

Engineers Comments Regarding Surface Water Drainage

Application Reference:	BN/110/25/DOC	Reviewer Reference:	EXT2
Planning Officer:	Hannah Kersley	Date of Review:	18/11/2025
Site Name:	Land South of Barnham Station Barnham		
Application Description:	Approval of details reserved by condition imposed under BN/142/20/OUT relating to conditions 6-surface water drainage and 8-maintenance and management of surface water drainage scheme.		
Assessment Number:	2 of 2		

Policy and Guidance Information	
Arun District Council Surface Water Drainage Guidance (including design checklists) - https://www.arun.gov.uk/surfacewater Land Drainage Consent – https://www.westsussex.gov.uk/fire-emergencies-and-crime/dealing-with-extreme-weather/flooding/flood-risk-management/ordinary-watercourse-land-drainage-consent/ Arun District Council Land Drainage Byelaws - https://www.arun.gov.uk/byelaws/ Arun District Council surface water pre-commencement conditions - https://www.arun.gov.uk/planning-pre-commencement-conditions The National Standards for SuDS - https://www.gov.uk/government/publications/national-standards-for-sustainable-drainage-systems/national-standards-for-sustainable-drainage-systems-suds The SuDs Manual [C753] by CIRIA	

Response	Condition 6 – Surface Water Drainage: Further information required Condition 8 – Maintenance and management of surface water scheme: Further information required
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References
The NPPF states that when determining any planning application, local planning authorities should ensure that flood risk is not increased elsewhere (paragraph 181, 182 and 187e). The PPG guides local planning authorities to refer to 'Sustainable drainage systems: non-statutory technical standards' [NsTS] and detailed industry guidance like The SuDS Manual [C753] by CIRIA to guide decisions about the design, maintenance, and operation of sustainable drainage systems for non-major development. The NsTS have been superseded by the National Standards for Sustainable Drainage Systems [NSfS] from 19 June 2025. This consultation has been primarily informed by the NSfS and The SuDS Manual.

Summary

This summary highlights if critical items aligning with each of the standards have been met. Critical items are highlighted in **bold** on our surface water drainage design checklist (linked above). A failure to address these will result in an **objection** to any application to discharge a surface water drainage design condition.

If any of these items are inadequately addressed by the submission, then their correction may result in a redesign of the surface water drainage scheme. A redesign is likely to have site wide implications such as the potential for storage structures to increase in volume or plan area, or the provision of other important infrastructure to satisfy the NSfS set out below.

All relevant items on the checklist are expected to be met before an application to discharge an application to discharge a SuDS design condition is supported.

Our response and requirements are elaborated upon or condensed within an attached comment tracker where necessary. If a comment tracker is provided a designer is encouraged to refer to this and respond to comments to aid further review. Please request a .docx version of this document to by email to land.drainage@arun.gov.uk if needed.

Standard	Assessment	Response
1. Runoff destination	N/A	N/A
2. Interception drainage	N/A	N/A
3. Extreme Rainfall and Flooding	N/A	N/A
4. Water Quality	N/A	N/A
5. Amenity	N/A	N/A
6. Biodiversity	N/A	N/A
7. Construction, operation, maintenance, decommissioning and structural integrity	N/A	N/A

Reviewed Plans

The following documents have been submitted and reviewed to inform this consultation with reference to surface water drainage:

- ATTENUATION POND INVESTIGATION
- GROUNDWATER INGRESS MANAGEMENT STATEMENT-CENTRU GARDENS, TARS FARM, BARNHAM
- SURFACE WATER NETWORK 1 CALCS
- STORM AND FOUL MANHOLE SCHEDULE 6838-MJA-SW-XX-DR-C-705 REV T8
- LAND DRAINAGE DETAILS 6838-MJA-SW-XX-DR-C-228 REV P1
- ATTENUATION TANKS DETAILS 6838-MJA-SW-XX-DR-C-210 REV C1
- FLOW CONTROL DETAILS 6838-MJA-SW-XX-DR-C-209 REV P5
- FLOOD EXCEEDANCE PLAN 6838-MJA-SW-XX-DR-C-206 REV P06
- SECTIONS THROUGH ATTENUATION BASINS 6838-MJA-SW-XX-DR-C-204 REV P5
- OVERALL ENGINEERING LAYOUT 6838-MJA-SW-XX-DR-C-004 REV T13

Condition wording

Condition 6 is worded as follows:

“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.”

Condition 8 is worded as follows:

“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.”

Consultation comments to the planning officer

1. Please see the attached comment tracker for detailed comments relating to the submission.
2. There are discrepancies between some of the drawings and the proposed landscaping is not fully coordinated with the surface water drainage
3. The information provided relating the basins and managing groundwater ingress is preliminary and insufficient.
4. The information relating to dewatering during the construction of the basins is insufficient.
5. No information has been submitted in relation to Condition 8, although this requires the details submitted under Condition 6 to be agreed.

Drainage Impact on Other Planning Matters

This application has been assessed with regards to surface water drainage design only, together with land drainage aspects if deemed necessary.

Other planning matters occasionally effect the surface water drainage design. If plans relating to other matters have been assessed for their impact on the proposed drainage, then it must not be assumed that they have been assessed for any other purpose. The planning officer is advised to check for conflicts with any existing approved plans and to consult any relevant consultees as appropriate.

It has been identified that the following consultees may have comments about the plans that have been submitted and reviewed for this application:

- ☐ Landscaping officer (proposed trees and landscaping)
- ☐ Tree officer (existing trees)
- ☐ Environment Agency (main rivers and fluvial/tidal flood risk, River Arun internal drainage board, groundwater source protection zones)
- ☐ Southern Water (foul drainage and surface water disposal to public sewer network/groundwater source protection zones)
- ☐ Portsmouth Water (groundwater source protection zones)
- ☐ Lead local flood authority (all other sources of flooding and ordinary watercourses)
- ☐ Other: Specify
- ☐ None

Application Reference: BN/110/25/DOC Site Name: South of Barnham Station Barnham	Initial Issue Date: 18/11/2025 Issue Date: 18/11/2025 Reviewer Reference: EXT2
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Summary and Recommendation:

Condition 6: **Further information required**

Condition 8: **Further information required**

Please note: Any DOC application should only have a maximum of two consultation responses. If this is the second response for an open application and there are still comments outstanding, then please object to the application.

	Comment History	ADC Response	MJA Response	ADC Response	Designer` Response
Date:		18/09/2025	06/10/2025		
Condition Number: 6 (Surface Water drainage design)					
Comment Number					
1.	ADC Drainage Comments [BN/53/23/DOC] 25/10/2023: It is noted that the comments previously made have not been fully addressed including those made on the reserved matter application BN/147/22/RES. It is recommended that the applicant addresses these comments in turn and resubmits revised documents. Designer Response [BN/98/24/DOC] 21/11/2024 N/A ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 This has still not been fully dealt with. Please respond as recommended. Designer Response [BN/157/24/DOC] 17/02/2025 Please refer to page 5. ADC Drainage Comments [BN/157/24/DOC] 29/04/2025 Page 5 of which document? Designer Response [BN/157/24/DOC] 16/06/2025	The applicant must ensure that all comments that were previously made have been adequately addressed. It is suggested that there are scheduled and information provided demonstrating how they have been addressed.	Following the meeting with the LLFA on 13/10/2025, please find enclosed our response document (Ref: CP/6838/1710), which addresses Comments 43, 45, 53, and 54 as outlined in David Easton's email dated 09/10/2025 at 10:11am. A response to these comments were confirmed as sufficient to address	45. Closed 53. Closed 54. Closed	

	For clarity, can you please clarify which comments have not been addressed on the application BN/147/22/RES		all outstanding issues related to Point 1 (Ref: DN/157/24/DOC)		
2.	ADC Drainage Comments [BN/53/23/DOC] 25/10/2023: Please provide catchment drawings showing the distribution of impermeable area to each of the pipes in the Microdrainage network, showing the areas that urban creep has been applied to. Designer Response [BN/98/24/DOC] 24/07/2024: Areas on the catchment plan and within the calcs are now consistent. Refer to MJA plan 6838-MJA-SW-XX-DR-C-205 P2 and Surface Water Networks calcs 1,2 & 3. ADC Response [BN/98/24/DOC] 03/10/2024: The catchment drawing does not show catchment areas for the swale or basins. Please demonstrate that these areas have been included in the calculations. It is noted that Microdrainage calculations have been submitted and Infodrainage calculations are also included in the Technical Note. The rainfall data used in each set of calculations is different, please confirm why there are 2 sets of calculations and which are applicable. Designer Response [BN/98/24/DOC] 21/11/2024 Plan 205-P2 submitted previously does show a black polyline around both basins and a text box with the catchment area of both (Node 1.008 & 1.010). The plan area of the swale has now been added to the 205 plan and calcs (Node 1.005). There are two sets of calculations because it was requested that FEH22 was used and this is not possible in Microdrainage.	COMMENT CLOSED			

	The Infodrainage calcs are relevant, please ignore all previously submitted Microdrainage calcs.				
3.	ADC Drainage Comments [BN/53/23/DOC] 25/10/2023: Please demonstrate how the discharge rates have been calculated. QBAR is stated to be 9.1l/s for the 13.8Ha site, the discharge rates used are not consistent with this. Discharge rates must be calculated based on the drained area not the whole site area. ADC Further Comments [BN/52/24/DOC] 12/06/2024: This comment is still applicable. It is recommended that the applicant provides a statement demonstrating how the selected discharge rate has been calculated. Designer Response [BN/98/24/DOC] 24/07/2024: The FRA calculated rate of 9.1l/s for the 13.8ha site is now superseded. <u>Network 1 - Drained Area = 4.4900ha</u> Calculated Qbar = 14.3 l/s (3.2 l/s/ha) (See screenshot insets above) <u>Network 2 - Drained Area = 0.1598ha</u> Calculated Qbar = 0.5 l/s <u>Network 3 - Drained Area = 0.0540ha</u> Calculated Qbar = 0.2 l/s ADC Response [BN/98/24/DOC] 03/10/2024: Please provide specific details for each of the flow controls including manufacturers model/part numbers and reference them on the drawings (plans and details). Designer Response [BN/98/24/DOC] 21/11/2024 This is shown on plan 209-P2 previously submitted.	COMMENT CLOSED			

	The hydrobrake part reference has now been added to each control and on the engineering plans. Please note slight catchment area changes and resultant Qbar rate.				
4.	ADC Drainage Comments [BN/53/23/DOC] 25/10/2023: The calculations are based on FEH13 and a Cv of 0.95. They must be based on FEH22 and a Cv of 1. ADC Further Comments [BN/52/24/DOC] 12/06/2024: The submitted calculations are now based on a Cv of 1 but are still using FEH13 data not FEH22. Designer Response [BN/98/24/DOC] 24/07/2024: FEH22 rainfall has now been used within the calcs. ADC Response [BN/98/24/DOC] 03/10/2024: Microdrainage calculations have been submitted and Infodrainage calculations are also included in the Technical Note. The rainfall data used in each set of calculations is different, please confirm why there are 2 sets of calculations and which are applicable. The Microdrainage calculation still show FEH13. Additionally the simulation criteria used for the main network in the Infodrainage output appears to be missing from the report. Designer Response [BN/98/24/DOC] 21/11/2024 Please refer to comment 2. The Infodrainage calcs are relevant and use FEH22, please ignore all previous submitted Microdrainage calcs. Simulation criteria now added to Network 1 calcs.	COMMENT CLOSED			
5.	ADC Drainage Comments [BN/53/23/DOC] 25/10/2023: The Microdrainage calculations submitted for the main part of	COMMENT CLOSED			

	the drainage system do not appear to include an allowance for climate change. Please review and resubmit calculations that include climate change allowance. ADC Further Comments [BN/52/24/DOC] 12/06/2024: Climate change has now been included. Designer Response [BN/98/24/DOC] 24/07/2024: Ok. +45%cc applied within calcs. ADC Response [BN/98/24/DOC] 03/10/2024: Microdrainage calculations have been submitted and Infodrainage calculations are also included in the Technical Note. The rainfall data used in each set of calculations is different, please confirm why there are 2 sets of calculations and which are applicable. Designer Response [BN/98/24/DOC] 21/11/2024 Please refer to comment 2. The Infodrainage calcs are relevant and use FEH22, please ignore all previous submitted Microdrainage calcs.				
6. (Formally 8)	ADC Drainage Comments [BN/53/23/DOC] 25/10/2023: Please note further review and commentary will be undertaken on receipt of a full information as advised on this sheet. ADC Further Comments [BN/52/24/DOC] 12/06/2024: Designer Response [BN/98/24/DOC] 24/07/2024: ADC Response [BN/98/24/DOC] 03/10/2024: The comment is still applicable. Designer Response [BN/98/24/DOC] 21/11/2024 N/A	Please confirm what the reference to Page 5 is?	Following the meeting with the LLFA on 13/10/2025, please find enclosed our response document (Ref: CP/6838/1710), which addresses Comments 43, 45, 53, and 54 as outlined in David Easton's email dated 09/10/2025 at 10:11am. A response	45. Closed 53. Closed 54. Closed	

	ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 This comment is still applicable Designer Response [BN/157/24/DOC] 17/02/2025 Please refer to page 5. ADC Drainage Comments [BN/157/24/DOC] 29/04/2025 Page 5 of which document? Designer Response [BN/157/24/DOC] 16/06/2025 Can you clarify what information is required to address this point?		to these comments were confirmed as sufficient to address all outstanding issues related to Point 6 (Ref: DN/157/24/DOC)		
7. (formal9)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: The Overall Engineering Layout drawing shows a flow control at S1CTRL with a flow rate of 5l/s however the Microdrainage calculations and other drawings include a flow control in that located with a flow rate of 16.1l/s and also 13l/s Please can this be explained. Designer Response [BN/98/24/DOC] 24/07/2024: The flow rate at SW1CTRL has been updated to reference 14.3 l/s on all plans, construction details and calculations. ADC Response [BN/98/24/DOC] 03/10/2024: Please provide specific details for each of the flow controls including manufacturers model/part numbers and reference them on the drawings (plans and details) Designer Response [BN/98/24/DOC] 21/11/2024 This is shown on plan 209-P2 previously submitted.	COMMENT CLOSED			

	The hydrobrake part reference has now been added to each control and on the engineering plans.				
8. (formally 10)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: The surface water manhole schedule is not consistent with the details in the microdrainage calculations and the overall engineering layout Designer Response [BN/98/24/DOC] 24/07/2024: Schedule now consistent with calcs and layout. Refer to MJA plan 6838-MJA-SW-XX-DR-C-700 P4 ADC Response [BN/98/24/DOC] 03/10/2024: Spot check on SW40, SW41 and SW34 concludes that are still inconsistencies between the manhole schedules/calculations and the overall drainage layout. ADC Drainage Comments [BN/157/24/DOC] 29/04/2025 The manhole schedule is not consistent with the plan. Eg. SW14, SW15 and SW17(CP) cover levels. There are also a number of chambers where the type is incorrectly specified. Eg. control chambers specified as catchpits and Downstream defender chambers specified as standard manholes. Designer Response [BN/157/24/DOC] 16/06/2025 We believe these are all now consistent. Refer to MJA dwg 6838-MJA-SW-XX-DR-C-705_T6 These have been corrected. Designer Response [BN/98/24/DOC] 21/11/2024 Calcs, Schedules and Layouts now all match ADC Drainage Comments [BN/157/24/DOC] 16/01/2025	Drawing 6838-700 P3 has been included in the submission and shows different information to drawings 6836-703 P4 and 705 T6. Should drawing 700 P3 be withdrawn? There are still many chambers where the cover type is not specified on the drawings. SW08 is specified as non-standard 1575mm diameter on drawing 703 P4	Note that both 700 & 703 are superseded by drawing number 705. Please refer to MJA drawing 705 Rev T8 MH Schedule which picks up issues highlighted for point 8.	There are inconsistencies between the manhole schedules and drawing 210-C1. See comment 34	

	Some chambers are not included in the schedules eg. HD6, HD7CTRL. Spot check shows that there are still discrepancies between the layouts and at the schedules (many cover levels are different) Designer Response [BN/157/24/DOC] 17/02/2025 All should now be consistent. ADC Drainage Comments [BN/157/24/DOC] 29/04/2025 Existing chambers types have also been specified, has this been verified? There are many chambers where the cover type is not specified. SW08 has been specified as a non-standard diameter, please confirm if this is correct. HW 03 is not on the schedule. The manhole schedule is not consistent with the calculations Eg. Some chamber diameters do not match. VS1 cover and invert levels do not match, SW47CTRL and HW02 invert levels do not match. None of the cover and invert levels in the calculations for Surface Water Network 3 match the schedule The foul water drainage has been removed from the plan so it is no longer possible to confirm if the foul and surface water is coordinated. Please add the foul water drainage to the plan. Designer Response [BN/157/24/DOC] 16/06/2025 Existing chambers have now been removed from schedule All manhole have a D400 cover specified Corrected to DN1500 HW03 is on the schedule				
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	We believe theses are all now consistent Was omitted for clarity, however foul readdded to Engineering Layout MJA dwg 6838-MJA-SW-XX-DR-C-004_T8 for information.				
9. (formally 11)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: Flow control chambers and catchpits are noted as standard manhole types on the manhole schedule. Designer Response [BN/98/24/DOC] 24/07/2024: ADC Response [BN/98/24/DOC] 03/10/2024: This can be closed when Item 8 (formally 10) is concluded Designer Response [BN/98/24/DOC] 21/11/2024 N/A Designer Response [BN/157/24/DOC] 17/02/2025 Noted ADC Drainage Comments [BN/157/24/DOC] 29/04/2025 See comments 8 Designer Response [BN/157/24/DOC] 16/06/2025 These have been corrected	As comment 8	Please refer to 705 Rev T8 MH Schedule which picks up issues highlighted.	There are inconsistencies between the manhole schedules and drawing 210-C1. See comment 34	
10. (formally 13)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: A road gully junction connection downstream of SW12 is against the direction of flow. There are numerous road gully junction connections that are close to manholes. These should be redirected to the connect directly into the manholes. Designer Response [BN/98/24/DOC] 24/07/2024: All road gullies amended to connect to sewer in direction of flow. All gully connections in close proximity to manhole updated to connect directly into manhole.	COMMENT CLOSED			

	ADC Response [BN/98/24/DOC] 03/10/2024: There are still locations where gullies could be connected to nearby chambers. Eg. SW25, SW21. Designer Response [BN/98/24/DOC] 21/11/2024 These two gullies now connect directly to the manholes. ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 Comment closed				
11. (formally 14)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: A road gully is shown to pass through FW06. Please also demonstrate that the road gully connections do not clash with the foul sewer. Designer Response [BN/98/24/DOC] 24/07/2024: Road gully connection amended to avoid FW06 ADC Response [BN/98/24/DOC] 03/10/2024: Road gully connection now does not pass through FW06 but it has not been demonstrated that the road gully connections can pass over or under the foul sewer. This is not just applicable to this location. Designer Response [BN/98/24/DOC] 21/11/2024 All connections come from gullies at a shallow level (0.7-0.9mBGL) so can pass over a foul sewer and drop down into the storm sewer via a saddle connection ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 Please refer to MJA drawing 6838-MJA-SW-XX-DR-C-220_P1 which shows a typical detail indicating how gully connections can be made over an adjacent foul sewer.	COMMENT CLOSED			

	Designer Response [BN/157/24/DOC] 17/02/2025 Please refer to MJA drawing 6838-MJA-SW-XX-DR-C-220_P1 which shows a typical detail indicating how gully connections can be made over an adjacent foul sewer.				
12. (formally 15)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: There are traffic calming ramps shown on the layout. Please demonstrate that road gully locations take account of this. Designer Response [BN/98/24/DOC] 24/07/2024: Road gully locations take into account the low point next to raised ramps. ADC Response [BN/98/24/DOC] 03/10/2024: Please check this again. There appears to be numerous locations where gullies are missing at the base of ramps. Designer Response [BN/98/24/DOC] 21/11/2024 All checked, gullies are located at the appropriate low points. ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 Comment closed	COMMENT CLOSED			
13. (formally 17)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: The microdrainage calculations do not include details of the custom conduit dimensions for pipe S1.005 Designer Response [BN/98/24/DOC] 24/07/2024: This swale section is now included within the calcs. ADC Response [BN/98/24/DOC] 03/10/2024: Closed on the basis that the Infodrainage calculations are the correct ones to refer to.	COMMENT CLOSED			

	Designer Response [BN/98/24/DOC] 21/11/2024 OK ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 Comment closed				
14. (formally 18)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: The flow control in SW47CTRL is noted to have a diameter of 18mm. This does not comply with the min 75mm clear opening. Please review. Designer Response [BN/98/24/DOC] 24/07/2024: This size orifice (18mm) is required to restrict flows to Q1-0.5 l/s. A mesh protected orifice with overflow (SEL Controflow 500 series) can be installed to limit the risk of blockages or a vortex control (Hydrobrake or similar) can be specified if appropriate. ADC Response [BN/98/24/DOC] 03/10/2024: Please provide specific details for each of the flow controls including manufacturers model/part numbers and reference them on the drawings (plans and details) Designer Response [BN/98/24/DOC] 21/11/2024 This is shown on plan 209-P2 previously submitted. The hydrobrake part reference has now been added to each control and on the engineering plans. ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 The flow controls do not meet the minimum requirement of 75mm clear passage. Please demonstrate that the risk of blockage is appropriate. Designer Response [BN/157/24/DOC] 17/02/2025 ADC Drainage Comments [BN/157/24/DOC] 29/04/2025	COMMENT CLOSED			

	The flow rates are fixed. The designer must demonstrate that the risk of blockage of the components that they have selected is appropriate. Sumps/catchpits will not prevent floating debris reaching the flow controls. The designer may wish to consider the installation of protection measures Eg. mesh screens. Any additional components must be included in the maintenance document submitted for Condition 8. Designer Response [BN/157/24/DOC] 16/06/2025 The adopting company IWNL have technically approved the flow control units for adoption. All silts and floatable debris will be fully captured by the upstream vortex treatment devices prior to flows passing through the flow control units HD1CTRL and SW47CTRL. Therefore, the risk of blockages to the flow controls are low and their use appropriate. The size of the flow controls are required to comply with the Qbar runoff rates for each of the 3 catchments. The upstream system incorporates measures to capture sediments and the flow controls are within catchpit chambers to capture any larger debris. If a minimum 75mm control is required, the minimum flow rate will need to increase to circa 2.0l/s at the controls for Networks 2 & 3.				
15. (formally 19)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: The cellular tank at SW47CTRL is shown on the engineering layout to have a plan area of 220m². The microdrainage calculations show more than double this plan area. Please explain. Designer Response [BN/98/24/DOC] 24/07/2024:	COMMENT CLOSED			

	The layout and calcs now show a plan area of 380m² x 0.5m deep (180m³). ADC Response [BN/98/24/DOC] 03/10/2024: On the basis that the Infodrainage calculations are the correct set, this is now closed. Designer Response [BN/98/24/DOC] 21/11/2024 Info Drainage ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 Comment closed				
16. (formally 20	ADC Further Comments [BN/52/24/DOC] 12/06/2024: The flow control in SHD7CTRL is noted to have a diameter of 15mm. This does not comply with the min 75mm clear opening. Please review. Designer Response [BN/98/24/DOC] 24/07/2024: This size orifice (11mm) is required to restrict flows to Q1-0.2 l/s. A mesh protected orifice with overflow (SEL Controflow 500 series) can be installed to limit the risk of blockages or a vortex control (Hydrobrake or similar) can be specified if appropriate. ADC Response [BN/98/24/DOC] 03/10/2024: Please provide specific details for each of the flow controls including manufacturers model/part numbers and reference them on the drawings (plans and details) Designer Response [BN/98/24/DOC] 21/11/2024 This is shown on plan 209-P2 previously submitted. The hydrobrake part reference has now been added to each control and on the engineering plans.	COMMENT CLOSED			

	ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 Comment closed				
17. (formally 21)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: The cellular tank at SHD7CTRL is shown on the engineering layout to have a plan area of 55m². The microdrainage calculations show 200m² plan area. Please explain. Additionally the invert level of the tank in the calculations is not consistent with the drawing. Designer Response [BN/98/24/DOC] 24/07/2024: The layout and calcs now show a plan area of 150m² x 0.5m deep (71m³). The invert of the tank is consistent on the layout and calcs. ADC Response [BN/98/24/DOC] 03/10/2024: On the basis that the Infodrainage calculations are the correct set, this is now closed. Designer Response [BN/98/24/DOC] 21/11/2024 InfoDrainage ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 Comment closed	COMMENT CLOSED			
18. (formally 25)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: Please provide full details of the vortex separators. Designer Response [BN/98/24/DOC] 24/07/2024: Hydro International - Downstream Defender Select Advanced Vortex 1.2mdia ADC Response [BN/98/24/DOC] 03/10/2024: Please note this on the drawings and provide installation drawings and flotation calculations. Designer Response [BN/98/24/DOC] 21/11/2024	The calculations prepared by RSK show a maximum of 2.44m depth of soil surcharge, below a 2m deep pond, effectively placing the	Please refer to drawing 213_P2 which has been updated to reflect RSK design. Please refer to RSK Document 1924061 L01(00) for basin construction specification. Recent RSK	What groundwater level is the puddled clay design based on? Historic monitoring suggests very shallow depths. Provide design for distribution	

	Notes added to layout. Manufactures installation details attached and to include a concrete surround as in high groundwater. Flotation calcs attached. ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 Please include the relevant safety factors in the calculations. No calculations or details have been provided for the basins. Designer Response [BN/157/24/DOC] 17/02/2025 A factor of 1.1 has been applied to the Destabilising actions. A factor of 0.9 has been applied to the Stabilisation actions for the cellular tanks and downstream defender units. We are still in discussions with the liner manufacturers to provide the basin floatation calcs. ADC Drainage Comments [BN/157/24/DOC] 29/04/2025 Downstream defender buoyancy calculations ok. Refer to comment 22 regarding basin liner Designer Response [BN/157/24/DOC] 16/06/2025 Basin liner calcs TBC	liner 4.4m below ground level and potentially 4.4m below maximum groundwater level. Please demonstrate how this will be achieved, including details of any temporary dewatering (along with the relevant consent for temporary dewatering). Drawing 213 does not reflect the RSK calculations, please ensure that the measures are clearly shown on the drawings,	investigations have found no groundwater to proposed depth of construction Ponds are to be constructed in the drier months. Should an element of dewatering be necessary, we will utilise a pump for any groundwater to be discharged overground through a silt sump, in accordance with the EA's requirements for temporary dewatering. There should be no requirement for a groundwater extraction license. Please make reference to BDW Groundwater Ingress Management Statement for further details.	trench. Where will the water collected by the land drainage system go? Final testing results required. Final earthworks specification required. Appears to be a preliminary design and only refers to basins, swale is not included. How is 5m thick puddled clay achieved under the basin? What is the factor of safety on the design of the 5m thickness and how has the 5m thickness been determined?	
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				It is “assumed” only London clay from the site will be used. This should be specified not an assumption. Excavation method is not detailed on the Basin Construction Detail. RSK Specification is not referred to on the Basin Construction Detail. Suggest verification monitoring/sign off is undertaken by RSK not the contractor. How is the silt treatment being implemented (eg location, size/design of tank) Plan	
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				required together with full details of the products that are to be used. Where is the dewatering discharge location? There should be no discharge from the dewatering system during rainstorms otherwise GFRO rate is exceeded	
19. (formally 26)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: Please demonstrate that the lateral connections to the surface water sewer are adequately sized Designer Response [BN/98/24/DOC] 24/07/2024: Refer to Table 1 of the updated Surface Water Technical note. ADC Response [BN/98/24/DOC] 03/10/2024: Please provided references for the laterals so that they can be cross referenced to the plans. Designer Response [BN/98/24/DOC] 21/11/2024 Refer to drawing 6838-218 for	COMMENT CLOSED			

	Lateral Location Plan to cross reference with Table 1 of the Technical Note ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 Comment closed				
20. (formally 27)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: Please provide catchpit details Designer Response [BN/98/24/DOC] 24/07/2024: Refer to MJA dwg 6838-MJA-SW-XX-DR-C-210 ADC Response [BN/98/24/DOC] 03/10/2024: This drawing does not provide suitable details for the construction of catchpits. Please provide detail to the same level as the manhole construction details on drawing 201. The tank levels on this drawing are not consistent with the layout. Designer Response [BN/98/24/DOC] 21/11/2024 Detailed catchpit detail added to 6838-219. Levels now consistent on 6838-210 and Engineering Layouts ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 Comment closed	COMMENT CLOSED			
21. (formally 28)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: Please provide gully details Designer Response [BN/98/24/DOC] 24/07/2024: Refer to MJA dwg 6838-MJA-SW-XX-DR-C-200 ADC Response [BN/98/24/DOC] 03/10/2024: This drawing does not appear to have been submitted. Designer Response [BN/98/24/DOC] 21/11/2024	COMMENT CLOSED			

	Now submitted. ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 The detail refers to a WSCC standard detail drawing however the detail provided is not consistent with that drawing. Please demonstrate that WSCC have approved your detail. Designer Response [BN/157/24/DOC] 17/02/2025 This gully detail is currently in with WSCC for use on the S38 adoption application, awaiting any comments. ADC Drainage Comments [BN/157/24/DOC] 29/04/2025 Please demonstrate that WSCC have approved your detail. Designer Response [BN/157/24/DOC] 16/06/2025 WSCC have accepted this gully detail for use as part of the approved S278 works for the site				
22. (formally 29)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: It is noted that the winter monitoring shows groundwater at shallow depth. Please demonstrate the measures implemented to exclude groundwater from the SuDS features including measures to counter flotation of cellular tanks and impermeable liners. Designer Response [BN/98/24/DOC] 24/07/2024: Both cellular tanks are buried and wrapped in an impermeable geomembrane preventing the ingress of groundwater/fluvial flows. Flotation calcs attached for the 2No. cellular tanks attached. ADC Response [BN/98/24/DOC] 03/10/2024: Please add the tank references to the plans.	Whilst a description has been provided for controlling groundwater ingress around headwalls, the drawings have not been updated to communicate this to the contractor. A detail must be provided on the drawings	With reference to Drawing 213_P2, a GLC liner has been omitted for the use of puddled clay. Note added to dwg 213_P2 In the case of the inlet pipes/headwalls, Sodium Bentonite powder will be mixed with the puddle clay would be placed and compacted around	Please demonstrate that the proposed measures to prevent groundwater ingress around the headwalls are sufficient to resist groundwater pressure. Please provide a detail showing	

	Please confirm the design standard that has been used for these calculations and the safety factors that have been incorporated into the calculations. Please confirm the depth of cover on the tank at HD8. HD8 cover level is noted as 2.45 and the top of the tank is noted on the layout as 2.1 which suggest a depth of cover of 350mm. This is not consistent with the flotation calculations or the cross section through the tank. It is noted that ground water drainage has now been shown for the ponds. Please provide full details showing that this proposal is sufficient including agreement from the Environment Agency to drain groundwater in this way and its agreement to the additional discharged flow to the watercourse. Please provide details of how groundwater ingress is controlled around the headwalls. Designer Response [BN/98/24/DOC] 21/11/2024 Tank references are indicated on 6838-210. Standard buoyancy calculation used Destabilising force V's Stabilising force. $F_b = V_s \times D \times g$ Where: F_b = Buoyancy Force V_s = Volume submerged D = Density of water g = gravitational force Destabilising safety factor: x 1.1 Stabilising safety factor: x 0.9 ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 The calculations provided do not include the safety factors. Please revise and resubmit.		the exterior of the pipe to seal any gaps where water might otherwise seep through. Sodium Bentonite expands up to 5 times when wet which will create watertight seal around pipe entries.	how and where the bentonite powder is to be placed.	
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	Designer Response [BN/157/24/DOC] 17/02/2025 A factor of 1.1 has been applied to the Destabilising actions. A factor of 0.9 has been applied to the Stabilisation actions. Design Uplift force, $Q_{dst;k} \times \gamma Q_{dst;d} = 2874.3 \text{ kN} \times 1.1 = \underline{3161.8 \text{ kN}}$ Design Permanent Stabilising Force $(G_{stb;d}; \text{Modular Units} + G_{stb;d}; \text{soil}) \times \gamma G_{dst;d}$ $G_{stb;d} = (7375 \text{ kN}) \times 0.9$ $G_{stb;d} = \underline{6637.2 \text{ kN}}$ The design inequality for UPL can now be ascertained, thus: $3161.8 \text{ kN} \leq 6637.2 \text{ kN}; \text{OK}$ ADC Drainage Comments [BN/157/24/DOC] 29/04/2025 Tank buoyancy calculations ok. The calculation provided by Geosynthetics appears to be based on a groundwater depth of 0.77m BGL. This is not consistent with drawing 216 which notes ground water to be 0.06m BGL or the groundwater monitoring results of Jan/Feb 2021 and Jan/Feb/Mar 2024. Furthermore, the conclusion is that the depth of soil required would be very deep and they recommend a drainage layer is installed to intercept the groundwater. Please provide full details showing that this proposal is sufficient including agreement from the Environment Agency to drain groundwater in this way and its agreement to the				
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	additional discharged flow to the watercourse. Please provide details of how groundwater ingress is controlled around the headwalls. Designer Response [BN/157/24/DOC] 16/06/2025 The impermeable GCL is laid below and behind the headwall pre-placement, with the pipe penetration sealed with a secondary patch of GLC wrapped around the pipe and back of headwall with overlapping joints (min 300mm) sealed together with bentonite paste				
23. (formally 30)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: Please provide construction details for the basins showing soil layer thicknesses and any membranes. Designer Response [BN/98/24/DOC] 24/07/2024: Refer to MJA plan 6838-MJA-SW-XX-DR-C-204 P3 (Typical Basin Section). ADC Response [BN/98/24/DOC] 03/10/2024: Pending receipt of details in relation to Point 21 (formally 28). Please also provide a construction detail for the swale. Designer Response [BN/98/24/DOC] 21/11/2024 Drawing does not appear to have been submitted. ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 Drawing does not appear to have been submitted. Designer Response [BN/157/24/DOC] 17/02/2025 Drawing 213 now submitted. ADC Drainage Comments [BN/157/24/DOC] 29/04/2025	Refer to comment 18	See MJA response to Comment 18. Please refer to drawing 213_P2 which has been updated to reflect RSK design.	See comment 18	

	Please add the depth of material required for counter buoyancy of the liner. Designer Response [BN/157/24/DOC] 16/06/2025 Basin liner details TBC				
24. (formally 31)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: Please indicate on the basin cross sections any permanently wet areas. Please also note the flood level in relation to Basin 1 Designer Response [BN/98/24/DOC] 24/07/2024: 1:100y+45%cc peak water level shown on MJA plan 6838-MJA-SW-XX-DR-C-204 P3. ADC Response [BN/98/24/DOC] 03/10/2024: The flood level has not been shown. Please adjust Section C to pick up the outlet headwall and connection to the watercourse. Designer Response [BN/98/24/DOC] 21/11/2024 Section C for Basin 2 adjusted to show headwall and watercourse outfall. Flood Level also added.	COMMENT CLOSED			
25. (formally 32)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: It is noted that Basin 1 and the swale upstream is located within Flood Zone 2. Please demonstrate how they will be protected and control flows from the development during flood event Designer Response [BN/98/24/DOC] 24/07/2024: The Flood Zone 2 (0.1%AEF) flood level at this location is 3.77mAOD. A review of existing ground levels and proposed Basin 1, 2 & Swale top of bank levels, (4.35mAOD) confirms that these flood flows will not enter these features. ADC Response [BN/98/24/DOC] 03/10/2024: Please demonstrate how the features are protected from floodwater backflow. Please justify why the calculations do not include surcharged outfalls.	COMMENT CLOSED			

	Designer Response [BN/98/24/DOC] 21/11/2024 Outfall headwall can be fitted with a non-return valve if required. Networks now modelled with a surcharged outfall. ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 Please confirm if non-return valves are being provided and if so, submit details/drawings showing this. The calculations appear to show "free discharge" Please demonstrate how the surcharge outfalls have been modelled. Designer Response [BN/157/24/DOC] 17/02/2025 Please refer to updated calcs Network 1 – Outfall surcharged to a level of 2.395mAOD. Network 2 – Outfall surcharged to a level of 1.435mAOD. Network 3 – Outfall surcharged to a level of 1.619mAOD. Non-return flap valves added to HW11, HW12 & HW13 Please refer to MJA drawing 6838-MJA-SW-XX-DR-C-212_P3 ADC Drainage Comments [BN/157/24/DOC] 29/04/2025 Surchage outfalls modelling ok. Please refer to comment 8 regarding coordination of drawings and calculations Designer Response [BN/157/24/DOC] 16/06/2025 Please refer to updated calcs Network 1 - Outfall surcharged to a level of 2.395mAOD. Network 2 - Outfall surcharged to a level of 1.435mAOD. Network 3 - Outfall surcharged to a level of 1.619mAOD. Non-return flap valves added to HW11, HW12 & HW13 Please refer to MJA drawing 6838-MJA-SW- XX-DR-C-212_P3				
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26. (formally 33)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: It is noted that the cellular tanks associated with the highway drainage are located in Flood Zone 2. Please demonstrate how they will be protected and control flows from the development during flood event. It is noted that the tank at HS5 has potential to convey flood water into the existing sewer system downstream of VS2. Please provide details showing how this will be prevented. Designer Response [BN/98/24/DOC] 24/07/2024: Both cellular tanks are buried and wrapped in an impermeable geomembrane preventing the ingress of groundwater/fluvial flows. All manhole covers situated below the 3.77mAOD FZ2 flood level will be installed with a double-sealed cover and frame to prevent the ingress of any flood waters. System downstream of VS2 now discharges into the Rife. ADC Response [BN/98/24/DOC] 03/10/2024: Please demonstrate how the tanks are protected from floodwater backflow. Please justify why the calculations do not include surcharged outfalls. Designer Response [BN/98/24/DOC] 21/11/2024 Outfall headwall can be fitted with a non-return valve if required. ADC Drainage Comments [BN/157/24/DOC] 29/04/2025 Surcharge outfalls modelling ok. Please refer to comment 8 regarding coordination of drawings and calculations	COMMENT CLOSED			

	Designer Response [BN/157/24/DOC] 16/06/2025 Please refer to updated calcs Network 1 - Outfall surcharged to a level of 2.395mAOD. Network 2 - Outfall surcharged to a level of 1.435mAOD. Network 3 - Outfall surcharged to a level of 1.619mAOD. Non-return flap valves added to HW11, HW12 & HW13 Please refer to MJA drawing 6838-MJA-SW- XX-DR-C-212_P3 Networks now modelled with a surcharged outfall ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 Please confirm if non-return valves are being provided and if so, submit details/drawings showing this. The calculations appear to show “free discharge” Please demonstrate how the surcharge outfalls have been modelled Designer Response [BN/157/24/DOC] 17/02/2025 Please refer to updated calcs Network 1 – Outfall surcharged to a level of 2.395mAOD. Network 2 – Outfall surcharged to a level of 1.435mAOD. Network 3 – Outfall surcharged to a level of 1.619mAOD. Non-return flap valves added to HW11, HW12 & HW13 Please refer to MJA drawing 6838-MJA-SW-XX-DR-C-212_P3.				
27. (formally 34)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: It is noted that Plot 190 and part of the access road are located in Flood Zone 2 and that level are to be raised above the flood level. It is also noted that forming the proposed swale to the levels shown will result in raising ground levels within Flood Zone 2. Please provide details of compensation for the loss in volume of flood water storage due to the level raising. Designer Response [BN/98/24/DOC] 24/07/2024:	COMMENT CLOSED			

	The FZ2 extent shown on the previous engineering layout was incorrect and has been removed. The actual modeled 0.1%AEP level is 3.77mAOD). Therefore Plot 190 and the swale are no longer located in FZ2. ADC Response [BN/98/24/DOC] 03/10/2024: Please show the correct extents of the flood zones. Designer Response [BN/98/24/DOC] 21/11/2024 0.1%AEP (FZ2) flood level of 3.77mAOD added to Engineering Layout. Note flood compensation does not need to be provided above the 1%+ccAEP level (3.14mAOD). All areas of ground raising returns to existing ground level below 1%+ccAEP level.				
28. (formally 35)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: It is noted that the Surface Water Technical Note dated 4th April 2023 contains different revisions of drawings and different calculations to those individually submitted. It is also noted that the overall engineering layout is not consistent with other drawings. All submitted information must be consistent. Please update the technical note with the most up to date drawings and calculations. Designer Response [BN/98/24/DOC] 24/07/2024: All plans now consistent. Technical note (CP/23/0199/6838, 16.07.24) updated.	COMMENT CLOSED			

	ADC Response [BN/98/24/DOC] 03/10/2024: The overall engineering layout is not consistent with the other engineering layout sheets. Spot check SW03 Cover level on overall plan is 7.76, on sheet 1 its 7.64. SW23 overall, 7.665 Sheet 2, 7.495. Designer Response [BN/98/24/DOC] 21/11/2024 All cover levels now consistent				
29. (formally 36)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: The extent of the proposed bridge is not clear on the engineering layout. Please demonstrate that the proposed highway drainage is suitable for its location in relation to the bridge structure. Please also demonstrate that the bridge structure/earthworks does not foul the attenuation tank attached to SW47CTRL. Designer Response [BN/98/24/DOC] 24/07/2024: Bridge design (by others) is now included on the plans. The proposed highway drainage and attenuation tanks are all clear of the structure. ADC Response [BN/98/24/DOC] 03/10/2024: It is not clear from the drawings if there are retaining walls or earthworks either side of the bridge to support the road above existing ground level. Please provide full details of the bridge structure so its impact on the drainage proposals can be assessed. Designer Response [BN/98/24/DOC] 21/11/2024 Please refer to the detailed bridge design drawing. This indicates the location of the wing retaining wall and earthworks.	COMMENT CLOSED			

	The foundations for the wing retaining wall do not impact upon the proposed drainage.				
	ADC Further Comments [BN/52/24/DOC] 12/06/2024: Please confirm that the bridge structure takes account of the existing foul sewers and that the undertaker is in agreement with the proposal. Designer Response [BN/98/24/DOC] 24/07/2024: Bridge structure is clear of existing foul sewer easements. ADC Response [BN/98/24/DOC] 03/10/2024: It is not clear from the drawings if there are retaining walls or earthworks either side of the bridge to support the road above existing ground level. Please provide full details of the bridge structure so its impact on the drainage proposals can be assessed. Please provide confirmation that the undertaker is in agreement with the proposal Designer Response [BN/98/24/DOC] 21/11/2024 Please refer to the detailed bridge design drawing. This indicates the location of the wing retaining wall and earthworks. The foundations for the wing retaining wall do not impact upon the existing foul drainage/easements				
31. (formally 39)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: Please provide details of the soft landscaping, including 3m buffer zones to SuDS features and demonstration that existing and proposed tree roots will not affect the proposed surface water drainage system. Designer Response [BN/98/24/DOC] 24/07/2024:	Whilst some soft landscaping drawings have been provided, they do not appear to cover the whole site.	Latest landscaping plans incorporated into Engineering Layout 004_T13 layout	Please provide the larger scale sheets There appears to be clashes between SW	

	3m SuDS buffer zones highlighted on layout. The tree protection fencing has been included on the engineering layouts to demonstrate works will not effect existing tree roots. ADC Response [BN/98/24/DOC] 03/10/2024: Soft landscaping details have not been provided. Indicative tree planting appears to be shown on the Engineering layouts and in some locations trees are very close to proposed drainage runs, eg Plots 37-39. This comment is still applicable. Designer Response [BN/98/24/DOC] 21/11/2024 The detailed landscaping plan is currently being updated. This will be coordinated with the drainage layout to ensure that proposed trees are not located close to drainage infrastructure. ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 Please submit the proposed landscaping design. Designer Response [BN/157/24/DOC] 17/02/2025 Awaiting detailed proposed landscaping plan. [BN/26/25/NMA submitted] ADC Drainage Comments [BN/157/24/DOC] 29/04/2025 Please submit the proposed landscaping design Designer Response [BN/157/24/DOC] 16/06/2025 Refer to ACD Environmental Landscaping Plans BDWS23957 20N Sheets 1-9.	The landscaping that is shown in background on the engineering layouts appears to conflict with the drainage and also does not appear to be coordinated with the site plan. Eg. trees shown in the parking spaces for plots 86 and 90 (plus many other locations), tree is located on top of surface water drain to the front of plot 35 and rear of plot 12		drainage and landscaping at the following locations: Side of Plot 190 Side of Plot 193 Rear of 159 Front 162 &163 Parking bay 140 Parking bays 103/105 Parking bay 87/88 Rear of plot 122 Please provide a revised landscape proposal or demonstrate measures are in place to prevent the trees/landscaping damaging the drainage.	
32. (formally 40)	ADC Response [BN/98/24/DOC] 03/10/2024: Please add spot levels to all locations where gullies are proposed. Designer Response [BN/98/24/DOC] 21/11/2024 Please refer to annotated road contours shown on	COMMENT CLOSED			

	the Engineering Layout for levels at gully locations. ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 Please add spot levels to all locations where gullies are proposed. Designer Response [BN/157/24/DOC] 17/02/2025 ADC Drainage Comments [BN/157/24/DOC] 29/04/2025 Whilst this drawing does provide levels for some of the road gullies, many are over-written by linework and are not readable. Please make adjustments to ensure that the level data is clear. It is also noted that where pairs of gullies are shown on cambered road, the level for each gully in the pair are not equal. Designer Response [BN/157/24/DOC] 16/06/2025 Refer updated drawing 6838-MJA-SW-XX-DR-C-222_T1 Please refer to MJA drawing 6838-MJA-SW-XX-DR-C-222_P1 for spot levels of all road gullies				
33. (formally 41)	ADC Response [BN/98/24/DOC] 03/10/2024: It is assumed that the bridge will be adopted by West Sussex County Council but it is not shown on the S38 plan. Please show the full extent of any land that will become public highway following adoption. This is linked with items 35 and 36 with regard to earthworks or retaining walls. Designer Response [BN/98/24/DOC] 21/11/2024 Please refer to drawing 6838-MJA-SW-XX-DR-C-906 - S38.	COMMENT CLOSED			
34. (formally 42)	ADC Response [BN/98/24/DOC] 03/10/2024: Please provide the detailed design prepared by SDS Ltd noted on drawing 210. Designer Response [BN/98/24/DOC] 21/11/2024 Tank type changed to Wavin Aquacell. Construction drawings will be issued by Wavin upon receipt of	Whilst a description has been provided for connecting 225 diameter pipes to the storage tank,	Please refer to drawing 210_C1 which shows construction detail of tank and notes the inclusion of a flange adaptor arrangement	Drg 210-C1: Tank 1 Outlet is noted as 300 diameter and 225 diameter	

	order. ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 Please provide the detailed design referred to on the drawing. Designer Response [BN/157/24/DOC] 17/02/2025 MJA drawing 6838-MJA-SW-XX-DR-C-210_P5 is sufficiently detailed to tender and construct from. Note on drawing amended to 'To be constructed in accordance with manufacturers installation specifications.' ADC Drainage Comments [BN/157/24/DOC] 29/04/2025 The status of this drawing is preliminary making it subject to changes. Please provide a Construction Issue drawing. Details must be provided of how larger diameter pipes will be connected to the product, which have 150mm diameter preformed connectors. If this requires a manifold of multiple 150mm diameter pipes, this must be reflected in the calculations and shown on drainage plan Designer Response [BN/157/24/DOC] 16/06/2025 A Flange Adaptor can be used to connect up to a DN225 pipe to the aquacell unit. The DN300 pipe linking Tank 1 to SW47CTRL has been reduced to a DN225 pipe and calcs updated to suit.	the drawings have not been updated to communicate this to the contractor. A detail must be provided on the drawings.	to facilitate the DN225 pipe connection to the cellular tank.	Both chambers noted as SWCTRL47 (should there only be 1 chamber?) SW47CTRL drawn as catchpit but its a flow control chamber Chamber diameter is different to schedule IL on pipe not readable Sump level of 0.898 appears to be incorrect (not consistent with 500mm deep sump) Detail regarding vent is unclear. More detail required.	
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				Tank 2 Chamber diameters are different to schedule HD1CTRL IL shown on pipe is different to schedule and above tank base HD1 drawn as catchpit but it is a flow control chamber Detail regarding vent unclear. More detail required.	
35.	ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 A statement is included in the submitted Technical Note regarding water quality but no evidence is provided to demonstrate compliance with the various documents listed. Please demonstrate compliance. Designer Response [BN/157/24/DOC] 17/02/2025 Can you please clarify what additional evidence you need to demonstrate compliance?	Additional information provided. Comment closed.			

	The supplied Downstream Defender Design Data sheet indicates the SuDS Mitigation Indices for TSS/Metals/Hydrocarbons.				
Condition Number: 8 (Maintenance and management)					
Comment Number					
1. (formally 2)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: Please confirm the maintenance required to the bypass door on the vortex flow control units. Designer Response [BN/98/24/DOC] 24/07/2024: Paragraph on bypass door added. ADC Response [BN/98/24/DOC] 03/10/2024: Maintenance tasks for the bypass door have not been specified. Designer Response [BN/98/24/DOC] 21/11/2024 Bypass door maintenance task added to Para 3.9 of the SuDS Maintenance Plan. ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 The addition describes testing the bypass door, but not how it is maintained. Please confirm the maintenance required. Eg, does it require lubricating? Designer Response [BN/157/24/DOC] 17/02/2025 Additional information added to bypass door section 3.9 of the Maintenance Plan Rev D. ADC Drainage Comments [BN/157/24/DOC] 29/04/2025 No information relating to the maintenance of the flap/non-return valves is provided in the report. Designer Response [BN/157/24/DOC] 16/06/2025	COMMENT CLOSED			

	Maintenance of flap valve added to maintenance plan REV E				
2. (formally 3)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: Please confirm the maintenance requirements for flow control devices other than the vortex type. Designer Response [BN/98/24/DOC] 24/07/2024: Only vortex type control to be used, orifice controls removed. ADC Response [BN/98/24/DOC] 03/10/2024: Response to (former) Points 18 and 20 in respect of Condition 6 refers to orifice controls. Please confirm. Designer Response [BN/98/24/DOC] 21/11/2024 Response to 18 & 20 was giving both options. These are now all proposed to be vortex controls. No orifices are proposed.	COMMENT CLOSED			
3. (formally 5)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: Please provide the Management Company Policy for Waste Management. Designer Response [BN/98/24/DOC] 24/07/2024: Man Co. not appointed yet, however waste management will be in accordance with local and national guidelines/policies. ADC Response [BN/98/24/DOC] 03/10/2024: Please provide the policy or alter the report to include the documents that should be referred to for the national guidelines/policy references Designer Response [BN/98/24/DOC] 21/11/2024 The specific guidelines / policies / method statement for waste management will need to be provided by a specialist or the appointed Man co. when appointed.	COMMENT CLOSED			

	ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 Please provide the relevant information. Consider removing referring to policies that are to be provided by third parties. Designer Response [BN/157/24/DOC] 17/02/2025 In response to the original comment, we cannot provide a management Company's policy on waste management until they are appointed by the developer. Our comment stating that they will have to comply with national regulations has been removed				
4. (formally 6)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: Please provide the method statement refer to in Section 3.621. Designer Response [BN/98/24/DOC] 24/07/2024: <u>Man Co. not appointed yet, however the appointed will provide a desilting method statement in accordance with local and national guidelines/policies.</u> ADC Response [BN/98/24/DOC] 03/10/2024: Please confirm why this section has been removed? Designer Response [BN/98/24/DOC] 21/11/2024 NA ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 Comment is still applicable. Please provide a response. Designer Response [BN/157/24/DOC] 17/02/2025 Our reference to a specific method statement needing to be in place was removed as this specific document was then being requested by us. As noted above, this will need to be produced by the appointed Management Company/3rd party contractor carrying out the operation at the time.	COMMENT CLOSED			
5. (formally)	ADC Further Comments [BN/52/24/DOC] 12/06/2024:	COMMENT			

9)	Please provide a plan showing how the SuDS features will be accessed for maintenance purposes. Designer Response [BN/98/24/DOC] 24/07/2024: Management Company contractor to provide method statements for SuDS maintenance including access. Basins and swale have a maximum bank slopes of 1:3 to allow safe access by operatives and associated machinery/equipment. ADC Response [BN/98/24/DOC] 03/10/2024: This comment is still applicable. The condition cannot be discharged without demonstration that access is available to carry out the specified maintenance. Designer Response [BN/98/24/DOC] 21/11/2024 Access to the tanks can be achieved via the upstream and downstream manholes for removal of sediments and CCTV inspection and jetting of the tank via the internal maintenance tunnel created using the Wavin Aquacell 'Plus' Units. The basins can be access via personal or machinery to carry out the required maintenance tasks. ADC Drainage Comments [BN/157/24/DOC] 29/04/2025 Please make reference to this drawing in the report. Please demonstrate that the vehicular access is not affected by landscaping and there if there is a perimeter fence to the open space, access is available through it. Please also demonstrate that dropped kerbs will be provided at the locations indicated (note this may require access control measures to prevent general vehicle access). Designer Response [BN/157/24/DOC] 16/06/2025 Reference to plan added to Maintenance Plan Rev E With reference to the proposed landscaping plan, there is a suitable access route from the highway to the open space / SuDS feature as indicated on Access Route plan 221. The basins will have a perimeter knee rail.	CLOSED			
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	This will have a removable post and rail section for access to the basin if required by machinery or larger maintenance vehicles. With reference to MJA drawings 6838-MJA-SW-XX-DR-C-408, 409 & 410 the proposed maintenance access routes either have a maximum of a bullnosed kerb with 25mm upstand or flush edging (0mm upstand), both suitable for maintenance vehicles to cross and access ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 Please provide a drawing showing maintenance routes to all SuDS features for vehicles and operatives. Designer Response [BN/157/24/DOC] 17/02/2025 Refer to MJA drawing 6838-MJA-SW-XX-DR-C-221_P1 SuDS Maintenance Access Routes for details.				
6. (formally 10)	ADC Further Comments [BN/52/24/DOC] 12/06/2024: The details of the proposed surface water drainage system will need to be agreed before this condition can be discharged. Designer Response [BN/98/24/DOC] 24/07/2024: NA ADC Response [BN/98/24/DOC] 03/10/2024: This comment is still applicable Designer Response [BN/98/24/DOC] 21/11/2024 NA ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 This comment is still applicable. Designer Response [BN/157/24/DOC] 17/02/2025 Noted.	This comment is still applicable	Following the meeting with the LLFA on 13/10/2025, please find enclosed our response document (Ref: CP/6838/1710), which addresses Comments 43, 45, 53, and 54 as outlined in David Easton's email dated 09/10/2025 at 10:11am. A response to these comments were confirmed as	This condition cannot be discharged until the details relating to Condition 8 have been agreed. This is so that the approved drawings can be included in the document.	

	ADC Drainage Comments [BN/157/24/DOC] 29/04/2025 This comment is still applicable. Designer Response [BN/157/24/DOC] 16/06/2025 Can you clarify what information is required to address this point?		sufficient to address all outstanding issues related to Point 6 (Ref:BN/157/24/DOC)		
7. (formally 11)	ADC Response [BN/98/24/DOC] 03/10/2024: Please add maintenance details for the groundwater drainage in respect of the basins (following confirmation that the proposal is accepted by the Environment Agency) Designer Response [BN/98/24/DOC] 21/11/2024 Groundwater drainage system no longer proposed.	COMMENT CLOSED			
8. (formally 12)	ADC Response [BN/98/24/DOC] 03/10/2024: Please include manufacturers information and manuals for the products that are included in the drainage system. Designer Response [BN/98/24/DOC] 21/11/2024 TBC ADC Drainage Comments [BN/157/24/DOC] 16/01/2025 Comment is still applicable. Designer Response [BN/157/24/DOC] 17/02/2025 Manuals provided, can you please specify which products are still required?	Information now received; comment closed.			

If a designer would like a .docx version of this document to aid administration of responses, please request this by email to land.drainage@arun.gov.uk.

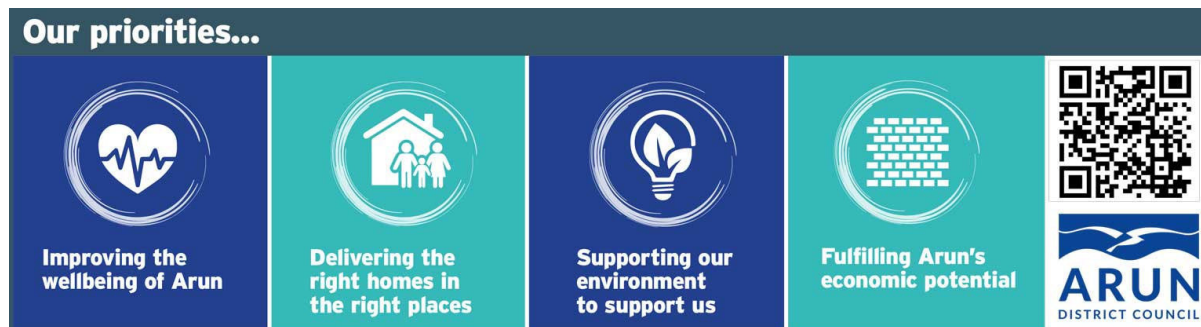
[REDACTED]

Drainage Engineers response

[REDACTED]

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

To register to receive notifications of planning applications in your area please go to
<https://www1.arun.gov.uk/planning-application-finder>



From: Sarah Burrow <Sarah.Burrow@arun.gov.uk>
Sent: 19 November 2025 13:42
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Cc: Paul Cann <Paul.Cann@arun.gov.uk>; Joe Dixon <Joe.Dixon@arun.gov.uk>; David Easton <David.Easton@arun.gov.uk>; Jack Trevelyan <Jack.Trevelyan@arun.gov.uk>
Subject: RE: Planning Consultation on: BN/110/25/DOC

Hi David,

Find the consultation response – requesting further information – attached.

I am submitting this consultation on behalf of Paul, our Principal Drainage Engineer. It has been completed by one of our external consultants.

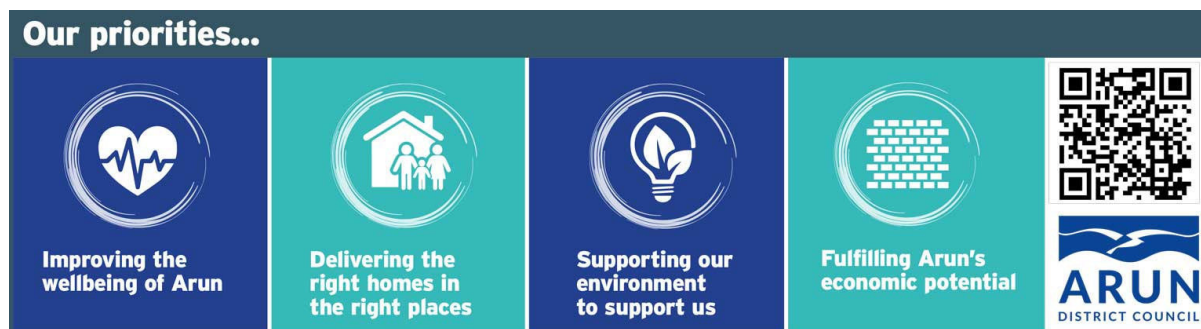
Kind regards

Sarah Burrow
Flood Risk and Drainage Engineer, Coastal Engineers and Flood Prevention

T: 01903 737815

E: sarah.burrow@arun.gov.uk

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



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

Sent: 24 October 2025 09:34

To: Land Drainage <Land.Drainage@arun.gov.uk>

Subject: Planning Consultation on: BN/110/25/DOC

To: **Engineers (Drainage)**

NOTIFICATION FROM ARUN DISTRICT COUNCIL

TOWN AND COUNTRY PLANNING ACT 1990

Application No: BN/110/25/DOC

Registered: 23rd October 2025

Site Address: Land South of Barnham Station Barnham

Description of Works: Approval of details reserved by condition imposed under BN/142/20/OUT relating to conditions 6-surface water drainage and 8-maintenance and management of surface water drainage scheme.

The Council have received the above application to discharge conditions. I shall be pleased to receive any observations you may wish to make in respect of those conditions relating to your field of expertise.

[Click here to view the Discharge of Condition application and view the documents](#) The website is updated once a day in the evening, so you may need to wait until the day after this notification to view the documents.

[Click here to view the original application and decision notice](#)

Should you wish to make any comments click on the link and click into ?Enter Comment? or if this is not possible email your response to planning.responses@arun.gov.uk by **7th November 2025**.

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.

Yours sincerely

Hannah Kersley

Planning Case Officer- Arun District Council

Telephone: 01903 737856

Email: hannah.kersley@arun.gov.uk