FLOOD RISK ASSESSMENT

Substation at Avonbridge House
Bath Road
Chippenham
SN15 2BBP

Project No: 10160APH7

DATE	REVISION	ISSUE PURPOSE	ISSUED BY
10/08/23	0	Draft for Comment	RV
14/08/23	1	Minor Amendments	RV
22/08/23	2	Site Plans updated	RV

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August 2023

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1.0 INTRODUCTION

APPOINTMENT AND BRIEF

1.1. Structural Solutions has been appointed by Alliance Pharmaceuticals Limited to produce a Flood Risk Assessment to support a planning application for the proposed development at Avonbridge House, Chippenham. The development consists of the installation of a new substation and electric vehicle charging points within the existing car park area of Avonbridge House.

1.2. Avonbridge House is a Grade II listed building located along Bath Road close to Chippenham town centre. The building runs parallel to the River Avon on its north bank and lies east of the Bridge Centre Gyratory Roundabout. The site postcode is SN15 2BB and has an approximate central Ordnance Survey Grid Reference of X 391845, Y 173280. The total site area is less than 0.160ha.

1.3. The Lead Local Flood Authority (LLFA) is Wiltshire Council and the Water Authority is Wessex Water.

1.4. A site location plan is included in **Appendix A** and shown in the figures below.

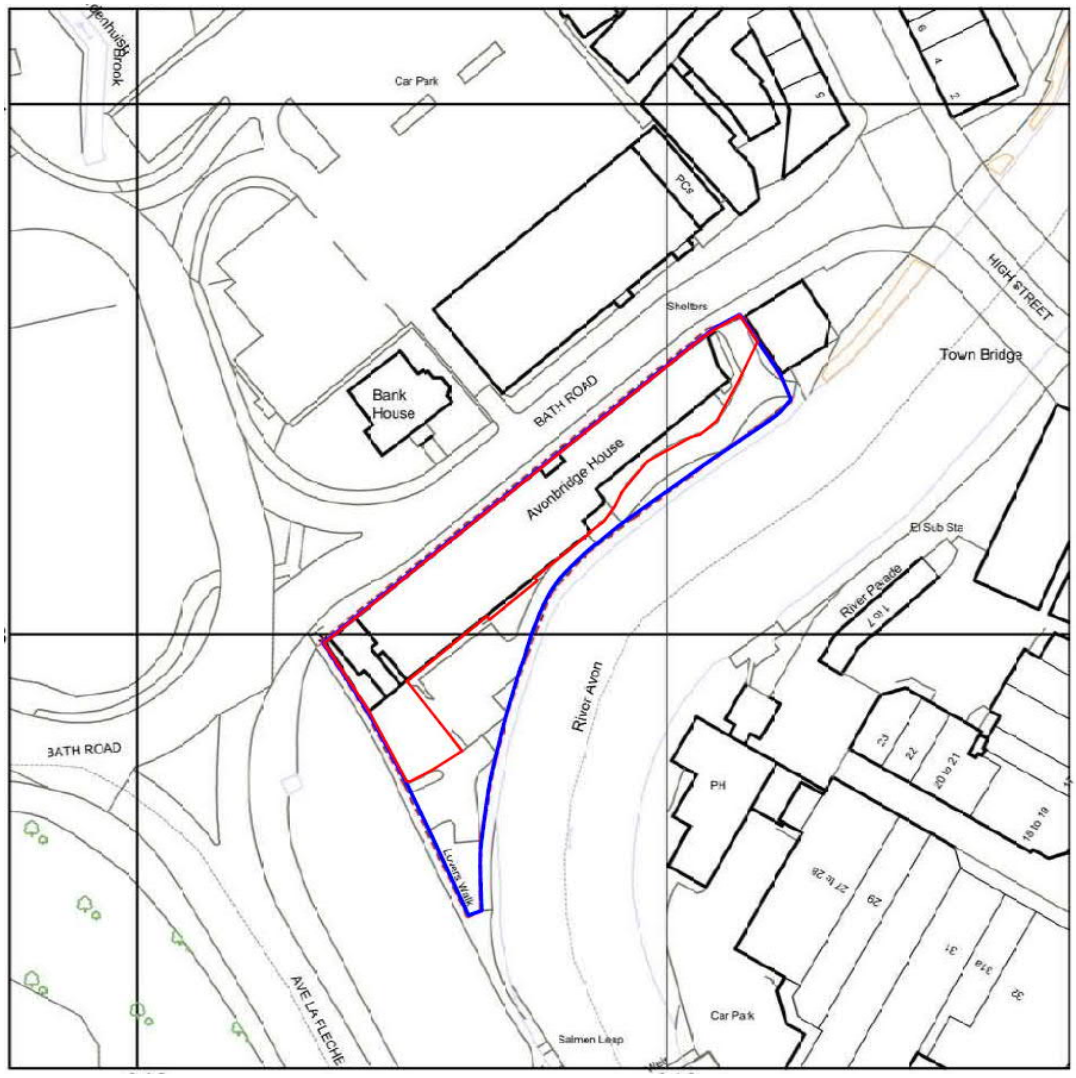

***Figure 1** Site Location – OS Map*

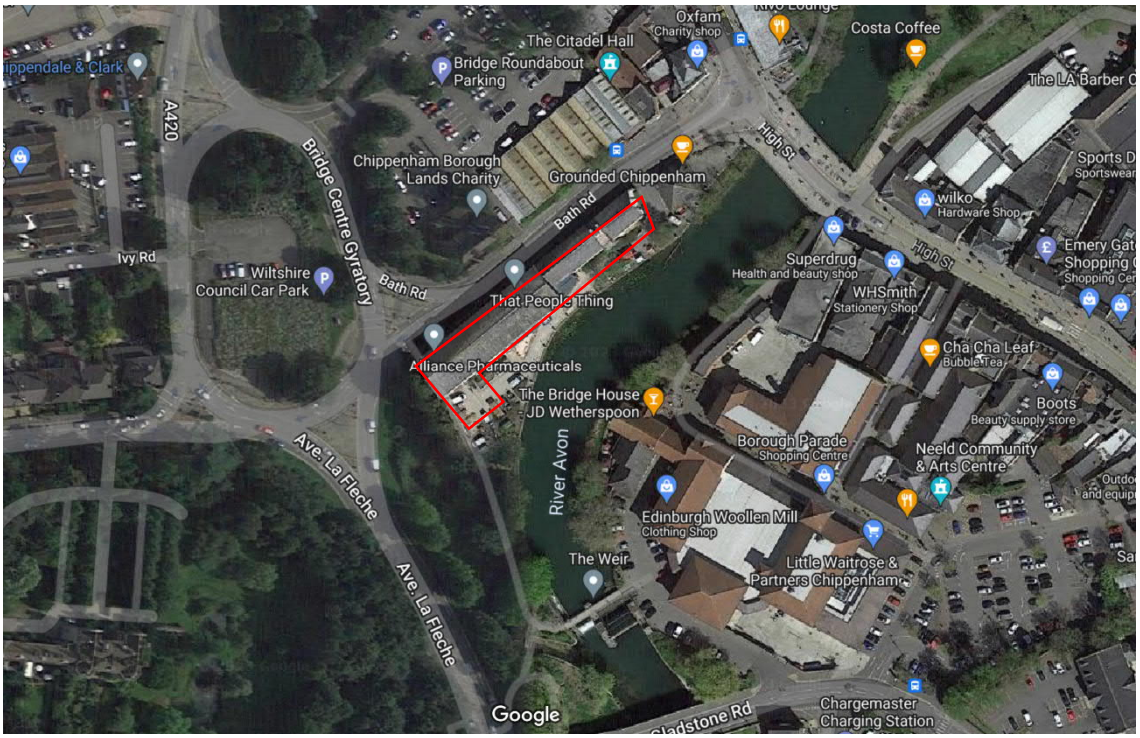

***Figure 2** Site Location – Satellite Imagery (Google)*

SITE BACKGROUND

1.5. The site Design and Access Statement (**Appendix F**) and associated Heritage Statement provide a detailed analysis of the building, heritage significance, setting and effect of the proposed development.

1.6. Alliance Pharmaceutical have a global commitment to reduce their carbon emissions. They have an ongoing programme reducing the carbon cost of their business operations, product manufacture, packaging and distribution. Following a strategy to improve the efficiency of mechanical and electrical systems in place within the building, they have now turned their attention to the use of renewable energy solutions to further reduce carbon and solar power has been identified as the most viable option.

1.7. This application follows an application for the replacement of existing roof covering, including installation of Photovoltaic solar panels.

1.8. The mains electrical supply to the building dates from the conversion of the building and has been running at capacity for a number of years. In order to optimise the functionality of the new solar panels, serve the EV charging points and provide resilience for an anticipated increase in staff occupation numbers, it is necessary to replace the existing supply and install a new electrical substation.

STUDY OBJECTIVE

1.9. This report investigates flood risk on site and in the area and establishes the mitigation measures required to ensure the sustainability and safety of the proposed development over its lifetime.

1.10. The report has been produced in line with the requirements of the National Planning Policy Framework (NPPF) and the Environment Agency (EA) Standing Advice, as well as the requirements of Wiltshire Council.

1.11. Development must be located, designed and laid out to ensure that it is safe; the risk from flooding is minimised whilst not increasing the risk of flooding elsewhere; and that residual risks are safely managed. The site lies fully in Flood Zone 3, that is having a high probability of flooding from rivers and an FRA is required as part of the planning application.

1.12. The following documents and guidance have been reviewed to inform this report:

- Flood Risk Assessment (FRA) from planning application reference 18/08080/LBC, Clive Onions Limited (August 2018).
- Site Design & Access Statement by Designscape Architects (August 2023)
- Chippenham One Plan, Radial Gate and River Avon Improvements Project (June 2023)
- Wiltshire Council Level 1 Strategy Flood Risk Assessment (SFRA) v5.0 (May 2019) and online map viewer
- West of England Sustainable Drainage Developer Guide Section 1 (March 2015)
- Site Topographical Survey by Astro Surveys Ltd (March 2018)
- Wessex Water Sewer Asset Records (July 2022)
- DEFRA Non-statutory technical standards for sustainable drainage systems (2015)
- CIRIA SuDS Manual (CIRIA C753) (2015)
- British Geological Society (BGS) Online Viewer
- DEFRA's online Multi-Agency Geographical Information for the Countryside (MAGIC) Map
- GOV.UK's online Flood Map for Planning and Long Term Flood Maps.
- Cranfield Soil and AgriFood Institute (CSAI) Soilscapes mapping.

LIMITATIONS

1.13. This report is based on the interpretation and assessment of data provided by third parties.

1.14. Whilst every care has been taken to ensure this information is accurate and up-to-date, Structural Solutions is not responsible for the accuracy of the third party data and the conclusions and findings of this report may change if the data is amended or updated after the date of consultation.

2.0 EXISTING SITE

SITE LOCATION

2.1. The development is located at Avonbridge House, Chippenham. The closest postcode is SN15 2BB and has an approximate central Ordnance Survey Grid Reference of X 391845, Y 173280. A Site Location Plan is included in **Appendix A**.

SITE DESCRIPTION

2.2. Table 1 describes the general site characteristics, a copy of the site topographical survey is included in **Appendix B**.

TABLE 1		EXISTING SITE CHARACTERISTICS
Site Area		The total site area within the red line boundary is less than 0.160ha and falls within the Avonbridge House land ownership.
Existing Use		The site is currently used as a tarmac surfaced car park serving Avonbridge House, a Grade II listed building.
General Topography		The site is generally level with a slight north to south fall from the high point of 44.86m AOD in the north east corner to 44.37m AOD in the south east corner.
Boundaries	**North**	Avonbridge House building, beyond which is Bath Road and other commercial properties.
	South	Avonbridge House car park and River Avon.
	West	Lovers Walk public footpath, woodland area and the Bridge Centre Gyratory Roundabout.
	East	Avonbridge House car park and River Avon.
Access		Site access is off Bath Road to the north east.
Flood Zone		The site lies in flood zone 3 (high risk).

GEOLOGY AND HYDROGEOLOGY

2.3. British Geological Survey (BGS) mapping indicates superficial deposits of Alluvium – Clay, silt, sand and gravel. The underlying bedrock geology consists of Cornbrash Formation - Limestone.

2.4. The Soilscapes mapping identifies the site comprising of loamy and clayey floodplain soils with naturally high groundwater.

2.5. According to DEFRA's online Magic Map for Source Protection Zones (SPZ), the site is located in a Zone II - Outer Protection Zone groundwater Source Protection Zone. The site is not in a Drinking Water Safeguard Zone (Surface Water).

2.6. Based on DEFRA's online Magic Map for Groundwater Vulnerability Zones, the bedrock is classified as having a medium - high vulnerability to pollutant discharge. The Magic Map also identifies that significant soluble rocks are likely to be present which are considered to enable the rapid movement of a pollutant.

2.7. The Environment Agency (EA) classifies the underlying bedrock as a Secondary A Aquifer.

EXISTING HYDROLOGY, FLOOD DEFENCES AND STRUCTURES

2.8. The River Avon flows in a north to south direction approximately 10m south of the site.

2.9. SFRA mapping shows no formal flood defences and no known artificial watercourses in the vicinity of the site.

2.10. Salmon Leap weir crosses the river approximately 40m south of the site.

CHIPPENHAM ONE PLAN, RADIAL GATE AND RIVER AVON IMPROVEMENTS PROJECT

2.11. The Chippenham Town Centre Partnership Board has produced the One Plan for Chippenham which is the development of a new and comprehensive Town Centre Masterplan for Chippenham to help boost Chippenham's economy, enhance the environment and celebrate the town's heritage. One of the initiatives as part of the One Plan is the Chippenham Radial Gate and River Avon Improvements Project. Details are on the Wiltshire Council website which states the following

> *The key driver for the scheme is that the existing radial sluice gate is nearing the end of its design life. In addition to this there is an existing fish pass alongside the weir, but this is only passable for a small number of fish, and there is a desire to increase fish migration through this river. The structure also acts as a barrier to other animals moving along the river channel. Any preferred option will need to improve the ecological value of this watercourse.*
>
> *The existing sluice gate is only there to provide an amenity water level upstream, i.e. to ensure a fairly constant upstream water level over a wide range of flows. The gate opens automatically as water levels rise based on floats within a chamber alongside the gate. There are no motors to enable manual control of the gate.*
>
> *The sluice gate does not provide a flood risk function, and however the gate is operated it will have minimal impact downstream. However, if the gate was to fail to open during a flood event then there would be a large increase in flood risk through Chippenham, with around 200 residential and commercial properties (including the High Street and shopping centres) being at risk of regular flooding.*

2.12. While there will be no direct improvement in flood risk as a result of the scheme, the One Plan project will ensure the performance of the sluice gate during a flood event.

EXISTING SITE DRAINAGE

2.13. An extract from the Wessex Water Statutory Sewer Map is shown in **Figure 3** below and copies included in **Appendix C**. The following Wessex Water assets have been identified within and in the vicinity of the site:

- 150mm diameter foul water sewer running northeast to southwest across the site and discharging to 1 300mm / 450mm diameter foul sewer in Lovers Walk at manhole reference 8203.
- 300mm diameter foul sewer, running north to south along Lowers Walk before crossing the River Avon as a siphon.

2.14. The 150mm diameter sewer described above serves Avonbridge House and its neighbouring building. The 150mm diameter surface water sewer crossing through the site will be subject to a minimum offset easement of 3m on either side of the pipe where buildings will not be allowed. While installation of infrastructure is not affected, the location of the substation will take the sewer location into consideration.

2.15. There is no evidence of any existing private on-site drainage identified in the topographical survey within the site (**Appendix B**).

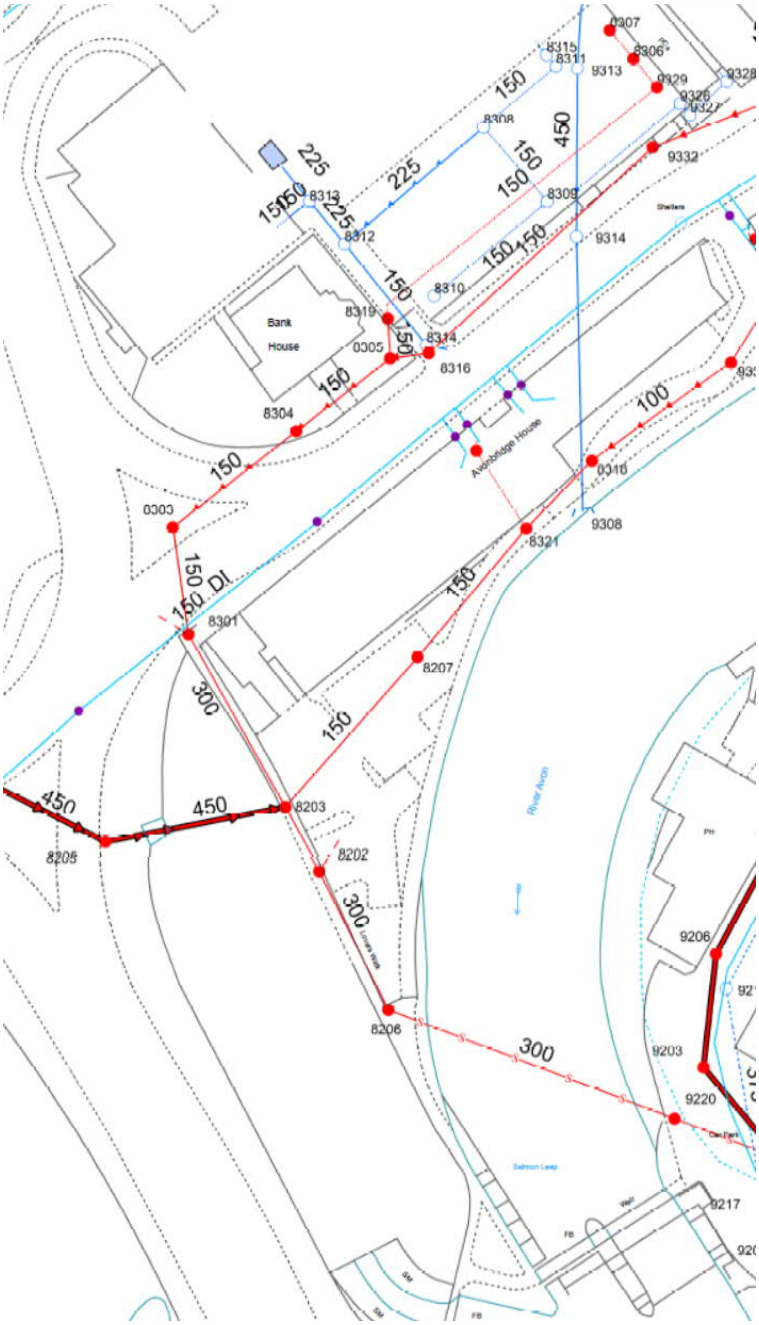

Figure 3 *Extract from Wessex Water Sewer Records*

3.0 PROPOSED DEVELOPMENT

SUMMARY

3.1. The development consists of the installation of a new substation and electric vehicle charging points within the existing car park area of Avonbridge House, Bath Road, Chippenham. An area has been allowed for flood compensation storage, if required.

3.2. A copy of the development proposals is shown in **Figure 4** and is included in **Appendix D**.

VULNERABILITY CLASSIFICATION

3.3. As an electrical substation, the site use is classified as "Essential Infrastructure" based on Annex 3 in the GOV.UK Flood risk and coastal change guidance."

3.4. The site lies in Flood Zone 3a.

SEQUENTIAL AND EXCEPTION TESTS

3.5. As stated in the NPPF (July 2021), a sequential risk-based approach to determine the suitability of land for development in flood risk areas should be applied at all stages of the planning process giving precedence to low flood risk areas wherever possible.

3.6. The development falls in Flood Zone 3 and from Table 2 of the NPPF (extract below), an exception test is required. This means ensuring that the development will be safe for its lifetime, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall. However, the NPPF notes that some minor development (non residential with site area less than 1ha) should not be subject to the Exception Test. Details of how flood risk will be managed at the site are included in **Section 5**.

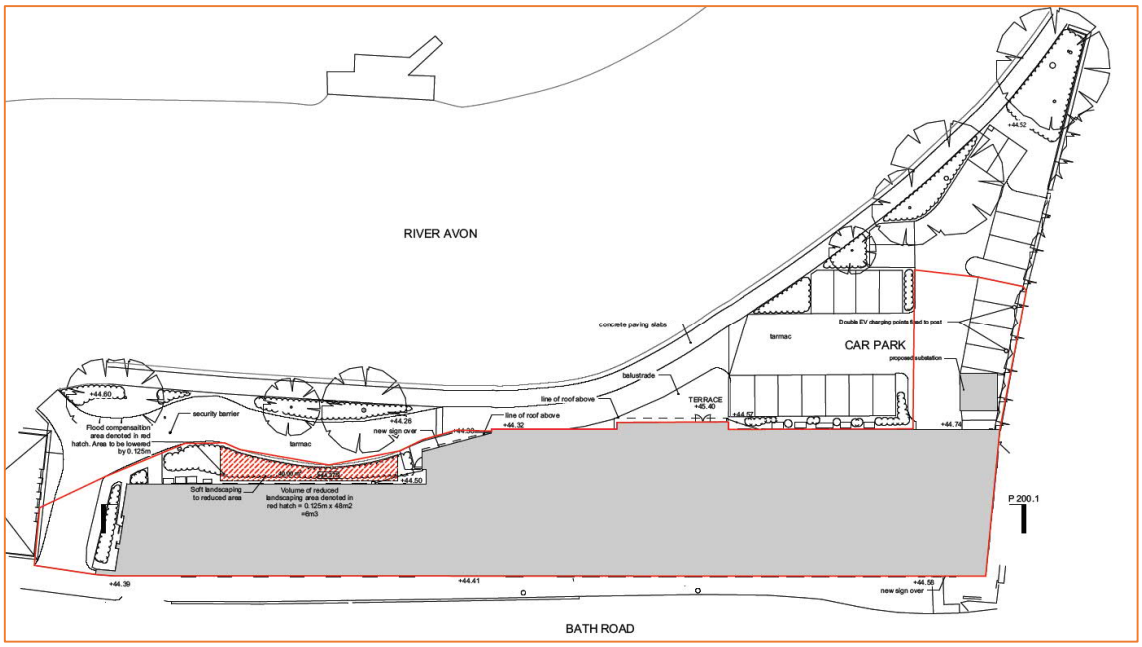

***Figure 4** Proposed Site Layout*

Table 2: Flood risk vulnerability and flood zone 'incompatibility'

Flood Zones	Flood Risk Vulnerability Classification				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✔	✔	✔	✔	✔
Zone 2	✔	Exception Test required	✔	✔	✔
Zone 3a †	Exception Test required †	X	Exception Test required	✔	✔
Zone 3b *	Exception Test required *	X	X	X	✔ *

Key:

✔ Exception test is not required

X Development should not be permitted

4.0 FLOOD RISK ASSESSMENT

4.1. The SFRA and other LLFA documents have been used, where appropriate, along with UK Government Flood Mapping in this section of the report to identify fluvial, tidal, groundwater, reservoir, and surface water flooding. Relevant maps are included in **Appendix E**.

FLUVIAL/TIDAL FLOODING

4.2. Based on the online GOV.UK Flood Map for Planning, the site is located in Flood Zone 3 (**Figure 5**) where the probability of river flooding is 1% (1 in 100) chance or more in any given year. The Wiltshire SFRA confirms the site lies in Flood Zone 3a.

4.3. Historical flood records included in the SFRA maps show no recorded road or property flooding in the vicinity of the site but indicate that the site lies within the 1703 – 1947 recorded flood outlines. The SFRA mapping confirms the site lies within a Flood Warning area and a Flood Alert area.

4.4. The predicted flood outlines available in the wider site FRA have been referred to whilst awaiting up to date Product 4 data from the EA. The 1 in 100 year flood level is 44.50m AOD and the 1 in 1,000 year flood level is 45.90m AOD. The lowest existing ground level at the proposed substation is 44.61m AOD resulting in potential flood depths of 1.29m. Flood management measures to mitigate any risk will be required and these are outlined in **Section 5**.

4.5. Based on the information available, the probability of fluvial and tidal flooding can be assessed as **high**.

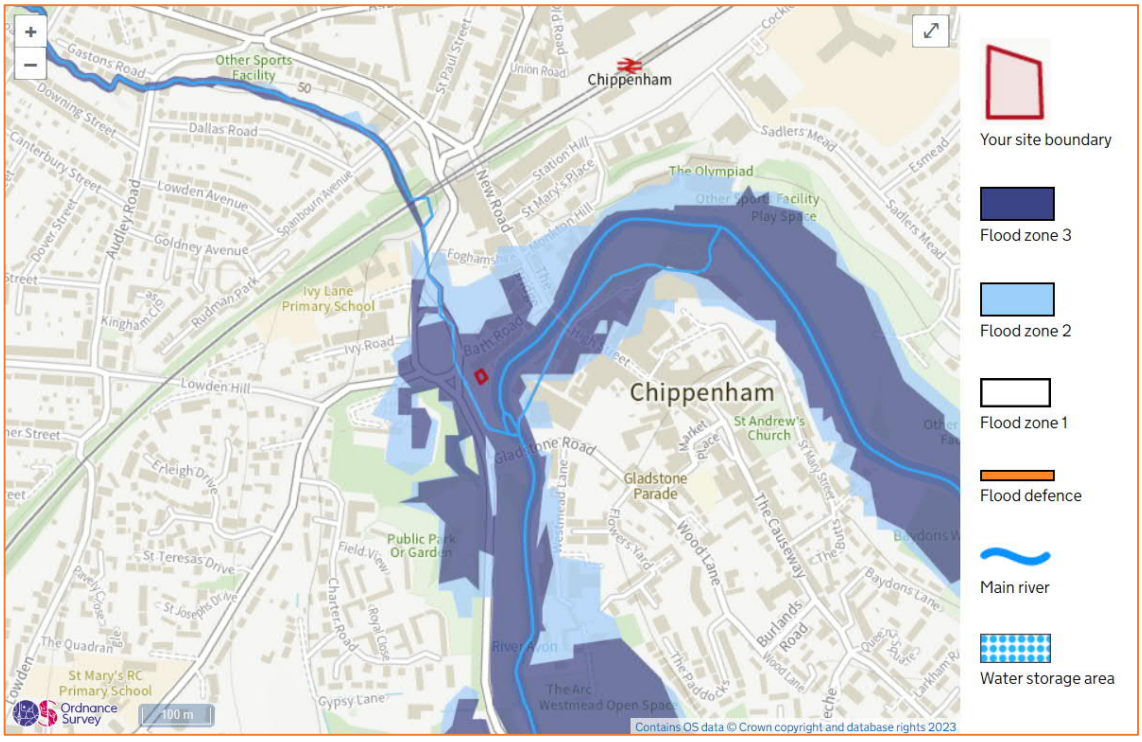

***Figure 5** Flood Map for Planning*

GROUNDWATER FLOODING

4.6. Groundwater flooding usually occurs in low lying areas underlain by permeable rock and aquifers that allow groundwater to rise to the surface through the permeable subsoil following long periods of wet weather.

4.7. Risk of Groundwater Flooding maps included in the Wiltshire SFRA (**Figure 6**) identify the groundwater levels between 0.025m and 0.5m below ground level.

4.8. Based on the information available and the assessment undertaken, the probability of groundwater flooding impacting the site is assessed as being **medium**.

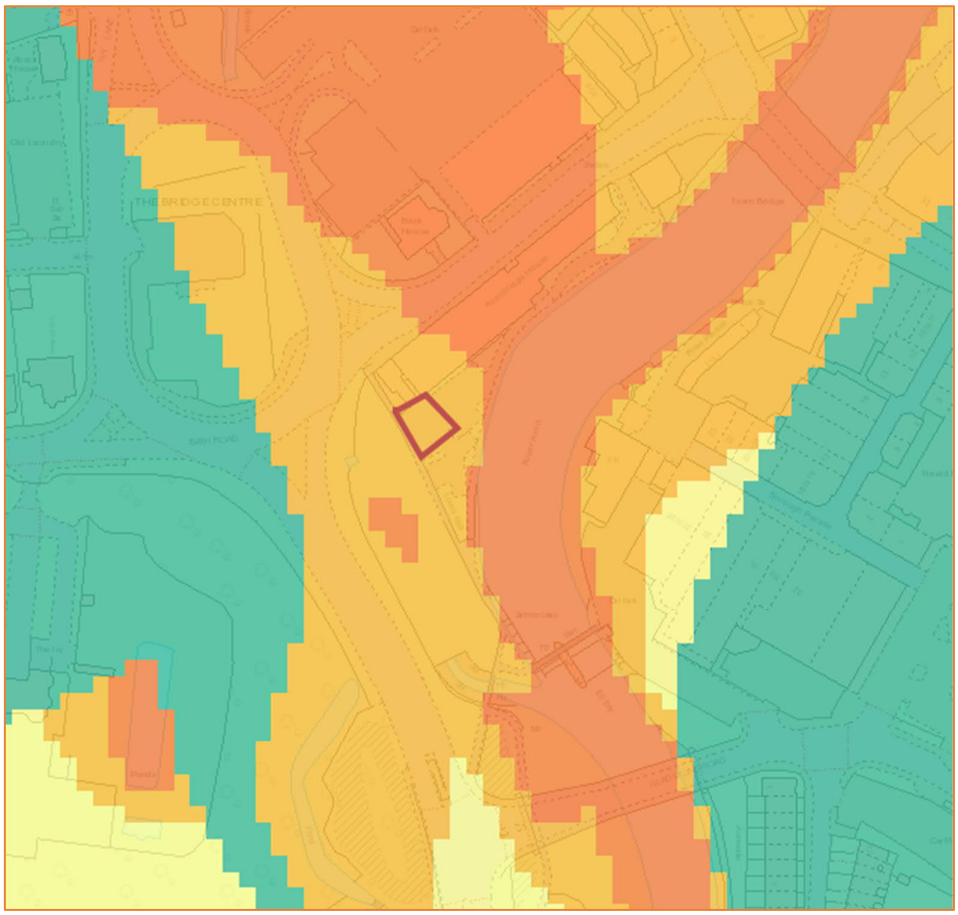

***Figure 6** SFRA Groundwater Flood Risk*

SURFACE WATER FLOODING

4.9. Overland flow and surface water flooding typically arise following periods of intense rainfall, often of short duration, that is unable to soak into the ground or enter drainage systems. It can run quickly off land and result in localised flooding. Localised flooding can be attributed to topographic depressions, insufficient capacity within ordinary watercourses and culverts, as well as obstructions to surface water flow paths.

4.10. The online GOV.UK Long Term Flood Risk map identifies that there is generally a very low risk of surface water flooding across the site, refer to Figures 7a, 7b and 7c. There is a high risk route along the western site boundary following Lovers Walk towards the Bridge Centre Gyratory Roundabout. This is echoed in the SFRA Surface Water Flood Risk mapping where the risk is identified as 1 in 30 year. There is also a high risk surface water flow path along Bath Road and at the access point to Avonbridge House.

4.11. Based on the available information, the probability of surface water flooding is considered **low**.



Figure 7a *GOV.UK's Long Term Flood Risk Map for Surface Water Flooding*

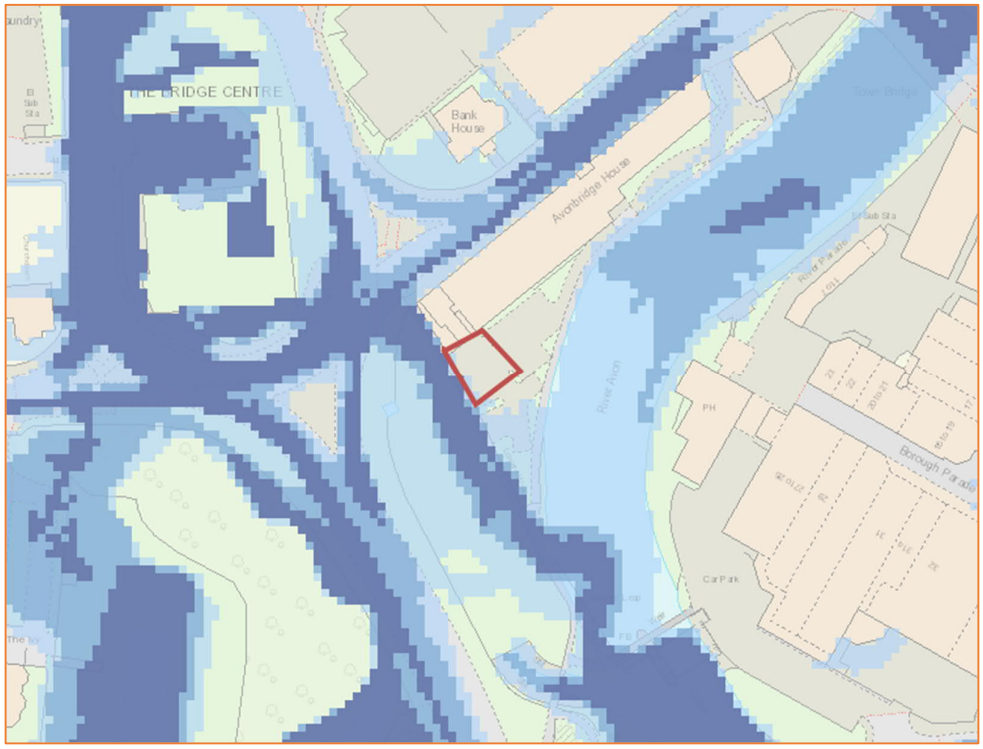

Figure 7b *SFRA Risk of Surface Water Flooding Map (source EA)*



Figure 7c *SFRA Risk of Flooding from Surface Water 1 in 100 year + Climate Change*

SEWER FLOODING

4.12. During heavy rainfall, flooding from the sewer system can occur if:
- The rainfall event exceeds the capacity of the sewer system/drainage system
- The system becomes blocked by debris, sediment or fat
- The system surcharges due to high water levels in receiving watercourses

4.13. The Wiltshire SFRA notes that sewer flooding incidents are recorded by Wessex Water and have been mapped however this information is not available to review in the SFRA mapping. Notwithstanding this, based on its location and proximity of manholes, it is possible that the site could be affected by sewer flooding.

4.14. Based on the information available the probability of sewer flooding impacting the site can be assessed as **low-medium**.

RISK OF FLOODING FROM RESERVOIRS AND ARTIFICIAL SOURCES

4.15. The failure of a reservoir has the potential to cause catastrophic damage due to the sudden release of large volumes of water. An area is considered at risk if people's lives could be threatened in the event of a dam or reservoir failure. According to the online GOV.UK's Long Term Flood Risk Map, the site lies within the maximum extent of flooding from a breach in reservoirs (**Figure 8**).

4.16. The EA confirm that the likelihood of reservoir flooding is much lower than other forms of flooding as current reservoir regulations aim to make sure that all reservoirs are properly maintained and monitored in order to detect and repair any problem in advance.

4.17. The SFRA includes mapping showing flood risk from canals, which is not a risk in Chippenham.

4.18. Based on the available information, the probability of flooding from artificial sources can be assessed as **low**.



Figure 8 *GOV.UK's Flood Risk Map for Reservoir Flooding*

IMPACT OF CLIMATE CHANGE ON THE PROPOSED DEVELOPMENT

4.19. The site is located within Flood Zone 3 where the probability of fluvial flooding is greater than 1% in any year.

4.20. The SFRA includes mapping which identifies Flood Zone 3a outlines with allowances for climate change included (2080's Epoch) and also Risk of Surface Water Flooding (1 in 100) with 40% climate change. While the site is affected by these climate change factors, the mapping does not provide the flood levels to assess the depth of flood water. However reference has been made to the previous FRA which included modelled flood levels. A Product 4 request has been made to the EA for current data and is awaited.

4.21. Based on the information available, the risk of flooding from the impacts of climate change can be assessed as **medium**.

SUMMARY OF FLOOD RISK

4.22. Structural Solutions have assessed the risk of flooding to the site from all current and future potential sources of flooding. Table 3 summarises the findings of the assessment.

TABLE 3: DEGREE OF RISK FROM EACH SOURCE OF FLOODING	
Source	**Risk**
Fluvial / Tidal	High
Groundwater	Medium
Surface Water	Low
Sewer	Low-Medium
Reservoir	Low
Climate Change	Medium

5.0 FLOOD RISK MANAGEMENT AND MITIGATION MEASURES

5.1. This section of the report details the flood risk mitigation measures required to manage the identified risk of flooding from different sources. The information below is based on best practice as well as EA and LLFA advice.

5.2. As discussed in the previous sections, the potential sources of flooding identified that have a reasonable probability of affecting the site area, based on the information collected, are fluvial, and groundwater. The effects of climate change could also have an impact on the site.

SITE LOCATION AND LAYOUT

5.3. The Environment Agency's Flood Map for Planning indicates that the development is located within Flood Zone 3. Typically an Exception Test is required for locating 'essential infrastructure' (electrical substation) in Flood Zone 3 as stated in Table 2 of the Flood Risk and Coastal Change Chapter of the Planning Practice Guidance. However, with the area of the proposed substation works expected to be less than 30m^2, the Exception Test is not required.

5.4. Although the Exception Test does not have to be passed, it is noted that development has been steered away from the river, to the furthest point away, which has a lower risk of flooding.

5.5. The Design & Access Statement (**Appendix F**) outlines the sustainability benefits from the development. Alliance Pharmaceutical Limited are aiming to reduce their carbon emissions, hence the need for the new substation and EV charging points.

5.6. There will be no change in the occupation numbers in the building and therefore the vulnerability of users will not be changed.

SITE LEVELS AND FLOOD RESISTANCE

5.7. Existing site levels in the car park area will remain unchanged. However this could result in the substation being inundated in extreme storm events. Electrical substations are normally required to be designed so that they are inherently dry internally and to ensure the substation remains operational and safe in times of flood, flood water will be prevented from entering the building. This can be achieved by either installing the substation on a raised plinth at the Design Flood Level or providing a waterproof bund or flood door to protect it.

5.8. The Design Flood Level is the maximum estimated water level during the design storm event including an allowance for climate change and depends on the type of substation being installed. Subject to confirmation with the Energy Supplier, the design flood level will be set at 600mm above the 1 in 100 year flood level ie 45.10m AOD. With the average ground level at the site at 44.60m, this would require either the plinth to be raised by 0.5m or a 0.5m high waterproof bund provided around the plant.

SITE ACCESS AND EGRESS

5.9. The development will not change the arrangement for site access and egress and there should be no impact on this for users.

SURFACE WATER DRAINAGE STRATEGY

5.10. The new substation will not change the impermeable area at the site and the existing site surface water drainage strategy will not be affected. It is therefore also unlikely that development on the site would increase flood risk elsewhere.

COMPENSATION STORAGE

5.11. By raising the substation level or installing a waterproof bund to provide flood resistance, there will be an effect of displacement of flood water which could impact downstream and surrounding properties. There will therefore be a need to provide compensation storage. Based on a typical substation footprint area of 12.5m^2, approximately 6.25m^3 of storage volume will be required. This can be achieved by lowering levels in the landscaped areas as shown hatched red in **Figure 9**. The area identified measures approximately 48m^2 which means the landscaped area will need to be lowered a minimum of 125mm to accommodate the displaced volume.

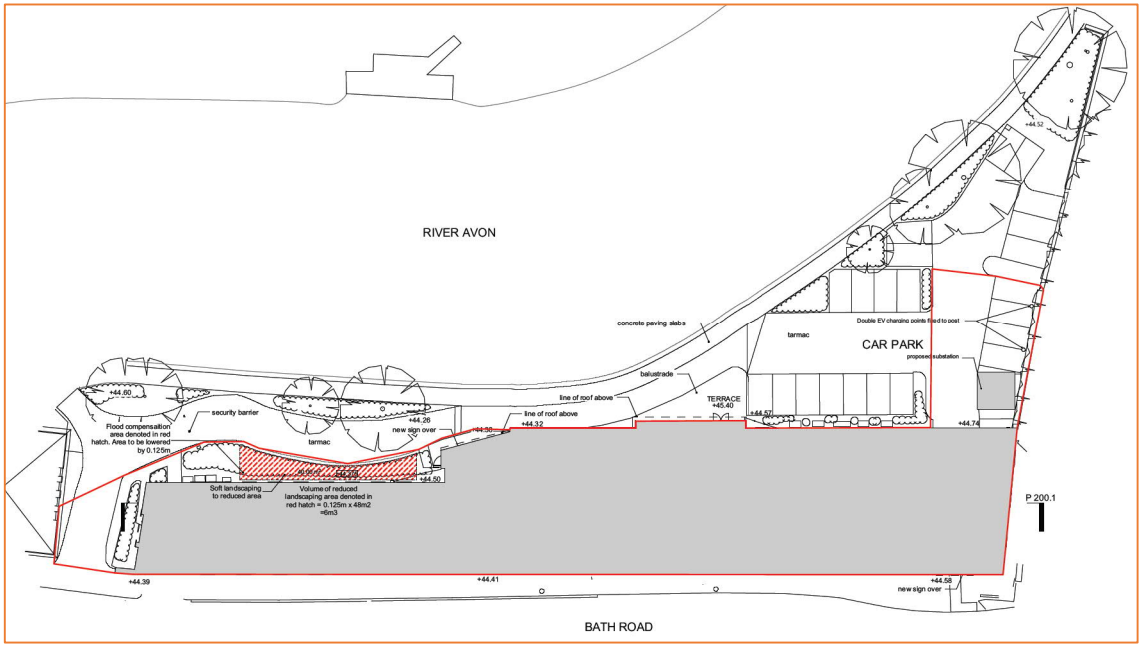

Figure 9 *Flood Compensation Area*

CHIPPENHAM RADIAL GATE AND RIVER AVON IMPROVEMENTS PROJECT

5.12. There are three options being considered for the river improvement works but none are specifically designed with the effect of improving flood risk at the site. If completed, the scheme will reduce the risk of flooding in the event of failure of the sluice gate.

6.0 CONCLUSION

6.1. This FRA has been prepared to support the planning application for the proposed development at Avonbridge House, Chippenham. The development consists of the installation of a new substation and electric vehicle charging points within the existing car park area of Avonbridge House. Avonbridge House is a Grade II listed building located along Bath Road close to Chippenham town centre. The site postcode is SN15 2BB and the total site area is less than 0.160ha.

6.2. The GOV.UK Flood Map for Planning identifies that the site is located in Flood Zone 3 where the probability of river or sea flooding is greater than 1% (1 in 100) chance in any given year and the probability of fluvial flooding is therefore assessed as high. Groundwater, sewers and the effects of climate change could in theory also be a source of flood risk.

6.3. This however can be mitigated by the provision of flood management measures such as either raising plant levels to the design flood level, providing a waterproof bund around the plant or installing flood doors and providing compensation storage. As such the proposed development will not affect the probability of fluvial flooding at the site and in the surroundings.

6.4. By providing flood management measures the risks can be reduced to low. The site is at low risk or not at risk from all other sources of flooding.

APPENDIX A

Site Location



KEY

Site boundary

Adjacent land under same ownership

S 001 SITE LOCATION PLAN

0 25 50 M

N

Notes:

Responsibility is not accepted for errors made by othe from this drawing.

All construction information should be taken from figur dimensions only. Dimensions are in millimeters unless stated.

All dimensions and conditions to be checked on site prior to preparing drawings or commencing any work.

Any variations or supplementary drawings are to be approved by The Architect.

Rev:	Date:	Description:
S8	22/08/23	Update for substation LBC
S7	22/06/22	Update for substation LBC
S6	22/06/22	Updated for car park LBC

Status:
CONSTRUCTION

Project:
AVONBRIDGE HOUSE
CHIPPENHAM

Title:
SITE LOCATION PLAN

Reference:
389 S 001

Revision:
S8

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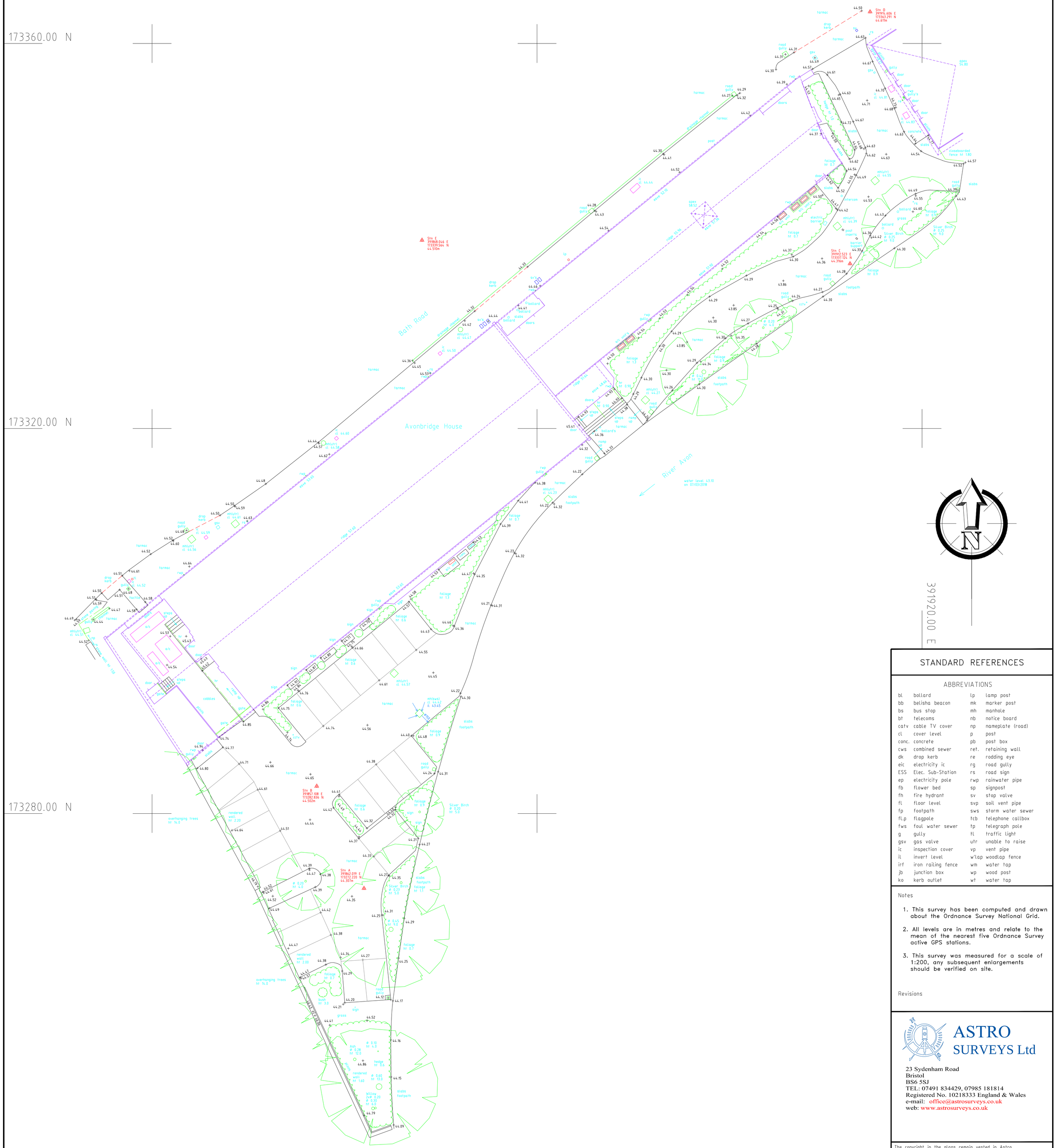
Date drawn: 04/04/18

Scale @ A3: 1:1000

Scale @ A1: 1:500

APPENDIX B

Topographical Survey



STANDARD REFERENCES

ABBREVIATIONS

bl	bollard	lp	lamp post
bb	belisha beacon	mk	marker post
bs	bus stop	mh	manhole
bt	telecoms	nb	notice board
catv	cable TV cover	np	nameplate (road)
cl	cover level	p	post
conc.	concrete	pb	post box
cws	combined sewer	ret.	retaining wall
dk	drop kerb	re	rodding eye
eic	electricity ic	rg	road gully
ESS	Elec. Sub-Station	rs	road sign
ep	electricity pole	rwp	rainwater pipe
fb	flower bed	sp	signpost
fh	fire hydrant	sv	stop valve
fl	floor level	svp	soil vent pipe
fp	footpath	sws	storm water sewer
fl.p	flagpole	tcb	telephone callbox
fws	foul water sewer	tp	telegraph pole
g	gully	tl	traffic light
gsv	gas valve	utr	unable to raise
ic	inspection cover	vp	vent pipe
il	invert level	w'lap	woodlap fence
irf	iron railing fence	wm	water tap
jb	junction box	wp	wood post
ko	kerb outlet	wt	water tap

Notes

1. This survey has been computed and drawn about the Ordnance Survey National Grid.
2. All levels are in metres and relate to the mean of the nearest five Ordnance Survey active GPS stations.
3. This survey was measured for a scale of 1:200, any subsequent enlargements should be verified on site.

Revisions

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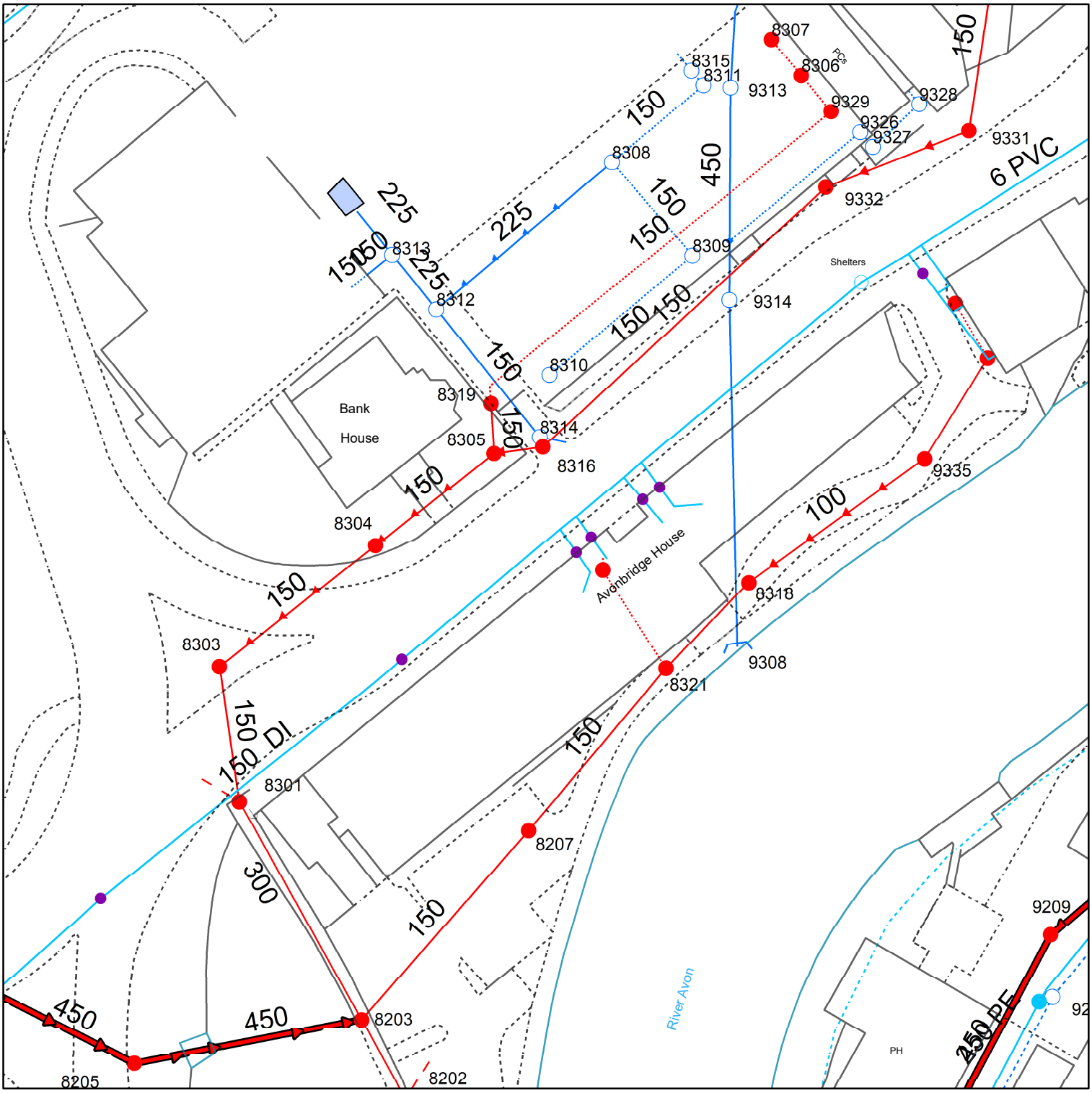
Client	Designscape Architects Bath Brewery Toll Bridge Road Bath BA1 7DE
Project	Avonbridge House Bath Road Chippenham, SN15 2BB
Title	TOPOGRAPHICAL SURVEY
Drawing number	A20/146/1
Date	Mar 2018
Surveyed	K Saj
Scale	1:200
Drawn	K Saj
Sheet size	A1
Checked	B Bobkowski

APPENDIX C

Wessex Water Sewer Record Drawings

Wessex Water Network Map



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WATER MAINS
- Distribution
- Washout
- Raw Water
- Abandoned
- Private

FITTINGS
- Hydrant
- Other

SEWERS — STRATEGIC / PUBLIC / PRIVATE / SECTION 104
- Foul
- Surface
- Combined
- Abandoned

Colours generally indicate the use of the sewer/drain (i.e Red - Foul, Dark Blue - Surface, Magenta - Combined/Dual Use, Light Green - Highway Drain, Mid Green - Overflow).
Some styles of line and symbol are shown on the key in sample/typical colours.

STRUCTURES
- Manhole - Foul
- Manhole - Surface
- Manhole - Combined
- Inlet
- Outfall
- Lamphole
- Bifurcation - Foul
- Bifurcation - Surface
- Bifurcation - Combined
- Combined Sewage Overflow
- Pumping Station - Surface
- Pumping Stn - Foul/Combined
- Gully
- Vent Column
- Rodding Eye
- Catchpit
- Flushing Chamber
- Soakaway
- Non Return Valve
- Air Valve
- Hatch Box
- Washout

OTHER WESSEX PIPES
- Rising Mains
- Standby Rising Mains
- EDM — Effluent Disposal
- Overflow
- S — Syphon

NON-WESSEX / UNKNOWN
- Private Rising Mains
- CW — Culverted Watercourse
- H — Highway Drain
- ? — Use Unknown
- SU — Status Unknown

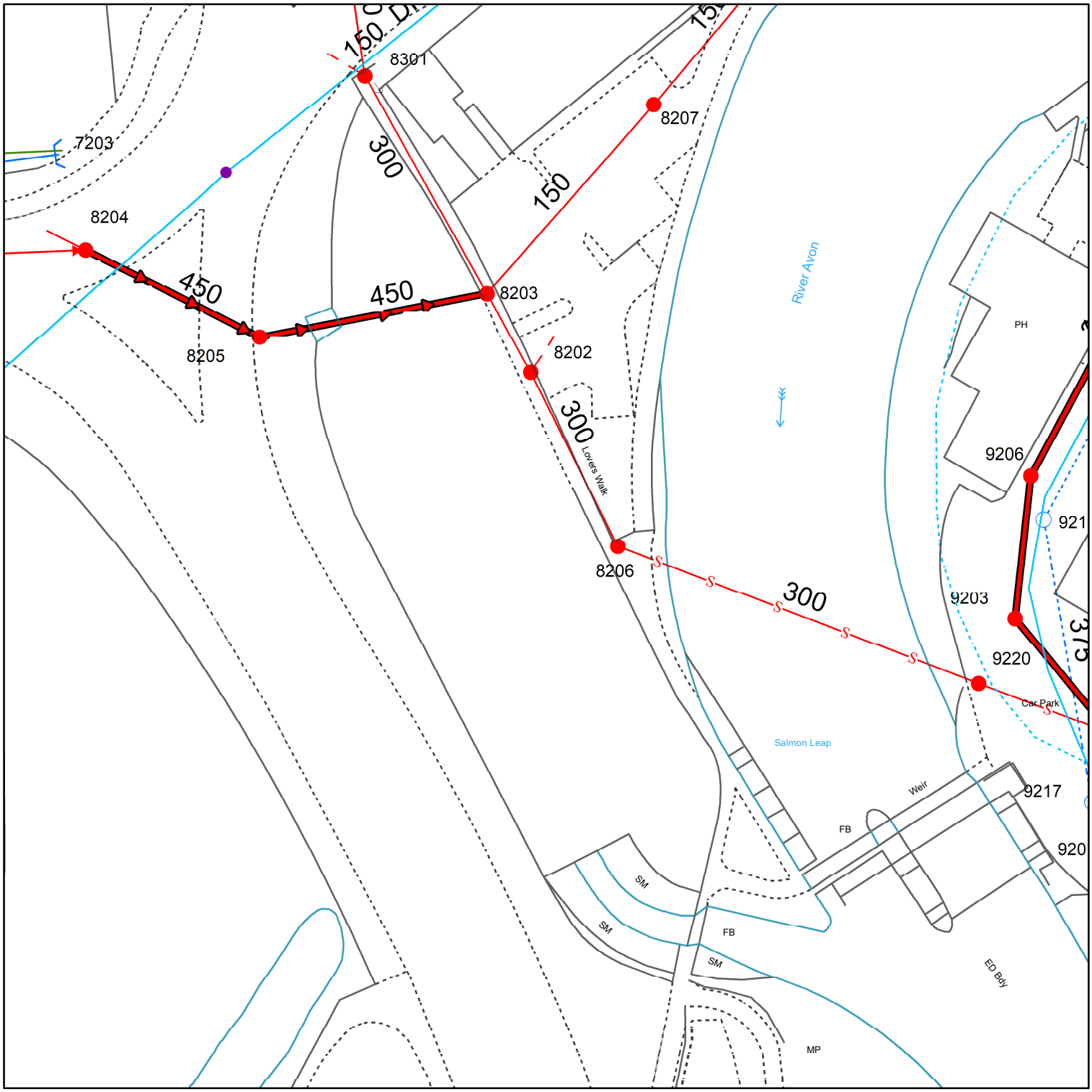
OTHER STRUCTURES
- Attenuation Tank
- Storage Tank
- Chamber
- Tunnel
- Interceptor

Wessex Water
YTL GROUP

Information in this map is provided for identification purposes only. No warranty as to accuracy is given or implied. The precise route of pipe work may not exactly match that shown. Wessex Water does not accept liability for inaccuracies. Sewers and lateral drains adopted by Wessex Water under the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011 are to be plotted over time and may not yet be shown. In carrying out any works, you accept liability for the cost of any repairs to Wessex Water apparatus damaged as a result of your works. You are advised to commence excavations using hand tools only. Mechanical digging equipment should not be used until pipe work has been precisely located. If you are considering any form of building works and pipe work is shown within the boundary of your property or a property to be purchased (or very close by) a surveyor should plot its exact position prior to commencing works or purchase. If you are proposing to build over or near Wessex Water's apparatus you should contact the Developer Services Team, tel: 01225 526333 or e-mail: developer.enquiries@wessexwater.co.uk to discuss your proposals. Details of assets within Wessex Water's land ownership are unavailable through this service.

Date: 14/07/2023
Centre: 391869, 173329
Scale: 1:625
(when printed at A4 size)

Wessex Water Network Map



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- Washout
- Raw Water
- Abandoned
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FITTINGS
- Hydrant
- Other

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- Surface
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- Bifurcation - Surface
- Bifurcation - Combined
- Combined Sewage Overflow
- Pumping Station - Surface
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Wessex Water
YTL GROUP

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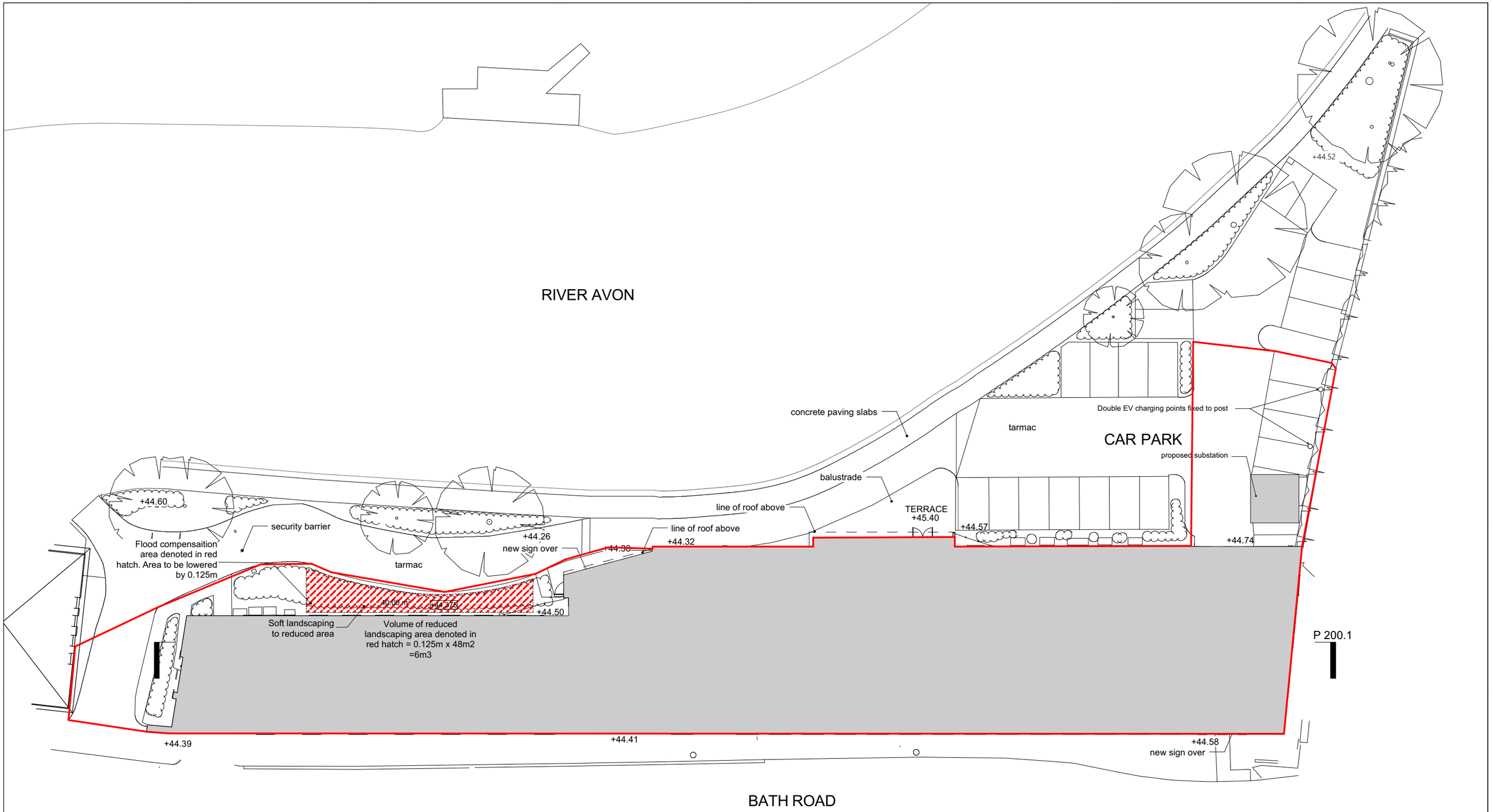
Date: 11/08/2023
Centre: 391855, 173246
Scale: 1:625
(when printed at A4 size)

APPENDIX D

Proposed Site Layout



Rev:	Date:	Description:
P5	22/08/23	Flood compensation area added
P4	18/08/23	Substation relocated/charging posts added
P3	14/08/23	Flood compensation area added
P2	22/06/22	Susbtation application
P1	22/06/22	Car park

Notes:

Responsibility is not accepted for errors made by others scaling from this drawing.

All construction information should be taken from figured dimensions only. Dimensions are in millimeters unless otherwise stated.

All dimensions and conditions to be checked on site prior to preparing drawings or commencing any work.

Any variations or supplementary drawings are to be approved by The Architect.

KEY

+00.00	Existing floor level
+00.00	Proposed floor level

Status:
PROPOSED

Project:
AVONBRIDGE HOUSE
CHIPPENHAM

Title:
SITE PLAN PROPOSED

Reference:
389 P 010

Revision:
P5

DESIGNSCAPE
ARCHITECTS
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T: 01225 858500
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www.dscape.co.uk

Drawn by: JW

Date drawn: 04/04/18
22/08/2023

Scale @ A3: 1:300

Scale @ A1: 1:50

APPENDIX E

Flood Maps

Flood map for planning

Your reference	Location (easting/northing)	Created
<Unspecified>	**391853/173281**	**11 Aug 2023 11:44**

Your selected location is in flood zone 3, an area with a high probability of flooding.

This means:

- you must complete a flood risk assessment for development in this area
- you should follow the Environment Agency's standing advice for carrying out a flood risk assessment (see www.gov.uk/guidance/flood-risk-assessment-standing-advice)

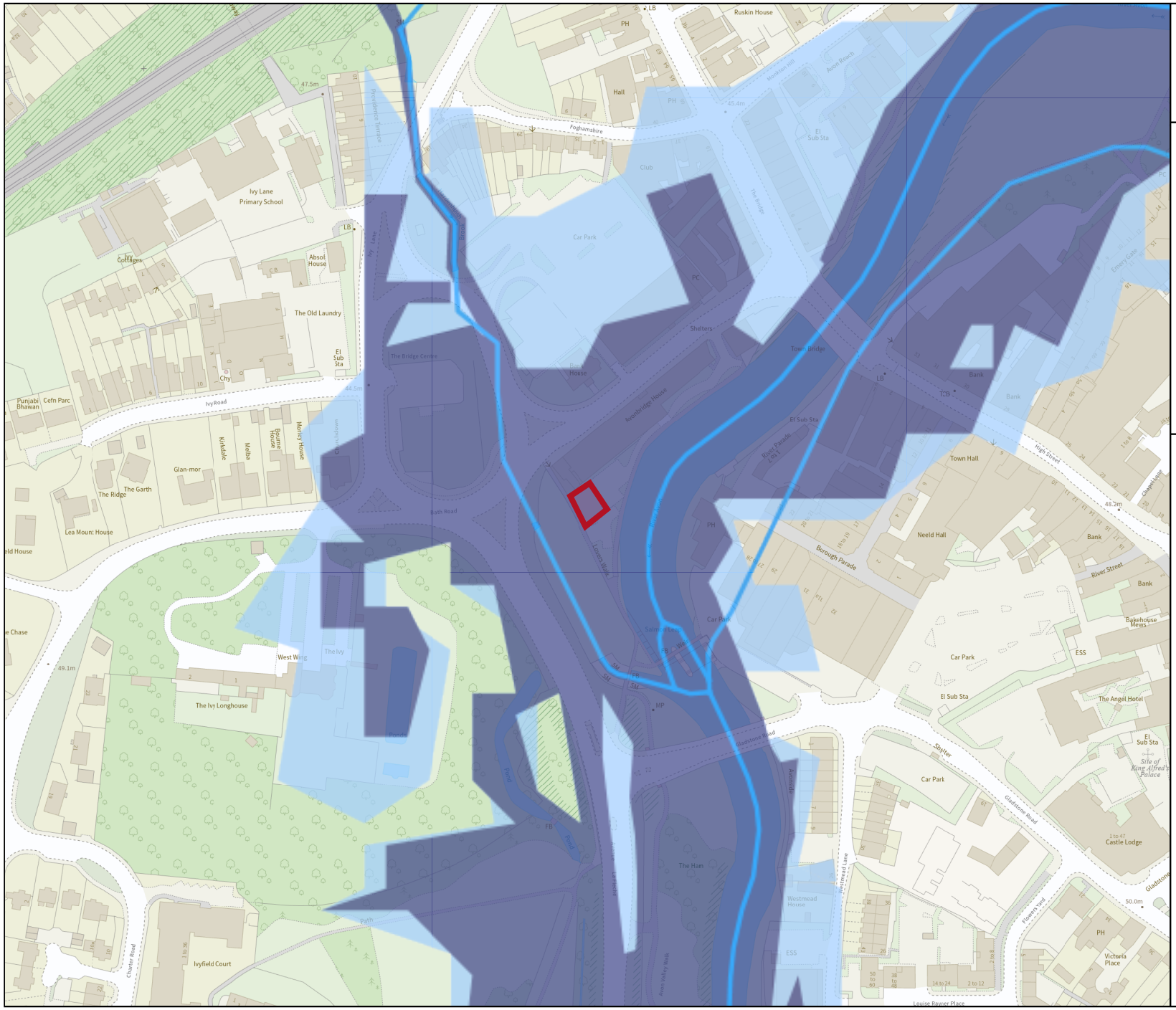
Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence which sets out the terms and conditions for using government data. https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2022 OS 100024198. https://flood-map-for-planning.service.gov.uk/os-terms



Environment Agency

Flood map for planning

Your reference
<Unspecified>

Location (easting/northing)
391853/173281

Scale
1:2500

Created
11 Aug 2023 11:44

- Selected area
- Flood zone 3
- Flood zone 2
- Flood zone 1
- Flood defence
- Main river
- Water storage area

0 20 40 60m

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APPENDIX F

Design and Access Statement

14/08/2023
Y:\389 - Avon Bridge House\01 Admin\06.0 Stat Authorities\6.1 Planning\application 10 - substation (withdrawn)\20220814 substation works DAS 389.docx



Avonbridge House

Bath Road, Chippenham

Design and Access Statement.

Listed Building Consent – Installation of substation and electric vehicle charging points.

August 2023

1.0 Introduction

This statement accompanies an application for Listed Building consent for installation of substation and electric vehicle charging points within the existing car park area and should be read in conjunction with the accompanying drawings and Heritage Statement.

2.0 Background

The accompanying Heritage Statement provides a detailed analysis of the building, heritage significance, setting and effect of the proposed development on the significance of the asset. This includes photographs of the building and areas affected.

This application follows an application for the replacement of existing roof covering, including installation of Photovoltaic solar panels, now approved.

3.0 Requirement for works

3.1 The Exterior – Riverside Car Park

Alliance Pharmaceutical have a global commitment to reducing their carbon emissions. They have an ongoing programme reducing the carbon cost of their business operations, product manufacture, packaging and distribution. Whilst the carbon component associated with the running of their various premises around the world is a relatively small element of the business as a whole, they are further committed to improvements in this area, especially at this building their global HQ.
A large proportion of the work undertaken within the building as part of recent projects has been to improve the efficiency of mechanical and electrical systems in place within the building. All lighting within the building is now 'Low Energy'. The company have now turned their attention to the use of renewable energy solutions to further reduce carbon. Off-site options have been considered, but have not been found to be viable. As a result, an on-site solution is sought, with solar power having been identified as the most viable option.
This forms part of a separate application for Listed Building Approval, now approved.
As part of the Alliance drive to reduce carbon, it is proposed to install four Electric Vehicle (EV) charging points located to serve bays against the SW boundary wall.
The mains electrical supply to the building dates from the conversion of the building. It has been running at capacity over a number of years. Notwithstanding the reduced electrical demand achieved by the renewed building services, in order to optimise the functionality of the PV array, allowing for export to the grid, serve the EV charging points and provide resilience for an anticipated increase in staff occupation numbers, it is necessary to replace the existing supply and install a new electrical substation. The substation will be in a grey coloured GRP enclosure, positioned within the space previously occupied by 2 parking spaces, close to the archway beneath the south western end of the building.

4.0 The Contribution of the Asset to the Setting

The contribution of Avonbridge House to its setting rests primarily in its role as a former industrial complex close to the centre of Chippenham. The main Bath Road frontage remains imposing and a good reminder of its former use. By contrast the riverside frontage

is not authentic from a heritage perspective, instead it retains an important role as a backdrop to the River Avon and views of the site from the town centre. It also reveals the scale and massing of the two linked structures (east and west wings). The loss of the structures between Avonbridge House and the river may be lamented, however the current riverside elevation maintains its own interest as part of a continuing history of adaptation to the changing needs of the building's occupants.

5.0 Planning Considerations.

The National Planning Policy Framework (July 2021) provides guidance to how the proposals should be considered. Of particular relevance, in bold for emphasis are the following paragraph extracts:

> *"152. **The planning system should support the transition to a low carbon future in a changing climate**, taking full account of flood risk and coastal change. It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; **encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure.** ."*
>
> *'158. When determining planning applications for renewable and low carbon development, **local planning authorities should: a) not require applicants to demonstrate the overall need for renewable or low carbon energy, and recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions;** and b) approve the application if its impacts are (or can be made) acceptable…'*
>
> *202. **Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including**, where appropriate, securing its optimum viable use.*

6.0 Conclusion

The proposed works will create a very minor change to the current setting of the Listed Building, however by virtue of the location and scale of the proposals, these are not considered to be of any harm to the asset. Provision of the Sub-station and EV charging points represents a benefit in reducing reliance upon fossil fuels and improving local air quality.