

Essex County Council
Development and Flood Risk
Waste & Environment
E3 County Hall
Chelmsford
Essex CM1 1QH



Date: 2 April 2024
Our Ref SUDS-007433

Dear [REDACTED],

Pre-application Response – SUDSPA591626336 - Land East of Ugley Village Hall, Ugley

Thank you for contacting us for pre-application advice which provides Essex County Council (ECC) with the opportunity to assess and advise on the proposed surface water drainage strategy for the aforementioned planning application.

As the Lead Local Flood Authority (LLFA) ECC provides advice on SuDS schemes for major developments. ECC have been statutory consultee on surface water since the 15th April 2015.

In providing advice this Council looks to ensure sustainable drainage proposals comply with the required standards as set out in the following documents:

- Non-statutory technical standards for sustainable drainage systems
- Essex County Council's (ECC's) adopted Sustainable Drainage Systems Design Guide
- The CIRIA SuDS Manual (C753)
- BS8582 Code of practice for surface water management for development sites.

Lead Local Flood Authority position

After reviewing the submitted documents please see a summary of our comments below:

ECC is statutory consultee to ensure the adoption of sustainable ways of surface water management where above ground storage is our preferred option when considering drainage strategies for new developments. Above ground storage options maximize the amenity and biodiversity benefits of SuDS. It is preferable that these are implemented throughout the development and integrated into the proposed landscaping as extensively as practicable.

Overall Drainage Strategy

The planning application is seeking full planning permission for 16 dwellings. The site was previously used as a gravel pit and is 1.05ha. This written response is provided to ensure the development would meet the LLFA SuDS requirements. It is required all major developments should manage surface water runoff and mitigate adverse impact of surface water flooding.

The site has good infiltration potential and therefore surface water will be infiltrated into the ground by means of a soakaway. Infiltration testing has endorsed this and results have evidenced an infiltration rate of 3.05×10^{-4} , this rate is within the acceptable parameters for the LLFA.

Primary storage would be provided by a wetland/attenuation area above the soakaway and properties will be provided with water butts for rainwater re-use. Surface water will be conveyed to the wetland by roadside swales. The required storage is 83.69m³, with the volume being provided at 108.29m³ this therefore satisfies the LLFA's requirements.

Water quality requirements will be achieved by filter strips, swales, permeable paving and the wetland. The pollution measure for this development will be low. The SuDS mentioned will be sufficient to provide the necessary treatment prior to infiltration.

The site makes good use of above ground SuDS to manage, store and convey surface water, they provide sufficient treatment and sufficiently attenuate the water prior to infiltration.

Sewer Network Design should demonstrate that there is No Surcharging for the 1 in 1yr RP, No Flooding for the 1 in 30yr RP and if not contained within the system, details of overland flood flow routes should be provided for the 1 in 100yr +CC RP, which should demonstrate no internal flooding to properties. Drainage modelling should demonstrate half drain times.

Drainage plans should demonstrate routes of exceedance, these routes should be directed away from the properties but should be contained within the development. The drainage plan submitted appears to show them being directed off site and it is recommended that this be rectified prior to submission.

Flood Risk Assessment

A flood risk assessment should consider all forms of flood risk.

These include:

- Flooding from the sea or tidal flooding;
- Flooding from land;

- Flooding from groundwater;
- Flooding from sewers; and
- Flooding from reservoirs, canals, and other artificial sources.

It should be considered how any existing flood risk will interact with the proposed development and associated drainage scheme.

Our records indicate that the proposed development is not within a Critical Drainage and does not fall within a Surface Water Management Plan (SWMP) Study Area.

In this scenario all flood risks have been considered and the flood risk within the development will be low. Written evidence of this should be provided as part of the planning submission.

Run off Destinations

Surface water run- off should be disposed of in line with the discharge hierarchy and should be investigated in the below order:

- Rainwater reuse
- Discharge via infiltration
- A hybrid Approach
- Discharge to a watercourse/surface water body
- Discharge to a surface water sewer
- Discharge to a combined sewer

The development proposes discharge via infiltration and also some rainwater re-use by means of water butts this meets the expectations of the LLFA.

Infiltration

If infiltration is proposed, groundwater testing and infiltration testing in line with BRE 365 will need to be submitted to show that infiltration is feasible. Any infiltration storage devices should have 1m between the base of the storage device and seasonal high groundwater level.

If infiltration is unlikely to be possible at the site due to ground conditions, then we will still require high level ground investigations in order to prove that this is not a viable option.

Where the sites have some infiltration capacity, but rates are too low to achieve full infiltration results. We recommend to design hybrid infiltration solution, which uses low level infiltration for smaller events and pipe outfall for larger events. The minimum acceptable rate of infiltration to design soakaway is 1×10^{-6} .

Infiltration is proposed for this development and good rates have been evidenced by testing. The rates are acceptable to the LLFA.

Storage requirements

It should be demonstrated how surface water up to the 1 in 100 year plus climate change event is managed within the development.

The Environment Agency updated their climate change allowance in May 2020 and we require the design to be to the upper end allowance (i.e. 40%, 45% which is applicable), unless this can be shown to make the development unviable, in which case the central allowance should be used with a sensitivity analysis carried out for the effects of the upper allowance. Please see the following link for more information on revised climate change allowances: <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>

Furthermore a 10% allowance in storage calculations should be provided for urban creep on roof areas. Details regarding the half-drain time of any storage device should also be submitted for review which, in this instance could be demonstrated by the 1 in 30yr +CC RP, followed by the 1 in 10yr RP storm event as necessary. Half drain time should be calculated as per 30 year rainfall intensity allowance updated by Environment agency.

As part of the planning application, detailed calculations considering a range of summer and winter storms should be submitted for storage requirements.

Water Quality

There should be treatment in line with Chapter 26 of the CIRIA SuDS Manual C753 for all areas of the site.

Whether the site is considered a medium or low pollutant risk depends on the traffic movements expected on the development. If the development is expected to have over 300 traffic movements then the medium pollution indices should be applied whereas the low pollution indices should be applied if less than 300 daily traffic movements are expected.

Considering impact of water pollution, in line with Paragraph 174 of the NPPF, priority should be given to SuDS and all SuDS options should be explored. If proprietary features are used however, it should be shown how these features will provide enough treatment in terms of total suspended solids, hydrocarbons and metals in line with Chapter 26.

It should be noted that trapped gullies and catch pits are generally not considered appropriate forms of pollution mitigation because of the high risk of remobilisation of pollutants using this method of treatment.

The documents provided evidenced that sufficient treatment will be provided by the above ground SuDS with the use of permeable paving, swales, filter drains and the wetland.

Residual Flood Risk

As part of any planning application it should be ensured that surface water is managed so that there is no flooding in a 1 in 30 year storm event and no internal flooding in a 1 in 100 year, inclusive of climate change storm event. Detail should also be given in regards to exceedance routes above the critical 1 in 100 year, inclusive of climate change storm event, which should be directed away from properties.

Maintenance and Adoption

The on-going maintenance of any features will be necessary to ensure that flooding does not occur due to failure of components. A maintenance plan should be provided as part of the planning application process detailing the maintenance activities and frequencies as well as who will be maintaining the system.

We understand that Anglian Water do adopt SuDS schemes within this region upon a scheme meeting their Adoption Criteria. If you intend to have them adopt your scheme, you will also need to provide proof that you have sent an Expression of Interest to them, or an Approval in Principle of your design.

Additional comments:

For a summary of what we require and when, please see the following link:

[REDACTED]

Our ECC suds design guide 2020 can be found at the following link: [REDACTED].

Our ECC new suds proforma can be found at the following link:

[REDACTED]
[REDACTED]

At some point during the planning stage, you would need to show how surface water will be managed during the construction phase.

You would also need to demonstrate how surface water impacts on the drainage system before and after development, and how the new development improves existing land drainage or surface water management.

Under Section 23 of the Land Drainage act (1991) any proposed structure that impacts on the cross-sectional area of a watercourse will require Ordinary Watercourse consent to be sought from Essex County Council. Such applications are separate from and are required in addition to the planning process.

Please note:

The advice provided by the Council's Officers is informal opinion only and is made without prejudice to any formal decision that may be given in the event of an application being submitted.

In particular, any advice given will not constitute a formal response or recommendation of the County Council. Any views or opinions expressed are in good faith and to the best of ability, without prejudice to the formal consideration of any application, which will ultimately be decided by the Local Planning Authority. The County Council cannot guarantee that new issues will not be raised following submission of a planning application and consultation upon it.

Officers cannot give guarantees about the final formal decision that will be made on planning or related applications. However, the advice contained within the written response will be considered by officers when considering any future planning application. This is subject to the proviso that circumstances and information may change or come to light that could alter the position. It should be noted that the weight given to pre-application advice will change if new material considerations arise.

Whilst we have no further comments at this stage, we strongly recommend you engage in pre-application consultation with any other organisations that maybe relevant to the proposed drainage strategy to avoid potential delays at the application stage. If you have any queries about any advice we have given please do not hesitate to contact us.

Yours sincerely,

Alison Vaughan

Senior Development and Flood Risk Officer

Team: Green Infrastructure and Sustainable Drainage

Service: Climate Action and Mitigation

Essex County Council

Internet: www.essex.gov.uk

