

KINGS SOMBORNE FRA CLARIFICATIONS

Please find below my formal question to WaterCo regarding the Flood Study. I am pleased we can submit questions to WaterCo. Clearly, I have received some responses to enquiries already from both them and the Parish Council. This has been very helpful, but there remain some questions that I would be grateful to formally pose and to be formally responded to by WaterCo. These are:

- 1) Is it WaterCo's opinion, based upon the documents made available to them, that a Strategic Flood Risk Assessment has been completed in the development of the draft King's Somborne NDP across all potential sites (beyond the five reviewed in the Study) as required by policy and as noted by WaterCo within the "Policy Context" section (pages 3-4) of the report? Are they satisfied that an appropriate Sequential Test has been completed?

Response by KSPC

The Sequential Test was originally undertaken based on the developments taking place in FZ1 – so no test required, but this was not made clear in the NDP, and following feedback the Sequential Test will be done for the entire site and other sites adjacent to the settlement boundary.

- 2) WaterCo have commented that "Taking a sequential approach to flood risk, and to satisfy the Exception Test, it is understood that all dwellings and developable areas will be located within Flood Zone 1." Several of the sites will likely require access infrastructure to be built within Flood Zone 3 (e.g. access from Winchester Road) as stated in their respective site assessment documents. WaterCo have kindly confirmed to me that "Developable Area" includes "all roads, gardens, buildings etc." and as such would include these access routes. Given this fact would WaterCo believe that the Study would require amendment on this basis, and/or the basis for any Sequential Test and application of the Exception Test would need to be revised.

Response by KSPC

The SFRA will take into account the issues outlined above.

- 3) On page 8 of the Study it states "In order to mitigate the fluvial flood risk from the unnamed bourne, all developable areas of the sites will be located outside of the extreme 0.1% annual probability flood extent and within Flood Zone 1". Could WaterCo confirm whether this is a recommendation from them, or a statement of fact they were given it order to complete the report? (Please note question 2)

Response by KSPC

Waterco were advised that development will be limited to Flood Zone 1. See Appendix 2.4 para 2.3 of Draft NDP prior to commissioning the study

Response by Waterco

As above, Waterco were advised that all development will be limited to Flood Zone 1 with any land within Flood Zone 2 / 3 left undeveloped i.e. for public open space. However, Waterco also recommend that all developable areas (dwellings, new access roads, gardens etc.) are limited to Flood Zone 1. This follows the principles of the NPPF flood risk Sequential and Exception tests.



Can I assume that after this opportunity to offer questions and receive responses to WaterCo there will be an opportunity to summarise formal feedback points on the Study to the Parish Council for inclusion in the review of the draft NDP? How will this work - will we get the responses to question back and then be able to put final comment to the P

Response by KSPC

The Final Study will be incorporated into the NDP. Questions in regard to the NDP may be addressed to the Parish Council at their meetings

Questions to be raised with Waterco

Question 1

The River Test Site of Special Scientific Interest lies adjacent to the west of King’s Somborne NDP area. Natural England has made the following observation regarding the stream:

“This classic chalk stream is one of the most species-rich lowland rivers in England. In view of the winterbourne tributary, which passes through King’s Somborne Village, we advise that the NDP acknowledges the designated status of the River Test and that development proposals within the NDP area should be assessed for impacts on the interest features for which the SSSI has been designated.”

In the light of this information does Waterco consider that, given the proximity of the SSSI downstream to KS3, additional discharge to the bourne (either from SuDS or surface run off) is acceptable?


Response by Waterco

Discharge to the bourne currently occurs within King’s Somborne. Within any future planning applications for all sites (not just KS3) a Flood Risk Assessment and Drainage Strategy will be required. As part of a Drainage Strategy, detail would be provided on how discharge to the bourne will be restricted (by flow control and attenuation storage) to mimic existing greenfield runoff rates. Detail will also be provided on how surface water treatment can be provided i.e. through inclusion of sediment removal, oil interceptors etc.


Waterco can confirm that through mitigation, surface water discharge from the development sites will have negligible impact on the SSSI.

Question 2


In preparing and writing its report Waterco did not make any site visits to the village. I believe this was a cost saving measure imposed by the NDP steering group. However, given the importance of this issue it is a surprising outcome and far from acceptable to a number of residents.

Response by KSPC
In discussion with Waterco prior to commissioning the study it was determined no added value would be made by site visits at this stage of the planning process.
Waterco confirm that a site visit would not have provided added value to the study. Information available online including topographical data, aerial imagery and detailed Environment Agency mapping provides sufficient detail to inform the report.
As part of any future planning applications (where a more detailed assessment is necessary) a detailed survey of the bourne would be undertaken to inform hydraulic modelling.



In formulating its original proposal to KSPC did Waterco recommend including site visits as part of the project work?

Response by KSPC
See above
No – see above.


Did the NDP steering group make any attempt to preclude a site visit by Waterco as a condition (either explicit or implicit) to its formal request to Waterco for a project proposal?

Response by KSPC
See above
As above



Does Waterco believe that site visits would have assisted its assessment and helped shape its recommendations?

Response by KSPC
See above
Response by Waterco
No – viewing the bourne and the sites (undeveloped fields) would not change the findings of the report.


Question 3

Waterco’s report states that the bourne originates from a spring source located approximately 660m north-east of site KS7. This is only partially correct as there are other springs (close to KS3) which arise each year. There are therefore several sources of the bourne along its track through the village.

Should these other sources of water have been considered in Waterco’s report? This is one of the matters which a site visit may have clarified before Waterco’s report was finalised.

The spring source 660m north-east of site KS7 is shown as the main spring source of the bourne. This does not mean there are no other spring sources / tributaries along its route.
A site visit may have identified other incoming sources; however it is unlikely that the conclusions and recommendations of the report would change.


Question 4

All SuDS systems require regular maintenance, service and repair. It is unlikely that the costs for these will fall on the developer but rather to KSPC. Financial provision therefore needs to be made for:

- Monitoring and post construction inspection;**
- Regular planned maintenance (at least annual, possibly more frequent); • Intermittent, refurbishment, repair/remedial maintenance; and • Cleaning and discharge of sludge.**

Response by KSPC
Apportioning of maintenance costs is a matter for detailed planning

Responsibility for maintenance will fall with the future site owner / developer. KSPC would only be responsible for maintenance costs should they develop the site or offer to adopt the drainage system (which is unlikely). Where a sewerage undertaker does not adopt a shared drainage system, the normality is for the developer to arrange for maintenance (through a management company) and residents of the new development site pay a service charge to cover costs.



Please provide an indication as to the likely amount of such regular costs. It is appreciated that this will be dependent upon the precise nature if any scheme which is installed. However, it is worth making an assessment as to both the scale of ongoing costs (which will remain for a significant time) and also the monitoring required so as to ensure adequate servicing and repair of the system.

Providing costs for maintenance is outside of Waterco's scope and is dependant on the drainage scheme. Drainage systems are typically inspected monthly once first constructed to establish the rate of sedimentation. A site-specific schedule for maintenance is then prepared.



The following quote is taken from an Environment Agency Report which summarises the whole life cost estimation of SuDS installations:

“Maintenance costs (of SuDS)

Operation and maintenance costs may be significant due to the requirements for regular maintenance and inspections to ensure that the SuDS components are delivering the required attenuation and water quality benefits.”

In addition, to facilitate regular maintenance it would seem logical that provision needs to be made for “service” access and this could mean the inclusion of further surfaced trackways/access rights over undeveloped areas of the site (including parts of flood zone 2 & 3).


Response by KSPC

The matter of access for SUDS components is a matter of detailed design and further trackways and their routing is conjecture.

As above, however no SuDS (shared drainage systems which provided attenuation storage) will be located in Flood Zone 2 / 3 and as such no access in flood zone 2 & 3 will be necessary.



Does Waterco accept that this is a potential requirement of a SuDS installation at KS3? If so, would these additional facilities have an additional impact on water run-off and discharge into the bourne?

Response by KSPC
See above
As above, there is no proposal or requirement for SuDS (or access to SuDS) to be located in Flood Zones 2 or 3.


Question 5

The Environment Agency has recommended to Test Valley Borough Council that, to comply with the National Planning Policy Framework, a sequential flood test is undertaken when allocating sites to ensure that development is directed to the lowest areas of flood risk.

Waterco has not made a similar recommendation and I can find no mention of a sequential test in its report. What is Waterco's view on the advisability of conducting a sequential flood test?

Response by KSPC
See response above in regard to SFRA


Question 6

It was originally anticipated that Waterco would present its report, engage with residents and address questions at an open meeting in King's Somborne. The written Q&Q format which has been adopted is likely to restrict comment and limit the opportunity for the community to participate in the feedback from the Flood Risk Study. In addition, the publicity given by KSPC to the publication of Waterco's report has been low.

Response by KSPC
No commitment has ever been made to hold an open forum on flooding. The written format is in line with the requirements of NDP preparation. An open forum does not track and give an auditable trail in the same way as written Q & A. The purpose of the study is limited to determining the potential of increased flood risk by development of the 5 proposed sites not a study of the existing flooding potential of K S.

Would Waterco agree that, community engagement, communication and the objective of addresses issues as fully as possible would have been better served by arranging a public meeting?

See above	Response by KSPC
	Response by Waterco As per KSPC response



Under heading Development Proposals: I note “proposed development is for approximately 24 dwellings at KS3”. I understand that the Waterco report was commissioned by Mr Searle, Deputy Chairman of the NDP Steering Group and therefore the information regarding the numbers of dwellings involved was given by him as part of the proposal. This also confirms the statement I heard him make at the last NDP Meeting I attended on 4 July 2018, that the density of dwellings for KS3 could be up to 24. This number was disclosed **subsequent to the closure of the Public Consultation period.**

Response by KSPC
It is confirmed that KSPC provided the number of houses to Waterco. As sites KS3 and KS 6 can be combined to achieve the requisite housing number for one of the 3 phases. A maximum number was provided to provide the worst case scenario for potential flooding impact

Since January I have attended several NDP Steering Group Meetings and two of the four Public Consultations Meetings. At every meeting I have attended both Mr Searle and Councillor Brock have stated clearly that no site in the proposed plan would have more than 11-14 houses. This position has been repeatedly maintained despite questioning by many individual

I have also studied the Waterco report and it states nothing to mitigate the concerns of local residents concerning flooding. I have been appraised of the Waterco feedback that has been sent to yourselves by Mr K Smart, 3 Old Iron Foundry, Kings Somborne and I firmly believe that his letter makes a very strong case as to why the issues of potential future flooding has not been properly addressed. Mr Smart has asked that Waterco are fully appraised of his concerns and I fully endorse his request that this is properly addressed.

Response by KSPC
The purpose of the study is to assess if development on the 5 proposed development sites within the NDP has the potential for increasing flood risk. It cannot address the existing flood risk due to silting up of the bourne for example or lack of riparian maintenance.
Response by Waterco
As per the KSPC response, the Waterco study assesses the potential for increase in flood risk from development and also provides a qualitative study of flood risk.
Our report does make recommendations for further works at the detailed planning stage which include a detailed hydraulic model of the bourne (quantitative analysis of flood risk) and detailed

(intrusive) analysis of groundwater levels. The detailed works would accurately determine flooding extents (including an assessment of future risk associated with climate change) and inform future site layouts and mitigation measures. This level of detailed assessment is beyond the agreed scope of works.



At this point I would also like to know why all the feedback forms submitted following the Public Consultation period have not been published, unredacted save for personal details? Councillor Brock clearly stated in July that this would be done within four to five weeks, ie mid August. Please advise when these feedback forms will be in the public domain.

Response by KSPC

The publication of the forms and responses will be made when all feedback forms have been satisfactorily analysed and evaluated. Much of the work is performed by volunteers who will require to liaise with professional advisors and statutory bodies. No definitive estimate can be provided.

A few comments regarding Waterco's flood risk study and their conclusions:

Firstly, I agree with Ken Smart's comments in his letter dated 13 September, regarding the need for Sequential Testing due to flooding issues in the vicinity, and reiterate that this needs to be in regard to all fourteen sites, rather than just the four assessed by Waterco.

Response by KSPC

See above in relation to the sequential test. Only sites adjacent to the existing settlement boundary will be evaluated.

Secondly, given Waterco's conclusions, I wonder whether keeping KS3 within the Neighbourhood Plan is a viable option? Would a developer make money when taking into account the following requirements for:

Detailed hydraulic modelling to include: channel cross section survey of the bourne; detailed hydrological analysis to calculate model inflows; and, assessment of climate change allowances.

Ground investigations to include groundwater monitoring

A detailed Flood Risk Assessment based on the findings of the hydraulic modelling including a Drainage Strategy detailing how surface water will be managed on each site.

Response by KSPC

It is not the purpose of the NDP to evaluate profit from developers. The cost of the activities highlighted above is however low compared with the price of housing within KS.

Response by Waterco

As above, however it is noted that Waterco have worked on several schemes, some for 1 dwelling, which included the above requirements.

 waterco

In addition to the above, I wonder if any development in KS3, given the proximity of Rivermead, which required a watching brief as evidenced:

<http://archaeologydataservice.ac.uk/library/browse/issue.xhtml?recordId=1031277&recordType=GreyLit>

would be viable for a developer:

<https://commercialarchaeology.co.uk/625-watching-brief-can-become-expensive-for-a-developer/>

Response by KSPC

See above. Clearly it was viable in the case of Rivermead a single dwelling. It should also be noted that alternatives to watching briefs are feasible as highlighted in the referenced article.

Response by Waterco

No further comments.


 waterco

1. Why has Waterco not recommended a Sequential Test?

The UK Government web site quotes the following in respect of requirements to undertake a sequential test ...

You also don't need to do a sequential test for a development in flood zone 1 unless there are flooding issues in the area of your development.

There are clearly "flooding issues" in the areas of proposed development as evidenced by the 2014 floods. This must mean that sequential tests are therefore required. There were fourteen sites identified with potential for development in King's Somborne, but only KS3, KS5, KS6 and KS7 were in scope for the Waterco study. The 10 sites not included in scope should surely be included in a sequential test before formal submission of the Plan.

Response by KSPC
See above in relation to the sequential test.
Response by Waterco
As above. Our works were specific to the sites identified by KSPC.


2. Would Waterco please explain how SuDS would work on KS3 under the circumstances set out below.

Following are verbatim, page-referenced extracts from the report in italics, followed by a logical presentation of facts leading to the request for an explanation.

Page 6

*Surface water flooding occurs when rainwater does not drain away through the normal drainage system or soak into the ground. It is usually associated with high intensity rainfall events, however, can also occur with lower intensity rainfall or melting snow where the **ground is saturated**, frozen **or developed**, resulting in overland flow and ponding in depressions in topography.*

Page 8

In order to ensure the proposed development sites will not increase flood risk elsewhere (through the introduction of hardstanding), surface water discharge will be controlled.

Surface water discharge rates should be restricted to greenfield runoff rates.

As infiltration will likely be limited due to potential high groundwater levels, it is likely that discharge to the unnamed bourne will be required.

Page 9

In order to achieve limited greenfield runoff rates, attenuation storage will be required.

Attenuation Storage Systems

Given the potential for a high-water table at the sites, attenuation storage should be provided within below ground attenuation tanks ...

To facilitate gravity drainage, attenuation tanks will be located at the lowest point of the site. However, attenuation tanks should not be placed within the Flood Zone 2 or 3 extents.

Page 2

Site KS3 slopes from approximately 37m AOD in the north to 32.16m AOD in the south.

Page 5

... for site KS3, the Flood Zone 2 and 3 extents (0.1% annual probability and 1% annual probability flood extents) do not extend above 33m AOD. The bourne is situated at approximately 32m AOD in its location adjacent to site KS3.

Given the extracts above, please explain how attenuation tanks (or any other form of SuDS) would work in the case of a development on the Flood Zone 1 extent of KS3, during a 1 in 100 year flood event such as was experienced in February 2014.

Response by Waterco

See report extract below:

'Given the potential for a high-water table at the sites, attenuation storage should be provided within below ground attenuation tanks or modular storage with sufficient mitigation provided within the design to prevent uplift (floatation) of the tanks when the groundwater table is high.

- Tank uplift can be prevented through employing the following measures:
- Anchoring the tank in place;
- Providing a suitable depth of cover;
- Applying ballast to the tank during the construction phase;
- Pumping groundwater during construction until the excavation around the tank is backfilled.'

Furthermore, it is noted that an attenuation tank will form a sealed system i.e. it can be placed in an impermeable concrete surround and / or wrapped with an impermeable geo-textile material. Therefore, groundwater ingress / egress to / from the attenuation tank would not occur.

The attenuation tank can be sized to ensure that it accommodates rainfall in times where water levels in the bourne are high and the drainage outlet submerged. A non-return valve can be placed on the outlet to prevent backflow from the bourne.



Rationale for the request is as follows ...

1. In February 2014, the water depth in the KS3 section of the bourne was approximately 1m, so the water surface was at approximately 33m AOD.
2. If attenuation tanks were to be located at the lowest point of the Flood Zone 1 extent on KS3 (in line with Waterco's recommendations), they would, by definition, be at the edge of the Flood Zone 2 extent where the ground level is at 33m AOD.
3. An internet search reveals that attenuation tanks should be sunk to a minimum 500mm below ground level with compacted back-fill above.
4. That means that the top of the attenuation tanks would be at a maximum 32.5m AOD.
5. During the next 2014 level fluvial flood (to 33m AOD), the attenuation tanks would be full of ground water so would surely be ineffective as mitigators against run-off, as would box planters for the same reason.
6. The Flood Zone 1 extent of KS3 covers approximately half of KS3, i.e. approximately 0.9 ha. With 24 dwellings, that represents "medium density" housing with a significant proportion of hardstanding.
7. The fall of this Zone is 4m, from 37m AOD to 33m AOD, so surely runoff water during a downpour would flow (dangerously?) fast towards KS3 Flood Zones 2 and 3, running straight over the top of full attenuation tanks.
8. **Therefore, the requirements that
*surface water discharge will be controlled
and
surface water discharge rates should be restricted to greenfield
runoff rates
will surely not be met.***

If the logic in 1. – 8. above (using data from the Flood Risk Study) is incorrect, please explain why.

Response by Waterco

As explained above. The tank would be below ground with the invert (base on the tank) up to 1.5m below ground level. However, the rationale above assumes that groundwater can freely flow in and out of the tank which is not the case, the tank will be a sealed unit with inflow only from piped drainage serving dwellings and roads.

