

Please find below our comments on the proposed planning application reference: BE/40/22/PL

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

- 1) Please can you provide calculations to confirm the proposed geo-cellular storage will not become buoyant if the groundwater was to become elevated.
 - The groundwater monitoring results suggest high groundwater across the entire site.
 - The base of the geo-cellular storage system is ~1.5m below ground level (BGL) in the center of the site, and all 3 of the groundwater monitoring results provided suggest groundwater levels will become elevated above this level.
 - Consequently, we would request that calculations are submitted to confirm that the proposed SuDS will not need to be altered in order to accommodate the expected high groundwater levels.
 - At this stage in the planning process, we anticipate a worst case groundwater level will be encountered, based on the testing provided. At present the FRA suggests in section 2.6 that this will be around 1.0m BGL.
- 2) Additional information should be provided on the proposed SuDS to show how the treatment provided to the runoff will impact the water quality.
 - We are concerned that there may be insufficient space if additional SuDS are required to ensure a suitable quality of water is discharged offsite. We request that calculations are provided which follow the Basic Index Method, to confirm that the proposed SuDS will treat runoff sufficiently.
- 3) A 10% allowance for urban creep should be applied to the design. A 10% allowance does not appear to have been applied.
 - Given the limited available space to expand the crate system, it is important to consider urban creep at this stage in the planning process, as additional storage may be required.
- 4) We require the fences to be at least 3m from top of bank, between the development and ancient watercourse, to ensure that the proposals are in accordance with our land drainage byelaws. This easement should be delineated and confirmed on the drainage layout plan.
 - From the information provided it appears that a 2m easement (approximately) has been provided for access and maintenance of the watercourse at present. It is recognised that no buildings are located within 5m (as is also required).
- 5) We are unsure how the ditch / small watercourse adjacent to the site connects to the nearby main river and we have concerns regarding how onward connection from the development site to this watercourse, or the main river will be achieved.
 - The drainage layout shows the proposed onward connection to the main river crossing the smaller ditch channel. There is likely to be works required to facilitate the connection as shown, or to ensure the ditch / small channel is fit for purpose and has onward connectivity to the main river if a connection to this feature is proposed at the detailed design stage.
 - We require additional details of the proposed connection, including whether an existing connection between the main river and smaller channel is present.
 - We require details of how any pipework can be accommodated / will pass through the area where the existing ditch / channel is. This pipework should remain above the water level within the main river.

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

- I have attached the MicroDrainage calculations that were provided outside of the planning system. For any future submission, please upload the MicroDrainage calculations to the planning portal. We appreciate these have been provided via other means, however, these need to be uploaded as we cannot review these in conjunction with this application if they are submitted outside of the planning system. This also ensures a planning record of the submitted information is kept.
- The infiltration testing that has been carried out does not show drain down times from 75-25% across all 3 tests, as in most cases a single test has been carried out. If the permeable surfacing / paving with infiltration is included in the detailed design, BRE 365 compliant infiltration tests will be necessary to support the calculations. This area cannot be excluded from the impermeable areas in the drainage model unless this additional testing is carried out.
- You will require ordinary watercourse consent for the proposed connection to the adjacent watercourse.
- At the DOC stage we will expect full details of this to be provided, including surveys of the existing watercourse and confirmation that the ditch (shown adjacent to the site) has onward hydraulic connectivity to the adjacent Rife.
- A detailed maintenance and management plan has been made a condition of planning. For the DOC application full maintenance details will be required, including information on responsible parties, expected costs and funding for ongoing maintenance.
- Detailed design / construction drawings will be required as part of the DOC application, these will need to be prepared in accordance with ADC's guidance and checklist ([link below](#)).

We would also recommend that the **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 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:

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 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, as per <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>, 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. All surface water drainage designs must also have provision to ensure there is capacity in the system to contain the critical 1 in 100 year storm event (plus 45%).

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.”

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 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.”

PCENG D4 (NB. Used where a development consists of 5 or more properties)

“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 (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.