

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

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From: Laura Gibbons <Laura.Gibbons@arun.gov.uk>
Sent: 24 August 2021 12:47
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Cc: Brenda Louisy-Johnson <Brenda.Louisy-Johnson@arun.gov.uk>
Subject: RE: Planning Consultation on: P/49/21/RES

Further Engineers Comments On Surface Water Drainage

We maintain our holding objection. Drainage and layout must be considered concurrently. Insufficient information has been submitted to evidence that the proposed layout has sufficient space for surface water drainage. We are also concerned that there is clear conflict between proposed landscaping plans and drainage plans.

Our fully detailed comments are enclosed on a comment tracker.

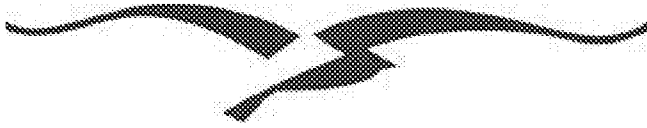
Kind regards,

Laura Gibbons

Drainage Engineer

Engineering Services

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



T: 01903 221374

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

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

Sent: 16 August 2021 10:19

To: Land Drainage

Subject: Planning Consultation on: P/49/21/RES

To: **Engineers (Drainage)**

NOTIFICATION FROM ARUN DISTRICT COUNCIL

TOWN AND COUNTRY PLANNING ACT 1990

Application No: P/49/21/RES
Registered: 31st March 2021
Site Address: Land North of Sefter Road & 80 Rose Green Road Pagham
Grid Reference: 490199 99587
Category: Plan Applicat'n
Description of Works: Application for the approval of Reserved Matters pursuant to condition 1 (Reserved Matters details), condition 6 (Design Code Masterplan) & condition 7 (landscaping & layout details) following the grant of P/134/16/OUT for the erection of 250 No. dwellings, (including affordable homes), replacement scout hut, land for an Ambulance Community Response Post Facility, demolition of No. 80 Rose Green Road & provision of Public Open Spaces including associated children's play areas, landscaping, drainage & earthworks (resubmission following P/24/20/RES). This site also lies within the parish of Aldwick.

I am able to inform you that I have received an amendment to the above application dated 4th August 2021 relating to:- various substitute plans

[Click here to view the plans and documents](#)

If you should wish to make further representations as a result of this amendment you should click the link below and then click on 'Enter comment'.

[Click here to make further comments](#)

Please make any further comment by **25th June 2021**.

Please be aware that Planning Services operate an 'open file' policy and will publish your comments including your name and address on the website. We will aim to redact signatures,

telephone numbers and email addresses but please help us by not incorporating them in the body of your text. Please make sure that you only include information that you are happy will be published in this way. If you supply information belonging to a third party, you must make sure you have their permission to do so.

Yours sincerely

Brenda Louisy-Johnson

Planning Case Officer- Arun District Council

Telephone: 01903 737972

Email: brenda.louisy-johnson@arun.gov.uk

PURECON (ODS) 2016

Land North of Sefter Road, Pagham - P/49/21/RES RM Application
Comment Tracker

	ADC Drainage comments 28/05/21	Applicants Response 26/07/21	ADC Drainage comments 24/08/21
1	The total impermeable development area is reportedly 5.475Ha, QBar according to uk suds is 15.73l/s. It appears that discharge is proposed in two locations via 3 outfalls. The proposed discharge rates appear to be 10l/s, 3.5l/s and 5l/s. This in total is greater than the QBar rate. Please provide an impermeable areas plan and QBar calculations for each catchment. Currently Q1 calculations area supplied.	As clarified in the Teams meeting on the 25/06/2021- the overall discharge is less than the agreed restricted discharge rate of 48.10l/s to the "anti-tank ditch" which was agreed during the Outline planning stage with ADC's Drainage Department. The current proposals have restricted the peak overall discharge to 15.9l/s which is a significant reduction to the previously agreed peak restricted discharge.	The discharge rate was not agreed at outline design stage. We expect proposals to be policy compliant, i.e. for discharge rate to be equivalent to greenfield QBar for the positively drained site area.
2	Please make it clear on plans where points of discharge are. The eastern network appears to have a discrepancy on the label for S46. The leader indicates an I.L of 4.4.04 but the actual network label indicates 4.872 which tallies with calcs. Without zooming in this does cause some confusion as it appears the network breaks its back based upon the leaders.	Noted this will be made clearer on the discharge of conditions submission (condition 10 – details of surface water drainage scheme pursuant to Outline planning permission ref. P/134/16/OUT).	This is required at this stage to evidence that the proposed layout includes sufficient room for surface water drainage.
3	Please provide two perpendicular cross sections per basin. These do not have to be construction detail level of detail but need to show basin dimensions.	Noted this will be provided with the discharge of conditions submission.	This is required at this stage to evidence that the proposed layout includes sufficient room for surface water drainage. Without this volumes provided cannot be independently verified.
4	Please detail the invert level of the existing culvert at the proposed points of connection. We will expect connections to be made soffit to soffit.	The invert level at the connection point is provided on the strategy plan. Construction details of the connection to the "anti-tank ditch" culvert will be provided during the discharge of conditions submission.	This is required at this stage to evidence that the proposed layout includes sufficient room for surface water drainage. This is required to evidence that a gravity connection can be achieved with the proposed layout.
5	Please provide calculation printouts of the storage inputs for network 1. There are no printouts for the basins within these calculations. There is also no flow control printouts, please provide.	Provided as attached with FEH calcs.	Storage areas not included in printouts. Flow control printouts have now been provided. Please provide storage feature inputs for this network to evidence that what has been modelled matches that on plan, i.e. that required storage can be provided within the layout.
6	Please provide a manhole schedule printout for network 2 in MicroDrainage.	Provided as attached with FEH calcs.	Provided, thank you.
7	The leader for S79 indicates a discharge rate of 3.5l/s but in calculations this is 3l/s please ensure consistency.	Noted, whilst the peak flow is 2.9l/s for this network, the design criteria for the hydrobrake is 3.5l/s with associated design head to provide an efficient hydraulic discharge curve. The note on the drawing is relating to the hydrobrake peak flow criteria. This will be made clear on the discharge of conditions submission.	This is somewhat confusing. The calculation inputs are for a design flow of 3l/s and the discharged rate of 2.9l/s is shown in the results. Unclear where 3.5l/s has come from.
8.	There are inconsistencies between calculations and the layout for; the attenuation tank at S80, pond at S75, pond at S79, please update.	Noted this will be made clearer on the discharge of conditions submission.	This should be resolved at this stage to evidence that the proposed layout includes sufficient room for surface water drainage.
9.	Please provide printouts for storage inputs and hydrobrake for network 3.	Provided as attached with FEH calcs.	Okay
10.	Please run calculations with latest FEH rainfall data applied.	Provided as attached.	Provided, thank you.
11.	Where there is a gap in the bund for future connections, please detail whether the ground level here will be raised or not. We also wish to discuss the extent of this bund.	This is raised as per out discussions held on the 25/06/21.	Please show on plans.
12.	We note that the watercourse around pond 4 is proposed to be diverted, we are concerned by how little distance there is between the pond and watercourse.	This has been addressed in the updated layout, with the diverted watercourse offset further from the edge of the new SuDS basin to suit.	Please indicate available buffer between features

13.	I note that indicative buoyancy resistance measures are detailed on the plans. Please could you provide flotation calculations if these have been completed. We will need to see at least one set to be confident at this stage that this has been accounted for in design and that there is space within the layout.	Provided as attached.	Thank you, we can discuss the factors of safety at detailed design.
14.	The use of permeable paving should be extended to all driveways to ensure adequate treatment of surface water prior to discharge.	This is raised as per out discussions held on the 25/06/21 and agreed to only have lined permeable paving in the western part of the development since the eastern catchment had sufficient levels of treatment of run-off in accordance with Ciria 753.	Okay
15.	We wish to be provided with an action plan for rectifying the issues identified with the ordinary watercourse network through this development.	Noted this will be made clearer on the discharge of conditions submission (condition 12 – details of maintenance and management of the surface water drainage system pursuant to Outline planning permission ref. P/134/16/OUT).	Okay
16.	Existing root protection area and proposed root potential areas must be considered with drainage design. This must be considered very carefully on this site due to the reliance on impermeable liners for keeping groundwater out of the system.	Noted this has been considered and will continue to do so during the detailed design stage.	This is required at this stage to evidence that the proposed layout includes sufficient room for surface water drainage. We note that the diverted watercourse and some storage areas are located within root protection areas. Please confirm if landscaping proposals are being agreed under this RM application.
17.	Further information on the exact position of culverted watercourses on site. We understand there to be a further branch into the anti-tank ditch culvert which could clash with the proposed locations of some dwellings.	Further CCTV surveys were undertaken to establish the location of the missing culvert and it has been confirmed that the culvert does not cross Taylor Wimpey's land and appears to be a high-level overflow from the anti-tank culvert into the shallow ditch into the Osborne refrigeration site. ADC Drainage Officer Paul Cann has confirmed that no further assessment is required.	Okay
18.	A buffer plan showing a 3m buffer around the top of the bank of all basins and watercourses. There must be a minimum unobstructed width of 3m from the top of the bank of basins and watercourses to ensure that future maintenance can be completed.	This is raised as per out discussions had on the 25/06/21 and discussed that whilst a full 3m wide buffer couldn't be provided around the whole perimeter of each basin min 3m maintenance access was still provided along one side of each basin which provides a means for future maintenance.	Please show clearly on plans what buffers are being provided. We must see that the surface water drainage system and watercourses will be maintainable throughout the duration of development.
19.	A revised drainage strategy, updated to include the details requested above.	Updated strategy plan provided.	See above comments.
20.	A plan which clearly shows proposed changes in ground levels.	Level strategy plan provides this level of information.	Please provide.
21.			Network 1 has 20m3 flood volume at 5.002 and 25m3 of flooding at 6.001. this will need to be carefully examined at detailed design stage to ensure that water is kept safely on site.