

Stevenage Borough Local Plan

Public Examination

Matter 13 Statement

January 2017

Stevenage Borough Local Plan 2011 – 2031 - Public Examination

Statement by Stevenage Borough Council (SBC)

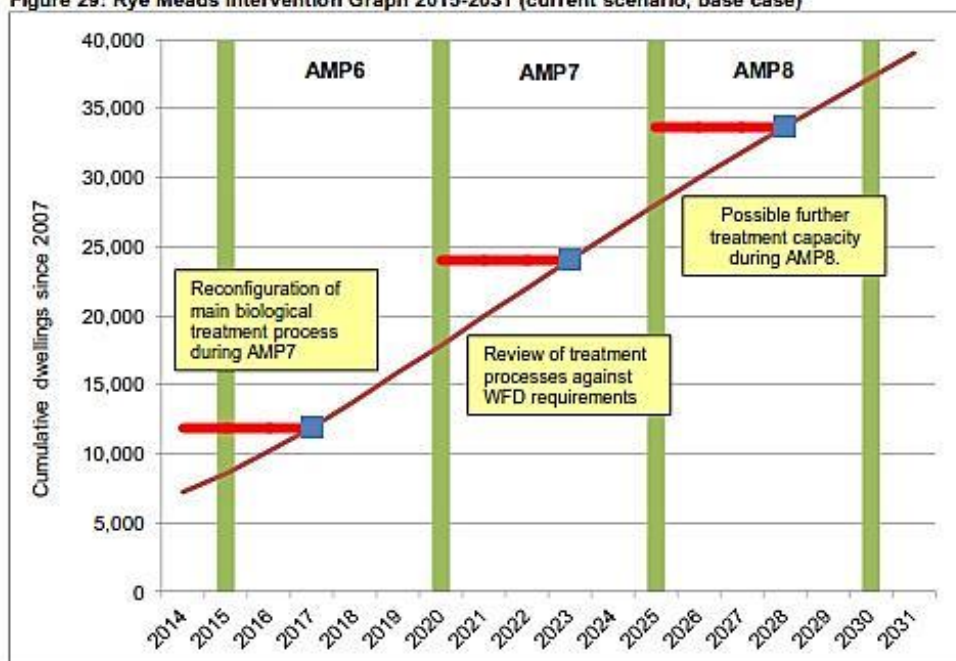
Matter 13 – Drainage/wastewater, flooding and pollution

NB: SBC responses set out in blue font

1. What are the implications on housing delivery of capacity issues at Rye Meads Sewerage Treatment Works?

- 1.1 The Rye Meads Water Cycle Strategy (WCS) Review, 2015 ([E5](#)) assesses the capacity at Rye Meads STW (para 5.11 – 5.16) and concludes that there is no significant impact up until 2026, with a reasonable prospect of being able to accommodate demand to 2031 (para 7.3).
- 1.2 The 2015 WCS (para 5.13) identifies that during Asset Management Period (AMP) 6 (2015-2020), a growth upgrade will be required to provide a 40,000 persons equivalent increase from 2016 levels. Figure 29 in the same document notes additional work for AMP6-8 (shown below).

Figure 29: Rye Meads Intervention Graph 2015-2031 (current scenario, base case)



- 1.3 Whilst developers and Thames Water will still have to continue with discussions regarding wastewater works and upgrades to facilitate development in Stevenage, capacity at Rye Meads itself is not a barrier to development.

2. *Is there a long term strategy for dealing with this matter so that it does not stall development?*

- 2.1 The SBLP evidence base (2009 and 2015 WCS ([E10](#) and [E5](#))) addresses the issue of capacity at Rye Meads and concludes that Rye Meads is capable of providing sufficient capacity to 2031.
- 2.2 In addition to this, Thames Water have their own Long-term Strategy to 2040 ([E11](#)) which addresses wastewater collection (p 24) and its subsequent treatment and sludge disposal.
- 2.3 Similarly, SBC and Thames Water have been proactive in the preparation of the Hertfordshire Water Infrastructure and Resources, Sub-catchment Solutions document, which is yet to be published by Hertfordshire County Council (expected early 2017). However, it is anticipated that the conclusions will align with the SBC Rye Meads WCS Review, 2015 and determine that Rye Meads still has sufficient capacity for the amount of development that is coming forward from Stevenage until at least 2031.
- 2.4 As set out in Policy IT3: Infrastructure in the SBLP, developers also have a responsibility to engage with Thames Water at an early stage in their development plans and invest in upgrades, as appropriate, to ensure that there is sufficient wastewater capacity provision for the development.
- 2.5 Stevenage is in a unique position at the top of the Rye Mead STW catchment. As such, development in Stevenage can help control flow towards Rye Meads via holding tanks that can release flow at non-peak times in order to not inundate Rye Meads at peak times of the day.

3. *Is there a water supply issue that could restrict the scale of new development in the borough?*

- 3.1 The Rye Meads WCS Review, 2015 ([E5](#)) states, in para 4.27, that Affinity Water raised no comments or objections to the emerging SBLP. During the Reg 19 consultation of the SBLP, SBC received no representation from Affinity Water and the Environment Agency raised no concerns with regard to the availability of potable water in the area.
- 3.2 In addition, the SBLP requires, in Policy FP1, that new development should include measures that reduce water consumption to no more than 110lpppd¹. This figure accords with the Housing Standards Review [Building Regulations Part G](#) and also the 'best case' scenario explored in the Rye Meads WCS Review, para 4.17. SBC have actively consulted and engaged with water supply infrastructure providers throughout the plan preparation and no concerns have been raised.
- 3.3 Paras 5.3-5.8 of the Rye Meads WCS Review, 2015, considers the availability of potable water demand in the area. Affinity Water has an up-to-date Water Resources Management Plan ([E12](#)) which covers the period to 2040. It identifies no specific constraints to future potable water supply.

¹ Litres per person per day

4. *Should the Plan make reference to the need for developers to contribute towards Water Framework Directive (WFD) actions on sites adjacent to watercourses and improve the quality of water that enters groundwater aquifers across the borough?*

- 4.1 The Environment Agency recommended that the SBLP should make more explicit reference to the WFD. This was agreed in SBC's MoU with the EA in para 7.1.1, and is noted in our examination document SBC schedule of proposed main modifications ([ED114](#)), objection numbers 491 and 493.
- 4.2 If the Inspector is minded to agree, the wording in Policy SP11 and paras 5.49 and 13.23 would be amended to reflect contributions towards WFD objectives.

5. *What were the key findings of the Flood Risk Assessment (FRA) carried out to inform the Plan?*

- 5.1 The 2016 update ([E2a](#) & [E2b](#)) to the previous 2009 and 2013 Level 1 Strategic Flood Risk Assessment (SFRA) was undertaken to provide supporting evidence to the SBLP. The update was delayed until the Environment Agency published their updated climate change allowances in February 2016 to ensure that the evidence was as robust and up-to-date as possible. As the watershed between the Anglian and Thames region falls across the northern part of Stevenage, SBC elected to adopt the higher climate change allowances set out in Table 1 of Flood risk assessments: climate change allowances ([E14](#)) to future-proof development in the Borough. SBC also concluded that it would be pertinent to complete a Level 2 ([E3a](#) & [E3b](#)) study for the sites included in the SBLP that had a level of flood risk on site.
- 5.2 The SFRA notes the importance of existing flood mitigation measures that already exist in the Borough, for example the flood storage reservoirs and the water meadows in which they are situated (section 3.8). The water meadows are an integral part of the management of surface water flooding in Stevenage and this is reflected in their protection in Policy FP4 in the SBLP.
- 5.3 The Level 1 SFRA shows that the vast majority of the allocated development sites in the SBLP are at low risk of flooding. It concludes, as summarised in the Executive Summary, that with appropriate flood management and mitigation solutions these sites will be acceptable for the development purposes for which they are allocated.
- 5.4 The SFRA also includes guidance on the management and mitigation of flood risk, application of SuDS within the Borough, and guidance for preparing site-specific FRAs. It is expected that site developers will consider this advice and undertake technical studies to identify specific solutions appropriate for the nature of development and the level of risk at each site as required by Policies FP2 and FP3 in the SBLP.
- 5.5 Six sites were identified to be in medium or high risk category in the Level 1 assessment:
- South Stevenage
 - Bragbury End Sports Ground Car Park (HO1/2)
 - South East of Stevenage (HO4)
 - North West Stevenage
 - New Convenience Retail Provision (TC11)
 - Land West of North Road (EC1/4)
 - Land West of Junction 8 (EC1/7)
 - The Health Campus (HC3)
- These sites are shown together on Map 1, Appendix A, and individually in Maps 2 – 7, Appendix A.
- 5.6 Assessment of these six sites, in the Level 2 assessment ([E3a](#) and [E3b](#)) establishes that approx. 95% (Table 7-1 Site compatibility with NPPF vulnerability classification) of the combined site area of all six sites is

compatible with the types of developments proposed in the SBLP. SBC will adopt Sequential Test based planning policies (FP2 & FP3) to steer development to the parts of sites compatible with the respective vulnerability classification and ensure appropriate mitigation measures are included in the development plan to manage residual flood risk. This robust approach to flood risk is in line with the NPPF para 100 – 104 and the EA strategy 'Making space for Water' as set out in the Thames River Basin District RBMP:2015 ([E15](#)).

6. Does the Plan accord with the recommendations in the FRA?

- 6.1 The SFRA recommendations are set out in full in para 8.4 of the Level 1 (E2a) and para 7.2 of the Level 2 (E3a) SFRA.
- 6.2 Below is a summary of the Level 1 and Level 2 recommendations, integral to the FRA process, with the cross reference to how the SBLP accords with them.

	Policy Recommendation	Description (abridged)	Represented in SBLP Policy
Level 1	1	A sequential approach to new development sites.	FP3 (b)
	2	Retain an 8 metre wide undeveloped buffer strip alongside Main Rivers and ordinary watercourses.	FP3 (e)
	3	All new development within Flood Zone 3 must not result in loss of flood storage capacity.	FP3 (c)
	4	Finished Floor Levels 300mm above the known or modelled 1 in 100 flood level.	FP3 (g)
	5	Flood resistance measures.	FP3 (g)
	6	Flood resilience measures.	FP3 (d) and (g)
	7	Safe access/egress.	FP3 (b)
	8	All new development in Flood Zones 2 and 3 should not adversely affect flood routing and thereby increase flood risk elsewhere.	FP3 (c)
	9	Flood Warning and Evacuation Plan should be prepared.	FP3 (c)
	10	Suitable surface water management measures.	FP3 (d)
Level 2	1	A sequential approach to new development sites.	FP3 (b)
	2	Flood Zone 3b should be protected from future developments not compatible with water	FP3 (a) and FP4
	3	Development in Flood zone 3 should only be permitted in exceptional circumstances	FP3 (c)
	4	Site specific FRAs for the Local Plan sites.	FP3 (c)

7. Are any of the allocated sites located within flood zones 2 or 3?

- 7.1 A number of sites allocated across the Borough are located in Flood Zone (FZ) 2 and 3 – see Map 1, Appendix A.
- 7.2 In the north west of Stevenage, the FZ associated with the Ash Brook ordinary watercourse consists of FZ3a² and FZ2³. The Ash Brook and its associated FZ3a runs:
- in culvert through:
 - The new Convenience Retail Provision site (Policy TC11) – Map 2, Appendix A; and
 - The Health Campus (Policy HC3) – Map 3, Appendix A;
 - at surface level through:
 - Land West of Junction 8(Policy EC1/7) – Map 4, Appendix A; and
 - at surface level adjacent to:
 - Land West of North Road (Policy EC1/4) – Map 5, Appendix A.
- 7.3 In the south east of Stevenage, the FZ associated with the Stevenage Brook Main River consists of FZ2, 3a and 3b⁴. The Stevenage Brook and its associated FZ's runs at surface level adjacent to:
- Bragbury End sports ground car park (Policy HO1/2) – Map 6, Appendix A; and
 - South East of Stevenage (Policy HO4) – Map 7, Appendix A.
- 7.4 The Level 2 SFRA update ([E3a](#) and [E3b](#)) identifies each of these sites (table 1-1) and assesses them individually in section 4 of the report.

Site	Section in the Level 2 SFRA
Bragbury End sports ground car park (HO1/2)	4.2.1
South East of Stevenage (HO4)	4.2.2
Convenience Retail Provision site (TC11)	4.3.1
Land West of North Road (EC1/4)	4.3.2
The Health Campus (HC3)	4.3.3
Land West of Junction 8 site (EC1/7)	4.3.4

- 7.5 The assessment of the sites considers all forms of flooding, not just fluvial flooding from the watercourses, and includes surface water flooding, groundwater flooding and the compatibility of the land with infiltration SuDS techniques.
- 7.6 The assessment concludes (as illustrated in table 7-1, of the Level 2 assessment) that all six of the identified sites can be developed, in accordance with their vulnerability classifications. It concludes also, that in the case of residential sites at HO1/2 and HO4, and the Health Campus site at HC3, development in FZ3 will require the exception test to be fulfilled. It also clearly concludes that development in FZ3b will not be acceptable and this comprises 1% of the overall development area of the six sites combined.

² Land having a 1 in 100 or greater annual probability of river flooding

³ Land having between a 1 in 100 and 1 in 1000 annual probability of river flooding

⁴ This zone comprises land where water has to flow or be stored in times of flood

- 7.7 These conclusions are reflected in policies in the SBLP, including FP3 and FP4, HO1 (Table 3) and HO4, and the Environment Agency have confirmed that they are happy with the SBLP.

8. *Is the threshold for providing SUDS set at the correct level?*

- 8.1 The threshold for the provision of SuDS should correspond with [para 079 of Planning Practice Guidance](#) (PPG). This point was raised in the representation that we received from Thames Water, agreed in SBC's MoU with Thames Water and Anglian Water ([ED125](#)) in para 5.1, and is noted in our examination document SBC schedule of proposed main modifications ([ED114](#)), objection number 766.
- 8.2 If the Inspector is minded to agree, the wording in Policy FP2 would be amended to reflect para 079 of PPG with regard to the need for 'all major development' in Flood Zone 1 to require an appropriate surface water Flood Risk Assessment.

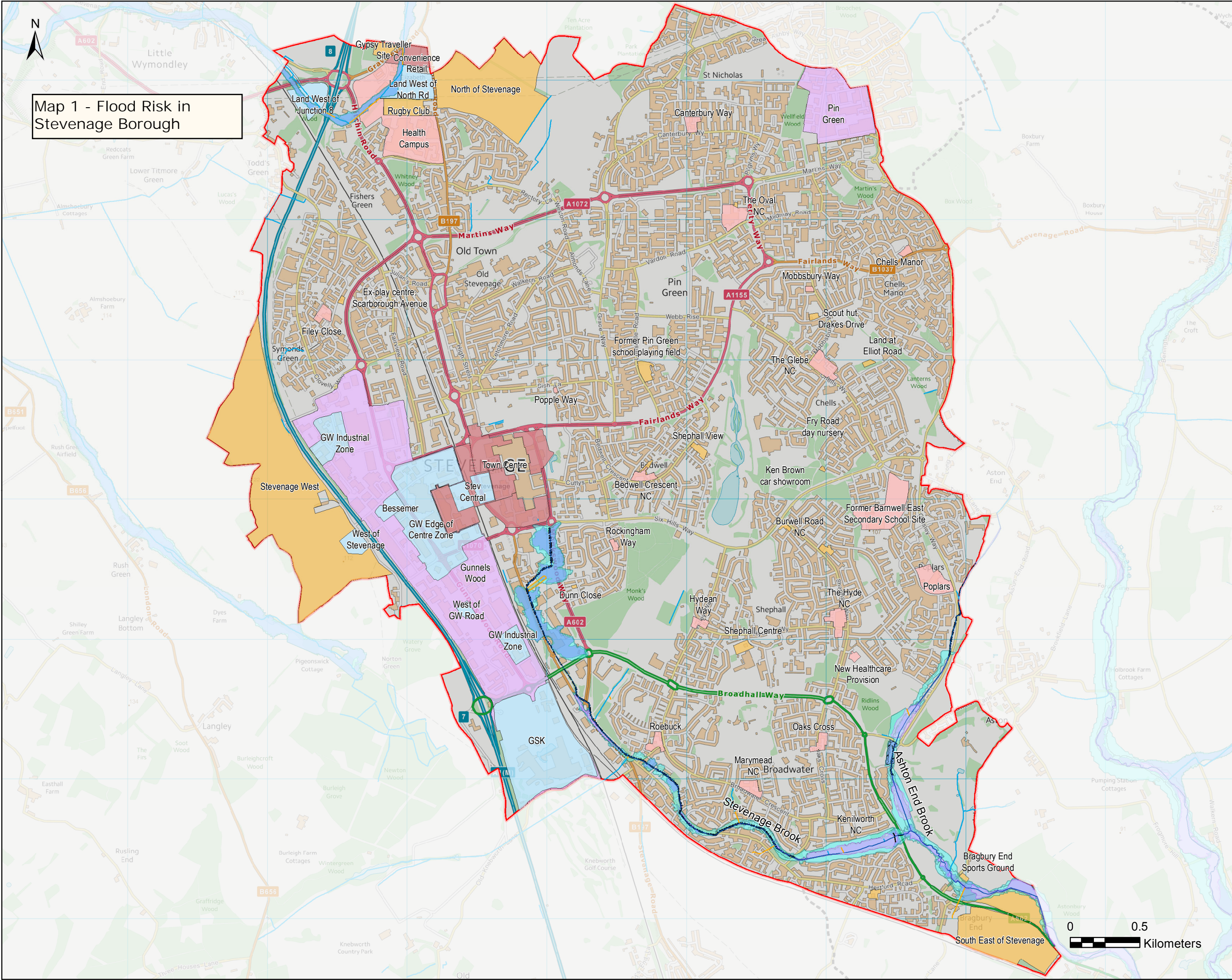
9. *Should policy FP7 include reference to water pollution?*

- 9.1 The reference to water pollution was raised in the representation that we received from the Environment Agency, agreed in SBC's MoU with the Environment Agency ([ED101](#)) in para 7.6, and is noted in our examination document SBC schedule of proposed main modifications ([ED114](#)), objection number 796.
- 8.2 If the Inspector is minded to agree, the wording in Policy FP7 would be amended to reflect the inclusion of water pollution.

10. *Has adequate account been taken of existing and future air quality in preparing the Plan and its policies?*

- 10.1 Policy FP7 addresses the impact of new development on air quality. It is noted that Stevenage does not have any Air Quality Management Areas (AQMA's). This is evidenced in the 2015 Updating and Screening Assessment for SBC ([E16](#)).
- 10.2 With regard to air quality and the impact of new development and the associated transportation demand that this is likely to take place within the Borough and on the road network, the Transport Technical Paper ([ED127](#)) sets out the approach to transport in Stevenage including achieving a modal shift away from driving cars and towards more sustainable forms of transportation (section 2). Such a modal shift will contribute towards mitigating any air quality issues.
- 10.3 The planned form of the road layout of Stevenage benefits from, in the order of, 40 roundabouts. Such a layout helps improve traffic flow by reducing the vehicle idle time at stop controlled junctions; thereby cutting down vehicular emissions and fuel consumption and having minimal impact on the environment.
- 10.4 In addition to the planned form of the road layout, Stevenage benefits from expanses of planned green spaces throughout the town - this is evident on the Proposals Map and was planned into the layout of the New Town.
- 10.5 In combination, the road layout and green spaces of Stevenage combined with the modal shift towards more sustainable forms of transportation in and around the town serve to benefit the air quality of Stevenage.

Appendix A



Map 1 - Flood Risk in Stevenage Borough

THIS DRAWING IS TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT

LEGEND

Watercourses

- Ordinary Watercourses (Culverted)
- Ordinary Watercourses (Surface Level)
- Main Rivers

Local Plan Sites

- Allocated Employment Sites
- Employment Development Areas
- Healthy Community Sites
- Housing Sites
- Major Opportunity Areas
- Flood Defences
- ABDs

Flooding from Rivers

- Flood Zone 2
- Flood Zone 3a
- Flood Zone 3b Functional Floodplain
- Stevenage Borough

Notes

Main Rivers are designated by Defra on a 'Main River Map'. The Environment Agency has permissive powers to carry out flood defence works, maintenance and operational activities for Main Rivers only. However overall responsibility for maintenance lies with the riparian owner.

An Ordinary Watercourse is a watercourse that does not form part of a Main River. This includes all rivers and streams and all ditches, drains, cuts, culverts, dikes, sluices, (other than public sewers within the meaning of the Water Industry Act 1991) and passages, through which water flows according to the Land Drainage Act 1991.

The Risk from Rivers is divided into the following categories:

Flood Zone 1 - Land having a less than 1,000 (0.1%) annual probability of river flooding in any year. Shown as clear on the Flood Map - all land outside Flood Zones 2 and 3

Flood Zone 2 - Land having between a 1 in 100 and 1 in 1,000 (between 1% and 0.1%) annual probability of river flooding in any year.

Flood Zone 3a - Land having 1 in 100 (1%) or greater annual probability of river flooding in any year.

Flood Zone 3b - Land where water has to flow or be stored in times of river flooding in any year.

For the purpose of this SFRA, land modelled to have a probability of 5% or greater has been used to delineate Flood Zone 3b.

This map is intended to provide a strategic overview of fluvial flood risk and should not be used to assess flood risk for individual properties.

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Revision Details	By	Check	Date	Suffix

Purpose of Issue

FINAL

Client

Stevenage BOROUGH COUNCIL

Project Title

STEVENAGE BOROUGH COUNCIL
STRATEGIC FLOOD
RISK ASSESSMENT

Drawing Title

LOCAL PLAN SITES
FLOODING FROM RIVERS

Drawn	Checked	Approved	Date
LM	GB	FC	12/12/2016

AECOM Internal Project No.

60486866

Scale at A3

1:25,000

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Drawing Number	Rev.
FIGURE 11	2

Map 2 - The new Convenience retail Provision Site (Policy TC11)



Map 3 - The Health Campus (Policy HC3)



Flood Zones

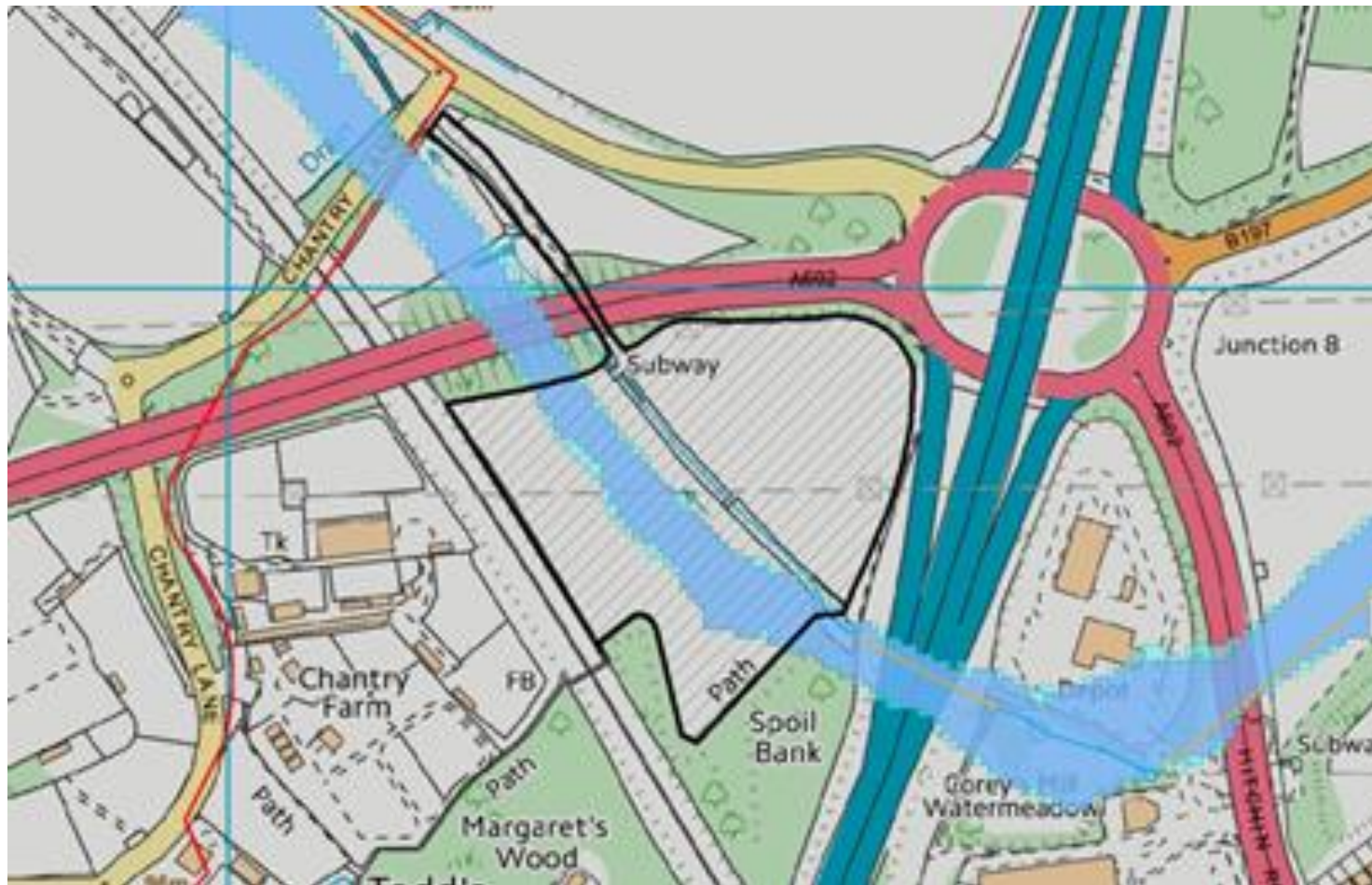
Proposed Site

Flood Zone 3a

Flood Zone 2



Map 4 - Land West of Junction 8 (Policy EC1/7)



Flood Zones

Proposed Site



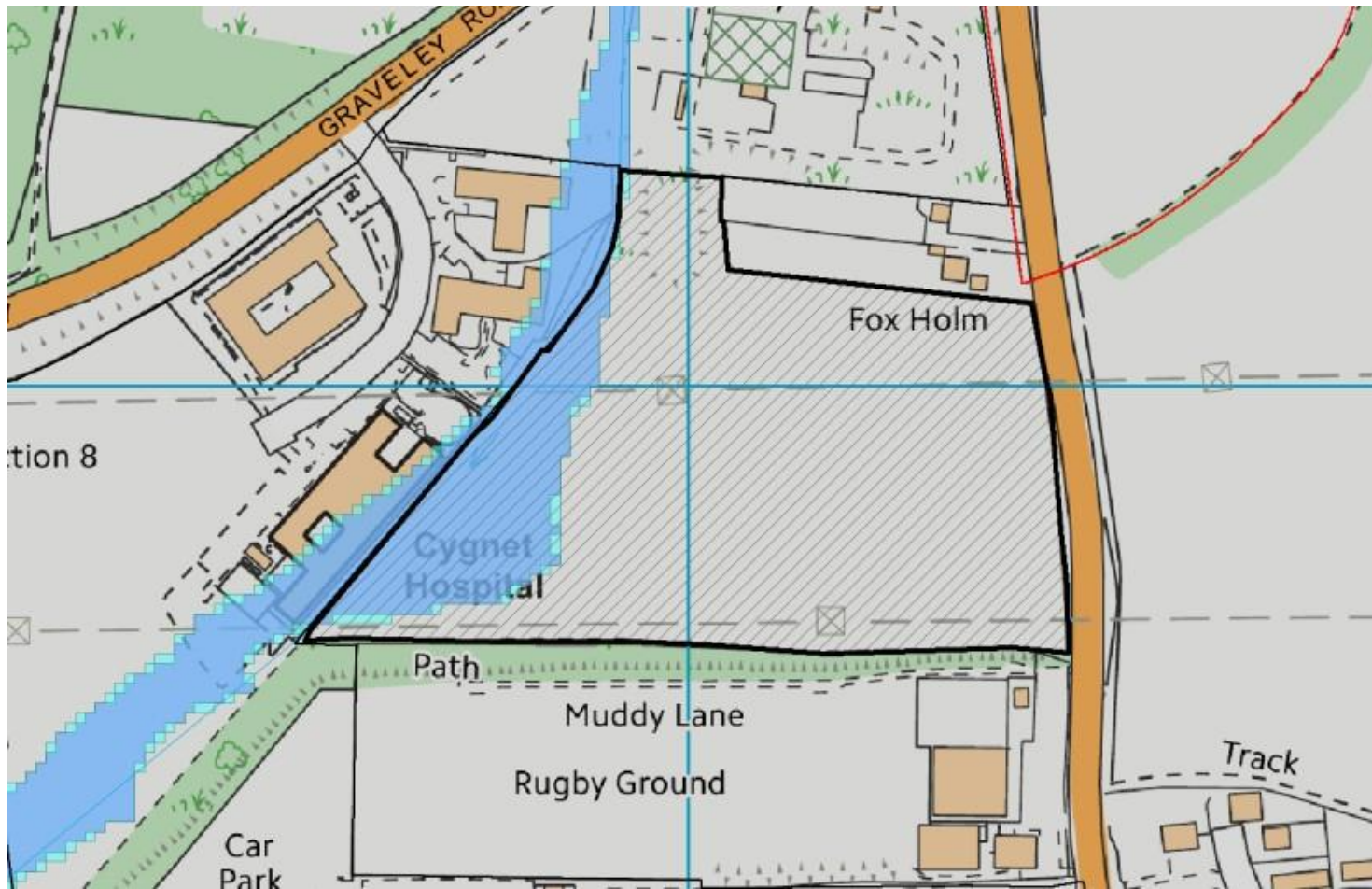
Flood Zone 3a



Flood Zone 2



Map 5 - Land West of North Road (Policy EC1/4)



Flood Zones

Proposed Site



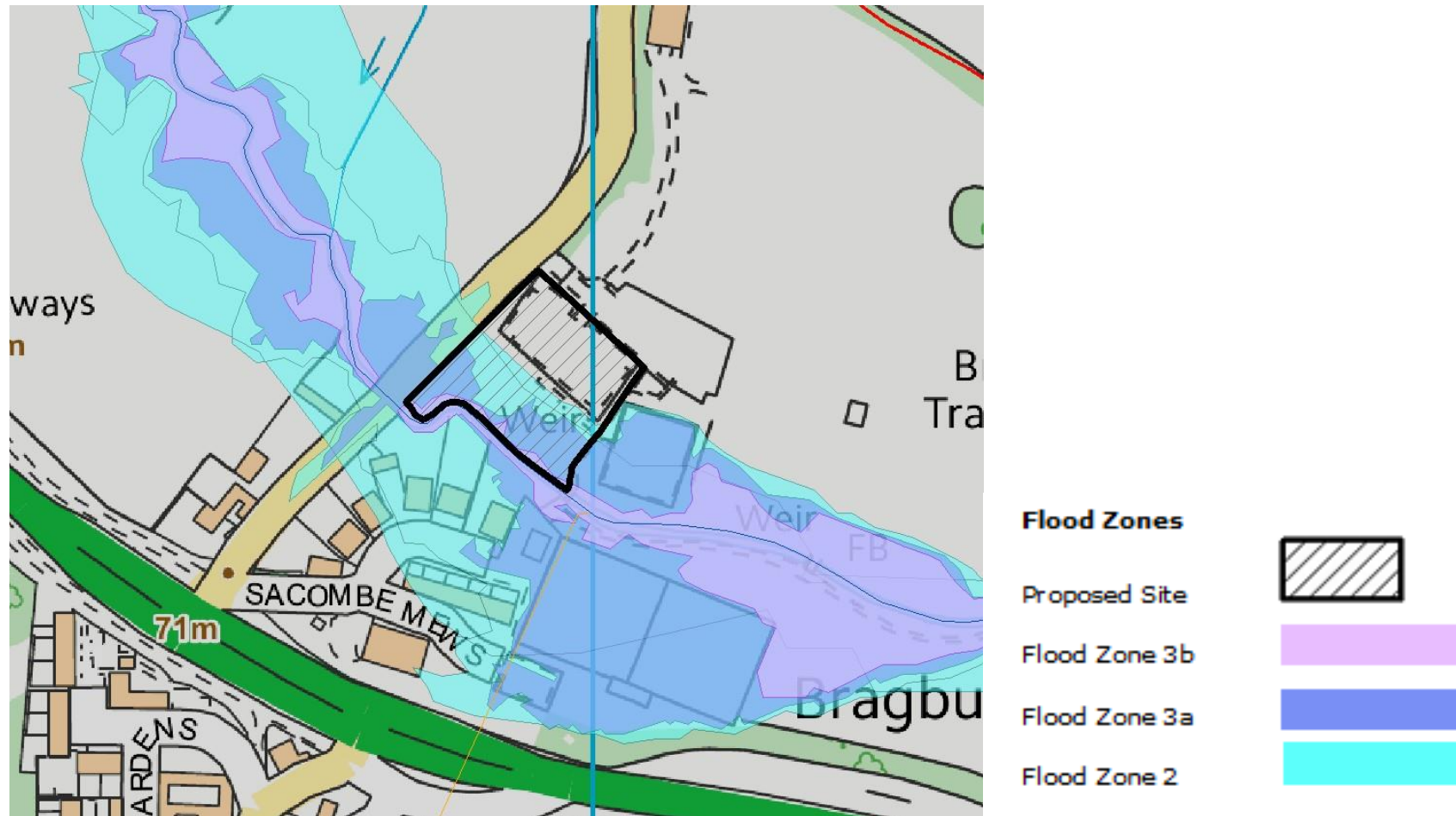
Flood Zone 3a



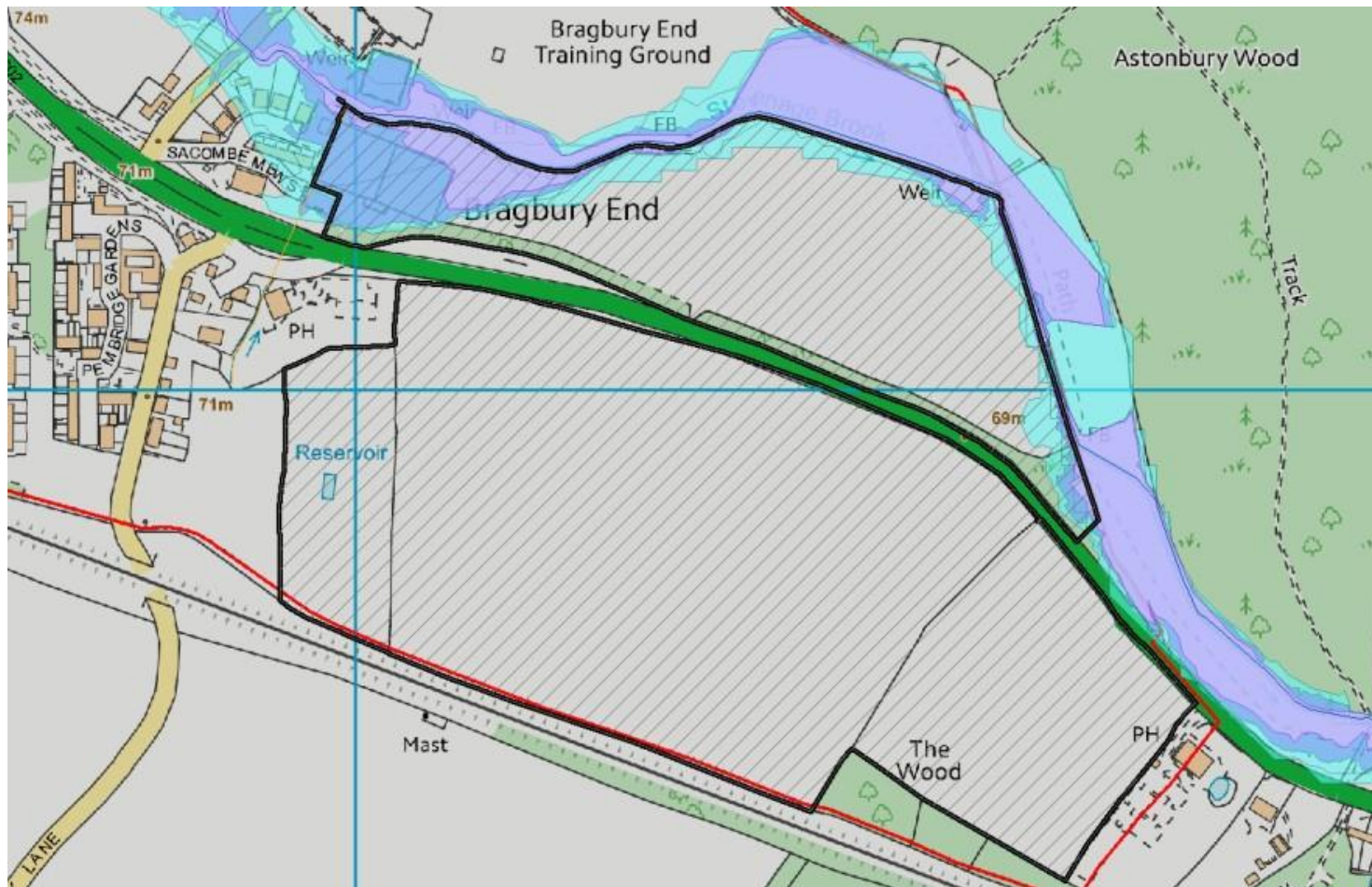
Flood Zone 2



Map 6 - Bragbury End Sports Ground Car Park (Policy HO1/2)



Map 7 - South East of Stevenage (Policy HO4)



Flood Zones

Proposed Site



Flood Zone 3b



Flood Zone 3a



Flood Zone 2

