the footpath that connects to Seagull Lane.

The EA mapping shows an area at risk of surface water flooding along Seagull Lane and runoff from the application site may contribute towards this flood risk.

It is therefore not considered appropriate that this exiting flow route is maintained and incorporated into the proposed surface water drainage strategy.

Therefore, a connection to the Southern Water sewer is proposed. Given the site levels, a pumped solution will be required.

Southern Water has provided confirmation that sufficient capacity exists to accommodate the proposed flows in a letter dated 2nd April 2025. This is enclosed.



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Conclusion

The additional information requested by the LLFA has been provided and it has been demonstrated that the proposal accords with the NPPF, PPG and the non-statutory technical standards.

I trust that the information provided within this letter will allow the LLFA to issue a positive recommendation for the proposed development.

Yours sincerely



Matt Twinberrow, Beng, MCIHT
Associate Director
(matttwinberrow@bellamyroberts.co.uk)

Enclosed:
LLFA Consultation Comments (17th April 2025)
Flood Map for Planning
Ashdown SI Report (Extract)
Surface and Foul Water Drainage Strategy (6096/101 Rev. C)
Infodrainage Network Model
Topographical Survey
Southern Water Correspondence (2nd April 2025)

ENCLOSURES

Enclosure 1

LLFA Consultation Comments



Hampshire County Council

Universal Services
The Castle
Winchester, Hampshire SO23 8UD

Tel: 0300 555 1375
Fax 01962 847055
www.hants.gov.uk

Enquiries to	Scott Glover	My reference	SWM/2025/0033
Direct Line		Your reference	APP/24/01010
Date	17 April 2025	Email	swm.consultee@hants.gov.uk

Dear Sir/Madam,

Proposed employment development, with associated access, parking, yards and landscaping. at Interbridges Site, New Brighton Road, Emsworth(Application No. APP/24/01010)

Hampshire County Council as Lead Local Flood Authority has provided comments in relation to the above application in our role as statutory consultee on surface water drainage for major developments.

This response does not reflect the position of Hampshire County Council as the Highway Authority. If there is a potential for the drainage features to be offered for adoption, this will need to be discussed separately with Highways development planning as they might not be considered acceptable by the Highway Authority.

In order to assist applicants in providing the correct information to their Local Planning Authority for planning permission, Hampshire County Council has set out the information it requires to provide a substantive response at <https://www.hants.gov.uk/landplanningandenvironment/environment/flooding/planning>

HCC as LLFA were consulted previously on this application and provided comments in our letter dated 10th February 2025. We have been reconsulted following receipt of additional information.

The County Council has reviewed the following documents relating to the above application:

- Letter– Response to LLFA comments- Bellamy Roberts 13th March 2025

Director of Universal Services
Patrick Blogg

Following review of the above document HCC as LLFA has the following comments:

Flood Risk Mapping

The updated EA flood risk maps are now available to view. The applicant can now update the maps for flood risk from rivers and can assess the implications for the proposed scheme. The updated maps appear to have corrected the discrepancy identified by the applicant in the site flood risk assessment however the maps still indicate part of the site is within flood zone 2 and 3.

We note the changes to the EA maps of flood risk from surface water. Our previous comment regarding development in identified areas of surface water flood risk also apply to areas subject to flood risk from rivers.

Flood Risk form Groundwater

The Lead Local Flood Authority do not agree with the broad assessment of typical groundwater levels described in the above document. Groundwater levels can peak earlier than suggested. As infiltration is not proposed, winter groundwater monitoring could be conditioned by the LPA as the applicant suggests, but, due to the high groundwater levels identified we recommend winter groundwater monitoring is required before granting planning permission.

The plan showing the location of the borehole and results of the groundwater monitoring is not enclosed in the above document as stated(or not available to view).

Access Road Drainage

The information provided is sufficient to address our previous comment, however we note the revised proposed surface water drainage strategy plan is not enclosed in the above document as stated (or not available to view).

Routing of Perforated Pipes

Comments are noted. We await submission of amended drainage drawing for review.

Hydraulic Calculations - Network Model

We await submission of the network model for review. We previously commented that it is not appropriate to model a pump as if it were a hydrobrake as was in the previously submitted hydraulic calculations. This is because the discharge characteristics of the two features is different. The hydraulic calculations submitted previously are not considered to be representative of the design and therefore the table of existing and proposed discharge rates at the end of the above document is also not considered to be applicable.

External Levels Plan

We await submission of the external levels plan.

Maintenance Plan

The additional information provided in the above document is not sufficient to address our previous comment. This can be dealt with by condition applied to any granted planning application.

Proposed Point of Discharge

Our previous comment regarding the proposed discharge point referred to the proposed discharge into the southern water sewer being different from the existing site discharge. The above document states that the existing site does not discharge to the river to the East of the site as we had assumed but no explanation has been provided for the existing site surface water point of discharge. Non-Statutory technical Standards for Sustainable Drainage recommend drainage systems should be designed to mimic natural drainage flow pathways. The NPPF hierarchy of drainage options states discharge to a watercourse is preferred over discharge to public surface water sewer. The applicant should provide explanation of the existing site discharge point, whether discharge to the river has been considered and reasoning for why this is not considered to be appropriate as evidence of compliance with the NPPF. The drainage scheme proposes to discharge below greenfield runoff rate but to a different location.

The above document references a previous planning application (APP/16/00295). Although the previous application did include a pump, the proposed discharge was not to the southern water sewer. The previous application is not relevant to this application or our comments.

The LLFA would always prefer a gravity system over a pumped system where this is achievable but we would not object to a proposal that includes a pump if this is the only available option.

We await confirmation of agreement with Southern water for the proposed discharge location and rate.

From the responses in the above submitted document it appears the applicant may have misunderstood some of our previous comments. We hope the above provides further clarity. Some of the additional information referred to in the above document is to be submitted separately and is required for us to be able to review the proposals and provide a substantive comment.

We require this further information before we can make a decision on whether to recommend to the Local Planning Authority that planning permission is granted.

As a statutory consultee, the County Council has a duty to respond to consultations within **21 days**. The 21 day period will not begin until we have received sufficient information to enable us to provide a meaningful response.

Please ensure all data is sent to us via the relevant Local Planning Authority.

If you require additional guidance on providing the correct information, we recommend you use our **Surface Water Management Pre-application service** which will enable discussions with the reviewing engineer and scope out works that would address the points raised. For full details, please visit: <https://www.hants.gov.uk/landplanningandenvironment/environment/flooding/planning> and click on [pre-application advice request form](#).

This response has been provided using the best knowledge and information submitted by the applicant as part of the planning application at the time of responding and is reliant on the accuracy of that information.

Yours faithfully,



Flood and Water Management Team
Hampshire County Council,
The Castle, Winchester, Hampshire SO23 8UD
Web:

<https://www.hants.gov.uk/landplanningandenvironment/environment/flooding>

General guidance for the application

It is important to ensure that the long-term maintenance and responsibility for Sustainable Drainage Systems is agreed between the Local Planning Authority and the applicant before planning permission is granted. This should involve discussions with those adopting and/or maintaining the proposed systems, which could include the Highway Authority, Planning Authority, Parish Councils, Water Companies and private management companies.

For SuDS systems to be adopted by Hampshire Highways it is recommended that you visit the website at:

<https://www.hants.gov.uk/transport/developers/constructionstandards> for guidance on which drainage features would be suitable for adoption.

Where the proposals are connecting to an existing drainage system it is likely that the authorities responsible for maintaining those systems will have their own design requirements. These requirements will need to be reviewed and agreed as part of any surface water drainage scheme.

Works in relation to ordinary watercourses

*PLEASE NOTE: If the proposals include works to an ordinary watercourse, under the Land Drainage Act 1991, as amended by the Flood and Water Management Act 2010, prior consent from the Lead Local Flood Authority is required. **This consent is required as a separate permission to planning.***

Information on ordinary watercourse consenting can be found at the following link

<https://www.hants.gov.uk/landplanningandenvironment/environment/flooding/c/hangewatercourse>

It is strongly recommended that this information is reviewed before Land Drainage consent application is made.

*For guidance on providing the correct information, we recommend you use our **Ordinary Watercourse Consents Pre-application service** and help avoid delays occurring at the formal application stage. A Pre-application service for Ordinary Watercourse Consents is available, allowing consents to go through in a smoother, often more timely manner. For full information please visit:*

<https://www.hants.gov.uk/landplanningandenvironment/environment/flooding/c/hangewatercourse>

Enclosure 2

Flood Map for Planning

Flood map for planning

Your reference
Unspecified

Location (easting/northing)
474976/106347

Created
27 March 2025 10:23

Your selected location is in flood zone 3, an area with a high probability of flooding.

This means:

- you must complete a flood risk assessment for development in this area
- you should follow the Environment Agency's standing advice for carrying out a flood risk assessment (see <https://www.gov.uk/guidance/flood-risk-assessment-standing-advice>)

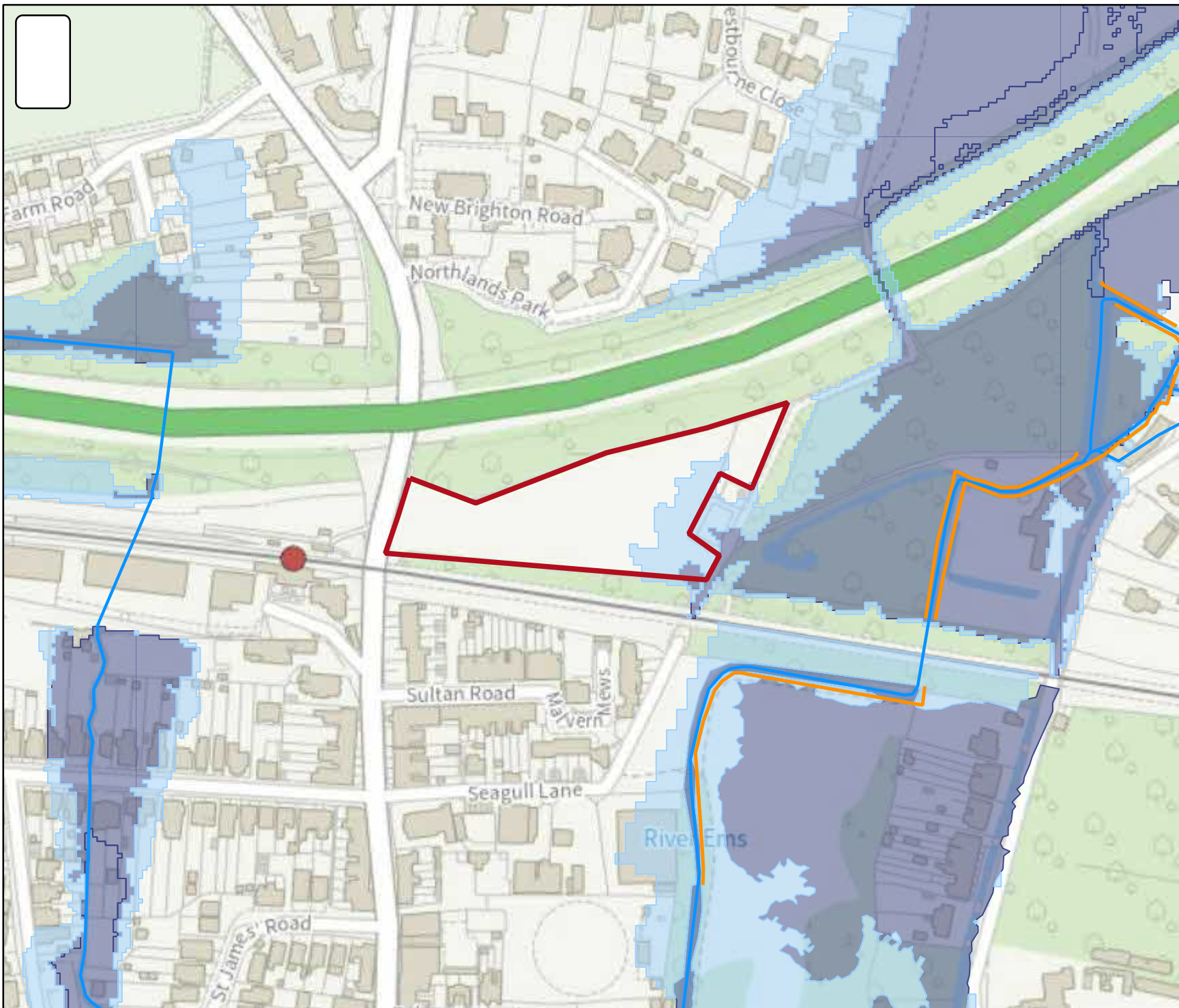
Notes

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

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

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

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2025 AC0000807064. <https://flood-map-for-planning.service.gov.uk/os-terms>



Flood map for planning

Your reference

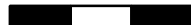
Unspecified

Location (easting/northing)
474976/106347

Scale
1:2,500

Created
27 Mar 2025 10:23

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


0 20 40 60m

Enclosure 3

Ashdown SI Report (Extract)



**Interbridges
New Brighton Road
Emsworth
Hampshire**

**Combined Geotechnical and
Ground Contamination Risk Assessment**

Report Beneficiary:
PNH Properties Ltd
Unit 5 Passfield Business Centre
Lynchborough Road
Liphook
Hampshire
GU30 7SB

Project Reference: P16578

Report Reference: R16181

Document Control			
Issue No.	Status	Issue Date	Notes
1	Final	29 th May 2024	
Report Section		Prepared By	Approved By
Preliminary Ground Contamination Risk Assessment		Adam Cormack HNC FGS	Steven McSwiney BA mod Geol MSc FGS
Factual Section		Georgia Roper-Doherty BSc MRes	Steven McSwiney BA mod Geol MSc FGS
Geotechnical Assessment		Adam Cormack HNC FGS	Steven McSwiney BA mod Geol MSc FGS
Quantitative Ground Contamination Risk Assessment		Adam Cormack HNC FGS	Steven McSwiney BA mod Geol MSc FGS

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Limitations

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This report is not intended to be either an ecological, archaeological or flood risk assessment. An appropriate specialist should be consulted about any concerns that may arise in this regard.

EXECUTIVE SUMMARY

The following presents a summary of the main findings of the report. It is emphasised that no reliance should be placed on any individual point until the whole of the report has been read as other sections of the report may put into context the information contained herein.

It is understood that the site at New Brighton Road, Emsworth is to be developed into a series of commercial units with a new access road, parking, and limited areas of soft landscaping.

The site currently comprises a hummocky vacant parcel of land with several mounds along the northern and southern boundaries.

The site comprised part of an agricultural field from the time of the earliest map, dated 1869, with the southern extent part of a residential garden since circa 1897. The site was later confined between the A27 and a railway line following the construction of the road, and demolition of the associated dwelling in the late 1980s, and has remained vacant since.

Reference to geological datasets indicates that the site is expected to be underlain by the River Terrace Deposits in the west and Head Deposits in the east, overlying the London Clay Formation. The ground investigation confirmed the underlying soils to comprise a variable thickness of made ground, overlying River Terrace Deposits and, in turn, London Clay deposits. Both the River Terrace Deposits and Head are classed as Secondary A Aquifers, whilst the underlying London Clay Formation is an Unproductive Stratum. The site does not lie within a SPZ.

The geoenvironmental data identifies that the site is located within an area where between 5% and 10% of properties are above the action level requiring radon gas protection measures to be installed in new buildings.

Groundwater was recorded within two of the boreholes on completion of drilling, at depths of 1.33m and 1.30m. All other boreholes remained dry during drilling. Monitoring of stand-pipes installed at the site recorded groundwater levels to gradually rise during the three-week monitoring period to depths of between 3.60m and 3.15m. However, the data indicates that groundwater levels within the standpipes had not fully equilibrated over the monitoring period.

It is recommended that the design of precautions against shrinkage and heave for any new foundation system should assume a high volume change potential for the fine-grained River Terrace Deposits and London Clay Formation

A net allowable bearing capacity of 100kN/m² may be assumed for spread (pad or strip) foundations up to 2.00m across bearing within the River Terrace Deposits of at least firm consistency. Where foundations are constructed onto London Clay Formation soils of at least stiff consistency, an increased bearing capacity of 150kN/m² may be adopted for similarly dimensioned foundations.

A DS-2 Design Sulfate Class and an AC-2 ACEC classification should be assumed as a minimum for the design of concrete in contact with the ground where the ground will not be significantly disturbed. Where the ground will be disturbed during construction activities, a higher DS-3 and AC-3 classification should be assumed.

Ground floors should be suspended unless the conditions set out within this report can be met.

Design equilibrium California bearing ratios and moduli of subgrade reaction are presented in the report. The subgrade is not likely to be susceptible to frost heave.

Retaining structures and slopes should be designed using effective shear strength parameters. Recommended values for key parameters are presented in the report.

Infiltration testing within the River Terrace Deposits soils recorded infiltration rates ranging between $2.33 \times 10^{-4} \text{m/sec}$ and $3.79 \times 10^{-6} \text{m/sec}$, whilst the London Clay Formation possesses negligible infiltration characteristics.

The preliminary contamination risk assessment identified potential pollutant linkages with regard to proposed end users of the site associated with potential for made ground to be present on the site and the radon risk identified by the geoenvironmental data.

The ground investigation did not identify any of the potential contaminants to be present at concentrations considered to pose an unacceptable risk to either end users of the site. However, a radon risk has been identified which may require radon protection measures to be installed at the site. A detailed assessment of the risk posed by radon could be undertaken which may mitigate the requirement for radon protection measures. Consultation with regulators in this regard is recommended.

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FIGURES AND APPENDICES

FIGURES

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Figure 2	Site Plan

APPENDIX A

Proposed Development Layout

APPENDIX B

Explanatory Notes
Exploratory Hole Records
DPSH-B Dynamic Probe Records
In-situ TRL Cone Penetrometer (CBR) Test Results
Borehole In Situ Infiltration Test Results
Groundwater Monitoring Results

APPENDIX C

Geotechnical Laboratory Test Results
Contamination Laboratory Test Results

APPENDIX D

Summary of In Situ CBR Test Results
Graph of Subgrade Surface Modulus vs Depth
Graph of CBR vs Depth

APPENDIX E

Classification of Probability, Consequence and Risk

APPENDIX F

Preliminary Conceptual Model

APPENDIX G

Quantitative Conceptual Model

APPENDIX H

BGS Borehole Records

APPENDIX I

Groundsure Enviro+ Geo Insight Report
Historical Maps

7. GROUND CONDITIONS

7.1 Stratigraphy

7.1.1 Surface Covering

Trial pits TP01, TP03 and TP04, and boreholes WS01, WS03, WS04 and WS06 were excavated through a surface cover of topsoil some 100mm to 300mm in thickness.

7.1.2 Made Ground

Made ground or reworked soils, generally comprising slightly gravelly and gravelly clay were recorded within exploratory holes TP02, TP05, and WS02 to WS09. The gravel fraction comprised variable quantities of flint, brick, charcoal-like material, clinker-like material, plastic, metal, sandstone and chalk. The made ground at these positions generally extended to depths of between 0.20m and 0.90m below ground level but was found to extend considerably deeper (to 2.00m below ground level) within borehole WS09. This deeper made ground included a layer of chalk fill between depths of 1.30m and 2.00m.

7.1.3 River Terrace Deposits

Underlying the made ground/surfacing, the exploratory holes, with the single exception of borehole WS09, progressed into undisturbed generally firm (and locally stiff) slightly gravelly/sandy clay deposits. The gravel fraction comprised flint and occasional chalk. Additionally, within the soils encountered within borehole WS05, strata of clayey gravel were recorded between depths of 0.20m and 0.85m, and 2.00m and 2.50m.

These deposits are considered to represent the River Terrace Deposits indicated to underlie the site on BGS geological maps.

The base of the River Terrace Deposits was generally encountered within the boreholes at depths of between 0.70m and 2.30m below ground level, but at the location of borehole WS08 these soils extended to the full depth of the borehole at 3.00m below ground level. All of the shallow trial pit holes were terminated at a depth of 1.0m below ground level within the River Terrace Deposits.

7.1.4 London Clay Formation

Beneath the River Terrace Deposits, where penetrated, the dynamic sampler boreholes encountered generally stiff clay deposits (locally becoming very stiff), within which bands of mudstone and sandstone were occasionally recorded.

These deposits continued to the full depth of investigation and are considered to represent the London Clay Formation indicated to underlie the River Terrace Deposits on BGS geological maps.

7.2 Stability

Boreholes WS05, WS08 and WS09 collapsed to depths of between 2.38m and 2.90m below ground level on completion of drilling. The remaining exploratory holes were recorded to remain stable during excavation/drilling.

7.3 Groundwater Conditions

Groundwater was recorded at depths of 1.33m and 1.30 during the drilling of boreholes WS05 and WS09, respectively. All other exploratory holes remained dry during drilling/excavation.

Monitoring of groundwater levels within the standpipes installed in boreholes WS01, WS04, and WS07 was undertaken over a period of approximately three weeks.

Borehole WS01 was recorded to remain dry during the monitoring period.

Groundwater within boreholes WS04 and WS07 was recorded to gradually rise to respective depths of 3.60m and 3.15m by the end of the monitoring period. However, the data indicates that groundwater levels within the standpipes had not fully equilibrated with the true groundwater levels by the time the dataloggers were collected.

undertaken to demonstrate, that close to the time of construction, no significant soil desiccation is present. If ground bearing floors are adopted it is recommended that the potential for differential movement, both between the floor slab and walls and across the floor slab itself, should be anticipated. Such floors should be fully debonded from walls. Formations should be adequately proof rolled and any excessively soft materials excavated and replaced with a suitable, well graded granular fill. The depth of any fill should be limited to a maximum of 600mm unless placed to an engineering specification designed to limit internal settlement of the fill materials to a tolerance to be advised by the designer.

Guidance on CBR values and a moduli of subgrade reaction are given in Section 8.6 of this report.

The detailing of services through, or under, ground-bearing floors should incorporate flexible connections and, where appropriate, enhanced falls.

8.3 Groundwater

Groundwater was recorded during the drilling of two of the boreholes at depths of 1.33m and 1.30. Groundwater levels were recorded to gradually rise within two of the stand-pipes installed at the site during the three-week monitoring period. At the end of the monitoring period groundwater had risen to depths of between 3.60m and 3.15m, however the data indicates that groundwater levels within the standpipes had not fully equilibrated over the monitoring period.

It is also noted that groundwater levels should be expected to fluctuate seasonally, especially during wetter seasons.

Where excavations are proposed to extend below the groundwater table, particularly within coarse-grained River Terrace Deposits, groundwater control will be required to maintain adequately dry working conditions and excavation stability. In such circumstances it is recommended that trial pumping from proposed excavation depths should be undertaken to fully ascertain requirements for groundwater control.

The potential for perched groundwater to be present above the groundwater table, for example within the made ground etc, should not be overlooked. It is also possible that heavy precipitation during construction could lead to the ingress of perched groundwater or surface water run-off into excavations. In such circumstances it would be expected that water entering excavations would be adequately managed by pumping from sumps or natural drainage into coarse grained River Terrace Deposits if present above the groundwater table.

8.4 Stability of Excavations

All made ground or coarse-grained natural soils exposed in excavations should be assumed to be unstable, even in the short term. Whilst fine-grained natural soils may remain stable for a short period of time if not subjected to surcharge loads (such as may be imposed by existing foundations, traffic or storage of materials), the stability of these deposits if left unsupported should be assumed to have the potential to deteriorate. Where stable excavations are required, excavations should either be suitably supported or, where space permits, side slopes could be battered back to a safe angle of repose.

All excavations requiring human entry must be shored or battered as necessary to conform to current best practice, as accepted by the Health and Safety Executive (HSE)⁵. Current legislation

⁵ Relevant guidance is given on the HSE website, www.hse.gov.uk

R16181

* Thin pavement being 300mm sub-base, thick pavement being 1200mm sub-base. †Modulus based on average of all calculated moduli based on CBR values for thin sub-base.

The subgrade may be assumed not to be susceptible to frost heave.

If new roads are to be adopted the local highway authority should be consulted with reference to the acceptability of the proposed CBR figures prior to designs being finalised and construction undertaken.

8.7 Stormwater Infiltration Systems

In-situ infiltration testing⁹ was undertaken in boreholes WS02, WS05, WS06, and WS08. From the test results, calculations were made to estimate the infiltration rate that could be expected for soakaways constructed to discharge into the underlying soils within the test zone.

The infiltration rates derived from the tests are summarised in the following table.

Table 19. Calculated Infiltration Rates

Exploratory Hole	Test Response Zone Depth (m)		Stratum	Infiltration Rate (f) (m/ sec)	Driving Head of Water (m)
	Top	Bottom			
WS02	2.00	3.00	London Clay Formation	Negligible – no fall in water level in 67 minutes	
WS05 – Test 1	1.00	3.00*	River Terrace Deposits	1.07 x 10 ⁻⁴	0.7
WS05 – Test 2	1.00	3.00*	River Terrace Deposits	1.05 x 10 ⁻⁴	0.7
WS05 – Test 3	1.00	3.00*	River Terrace Deposits	9.89 x 10 ⁻⁵	0.6
WS06	2.00	3.00*	London Clay Formation	1.16x 10 ⁻⁷	2.3
WS08	2.00	3.00*	River Terrace Deposits	9.03x 10 ⁻⁷	2.2

Notes: * Boreholes collapsed/unstable at base.

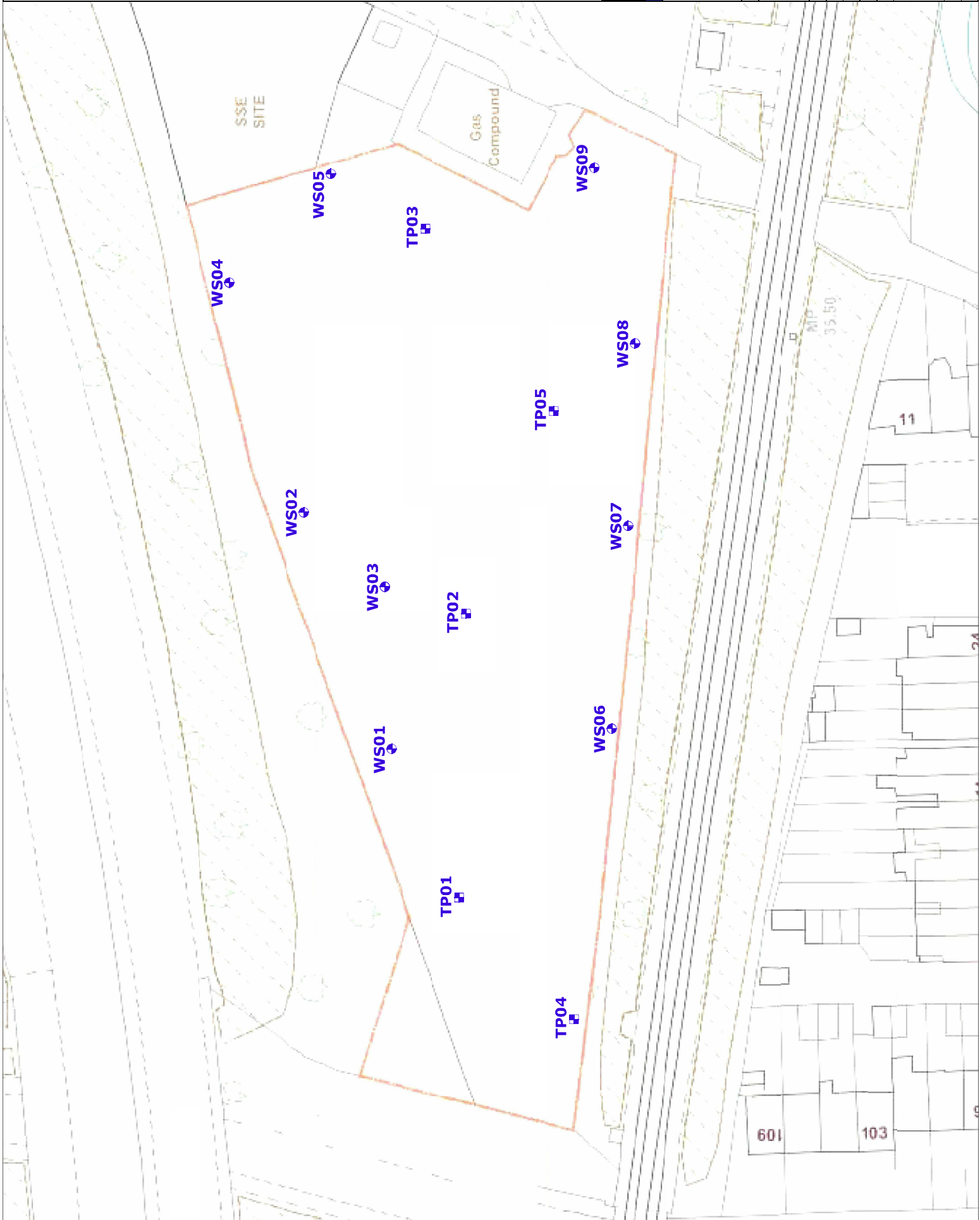
The value 'f' is equivalent to the soil infiltration coefficient 'q' quoted in the Construction Industry Research and Information Association (CIRIA) Report 156.

The results from the infiltration tests should be provided to engineers responsible for the design of the drainage system.

To comply with building regulations¹⁰, point discharging infiltration systems (conventional ring or trench soakaways) are required to be constructed a minimum of 5.0m away from proposed or existing buildings.

⁹ Conducted in accordance with The Soakaway Design Guide, published by Kent County Council, July 2000.

¹⁰ The Building Regulations 2010; Part H; Drainage and Waste Disposal



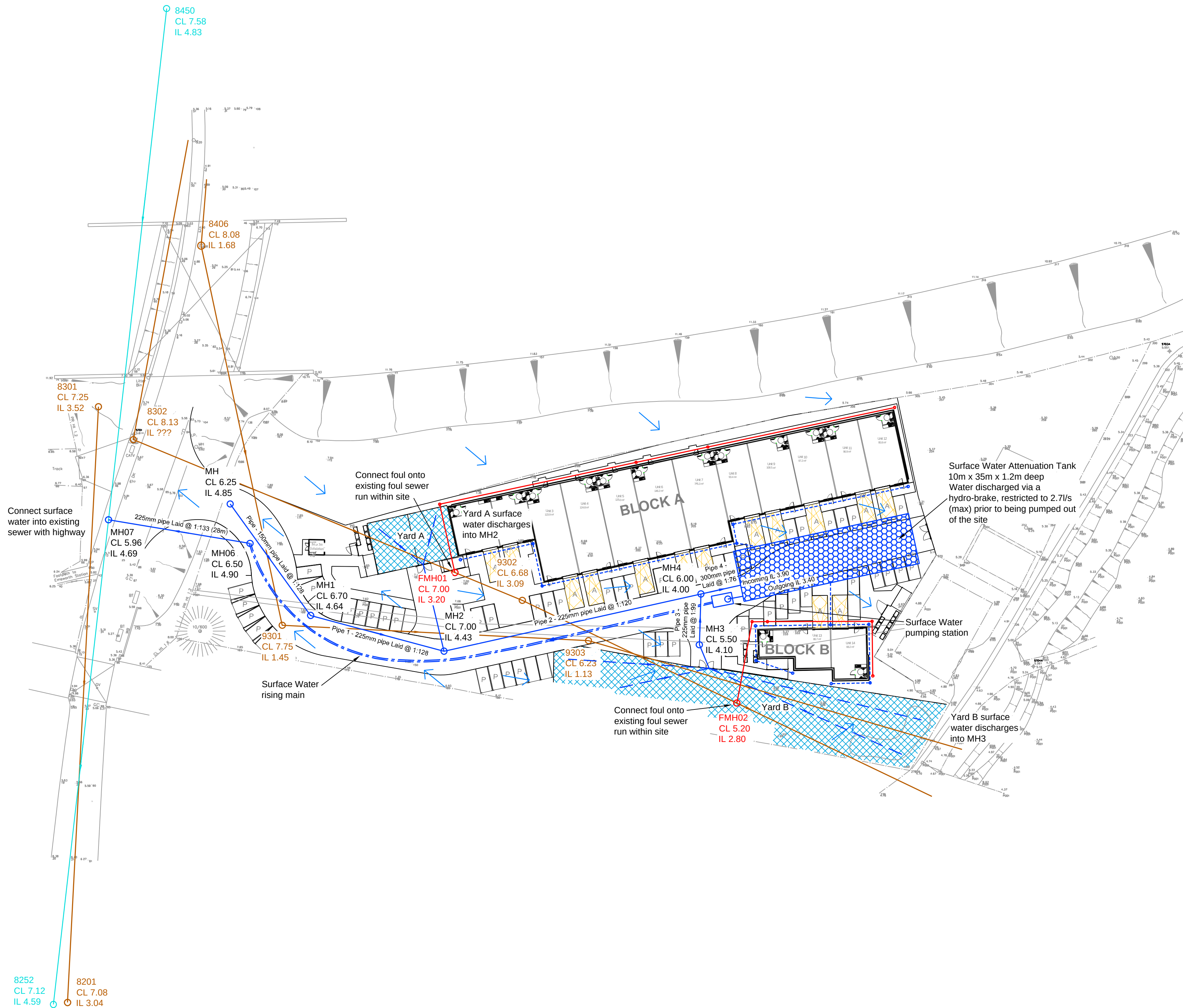
**ASHDOWN SITE
INVESTIGATION**

Unit 3
The Old Coal Store
Ditchling Common Business Park
Ditchling
East Sussex
BN6 8SG
01273 483119
contact@ashdownsls.co.uk

Site:	Interbridges New Brighton Road Emsworth Hampshire
Project Ref:	P16578
Figure No.	2
Drawing Title	Site Plan
Scale	NTS

Enclosure 4

Surface and Foul Water Drainage Strategy



Notes

Do not scale this drawing

This drawing shall be read in conjunction with all other relevant Engineering, Architectural, Landscaping details, drawings and specifications and all relevant Highway Authority Plans

Any works constructed prior to technical approval are at the contractors own risk

Yards A and B are to be permeable block paving depth by design, shallow infiltration

Deep infiltration for the remainder of the site is not expected, cellular storage is being suggested, with the capacity storing the surface water runoff from a total impermeable area of; 4330m²

Discharged into a nearby surface water sewer via a surface water pumping station at controlled rates of;

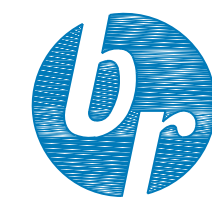
1:1yr - 1.3 l/s
1:30yr - 2.3 l/s
1:100yr - 2.7 l/s

All surface water drainage pipes to be lightweight HDPE pipes or similar to comply with HAPAS BBA, 100mmØ unless otherwise stated

All foul sewer pipes to be PVC or similar material, 150mmØ unless otherwise stated

- Proposed foul sewer
- Existing foul sewer
- Surface water sewer
- Surface water perforated pipe
- Surface water raising main
- Existing water sewer
- Surface water cellular storage crates
- Permeable block paving (yard areas)
- Overland surface water exceedance flow paths

C	Drainage updated	JCB	JCB	MT
B	Site layout revised	JCB	JCB	ITR
A	Site layout revised drainage updated, drawing size and scale changed	JCB	JCB	ITR
REVISION	AMENDMENT	DRN	DATE	CHK



Bellamy Roberts
Clover House
Western Lane
Odiham
Hampshire, RG29 1TU
Tel: 01256 703355
Email: info@bellamyroberts.co.uk

CLIENT
PNH Properties

PROJECT
Interbridges Site, Emsworth

TITLE
Drainage Strategy

DRAWN BY JCB	DESIGN BY JCB	CHK BY MT
DATE 03/07/24	DRAWING No. 6005/101	REV No. C
SCALE 1:500 @ A2		

Enclosure 5

Infodrainage Network Model

Project: Interbridges, Emsworth Surface Water Drainage Ref: 6096		Date: 18/03/2025			
Report Details: Type: Junctions Storm Phase: Phase		Designed by: JCB	Checked by: MT		Approved By: MT
		Company Address: Bellamy Roberts Clover House, Western Lane Odiham, Hampshire, RG29 1TU			

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
Manhole	Manhole	1485.357	1310.404	6.250	1.400	4.850	Circular	1.200
Manhole (1)	Manhole	1501.082	1288.622	6.700	2.060	4.640	Circular	1.200
Manhole (2)	Manhole	1527.147	1281.641	7.000	2.570	4.430	Circular	1.200
Manhole (3)	Manhole	1577.350	1292.824	6.000	2.000	4.000	Circular	1.200
Manhole (4)	Manhole	1577.043	1282.887	5.500	1.400	4.100	Circular	1.200

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

Inlets

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
Manhole	Inlet	Catchment Area	(None)	No Restriction
Manhole (1)	Inlet	Pipe	(None)	No Restriction
	Inlet (1)	Catchment Area (5)	(None)	No Restriction
Manhole (2)	Inlet	Pipe (1)	(None)	No Restriction
	Inlet (1)	Catchment Area (4)	(None)	No Restriction
Manhole (3)	Inlet	Pipe (2) Pipe (3)	(None)	No Restriction
	Inlet (1)	Catchment Area (1)	(None)	No Restriction
Manhole (4)	Inlet	Catchment Area (3)	(None)	No Restriction

Outlets

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

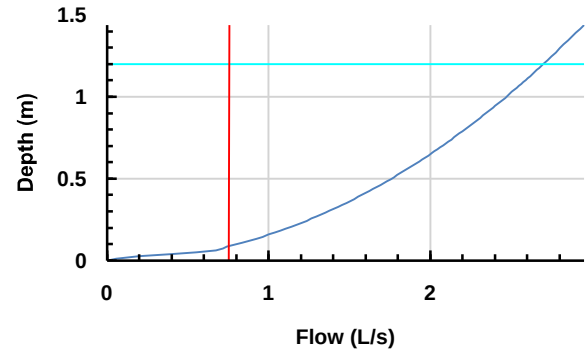
Project: Interbridges, Emsworth Surface Water Drainage Ref: 6096	Date: 18/03/2025			
	Designed by: JCB	Checked by: MT	Approved By: MT	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: Bellamy Roberts Clover House, Western Lane Odiham, Hampshire, RG29 1TU			

 **Cellular Storage**

Type : Cellular Storage

Dimensions	
Exceedance Level (m)	5.200
Depth (m)	1.200
Base Level (m)	3.400
Number of Crates Long	35
Number of Crates Wide	10
Number of Crates High	3
Porosity (%)	100
Crate Length (m)	1
Crate Width (m)	1
Crate Height (m)	0.4
Total Volume (m³)	420.600

Outlets	
Outlet	
Outgoing Connection	(None)
Outlet Type	Hydro-Brake®
Invert Level (m)	3.400
Design Depth (m)	1.200
Design Flow (L/s)	2.7
Objective	Linear Discharge Profile
Application	Surface Water Only
Sump Available	☐
Unit Reference	CCU-0049-2700-1200-2700



Project: Interbridges, Emsworth Surface Water Drainage Ref: 6096		Date: 18/03/2025			
Report Details: Type: Connections Storm Phase: Phase		Designed by: JCB	Checked by: MT		Approved By: MT
		Company Address: Bellamy Roberts Clover House, Western Lane Odiham, Hampshire, RG29 1TU			

Name	Length (m)	Connection Type	Slope (1:X)	Manning's n	Colebrook-White Roughness (mm)	Diameter / Base Width (mm)	Upstream Cover Level (m)	Upstream Invert Level (m)
Pipe	26.865	Pipe	127.931		0.6	150	6.250	4.850
Pipe (1)	26.983	Pipe	128.490		0.6	225	6.700	4.640
Pipe (2)	51.434	Pipe	119.614		0.6	225	7.000	4.430
Pipe (3)	9.941	Pipe	99.410		0.6	225	5.500	4.100
Pipe (4)	15.204	Pipe	76.020		0.6	300	6.000	4.000

Name	Downstream Cover Level (m)	Downstream Invert Level (m)	Lock	Velocity (m/s)	Time Of Travel (mins)
Pipe	6.700	4.640	None		
Pipe (1)	7.000	4.430	None		
Pipe (2)	6.000	4.000	None		
Pipe (3)	6.000	4.000	None		
Pipe (4)	5.200	3.800	Levels		

Project: Interbridges, Emsworth Surface Water Drainage Ref: 6096		Date: 18/03/2025			
Report Details: Type: Inflow Summary Storm Phase: Phase		Designed by: JCB	Checked by: MT		Approved By: MT
		Company Address: Bellamy Roberts Clover House, Western Lane Odiham, Hampshire, RG29 1TU			

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area	Manhole		Time of Concentration	0.011	100	0	100	0.011
Catchment Area (1)	Manhole (3)		Time of Concentration	0.093	100	0	100	0.093
Catchment Area (2)	Cellular Storage		Time of Concentration	0.247	100	0	100	0.247
Catchment Area (3)	Manhole (4)		Time of Concentration	0.107	100	0	100	0.107
Catchment Area (4)	Manhole (2)		Time of Concentration	0.059	100	0	100	0.059
Catchment Area (5)	Manhole (1)		Time of Concentration	0.035	100	0	100	0.035
TOTAL		0.0		0.552				0.552

Project: Interbridges, Emsworth Surface Water Drainage Ref: 6096	Date: 18/03/2025		
	Designed by: JCB	Checked by: MT	Approved By: MT
	Report Title: Rainfall Analysis Criteria		
		Company Address: Bellamy Roberts Clover House, Western Lane Odiham, Hampshire, RG29 1TU	



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	☐

Project: Interbridges, Emsworth Surface Water Drainage Ref: 6096		Date: 18/03/2025			
Report Details: Type: Inflows Summary Storm Phase: Phase		Designed by: JCB	Checked by: MT		Approved By: MT
		Company Address: Bellamy Roberts Clover House, Western Lane Odiham, Hampshire, RG29 1TU			



FSR: 1 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FSR: 1 years: +0 %: 15 mins: Summer	0.01	1.4	0.606
Catchment Area (1)	FSR: 1 years: +0 %: 15 mins: Summer	0.09	11.7	5.113
Catchment Area (2)	FSR: 1 years: +0 %: 15 mins: Summer	0.25	31.0	13.576
Catchment Area (3)	FSR: 1 years: +0 %: 15 mins: Summer	0.11	13.4	5.878
Catchment Area (4)	FSR: 1 years: +0 %: 15 mins: Summer	0.06	7.4	3.242
Catchment Area (5)	FSR: 1 years: +0 %: 15 mins: Summer	0.04	4.4	1.925

Project: Interbridges, Emsworth Surface Water Drainage Ref: 6096		Date: 18/03/2025			
Report Details: Type: Inflows Summary Storm Phase: Phase		Designed by: JCB	Checked by: MT		Approved By: MT
		Company Address: Bellamy Roberts Clover House, Western Lane Odiham, Hampshire, RG29 1TU			



FSR: 30 years: Increase Rainfall (%): +35: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FSR: 30 years: +35 %: 15 mins: Summer	0.01	4.6	2.003
Catchment Area (1)	FSR: 30 years: +35 %: 15 mins: Summer	0.09	38.7	16.915
Catchment Area (2)	FSR: 30 years: +35 %: 15 mins: Summer	0.25	102.9	44.925
Catchment Area (3)	FSR: 30 years: +35 %: 15 mins: Summer	0.11	44.6	19.459
Catchment Area (4)	FSR: 30 years: +35 %: 15 mins: Summer	0.06	24.6	10.731
Catchment Area (5)	FSR: 30 years: +35 %: 15 mins: Summer	0.04	14.6	6.364

Project: Interbridges, Emsworth Surface Water Drainage Ref: 6096		Date: 18/03/2025			
Report Details: Type: Inflows Summary Storm Phase: Phase		Designed by: JCB	Checked by: MT		Approved By: MT
		Company Address: Bellamy Roberts Clover House, Western Lane Odiham, Hampshire, RG29 1TU			



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

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FSR: 100 years: +45 %: 15 mins: Summer	0.01	6.2	2.799
Catchment Area (1)	FSR: 100 years: +45 %: 15 mins: Summer	0.09	52.6	23.641
Catchment Area (2)	FSR: 100 years: +45 %: 15 mins: Summer	0.25	139.8	62.791
Catchment Area (3)	FSR: 100 years: +45 %: 15 mins: Summer	0.11	60.6	27.203
Catchment Area (4)	FSR: 100 years: +45 %: 15 mins: Summer	0.06	33.4	14.999
Catchment Area (5)	FSR: 100 years: +45 %: 15 mins: Summer	0.04	19.8	8.898

Project: Interbridges, Emsworth Surface Water Drainage Ref: 6096		Date: 18/03/2025			
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: JCB	Checked by: MT		Approved By: MT
		Company Address: Bellamy Roberts Clover House, Western Lane Odiham, Hampshire, RG29 1TU			



FSR: 1 years: Increase Rainfall (%): +0: 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	FSR: 1 years: +0 %: 15 mins: Summer	6.250	4.850	4.879	0.029	1.4	0.032	0.000	1.3	0.602	OK
Manhole (1)	FSR: 1 years: +0 %: 15 mins: Summer	6.700	4.640	4.691	0.051	5.7	0.058	0.000	5.2	2.521	OK
Manhole (2)	FSR: 1 years: +0 %: 15 mins: Summer	7.000	4.430	4.505	0.075	12.6	0.085	0.000	11.4	5.736	OK
Manhole (3)	FSR: 1 years: +0 %: 15 mins: Summer	6.000	4.000	4.114	0.114	36.2	0.129	0.000	33.7	16.691	OK
Manhole (4)	FSR: 1 years: +0 %: 15 mins: Summer	5.500	4.100	4.185	0.085	13.4	0.096	0.000	13.1	5.875	OK

Project: Interbridges, Emsworth Surface Water Drainage Ref: 6096		Date: 18/03/2025			
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: JCB	Checked by: MT		Approved By: MT
		Company Address: Bellamy Roberts Clover House, Western Lane Odiham, Hampshire, RG29 1TU			



FSR: 30 years: Increase Rainfall (%): +35: 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	FSR: 30 years: +35 %: 15 mins: Summer	6.250	4.850	4.904	0.054	4.6	0.061	0.000	4.3	1.999	OK
Manhole (1)	FSR: 30 years: +35 %: 15 mins: Summer	6.700	4.640	4.738	0.098	18.9	0.111	0.000	18.0	8.354	OK
Manhole (2)	FSR: 30 years: +35 %: 15 mins: Summer	7.000	4.430	4.589	0.159	42.6	0.179	0.000	39.4	19.052	OK
Manhole (3)	FSR: 30 years: +35 %: 15 mins: Summer	6.000	4.000	4.268	0.268	121.2	0.303	0.000	115.7	55.371	OK
Manhole (4)	FSR: 30 years: +35 %: 15 mins: Summer	5.500	4.100	4.363	0.263	44.6	0.298	0.000	43.0	19.453	Surcharged

Project: Interbridges, Emsworth Surface Water Drainage Ref: 6096		Date: 18/03/2025			
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: JCB	Checked by: MT		Approved By: MT
		Company Address: Bellamy Roberts Clover House, Western Lane Odiham, Hampshire, RG29 1TU			



FSR: 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	FSR: 100 years: +45 %: 15 mins: Summer	6.250	4.850	4.916	0.066	6.2	0.074	0.000	5.1	2.889	OK
Manhole (1)	FSR: 100 years: +45 %: 15 mins: Summer	6.700	4.640	4.898	0.258	24.9	0.291	0.000	14.5	11.960	Surcharged
Manhole (2)	FSR: 100 years: +45 %: 15 mins: Summer	7.000	4.430	4.850	0.420	47.9	0.476	0.000	42.2	27.126	Surcharged
Manhole (3)	FSR: 100 years: +45 %: 1440 mins: Winter	6.000	4.000	4.543	0.543	8.9	0.614	0.000	8.8	302.625	Surcharged
Manhole (4)	FSR: 100 years: +45 %: 15 mins: Summer	5.500	4.100	4.646	0.546	60.6	0.618	0.000	57.7	27.222	Surcharged

Project: Interbridges, Emsworth Surface Water Drainage Ref: 6096		Date: 18/03/2025			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Designed by: JCB	Checked by: MT		Approved By: MT
		Company Address: Bellamy Roberts Clover House, Western Lane Odiham, Hampshire, RG29 1TU			



FSR: 1 years: Increase Rainfall (%): +0: 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)	Half Drain Down Time (mins)	Status
Cellular Storage	FSR: 1 years: +0 %: 1440 mins: Summer	3.665	3.665	0.265	0.265	6.8	92.915	0.000	0.000	1.3	140.140	717	OK

Project: Interbridges, Emsworth Surface Water Drainage Ref: 6096		Date: 18/03/2025			
		Designed by: JCB	Checked by: MT		Approved By: MT
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Company Address: Bellamy Roberts Clover House, Western Lane Odiham, Hampshire, RG29 1TU			



FSR: 30 years: Increase Rainfall (%): +35: 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)	Half Drain Down Time (mins)	Status
Cellular Storage	FSR: 30 years: +35 %: 1440 mins: Summer	4.212	4.212	0.812	0.812	18.4	284.137	0.000	0.000	2.2	285.205	1241	OK

Project: Interbridges, Emsworth Surface Water Drainage Ref: 6096		Date: 18/03/2025			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Designed by: JCB	Checked by: MT		Approved By: MT
		Company Address: Bellamy Roberts Clover House, Western Lane Odiham, Hampshire, RG29 1TU			



FSR: 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)	Half Drain Down Time (mins)	Status
Cellular Storage	FSR: 100 years: +45 %: 1440 mins: Winter	4.542	4.542	1.142	1.142	16.0	399.757	0.000	0.000	2.6	344.501	1505	OK

Project: Interbridges, Emsworth Surface Water Drainage Ref: 6096		Date: 18/03/2025			
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: JCB	Checked by: MT		Approved By: MT
		Company Address: Bellamy Roberts Clover House, Western Lane Odiham, Hampshire, RG29 1TU			



FSR: 1 years: Increase Rainfall (%): +0: 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	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	Manhole	Manhole (1)	6.250	4.879	0.040	0.602	0.3	0.08	1.3	OK
Pipe (1)	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	Manhole (1)	Manhole (2)	6.700	4.691	0.063	2.521	0.6	0.11	5.2	OK
Pipe (2)	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	Manhole (2)	Manhole (3)	7.000	4.505	0.095	5.736	0.7	0.24	11.4	OK
Pipe (3)	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	Manhole (4)	Manhole (3)	5.500	4.185	0.100	5.875	0.8	0.25	13.1	OK
Pipe (4)	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	Manhole (3)	Cellular Storage	6.000	4.114	0.110	16.691	1.4	0.26	33.7	OK

Project: Interbridges, Emsworth Surface Water Drainage Ref: 6096		Date: 18/03/2025			
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: JCB	Checked by: MT		Approved By: MT
		Company Address: Bellamy Roberts Clover House, Western Lane Odiham, Hampshire, RG29 1TU			



FSR: 30 years: Increase Rainfall (%): +35: 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	FSR: 30 years: +35 %: 15 mins: Summer	Pipe	Manhole	Manhole (1)	6.250	4.904	0.076	1.999	0.5	0.28	4.3	OK
Pipe (1)	FSR: 30 years: +35 %: 15 mins: Summer	Pipe	Manhole (1)	Manhole (2)	6.700	4.738	0.128	8.354	0.8	0.39	18.0	OK
Pipe (2)	FSR: 30 years: +35 %: 15 mins: Summer	Pipe	Manhole (2)	Manhole (3)	7.000	4.589	0.213	19.052	1.0	0.83	39.4	OK
Pipe (3)	FSR: 30 years: +35 %: 15 mins: Summer	Pipe	Manhole (4)	Manhole (3)	5.500	4.363	0.225	19.453	1.1	0.82	43.0	Surcharged
Pipe (4)	FSR: 30 years: +35 %: 15 mins: Summer	Pipe	Manhole (3)	Cellular Storage	6.000	4.268	0.245	55.371	1.9	0.91	115.7	OK

Project: Interbridges, Emsworth Surface Water Drainage Ref: 6096		Date: 18/03/2025			
		Designed by: JCB	Checked by: MT		Approved By: MT
Report Details: Type: Connections Summary Storm Phase: Phase		Company Address: Bellamy Roberts Clover House, Western Lane Odiham, Hampshire, RG29 1TU			



FSR: 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	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	Manhole	Manhole (1)	6.250	4.912	0.106	2.825	0.4	0.36	5.7	OK
Pipe (1)	FSR: 100 years: +45 %: 30 mins: Summer	Pipe	Manhole (1)	Manhole (2)	6.700	4.738	0.132	15.673	0.8	0.4	18.1	OK
Pipe (2)	FSR: 100 years: +45 %: 15 mins: Summer	Pipe	Manhole (2)	Manhole (3)	7.000	4.850	0.225	27.126	1.1	0.89	42.2	Surcharged
Pipe (3)	FSR: 100 years: +45 %: 15 mins: Summer	Pipe	Manhole (4)	Manhole (3)	5.500	4.646	0.225	27.222	1.5	1.11	57.7	Surcharged
Pipe (4)	FSR: 100 years: +45 %: 15 mins: Summer	Pipe	Manhole (3)	Cellular Storage	6.000	4.475	0.300	77.911	2.1	1.17	149.6	Surcharged

Project: Interbridges, Emsworth Surface Water Drainage Ref: 6096	Date: 18/03/2025		
	Designed by: JCB	Checked by: MT	Approved By: MT
Report Details: Type: Phase Management Storm Phase: Phase	Company Address: Bellamy Roberts Clover House, Western Lane Odiham, Hampshire, RG29 1TU		



Phase
FSR: 1 years: Increase Rainfall (%): +0: 1440 mins: Summer

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
Cellular Storage			1.3	140.140
TOTAL	6.8	150.666	1.3	140.140

Project: Interbridges, Emsworth Surface Water Drainage Ref: 6096	Date: 18/03/2025		
	Designed by: JCB	Checked by: MT	Approved By: MT
Report Details: Type: Phase Management Storm Phase: Phase	Company Address: Bellamy Roberts Clover House, Western Lane Odiham, Hampshire, RG29 1TU		



Phase
FSR: 30 years: Increase Rainfall (%): +35: 1440 mins: Summer

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
Cellular Storage			2.2	285.205
TOTAL	18.4	405.381	2.2	285.205

Project: Interbridges, Emsworth Surface Water Drainage Ref: 6096	Date: 18/03/2025		
	Designed by: JCB	Checked by: MT	Approved By: MT
Report Details: Type: Phase Management Storm Phase: Phase	Company Address: Bellamy Roberts Clover House, Western Lane Odiham, Hampshire, RG29 1TU		



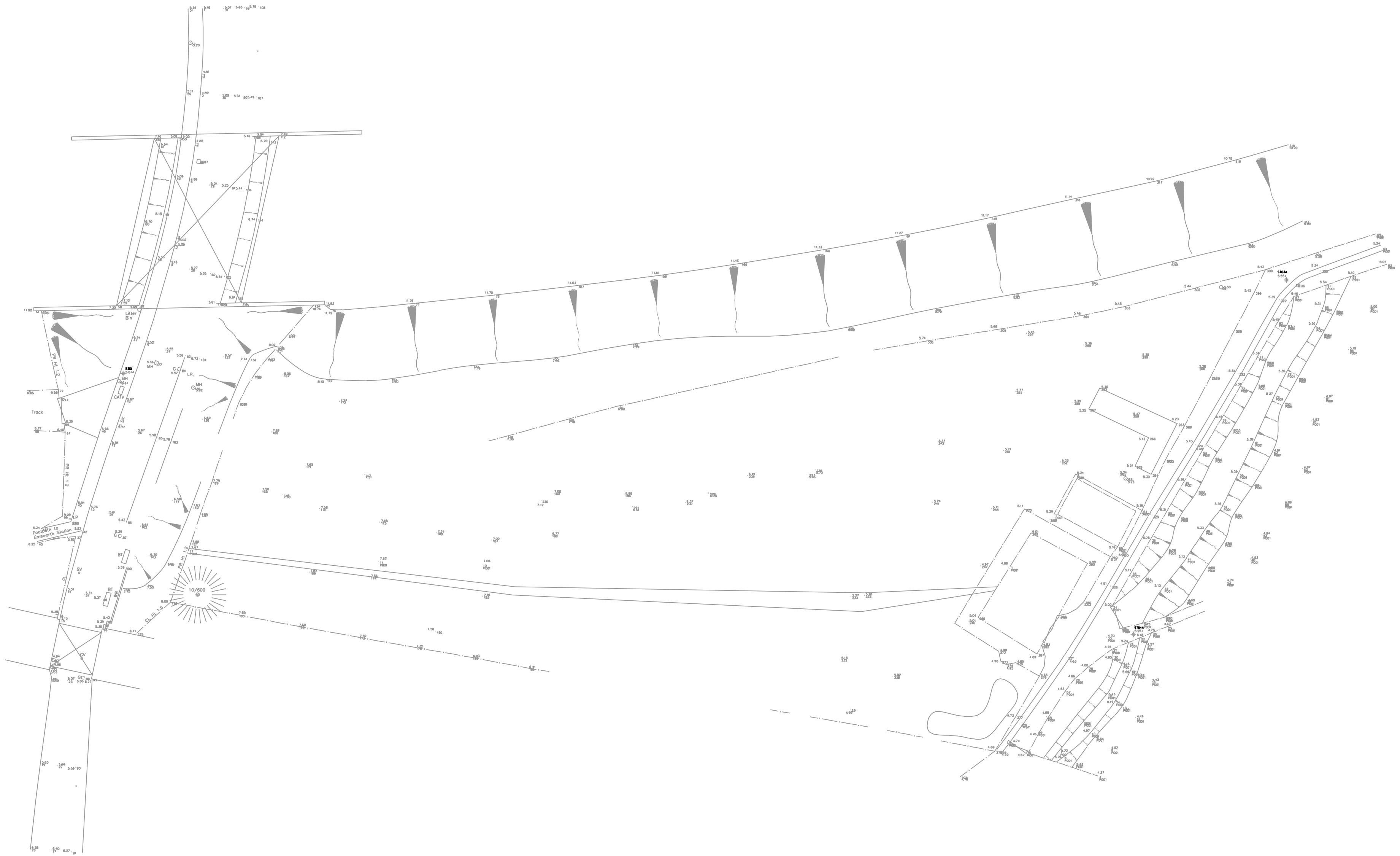
Phase
FSR: 100 years: Increase Rainfall (%): +45: 1440 mins: Winter

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
Cellular Storage			2.6	344.467
TOTAL	16.0	547.854	2.6	344.467

Enclosure 6

Topographical Survey



Enclosure 7

Southern Water Correspondence



Matt Twinberrow
Clover House
Odiham
Hampshire
RG29 1TU

Your ref
19716

Our ref
DSA000042082

Date
02 April 2025

Contact
Tel 0330 303 0119

Dear Mr Twinberrow,

Level 1 Capacity Check Enquiry: Interbridges, Emsworth, Hampshire, PO10 7PN.

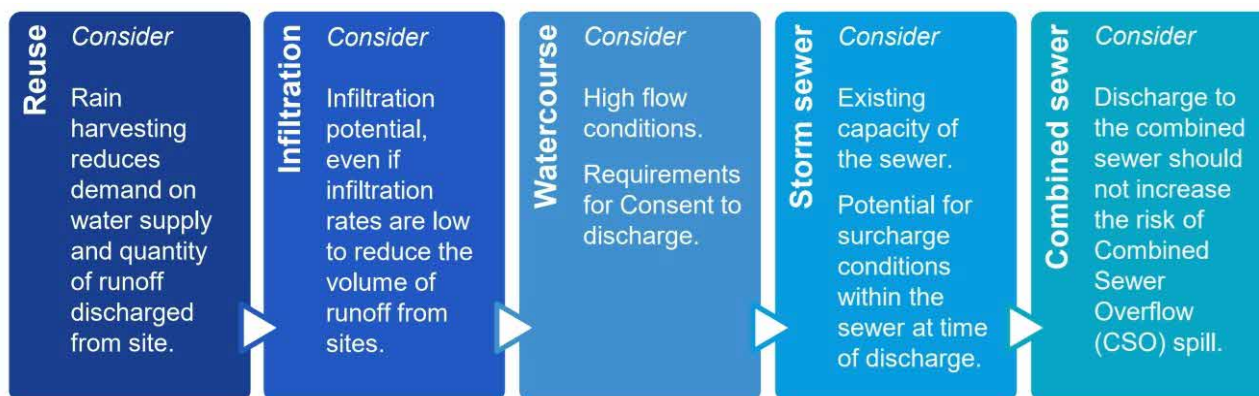
We have completed the capacity check for the above development site and the results are as follows:

Surface Water

The enquiry has been reassessed to determine the capacity available for 2.7 l/s at manhole reference SU74068351 Grid Reference: 474875 , 106458.

There is currently adequate capacity in the local surface water/foul sewerage network to accommodate a surface water flow of 2.7 l/s for the above development at manhole reference SU74068351.

Although capacity in the surface water network has been identified, in all situations where surface water is being considered for discharge to our network, we require the below hierarchy for surface water to be followed which is reflected in part H3 of the Building Regulations. Whilst reuse does not strictly form part of this hierarchy, Southern Water would encourage the consideration of reuse for new developments.





Guidance on Building Regulations is here: [gov.uk/government/publications/drainage-and-waste-disposal-approved-document-h](https://www.gov.uk/government/publications/drainage-and-waste-disposal-approved-document-h)

We would welcome the opportunity to engage with you on the design for disposal of surface water, with a particular focus on the potential for incorporating Sustainable Drainage Systems (SuDS), for this development at the earliest opportunity and we recommend that civil engineers and landscape architects work together and with Southern Water.

Where a surface water connection to the foul or combined sewer is being considered, this should be agreed by the Lead Local Flood Authority, in consultation with Southern Water.

It should be noted that although the above assessment indicates that there is capacity available for your proposed surface water flows the LLFA (Local Lead Flood Authority) may impose/request that a lower flow is discharged to the public surface water sewer.

If the excess surface water flows are to be attenuated on site, it could have a significant effect on any proposed Sewer Adoption (S104) Agreements. Any attenuation proposals should be agreed before any works are implemented on site. Where capacity is limited/restricted, agreement should be sought if you are to include any highway drainage within your proposals as Southern Water is not obligated to accept highway flows.

Connecting to our network

It should be noted that this information is only a hydraulic assessment of the existing sewerage network and does not grant approval for a connection to the public sewerage system. A formal Sewer Connection (S106) application is required to be completed and approved by Southern Water Services. To make an application visit: developerservices.southernwater.co.uk

Please note the information provided above does not grant approval for any designs/drawings submitted for the capacity analysis. The results quoted above are only valid for 12 months from the date of issue of this letter.

Please get in touch via the Get Connected customer dashboard if you have any queries.

Yours sincerely,

Future Growth Planning Team
Developer Services

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