

Planning Application Technical Response

Site:	Land At Rounwood Back Lane Graveley
LPA Reference:	24/02889/FP
Date Assessed:	25 February 2025

FULL APPLICATION	Related Policy or Standard	Applicant Action Required	LLFA Specific Comment
All sources of flooding considered?	NPPF Paragraph 170, 181 PPG Paragraph 051 SDNSTS S10 <i>Policy NE8: Sustainable Drainage Systems (Reducing Flood Risk)</i>	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	-All sources of flooding is considered. The site is located in Fluvial flood zone 1. -There are no surface water flow paths originating offsite. -The underlying geology and deep groundwater levels represent no risk of groundwater flooding. -There are no sewers present at the site location. -As per the information provided in FRA there are no historical flood events pertain to the site location.
		☐ Address concerns that there is not sufficient room within the development boundary to address flood risk mitigation and also achieved the suggested density of the development.	N/A
Mitigation not appropriate	NPPF Paragraph 170, 176, and 181 PPG Paragraph 004, 023, 037, 041, 042, 043 and 044 <i>Policy NE8: Sustainable Drainage Systems (Reducing Flood Risk)</i>	☐ Use sequential approach with the following hierarchy. I. how can the development first avoid the risk of flooding	The development is in flood zone 1 and very low risk from surface water flooding.
		II. how will it be mitigated (with evidence)	N/A
		III. how will flood resistance and resilience be employed	NA
		☐ 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 to show how the development will be safe for its lifetime.	All access points are outside areas of flood risk.

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		This may include assessment of how proposals will not increase the number of people living and working in areas of flood risk and if there is any additional burden placed on the emergency services. An emergency plan may also form part of this assessment (see www.adeptnet.org.uk).	
Long term sustainability of the development	NPPF Paragraph 176 and 181 PPG Paragraph 004, 036, 061, 068 and 069 <i>Policy NE8: Sustainable Drainage Systems (Reducing Flood Risk)</i>	☐ Provide site specific ordinary watercourse or surface water flow path hydrological and hydraulic modelling.	NA, no ordinary watercourse or surface water flow path present.
		☐ Demonstrate that any residual risk is managed with appropriate flood resistance and resilience measures.	The site is in a very low flood risk from surface water and in Flood zone 1. Finished floor levels will be raised by 150mm as standard.
		☐ Include evidence of appropriate freeboard to finished floor levels from the design flood level.	Site not affected by design flood.
		☐ Include appropriate climate change allowance on modelling scenarios for assessment of the lifetime of the development (including the 3.33% AEP design flood event).	N/A no new modelling
		☐ Use up to date FEH2013 or 2022 rainfall data for all design flood events.	N/A no new modelling
		☐ Identification is required of those structures which require consent for works on an ordinary watercourse (from the LLFA), this extends to works required within 8m from the top of the bank (see HCC LLFA website).	N/A.
How does the site currently drain?	NPPF Paragraph 182 PPG Paragraph 059 SDNSTS S1, S2, S3, S4, S5, S6	☐ Evidence required on ground conditions / BRE365 or similar infiltration testing / dissolution potential / seasonally high groundwater levels.	BRE365 testing has been provided, the soil test concludes that the infiltration is very little to no infiltration due to the presence low permeable clay

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	<i>Policy NE8: Sustainable Drainage Systems (Reducing Flood Risk)</i>		soils. Therefore, infiltration into the ground is not proposed.
		☒ Greenfield runoff rates and volumes are missing or need to be recalculated (incorrect input parameters).	Informative: The greenfield runoff rates have been calculated using FEH statistical method. The existing greenfield runoff rates considered a developable area of 8.14 ha whereas the total site area is approximately 11.4 ha. It should be clearly demonstrated that landscaped areas excluded from the calculations would not still drain to the proposed drainage system. Greenfield runoff volumes are missing in the provided FRA.
		☐ Pre-development brownfield runoff rates are missing or need to be recalculated (incorrect input parameters).	N/A
		☐ Drawing required to show where existing drainage network and outfall/s are, plus confirmation if will they be retained or removed.	NA, there are no existing drainage network or outfalls present.
		☐ Drainage survey required to provide evidence of existing discharge rate and condition (may include detailed asset or CCTV survey and estimation of discharge from an existing pipe diameter/slope).	N/A no existing drainage
Where will the site drain to?	NPPF Paragraph 182 PPG Paragraph 055, 056, 059, 060, 061, 062 and 063	Drainage location hierarchy has not been followed, further information is required on; ☐ Evidence why rainwater reuse can't be included.	Informative: Applicant has not demonstrated any evidence on rainwater reuse.

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	SDNSTS S12, 13 and S14 <i>Policy NE8: Sustainable Drainage Systems (Reducing Flood Risk)</i>	☐ Source control and interception has not been provided by the provision of vegetated SuDS.	The source control and interception has been provided by rain gardens, Vegetated Swales and tree pits.
		☐ Infiltration proposals – re Groundwater Source Protection Zone I restrictions (only clean roof water in a sealed system may be discharged).	NA, Infiltration is not proposed
		☐ Surface watercourse – does it connect to the wider network and is there permission and there are agreed access locations for proposed outfalls with the riparian owner?	NA, no surface watercourse presents near to the site location.
		☒ Surface water sewer – no in principle agreement from owner of the asset.	Objection: The applicant has provided the evidence of the agreement from Thames water for discharging to their asset and quantity of approved discharge information dated 26 October 2021. However, the approval was too old to be accepted and that was for 292 dwellings associated with the case 23/02492/FP. Now the number of dwellings have been amended to 281 and new consent is required from Thames Water.
		☐ Combined sewer – no in principle agreement from owner of the asset.	Not connecting to combined sewer
		☐ In principle objection - proposing to connect surface water runoff to foul sewer.	Not connecting to foul sewer
		☐ Detailed justification required why the application cannot be drained via gravity and a pump is required.	The applicant is draining by gravity.

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		☐ Full impact assessment of failure of a pumped system and emergency procedures to store 24 hours of water is required.	NA
		☐ Justification is required as to why a deep bore infiltration feature has been proposed prior to shallow infiltration or connection to a surface watercourse.	N/A, not proposed
Are the 4 pillars of SuDS provided and are they multifunctional?	NPPF Paragraph 182 PPG Paragraph 036, 055, 056, 059, 060, 061, 062 and 063 <i>Policy NE9: Water quality and environment</i> <i>Policy SP12: Green infrastructure, biodiversity and landscape</i>	☐ The application must provide water quantity benefits in open and above ground SuDS.	Strategy includes attenuation in swales and open ponds and some bioretention.
		☐ The application must provide water quality benefits. Appropriate water quality assessment is absent / incorrect.	Water quality benefits have been provided in accordance with CIRIA SuDS Manual (2015)
		☐ 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).	Not required.
		☐ The application must provide biodiversity benefits or demonstrate why this is not achievable (lack of space will not be accepted).	Varied green SuDs features proposed.
		☐ The application must provide amenity benefits or demonstrate why this is not achievable (lack of space will not be accepted).	Provided.
How will the site drain without adversely effecting flood risk elsewhere?	NPPF Paragraph 181, 182 SDNSTS S2, S3, S4, S5, S6	☐ The most precautionary infiltration rate should be used in the design of the attenuation feature.	NA, infiltration is not proposed.
		☐ Infiltration rates are shown to be favourable and should be used in the drainage design (where appropriate).	NA, infiltration is not proposed.

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	<i>Policy NE8: Sustainable drainage systems (Reducing Flood Risk)</i>	☐ Infiltration storage drainage design should be recalculated to either only discharge through the sides of the structure or apply the appropriate factor of safety.	NA, infiltration is not proposed.
		☐ Infiltration drainage storage has half drain down time greater than 24 hours and an alternative design or mitigation is required.	NA, infiltration is not proposed.
		☐ The post development 100% AEP (or 1 in 1 year) rainfall event runoff rate should also be controlled to the equivalent pre-development rate.	Runoff to be controlled to QBar
		☐ Proposed discharge rates and volumes are greater than greenfield with no justification.	
		☐ Proposed discharge rates include future allowances for climate change and / or urban creep. These must be removed, and all calculations resubmitted.	N/A
		☐ Require justification and supporting calculations for brownfield % betterment and why this can't be closer to the predevelopment greenfield scenario.	N/A
		☐ Proposed discharged rates would increase flood risk elsewhere and need to be re-assessed.	Proposing to discharge at Qbar.
		☐ A minimum runoff rate between 1 to 2 l/s/ha should be applied in groundwater dominated areas if infiltration cannot be undertaken.	N/A
		☐ How will the development not increase the volume of runoff as only pre and post calculations of greenfield runoff rate have been provided?	The existing greenfield runoff rates have been provided. Proposing to discharge at QBar.

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		☐ 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.	Limiting runoff to QBar
		☐ Include appropriate climate change allowance for the lifetime of the development (including 3.33% AEP design) for drainage modelling storage volumes.	included
		☐ Drainage modelling calculations should be resubmitted and demonstrate how 10% urban creep has been included in the volume of SuDS storage required.	10% urban creep added to roof area
		☐ Use up to date FEH2013 or FEH2022 rainfall parameters in any drainage modelling scenarios.	The applicant has used latest FEH2022 rainfall data in their hydraulic calculations.
Location of SuDS		☐ Layout and/or drainage layout drawings need to show all the drainage features (storage and conveyance), with labels the same as those in the submitted supporting calculations.	The applicant has provided the drainage layout drawings and Thames Water Asset maps.
		☐ Drawings need to show the detailed design (not preliminary issue).	The applicant has provided the detailed drawings.
		☒ Drawings of cross sections and long sections of all the network and structures such as ponds, basins and swales need to be supplied.	Objection: The applicant has not provided the drawings of cross sections of ponds and swales.
What is the impact of flood risk on the development?	NPPF Paragraph 182	Updated supporting calculations required to show;	
	SDNSTS S7, S8, S9, S10 and S11	☒ revised modelling calculations to use a CV value of 1.	Objection: Applicant has not noted CV values of 1.0 in their hydraulic calculations. Have used CV values of 0.75 and 0.84

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	<i>Policy NE8: Sustainable drainage systems (Reducing Flood Risk)</i>		for summer and winter respectively. Considering lower CV values may under predict the flood in the calculations.
		☒ 50% AEP rainfall event does not surcharge in the drainage network if it is to be adopted by a responsible authority.	Objection: The applicant has not provided the hydraulic calculations for 50% AEP.
		☐ 3.33% AEP rainfall event plus climate change does not flood outside the drainage network which is designed to hold water.	The 3.33% AEP rainfall event plus climate change results do not flood the drainage network.
		☐ 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 1% AEP rainfall event plus climate change results do not flood the drainage network.
		☐ the appropriate climate change allowance must be updated.	
		Additional information is required showing; ☐ above ground flooding (extent, depth and velocity) at the 1% AEP rainfall event plus climate change must be provided on a drawing with proposed external ground levels and proposed finished floor levels of buildings.	The 1% AEP rainfall event plus climate change results do not flood the drainage network.
		☐ 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.	The 1% AEP rainfall event plus climate change results do not flood the drainage network.

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		Flood resistance and resilience must be shown to be included in the design. ☐ A minimum of 300mm must be provided between any design flood event and the finished ground floor level. ☐ A minimum of 150mm above external ground levels and show that they are sloping away from vulnerable areas such as doorways.	Not required, the site is in flood zone 1 and low risk from surface water flooding. However, the applicant has noted that a minimum of 150mm raised finished floor level above external ground levels.
		☒ 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.	Objection: The applicant must show a detailed exceedance flow route on a drawing considering the failure of the drainage network.
		☒ 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).	Objection: The applicant has not noted half drain down times in their hydraulic calculations.
		☒ Any drainage network showing storage features with ½ drain down time greater than the 24 hours (or 48 hours for lined structures) must be redesigned to show how it can meet this standard or be increased in size to accommodate a subsequent storm event of 3.33% AEP flood event plus climate change allowance.	Objection: The applicant has not noted half drain down times in their hydraulic calculations.
		☐ The drainage calculations must be shown to include a surcharged outfall to a watercourse or culverted watercourse or watercourse within a 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.	NA, not discharging to a watercourse or culverted watercourse.

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How will the drainage and watercourse features be managed and maintained?	NPPF Paragraph 182 PPG Paragraph 055, 057 and 058 SDNSTS S10, S11, S12, S13 and S14	☐ High level assessment of the maintenance of any SuDS features and structures and who will be adopting these features for the lifetime of the development.	Included
		☒ Appropriate easements (to the adopting authority standard) to SuDS features should be shown on a drawing, this will be a minimum of 3m.	Objection: The applicant has not noted in their FRA that an appropriate easement (minimum of 3m) must be provided to the SuDS (ponds and swales). This should be included on the drainage layout
		☒ Vehicular access route and off-road parking needs to be provided to ponds, basins and swales.	Objection: The applicant has not clearly identified whether vehicular access and parking is provided.
		☐ Provide an easement of a minimum of 3 m from the top bank of any watercourse is required for maintenance. This should be on both banks, but justification should be provided if access is proposed from only one side of the bank or is 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)).	NA, no watercourse
		☒ Due to the likely long duration build out time (including phased development proposals), supporting drainage 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 water quantity flow control devices required.	Informative: As per the planning statement it is a phased development. Information on temporary measures not included.

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		☒ As it is a phased development, a surface water management and construction phasing plan is required. This must show how each phase can be provided independently (in terms of surface water drainage) and how any infrastructure which is relies on will be constructed prior to any housing or commercial development.	Informative: As it is a phased development, a construction phasing plan must be submitted.
		☒ 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 with appropriate pollution measures.	Informative: The applicant has not demonstrated as how the water quantity and water quality will be managed during the construction phase.
Other		☐ Bespoke advice	