Sustainable Drainage Review

Application Name/Title:	A material change of use for stationing of caravans for residential use with hardstanding and dayrooms ancillary to that use
Reference Number:	23/3816/FUL
Date Initial Comments Provided:	19/10/2023
Initial Review By:	Robert Knowles
Checked/Approved By:	Jamie Eden
LLFA Review By:	N/A

Revisions / Amendments

Rev No.	Date	Description	Author/ Prepared By:	Approved For Issue By:	LLFA Review By:
2	08/01/2025	Review following new information	DP	JG	N/A

Notes

Key information	
Site Location	Land On The North West Side Of Mays Lane Arkley Barnet.
Site Area	8,138.09 sq. m.
Existing use	Undeveloped plot enclosed by mature hedgerows.
Proposed use (should detail what is the proposal about including how many units, redevelopment/greenfield?)	A material change of use for stationing of caravans for residential use with hardstanding and dayrooms ancillary to that use.
Major or Minor Development?	Major.
FRA demonstrates adequate assessment for no increase in flood risk to site users/elsewhere?	FRA provided
Details of existing drainage	Undeveloped site, so surface water infiltration to underlying ground or run off following site contours.
What drainage/SuDS are proposed	Permeable paving, geocellular tank discharging to nearby watercourse
SuDS Adopter details provided? If yes, write details	Site owner or appointed management company

<table>
<tr><td>Is there opportunity to challenge for nature-based (on-ground) attenuation solutions? Please state the reason.</td><td>Potentially. A large portion of the site is undeveloped and so there is scope to include green/soft SuDS features</td></tr>
<tr><td>Does the proposals include connection to Thames Water sewer?</td><td>No.</td></tr>
<tr><td>What are the existing and proposed discharge rates and betterment provided?</td><td>
<table>
<tr><th></th><th>Greenfield (GF) runoff rate (l/s)</th><th>Existing discharge rate (l/s)</th><th>Proposed discharge rate (l/s)</th><th>% age betterment provided (if applicable)</th></tr>
<tr><td>Qbar</td><td>1.7</td><td></td><td></td><td></td></tr>
<tr><td>1 in 1</td><td>1.5</td><td></td><td>1.5</td><td></td></tr>
<tr><td>1 in 30</td><td></td><td></td><td>1.5</td><td></td></tr>
<tr><td>1 in 100</td><td>5.5</td><td></td><td>1.5</td><td></td></tr>
<tr><td>1 in 100 + CC</td><td></td><td></td><td>1.5</td><td></td></tr>
</table>
Existing and proposed discharge rates and betterment have not been provided.
</td></tr>
<tr><td>Minimum of 50% betterment provided as per London Plan?</td><td>N/A as GF site. Proposed rate matches 1 in 1 year GF</td></tr>
<tr><td>Scope to challenge for further reducing the discharge rates to Thames Water sewers?</td><td>No as proposals do not include a connection to a sewer and rate is 1 in 1 year GF</td></tr>
<tr><td>Thames Water evidence provided? Please specify which evidence -S106 or Pre-planning enquiry has been provided.</td><td>N/A.</td></tr>
<tr><td>Is the proposal discharging to Ordinary watercourse (OW) or works within 5m of an OW?</td><td>Yes</td></tr>
<tr><td>IS OWC consent provided as an evidence?</td><td>No</td></tr>
<tr><td>Is the proposal discharging to a Main River (OW) or works within 8m of Main River?</td><td>No.</td></tr>
<tr><td>Is FRAP provided as an evidence?</td><td>N/A.</td></tr>
<tr><td>Does the proposal include any highway gullies that</td><td>No.</td></tr>
</table>

need to be adopted by the Highways?	
Any other comments.	None.

Detailed Review-Appendix

Sustainable Drainage Systems (SuDS) – Design	
Are SuDS Required?	Yes.
Does drainage strategy follow the SuDS hierarchy?	Yes
Is justification for selection of discharge method within SuDS hierarchy adequate?	Yes
Have boreholes / infiltration testing been performed?	Not provided.
Boreholes / infiltration test findings	Not provided.
Has a ground investigation / contaminated lands assessment performed?	Not provided.
Contaminated lands assessment report findings.	Not provided.
Is the site located within a Source Protection Zone?	No.
Do the above tests indicate infiltration is appropriate?	No but BGS geological maps indicate low potential for infiltration
What type(s) of SuDS practices have been proposed?	Permeable paving, geocellular tanks and a hydrobrake discharging to the nearby watercourse
Infiltrating SuDS proposed?	No
Infiltration (yes) - Have infiltration systems been designed adequately? Is a sufficient factor of safety proposed?	N/A
Infiltration (no) – what justification is given for not implementing infiltration SuDS?	Poor geology
Infiltration (no) – is justification adequate?	Yes
Does SuDS scheme provide sufficient detail regarding biodiversity / amenity?	No.
Is the design cost-effective to operate and maintain over the design life of the development, in order to reduce the risk of the drainage system not functioning?	Yes
Has design of SuDS practices been adequately documented in plans and schemes?	Not provided.

Sustainable Drainage Systems (SuDS) – Construction, Adoption, Operation & Maintenance	
Has a Construction Phasing Plan been submitted?	N/A
Is Construction Phasing Plan adequate?	N/A.
Have party(ies) adopting / owning SuDS post-construction been identified?	Site owner or appointed management company
SuDS Adopter details	TBC
Has proof of party(ies) adopting SuDS been submitted?	No
Has an Operation & Maintenance (O&M) Plan for the SuDS been submitted?	Yes
Is SuDS O&M Plan adequate?	For current stage
Has an assessment of operation and maintenance costs over the lifecycle of the SuDS been provided?	N/A
Is O&M lifecycle costs assessment adequate?	N/A
Has the applicant demonstrated that sufficient funds have been set aside and / or sufficient funds can be raised during the planned lifecycle of the SuDS to cover O&M costs?	N/A

Flood Risk Assessment (FRA)	
NPPF Vulnerability Classification	Highly vulnerable.
Flood Zone	The site is located within **Flood Zone 1,** as confirmed by EA flood maps and SFRA flood maps
uFMfSW Flood Risk	The EA's surface water flood map indicates the flood risk to the site from surface water flooding is **very low to high**.
Reservoir Breach Flood Risk	The EA's Flood Risk from Reservoirs mapping indicated the flood risk to the site from reservoir breach is possible.
Proximity to nearest Flood Zone 2 / 3	Not provided.
Groundwater Flood Risk?	Not provided
Site located within a Critical Drainage Area?	Not provided.
Vulnerability Classification permitted within Flood Zone?	Yes
Basement proposed?	No.
Basement use(s)	N/A.
Sequential Test Required?	No.
Sequential Test Supplied?	No.
Exception Test Required?	No.
Exception Test Supplied?	No.
FRA Supplied?	No.
FRA Required?	Yes.
Adequate assessment of flood risk to site users / others?	No.
Adequate mitigation of flood risk to site users / others?	No.

Drainage Strategy	
Adequate documentation provided to permit review?	Yes
Have the inputs and assumptions for the surface water runoff / volume calculations been clearly specified and discussed?	Yes
Are the inputs and assumptions used for the SW runoff / volume calculations valid?	Yes
Have overland flows from outside the site been adequately considered?	Yes
Have exceedance flows been adequately considered?	Yes
Where site runoff is to be discharged to the local ordinary watercourse, has the relevant authority been consulted as to whether any additional or alternative discharge controls are required?	Not provided.
Where site runoff is to be discharged to the surface water sewer or combined sewer, has the sewerage undertaker been consulted as to whether any additional or alternative discharge controls are required?	N/A.
Where site runoff is to be discharged to highway drainage, has the highway authority been consulted as to whether any additional or alternative discharge controls are required?	N/A.
If the site is within a CDA, has the council identified the site / area / future development as being able to offer opportunities to contribute to a wider reduction in flood risk?	Not provided.
Does the submission meet peak runoff rate requirements as S2 and S3 of the Non-Statutory Technical Standards for Sustainable Drainage Systems?	Yes
Does the submission meet volume control requirements as outlined in S4, S5 and S6 of the Non-Statutory Technical Standards for Sustainable Drainage Systems?	Yes
Where a component is designed to convey or store flows in excess of the 1 in 30-year return period event. Has it been demonstrated that the upstream system (including any inlets such as gullies or pervious paving) provides the capacity to allow the flows to reach the component without surface flooding [1]?	Yes
If attenuation is proposed, is the specified drawdown time adequate?	Yes
Is pumping of surface water proposed?	No.
Does the submission meet structural integrity requirements as outlined in S10 and S11 of the Non-Statutory Technical Standards for Sustainable Drainage Systems?	Yes

[1] Water UK. (2020). Sewerage Sector Guidance Appendix C - Design and Construction Guidance for foul and surface water sewers offered for adoption under the Code for adoption agreements for water and sewerage companies operating wholly or mainly in England ("the Code"), Ver2.0. Page 57, section C6.1.

Watercourse Consents	
Works taking place within 20m of a watercourse?	Yes.
If yes, type of watercourse?	Ordinary watercourse.
Ordinary Watercourse Consent Required?	Potentially. Needs confirming following submission of FRA and Drainage Strategy.
EA Flood Defence Consent Required?	No.
Is a watercourse drainage consent required?	No.
Comments	None.