**From:** GHI Floods Planning
**Sent:** 18 May 2020 18:58:03 +0000
**To:** customer.services
**Cc:** Mills, Penelope
**Subject:** 2020-05-18 - DC/20/0614/RM,Land Nw Of Haverhill, Anne Sucklings Lane, Little Wratting - SH

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FAO Penny Mills

**Reserved Matters Application - Submission of details under SE/09/1283 for the infrastructure for Phases 2-6, Comprising of the Internal Estate Roads, Drainage, POS, Landscaping, Sports Pitches and Allotments. Land Nw Of Haverhill Anne Sucklings Lane Little Wratting Suffolk**

Please see SCC comments on the above application regarding dispose of surface water and all other surface water drainage implications.

**SCC Position**

SCC Flood & Water Management have reviewed the following documents:-

- Drainage Strategy [ref:- E3838-Haverhill-Drainage Strategy-Rev1 by Wormald Burrows & dated 13/12/20]
- Phasing plan masterplan [ref:- 039/E/1500 B By Persimmon and dated 31/01/20]
- Landscaping Areas plan [ref:- 039-E-SK250 By Persimmon and dated 23/03/20]

Currently SCC Flood and Water Management recommend a holding objection as the proposed SuDS design does not comply with previously approved documents, nor our local SuDS policy and national standards (BS8582:2015 & Ciria SuDS Manual C753). We have particular concerns about Phases 3B, 4 and 5 and feel due to its scale a meeting is required.

1. Areas of open space:- Given the series of valleys and steep gradients across the site, SCC will expect to see green/blue corridors along all existing watercourse routes. No housing should be located in these valleys due to overland exceedance routes and ordinary watercourse flooding.

2. Maintenance corridors for existing watercourses - all existing watercourse reaches (except the small ditch located within the main central green corridor of the whole site) to have a minimum 3m (ideally 3.5m) adjacent to one bank for future access and maintenance. Please show on an infrastructure maintenance plan and/or the infrastructure layout plans.

3. **Hydrology** – overall phases 2-6 will use a positive SuDS system draining to nearby watercourses at restricted pre-developed flow rates, we agree infiltration is not a viable solution alas we are satisfied with the suggested philosophy, however SCC make the following comments on the hydrology assessment:-

    a. Two FRA/DS's exist from the approved outline planning application. The original MLM drainage strategy (dated Sept 2010) agreed a rate for Qbar of 2.35l/s/ha with the Environment Agency. In a second FRA by Capita Symonds, this drainage strategy actually

promotes 1yr greenfield discharge rates for the proposed development and provides restricted discharge rates accordingly. It is not clear from the decision notice which FRA/DS was approved (and precedes the LLFA's consultee role)

b. The FRA submitted with this reserved matters application follows neither of the above methods and actually follows SCC's local policy which is Qbar or 2l/s/ha which we are happy to accept but slightly disagree with the rates suggested in section 3.1.6. The greenfield runoff area should be been based on the 'Area Positively Drained' i.e. the area served by the SuDS and should not overlap sub-catchments either, also SOIL and SAAR values differ. Our compulsory rates are as follows:-

| Catchment | Qbar | Notes |
|---|---|---|
| 1 | 10.9 l/s | Allotments removed as will not being positively drained/sport pitches car park on a different catchment; equates to 4.7ha. SOIL index 0.37 not 0.4 and SAAR 583mm using UK SuDS (more up-to- date then Micro Drainage) |
| 2 | 5.3 l/s | Runoff area ok. SOIL index 0.37 not 0.4 and SAAR 583mm using UK SuDS |
| 3 | 5.8 l/s | Runoff area ok. SOIL index 0.37 not 0.4 and SAAR 583mm using UK SuDS |
| 4* | 29.5 l/s | Runoff area 12.7ha. SOIL index 0.37 not 0.4 and SAAR 583mm using UK SuDS |

*Suggest catchment 4 is spilt into two given the topography

c. Please confirm how the sport pitches are being drained? Will they have a runoff response similar to the pre-developed state?

d. Also there is an existing ditch line bordering the western perimeter of Boyton Hall, this disappears under Anne Sucklings Road. Is this development going to pick this up?

4. **Hydraulics** and basin orientation (review of each of sub-catchment):-

a. Please provide an overview plan inc tables of the impermeable areas for each sub-catchment. For example the impermeable area percentage is roughly 60% for catchment 1 (2.74ha used in calcs) which seems reasonable. But this doesn't match up with other plans. Will need fine tuning as parcel comes forward.

b. Catchment 1 – why has single larger pond been used rather than 2 smaller ones across 2A/2B respectively, that way Phase 2a could have had a strategic POS/SuDS corridor on its western section which would have had greater multifunctional aspect? Pond 1 could be slightly smaller this way as well.

   i. Pond 1 is located ok, its 1.5m deep (ignoring the cutting) which is good. I not the terrace within the back slope which is good. But cannot see any further wet benches at this time as per local requirements for publicly accessible SuDS. This should level with max water mark.

   ii. Plenty of freeboard however will likely change with revised outflow rate

   iii. Pond is a bit close to the allotments, should be a 3.5m corridor around the basin for access and maintenance

iv. Should have a sediment forebay (10% of the plan area)
v. An area within the basin must be given for interception storage (first 5mm of rainfall should be held on site). Multiple small shallow areas below the invert of the outlet is an option.
vi. Finally side slopes and cut/fill assessment, the existing ground level is some 3m higher than the proposed finished crest height (90.7m), some further explanation on the sites cut/fill analysis would be useful to understand how basins will tie into wider site elevations whilst keeping to 1:4 side slopes. There should be minimum cutting and filling and grading out of side slopes.

c. Catchment 2 - Major concerns with Phase 3A/Local Centre.
    i. Firstly why is a tank being used? An open basin appears viable, would be similar to catchment 1's basin then. More alarmingly phasing plans show housing on top of the proposed tank! This is completely unacceptable.
    ii. Suggest that Phase 3a has an open basin in the SE corner and the local centre + road areas has a weholite tank or box culvert in an area of POS next to the local centre. Alternatively, if the local centre is to be built as shown, SCC suggest an open basin is provided in the NE corner of Phase 6 to serve this sub-catchment.
    iii. There is no treatment for road runoff in the current proposal.

d. Catchment 3 (Phase 6) – just needs the hydraulic calcs updating to the suggested discharge rate and confirmation of side slopes. But generally this phase is sound.
    i. Basin 2 is well positioned but again cannot see any wet benches at this time as per local requirements. The crest/terrace is shown but should be wet bench (1.5m wide) at the max. water level mark.
    ii. Again should have a sediment forebay (10% of the plan area)
    iii. An area within the basin must be given for interception storage (first 5mm of rainfall should be held on site). Multiple small shallow areas below the invert of the outlet is an option.
    iv. There should be minimum cutting and filling and grading out of side slopes to 1:4.

e. Catchment 4 – needs better masterplanning.
    i. Particularly hesitant how Phases 3B, 5A and 5B (and presumably the school) are being conveyed west into the wrong sub-catchments, this is poor SuDS philosophy and does not mimic the natural hydrology. Furthermore the piped network uses two road crossings to traverse the watercourse, but having visited the site i'm not convinced there is enough headroom on the watercourse to pass a 600mm dia over the watercourse when the road crossing themselves will be culverted by a large pipe. SCC request a simple design and strongly recommend that the philosophy from the rest of development is continued by giving each sub-catchment its own SuDS network. This would follow best practice by spreading out volumes rather than have regional basins at the bottom of the valley near to existing development in Howe Rd. SCC encourage the use of a management train on either side of the watercourse following the contours south.

ii. In light of the above this phase is perfect for a larger green/blue corridor following the watercourse through the centre of the catchment, and with SuDS incorporated wisely this could be a well-used, multifunctional space.
iii. Pond 3 is totally unacceptable and does not comply with any design standards – again up til now all basins have been 1.5m deep why is this 2.4m deep? This is where the storage volumes must be spread out more evenly across this catchment.
iv. Pond 4 is ok but need similar answers to questions on the other basins above.

5. Exceedance:- Routes are fairly obvious from the contours but please add main exceedace routes for the catchments and basins.

6. Designers risk assessment will need to be provided as a check. Most basins water levels are remaining below 1.2m deep in the worst case storm therefore no major issues but health and safety file should be provided nonetheless.

7. SCC will not accept open SuDS being offered to a private management firm until all other options have been exhausted. Subsequently they must be offered to West Suffolk Parks team or Anglian Water in the first instance under new Sewerage Sector Guidance.

Kind Regards

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-----Original Message-----
From: planning.help@westsuffolk.gov.uk <planning.help@westsuffolk.gov.uk>
Sent: 28 April 2020 12:49
To: RM Floods Planning <floods.planning@suffolk.gov.uk>
Subject: Planning Consultation - DC/20/0614/RM,Land Nw Of Haverhill, Anne Sucklings Lane, Little Wratting - PM

Planning consultation  Please see attached