

Discharge of Surface Water Management Planning Conditions Summary Note



The Civil Engineering Practice
11 Tungsten Building
George Street
Fishergate
Sussex
BN41 1RA

Project	Bonhams Field
Project Number	23018
By	Martin Kempshall C Eng MICE
Date	22 December 2020

1 Introduction

- 1.1 This Summary Note has been produced in support of the Reserved Matters Submission to discharge Conditions 11, 12, 14 and 16 of Outline Planning Permission Y/1/17/OUT for the construction of 56 residential dwellings with associated access roads, car parking and landscaping on the northeast side of the B2233 Yapton Road, Yapton, West Sussex.
- 1.2 This Summary Note is to be read in conjunction with the supporting Drainage Technical Note, all planning, architectural and other reports that accompany the Planning Application for the proposed development.
- 1.3 The proposed development will incorporate a sustainable drainage system which will discharge all surface water via infiltration to ground using permeable paving with subbase attenuation.

2 Condition 11

- 2.1 Condition 11 of Outline Planning Application Y/1/17/OUT states:

The exact position of the surface water sewer must be determined on site by the applicant before the layout of the proposed development is finalised.

Reason: To ensure that the public sewer and Southern Water infrastructure is protected in accordance with GEN7 and GEN9 of the Arun Local Plan

- 2.2 Southern Water public sewer records are located in the appendices of the supporting Drainage Technical Note and do not identify a Southern Water sewer crossing the site. This evidence is deemed sufficient to support the discharging of Condition 11.



3 Condition 12

3.1 Condition 12 of Outline Planning Application Y/1/17/OUT states:

:Development shall not commence until full details of the proposed surface water drainage scheme have been submitted to and approved in writing by the Local Planning Authority

The design should follow the hierarchy of preference for different types of surface water drainage disposal systems as set out in Approved Document H of the Building Regulations, the recommendations of the SuDS Manual produced by CIRIA.

Winter groundwater monitoring to establish highest annual groundwater levels and Percolation testing to BRE 365, or similar approved, will be required to support the design of any infiltration drainage.

Reason: To ensure that the proposed development is satisfactorily drained before construction begin on site in accordance with policies GEN7 and GEN9 of the Arun District Council Local Plan. ~

3.2 Full details of the surface water drainage scheme, based upon infiltration to ground via a voided subbase infiltration blanket, is detailed in the supporting Drainage Technical Note.

3.3 Winter groundwater monitoring was undertaken between February 2018 and April 2018. Further winter groundwater monitoring was undertaken between October 2019 and March 2020.

3.4 Percolation testing was completed in September 2016, October 2019, September 2020 and December 2020. Testing carried out during December 2020 was completed in full accordance with BRE 365 methodology having consulted Arun District Council's Drainage Consultee to agree the location and timing of the onsite testing. Details of the infiltration testing completed during December 2020 is located within the supporting Drainage Technical Note.

4 Condition 14

4.1 Condition 14 of Outline Planning Application Y/1/17/OUT states:

:Development shall not commence until full details of the maintenance and management of the SuDS system is set out in a site specific maintenance manual and submitted to, and approved in writing, by the Local Planning Authority. The manual is to include (a) details of financial management company (or any subsequent management company) is no longer able to fulfil its duties; and (b) arrangement for the replacement of major components at the end of the manufacturers recommended design life.

Reason: To ensure that the efficient maintenance and on-going operation of the SuDS system is incorporated at the earliest stages of the development and to ensure the best

practice in line with guidance set out in :The SuDS Manual~ CIRIA publication ref: C753 Chapter 32.~

- 4.2 The Drainage Maintenance Manual has been submitted as a standalone report and includes a Drainage Maintenance and Ownership Plan.

5 Condition 16

- 5.1 Condition 16 of Outline Planning Application Y/1/17/OUT states:

:Development shall not commence until a drainage strategy detailing the proposed means of foul disposal and an implementation timetable has been submitted to and approve in writing by the Local Planning Authority in consultation with the sewerage undertaker. The development shall be carried out in accordance with the approve scheme and timetable.~

- 5.2 The foul water drainage design for the scheme is shown on Drawing 1210 located in the supporting Drainage Technical Note. The Section 106 Application for connection to the public foul sewer system has been accepted by Southern Water, a copy of the technical approval is enclosed in the supporting Drainage Technical Note.

6 Latest Comments from Arun District Council Consultee

- 6.1 Following the most recent comments from the Arun District Council Drainage Consultee all comments raised have now been resolved.
- 6.2 Groundwater monitoring was completed during Winter 2019/2020, which was noted by the Met Office to be the fifth wettest since 1862 with significantly above average local rainfall.
- 6.3 Winter infiltration testing was completed in December 2020 with timings and test locations agreed with the Arun District Council Drainage Consultee prior to the undertaking of the works.
- 6.4 A detailed design of the system has been submitted showing the location of all drainage and infiltration features across the site to support the Discharge of Condition Application with information outlined within the Arun District Council drainage checklist provided.
- 6.5 Testing was completed in strict accordance with BRE Digest 365 methodology, at the level of the proposed base of the infiltration features at 0.7m to 0.8m below existing ground level, above peak groundwater levels, with all trial pits sufficiently drained and recorded.
- 6.6 All infiltration blankets are calculated to have a half drain time of less than 24 hours for all events up to the 1:100 year storm with a 40% allowance for climate change.
- 6.7 Groundwater monitoring completed during Winter 2019/2020 identified groundwater levels of between 0.95mbgl to 1.77mbgl below existing ground levels confirming an unsaturated zone can be maintained between the base of the shallow surface water infiltration storage blankets and the maximum recorded winter groundwater level.

- 6.8 No pumping of either surface or foul water is proposed. Finished floor levels and finished ground levels have been set to tie in with the existing predeveloped site levels
- 6.9 A Drainage Maintenance Manual has been provided showing drainage features, responsibilities, timing of maintenance and replacement.
- 6.10 All rainwater diffuser units will be located more than 5 metres away from buildings and have upstream catchpits to reduce the potential for siltation.
- 6.11 The latest comments from the Arun District Council Drainage Consultee are located at the rear of this document.

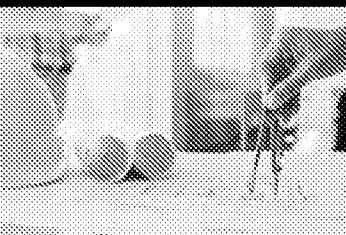
[REDACTED]

Amanda Scholes | Receptionist, Department, [Arun District Council](#) | Location: Ground Floor, Arun Civic Centre, Maltravers Road, Littlehampton, BN17 5LF

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Save the environment - think before you print.

From: Laura Gibbons [REDACTED]
Sent: 04 August 2020 16:46
To: Planning.Responses [REDACTED]
Cc: Simon Davis [REDACTED]
Subject: Y/59/20/DOC- Bonhams Field

Dear Simon,

Thank you for consulting us regarding conditions 12 and 14, we have the following comments.

Condition 12- surface water drainage design

1. Groundwater monitoring was completed over the winter. This found that groundwater is located between 1.8m bgl and 0.95m bgl across the site. Yet infiltration tests were completed at 1.8m to 3m depth. And yet shallow infiltration is being proposed at less than 1m depth.
2. Of the infiltration tests that were completed at depth it is clear that three repeat tests were not completed in the winter. With October testing only occurring once at each location, presumably due to the large time taken to drain. One pit failed to drain, and all typically only dropped water level by very small amounts, for example 2cm in 5 hours in TP8. Infiltration rates were extrapolated from the winter testing results, i.e. tests were non-compliant with BRE DG 365 as in all pits the water failed to drop from 75% full to 25% full.
3. The site investigation report states "Based on the results, it is considered unlikely that the encountered ground materials would provide a suitable drainage material for the site"
4. Given points 1 to 3 above it is clear that the infiltration testing completed to date is inadequate and cannot be relied upon for reviewing the design of shallow infiltration features. Winter infiltration testing must be completed at the depth of the proposed infiltrating structures and above peak groundwater level. This testing must be completed fully in accordance with BRE DG 365.
5. It may be that an overflow is required from the system to ensure half drain time requirements are met, if this is the case we would highlight that QBar rates should be based upon the proposed impermeable area positively drained, not the entire site area.

6. Once further site investigation is completed we will provide further comments. Based on a quick overview it is not evident whether the base of permeable paving is above peak groundwater levels, nor that all distribution tanks are at least a minimum of 5m from buildings.

Condition 14- SuDS maintenance

It is not possible to agree this condition until site drainage design is agreed.

If the applicant cannot provide shallow winter infiltration testing results at this time we would recommend the application to discharge these conditions is refused.

We would advocate that the applicant provides details of their proposed ground investigations to us prior to commencement on site to ensure that our requirements are met.

Kind regards,

Laura Gibbons

Engineer, Adur & Worthing Councils



Website: www.adur-worthing.gov.uk

Address: Facilities & Technical Services, Worthing Town Hall, Chapel Road, Worthing, West Sussex, BN11 1HA

Worthing and Adur Councils are working in partnership with Arun District Council



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From: Laura Gibbons [REDACTED]
Sent: 11 September 2019 13:24
To: Simon Davis [REDACTED]
Subject: RE: Bonhams Field - ref. Y/63/19/RES - DRAINAGE

Simon,

Surface water drainage must be considered at the earliest opportunity and form part of the layout development process. Without winter groundwater monitoring and winter infiltration testing there is no way of determining the area take up required for surface water drainage. Leaving drainage design until after a layout has been agreed will likely unduly prejudice drainage design and not allow for the hierarchy for sustainable drainage to be followed. There are no ordinary watercourses within or adjacent to the site, if infiltration is unviable due to inadequate space the water would have to go to foul sewer, it is unlikely this would be acceptable to southern water and therefore there would be a significant risk that the agreed layout would not be implementable.

Furthermore, inadequately considering drainage at this stage could potentially result in a lack of sufficient capacity being provided for surface water drainage and therefore the development could lead to an increased risk of flooding elsewhere.

Therefore, I formally object to the application.

To overcome my objection the applicant should complete winter groundwater monitoring and winter infiltration testing and complete calculations to assess the size of structures required. A rough plan should be formed showing where these structures can be provided within the proposed layout. Evidence that no pumping or ground raising would be also be required. Detailed design of the system can be left until discharge of conditions where the applicant should provide the level of information stated within our checklist

<https://www.arun.gov.uk/drainagechecklist>.

Kind Regards,

Laura Gibbons, MEng, GMICE
Engineer (Drainage & Coastal)

Laura Gibbons | Engineer (Drainage & Coastal), Engineering Services, Arun District Council | Location: First Floor, Arun Civic Centre,
Maltravers Road, Littlehampton, BN17 5LF



From: Simon Davis
Sent: 02 September 2019 16:54
To: Laura Gibbons [REDACTED]
Subject: FW: Bonhams Field - ref. Y/63/19/RES - DRAINAGE

Hi Laura,

See below. Can you advise what your position will be.

Kind Regards

Simon J Davis MRTPI | Principal Planning Officer, Planning Department, Directorate of Place, Arun District Council |
Location: Planning, First Floor, Arun Civic Centre, Maltravers Road, Littlehampton, BN17 5LF

Please note that I typically work from home on Thursdays when I am unreachable on my work phone

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From: Lucy Hill <[REDACTED]>
Sent: 02 September 2019 15:47
To: Simon Davis <[REDACTED]>
Cc: David West <[REDACTED]>; Steve Culpitt <[REDACTED]> and Johnson <[REDACTED]>; Stuart Magowan <[REDACTED]>
Subject: Bonhams Field - ref. Y/63/19/RES - DRAINAGE

Hi Simon,

Thank you for your time just now.

Further to our conversation, I would like to respond to a couple of points raised by the drainage engineer if I may.

Laura Gibbons raises a need for the submission of further information in the form of winter groundwater monitoring results as well as evidence to demonstrate that there is adequate space on site for surface water drainage given the proposed layout. As discussed with you this afternoon, given that this information requested by Laura is already required through the discharge of pre-commencement conditions attached to planning consent ref Y/1/17/OUT, we see no need for this information to be submitted and considered by the reserved matters planning application. We are currently preparing the information in preparation for the discharge of conditions, however it is our intention not to submit any details to address pre-commencement conditions (bar archaeology) until the reserved matters application has been determined. This way, we will be ensuring that the drainage strategy (and all other pre-commencement conditions which rely on it) accords with an approved layout rather than one which is still under consideration via reserved matters.

I realise that this may lead to an objection from the drainage officer, however I consider that it would not form a justifiable reason for refusal and would prove difficult to defend at appeal given that the mechanism for the provision of this information is already in place via the outline planning consent. The existing conditions required to be addressed are pre-commencement conditions and the development would not be able to commence until they have been satisfied in any case.

Kind regards,
Lucy

Lucy Hill BA (Hons), MSc
Land & Planning Manager



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