

Planning Application Technical Response

Site: Land South of Summer Lane and
West of Pagham Road, Pagham

Reference: P/153/21/RES

Lead Local Flood Authority
Northleigh
County Hall Chichester
West Sussex
PO19 1RH

FULL APPLICATION	Related Policy or Standard	Applicant Action Required	LLFA Specific Comment
All sources of flooding considered?	NPPF Paragraph 159, 167 PPG Paragraph 051 SDNSTS S10 Policy W SP1, W DM2 and W DM3 in the Arun Local Plan	Provide updated information within an amended FRA on; ☐ Fluvial flooding from the ordinary watercourse ☐ Surface water flow path originating offsite ☐ Groundwater flooding ☐ Rainwater surcharged sewer flooding ☐ Historic flood information	
Mitigation not appropriate	NPPF Paragraph 159, 167 and 168 PPG Paragraph 004, 023, 037, 041, 042, 043 and 044 Policy W SP1, W DM2 and W DM3 in the Arun Local Plan	☐ Use sequential approach with the following hierarchy. I. how can the development first avoid the risk of flooding II. how will it be mitigated (with evidence) III. how will flood resistance and resilience be employed ☐ The proposal increases the risk of flooding to existing infrastructure, dwellings or property. Mitigation should be reassessed to show how flood risk can be reduced overall. ☐ Provide information on safe access and egress as part of an emergency plan. Temporary refuge is no longer acceptable.	
Long term sustainability of the development	NPPF Paragraph 167 and 168 PPG Paragraph 004, 036, 061, 068 and 069 Policy W SP1, W DM2 and W DM3 in the Arun Local Plan	☐ Provide site specific ordinary watercourse or surface water flow path modelling ☐ demonstrate that any residual risk is managed with appropriate flood resistance and resilience measures. ☐ Include evidence of appropriate freeboard to finished floor levels from the design flood level ☐ Include appropriate climate change allowance for assessment of the lifetime of the development (including the 3.33% AEP design flood event) ☐ Use up to date FEH2022 rainfall data for all design flood events ☐ Provide an easement of 3 m from the top bank of any watercourse is required for maintenance. ☐ Identification is required of those structures which require consent for works	

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		on an ordinary watercourse (from the LLFA) is required	
How does the site currently drain?	NPPF Paragraph 169 PPG Paragraph 059 SDNSTS S1, S2, S3, S4, S5, S6 Policy W SP1, W DM2 and W DM3 in the Arun Local Plan	☐ Evidence required on ground conditions / BRE365 or similar infiltration testing / dissolution potential / seasonally high groundwater levels. ☐ Greenfield runoff rates and volumes missing ☐ Greenfield runoff rates need to be recalculated (incorrect input parameters) ☐ Pre-development brownfield runoff rates missing ☐ Pre-development brownfield runoff rates need to be recalculated (incorrect input parameters) ☐ Drawing required to show where existing drainage network and outfall/s are, plus confirmation if will they be retained or removed. ☐ Drainage survey required to provide evidence of existing discharge rate and condition (may include detailed asset or CCTV survey).	
Where will the site drain to?	NPPF Paragraph 169 PPG Paragraph 055, 056, 059, 060, 061, 062 and 063 SDNSTS S12, 13 and S14 Policy W SP1, W DM2 and W DM3 in the Arun Local Plan	Drainage location hierarchy has not been followed, further information is required on; ☐ evidence why rainwater reuse can't be included ☐ interception has not been calculated and/or provided ☐ Infiltration proposals – re Groundwater Source Protection Zone I restrictions ☐ Surface watercourse – does it connect to the wider network and is there permission and agreed access locations for proposed outfalls? ☐ Surface water sewer – no in principle agreement from owner of the asset ☐ Combined sewer – no in principle agreement from owner of the asset ☐ In principle objection - proposing to connect surface water runoff to foul sewer ☐ Detailed justification required why the application cannot be drained via gravity and a pump is required	

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		☐ Full impact assessment of failure and emergency procedures required if a pump is part of the design ☐ Justification is required as to why a deep bore infiltration feature has been proposed prior to shallow infiltration or connection to a surface watercourse.	
Are the 4 pillars of SuDS provided and are they multifunctional?	NPPF Paragraph 169 PPG Paragraph 036, 055, 056, 059, 060, 061, 062 and 063 Policy W SP1, W DM2 and W DM3 in the Arun Local Plan	☐ The application must provide water quantity benefits in open, at the surface or above ground SuDS ☐ The application must provide water quality benefits ☐ Appropriate water quality assessment is absent / incorrect ☐ Additional water quality treatment using surface SuDS is required due to the sensitivity of the discharge location (including groundwater, designated surface watercourses or deep infiltration features). ☐ The application must provide biodiversity benefits or demonstrate why this is not achievable (lack of space will not be accepted) ☐ The application must provide amenity benefits or demonstrate why this is not achievable (lack of space will not be accepted)	
How will the site drain without adversely effecting flood risk elsewhere?	NPPF Paragraph 167, 169 SDNSTS S2, S3, S4, S5, S6 Policy W SP1, W DM2 and W DM3 in the Arun Local Plan	☐ The most precautionary infiltration rate should be used in the design of the attenuation feature ☐ Infiltration rates are shown to be favourable and should be used in the drainage design (even if it's just part of the drainage network). ☐ Infiltration drainage storage has half drain down time greater than 24 hours and an alternative design or mitigation is required. ☐ The post development 100% AEP (or 1 in 1 year) rainfall event runoff rate should also be controlled to the equivalent pre-development rate. ☐ Proposed discharge rates and volumes are greater than greenfield with no justification	

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		☐ Proposed discharge rates include future allowances for climate change and / or urban creep. These must be removed, and all calculations resubmitted. ☐ Require justification and supporting calculations for brownfield % betterment and why this can't be closer to the predevelopment greenfield scenario ☐ Proposed discharged rates would increase flood risk elsewhere and need to be re-assessed ☐ A minimum runoff rate of 1 to 2 l/s/ha should be applied in groundwater dominated areas. ☐ How will the development not increase the volume of runoff as only pre and post calculations of greenfield runoff rate have been provided? ☐ A complex control for runoff rate with long term storage provided, is required, if the drainage proposal is not limiting runoff to QBAR or 2 l/s/ha. ☐ Include appropriate climate change allowance for the lifetime of the development (including 3.33% AEP design) for storage volumes. ☐ Calculations should be resubmitted and demonstrate how 10% urban creep has been included in the volume of SuDS storage required. ☐ Use up to date FEH2022 rainfall parameters in any modelling scenarios.	
Location of SuDS		☐ Drawings need to show all the drainage features (storage and conveyance) with labels the same as those in supporting calculations ☐ Drawings need to show the final design (but not construction issue or preliminary issue). ☒ Cross sections and long sections of all the network and structures such as ponds, basins and swales	
What is the impact of flood risk on the development?	NPPF Paragraph 169 SDNSTS S7, S8, S9, S10 and S11	Updated supporting calculations required to show; ☒ 50% AEP rainfall event does not surcharge in the drainage network	

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	Policy W SP1, W DM2 and W DM3 in the Arun Local Plan	☐ 3.33% AEP rainfall event plus climate change does not flood outside the drainage network which is designed to hold water. ☐ 1% AEP rainfall event plus climate change does not leave the application boundary or flood any part of a building, utility plant susceptible to water (e.g. pumping station or substation) within the development boundary. ☐ the appropriate climate change allowance must be included Additional information is required showing; ☐ above ground flooding (extent and depth) at the 1% AEP rainfall event plus climate change must be shown on a drawing with proposed external ground levels and proposed finished floor levels of buildings ☐ above ground flooding (extent and depth) at the 1% AEP rainfall event plus climate change should be designed to be held in the least vulnerable areas of the site e.g. open space ☐ Flood resistance and resilience must be shown to be included in the design. A minimum of 300mm must be provided between the design flood event and the finished floor level ☐ A minimum of 150mm above external ground levels and shown that they are sloping away from vulnerable areas such as doorways ☐ Exceedance of the design 1% AEP rainfall event plus climate change (or failure of the drainage network) must be shown on a drawing, minimising impacts to people and property. This drawing will include proposed external ground levels, finished floor levels and any designed slopes on impermeable surfaces such as highways or car parks ☒ ½ drain down times need to be submitted and show that they are within 24 hours (or within 48 hours for features that are lined e.g. lined tanks or lined basins) ☐ Any drainage network showing storage features with ½ drain down time greater	Please can all time to half empty times be submitted as several values are missing

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		than the 24 hours (or 48 hours for lined structures) must be redesigned to show how it can meet this standard or increased in size to accommodate an subsequent storm event of 3.33% plus climate change allowance. ☑ The drainage calculations must be shown to include a surcharged outfall to a watercourse or sewer. This surcharge level must be the 1% AEP flood event of the receiving watercourse if known or bank full if not already hydraulically modelled.	
How will the drainage and watercourse features be maintained?	NPPF Paragraph 169 PPG Paragraph 055, 057 and 058 SDNSTS S10, S11 and S12	☐ Appropriate easements (to the adopting authority standard) to SuDS features should be shown on a drawing, this will be a minimum of 3m. ☐ Vehicular access route and off road parking needs to be provided to ponds, basins and swales ☐ Provide an easement of a minimum of 3 m from the top bank of any watercourse is required for maintenance of the watercourse. This should be on both banks but justification should be provided if access is proposed from only one side of the bank or less than 3m (e.g. 2.5 times the width of any plant likely to be used (from the top of bank with maintenance plant parallel to the watercourse)). ☐ Due to the likely long duration build out time (including phased development proposals), a plan and supporting calculations and drawings are required to show, a timeline of how temporary measures will be put in place to protect the water environment and any newly built SuDS features. This will include any temporary water quality and flow control devices ☐ A high level assessment of how water quantity and water quality will be managed during the construction phase is required. Identifying high level assumptions such as need to discharge to a sewer or watercourse will appropriate pollution measures.	

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Other		☒ Winter rainfall events required as well as summer. ☒ Increased freeboard from groundwater is required, as stated in the SuDS Manual and DCG for foul and surface water sewers for adoption 1m clearance is strongly suggested. ☒ For safety reasons, a maximum depth of 1.2 in the basins is required.	

From: Nicola Oktay on behalf of Planning.Responses
Sent: 14 November 2023 11:11
To: Planning Scanning
Subject: FW: Email 2 of 2: Response to application no P/153/21/RES at Land South of Summer Lane and West of Pagham Road
Attachments: P 153 21 RES checklist.pdf

WSSC Flood Risk response

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From: [REDACTED]
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To: Planning.Responses <Planning.Responses@arun.gov.uk>
Subject: Email 2 of 2: Response to application no P/153/21/RES at Land South of Summer Lane and West of Pagham Road

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Regards

Flood Risk Management

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