

From: Laura Gibbons
Sent: 17 April 2019 10:31
To: Planning.Responses
Cc: David Easton
Subject: RE: Planning Consultation on: P/30/19/OUT

Engineers Comments Regarding Surface Water Drainage

The application site has an ordinary watercourse running through it, easement to this watercourse must be provided. We know of historic flooding issues to areas around the site. Surface water drainage must be carefully considered.

The documents submitted in support of this application suggest that the proposed means of surface water drainage is through an attenuated discharge to a local watercourse. Infiltration testing has been completed at depths of 1.2 to 1.8m below ground level. Shallow infiltration testing should be completed in the winter to establish if shallow infiltration techniques are appropriate.

The surface water drainage scheme design should follow the hierarchy of preference as set out in Approved Document H of the Building Regulations and the SuDS Manual produced by CIRIA. Therefore the potential for on-site infiltration should be investigated and backed up by winter groundwater monitoring and winter infiltration testing. The results of such investigations will be needed to inform the design of any infiltration structures, or alternatively be presented as evidence as to why on-site infiltration has not been deemed viable for this development. Groundwater monitoring results will also be required if attenuation is proposed to ensure that the risks of flotation are adequately accounted for in design.

If on-site infiltration is to be utilised, any soakage structures should not be constructed lower than the peak groundwater level. Wherever possible, roads, driveways, parking spaces, paths and patios should be of permeable construction.

If on-site infiltration is not possible, drainage via a restricted discharge to a suitable local watercourse may be acceptable. Any discharge should be restricted to greenfield QBar runoff rates.

We suggest that, at the earliest stage, the developer gives due consideration to the appropriate location and design of surface water drainage features to achieve necessary capacity, water quality (via the SuDS management/treatment train), as well as ease of on-going maintenance. Surface water drainage features should also be designed in a manner that positively affects the amenity of the site. We would like to remind the developer that, open features, such as swales, basins and ponds, when designed correctly, can satisfy all the above aspirations in addition to; being easier to maintain, having longer lifespans and offering ecological advantages over subterranean features such as "plastic crate systems". The design should also reflect the natural catchments present, ground raising or pumping are not sustainable solutions and are not supported by us.

Well-designed SuDS components include features that are no more hazardous than those found in the existing urban landscape, for example ponds in parks or footpaths alongside canals, therefore if the SuDS features are designed in an appropriate and safe manner, there should be no need for unsightly fencing and areas of restricted access.

Given the nature of the development, to bring it in line with current guidance, the documentation supporting the drainage design should be able to demonstrate that the infiltration/SuDS features can accommodate the water from a 1 in 100 year critical storm event, plus an additional 40% climate change allowance.

Should the application be approved we recommend the following conditions be applied to ensure the site is adequately drained:

PCENG02

"Development shall not commence, other than works of site survey and investigation, 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, and the recommendations of the SuDS Manual produced by CIRIA. Winter groundwater monitoring to establish highest annual ground water levels and winter Percolation testing to BRE 365, or similar approved, will be required to support the design of any Infiltration drainage. No building / No part of the extended building shall be occupied until the complete surface water drainage system serving the property has been implemented in accordance with the agreed details and the details so agreed shall be maintained in good working order in perpetuity."

Reason: To ensure that the proposed development is satisfactorily drained in accordance with policies W SP1, W DM1, W DM2 and W DM3 of the Arun Local Plan. This is required to be a pre-commencement condition because it is necessary to implement the surface water drainage system prior to commencing any building works.

PCENG03

"The development shall not proceed until details have been submitted to and approved in writing by the Local Planning Authority for any proposals: to discharge flows to watercourses; or for the culverting, diversion, infilling or obstruction of any watercourse on or adjacent to the site. Any discharge to a watercourse must be at a rate no greater than the pre-development run-off values. No construction is permitted, which will restrict current and future land owners from undertaking their riparian maintenance responsibilities in respect to any watercourse or culvert on or adjacent to the site."

Reason: To ensure that the proposed development is satisfactorily drained in accordance with policies W DM1, W DM2 and W DM3 of the Arun Local Plan. And to ensure that the duties and responsibilities, as required under the Land Drainage Act 1991, and amended by the Flood and Water Management Act 2010, can be fulfilled without additional impediment following the development completion. It is considered necessary for this to be a pre-commencement condition to protect existing watercourses prior to the construction commencing.

PCENG04

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

Reason: To ensure that the proposed development is satisfactorily drained in accordance with policies W DM1, W DM2 and W DM3 of the Arun Local Plan. It is considered necessary for this to be a pre-commencement condition to ensure that the future maintenance and funding arrangements for the surface water disposal scheme are agreed before construction commences.

ENG01

"Immediately following implementation of the approved surface water drainage system and prior to occupation of any part of the development, the developer/applicant shall provide the local planning authority with as-built drawings of the implemented scheme together with a completion report prepared by an independent engineer that confirms that the scheme was built in accordance with the approved drawing/s and is fit for purpose. The scheme shall thereafter be maintained in perpetuity."

Reason : To ensure that the proposed development is satisfactorily drained in accordance with policies W SP1, W DM1, W DM2 and W DM3 of the Arun Local Plan.

And the accompanying informatives:

INFORMD

"Infiltration rates for soakage structures are to be based on percolation tests undertaken in the winter period and at the location and depth of the proposed structures. The percolation tests must be carried out in accordance with BRE365, CIRIA R156 or a similar approved method and cater for the 1 in 10 year storm between the invert of the entry pipe to the soakaway, and the base of the structure. It must also have provision to ensure that there is capacity in the system to contain below ground level the 1 in 100 year event plus 40% on stored volumes, as an allowance for climate change. Adequate freeboard must be provided between the base of the soakaway structure and the highest recorded annual groundwater level identified in that location. Any SuDS or soakaway design must include adequate groundwater monitoring data to determine the highest winter groundwater table in support of the design. The applicant is advised to discuss the extent of groundwater monitoring with the Council's Engineers.

Supplementary guidance notes regarding surface water drainage are located here

<https://www.arun.gov.uk/surfacewater> on Arun District Councils website. A surface water drainage checklist is available here <https://www.arun.gov.uk/drainagechecklist> on Arun District Councils website, this should be submitted with a Discharge of Conditions Application."

INFORMD2

Under Section 23 of the Land Drainage Act 1991 Land Drainage Consent must be sought from the Lead Local Flood Authority (West Sussex County Council), or its agent (Arun District Council land.drainage@arun.gov.uk), prior to starting any works (temporary or permanent) that affect the flow of water in an ordinary watercourse. Such works may include culverting, channel diversion, discharge of flows, connections, headwalls and the installation of trash screens.

The development layout must take account of any existing watercourses (open or culverted) to ensure that future access for maintenance is not restricted. No development is permitted within 3m of the bank of an ordinary watercourse, or 3m of a culverted ordinary watercourse.

INFORMD3

If during construction works, it becomes apparent that implementation cannot be carried in accordance with previously agreed details any resubmission of the drainage design must be accompanied by an updated copy of the management manual.

Regards,

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

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Visit Arun's web site at <http://www.arun.gov.uk/> and www.chichester.gov.uk



Save the environment - think before you print.

From: planning.responses@arun.gov.uk [mailto:planning.responses@arun.gov.uk]

Sent: 02 April 2019 10:03

To: Land Drainage

Subject: Planning Consultation on: P/30/19/OUT

To: **Engineers (Drainage)**

NOTIFICATION FROM ARUN DISTRICT COUNCIL

Town & Country Planning Act 1990 (as amended)

Town & country Planning (Development Management Procedure) (England) Order 2015 - Article 5

Outline Consent

APPLICATION P/30/19/OUT

NO:

Registered: 2nd April
2019

Site Address: Land north of Hook Lane Pagham

Grid Reference: 489562 99199

Description of Works: Outline application with some matters reserved for the construction of up to 300 No. new homes, a care home of up to 80 beds, D1 uses of up to 4,000 sqm including a 2 form entry primary school, the formation of new means of access onto Hook Lane & Pagham Road, new pedestrian & cycle links, laying out of open space, new strategic landscaping, habitat creation, drainage features & associated ground works & infrastructure. This application may affect the setting of a listed building & is a Departure from the Development Plan (resubmission following P/6/17/OUT).

The Council have received the above application. I shall be pleased to receive any observations you may wish to make.

[Click here to view the application details](#)

Should you have any comments to make, these should be sent by replying to this email by 04-MAY-19.

You can also monitor the progress of this application through the Council web site:
www.arun.gov.uk/planning

Please be aware that any comments you may make will be available on our website so please do not insert personal details or signatures on your reply.

In the absence of a reply within the period stated, I shall assume that you have no observations to make.

The application will be determined having regard to the development plan policies (if any are relevant) and other material considerations. The development plan can be accessed via the website as can the leaflet which deals with material planning considerations.

Should the application go to appeal the Planning Inspectorate will publish any comments made to the Council on their website:

www.planningportal.gov.uk/planning/appeals/ but they will protect personal details.

The officer dealing with this application is Mr D Easton who can be contacted on telephone number 01903 737619.

Regards
Planning Officer

consultee_email
