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Stag Brewery, Mortlake - Consultee Responses

Flood Risk and Drainage Responses

Date: August 2022

Client Name: Reselton Properties Limited

Document Reference: WIE18671-114-BN-1.3.4-FR&D Response

This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS EN ISO 45001:2018)

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1. Introduction

1.1. The following documents were included as appendices to the Environmental Statement submitted in support of the two linked planning applications for the comprehensive redevelopment of the former Stag Brewery Site in Mortlake within the London Borough of Richmond upon Thames (LBRuT):

- Environmental Statement Appendix 12.2 - Drainage Strategy Reference WIE18671-104-R-11-2-2-DS; and
- Environmental Statement Appendix 12.5 – Flood Defence Wall Note Reference WIE1871-104-BN-3-1-2-RiverWall.

1.2. This document sets out the comments received from the statutory consultees and Waterman's responses to these on behalf of the Applicant. Where appropriate, additional information will be provided subsequently as noted below.

2. LBRuT as Lead Local Flood Authority

LBRuT Comment

2.1. MORE INFORMATION REQUIRED – the green roof and water butts should be shown on the drainage drawing.

Waterman Response

2.2. Green roofs are proposed across the Site. The sitewide urban green factor drawing (P10736-00-004-GIL-0802) has been provided in Appendix K of the Drainage Strategy to reflect the location of the green roofs.

2.3. Water butts are also proposed across the Site. Water butts are not accounted for in terms of storage volume within the proposed drainage strategy as they are assumed to be full at the start of the design rainfall event, in line with the precautionary principle of the NPPF.

2.4. The exact number and location of the water butts cannot be confirmed at this stage. However, a note has been included on the drainage strategy drawing (18671-WIE-ZZ-ZZ-DR-D-92001) to reflect that water butts are proposed, and their location can be indicatively identified based on the roof areas within the masterplan, with the exact locations to be confirmed at detailed design

LBRuT Comment

2.5. FAIL – The proposed runoff rate of 249l/s is much higher than the greenfield runoff rate of 44.1l/s. Consideration should be made to additional attenuation features such as blue roofs to reduce the proposed runoff rate. The site area used to calculate the 100 year greenfield runoff rate of 44.1l/s should be confirmed.

Waterman Response

2.6. To meet Policy LP 21 of LBRuT's Draft Local Plan and in direct response to the comments received from the LLFA, the Drainage Strategy has been updated to achieve the greenfield runoff rate. Based on an area of 5.69ha currently draining into the Thames Water network, the existing discharge rate was calculated to be 812.3 l/s. The incorporation of permeable paving, rain gardens, and underground attenuation tanks achieves a reduction of surface water flows to the greenfield runoff rate of 37.4l/s, equal to a 95% reduction compared to the existing rate.

LBRuT Comment

2.7. MORE INFORMATION REQUIRED – the existing (brownfield) runoff rate needs to be supplied for 1 in 1 year event and a 1 in 30 year event. All runoff rates should be presented in the SuDS proforma.

Waterman Response

2.8. Table provided below (and within Appendix H – Surface Water Calculations) with greenfield, existing (brownfield), and proposed runoff/discharge rates from the site for a variety of return periods, in line with the SuDS proforma events. A constant proposed discharge rate has been assumed as a worst-case discharge for lower return period events. Despite the assumed higher discharge rate, 1 in 1 year runoff from the site is seen to reduce by 78%.

	Greenfield runoff rate (l/s/ha)	Existing (l/s/ha)	Required storage (m3)	Proposed discharge rate (l/s)	Percentage Reduction
Qbar	2.4	35.0	-	7.7	82%
1 in 1	2.1	43.3	-	7.7	78%
1 in 30	5.6	98.4	-	7.7	92%
1 in 100	7.7	142.8	-	7.7	95%
1 in 100+40CC	10.8	199.8	3,686	7.7	96%

LBRuT Comment

2.9. The applicant has submitted information which has not sufficiently addressed policy relating to London Plan Policy SI 13. Until the above points are addressed, matters relating to volume control, Non-Statutory Technical Standards for SuDS S7-S9 and future maintenance have not been assessed due to their reliance on suitable proposals for sustainable drainage features and runoff rate restrictions.

Waterman Response

2.10. Details of the London Plan: Policy SI 13 – Sustainable drainage are provided below for reference:

A) Lead Local Flood Authorities should identify – through their Local Flood Risk Management Strategies and Surface Water Management Plans – areas where there are particular surface water management issues and aim to reduce these risks. Increases in surface water run-off outside these areas also need to be identified and addressed.

B) Development proposals should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible. There should also be a preference for green over grey features, in line with the following drainage hierarchy:

1) rainwater use as a resource (for example rainwater harvesting, blue roofs for irrigation)

2) rainwater infiltration to ground at or close to source

3) rainwater attenuation in green infrastructure features for gradual release (for example green roofs, rain gardens)

4) rainwater discharge direct to a watercourse (unless not appropriate)

5) controlled rainwater discharge to a surface water sewer or drain

6) controlled rainwater discharge to a combined sewer.

C) Development proposals for impermeable surfacing should normally be resisted unless they can be shown to be unavoidable, including on small surfaces such as front gardens and driveways.

D) Drainage should be designed and implemented in ways that promote multiple benefits including increased water use efficiency, improved water quality, and enhanced biodiversity, urban greening, amenity and recreation.

2.11. Subsections B-D of the SI13 are applicable to developers.

2.12. Subsection B relates to the drainage hierarchy. The proposed surface water drainage for the Site follows this hierarchy, as laid out within the submitted and updated drainage strategy documents.

1) Water butts are proposed for the Site to facilitate the reuse of rainwater onsite.
2) Infiltration to ground is not achievable due to underlying clay.
3) Attenuation in green infrastructure features is proposed, where feasible. Green roofs are included across the Site and the drainage strategy drawing will be updated to reflect the location of these features.
4) Rainwater is proposed to discharge directly to the River Thames in the north-east of the Site.
5) There are areas of the Site where it is not feasible to discharge directly to the Thames due to constraints that would prevent the design of a sewer network that can drain via gravity. It is, therefore, proposed to discharge these areas of the Site to the Thames Water surface water sewer network that bounds the Site.
6) It is not proposed to discharge any areas of the Site to a combined sewer.

2.13. Subsection C relates to the introduction of impermeable area. The existing Site is 100% impermeable. The development proposals will reduce the total impermeable areas through the introduction of green infrastructure such as green roofs, rain gardens, and permeable surfacing. The exact locations and extents of the proposed permeable surfacing are included within the drainage strategy (18671-WIE-ZZ-ZZ-DR-D-92001) and accompanying appendices.

2.14. Subsection D relates to multiple benefits. The proposed scheme provides multiple benefits through the introduction of green infrastructure such as green roofs, rain gardens, and permeable surfacing. The exact locations and extents of the proposed permeable surfacing are included within the drainage strategy drawing (ref: 18671-WIE-ZZ-ZZ-DR-D-92001) and associated appendices (Appendix A - Scheme Plans/Appendix K – Urban Greening Factor).

2.15. It should be noted that matters relating to volume control, Non-Statutory Technical Standards for SuDS S7-S9 and future maintenance have not been assessed by LBRuT due to their reliance on suitable proposals for sustainable drainage features and runoff rate restrictions. These items will be covered in the updated drainage strategy document to allow for assessment.

3. Environment Agency

EA Comment

3.1 Holding objection until further clarification is received. It is unclear whether the proposed flood defence wall will provide a continuous, fit for purpose flood defence line and how the proposal differs from the wall configuration agreed between the EA and the applicant under previous application reference 18/0547/FUL.

Waterman Response

3.2 The alignment of the Flood Defence Wall as shown on drawing numbers 38262/5520/09 and 38262/5520/23 in Appendix B has been updated to reflect the current proposals as Revision B. The updated document will be issued to LBRuT as part of the substituted document pack.

EA Comment

3.3 Further information required to provide certainty that the proposed development will be safe for its lifetime from flooding in line with Paragraphs 159 and 164 of the NPPF, and Policy LP 21 of the Richmond Local Plan (2018).

Waterman Response

3.4 The Flood Risk Assessment submitted with the planning application has been undertaken in line with Paragraphs 159 to 164 of the NPPF, and Policy LP 21 of the Richmond Local Plan (2018).

3.5 It was confirmed through correspondence with the EA (email received on 23 February 2022 ref KSL 250778 AC) that the Product 4 flood level data referenced in the FRA was still appropriate for use:

"We can confirm that the Product 4/8 that was created in 2017 (KSL 52746 CG) is up-to-date as uses the Thames Tidal Upriver Breach Inundation modelling 2017 which is currently used."

3.6 We seek further clarity on what further information is required in order to demonstrate that the Development is in accordance with planning policy.

EA Comment

3.7 Thames Tidal Flood Defences - Contradictory information has been submitted with regards to the flood defence. For example, Appendix 12.5: Flood Defence Wall Summary Note [Doc Ref: WIE1871-104-BN-3-1-2-RiverWall] by Waterman Infrastructure & Environment Limited dated 22 February 2022 includes two drawings outlining different proposed locations for the final flood defence line. The drawing numbers are:

- 1006 Rev A07 by Waterman Infrastructure & Environment Limited dated July 2017.
- 38262/5520/09 by Stantec dated 18 January 2022.

Waterman Response

3.8 The alignment of the Flood Defence Wall as shown on drawing numbers 38262/5520/09 and 38262/5520/23 in Appendix B has been updated to reflect the current proposals as Revision B. The updated document will be issued to LBRuT as part of the submitted document pack.

EA Comment

3.9 Overcoming EA Objection

i) Provide further clarification as to which drawings of the flood defence line are to be incorporated into the final design.

ii) Any drawings of flood defence line configurations not being incorporated into the final design should be withdrawn from the submitted information or amended to show the proposed configuration.

iii) Confirmation that the configuration of the flood defence line will be as agreed previously should also be provided.

iv) Provide all drawings of the Thames Tidal flood defence are included within Appendix 12.5.

v) There has been significant correspondence between EA and the applicant since 2016 regarding the configuration of the flood defence wall in any new development at this site. We would welcome an opportunity to discuss the contents of this letter in greater detail.

Waterman Response

3.10 i-iv) The alignment of the Flood Defence Wall as shown on drawing numbers 38262/5520/09 and 38262/5520/23 in Appendix B of ES Appendix 12.5 has been updated to reflect the current proposals as Revision B. The updated document will be issued to LBRuT as part of the substituted document pack.

3.11 v) Given the above comments have been resolved through re-issue of the drawings and no further updates to the flood defence wall have been undertaken since previous correspondence, it is not considered necessary to further discuss the flood defence wall at this stage.

4. Thames Water

TW Comment

4.1 Waste Comments: With the information provided, Thames Water has been unable to determine the Foul water infrastructure needs of this application. Thames Water has contacted the developer in an attempt to obtain this information and agree a position for FOUL WATER drainage but have been unable to do so in the time available.

Waterman Response

4.2 Further information is provided within the updated drainage strategy document and appendices so that the foul water needs of the proposed development are clearly understood.

TW Comment

4.3 SURFACE WATER drainage: Thames Water would advise that if the developer follows the sequential approach to the disposal of surface water we would have no objection.

Waterman Response

4.4 Accepted.

TW Comment

4.5 Water Comments:

i) There are water mains crossing or close to your development. Thames Water do NOT permit the building over or construction within 3m of water mains

ii) The proposed development is located within 5m of a strategic water main. Thames Water do NOT permit the building over or construction within 5m, of strategic water mains. Recommend condition.

iii) Following initial investigations, Thames Water has identified an inability of the existing water network infrastructure to accommodate the needs of this development proposal. Thames Water have contacted the developer in an attempt to agree a position on water networks but have been unable to do so in the time available

Waterman Response

4.6 i) As reported in the Structural Impact Assessment, two 36-inch water mains pipes run close to the Site along Mortlake High Street and must be protected against damage from the works associated with the Development. Concerns are from higher loads due to plant movements and the new foundations proposals causing ground movements/vibrations. Unrestricted access must be maintained at all times for Thames Water maintenance and repair of the asset during the works. To eliminate this risk, an accurate survey will be carried out to ascertain the exact location of the water mains relative to the buildings/foundations. Protection will be installed against plant movements and specific non-impact construction methods have been selected. This will be detailed within the Construction Environmental Management Plan (CEMP). The further survey and CEMP will be secured as part of a planning condition.

4.7 ii) The proposed planning condition from Thames Water as follows is agreed with the following added suggestion: "*No construction shall take place within 5m of the water main* ***unless otherwise agreed with the local planning authority in consultation with Thames Water****. Information detailing how the developer intends to divert the asset / align the development, so as to prevent the potential for damage to subsurface potable water infrastructure, must be submitted to and approved in writing by the local planning authority in consultation with Thames Water.*"

4.8 iii) As reported in the Foul Sewage and Utilities Assessment prepared by Hoare Lea, a budget quote was received from Thames Water for the original application in 2017 detailing the new supply requirements. It is acknowledged that an infrastructure network analysis to verify the points of connection into the Thames Water mains will need to be undertaken once planning permission is received, to be secured through a suitably worded planning condition.

TW Comment

4.9 Groundwater:

i) Thames Water expect the developer to demonstrate what measures will be undertaken to minimise groundwater discharges into the public sewer.

ii) Informatives:

- Where the developer proposes to discharge to a public sewer, prior approval from Thames Water Developer Services will be required.
- There are public sewers crossing or close to your development. The applicant is advised to read the guide working near or diverting our pipes.
- A Groundwater Risk Management Permit from Thames Water will be required for discharging groundwater into a public sewer

iii) Conditions: No construction shall take place within 5m of the water main. Information detailing how the developer intends to divert the asset / align the development, so as to prevent the potential for damage to subsurface potable water infrastructure, must be submitted to and approved in writing by the local planning authority in consultation with Thames Water

Waterman Response

4.10 Relates to post planning activities – to be dealt with at detailed design/construction stage post planning.

4.11 As above, the proposed planning condition is agreed.

TW Comment

4.12 Foul water:

i) Need to confirm the foul water manhole reference numbers which the development proposes to connect into.

ii) Need to confirm which areas of the development will drain to each of those connection points to the public foul sewer system, to allow Thames Water to calculate the impact of the additional foul flows on the local foul sewer system.

iii) specify either the anticipated flow rate through each proposed foul water manhole, or the number and type of buildings (e.g. 300 dwellings, 500m^2 of offices).

iv) Regarding Surface Water, the site plans state that some surface water currently enters the foul sewer system and that this will be removed. Confirm what flow rate will be removed, and from which section of the foul sewer?

v) demonstrate what measures will be undertaken to minimise groundwater discharges into the public sewer.

vi) Agree to the following, that would be secured via conditions:

- incorporate within proposal, protection to the property to prevent sewage flooding, by installing a positive pumped device (or equivalent reflecting technological advances), on the assumption that the sewerage network may surcharge to ground level during storm conditions.
- There are public sewers crossing or close to your development. Require condition regarding piling method statement

Waterman Response

4.13 The Drainage Strategy document has been updated to provide the following details for the proposed foul water drainage catchments:

i) Foul water manhole reference numbers;

ii) Connections to the public foul sewer system are indicated on the foul drainage strategy drawing (18671-WIE-ZZ-ZZ-DR-D-92002) in Appendix E;

iii) The anticipated flow rate from each development block is provided within Appendix I, along with the proposed TW manhole they would discharge to. Additionally, the development plans (Appendix A) and the foul calculations (Appendix I) provide sufficient information in terms of residential units per block and proposed commercial floorspace such that the foul flows can be calculated;

iv) It is understood from the existing onsite drainage records (Appendix C) that there are some surface water connections into the foul sewer. The proposed surface water drainage strategy will remove these connections and therefore reduce the contribution to the foul network during rainfall events. The exact reduction in surface water contribution has not been calculated as the impermeable areas contributing runoff to the foul network are yet to be verified.

v) Refer to paragraph 4.10 above.

vi) Noted.

5. Marine Management Organisation

MMO Comment

5.1 Four comments were received, thus:

a) Works below mean high water mark may require a Marine License.

b) A wildlife licence is required for activities that would affect a UK / European protected marine species.

c) Environmental Impact Assessment – If this consultation elates to a project capable of falling within either set of EIA regulations, then it is advised that the applicant submit a request directly to the MMO to ensure any requirements under the MWR are considered adequately at the following link.

d) Marine Planning - Under the Marine and Coastal Access Act 2009 ch.4, 58, public authorities must make decisions in accordance with marine policy documents and if it takes a decision that is against these policies it must state its reasons.

Waterman Response

5.2 Item a) is of relevance to the drainage strategy. It is noted that a Marine Licence will be required for works below the mean high-water mark. Further consultation with the MMO will be carried out to

agree the best outcome in terms of works within their jurisdiction relating to the proposed drainage outfalls, separate to the planning process.