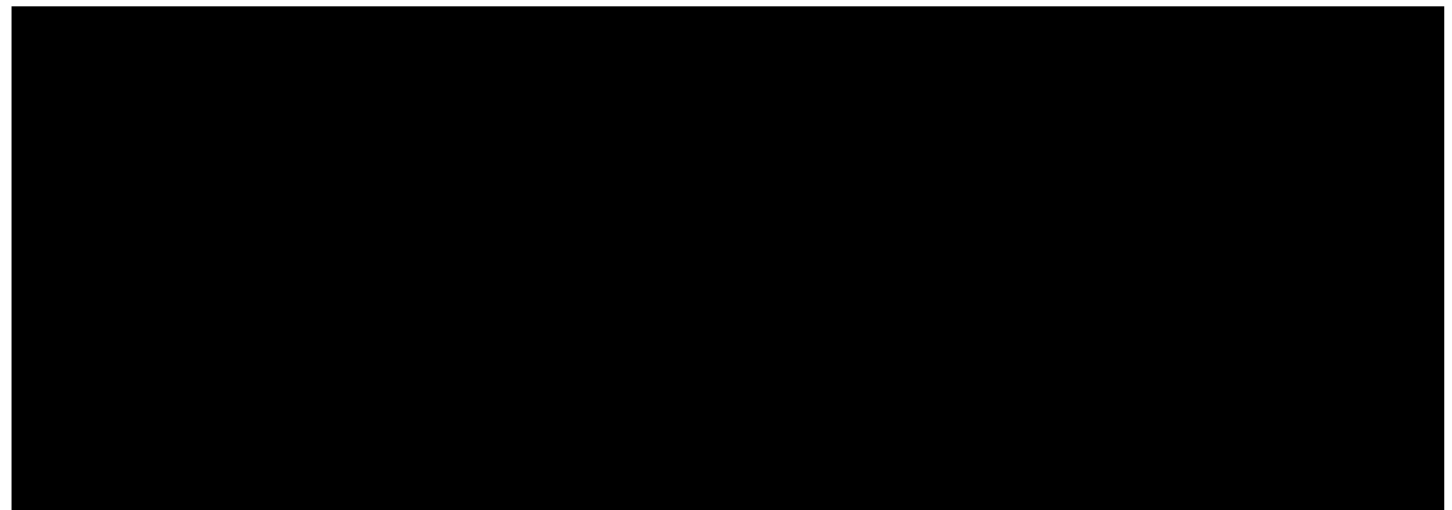




From: Laura Gibbons <Laura.Gibbons@arun.gov.uk>
Sent: 12 January 2021 12:03
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Cc: Raymond Cole <Raymond.Cole@arun.gov.uk>
Subject: RE: Planning Consultation on: BN/142/20/OUT

Engineers Comments Regarding Surface Water Drainage

Within the site there are ordinary watercourses and a main river. We note that the proposals include the infilling of a watercourse which serves the existing hard standing area, land drainage consent and suitable on site compensation will be required. As indicated previously, if the watercourses on the western and south western boundary are within this application land they will require improvement.

It should be noted that the access proposals and proposals to discharge to main river will require flood risk activity permits from the Environment Agency.

We believe that the proposed access will cross the surface water drain that serves Marshall Close and outfalls to the Barnham Rife. This requires further investigation and may require work to facilitate the crossing.

We are aware that sewerage flooding does occur on site. This should be investigated further and discussed with Southern Water.

We note that the drainage strategy has been formed based on attenuation, this is sensible as it is a worst case scenario. However, the hierarchy for sustainable drainage must be followed with infiltration fully investigated. Winter infiltration testing and winter groundwater monitoring must be undertaken, it is advised that the applicant

discusses the extent of this monitoring with us at the earliest opportunity. Infiltration 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 plus climate change 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.

It should be noted that peak groundwater levels are also required for attenuation schemes to demonstrate that the design adequately accounts for flotation.

If on-site infiltration is not possible, drainage via a restricted discharge to a suitable local watercourse may be acceptable. We note the surface water drainage strategy proposes on discharging at greenfield QBar, this is acceptable. But note that the calculation of this discharge rate should be based upon proposed impermeable area, so should be reviewed as design progresses. Surcharged outfalls should be included within design, with surcharge levels set to corresponding product 4 return period event levels.

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”.

It should also be noted that attenuation features should not be counted within useable public open space provision and must be located outside of areas at risk of flooding, e.g. flood zone 2 and 3. Adequate treatment of surface water must be ensured prior to discharge.

We would encourage the applicant to progress drainage proposals as early as possible. At Reserved Matters it will be necessary for the applicant to demonstrate that there is adequate space for surface water drainage within the proposed layout and that it does not conflict with other matters such as landscaping and open space provision.

If you are minded to approve the application please apply the following conditions to ensure that the development is adequately drained and does not increase flood risk elsewhere.

PCENG D2

“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.

And the accompanying informative:

INFORM D

“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 on Arun District Councils website, this should be submitted with a Discharge of Conditions Application."

PCENG D3

"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.

And the accompanying informative:

INFORM D2

"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."

PCENG D4

"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.

ENG D1

"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.

Kind regards,

Laura Gibbons

Drainage Engineer

Engineering Services

Please note that I work Tuesdays 08:00-16:00 for Arun only.



T: 01903 221374

E: laura.gibbons@arun.gov.uk o [REDACTED]

Arun District Council, Civic Centre, Maltravers Rd, Littlehampton, West Sussex, BN17 5LF

From: Planning.Responses <Planning.Responses@arun.gov.uk>

Sent: 26 November 2020 11:49

To: Land Drainage [REDACTED]

Subject: Planning Consultation on: BN/142/20/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 No: BN/142/20/OUT

Registered: 24th November 2020

Site Address: Land south of Barnham Station Barnham

Grid Reference: 495741 104191

Description of Works: Outline planning application with all matters reserved, other than principal means of access, for up to 200 No. dwellings, with access taken from Marshall Close, associated infrastructure & landscaping & demolition of existing buildings. This application is a Departure from the Development Plan, may

affect the setting of listed buildings, may affect the Church Lane, Barnham Conservation Area & affects a Public Right of Way.

The Council have received the above application.

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

Should you have any comments to make, these should be sent by replying to this email by 2nd January 2021 . You can also monitor the progress of this application through the Council web site:

www.arun.gov.uk/planning.

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 <https://www.arun.gov.uk/development-plan> as can the the leaflet how to respond to planning applications <https://www.arun.gov.uk/planning-application-comments> which deals with material planning considerations.

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.

Should the application go to appeal the Planning Inspectorate will publish any comments made to the Council on their website: <https://www.planningportal.co.uk/info/200207/appeals> but they will protect personal details.

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

Yours sincerely

Raymond Cole

Planning Officer- Arun District Council

Telephone: 01903 737598

Email: raymond.cole@arun.gov.uk

PLCONSULT (ODS) 2020