

From: Paul Cann <Paul.Cann@arun.gov.uk>
Sent: 10 June 2022 11:14
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Cc: Sarah Burrow <Sarah.Burrow@arun.gov.uk>
Subject: RE: Planning Consultation on: A/45/22/PL

Please find enclosed our response in respect to drainage, prepared by our external consultants.

Regards

Paul Cann
Principal Drainage Engineer
Engineering Services

T: 01903 737819
E: paul.cann@arun.gov.uk



Arun District Council, Civic Centre, Maltravers Rd, Littlehampton, West Sussex, BN17 5LF
www.arun.gov.uk

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From: Land Drainage <Land.Drainage@arun.gov.uk>
Sent: 24 March 2022 13:34
To: Paul Cann <Paul.Cann@arun.gov.uk>
Subject: FW: Planning Consultation on: A/45/22/PL

From: Planning.Responses <Planning.Responses@arun.gov.uk>
Sent: Thursday, March 24, 2022 1:33:36 PM (UTC+00:00) Monrovia, Reykjavik
To: Land Drainage <Land.Drainage@arun.gov.uk>
Subject: Planning Consultation on: A/45/22/PL

To: **Engineers (Drainage)**

NOTIFICATION FROM ARUN DISTRICT COUNCIL

Town & Country Planning Act 1990 (as amended)

Town and Country Planning (Development Management Procedure) (England) Order 2015

Planning Permission

Application No: A/45/22/PL
Registered: 24th March 2022
Site Address: Rustington Golf Centre Golfers Lane Angmering BN16 4NB
Grid Reference: 505472 103584
Description of Works: Erection of 167 No new homes in a mix of 1-4 bedroom properties (2-4 bedroom homes and 1 bedroom apartments), with associated landscaping, parking, open space, play areas, construction of a new vehicular access from Golfers Lane and all other associated development works (resubmission following A/129/21/PL). This application is a Departure from the Development Plan and is in CIL Zone 3 and is CIL Liable as new dwellings.

The Council have received the above application.

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

This application has been identified as CIL Liable. Therefore please be aware that, in accordance with Appendix 2 of the Arun CIL Charging Schedule, your consultation response should only include requests for Section 106 for onsite mitigation, Pagham Harbour Management Contributions (if applicable) or Affordable Housing. "Off" Site mitigation measures directly related to this development should be dealt with by condition if possible to ensure the scaling back of Section 106 if possible. CIL contributions will be used for "off" site infrastructure mitigation schemes. Therefore if this proposal triggers the need for "off" site mitigation, please ensure that you engage in the CIL Infrastructure List Consultation process upon receipt of a consultation letter.

Should you have any comments to make, these should be sent by replying to this email by 30th April 2022 . You can also monitor the progress of this application through the Council web site:

<https://www.arun.gov.uk/planning-application-search>

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 information on what comments we can consider
<https://www.arun.gov.uk/planning-application-comments>

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://app.planninginspectorate.gov.uk/> 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

Mrs A Gardner

Planning Officer- Arun District Council

Telephone: 01903 737529

Email: Anita.Gardner@arun.gov.uk

PLCONSULT (CDB) 2020

Please find below our comments on the proposed planning application reference: **A_45_22_PL**

The proposed development consists of 167 dwellings and forms part of a hybrid planning application with road layout fixed.

We would currently recommend a Holding Objection until sufficient information is provided.

1. Some of the infiltration tests appear to have been abandoned partway through the testing, having completed less than the typical 3 full drain downs within the trial pit. The applicant should confirm;
 - Whether these tests were abandoned due to slow drain down / poor infiltration rates. If this is the case, it suggests some areas of the site where infiltration is proposed will not be suitable for the proposed soakaway(s). This is particularly important as some of the infiltration rates used within the drainage calculations appear to be reliant on these potentially incomplete infiltration tests.
 - For example; the large geo-cellular soakaway to the south-east of the site is reliant on the infiltration results from TP08 (which from the adjacent graph only includes 1 full drain down of the trial pit and 1 partial drain down).
2. If the drainage calculations only account for runoff draining from impermeable surfaces, then the calculations should use a CV of 1.0.
 - The requirement to use CV 1.0 is based on recent clarifications from HR Wallingford which suggest the values of 0.84 and 0.75 often used are in error and confirm that a value of CV = 1 should be used in situations where runoff from only the impermeable areas is considered.
 - It is noted that CV 1.0 is only considered applicable to the sizing of the SuDS, and pipework may still be designed to lower values.
3. The base of the soakaway located at WS1 appears to be below the groundwater table. This is based on the values taken from Table 3 of the RSK groundwater investigation report.
 - The IL of soakaway is stated as 2.25m on the drainage drawings.
 - The IL of GW is stated as 3.17m AODN in Table 3.
 - This suggests the soakaway base could intersect the groundwater table reducing the performance of the soakaway and increasing the risk of contaminants draining directly to groundwater.
 - The applicant should confirm that the base of every soakaway, or infiltration SuDS feature, will be above the seasonal groundwater table.
4. Additional information should be provided on the SuDS that will be used to achieve the water quality / treatment provided to runoff.
 - This is to confirm that sufficient space will be available within the proposed scheme to include SuDS required to achieve the water quality criteria discussed in Section 5.40 of the Flood Risk Assessment and Drainage Strategy (report). This is coupled with ensuring space for the additional SuDS mentioned in section 5.26 of the same report.
 - We have concerns that insufficient space will be available to include these additional SuDS if these are not considered at the planning stage.

5. Section 5.32 of the Flood Risk Assessment and Drainage Strategy (report) states flows in excess of the design storm will be kept within the internal road network, until such time as they can be directed into adjacent landscaping areas.
 - An exceedance flow route plan should be provided to demonstrate this.
 - This plan should show the locations where flooding is most likely to occur if the design rainfall event is exceeded.
 - This plan should also show any locations where flooding above ground during the 1:100+40%CC is likely to occur (based on the drainage model results), and quantify the volumes expected to overflow the drainage network in these areas.
6. Our guidance states all major applications must include a 10% allowance for urban creep applied to the design. A 10% allowance has not been applied.
 - An argument for using a 5% urban creep allowance across the whole site rather than uplifting the impermeable area for every property by 10% is presented. This argument is reliant on the total impermeable area within the property curtilage being less than half the total impermeable area of the site. Confirmation that this is the case should be provided.
7. The applicant should include a scale bar on the proposed drainage layout drawings.
8. The drainage layout plan should include the locations where no dig permeable surfacing is proposed, to ensure there are no conflicts with the arboricultural constraints and findings of the arboricultural report.
9. More information is required to determine the extent and impact of the existing drainage at the site.
 - We understand a site walkover has been carried out and some of the existing onsite drainage has been identified, and is well understood. Notwithstanding this, section 3.11 of the Flood Risk Assessment and Drainage Strategy (report) suggests elements of the onsite drainage network, which connect to the wider drainage for the Black ditch, have not been surveyed / confirmed. This includes some of the existing onsite water features. The existing onsite drainage should be identified as it may need to be retained as part of the development, to prevent flooding of parts of the site or surrounding area.
 - Understanding the existing onsite drainage is also necessary in order to understand whether the infiltration testing, and groundwater level monitoring could have been affected by existing land drainage near to the test locations.
 - In addition, understanding the existing onsite drainage is necessary to confirm whether or not the applicant will need to apply for ordinary watercourse consent to remove, replace, or divert, some of these features, if needed to facilitate the development.
10. Section 5.29 of the Flood Risk Assessment and Drainage Strategy (report) states a Factor of Safety (FoS) of 5 will be applied for areas in excess of 1000m². Within the drainage calculations provided, most of the SuDS appear to have applied a FoS of 2. The rationale for using a FoS of 2 within the calculations should be provided.
11. Base infiltration in crate systems is not typically acceptable and will only be accepted if the applicant can confirm that there is a low chance of any silt building up within the geo-cellular soakaway. This is particularly important as runoff appears to drain directly into the soakaway, meaning the above basins do not appear to provide filtration for runoff draining from low return period rainfall events.

- The applicant should rerun the calculations based on the assumption that base infiltration will not be available.

Or

- Provide evidence of how the design will ensure that runoff is pre-filtered to remove (all) silt prior to draining into the soakaway

Some additional comments have been outlined below; these will need to be addressed at the DOC stage.

12. We are pleased to see maintenance has been considered at planning stage and a maintenance condition has been requested to ensure this carried through to detailed design.
13. It appears a 5m easement has been proposed between some buildings and soakaways. As the site is located over chalk there is sometimes the need to extend easements from the typical 5m to 10m (or more) due to the possibility that these SuDS could contribute to the formation of dissolution features. A statement from a geotechnical engineer (or other suitably qualified professional) will be needed to confirm that sufficient easements between the proposed soakaways and buildings are in place.
14. The detailed design will need to ensure the incoming invert levels to the SuDS are located above the 1:10 year water level within the SuDS. At present it appears that this is not the case for some of the soakaways.
15. Due to the high groundwater levels, it may be necessary to consult with the EA regarding whether the Index Method is suitable for this site.

We would also recommend that **capacity of the receiving foul sewer network is confirmed** with the Sewerage Undertaker (Southern Water) **prior to planning permission being granted**, to ensure that a suitably worded Grampian style condition can be imposed on any planning consent in the event that the sewers in this area require upgrade works to be completed to facilitate the proposed development. Arguments relying on S106 or S98 alone can lead to increases in the risk of sewer flooding and contamination of watercourses as they do not take into consideration potential capacity issues.

The applicant should confirm that the SuDS have been excluded from the landscaping / open space allowance calculations by providing a summary table of the developed and open space allowance areas.

To overcome the objection the applicant should provide the requested details and amendments.

The detailed design for parts of the drainage system that are not sensitive to changes relating to the above points can be left until discharge of conditions.

The applicant should provide the level of information stated within our checklist Drainage Planning Consultations | Arun District Council

Nonetheless: if you are minded to approve the application, please ensure the following conditions are applied:

PCENG2

“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 WSP1, WDM1, WDM2 and WDM3 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:

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 infiltration tests must be carried out in accordance with BRE365, CIRIA R156 or a similar approved method. All design storms must include a climate change allowance of 40% on stored volumes or rainfall intensity. Infiltration structures must cater for the critical 1 in 10 year storm event, (plus 40%) between the invert of the entry pipe to the soakaway and the base of the structure. The design must also have provision to ensure there is capacity in the system to contain the critical 1 in 100 year storm event (plus 40%).

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 groundwater table in support of the design. The applicant is advised to discuss the extend of ground water monitoring with the council's engineers.

Supplementary guidance notes regarding surface water drainage are located at <https://www.arun.gov.uk/drainage-planning-consultations> on Arun District Council's website. A surface water drainage checklist is available on Arun District Council's website, this should be submitted with a Discharge of Conditions Application.”

PCENG3

“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 and in accordance with current policies. No construction is permitted, which will restrict current and future landowners 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:

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.”

ENGD1 (NB. Used where a development consists of 10 or more properties)

“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 informative:

INFORMD4

A surface water drainage verification condition guidance note is available at <https://www.arun.gov.uk/drainage-planning-consultations>, this clearly sets out our requirements for discharging this condition.