Appendix F – Flood Risk Assessment & Drainage Strategy

PROJECT:

The Priory, St Neots

PROJECT REFERENCE:

1940

TITLE:

Flood Risk Assessment & Drainage Strategy

DATE:

August 2024

Revision No:	Issue Status:	By:	Checked:	Issue Date:
01	First Issue	NR	ADB	02/08/24

SIMPLE WORKS Ltd.
Registered in England.
Company no. 11603717

CONTENT

1 INTRODUCTION....2
1.1 OVERVIEW....2
2 THE EXISTING SITE....3
2.1 SITE CONDITIONS....3
2.2 TOPOGRAPHY....3
2.3 GEOLOGICAL GROUND CONDITIONS....4
2.4 HYDROGEOLOGY....4
2.5 EXISTING DRAINAGE MANAGEMENT....6
3 DEVELOPMENT PROPOSALS....7
4 PROBABILITY OF FLOODING....8
4.1 FLOODING FROM RIVERS (FLUVIAL) & THE SEA (TIDAL)....9
4.2 FLOODING FROM LAND & SEWERS....14
4.3 FLOOD RISK FROM RESERVOIRS, CANALS AND OTHER ARTIFICIAL SOURCES....15
4.4 FLOODING FROM GROUNDWATER....15
5 POLICY STATUS FOR PROPOSED DEVELOPMENT....17
5.1 VULNERABILITY CLASSIFICATION....17
5.2 SEQUENTIAL TEST & EXCEPTION TEST....18
5.3 LOCAL POLICY....19
6 FLOOD RISK MANAGEMENT STRATEGY....21
6.1 FLUVIAL FLOOD RISK MANAGEMENT....21
6.2 PUBLIC SAFETY ISSUES AND SAFE ACCESS/EGRESS....21
6.3 FLOOD RESILIENCE....22
6.4 FLOOD RESISTANCE....22
7 DRAINAGE STRATEGY....23
7.1 SURFACE WATER....23
7.2 FOUL WATER....23
8 FLOOD RISK ELSEWHERE....24
9 ENVIRONMENT AGENCY PERMIT....24
10 CONSTRUCTION SURFACE WATER MANAGEMENT....24
11 CONCLUSION....25
APPENDIX A – SITE LOCATION PLAN....26
APPENDIX B – TOPOGRAPHICAL/CCTV SURVEY....27
APPENDIX C – PROPOSED DEVELOPMENT PLANS....28
APPENDIX D – EA FLOOD RISK ASSESSMENT DATA....29
APPENDIX E – EXISTING AND PROPOSED ON-SITE FLOOD LEVEL MODELLING....30
APPENDIX F – PROPOSED DRAINAGE DRAWINGS....31

1 INTRODUCTION

1.1 OVERVIEW

Simple Works have been commissioned by Huntingdonshire District Council to carry out a Flood Risk Assessment (FRA) and Drainage Strategy report for the Priory Centre refurbishment, St Neots, PE19 2BH.

With reference to the indicative flood maps published by the Environment Agency, the site appears to lie within Flood Zone 3. This FRA report has been prepared in accordance with the requirements contained within National Planning Policy Framework (NPPF, December 2023) and the associated Technical Guidance. Based on requirements set by the Environment Agency, a Flood Risk assessment is needed to support the planning application.

This report has been prepared in accordance with (i) National Planning Policy Framework (NPPF), (Department for Communities and Local Government, December 2023) and the accompanying (ii) Planning Practice Guidance (Ministry of Housing, Communities and Local Government, August 2022); and (iii) Huntingdonshire District Council Strategic Flood Risk Assessment, June 2017 (iv) Other statutory laws and local bylaws and rules.

It is stated in Paragraph 173 of the NPPF that:

"When determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood-risk assessment. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:

- *Within the site, the most vulnerable development is located in areas of lowest flood risk unless there are overriding reasons to prefer a different location.*
- *Development is appropriately flood resilient and resistant, such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment.*
- *It incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate.*
- *Any residual risk can be safely managed and*
- *Safe access and escape routes are included where appropriate, as part of an agreed emergency plan.*

This report has been prepared to address the requirements of the NPPF and has derived the following data/information from various sources including:

- Information published or explicitly provided by the Environment Agency, including Product 4 Data
- Information published by the Local Planning Authority, including the SFRA
- Information published by the British Geological Society
- Drainage Flood Risk Appraisal of Options by Mott Macdonald, dated January 2021.
- A site-specific topographical survey
- Enquiries made to relevant authorities
- Specific design works carried out for this report
- Site-specific site investigation / surveys

2 THE EXISTING SITE

2.1 SITE CONDITIONS

The proposed development is located at National Grid Reference 518082, 260358 at The Priory Centre, Priory Lane, St Neots, PE19 2BH. It is located directly adjacent to the River Great Ouse, a designated EA Main River. A site location plan can be found in Appendix A.

A satellite view showing the existing site can be seen below:



Figure 2.1 – Satellite View of the Existing Site (Approximate Site Boundary Marked Red)

2.2 TOPOGRAPHY

The existing Priory Centre building covers the majority of the site, with the remaining areas consisting of footway and decked areas.

The site levels to the front of the Priory Centre (east) range from 15.90-15.60mAOD, falling in a northerly direction. The finished floor level of the building is 16.32mAOD. The levels to the pedestrian areas to the rear of the Priory Centre, adjacent to the River, range between 16.15-16.30mAOD.

A copy of the existing site levels can be found within Appendix B.

2.3 GEOLOGICAL GROUND CONDITIONS

The focus of an FRA study on geology is on the potential movement of water through Made Ground, Drift Geology and Solid Geology.

The British Geological Society (BGS) GeoIndex Viewer has been reviewed to determine the ground conditions at the site.

As expected, given the location adjacent the River Great Ouse, BGS data shows the superficial deposits to be River Terrace Deposits – Sands and Gravels, on the Oxford Clay Formation – Mudstone.

2.4 HYDROGEOLOGY

The hydrogeological features of the site are depicted below, and are taken from the Huntingdonshire District Council SFRA Map and The Department for Environment, Food & Rural Affairs (Defra) Magic mapping records. The findings are summarised within Table 2.4.

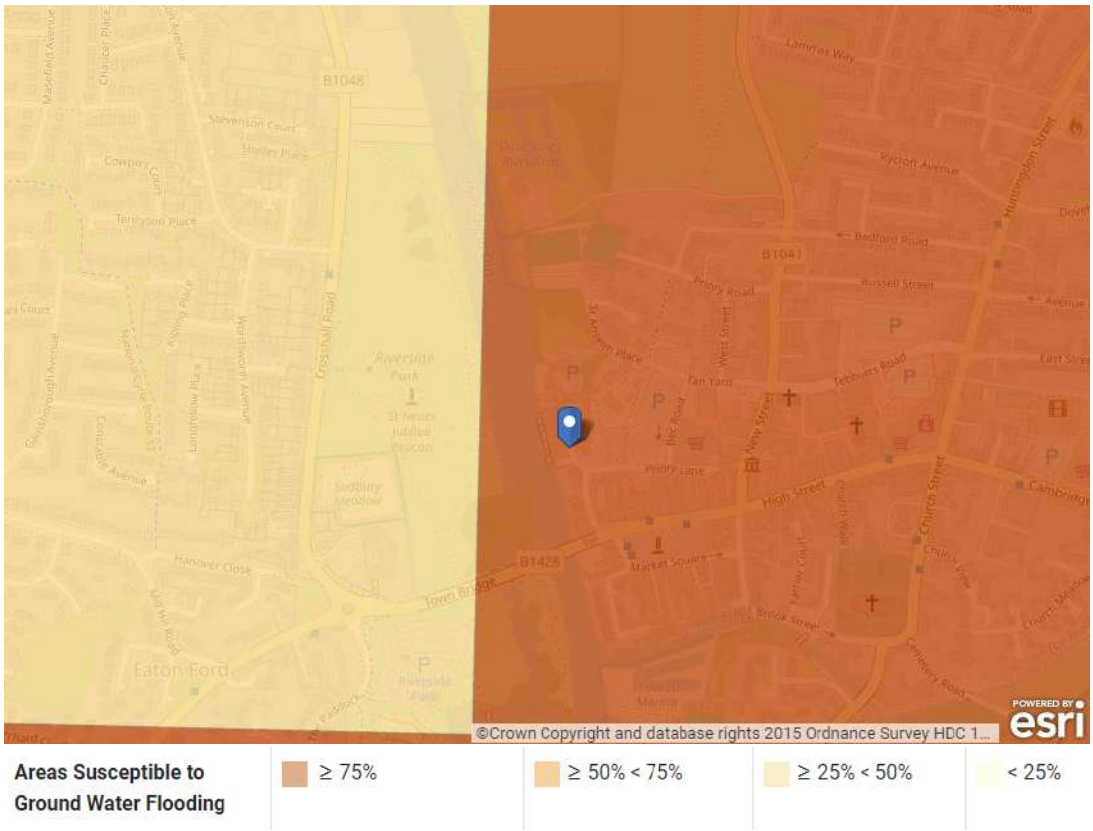


Figure 2.4.1 – Areas Susceptible to Groundwater Flooding (approximate site location marked)

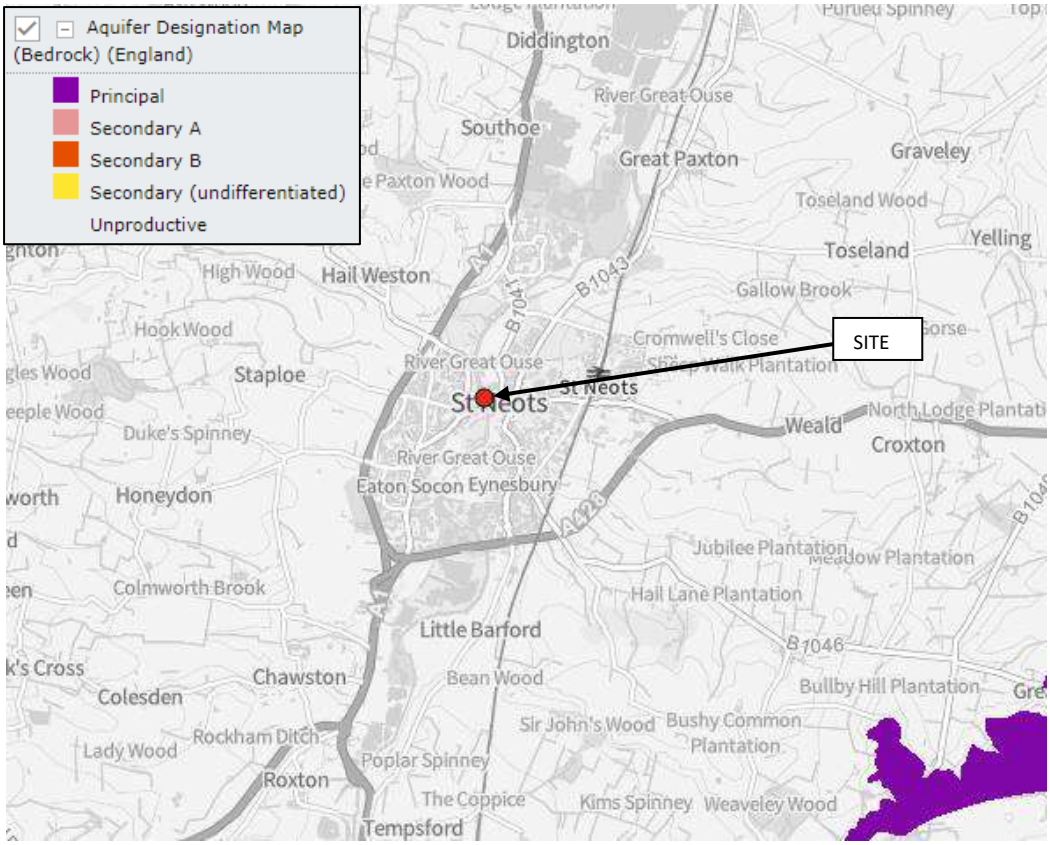


Figure 2.4.2 – Aquifer Designation Map (Bedrock, approximate site location marked red)

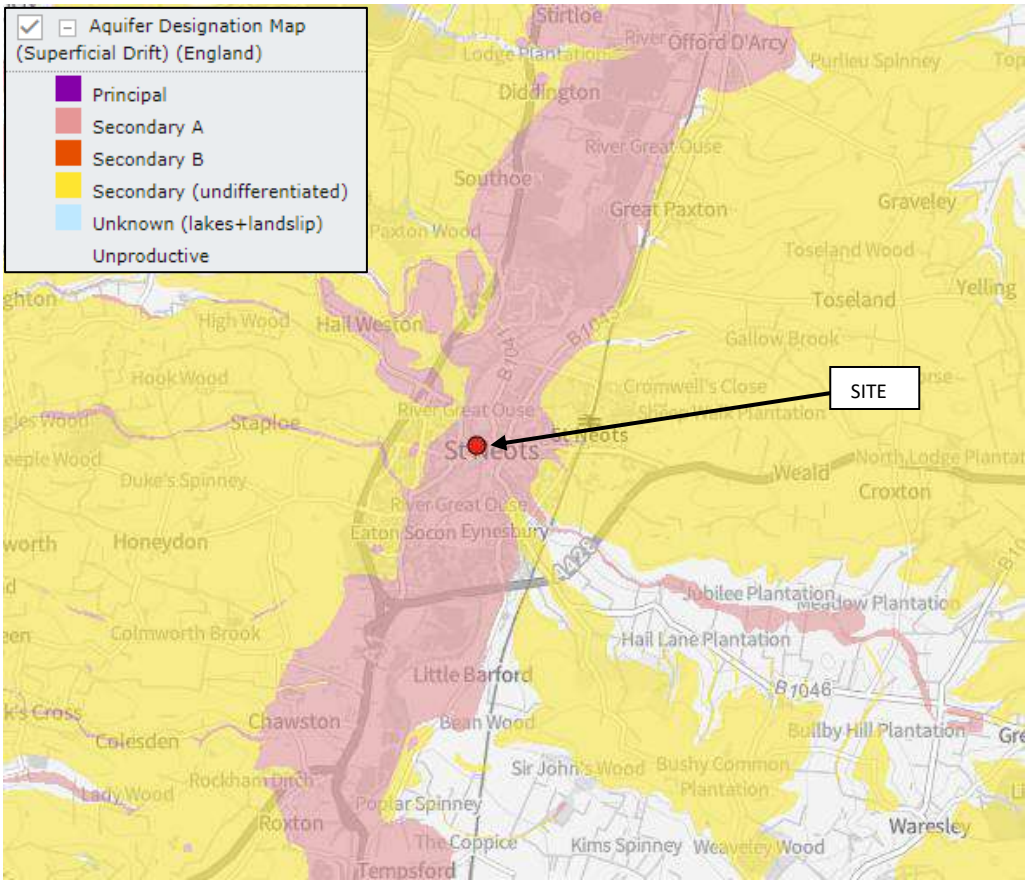


Figure 2.4.3 – Aquifer Designation Map (Superficial drift, approximate site location marked red)

Map Data Set	Designation	Comment
Areas Susceptible to Groundwater Flooding (HDC SFRA Map)	≥75%	This map indicates areas where the geology and hydrogeology indicate that groundwater could emerge. Figure 2.4.1 identifies that the site has a high chance of groundwater emergence due to the underlying ground conditions.
Aquifer Maps: Bedrock	Unproductive	This category identifies the type of aquifer present in solid permeable formations. Figure 2.4.2 indicates a 'unproductive' classification, consisting low permeability layers that have negligible significance for water supply or river base flow.
Aquifer Maps: Superficial Deposits	Secondary A	This category identifies the type of aquifer present in the superficial deposits. Figure 4.2.3 indicates a 'Secondary A' classification, indicating permeable layers capable of supporting water supplies at a local level rather than strategic scale, in some cases forming an important source of base flow to rivers.

Table 2.4 – Hydrogeological Summary

2.5 EXISTING DRAINAGE MANAGEMENT

A CCTV survey was undertaken in November 2023. The site is served by separate foul and storm sewers around the building. Existing foul water drains to a foul sewer beneath Priory Lane, which discharges to the public Anglian Water sewer network.

Storm/surface water drains to a private storm drain around the building and within Priory Lane, which outfalls to the River Great Ouse just north of the existing Priory Centre.

A copy of the survey drawings can be found within Appendix B.

3 DEVELOPMENT PROPOSALS

The proposals consist of the refurbishment, part-demolition and extension of the existing community building and town council offices. It is being refurbished to update the community services it provides, including increased private hire opportunities, additional rooms for small groups and social services meeting groups, an enhance bar and Café Bistro offering, and new/improved town council offices.

Proposed development plans can be found within Appendix C.

4 PROBABILITY OF FLOODING

The NPPF identifies six potential sources of flooding:

- Flooding from rivers (fluvial flooding)
- Flooding from the sea (tidal flooding)
- Flooding from land
- Flooding from sewers
- Flooding from groundwater
- Flooding from reservoirs, canals, and other artificial sources.

These are considered in the following sections 4.1 to 4.4.

4.1 FLOODING FROM RIVERS (FLUVIAL) & THE SEA (TIDAL)

Flood risk is based on the definitions in Table 1 of the Flood Risk and Coastal Change, Planning Practice Guidance, which recognises the following Flood Zones:

- Flood Zone 1 - little or no risk, with annual probability of flooding from rivers and the sea of less than 0.1% (1 in 1000-year)
- Flood Zone 2 - low to medium risk, with annual probability of flooding between 0.1% and 1.0% from rivers and between 0.1% and 0.5% from the sea
- Flood Zone 3a - high risk of flooding with an annual probability of flooding of 1.0% or greater from rivers, and 0.5% or greater from the sea.
- Flood Zone 3b – the 'Functional Floodplain' with an annual probability of flooding of 5% or greater.

Flood Risk Assessment Data (previously known as Product 4 Flood Risk Data) has been obtained from the EA to inform this flood risk assessment study. This information has been reviewed and assessed in relation to the development proposals.

The Flood Risk Assessment Data obtained from the EA can be found within Appendix D.

The Environment Agency's flood map for planning, provided as part of the Flood Risk Assessment Data is shown below:

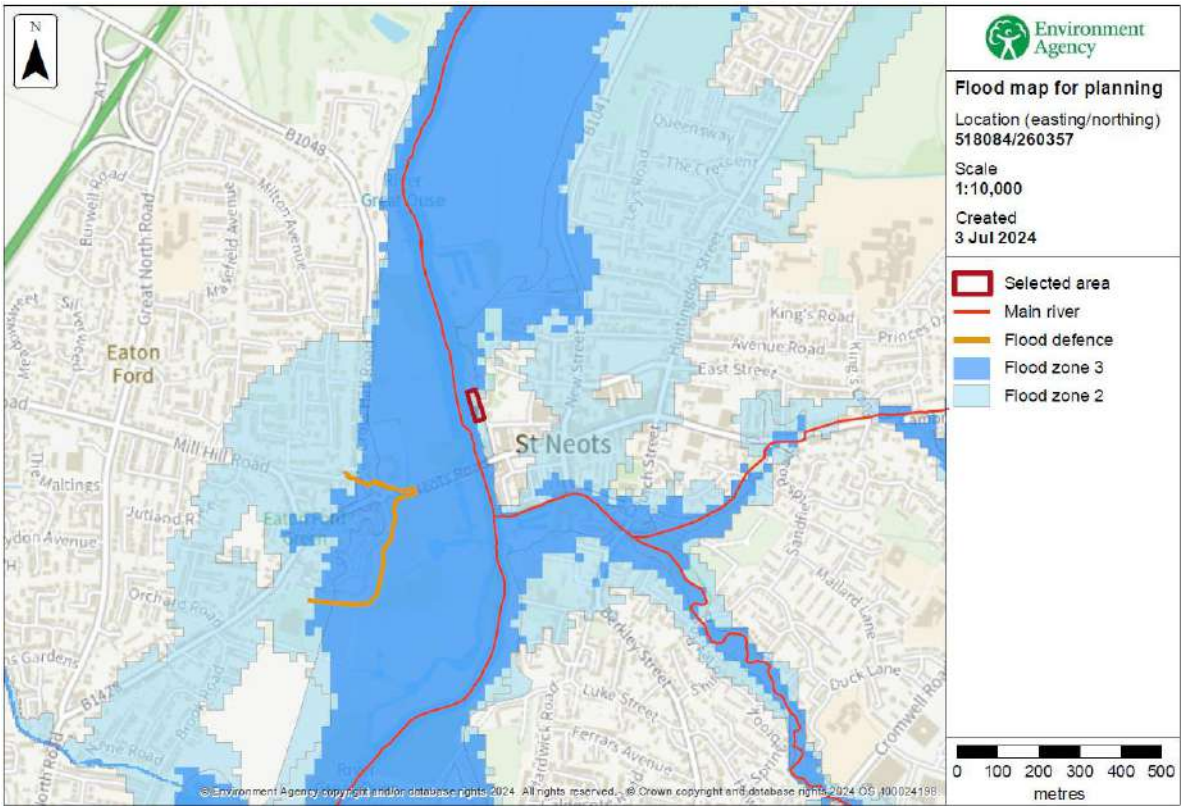


Figure 4.1.1 – Flood Map for Planning

The Flood Map for Planning shows Areas of the proposed development site falling within Flood Zone 3, with the majority falling within Flood Zone 2. This is assessed in further detail within this report, utilising flood modelling levels provided by the EA compared against site topography/levels. The site does not benefit from flood defences.

The historic flood map (provided by the EA within the Flood Risk Assessment Data) shows the site flooded during previous flood events in 1947 and 1998:

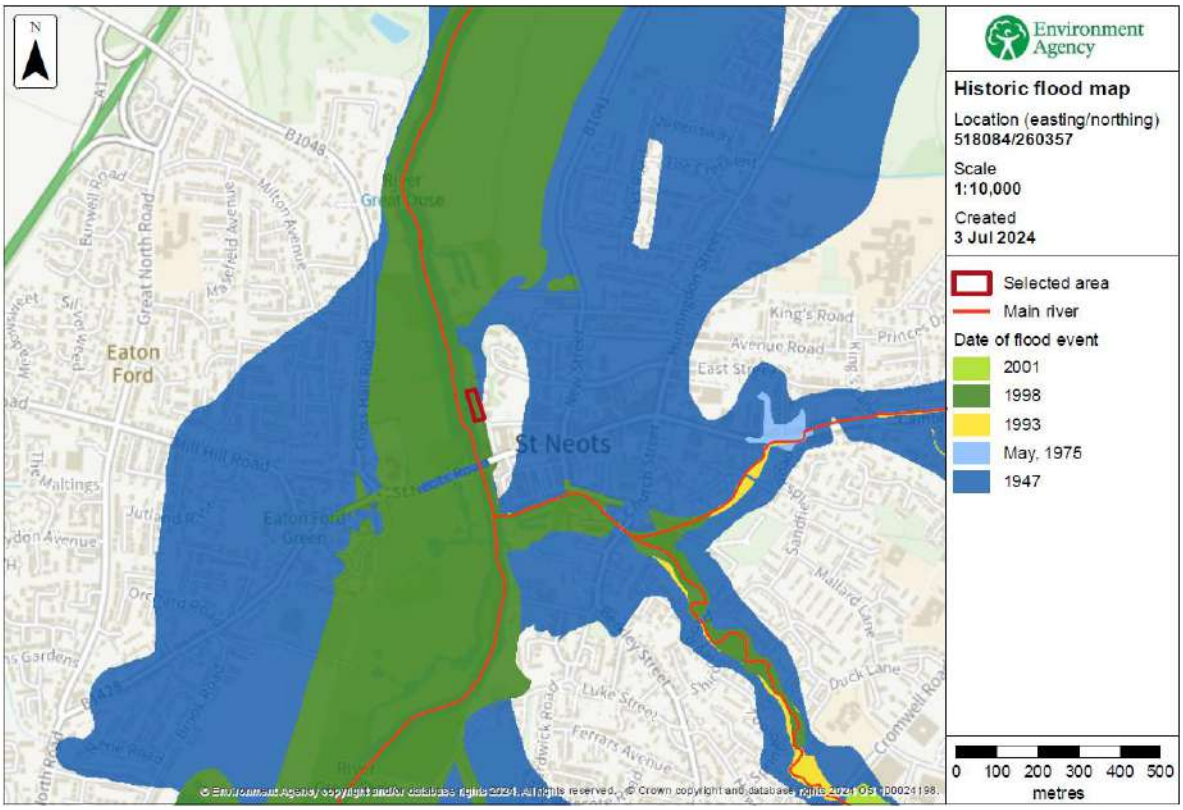


Figure 4.1.2 – Historic Flood Map

Without an allowance for climate change, EA modelling (provided within the Flood Risk Assessment Data) shows the site as flooding during the 5% AEP (1-20yr), 1% AEP (1-100yr) and 0.1% AEP (1-1000yr) events:

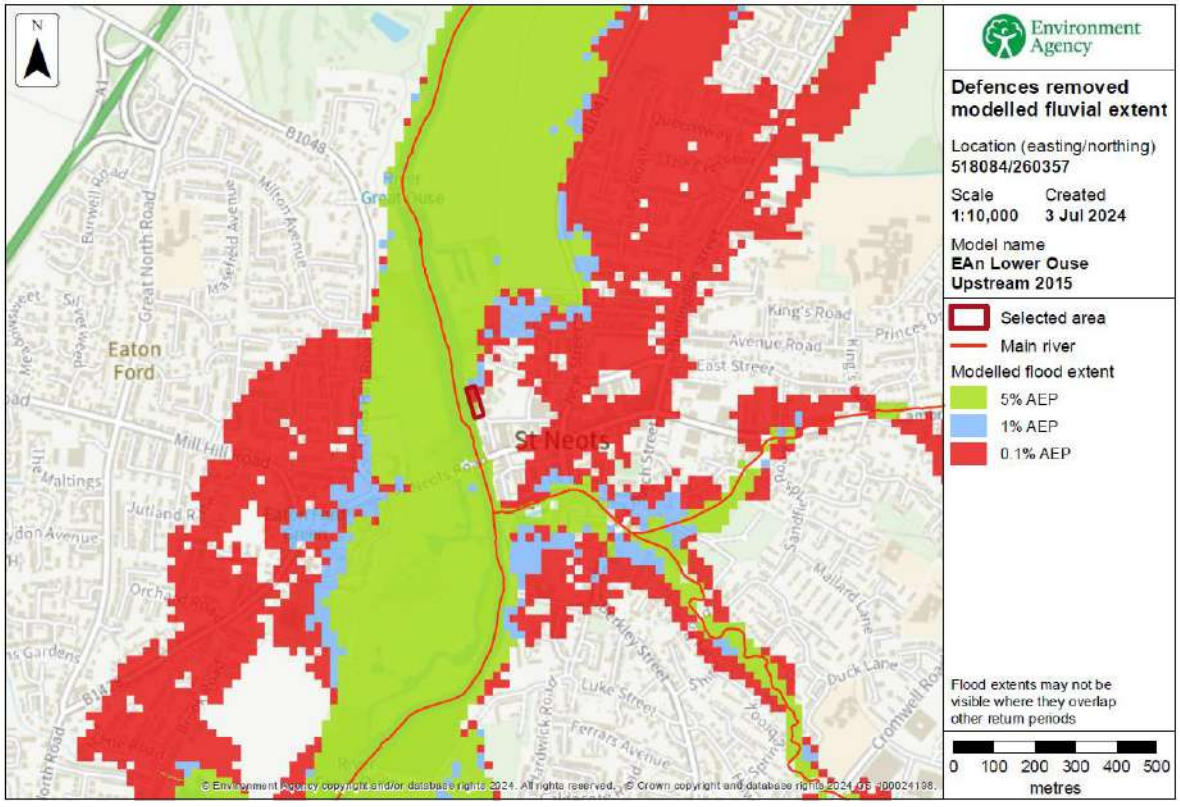


Figure 4.1.3 – Fluvial Flood Extent Defences Removed (EAn Lower Ouse Upstream 2015 Model)

This EA modelling output does not take account of climate change and is based on LiDAR data. To understand a more accurate flood extent on-site, it is necessary to undertake a site-specific analysis by comparing site-specific topographical survey information against EA flood modelling node level data, adding a further allowance for climate change.

The Flood Risk Assessment Data obtained from the EA included modelled point level data at the site:

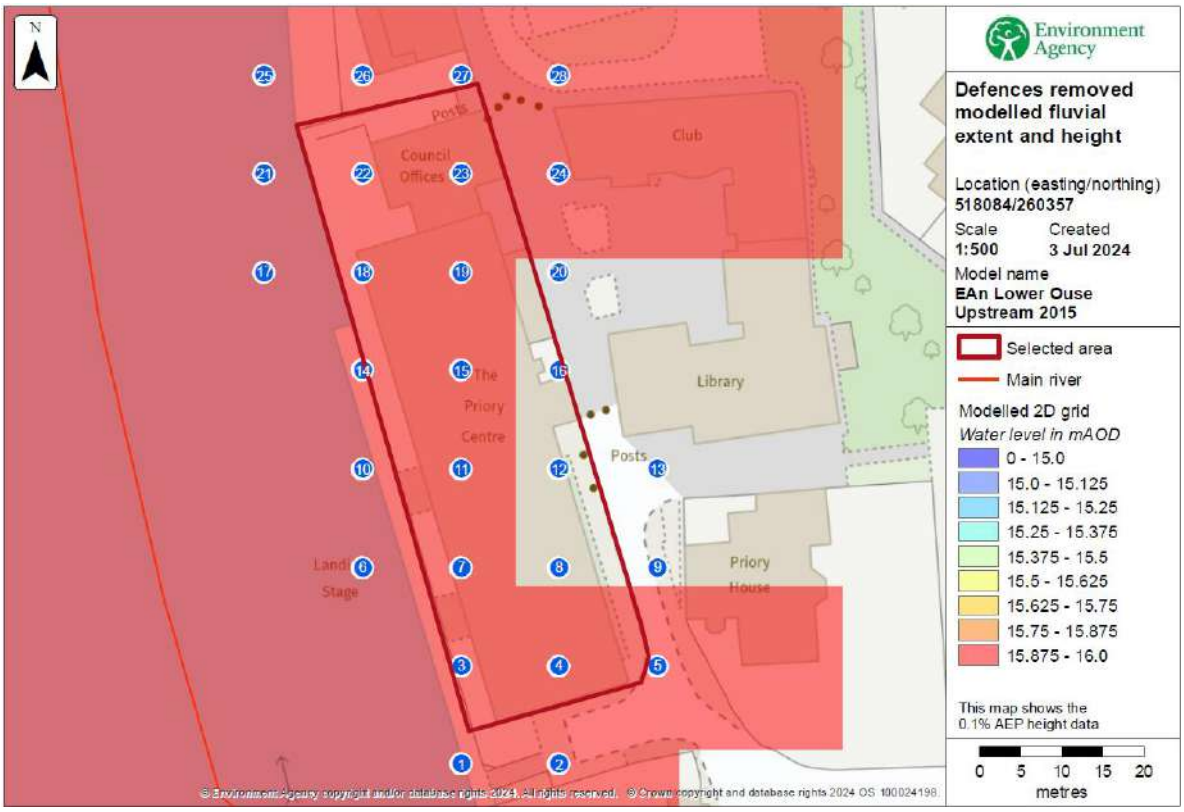


Figure 4.1.4 – Modelled Fluvial Extent and Height (EAn Lower Ouse Upstream 2015 Model)

The following Point ID/Labels have data available for the 5%, 1% and 0.1% AEP:

Node/Label	EA Modelled Flood Level by Return Period (mAOD)		
	20yr (5% AEP)	**100yr (1% AEP)**	**1000yr (0.1% AEP)**
1	15.15	15.39	15.93
3	15.15	15.39	15.93
6	15.15	15.39	15.92
7	15.15	15.39	15.92
10	15.15	15.39	15.92
11	15.15	15.39	15.92
17	15.14	15.38	15.91
21	15.14	15.38	15.91
25	15.14	15.37	15.90

Table 4.1.1 – EA Flood Level Point Data (EAn Lower Ouse Upstream 2015 Model)

The EA Climate Change Guidance, "Application of the allowances and local considerations" provided within the Flood Risk Assessment Data (and included within Appendix D) provides guidance on the allowances to be used when undertaking flood risk assessments. It provides three approaches, shown within Table A and reproduced as Table 4.1.2 below:

Vulnerability Classification	**Flood Zone**	**Development Type**		
		Non-Major	**Small-Major**	**Large-Major**
Essential Infrastructure	2	Detailed		
	3a	Detailed		
	3b	Detailed		
Highly Vulnerable	2	Intermediate/Basic	Intermediate/Basic	Details
	3a	Not Appropriate Development		
	3b	Not Appropriate Development		
More Vulnerable	2	Basic	Basic	Intermediate/Basic
	3a	Intermediate/Basic	Detailed	Detailed
	3b	Not Appropriate Development		
Less Vulnerable	2	Basic	Basic	Intermediate/Basic
	3a	**Basic**	Basic	Detailed
	3b	Not Appropriate Development		
Water Compatible	2	None		
	3a	Intermediate/Basic		
	3b	Detailed		
Notes Non-Major: 1-9 Dwellings / < 0.5Ha | office / light industrial < 1Ha | general industrial <1Ha | Retail <1Ha Small-Major: 10-30 Dwellings | office / light industrial 1-5Ha | general industrial 1-5Ha | Retail 1-5Ha Large-Major: 30+ Dwellings | office / light industrial >5Ha | general industrial >5Ha | Retail >5Ha | Any development that creates non-residential building/development >1000sqm.				

Table 4.1.2 – EA Climate Change Assessment Approach

The Priory refurbishment is classified as **Non-Major** and has a vulnerability classification of **Less Vulnerable** (see section 5 of this report) and therefore the **basic** approach is acceptable.

As per the EA guidance referenced above (see Appendix D), the basic approach consists of adding an allowance to the 'Design Flood' (1% AEP) peak levels to account for potential climate change impacts. Table B of the guidance advises that for the Lower Ouse (Model Extent), an additional **700mm** should be added.

With reference to Table 4.1.1, node 3 has been taken as the peak flood level on-site (located just within the south western boundary). The peak Flood Levels to be used for analysis are therefore as follows:

Node/Label	**EA Modelled Flood Level by Return Period (mAOD)**	
	20yr (5% AEP)	**100yr (1% AEP) + C/C Allowance**
3	15.15	16.09

Table 4.1.3 – EA Flood Level Point Data – Adjusted (Ean Lower Ouse Upstream 2015 Model)

A flood analysis model has been created utilising AutoDesk Civil3D software, by generating a 3D terrain model from the topographical survey and checking the extent of flooding. The existing finished floor level of the Priory Centre is 16.32mAOD, and is therefore approximately 230mm above the 100yr + Climate Change

Allowance flood level. The surrounding ground levels along and adjacent to Priory Lane sit lower and are within the flood level (as indicated on the EA mapping).

The drawing output from this modelling exercise can be found within Appendix E, and shows the following existing on-site flood volumes:

	20yr (5% AEP) – 15.15mAOD Flood Level	**100yr (1% AEP) + C/C Allowance – 16.09mAOD**
On-Site Volume	2.58m^3	181.85m^3

Table 4.1.4 – Existing On-site Flood Volumes

This exercise shows that only the ramp area down to the mooring deck is within an area at risk of flooding during the 5% AEP event, classifying as flood zone 3b. This is in contrast to the EA mapping, which shows more of the site at risk.

The same modelling exercise has also been completed for the proposed scenario, and is discussed within Section 6 of this report, as part of the flood risk management and mitigation strategy.

4.2 FLOODING FROM LAND & SEWERS

The potential for flooding as a result of existing local sewerage systems becoming overwhelmed during an extreme storm event is always a potential risk in urban areas. This can result in surface water run-off flows following the natural topography into neighbouring properties or land.

With reference to Environment Agency long term flood risk mapping, published on the Government website, the below extract shows the site in relation to flood risk from surface water:

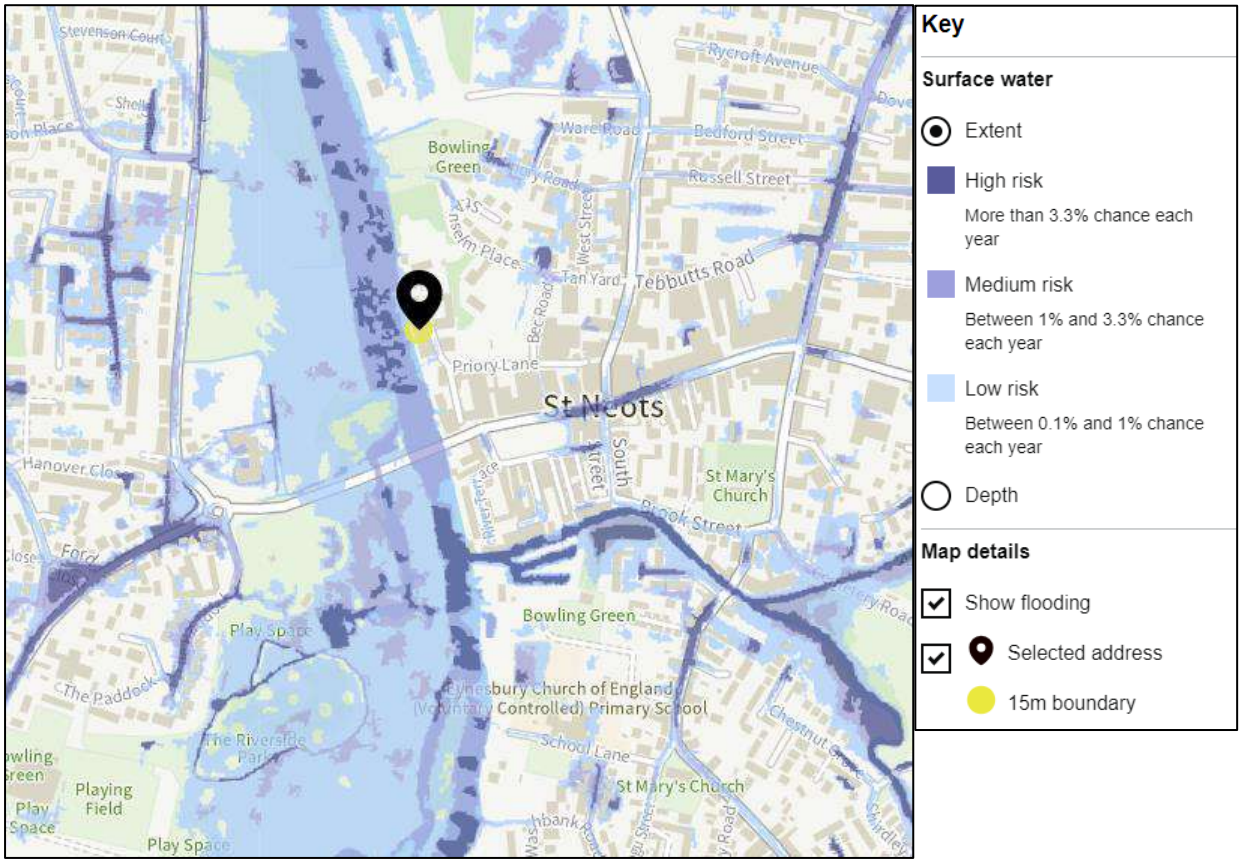


Figure 4.2 – Environment Agency Online Surface Water Flood Map Extract (Site location marked)

The mapping does not take into consideration any positive drainage systems that may be present and provides an indication of flood risk based on topography.

There is a limited extent of low flood risk shown on the mapping, associated with Priory Lane. As shown on the topographical survey, the ground levels to Priory Lane are lower than the Priory Centre and as such any flood flows would be directed away from the building.

Therefore the site is deemed at low risk of flooding from these sources.

4.3 FLOOD RISK FROM RESERVOIRS, CANALS AND OTHER ARTIFICIAL SOURCES

With reference to the Environment Agency long term flood risk mapping, published on the Government website, the below extract shows the site in relation to risk of flooding from reservoirs:

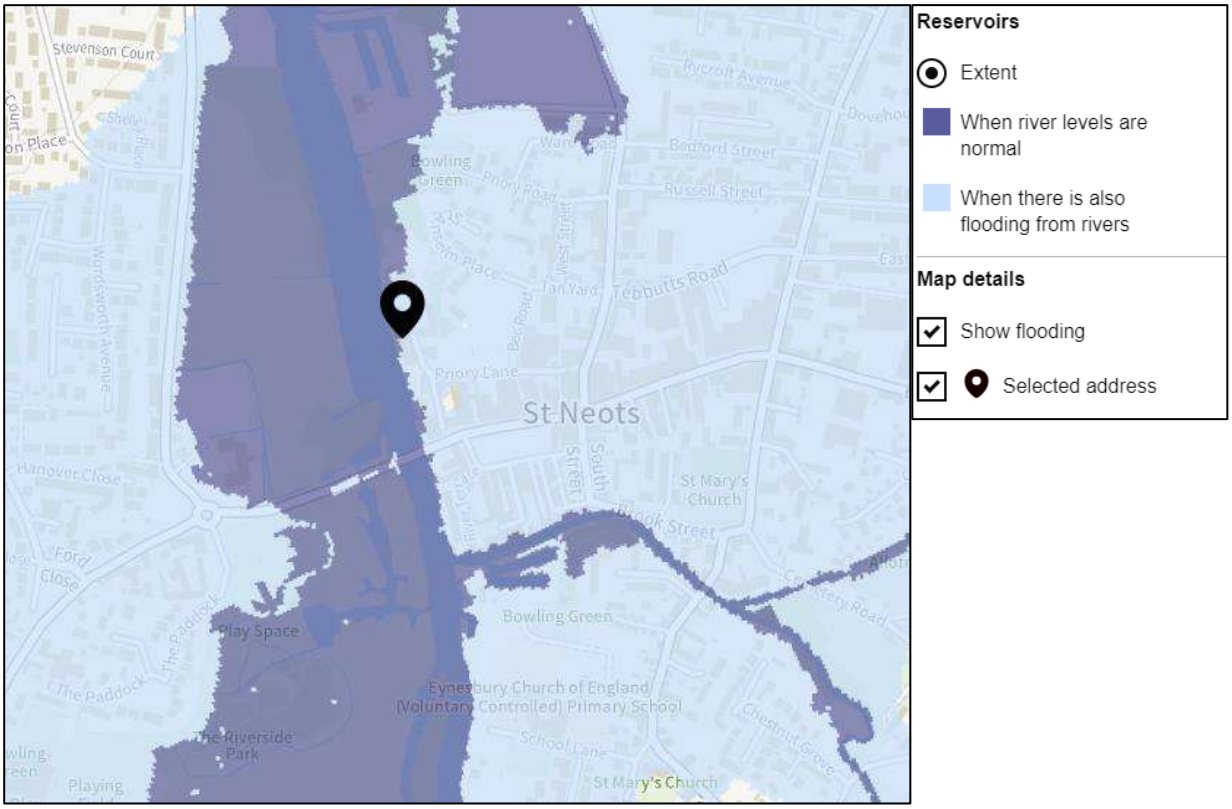


Figure 4.3 – Environment Agency Online Reservoir Flood Map Extract (Site location marked)

The above extract shows the site at risk of flooding from Reservoirs, as is most of St Neots when there is also flooding from rivers. With reference to the Drainage Flood Risk Appraisal of Options by Mott Macdonald, dated January 2021, there are seven named water bodies upstream of St Neots to Bedford.

The local reservoirs near Wyboston could affect St Neots however in normal river flow conditions, water remains within the River Great Ouse.

Whilst this shows the site at risk of flooding, this would only occur during a failure of the reservoir structures in combination with flooding from rivers. These reservoirs will be subject to regular maintenance, inspections and ongoing management to ensure of a robust condition, meaning that structural failure is extremely unlikely and as such flood risk from these sources is considered low.

4.4 FLOODING FROM GROUNDWATER

Groundwater flooding occurs as a result of water rising to the surface from the ground and underlying aquifers. Flood risk from this source is more uncertain, difficult to predict and can occur sporadically. Excessive rainfall, impermeable strata and adjacent river/watercourse levels can all influence the water table.

Groundwater flooding usually occurs in locally isolated areas and does not usually pose a significant risk to life due to the slow rate of the water level rising. Groundwater flooding can however lead to significant damage to property, the environment and ground stability.

The geological and hydrogeological ground conditions have been investigated within section 2.3 and 2.4 of this report. This showed the site in an area susceptible to ground water flooding, with ≥75% chance. This is exhibited by the shallow superficial/drift deposits Secondary A aquifer designation, which consists of River Terrace Depositions (Sands and Gravels) and the site location being directly adjacent the River Great Ouse.

Whilst these findings indicate a risk of groundwater flooding, the finished floor level of the building sits higher than the surrounding ground levels, and as such it is unlikely to flood internally. Should groundwater flooding ever occur, it would most likely occur externally only and would be in continuity with the water levels of the River Great Ouse.

Based on the above, internal groundwater flood risk is considered low.

5 POLICY STATUS FOR PROPOSED DEVELOPMENT

5.1 VULNERABILITY CLASSIFICATION

Essential Infrastructure	• Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk. • Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including electricity generating power stations and grid and primary substations; and water treatment works that need to remain operational in times of flood. • Wind turbines.
Highly Vulnerable	• Police and Ambulance stations, Fire stations and Command Centres, and telecommunications installations required to be operational during flooding. • Emergency dispersal points. • Basement dwellings. • Caravans, mobile homes and park homes intended for permanent residential use. Installations requiring hazardous substances consent.
More Vulnerable	• Hospitals. • Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels. • Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels. • Non–residential uses for health services, nurseries and educational establishments. • Landfill and sites used for waste management facilities for hazardous waste. • Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.
Less Vulnerable	• Police, ambulance and fire stations which are not required to be operational during flooding. • Buildings used for shops, financial, professional and other services, restaurants, cafes and hot food takeaways, offices, general industry, storage and distribution, non-residential institutions not included in the "more vulnerable" class, and assembly and leisure. • Land and buildings used for agriculture and forestry. • Waste treatment (except landfill and hazardous waste facilities). • Minerals working and processing (except for sand and gravel working). • Water treatment works which do not need to remain operation during times of flood. • Sewage treatment works, if adequate measures to control pollution and manage sewage during flooding events are in place.
Water-compatible Development	• Flood control infrastructure. • Water transmission infrastructure and pumping stations. • Sewage transmission infrastructure and pumping stations. • Sand and gravel working. • Docks, marinas and wharves. • Navigation facilities. • Ministry of Defence installations. • Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location. • Water-based recreation (excluding sleeping accommodation). • Lifeguard and coastguard stations.

	• Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms. • Essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific warning and evacuation plan.
Notes 1 – This classification table is based on Annex 3: Flood Risk Vulnerability Classification of the Flood Risk and Coastal Change Guidance.	

Table 5.1 Flood Risk Vulnerability Classification

Vulnerability Classification		**Essential Infrastructure**	**Water-compatible**	**Highly Vulnerable**	**More Vulnerable**	**Less Vulnerable**
Flood Zone	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	✓	Exception Test	✓	✓
	Zone 3a	Exception Test	✓	×	Exception Test	✓
	Zone 3b	Exception Test	✓	×	×	×
Key ✓ Development is appropriate × Development should not be permitted						

Table 5.2 Flood Risk Vulnerability and Flood Zone "Incompatibility"

The development is deemed appropriate is accordance with Annex 3 and Table 2 of the Flood Risk and Coastal Change Guidance, reproduced as tables 5.1 and 5.2 above.

5.2 SEQUENTIAL TEST & EXCEPTION TEST

The NPPF requires that all development be sequential tested to steer new development to areas at the lowest probability of flooding (Flood Zone 1). The Sequential Test would normally be completed by the Local Planning Authority (LPA) to inform the preparation of the Local Development Framework (LDF), where one exists. However, where this process has not yet been completed the onus for the provision of evidence demonstrating successful application of the Sequential Test falls to the developer, or promoter of the site. The NPPF also requires the layout of a site to be sequentially tested to locate the most vulnerable land uses in the areas at lowest risk of flooding.

As the development consists of improvement to an existing community centre, and is a minor development (under the purpose of the Sequential Test), the Sequential Test is deemed passed.

The NPPF acknowledges that in some circumstances it may not be possible to locate development in areas of low or appropriate (considering development vulnerability) flood risk or that there may be other valid reasons for a development to take place within the floodplain. In these circumstances, it is necessary to apply the Exception Test to clearly demonstrate that the benefits for development of a site outweigh the flood risks to the development and its occupants. Table 2 of the Government Flood Risk and Coastal Change Guidance (reproduced in Table 5.2 above) indicates when the Exception Test is required.

The site use is considered appropriate under NPPF guidance, meaning completion of the Exception Test is not required.

5.3 LOCAL POLICY

The Huntingdonshire Local Plan to 2036 was formally adopted in May 2019 and has the following policies with regards to Flood Risk and Surface Water Drainage:

Policy LP5 Flood Risk

Location of Development

A proposal will only be supported where all forms of flood risk, including breaches of flood defences or other defence failures, have been addressed, as detailed in the National Planning Practice Guidance and with reference to the Cambridgeshire Flood and Water Supplementary Planning Document (SPD), such that:

A. The sequential approach and sequential test are applied and passed, having regard to actual and residual flood risk and including consideration of the impact of climate change;
B. If necessary the exception test is applied and past;
C. Development has been sequentially located within the site to avoid flood risk;
D. All reasonable opportunities to reduce overall flood risk have been considered and where possible taken;
E. The integrity of the existing flood defences is not adversely affected and any necessary flood mitigation and compensation measures have been agreed with relevant bodies and the Council; and
F. The requirements relating to flood risk set out in the Cambridgeshire Flood and Water SPD have been applied.

Any reliance on emergency services to make a proposal safe will not be acceptable. Safety risks will be determined with reference to the DEFRA guidance on flood risk safety FS2320 or successor guidance, on the basis that development should be 'safe for all' for a 1:100 annual probability flood event, for the lifetime of the development, with appropriate climate change allowances…

*…**Managing Flood Water***

Where a proposal is considered to be acceptable within the 1% annual probability flood extent (flood zone 3), including an allowance for climate change for the lifetime of the development, the development must not result in a loss of flood storage capacity, reduced flow performance, increase the rate of flooding onset or result in an unsustainable form of flood storage requiring on-going silt removal, maintenance or renewal.

Where a proposal would occupy functional flood plan (flood zone 3b), the developer must ensure that it does not impact upon the ability of the floodplain to store or convey water, and seek opportunities to provide floodplain betterment. Development will only be supported where it results in no loss of floodplain performance within the undefended floodplain.

Where ground levels are proposed to be raised to bring the development out of the floodplain compensatory floodplain storage within area that currently lie outside the floodplain must be provided to ensure that the total volume and performance of floodplain storage is not reduced or vulnerability to climate change impacts increased.

Site-Specific Flood Risk Assessments

On a site that is at risk of flooding from any form, where there are critical drainage problems or on site of 1 hectare or more the proposal will only be supported where a site-specific flood risk assessment has been produced, appropriate to the scale and nature of the development and risks involves, including consideration of the impact of climate change, and is agreed with relevant bodies. Such assessments will need to demonstrate that they comply with the requirements set out:

I. In the Cambridgeshire Flood and Water SPD or successor documents;
J. By any applicable responsible authority, including but not limited to the Environment Agency and Cambridgeshire County Council, as Lead Local Flood Authority; and
K. By the Middle Level Commissioners or internal drainage boards. As may be applicable.

Policy LP15 Surface Water

Surface Water

A proposal will only be supported where surface water has been considered from the outset as an integral part of the design process and:

A. The proposal incorporates sustainable drainage systems (SuDS) in accordance with the Cambridgeshire Flood and Water Supplementary Planning Document (SPD) or successor documents and advice from Cambridgeshire County Council as Lead Local Flood Authority, unless demonstrated to be appropriate;
B. Provisions are put in place to ensure that SuDS will be maintained;
C. If the drainage system would directly or indirectly involve discharge to a watercourse that the Environment Agency are responsible for the details of the discharge have been agreed with them;
D. If a road would be affected by the drainage system the detail have been agreed with the relevant highway authority;
E. If the drainage system would discharge to systems controlled by the Middle Level Commissioner or an internal drainage board their standing advice or guidance has been taken into account and the details of the discharge have been agreed with them;
F. If the drainage system would directly or indirectly involve discharge to the River Great Ouse the incorporation of water retaining features as part of the drainage system has been prioritised; and
G. There is no adverse impact on, or unacceptable risk to, the quantity or quality of water resources or on meeting the objectives of the Water Framework Directive and the Habitats Directive.

SuDS for hardstanding areas for parking of 50 or more cars, or equivalent areas will be expected to include appropriate additional treatment stages/interceptors to ensure that any pollution risks are suitably addressed.

In order to safeguard against the pollution of ground water the use of deep infiltration SuDS, such as deep borehole soakaways, will not be accepted in most circumstances. Exemptions will only be made in exceptional circumstances if the proposal is for land uses that pose a very low pollution risk and are supported by an adequate risk assessment, conceptual site model and detailed design.

6 FLOOD RISK MANAGEMENT STRATEGY

6.1 FLUVIAL FLOOD RISK MANAGEMENT

The extent of flooding and associated volumes were calculated for the existing situation and discussed within Section 4.1. This also described the process used for calculating/including climate change allowances to the peak water levels provided within the EA Flood Risk Assessment Data.

It is critical for any development within Flood Zone 3 that there is no loss of flood storage capacity for the lifetime of the development. As demonstrated within section 5.3, development will only be supported where this can be demonstrated accordingly.

The development proposals have been modelled to create a 3D terrain model using AutoDesk Civil3D software. The flood levels, as calculated and demonstrated within Section 4.1, have then been applied to understand the extent and volume of flooding in the proposed scenario. The drawing can be found within Appendix E.

	20yr (5% AEP) – 15.15mAOD Flood Level	**100yr (1% AEP) + C/C Allowance – 16.09mAOD**
On-Site Volume (Existing Scenario)	2.58m^3	181.85m^3
On-Site Volume (Proposed Scenario)	2.58m^3	194.83m^3

Table 6.1 – On-site Flood Volumes

As demonstrated within Appendix E and Table 6.1, the flood storage volume for the 20yr return period remains the same in both existing and proposed situations. The flood storage volume in the 100yr return period, including an allowance for climate change, has increased in the proposed situation. This is due to the north extension reducing in plan area, increasing the external pedestrianised area along the eastern elevation that sits lower than the finished floor level.

Whilst Environment Agency standing advice on flood risk recommends setting finished floor levels 300mm above the 100yr flood level (including an allowance for Climate Change), the proposed development involves the refurbishment of the existing Priory Centre building. The finished floor level of the Priory Centre is currently 16.32mAOD, thus sitting 230mm above the 100yr flood level (including an allowance e for climate change).

Whilst not achieving the full 300mm freeboard above the flood level, 230mm is considered reasonable given it is an existing building, with modelling exercises demonstrating that no internal flooding occurs in either the existing or proposed situations.

As such, the Priory Centre itself would remain dry in all flood events up to and including the 100yr return period including an allowance for climate change.

6.2 PUBLIC SAFETY ISSUES AND SAFE ACCESS/EGRESS

A detailed flood evacuation plan should be produced (or the existing updated if one already exists) to set out control measures and facilitate the safe evacuation of the site in times of flooding. The objectives of a flood evacuation plan are:

- To safely evacuate both staff and customers from the site
- To ensure safety by raising awareness of flood risk and the sources of flooding
- To define areas of responsibility for those participating in the Plan
- To establish procedures for implementing the Plan

- To provide safe routes that lead to safe refuge areas
- To reduce the risk to life
- To reduce financial loss during a flood event
- To have set security procedures during a flood event
- To provide guidance on the use of the Environment Agency Flood Warning service.

The site benefits from being within an EA flood warning area, allowing for the owners/occupiers to receive alerts in advance of flood water reaching the site, further ensuring of safe egress and evacuation. This a free service that provides alerts directly via email, text or telephone call.

Whilst it has been demonstrated that the building is protected up to and including the 100yr + climate change allowance return period event, the development should consider measures to address any exceedance event. These measures are typically referred to as Flood Resilient, or Flood Resistant. Flood resilient construction refers to techniques to mitigate damage and operational impacts from flooding, and flood resistant refers to methods to prevent floodwater entering property.

6.3 FLOOD RESILIENCE

Flood resilience measures that could be implemented to the development could include the following:

- Resilient Wall Finishes (materials resilient to water damage, such as lime plaster)
- Resilient Floor Finishes (Impermeable, waterproof flooring to prevent water ingress and allowing for drying/cleaning of property efficiently after a flood)
- Resilient Insulation (water resilient insulation does not absorb the same levels of water as traditional insulation, therefore retaining its insulation properties following a flood)
- Raised Electrical Sockets (installing or relocating sockets and services at a higher level).

6.4 FLOOD RESISTANCE

Flood resisting measures that could be implemented to the development could include the following:

- Flood Barriers (mounted barriers to thresholds etc, to prevent entry of flood water)
- Airbrick/vent covers to prevent entry of water below suspended floors
- Waterproof floor membrane (waterproof barrier that sits beneath the floor construction to prevent the uprising of groundwater)
- Non-return valves (Installed within the below-ground drainage to prevent the backflow of floodwater into the property via sanitary fittings, sinks and toilets etc).

7 DRAINAGE STRATEGY

7.1 SURFACE WATER

In accordance with the Building Regulations, surface water disposal should be prioritised in accordance with the Surface Water Hierarchy:

- Discharge to infiltration systems such as soakaways
- Discharge to Watercourse or River
- Discharge to Sewer

Given the site's proximity to the River Great Ouse and the high groundwater levels that are expected to be in unity with the river levels, a soakaway is not deemed a suitable option. Further to this, the layout is highly constrained with the majority footprint of the Priory Centre remaining unchanged, and as such locating a soakaway a minimum of 5m away from any structure or retaining wall is not possible.

The existing surface water drainage that runs along the eastern and northern boundaries that ultimately discharges to the River Great Ouse is to be re-used.

The existing single storey extension at the north end of the site is to be demolished. This will be replaced by a new two-storey extension. The footprint of the existing extension to be demolished is approximately 160m^2 in plan area, with the proposed extension approximately 130m^2. The new roof area will be served by traditional downpipes, which will drain to the existing surface water drain. There will be no increase in surface water run-off flows.

The project will encourage the use of water retaining features such as rainwater butts to serve any external planting.

Any new rainwater pipes around the remaining areas of the building associated with the refurbishment/improvements will replace existing downpipes where possible, or connect to existing below-ground drains serving existing downpipes to be removed.

In summary, the proposed surface water drainage arrangements will follow the existing scenario, discharging to the River Great Ouse.

A proposed drainage plan can be found within Appendix F.

7.2 FOUL WATER

Internal building layout modifications will result in changes to the existing foul drainage as expected for a refurbishment project of this nature. The changes to the foul drainage will mostly be required internally within the building footprint, where existing welfare facilities are being removed and new facilities provided elsewhere. New drainage runs will be required, discharging to the existing foul drainage serving the building.

In summary, the proposed foul drainage arrangements will follow the existing scenario, discharging to the existing foul drainage network on-site.

8 FLOOD RISK ELSEWHERE

Existing and proposed flooding scenarios have been reviewed and discussed within Section 6.1, and the drawing output provided within Appendix E.

This demonstrates that there is no loss of flood storage capacity on-site, and therefore no increase in flood risk elsewhere.

The development proposals will not increase surface water run-off flows, with the northern extension area being reduced in area when compared to existing. The surface water drainage discharges directly to the River Great Ouse and does not drain to the public sewer network.

9 ENVIRONMENT AGENCY PERMIT

Given the proximity of the development to the River Great Ouse, an EA Flood Risk Activity Permit (FRAP) will likely be required to facilitate the redevelopment works. The permitting process ensures that all construction works are correctly planned, designed and constructed in strict accordance with approved Risk Assessments and Method Statements (RAMS). A management system is required to demonstrate how risk has been designed out, or how it will be managed during the works to ensure that the works do not adversely affect flood risk, drainage or the environment. This will include pollution control measures.

Work cannot begin before the permit is issued, which must be undertaken in strict adherence to the conditions of the permit.

It is envisaged that the EA will be formally approached to begin the permitting process following a positive planning decision.

10 CONSTRUCTION SURFACE WATER MANAGEMENT

Prior to the completion of the development, the developer must ensure that the drainage infrastructure has been correctly maintained and repaired where required.

As the redevelopment utilises existing drainage pipework, any issues found on the existing network during the initial CCTV survey (such as joint displacements, blockages or collapses) should be repaired and a further, final CCTV survey undertaken and provided with the O&M Manual. This shall demonstrate the drainage network is in full working order at handover stage and includes both foul and surface water drainage systems.

11 CONCLUSION

The proposals consist of the refurbishment, part-demolition and extension of the existing community building and town council offices.

The predominant flood risk posed to the site is Fluvial, from the River Great Ouse. Flood risk from other sources is considered low.

Flood Risk Assessment Data (formerly known as Product 4 Data) has been obtained from the EA and reviewed against the existing and proposed development scenarios. Flood volumes on-site will not reduce as a result of the development and the finished floor level of the building sits above the 100yr + climate change allowance flood level. Flood compensation is therefore not required.

The Priory Centre itself would remain dry in all flood events up to and including the 100yr return period including an allowance for climate change. A flood evacuation plan should be produced to set out control measures and facilitate safe evacuation of the site in times of flooding.

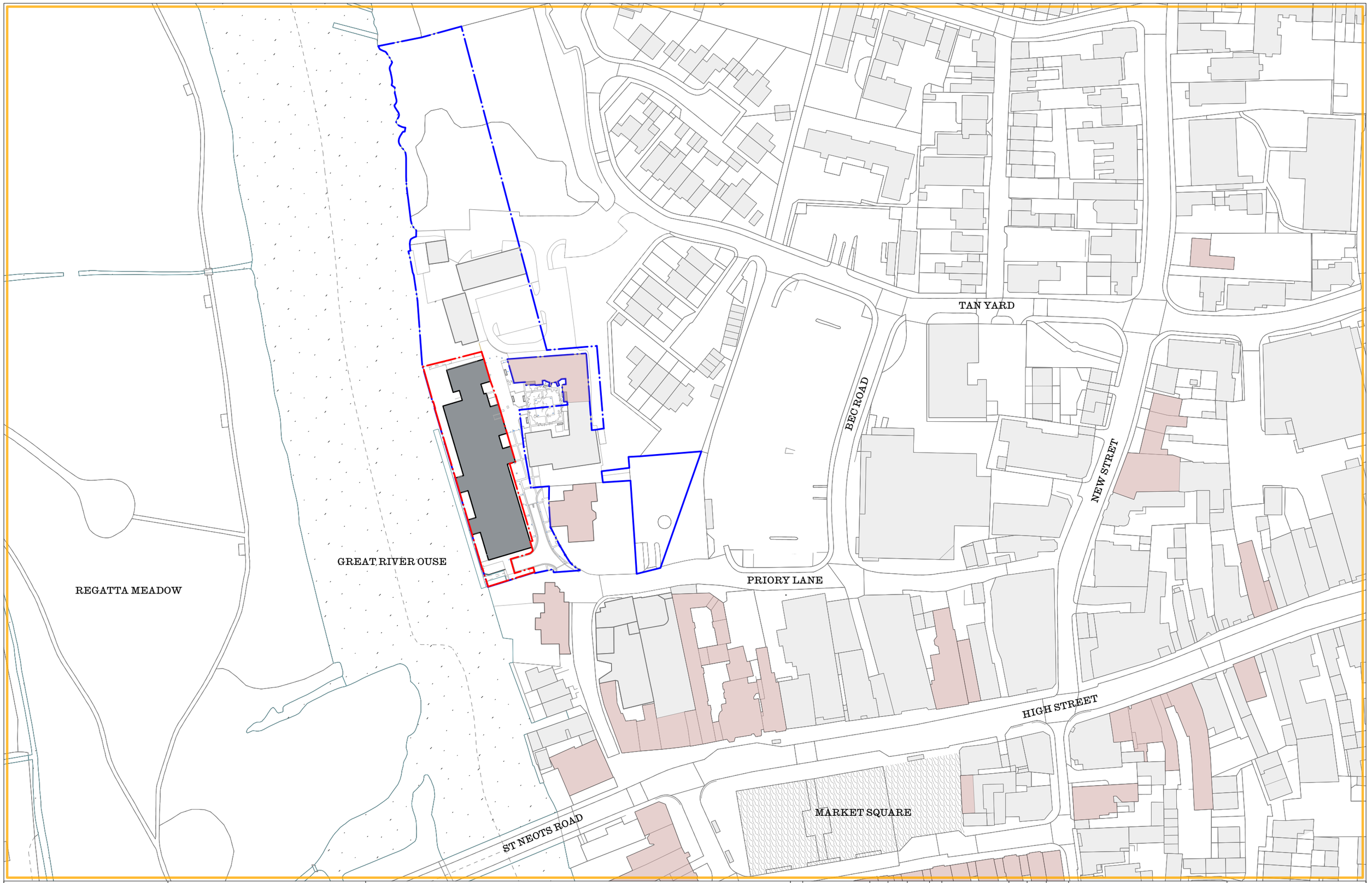
The occupiers/operators of the site should sign up to the EA flood warning service. This is free of charge.

Flood Resistant and resilient construction techniques should be implemented into the development project to provide a level of protection during any flood including exceedance events.

The proposed surface water drainage arrangements will follow the existing scenario, discharging to the River Great Ouse. Surface water run-off flows will not increase. The proposed foul drainage arrangements will follow the existing scenario, discharging to the existing foul drainage network on-site.

The development will not increase flood risk elsewhere.

APPENDIX A – SITE LOCATION PLAN



AOC

AOC Architecture Ltd
38-50 Pritchard's Road London E2 9AP
t. +44 20 7739 9950
www.theaoc.co.uk studio@theAOC.co.uk

SCALE

0 10 20 30 40 50 M

N

All dimensions in millimetres unless otherwise stated.
All dimensions to be checked on site.
Do not scale from this drawing except for planning purposes.
Any errors to be reported to the architect immediately.
Copyright reserved.

NOTES

- Ownership Boundary
- Site Boundary
- The Priory Centre
- St Neots Conservation Area
- Surrounding Buildings
- Listed Buildings
- Great River Ouse
- Market Square

No.	Revision / Issue	Drawn by	Checked by	Date
P1	Planning	EO	TC	23.02.24
D	Stage 3 Planning Issue	EO	TC	08.01.24
C	Stage 2 Report Issue	AM	TC	19.10.23
B	Stage 2 Issue	AM	TC	09.10.23
A	Stage 1 Issue	AM	HS	01.08.23

Project Title

295 St Neots Priory Centre
Priory Lane, Saint Neots, PE19 2BH

Drawing Name: EXISTING Location Plan
Drawing Status: PLANNING
Scale: 1:1250 @ A3
Drawing No.: 295_GA_010
Rev.: P1

APPENDIX B – TOPOGRAPHICAL/CCTV SURVEY

260450 N

260400 N

260350 N

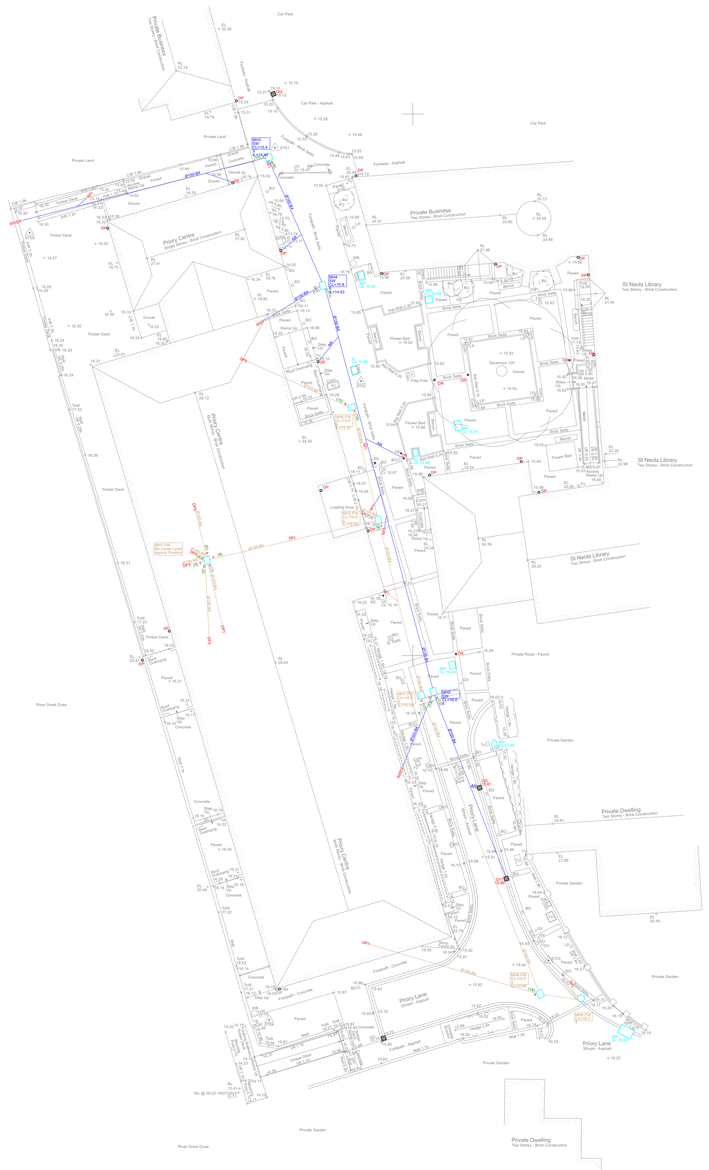
260300 N

518000 E

518050 E

518100 E

518150 E



Notes :

- GRID AND LEVELS BASED ON OSGB36 NATIONAL DATUM, DERIVED FROM THE NATIONAL GPS NETWORK.
- DRAINAGE INFORMATION HAS BEEN DETERMINED WITHOUT MAN ENTRY INTO CHAMBERS AND WHILST EVERY EFFORT HAS BEEN MADE TO CORRECTLY IDENTIFY THIS INFORMATION, IT SHOULD ALWAYS BE CHECKED IN AREAS THAT ARE CRITICAL TO THE FUTURE PROPOSAL.
- ALL SEWERS ARE PRESUMED TO BE STRAIGHT BETWEEN CHAMBERS UNLESS PROVEN THROUGH TRACING TECHNIQUES.
- BASE FILE SUPPLIED BY THIRD PARTY AND SOLUM NOT VERIFIED SUPPLIED DATA

UTILITY DISCLAIMER:

Electromagnetic techniques have been used in the location of underground services along with the aid of ground penetrating radar. The results are not infallible and trail excavations should be carried out to confirm service identification, position and depths. The completeness of underground services can not be guaranteed.

Solum Surveying will not confirm if a service is alive or dead. This must be undertaken by the service provider. As such all services will be treated as live. This drawing my not include all public services that cross the site. Therefore recommend that a full desktop study is undertaken to provide all service drawings and used in conjunction with this utility survey.

Private service pipes/connections and cables in highways may not be shown, but the presence should be anticipated.

Additional below ground structures or obstructions not shown on this drawing may be present. Review historical records/plans and any as built drawings. Excavations in the vicinity should be treated with extreme caution following the HSE documents on avoiding underground services.

Note that ground conditions, proximity of other utilities, materials and method of construction have an influence on the ability and quality of the data collected on site. Along with areas being accessible at time of survey. Inaccessible areas may contain access/manhole covers that may affect the survey area.

TSA Standards - "Even an appropriate and professionally executed survey may not be able to achieve a 100% detection rate".

UTILITY LINE TYPE KEY

BT B1 (PAS128)	HEATING PIPES B1 (PAS128)
BT B2 (PAS128)	HEATING PIPES B2 (PAS128)
BT B3 (PAS128)	HEATING PIPES B3 (PAS128)
BT B4 (PAS128)	HEATING PIPES B4 (PAS128)
CATV B1 (PAS128)	HV B1 (PAS128)
CATV B2 (PAS128)	HV B2 (PAS128)
CATV B3 (PAS128)	HV B3 (PAS128)
CATV B4 (PAS128)	HV B4 (PAS128)
CCTV B1 (PAS128)	POWER B1 (PAS128)
CCTV B2 (PAS128)	POWER B2 (PAS128)
CCTV B3 (PAS128)	POWER B3 (PAS128)
CCTV B4 (PAS128)	POWER B4 (PAS128)
COMMS B1 (PAS128)	SERVICE DUCT B1 (PAS128)
COMMS B2 (PAS128)	SERVICE DUCT B2 (PAS128)
COMMS B3 (PAS128)	SERVICE DUCT B3 (PAS128)
COMMS B4 (PAS128)	SERVICE DUCT B4 (PAS128)
FUEL/OIL B1 (PAS128)	STORM SEWER
FUEL/OIL B2 (PAS128)	TRAFFIC B1 (PAS128)
FUEL/OIL B3 (PAS128)	TRAFFIC B2 (PAS128)
FUEL/OIL B4 (PAS128)	TRAFFIC B3 (PAS128)
FOUL SEWER	TRAFFIC B4 (PAS128)
GAUGE LINES B1 (PAS128)	UNKNOWN B1 (PAS128)
GAUGE LINES B2 (PAS128)	UNKNOWN B2 (PAS128)
GAUGE LINES B3 (PAS128)	UNKNOWN B3 (PAS128)
GAUGE LINES B4 (PAS128)	UNKNOWN B4 (PAS128)
GAS B1 (PAS128)	VENT PIPE B1 (PAS128)
GAS B2 (PAS128)	VENT PIPE B2 (PAS128)
GAS B3 (PAS128)	VENT PIPE B3 (PAS128)
GAS B4 (PAS128)	VENT PIPE B4 (PAS128)
GENERIC PIPE B1 (PAS128)	WATER B1 (PAS128)
GENERIC PIPE B2 (PAS128)	WATER B2 (PAS128)
GENERIC PIPE B3 (PAS128)	WATER B3 (PAS128)
GENERIC PIPE B4 (PAS128)	WATER B4 (PAS128)
OFFSET FUEL B2 (PAS128)	GPR B1 (PAS128)
OFFSET FUEL B4 (PAS128)	GPR B2 (PAS128)
	GPR B3 (PAS128)
	GPR B4 (PAS128)

DRAINAGE CCTV REFERENCE

(x) Indicates Pipe Reference
(1) CCTV Report Item Number

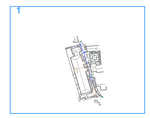
ABBREVIATIONS

Acoustic Connection	AC	Inspection Cover	IC	Stop Valve	SV
Assumed Route	AR	Lamp Post	LP	Soil Vent Pipe	SVP
Backdrop	BD	Manhole	MH	Taken From Records	TFR
Base Level	BL	No Further information	NFI	Top Of Tank	TOT
Cover Level	CL	Off Survey Area	OSA	Top Of Pipe	TOP
Catchpit	CP	Pipe To Ground	PTG	Traffic Light	TL
Drainage Channel	DCH	Pipe To Surface	PTS	Telegraph Pole	TP
Electricity Pole	EP	Pipe Riser	PR	Unable to Locate	UTL
Earth Rod	ER	Rodding Eye	RE	Unable to Raise	UTR
Fire Hydrant	FH	Rain Water Pipe	RWP	Unable to Survey	UTS
Gas Valve	GV	Silt Level	SL	Unable to Trace	UTT
Gully	GY	Soil Pipe	SP	Unable to Trace Further	UTF
Internal Depth	ID	Soft Height	SOF	Vent Pipe	VP
Invert Level	IL	Survey Abandoned	SA	Water Level	WL

PAS UTILITY CLASSIFICATION

Quality	Description
BA	Service verified in an open excavation or inside an inspection chamber
B1	Horizontal and vertical location within +-150mm accuracy
B2	Horizontal and vertical location within +-250mm accuracy
B3	Horizontal location only using one geophysical technique. Poor / No Depth response
B4	Service is expected to exist, assumed or taken from records
B1P/B2P	Service verified using post processed GPR Data.

SHEET LAYOUT



(NOT TO SCALE)

Drawing Revision

No	Date	Description
R0	06/11/23	CCTV SURVEY COMPLETE
R1		
R2		
R3		
R4		

Site Utility Notes :

- STAT / AS-BUILT PLANS NOT BEEN PROVIDED PRIOR TO SITE SURVEY. WE RECOMMEND DESKTOP STUDY UNDERTAKEN PRIOR TO ANY GROUND WORKS.
- ALL REPORTS TO BE READ IN CONJUNCTION WITH THIS PLAN.
- SURVEY DATA HAS BEEN OVERLAID ONTO A TOPO SUPPLIED BY THE CLIENT.

www.solumsurveying.com
tel: 01454 413592
email: info@solumsurveying.com
The Old Stables
Pines Courtyard
Stone
Berkeley
GL13 9LE

SIMPLE WORKS
AOC ARCHITECTS

THE PRIORY,
PRIORY LANE,
SAINT NEOTS
PE19 2BH

Drainage CCTV Survey

Scale: 1:200	Sheet Size: A0	Sheet: 1 of 1	ALSO SEE DRAWING: ??
		Drawing Date: 06/12/23	
Project Number: 11285	Rev: R0	Surveyed By: SG/IO	CHECKED BY: ??
		Drawn By: JM	

APPENDIX C – PROPOSED DEVELOPMENT PLANS

St Anselm Place

St Anselm Place Priory Car Park

St Neots Rowing Club

Oast House

St Neots Library

Priory Lane

The Priory

Priory Lane

New 8 Bikes 4no. cycle stands

The Priory Centre

River Great Ouse

+15.16
+15.85
+16.03
+15.92
+15.47
+15.86
+15.85
+16.25
+16.33
+16.04
+15.92
+15.40
+16.34
+15.78
+15.93
+16.88
+15.97
+16.30
+16.30

AOC

AOC Architecture Ltd
Unit 61, Regent Studios, 8 Andrews Road,
London E8 4QN
t. +44 20 7739 9950
www.theaoc.co.uk studio@theAOC.co.uk

SCALE

0 2 4 6 8 10 M

All dimensions in millimetres unless otherwise stated.
All dimensions to be checked on site.
Do not scale from this drawing except for planning purposes.
Any errors to be reported to the architect immediately.
Copyright reserved.

NOTES

ownership boundary

site boundary

No.	Revision / Issue	Drawn by	Checked by	Date
A	Stage 4 - Design Freeze	AM	NS	28.06.24
P1	Planning	AM	TC	12.03.24

No.	Revision / Issue	Drawn by	Checked by	Date

Project Title

295 St Neots Priory Centre

Priory Lane, Saint Neots, PE19 2BH

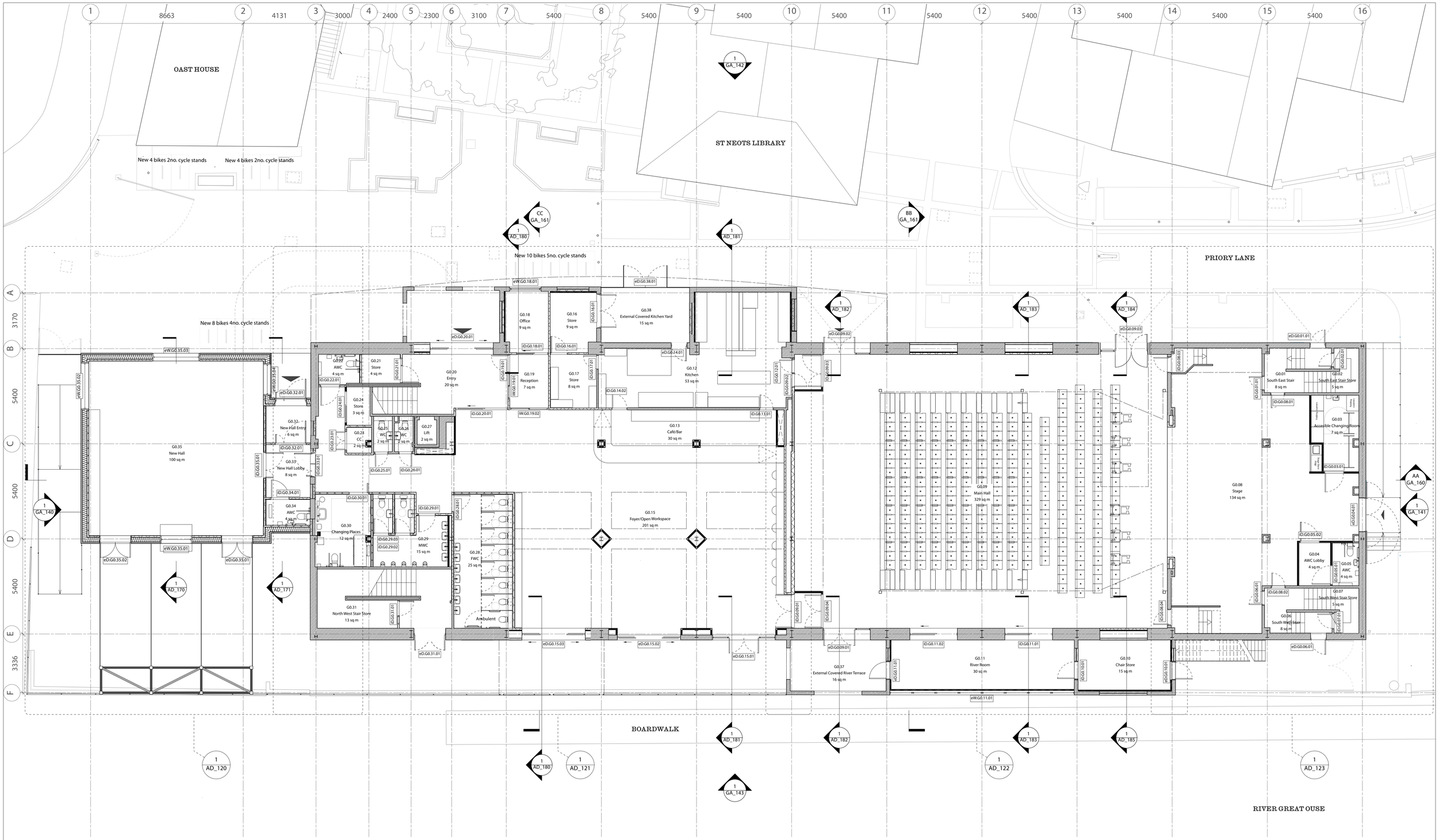
Drawing Name PROPOSED Site Plan

Drawing Status INFORMATION

Scale 1:200 @ A1 / 1:400 @ A3

Drawing No. 295_GA_111

Rev. A



1 Proposed Ground Floor Plan

AOC

AOC Architecture Ltd
Unit 61, Regent Studios, 8 Andrews Road,
London E8 4QN
t. +44 20 7739 9950
www.theaoc.co.uk studio@theAOC.co.uk

SCALE

0 1 2 3 4 5 M

All dimensions in millimetres unless otherwise stated.
All dimensions to be checked on site.
Do not scale from this drawing except for planning purposes.
Any errors to be reported to the architect immediately.
Copyright reserved.

NOTES

Existing Wall

No.	Revision / Issue	Drawn by	Checked by	Date
D	Stage 4 - Design Freeze	AM	NS	28.06.24
P1	Planning	AJ	TC	12.03.24
C	Stage 3 - QS Issue Revised	AJ	AM/TC	01.02.24
B	Stage 3 - QS Issue	AM	TC	22.01.24
A	Stage 3 - For Coordination	AM	TC	08.01.24

Project Title

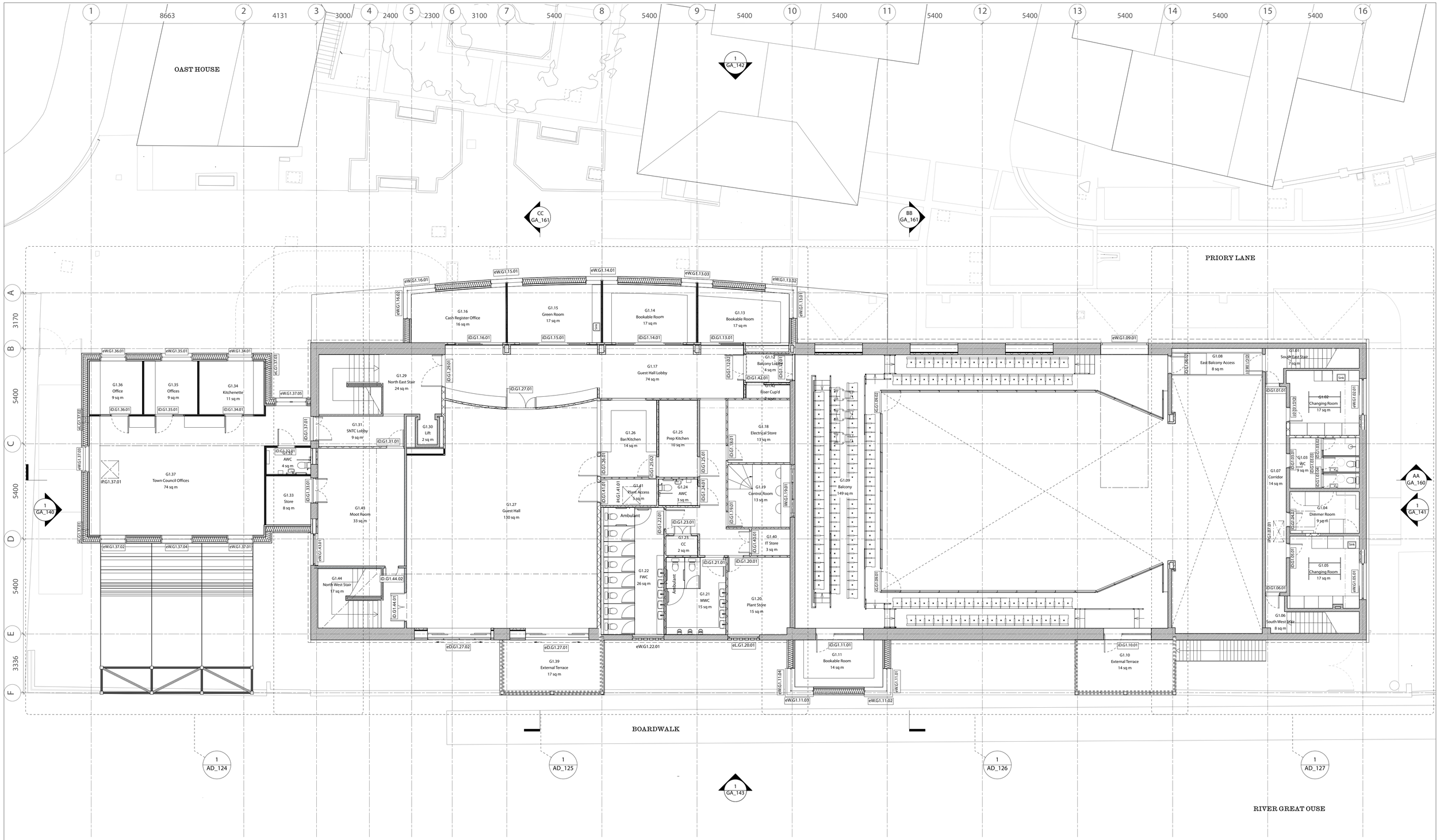
295 St Neots Priory Centre
Priory Lane, Saint Neots, PE19 2BH

Drawing Name PROPOSED Plan G+0

Drawing Status INFORMATION

Scale 1:100 @ A1 / 1:200 @ A3

Drawing No. 295_GA_120 Rev. D



1 Proposed First Floor Plan

AOC

AOC Architecture Ltd
Unit 61, Regent Studios, 8 Andrews Road,
London E8 4QN
t. +44 20 7739 9950
www.theaoc.co.uk studio@theAOC.co.uk

SCALE

0 1 2 3 4 5 M

All dimensions in millimetres unless otherwise stated.
All dimensions to be checked on site.
Do not scale from this drawing except for planning purposes.
Any errors to be reported to the architect immediately.
Copyright reserved.

NOTES

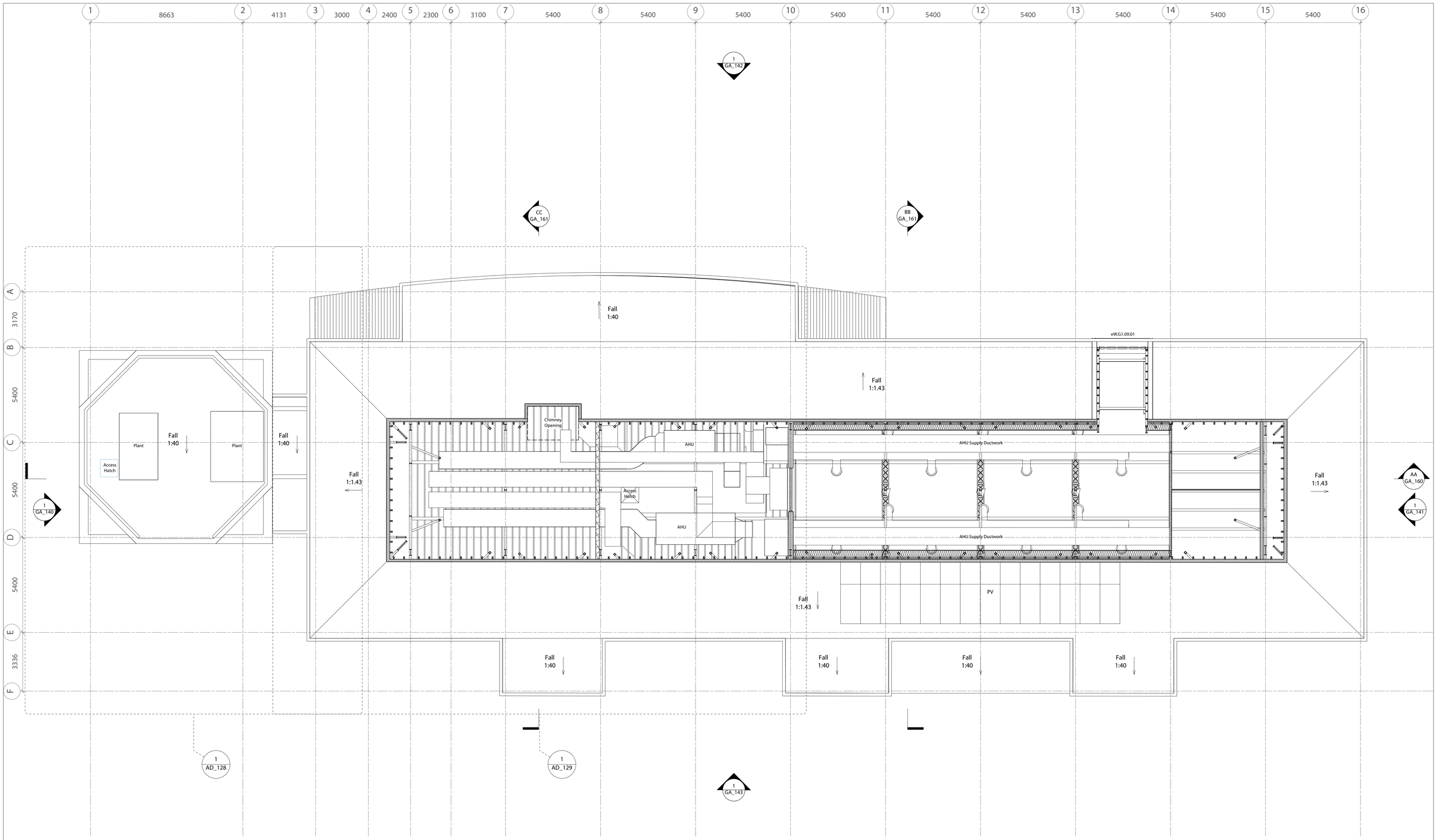
Existing Wall

No.	Revision / Issue	Drawn by	Checked by	Date
D	Stage 4 - Design Freeze	AM	NS	28.06.24
P1	Planning	AJ	TC	12.03.24
C	Stage 3 - QS Issue Revised	AJ	AM/TC	01.02.24
B	Stage 3 - QS Issue	AM	TC	22.01.24
A	Stage 3 - For Coordination	AM	TC	08.01.24

Project Title

295 St Neots Priory Centre
Priory Lane, Saint Neots, PE19 2BH

Drawing Name	PROPOSED Plan G+1
Drawing Status	INFORMATION
Scale	1:100 @ A1 / 1:200 @ A3
Drawing No.	295_GA_121
Rev.	D



1 Proposed Attic Plan

AOC

AOC Architecture Ltd
Unit 61, Regent Studios, 8 Andrews Road,
London E8 4QN
t. +44 20 7739 9950
www.theaoc.co.uk studio@theAOC.co.uk

SCALE

0 1 2 3 4 5 M

All dimensions in millimetres unless otherwise stated.
All dimensions to be checked on site.
Do not scale from this drawing except for planning purposes.
Any errors to be reported to the architect immediately.
Copyright reserved.

NOTES

Existing Wall

No.	Revision / Issue	Drawn by	Checked by	Date
D	Stage 4 - Design Freeze	AM	NS	28.06.24
P1	Planning	AJ	TC	12.03.24
C	Stage 3 - QS Issue Revised	AJ	AM/TC	01.02.24
B	Stage 3 - QS Issue	AM	TC	22.01.24
A	Stage 3 - For Coordination	AM	TC	08.01.24

Project Title

295 **St Neots Priory Centre**
Priory Lane, Saint Neots, PE19 2BH

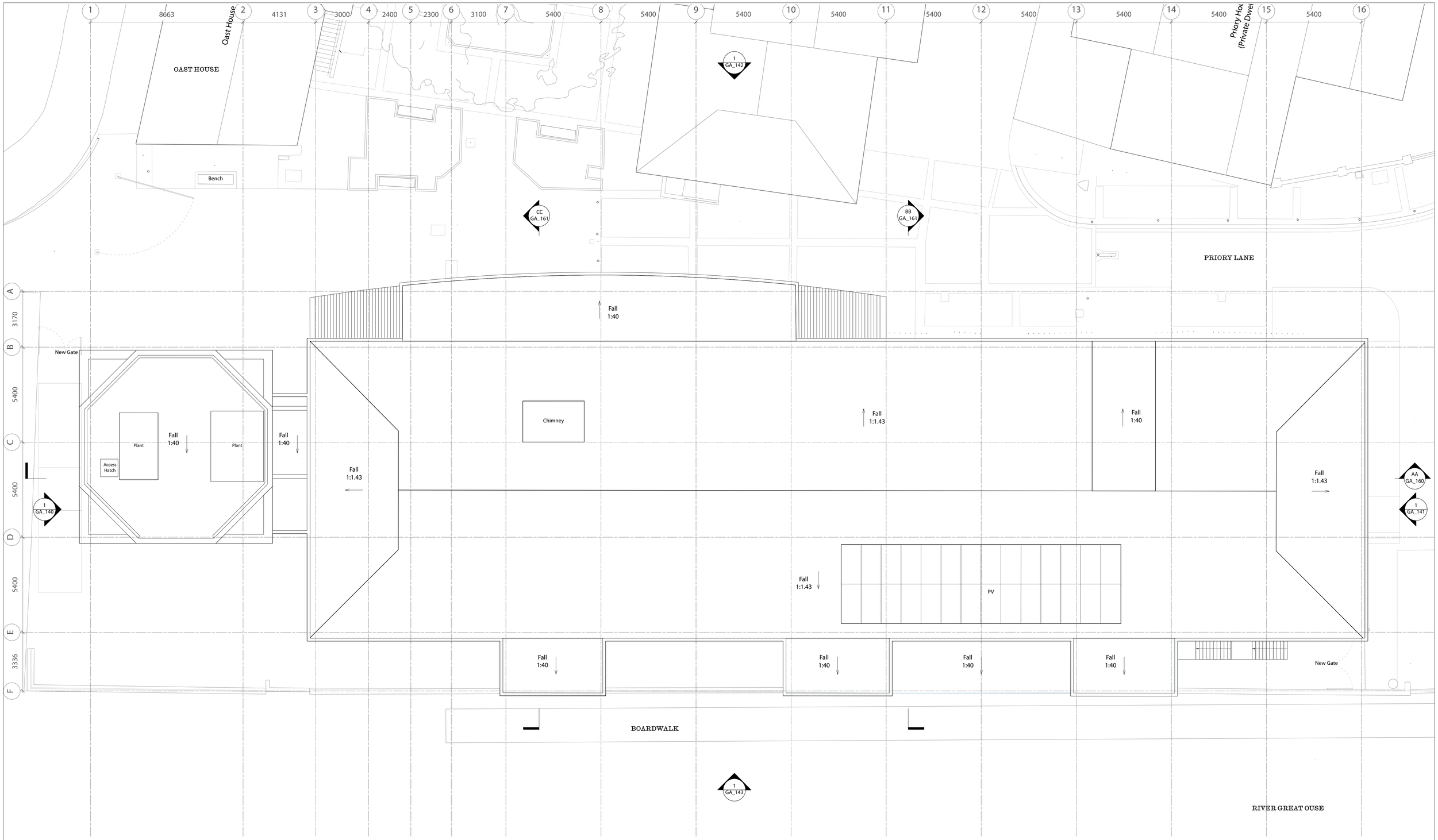
Drawing Name PROPOSED Plan G+2

Drawing Status INFORMATION

Scale 1:100 @ A1 / 1:200 @ A3

Drawing No. 295_GA_122

Rev. D



1 Proposed Roof Plan

AOC Architecture Ltd
Unit 61, Regent Studios, 8 Andrews Road,
London E8 4QN
t. +44 20 7739 9950
www.theaoc.co.uk studio@theAOC.co.uk

SCALE

0 1 2 3 4 5 M

All dimensions in millimetres unless otherwise stated.
All dimensions to be checked on site.
Do not scale from this drawing except for planning purposes.
Any errors to be reported to the architect immediately.
Copyright reserved.

NOTES

Existing Wall

No.	Revision / Issue	Drawn by	Checked by	Date
D	Stage 4 - Design Freeze	AM	NS	28.06.24
P1	Planning	AJ	TC	12.03.24
C	Stage 3 - QS Issue Revised	AJ	AM/TC	01.02.24
B	Stage 3 - QS Issue	AM	TC	22.01.24
A	Stage 3 - For Coordination	AM	TC	08.01.24

Project Title

295 St Neots Priory Centre
Priory Lane, Saint Neots, PE19 2BH

Drawing Name PROPOSED Roof Plan

Drawing Status INFORMATION

Scale 1:100 @ A1 / 1:200 @ A3

Drawing No. 295_GA_123

Rev. D

APPENDIX D – EA FLOOD RISK ASSESSMENT DATA

Flood risk assessment data

Location of site: 518084 / 260357 (shown as easting and northing coordinates)
Document created on: 3 July 2024
This information was previously known as a product 4.
Customer reference number: TJFVCN416T1K

Map showing the location that flood risk assessment data has been requested for.



How to use this information

You can use this information as part of a flood risk assessment for a planning application. To do this, you should include it in the appendix of your flood risk assessment.

We recommend that you work with a flood risk consultant to get your flood risk assessment.

Included in this document

In this document you'll find:

- how to find information about surface water and other sources of flooding
- information on the models used
- definitions for the terminology used throughout
- flood map for planning (rivers and the sea)
- historic flooding
- flood defences and attributes
- information to help you assess if there is a reduced flood risk from rivers and the sea because of defences
- modelled data
- climate change modelled data
- information about strategic flood risk assessments
- information about this data
- information about flood risk activity permits
- help and advice

Surface water and other sources of flooding

Use the long term flood risk service to find out about the risk of flooding from:

- surface water
- ordinary watercourses
- reservoirs

For information about sewer flooding, contact the relevant water company for the area.

About the models used

Model name: EAn_Lower Ouse_Kym_2015
Scenario(s): Defended fluvial, defences removed fluvial, defended climate change fluvial
Date: 1 December 2015

Model name: EAn_Lower Ouse_NMR_Bushmead_2015
Scenario(s): No defences exist fluvial
Date: 1 December 2015

Model name: EAn_Lower Ouse_NMR_St_Neots_Large_2015
Scenario(s): No defences exist fluvial
Date: 1 December 2015

Model name: EAn_Lower Ouse_Upstream_2015
Scenario(s): Defended fluvial, defences removed fluvial, defended climate change fluvial
Date: 1 December 2015

These models contain the most relevant data for your area of interest.

Terminology used

Annual exceedance probability (AEP)

This refers to the probability of a flood event occurring in any year. The probability is expressed as a percentage. For example, a large flood which is calculated to have a 1% chance of occuring in any one year, is described as 1% AEP.

Metres above ordnance datum (mAOD)

All flood levels are given in metres above ordnance datum which is defined as the mean sea level at Newlyn, Cornwall.

Flood map for planning (rivers and the sea)

Your selected location is in flood zone 3.

Flood zone 3 shows the area at risk of flooding for an undefended flood event with a:

- 0.5% or greater probability of occurring in any year for flooding from the sea
- 1% or greater probability of occurring in any year for fluvial (river) flooding

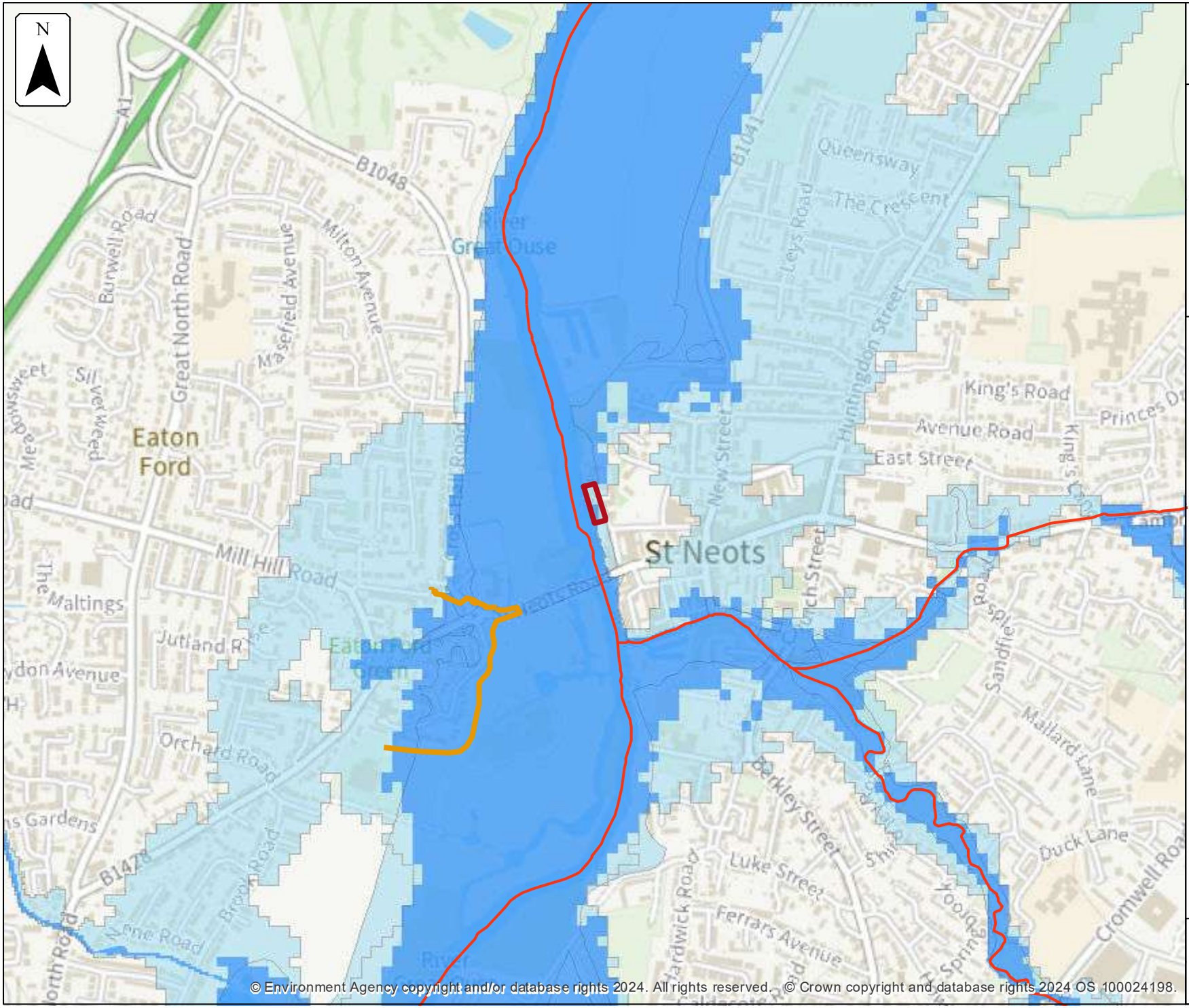
Flood zone 2 shows the area at risk of flooding for an undefended flood event with:

- between a 0.1% and 0.5% probability of occurring in any year for flooding from the sea
- between a 0.1% and 1% probability of occurring in any year for fluvial (river) flooding

It's important to remember that the flood zones on this map:

- refer to the land at risk of flooding and do not refer to individual properties
- refer to the probability of river and sea flooding, ignoring the presence of defences
- do not take into account potential impacts of climate change

The flood zones are not currently being updated. The last update was in November 2023. Some of the flood zones may have changed, however all source data is included in the models below.



© Environment Agency copyright and/or database rights 2024. All rights reserved. © Crown copyright and database rights 2024 OS 100024198.

Environment Agency

Flood map for planning

Location (easting/northing)
518084/260357

Scale
1:10,000

Created
3 Jul 2024

Selected area
Main river
Flood defence
Flood zone 3
Flood zone 2

0 100 200 300 400 500
metres

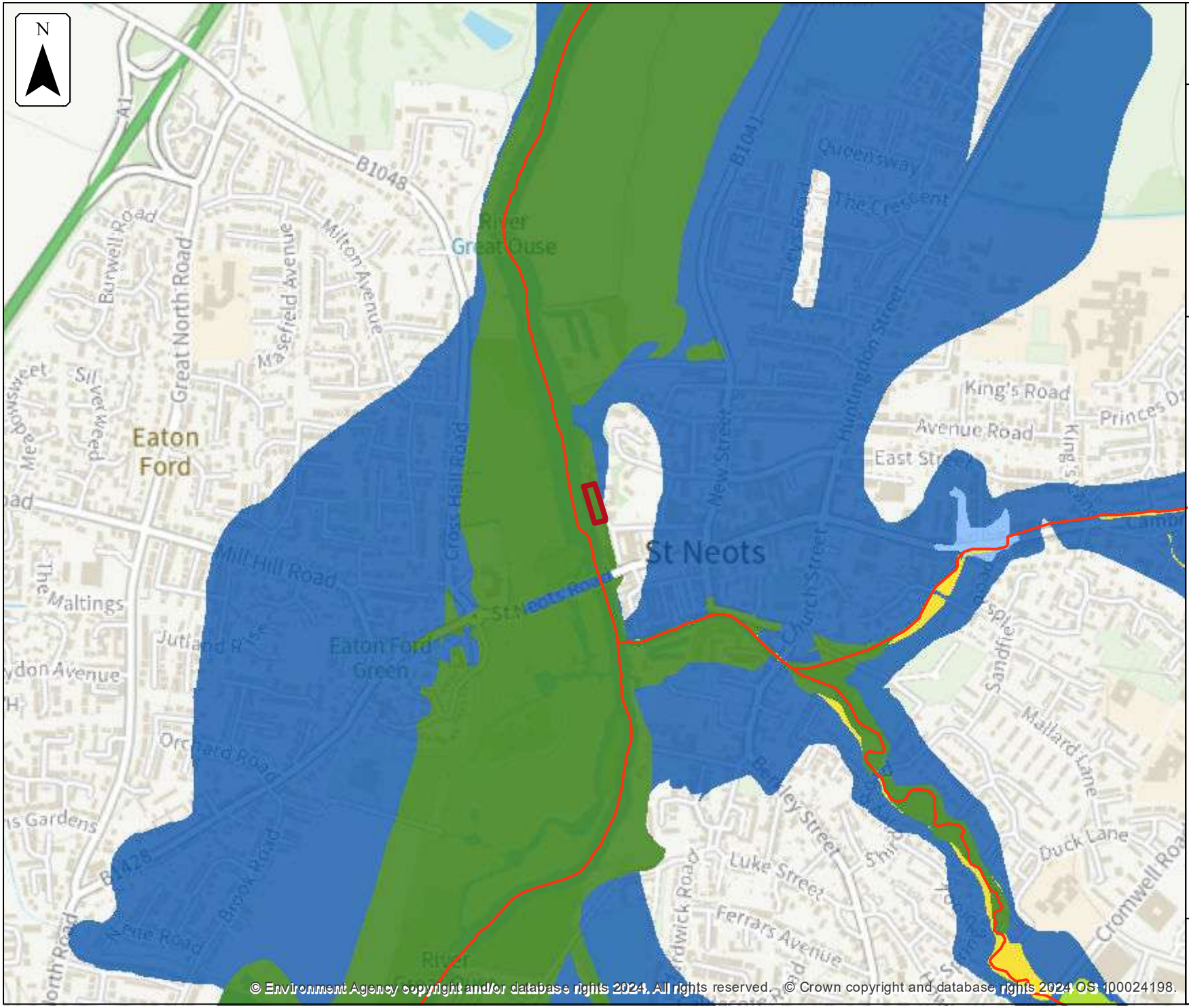
Historic flooding

This map is an indicative outline of areas that have previously flooded. Remember that:

- our records are incomplete, so the information here is based on the best available data
- it is possible not all properties within this area will have flooded
- other flooding may have occurred that we do not have records for
- flooding can come from a range of different sources - we can only supply flood risk data relating to flooding from rivers or the sea

You can also contact your Lead Local Flood Authority or Internal Drainage Board to see if they have other relevant local flood information. Please note that some areas do not have an Internal Drainage Board.

Download recorded flood outlines in GIS format



Environment Agency

Historic flood map

Location (easting/northing)
518084/260357

Scale
1:10,000

Created
3 Jul 2024

Selected area
Main river

Date of flood event
- 2001
- 1998
- 1993
- May, 1975
- 1947

0 100 200 300 400 500
metres

Historic flood event data

Start date	End date	Source of flood	Cause of flood	Affects location
2001	2001	unknown	unknown	No
1998	1998	unknown	unknown	Yes
1993	1993	unknown	unknown	No
1 May 1975	1 May 1975	unknown	unknown	No
1947	1947	unknown	unknown	Yes

Flood defences and attributes

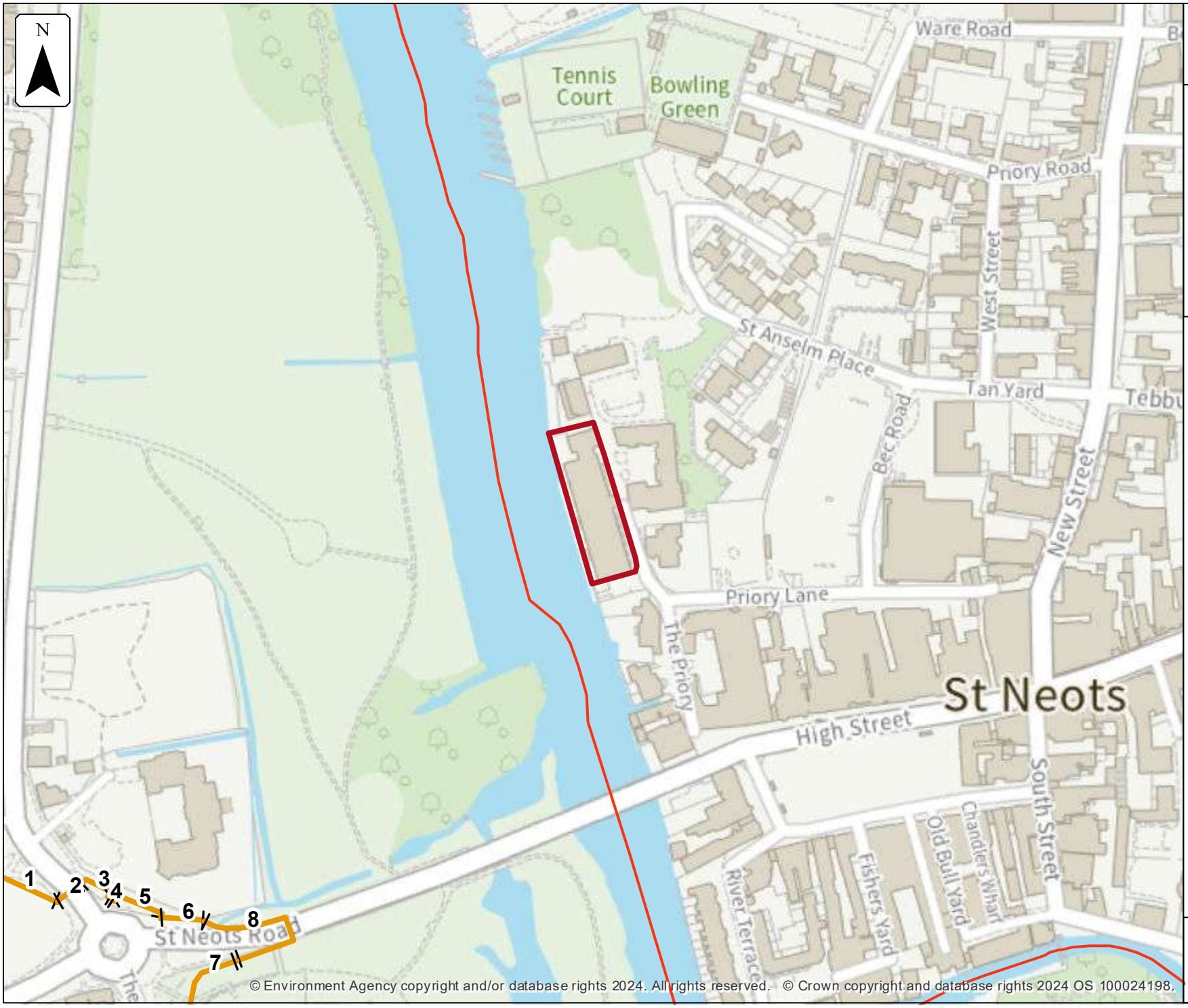
The flood defences map shows the location of the flood defences present.

The flood defences data table shows the type of defences, their condition and the standard of protection. It shows the height above sea level of the top of the flood defence (crest level). The height is In mAOD which is the metres above the mean sea level at Newlyn, Cornwall.

It's important to remember that flood defence data may not be updated on a regular basis. The information here is based on the best available data.

Use this information:

- to help you assess if there is a reduced flood risk for this location because of defences
- with any information in the modelled data section to find out the impact of defences on flood risk



Environment Agency

Flood defences

Location (easting/northing)
518084/260357

Scale
1:2,500

Created
3 Jul 2024

Selected area
Main river
Flood defence

0 25 50 75 100
metres

Flood defences data

Label	Asset ID	Asset Type	Standard of protection (years)	Current condition	Downstream actual crest level (mAOD)	Upstream actual crest level (mAOD)	Effective crest level (mAOD)
1	9817	Embankment	100		15.80	15.80	
2	186132	Embankment	100		15.80	15.80	15.53
3	186133	Wall	100		16.20	16.20	
4	186134	Embankment	100		15.80	15.80	15.66
5	185028	Wall	100		16.20	16.20	
6	185029	Embankment	100		15.80	15.80	15.63
7	185031	Embankment	100		16.10	16.10	15.13
8	185030	Bridge Abutment	100				

Any blank cells show where a particular value has not been recorded for an asset.

Modelled data

This section provides details of different scenarios we have modelled and includes the following (where available):

- outline maps showing the area at risk from flooding in different modelled scenarios
- modelled node point map(s) showing the points used to get the data to model the scenarios and table(s) providing details of the flood risk for different return periods
- map(s) showing the approximate water levels for the return period with the largest flood extent for a scenario and table(s) of sample points providing details of the flood risk for different return periods

Climate change

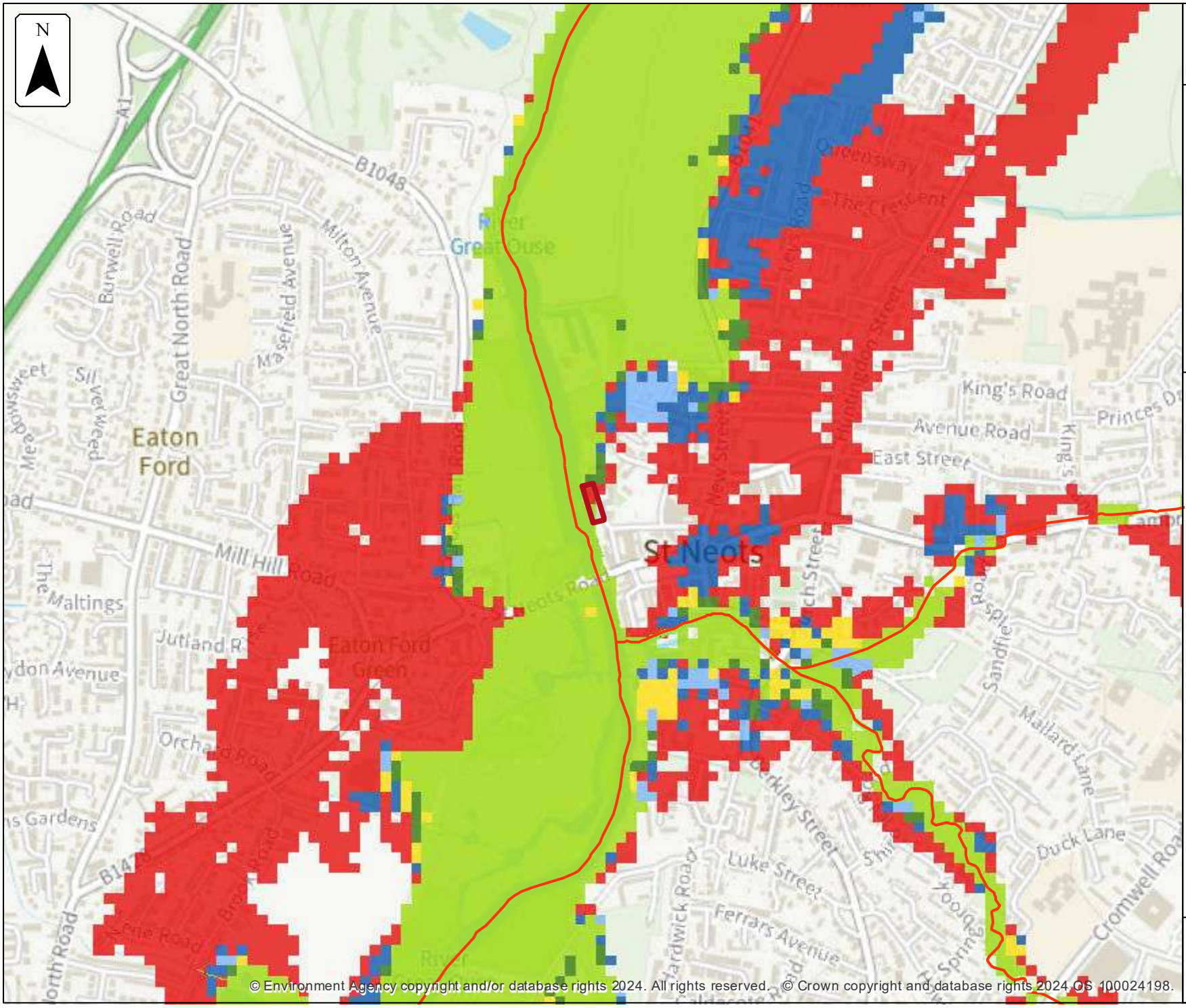
The climate change data included in the models may not include the latest flood risk assessment climate change allowances. Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

The Environment Agency will incorporate the new allowances into future modelling studies. For now, it's your responsibility to demonstrate that new developments will be safe in flood risk terms for their lifetime.

Modelled scenarios

The following scenarios are included:

- Defended modelled fluvial: risk of flooding from rivers where there are flood defences
- Defences removed modelled fluvial: risk of flooding from rivers where flood defences have been removed
- No defences exist modelled fluvial: risk of flooding from rivers where there are no flood defences
- Defended climate change modelled fluvial: risk of flooding from rivers where there are flood defences, including estimated impact of climate change



© Environment Agency copyright and/or database rights 2024. All rights reserved. © Crown copyright and database rights 2024 OS 100024198.

Environment Agency

Defended modelled fluvial extent

Location (easting/northing)
518084/260357

Scale
1:10,000

Created
3 Jul 2024

Model name
EAn Lower Ouse Upstream 2015

Selected area

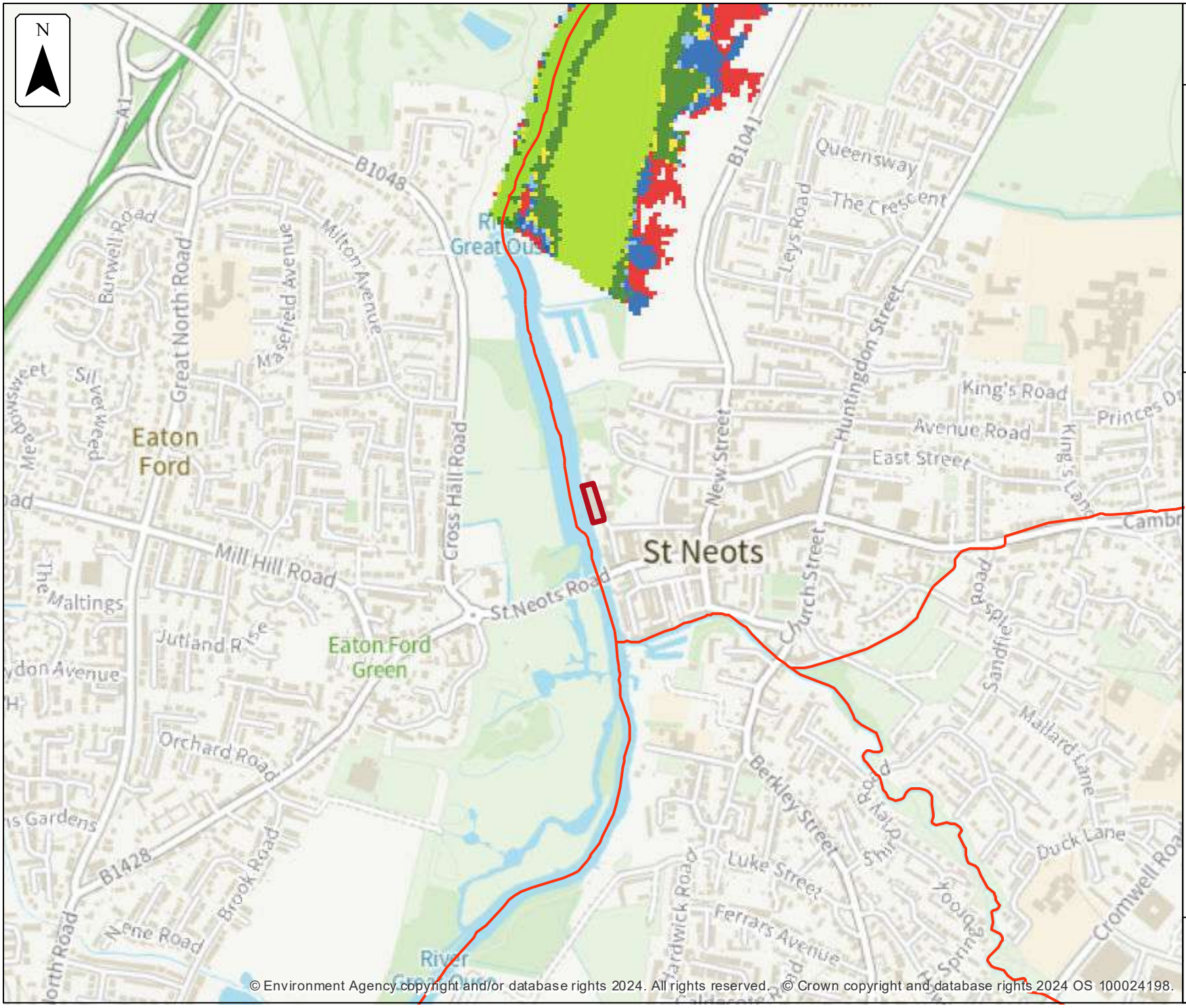
Main river

Modelled flood extent

- 5% AEP
- 2% AEP
- 1.33% AEP
- 1% AEP
- 0.5% AEP
- 0.1% AEP

Flood extents may not be visible where they overlap other return periods

0 100 200 300 400 500
metres



© Environment Agency copyright and/or database rights 2024. All rights reserved. © Crown copyright and database rights 2024 OS 100024198.

Environment Agency

Defended modelled fluvial extent

Location (easting/northing)
518084/260357

Scale
1:10,000

Created
3 Jul 2024

Model name
EAn Lower Ouse Kym 2015

Selected area

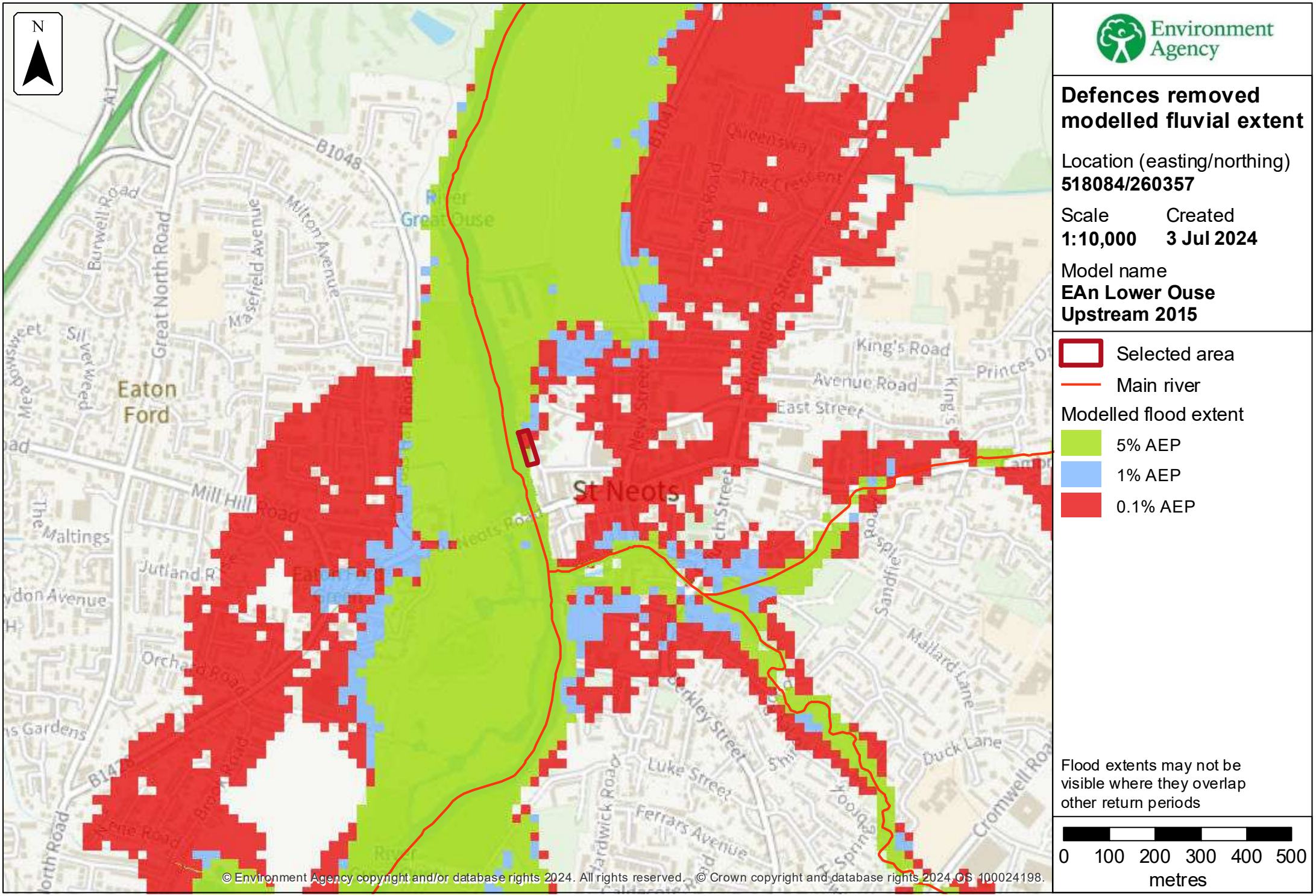
Main river

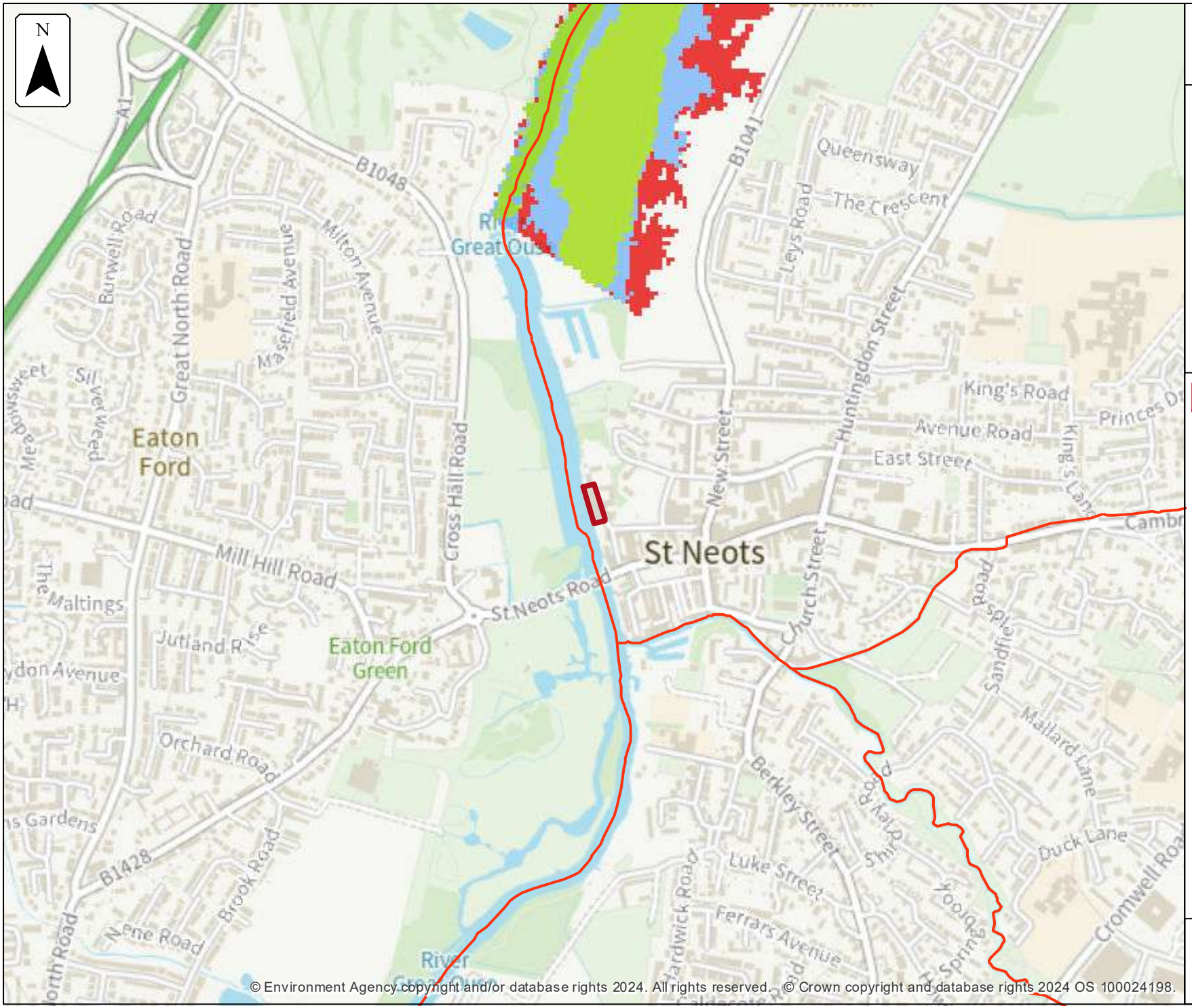
Modelled flood extent

- 5% AEP
- 2% AEP
- 1.33% AEP
- 1% AEP
- 0.5% AEP
- 0.1% AEP

Flood extents may not be visible where they overlap other return periods

0 100 200 300 400 500
metres


N
Environment Agency
Defences removed modelled fluvial extent
Location (easting/northing)
518084/260357
Scale
1:10,000
Created
3 Jul 2024
Model name
EAn Lower Ouse Upstream 2015
Selected area
Main river
Modelled flood extent
5% AEP
1% AEP
0.1% AEP
Flood extents may not be visible where they overlap other return periods
0 100 200 300 400 500
metres
Eaton Ford
St Neots
B1048
A1
Great North Road
Mill Hill Road
King's Road
Avenue Road
East Street
Duck Lane
Mallard Lane
Luke Street
Ferrars Avenue
Berkley Street
Cromwell Road
© Environment Agency copyright and/or database rights 2024. All rights reserved. © Crown copyright and database rights 2024 OS 100024198.



Environment Agency

Defences removed modelled fluvial extent

Location (easting/northing)
518084/260357

Scale
1:10,000

Created
3 Jul 2024

Model name
EAn Lower Ouse Kym 2015

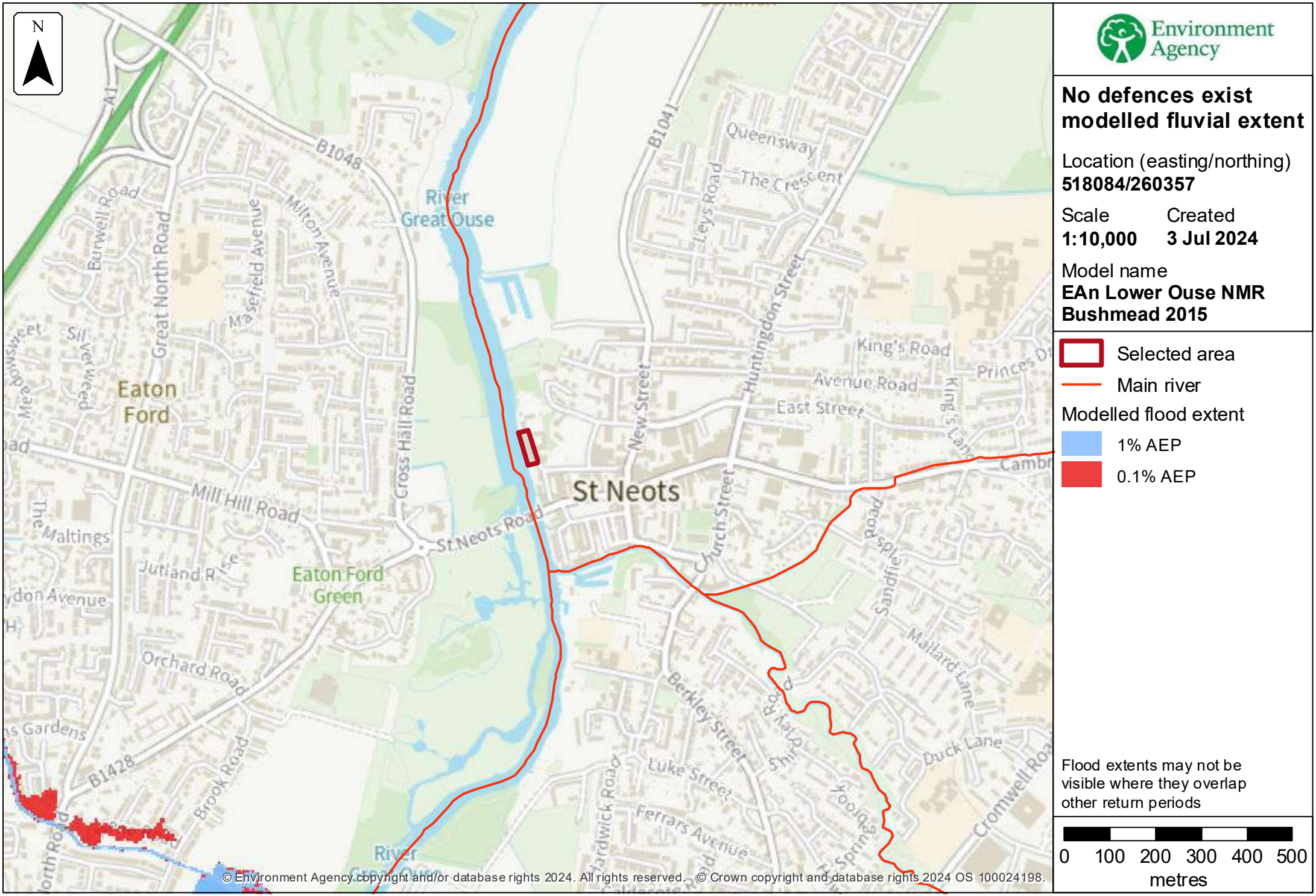
- Selected area
- Main river

Modelled flood extent

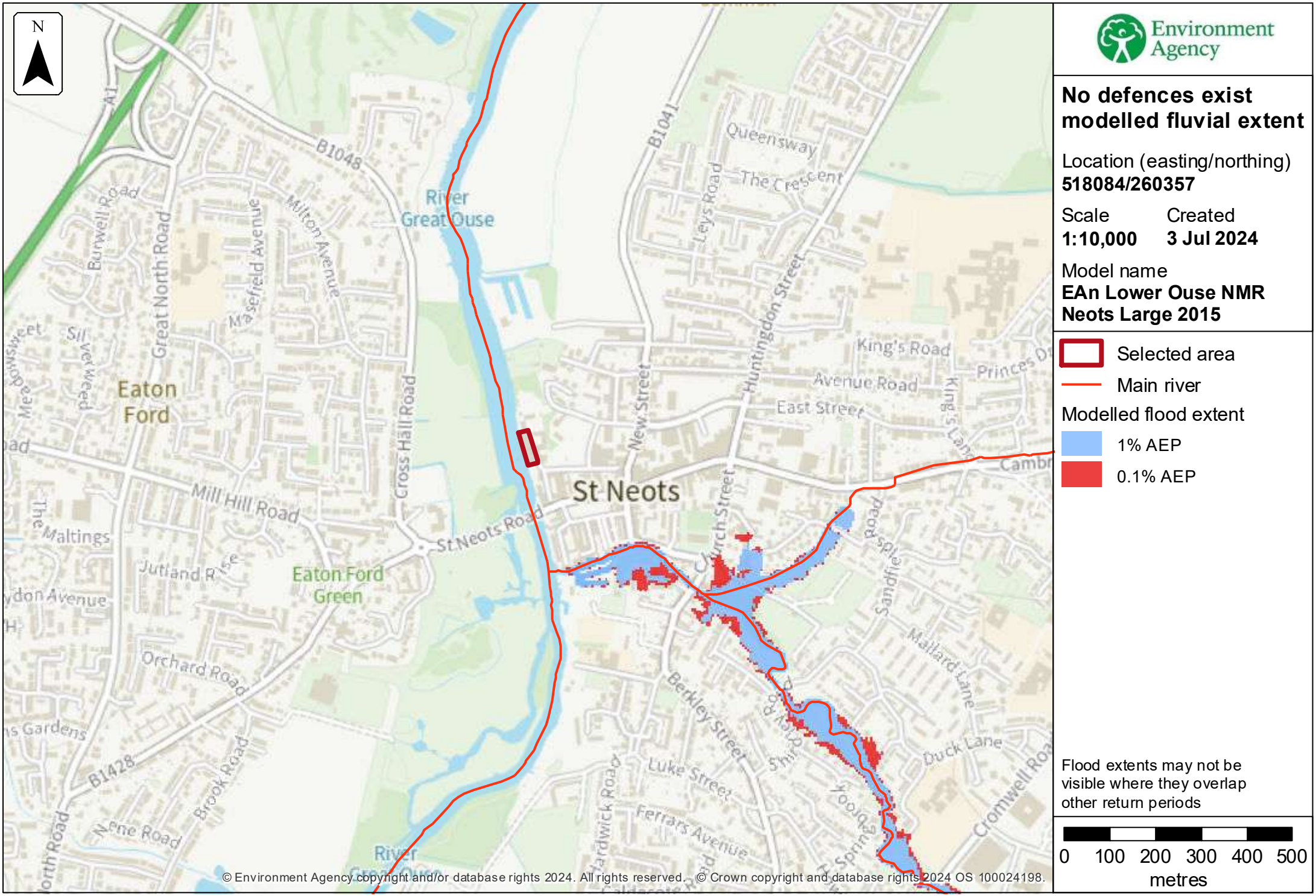
- 5% AEP
- 1% AEP
- 0.1% AEP

Flood extents may not be visible where they overlap other return periods

0 100 200 300 400 500
metres



© Environment Agency copyright and/or database rights 2024. All rights reserved. © Crown copyright and database rights 2024 OS 100024198.



Environment Agency

No defences exist modelled fluvial extent

Location (easting/northing)
518084/260357

Scale
1:10,000

Created
3 Jul 2024

Model name
EAn Lower Ouse NMR Neots Large 2015

Selected area

Main river

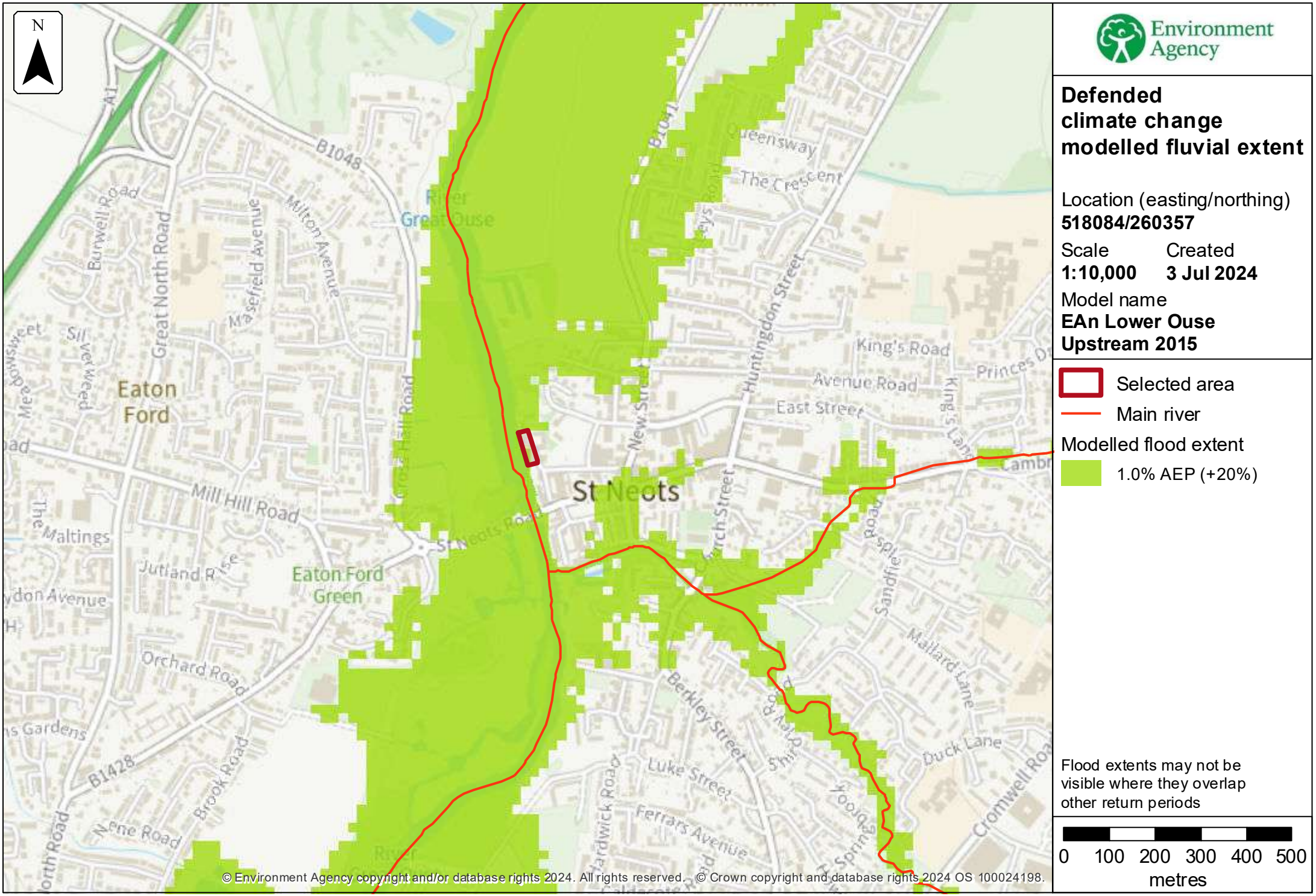
Modelled flood extent

1% AEP

0.1% AEP

Flood extents may not be visible where they overlap other return periods

0 100 200 300 400 500
metres



© Environment Agency copyright and/or database rights 2024. All rights reserved. © Crown copyright and database rights 2024 OS 100024198.

Environment Agency

Defended climate change modelled fluvial extent

Location (easting/northing)
518084/260357

Scale
1:10,000

Created
3 Jul 2024

Model name
EAn Lower Ouse Upstream 2015

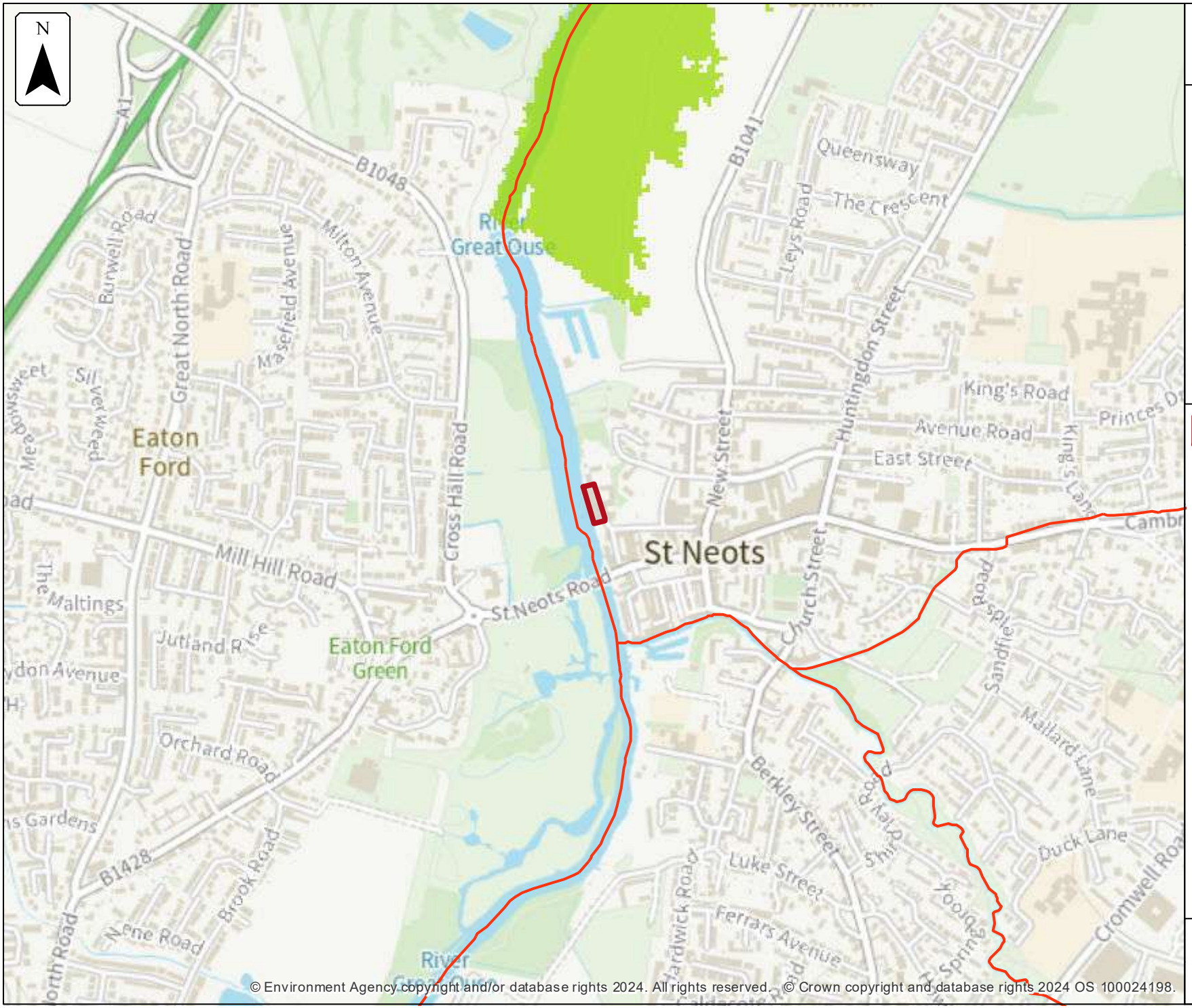
- Selected area
- Main river

Modelled flood extent

- 1.0% AEP (+20%)

Flood extents may not be visible where they overlap other return periods

0 100 200 300 400 500
metres



Environment Agency

Defended climate change modelled fluvial extent

Location (easting/northing)
518084/260357

Scale
1:10,000

Created
3 Jul 2024

Model name
EAn Lower Ouse Kym 2015

Selected area

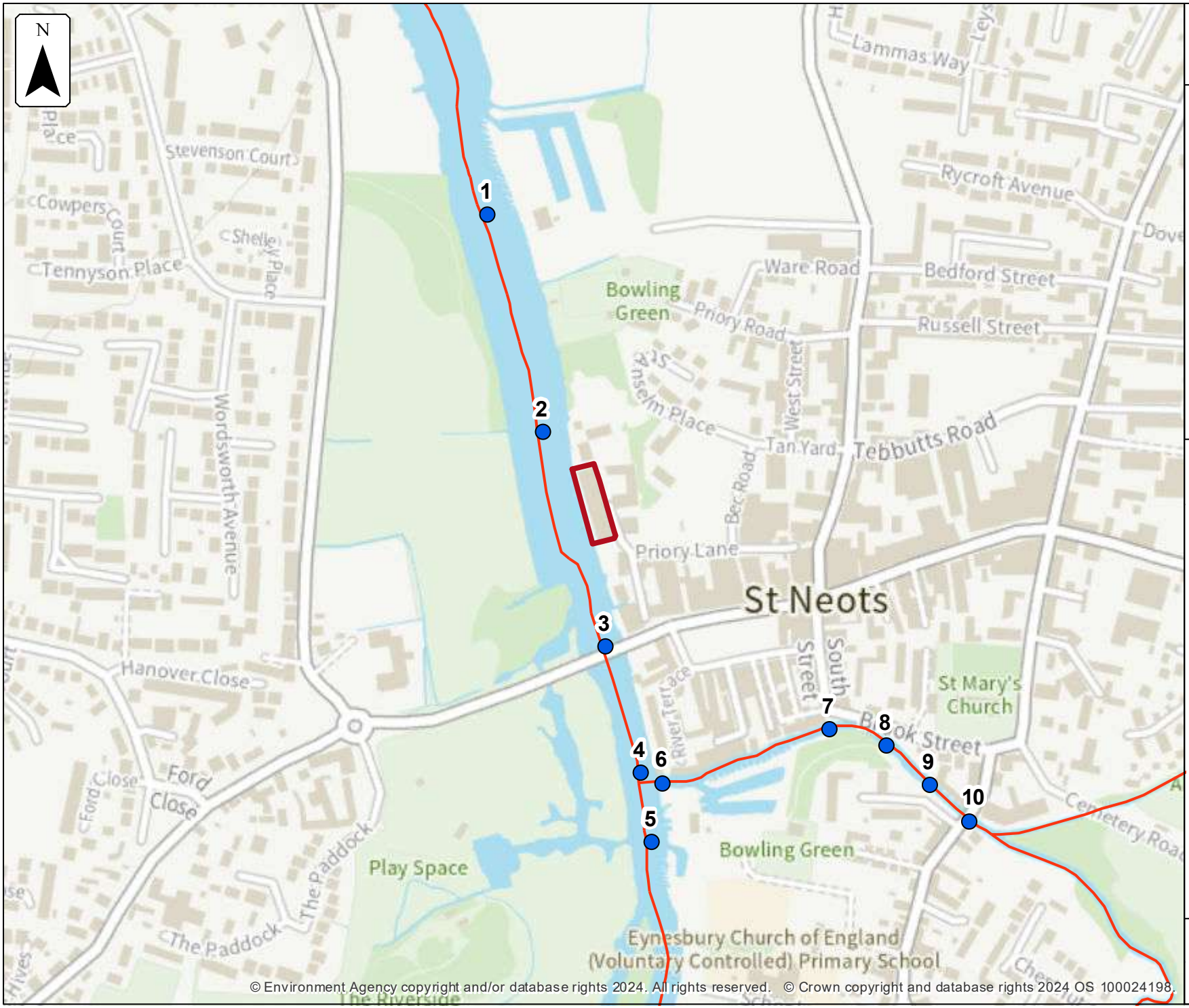
Main river

Modelled flood extent

1.0% AEP (+20%)

Flood extents may not be visible where they overlap other return periods

0 100 200 300 400 500
metres



Environment Agency

Defended modelled fluvial node locations

Location (easting/northing)
518084/260357

Scale
1:5,000

Created
3 Jul 2024

Model name
EAn Lower Ouse Upstream 2015

Selected area
Modelled location
Main river

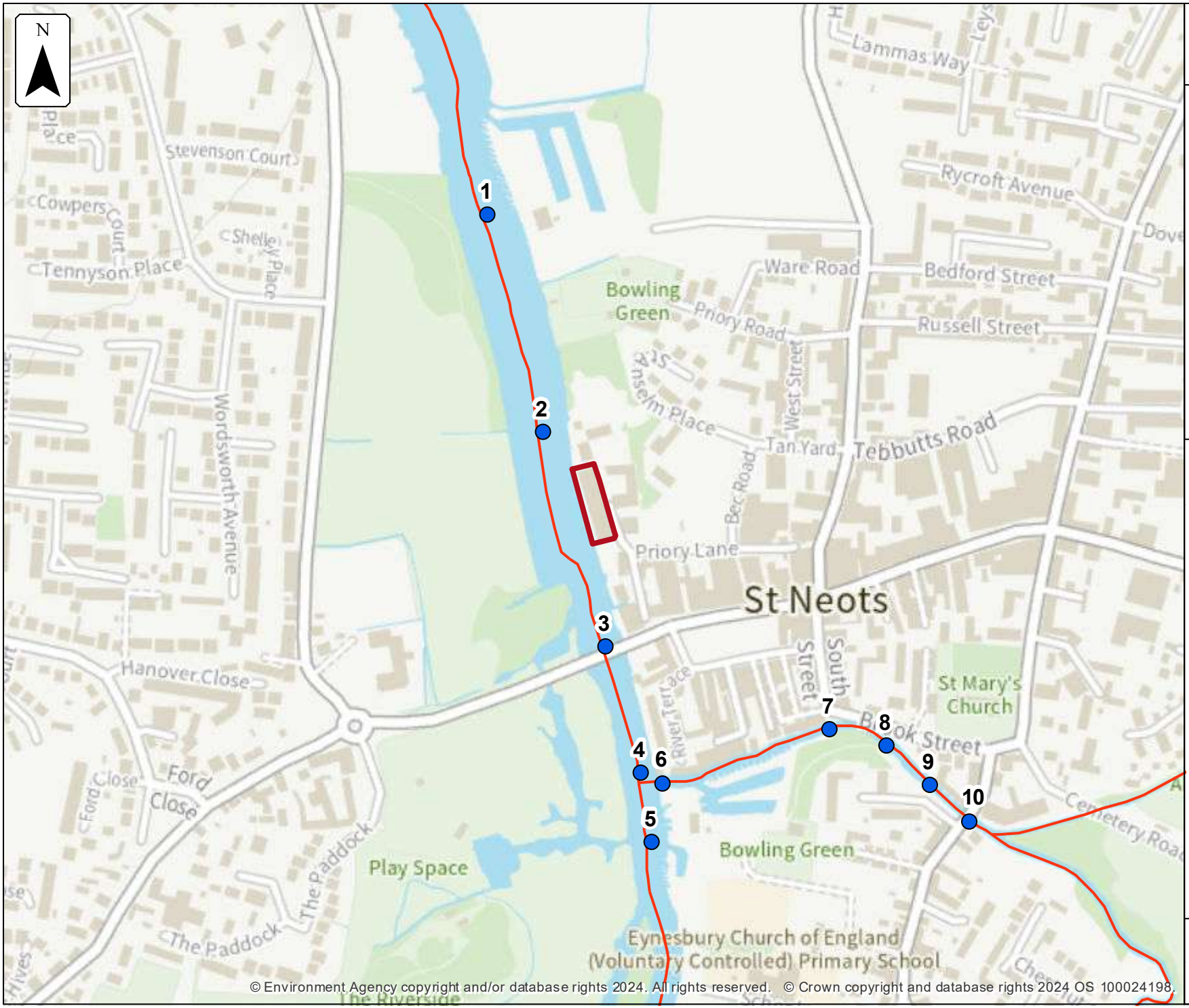
0 50 100 150 200 250
metres

Modelled node locations data

Defended

Label	Modelled location ID	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
				Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow
1	1255971	517981	260638	15.11	151.36	15.25	173.95	15.31	184.52	15.34	191.11	15.47	212.18	15.85	278.69
2	1255964	518035	260427	15.14	141.15	15.28	161.77	15.34	171.09	15.37	176.61	15.50	195.18	15.89	253.13
3	1255936	518096	260217	15.17	126.80	15.31	143.91	15.38	152.38	15.41	156.70	15.54	173.34	15.95	220.43
4	1256012	518131	260094	15.21	120.14	15.37	134.87	15.44	141.98	15.47	145.81	15.62	160.11	16.05	204.43
5	1255921	518141	260028	15.26	103.54	15.41	114.44	15.48	119.44	15.52	122.77	15.66	131.58	16.09	151.99
6	1255919	518152	260085	15.21	12.06	15.37	15.15	15.44	16.51	15.47	17.52	15.62	23.17	16.05	45.30
7	1255976	518315	260136	15.22	12.13	15.38	13.56	15.45	14.21	15.48	14.86	15.63	18.09	16.09	25.57
8	1255927	518370	260120	15.22	12.15	15.38	13.59	15.45	14.25	15.48	14.89	15.63	18.21	16.09	27.19
9	1256054	518413	260083	15.22	12.17	15.38	13.60	15.45	14.26	15.48	14.91	15.63	18.34	16.09	28.86
10	1255979	518451	260048	15.23	12.17	15.39	13.61	15.46	14.27	15.50	14.92	15.65	18.41	16.11	28.65

Data in this table comes from the EAn Lower Ouse Upstream 2015 model.
Level values are shown in mAOD, and flow values are shown in cubic metres per second.
Any blank cells show where a particular scenario has not been modelled for this location.



Environment Agency

Defences removed modelled fluvial node locations

Location (easting/northing)
518084/260357

Scale
1:5,000

Created
3 Jul 2024

Model name
EAn Lower Ouse Upstream 2015

Selected area
Modelled location
Main river

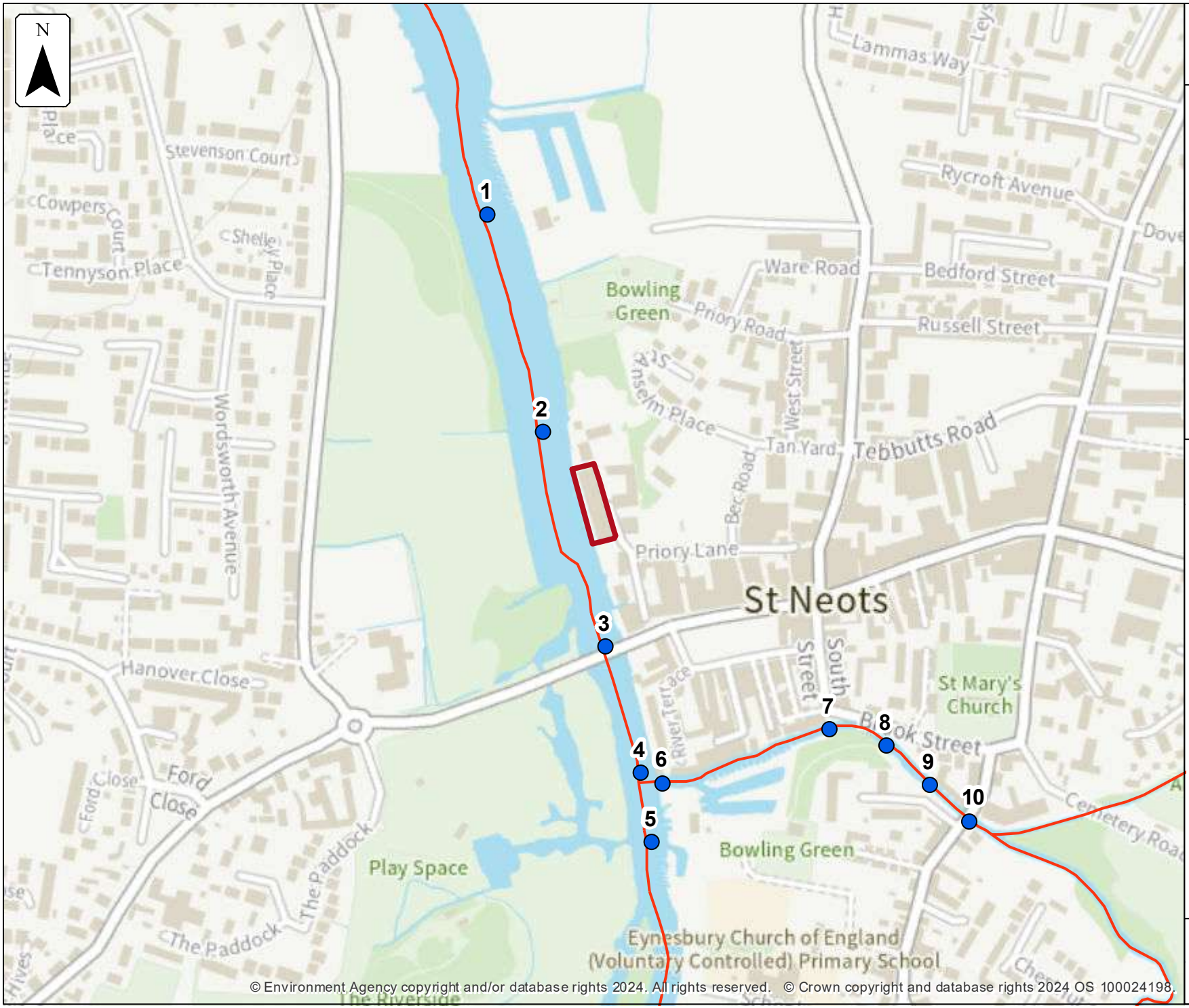
0 50 100 150 200 250
metres

Modelled node locations data

Defences removed

Label	Modelled location ID	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
				Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow
1	1255971	517981	260638	15.11	151.35					15.34	190.90			15.85	276.70
2	1255964	518035	260427	15.14	140.96					15.37	175.92			15.89	247.38
3	1255936	518096	260217	15.17	125.86					15.41	153.95			15.96	202.97
4	1256012	518131	260094	15.21	119.07					15.47	142.86			16.04	189.88
5	1255921	518141	260028	15.26	101.94					15.52	119.22			16.08	144.46
6	1255919	518152	260085	15.21	12.06					15.47	17.44			16.04	41.39
7	1255976	518315	260136	15.22	12.13					15.48	14.86			16.07	25.59
8	1255927	518370	260120	15.22	12.15					15.48	14.89			16.07	27.21
9	1256054	518413	260083	15.22	12.17					15.48	14.91			16.07	28.88
10	1255979	518451	260048	15.23	12.17					15.50	14.92			16.09	28.65

Data in this table comes from the EAn Lower Ouse Upstream 2015 model.
Level values are shown in mAOD, and flow values are shown in cubic metres per second.
Any blank cells show where a particular scenario has not been modelled for this location.



Environment Agency

Defended climate change modelled fluvial node locations

Location (easting/northing)
518084/260357

Scale
1:5,000

Created
3 Jul 2024

Model name
EAn Lower Ouse Upstream 2015

Selected area

Modelled location

Main river

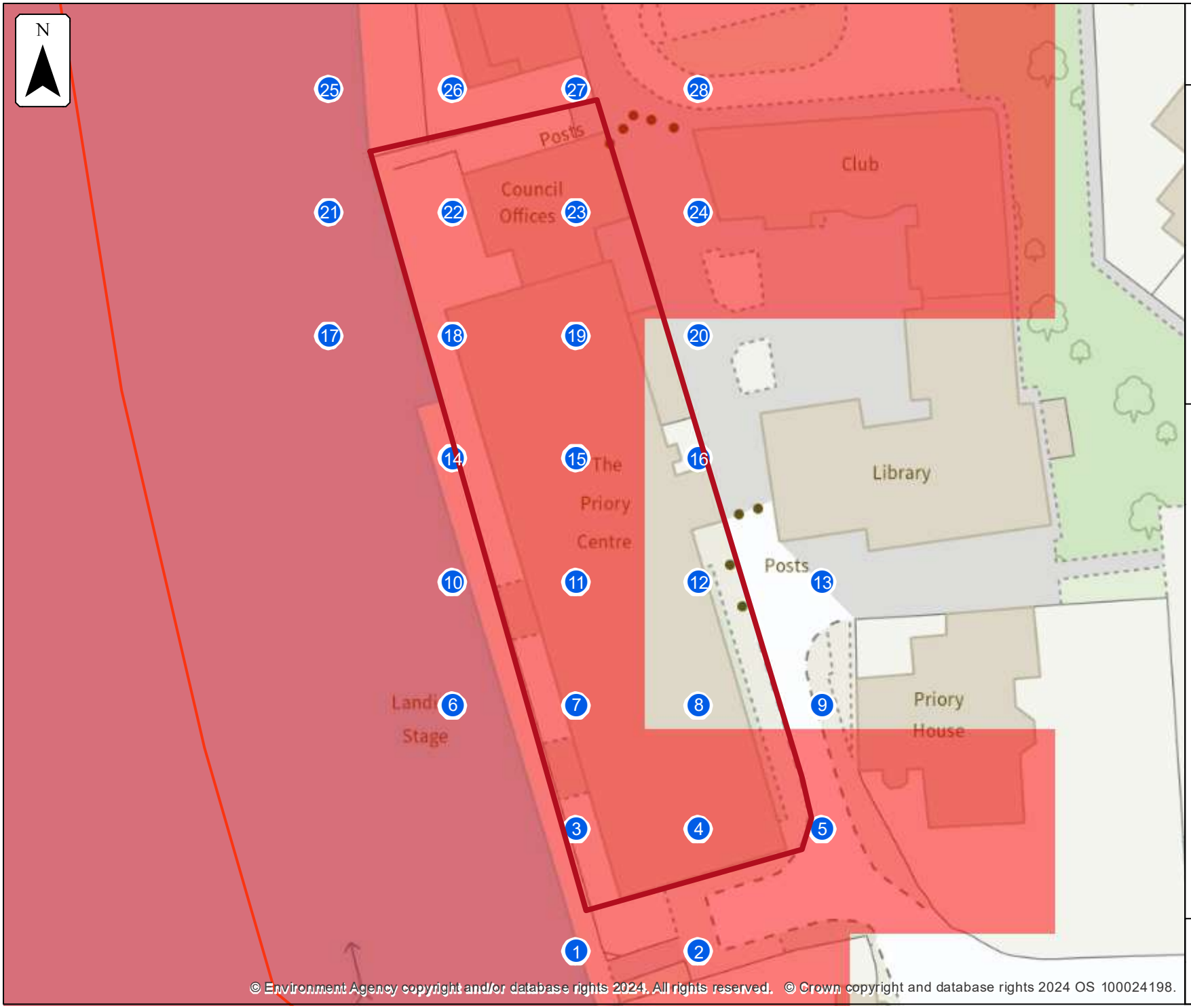
0 50 100 150 200 250
metres

Modelled node locations data

Defended climate change

Label	Modelled location ID	Easting	Northing	1.0% AEP (+20%)	
				Level	Flow
1	1255971	517981	260638	15.51	221.49
2	1255964	518035	260427	15.54	203.63
3	1255936	518096	260217	15.59	180.60
4	1256012	518131	260094	15.67	166.83
5	1255921	518141	260028	15.72	135.91
6	1255919	518152	260085	15.67	24.94
7	1255976	518315	260136	15.68	17.20
8	1255927	518370	260120	15.68	17.32
9	1256054	518413	260083	15.68	17.41
10	1255979	518451	260048	15.70	17.44

Data in this table comes from the EAn Lower Ouse Upstream 2015 model.
Level values are shown in mAOD, and flow values are shown in cubic metres per second.
Any blank cells show where a particular scenario has not been modelled for this location.



Environment Agency

Defended modelled fluvial extent and height

Location (easting/northing)
518084/260357

Scale
1:500

Created
3 Jul 2024

Model name
EAn Lower Ouse Upstream 2015

Selected area

Main river

Modelled 2D grid
Water level in mAOD

- 0 - 15.0
- 15.0 - 15.125
- 15.125 - 15.25
- 15.25 - 15.375
- 15.375 - 15.5
- 15.5 - 15.625
- 15.625 - 15.75
- 15.75 - 15.875
- 15.875 - 16.0

This map shows the 0.1% AEP height data

0 5 10 15 20
metres

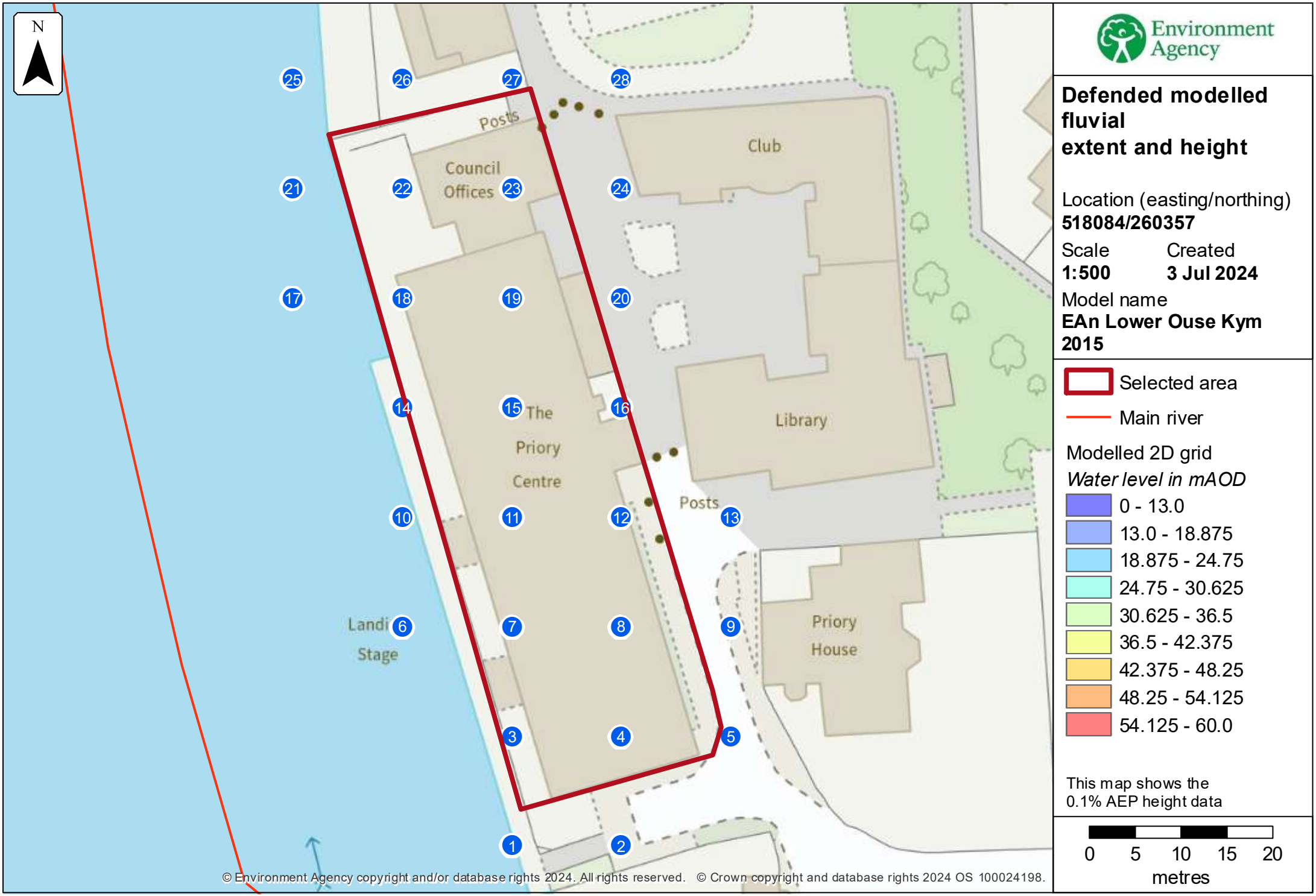
Sample point data

Defended

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	518083	260314	1.75	15.15	1.80	15.30	1.82	15.36	1.83	15.39	1.88	15.52	2.02	15.92
2	518095	260314	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.54	15.93
3	518083	260326	0.26	15.15	0.26	15.29	0.27	15.36	0.27	15.39	0.28	15.52	0.30	15.92
4	518095	260326	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.05	15.93
5	518107	260326	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.05	15.93
6	518071	260338	0.44	15.15	0.50	15.29	0.53	15.35	0.55	15.39	0.61	15.52	0.98	15.91
7	518083	260338	0.44	15.15	0.50	15.29	0.53	15.35	0.55	15.39	0.61	15.52	0.98	15.91
8	518095	260338	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
9	518107	260338	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
10	518071	260350	0.44	15.15	0.50	15.29	0.53	15.35	0.55	15.39	0.61	15.52	0.98	15.91
11	518083	260350	0.44	15.15	0.50	15.29	0.53	15.35	0.55	15.39	0.61	15.52	0.98	15.91
12	518095	260350	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
13	518107	260350	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
14	518071	260362	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.41	15.91
15	518083	260362	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.41	15.91
16	518095	260362	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
17	518059	260374	1.91	15.14	1.97	15.29	1.99	15.35	2.01	15.38	2.06	15.51	2.23	15.91
18	518071	260374	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.41	15.91
19	518083	260374	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.41	15.91
20	518095	260374	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
21	518059	260386	1.42	15.14	1.46	15.28	1.48	15.34	1.49	15.38	1.53	15.51	1.66	15.90
22	518071	260386	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.38	15.90
23	518083	260386	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.38	15.90
24	518095	260386	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.10	15.90
25	518059	260398	0.93	15.14	0.96	15.28	0.97	15.34	0.98	15.37	1.00	15.50	1.08	15.90
26	518071	260398	NoData	NoData	0.15	15.28	0.19	15.34	0.22	15.37	0.32	15.50	0.67	15.90
27	518083	260398	NoData	NoData	0.15	15.28	0.19	15.34	0.22	15.37	0.32	15.50	0.67	15.90
28	518095	260398	NoData	NoData	0.01	15.28	0.01	15.34	0.01	15.38	0.09	15.51	0.48	15.90

Data in this table comes from the EAn Lower Ouse Upstream 2015 model.
Height values are shown in mAOD, and depth values are shown in metres.
Any blank cells show where a particular scenario has not been modelled for this location.
Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.



Environment Agency

Defended modelled fluvial extent and height

Location (easting/northing)
518084/260357

Scale
1:500

Created
3 Jul 2024

Model name
EAn Lower Ouse Kym 2015

Selected area

Main river

Modelled 2D grid
Water level in mAOD

- 0 - 13.0
- 13.0 - 18.875
- 18.875 - 24.75
- 24.75 - 30.625
- 30.625 - 36.5
- 36.5 - 42.375
- 42.375 - 48.25
- 48.25 - 54.125
- 54.125 - 60.0

This map shows the 0.1% AEP height data

0 5 10 15 20
metres

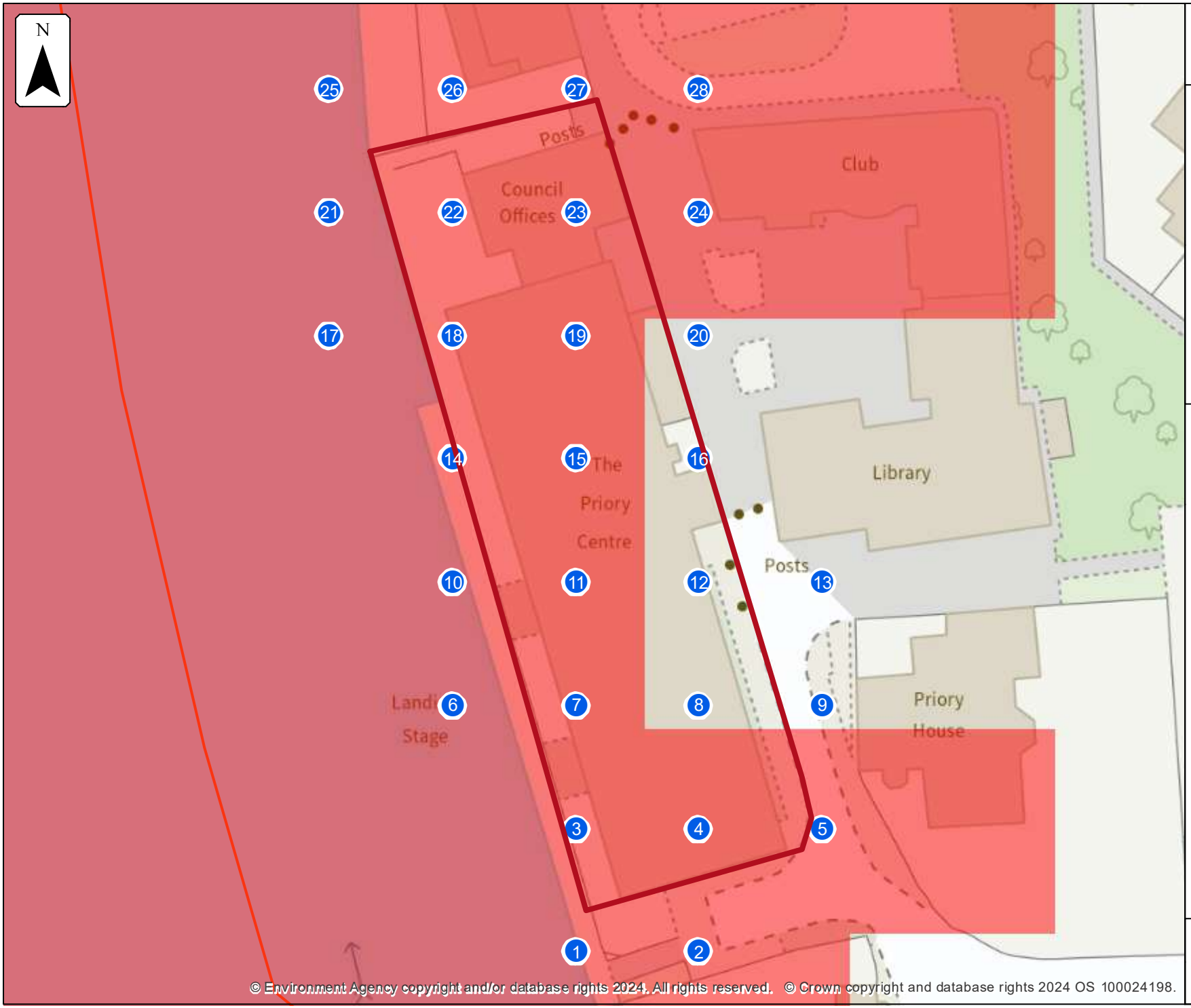
Sample point data

Defended

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	518083	260314	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
2	518095	260314	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
3	518083	260326	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
4	518095	260326	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
5	518107	260326	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
6	518071	260338	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
7	518083	260338	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
8	518095	260338	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
9	518107	260338	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
10	518071	260350	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
11	518083	260350	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
12	518095	260350	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
13	518107	260350	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
14	518071	260362	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
15	518083	260362	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
16	518095	260362	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
17	518059	260374	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
18	518071	260374	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
19	518083	260374	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
20	518095	260374	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
21	518059	260386	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
22	518071	260386	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
23	518083	260386	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
24	518095	260386	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
25	518059	260398	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
26	518071	260398	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
27	518083	260398	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
28	518095	260398	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

Data in this table comes from the EAn Lower Ouse Kym 2015 model.
Height values are shown in mAOD, and depth values are shown in metres.
Any blank cells show where a particular scenario has not been modelled for this location.
Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.



Environment Agency

Defences removed modelled fluvial extent and height

Location (easting/northing)
518084/260357

Scale
1:500

Created
3 Jul 2024

Model name
EAn Lower Ouse Upstream 2015

Selected area

Main river

Modelled 2D grid
Water level in mAOD

- 0 - 15.0
- 15.0 - 15.125
- 15.125 - 15.25
- 15.25 - 15.375
- 15.375 - 15.5
- 15.5 - 15.625
- 15.625 - 15.75
- 15.75 - 15.875
- 15.875 - 16.0

This map shows the 0.1% AEP height data

0 5 10 15 20
metres

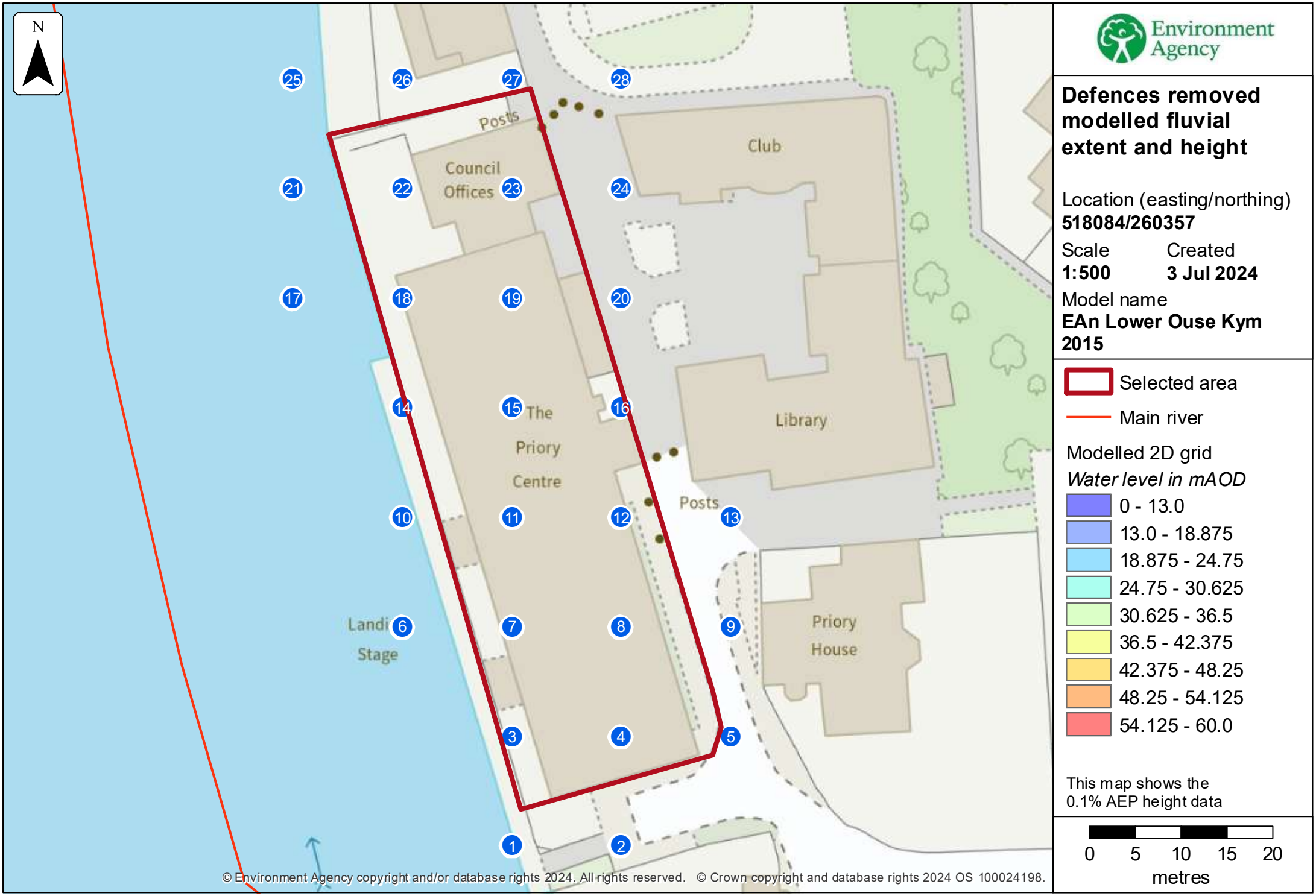
Sample point data

Defences removed

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	518083	260314	1.75	15.15					1.83	15.39			2.03	15.93
2	518095	260314	NoData	NoData					NoData	NoData			0.55	15.93
3	518083	260326	0.26	15.15					0.27	15.39			0.30	15.93
4	518095	260326	NoData	NoData					NoData	NoData			0.05	15.93
5	518107	260326	NoData	NoData					NoData	NoData			0.05	15.93
6	518071	260338	0.44	15.15					0.55	15.39			0.99	15.92
7	518083	260338	0.44	15.15					0.55	15.39			0.99	15.92
8	518095	260338	NoData	NoData					NoData	NoData			NoData	NoData
9	518107	260338	NoData	NoData					NoData	NoData			NoData	NoData
10	518071	260350	0.44	15.15					0.55	15.39			0.99	15.92
11	518083	260350	0.44	15.15					0.55	15.39			0.99	15.92
12	518095	260350	NoData	NoData					NoData	NoData			NoData	NoData
13	518107	260350	NoData	NoData					NoData	NoData			NoData	NoData
14	518071	260362	NoData	NoData					NoData	NoData			0.42	15.91
15	518083	260362	NoData	NoData					NoData	NoData			0.42	15.91
16	518095	260362	NoData	NoData					NoData	NoData			NoData	NoData

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
17	518059	260374	1.91	15.14					2.01	15.38			2.23	15.91
18	518071	260374	NoData	NoData					NoData	NoData			0.42	15.91
19	518083	260374	NoData	NoData					NoData	NoData			0.42	15.91
20	518095	260374	NoData	NoData					NoData	NoData			NoData	NoData
21	518059	260386	1.42	15.14					1.49	15.38			1.66	15.91
22	518071	260386	NoData	NoData					NoData	NoData			0.38	15.91
23	518083	260386	NoData	NoData					NoData	NoData			0.38	15.91
24	518095	260386	NoData	NoData					NoData	NoData			0.10	15.90
25	518059	260398	0.93	15.14					0.98	15.37			1.09	15.90
26	518071	260398	NoData	NoData					0.22	15.38			0.67	15.90
27	518083	260398	NoData	NoData					0.22	15.38			0.67	15.90
28	518095	260398	NoData	NoData					0.01	15.38			0.48	15.90

Data in this table comes from the EAn Lower Ouse Upstream 2015 model.
Height values are shown in mAOD, and depth values are shown in metres.
Any blank cells show where a particular scenario has not been modelled for this location.
Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.



Environment Agency

Defences removed modelled fluvial extent and height

Location (easting/northing)
518084/260357

Scale
1:500

Created
3 Jul 2024

Model name
EAn Lower Ouse Kym 2015

Selected area

Main river

Modelled 2D grid
Water level in mAOD

- 0 - 13.0
- 13.0 - 18.875
- 18.875 - 24.75
- 24.75 - 30.625
- 30.625 - 36.5
- 36.5 - 42.375
- 42.375 - 48.25
- 48.25 - 54.125
- 54.125 - 60.0

This map shows the 0.1% AEP height data

0 5 10 15 20
metres

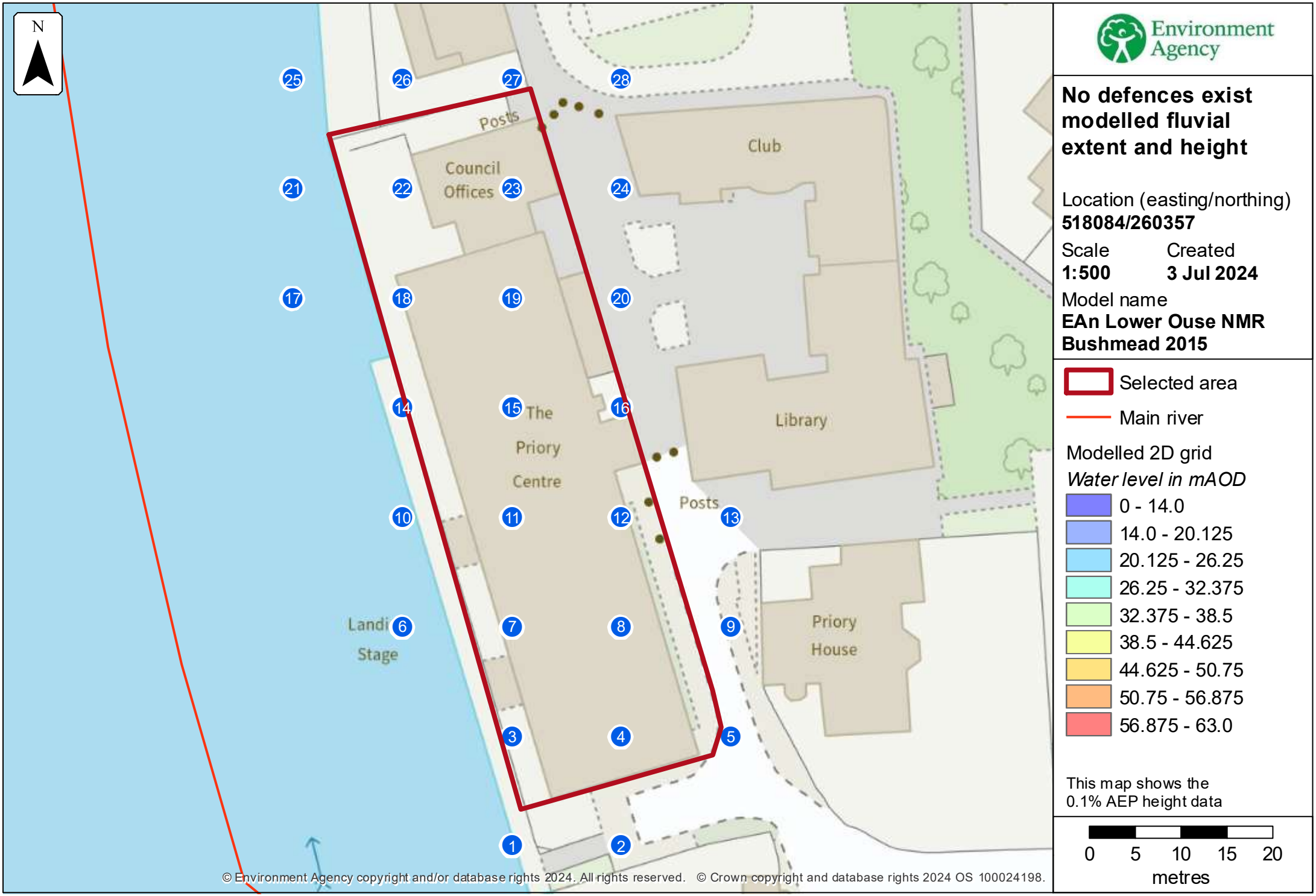
Sample point data

Defences removed

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	518083	260314	NoData	NoData					NoData	NoData			NoData	NoData
2	518095	260314	NoData	NoData					NoData	NoData			NoData	NoData
3	518083	260326	NoData	NoData					NoData	NoData			NoData	NoData
4	518095	260326	NoData	NoData					NoData	NoData			NoData	NoData
5	518107	260326	NoData	NoData					NoData	NoData			NoData	NoData
6	518071	260338	NoData	NoData					NoData	NoData			NoData	NoData
7	518083	260338	NoData	NoData					NoData	NoData			NoData	NoData
8	518095	260338	NoData	NoData					NoData	NoData			NoData	NoData
9	518107	260338	NoData	NoData					NoData	NoData			NoData	NoData
10	518071	260350	NoData	NoData					NoData	NoData			NoData	NoData
11	518083	260350	NoData	NoData					NoData	NoData			NoData	NoData
12	518095	260350	NoData	NoData					NoData	NoData			NoData	NoData
13	518107	260350	NoData	NoData					NoData	NoData			NoData	NoData
14	518071	260362	NoData	NoData					NoData	NoData			NoData	NoData
15	518083	260362	NoData	NoData					NoData	NoData			NoData	NoData
16	518095	260362	NoData	NoData					NoData	NoData			NoData	NoData

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
17	518059	260374	NoData	NoData					NoData	NoData			NoData	NoData
18	518071	260374	NoData	NoData					NoData	NoData			NoData	NoData
19	518083	260374	NoData	NoData					NoData	NoData			NoData	NoData
20	518095	260374	NoData	NoData					NoData	NoData			NoData	NoData
21	518059	260386	NoData	NoData					NoData	NoData			NoData	NoData
22	518071	260386	NoData	NoData					NoData	NoData			NoData	NoData
23	518083	260386	NoData	NoData					NoData	NoData			NoData	NoData
24	518095	260386	NoData	NoData					NoData	NoData			NoData	NoData
25	518059	260398	NoData	NoData					NoData	NoData			NoData	NoData
26	518071	260398	NoData	NoData					NoData	NoData			NoData	NoData
27	518083	260398	NoData	NoData					NoData	NoData			NoData	NoData
28	518095	260398	NoData	NoData					NoData	NoData			NoData	NoData

Data in this table comes from the EAn Lower Ouse Kym 2015 model.
Height values are shown in mAOD, and depth values are shown in metres.
Any blank cells show where a particular scenario has not been modelled for this location.
Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.



Environment Agency

No defences exist modelled fluvial extent and height

Location (easting/northing)
518084/260357

Scale
1:500

Created
3 Jul 2024

Model name
EAn Lower Ouse NMR Bushmead 2015

Selected area

Main river

Modelled 2D grid
Water level in mAOD

- 0 - 14.0
- 14.0 - 20.125
- 20.125 - 26.25
- 26.25 - 32.375
- 32.375 - 38.5
- 38.5 - 44.625
- 44.625 - 50.75
- 50.75 - 56.875
- 56.875 - 63.0

This map shows the 0.1% AEP height data

0 5 10 15 20
metres

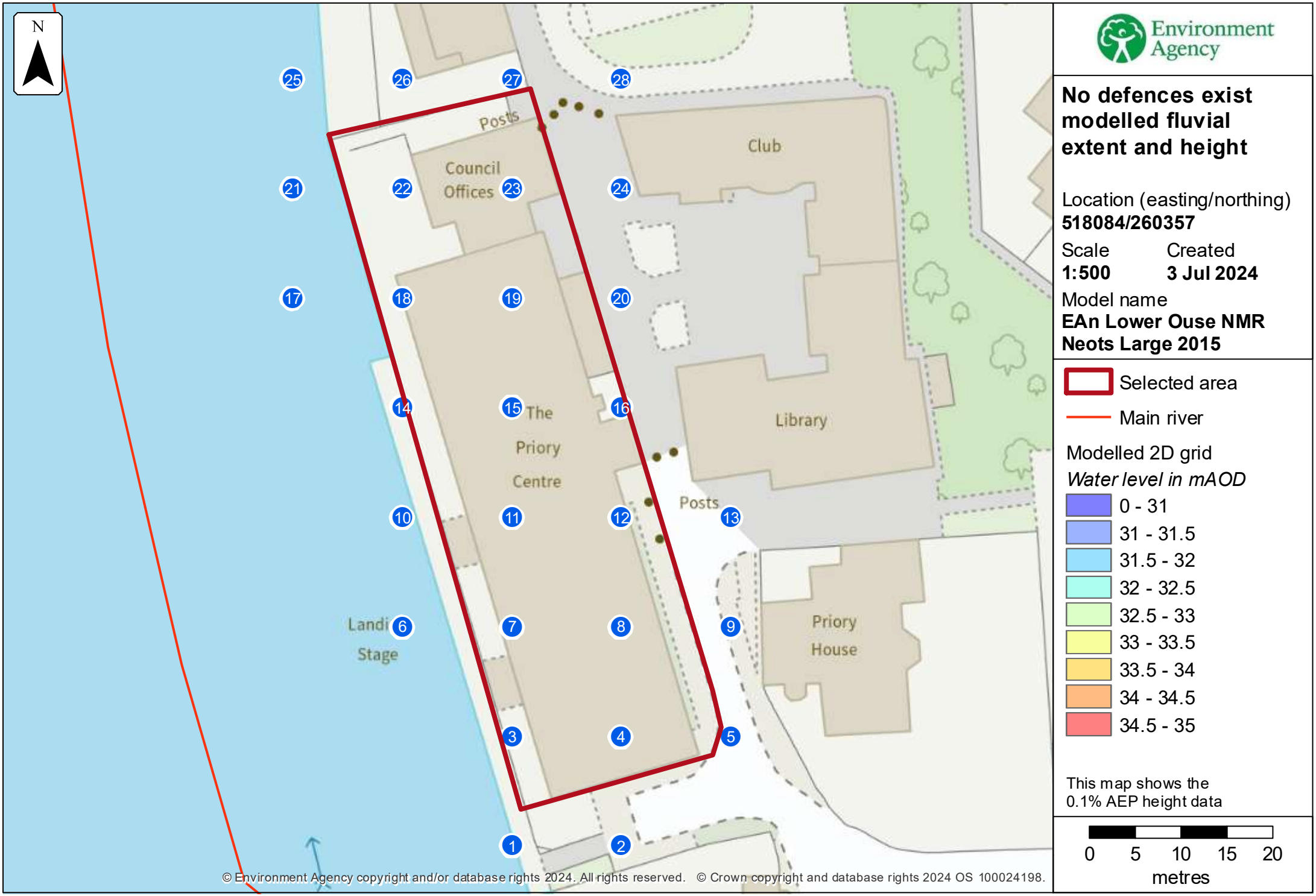
Sample point data

No defences exist

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	518083	260314							NoData	NoData			NoData	NoData
2	518095	260314							NoData	NoData			NoData	NoData
3	518083	260326							NoData	NoData			NoData	NoData
4	518095	260326							NoData	NoData			NoData	NoData
5	518107	260326							NoData	NoData			NoData	NoData
6	518071	260338							NoData	NoData			NoData	NoData
7	518083	260338							NoData	NoData			NoData	NoData
8	518095	260338							NoData	NoData			NoData	NoData
9	518107	260338							NoData	NoData			NoData	NoData
10	518071	260350							NoData	NoData			NoData	NoData
11	518083	260350							NoData	NoData			NoData	NoData
12	518095	260350							NoData	NoData			NoData	NoData
13	518107	260350							NoData	NoData			NoData	NoData
14	518071	260362							NoData	NoData			NoData	NoData
15	518083	260362							NoData	NoData			NoData	NoData
16	518095	260362							NoData	NoData			NoData	NoData

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
17	518059	260374							NoData	NoData			NoData	NoData
18	518071	260374							NoData	NoData			NoData	NoData
19	518083	260374							NoData	NoData			NoData	NoData
20	518095	260374							NoData	NoData			NoData	NoData
21	518059	260386							NoData	NoData			NoData	NoData
22	518071	260386							NoData	NoData			NoData	NoData
23	518083	260386							NoData	NoData			NoData	NoData
24	518095	260386							NoData	NoData			NoData	NoData
25	518059	260398							NoData	NoData			NoData	NoData
26	518071	260398							NoData	NoData			NoData	NoData
27	518083	260398							NoData	NoData			NoData	NoData
28	518095	260398							NoData	NoData			NoData	NoData

Data in this table comes from the EAn Lower Ouse NMR Bushmead 2015 model.
Height values are shown in mAOD, and depth values are shown in metres.
Any blank cells show where a particular scenario has not been modelled for this location.
Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.



Environment Agency

No defences exist modelled fluvial extent and height

Location (easting/northing)
518084/260357

Scale
1:500

Created
3 Jul 2024

Model name
EAn Lower Ouse NMR Neots Large 2015

Selected area

Main river

Modelled 2D grid
Water level in mAOD

- 0 - 31
- 31 - 31.5
- 31.5 - 32
- 32 - 32.5
- 32.5 - 33
- 33 - 33.5
- 33.5 - 34
- 34 - 34.5
- 34.5 - 35

This map shows the 0.1% AEP height data

0 5 10 15 20
metres

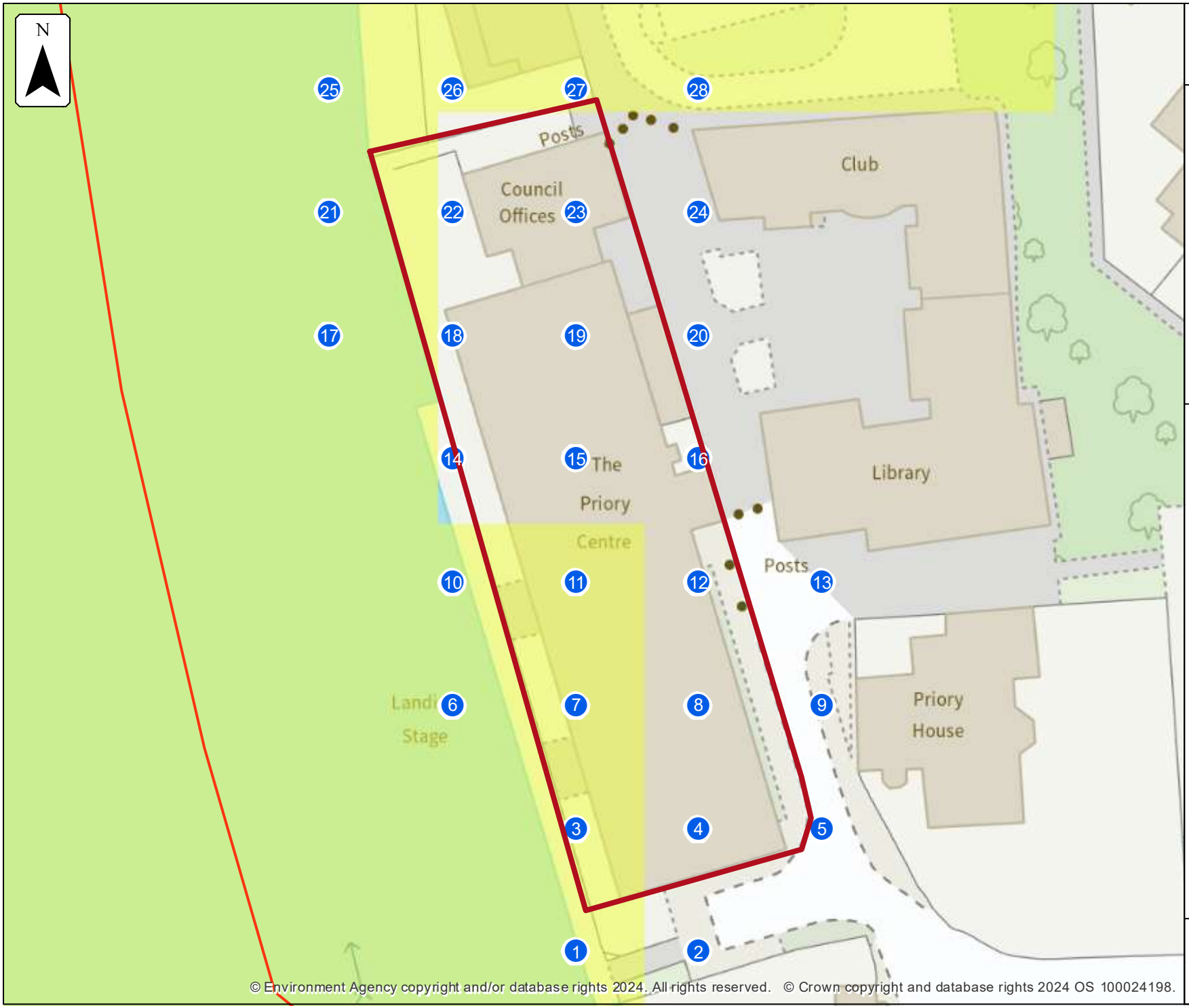
Sample point data

No defences exist

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	518083	260314							NoData	NoData			NoData	NoData
2	518095	260314							NoData	NoData			NoData	NoData
3	518083	260326							NoData	NoData			NoData	NoData
4	518095	260326							NoData	NoData			NoData	NoData
5	518107	260326							NoData	NoData			NoData	NoData
6	518071	260338							NoData	NoData			NoData	NoData
7	518083	260338							NoData	NoData			NoData	NoData
8	518095	260338							NoData	NoData			NoData	NoData
9	518107	260338							NoData	NoData			NoData	NoData
10	518071	260350							NoData	NoData			NoData	NoData
11	518083	260350							NoData	NoData			NoData	NoData
12	518095	260350							NoData	NoData			NoData	NoData
13	518107	260350							NoData	NoData			NoData	NoData
14	518071	260362							NoData	NoData			NoData	NoData
15	518083	260362							NoData	NoData			NoData	NoData
16	518095	260362							NoData	NoData			NoData	NoData

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
17	518059	260374							NoData	NoData			NoData	NoData
18	518071	260374							NoData	NoData			NoData	NoData
19	518083	260374							NoData	NoData			NoData	NoData
20	518095	260374							NoData	NoData			NoData	NoData
21	518059	260386							NoData	NoData			NoData	NoData
22	518071	260386							NoData	NoData			NoData	NoData
23	518083	260386							NoData	NoData			NoData	NoData
24	518095	260386							NoData	NoData			NoData	NoData
25	518059	260398							NoData	NoData			NoData	NoData
26	518071	260398							NoData	NoData			NoData	NoData
27	518083	260398							NoData	NoData			NoData	NoData
28	518095	260398							NoData	NoData			NoData	NoData

Data in this table comes from the EAn Lower Ouse NMR St Neots Large 2015 model.
Height values are shown in mAOD, and depth values are shown in metres.
Any blank cells show where a particular scenario has not been modelled for this location.
Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.



Environment Agency

Defended climate change modelled fluvial extent and height

Location (easting/northing)
518084/260357

Scale
1:500

Created
3 Jul 2024

Model name
EAn Lower Ouse Upstream 2015

Selected area

Main river

Modelled 2D grid
Water level in mAOD

- 0 - 15.0
- 15.0 - 15.125
- 15.125 - 15.25
- 15.25 - 15.375
- 15.375 - 15.5
- 15.5 - 15.625
- 15.625 - 15.75
- 15.75 - 15.875
- 15.875 - 16.0

This map shows the 1.0% AEP +20% height data

0 5 10 15 20
metres

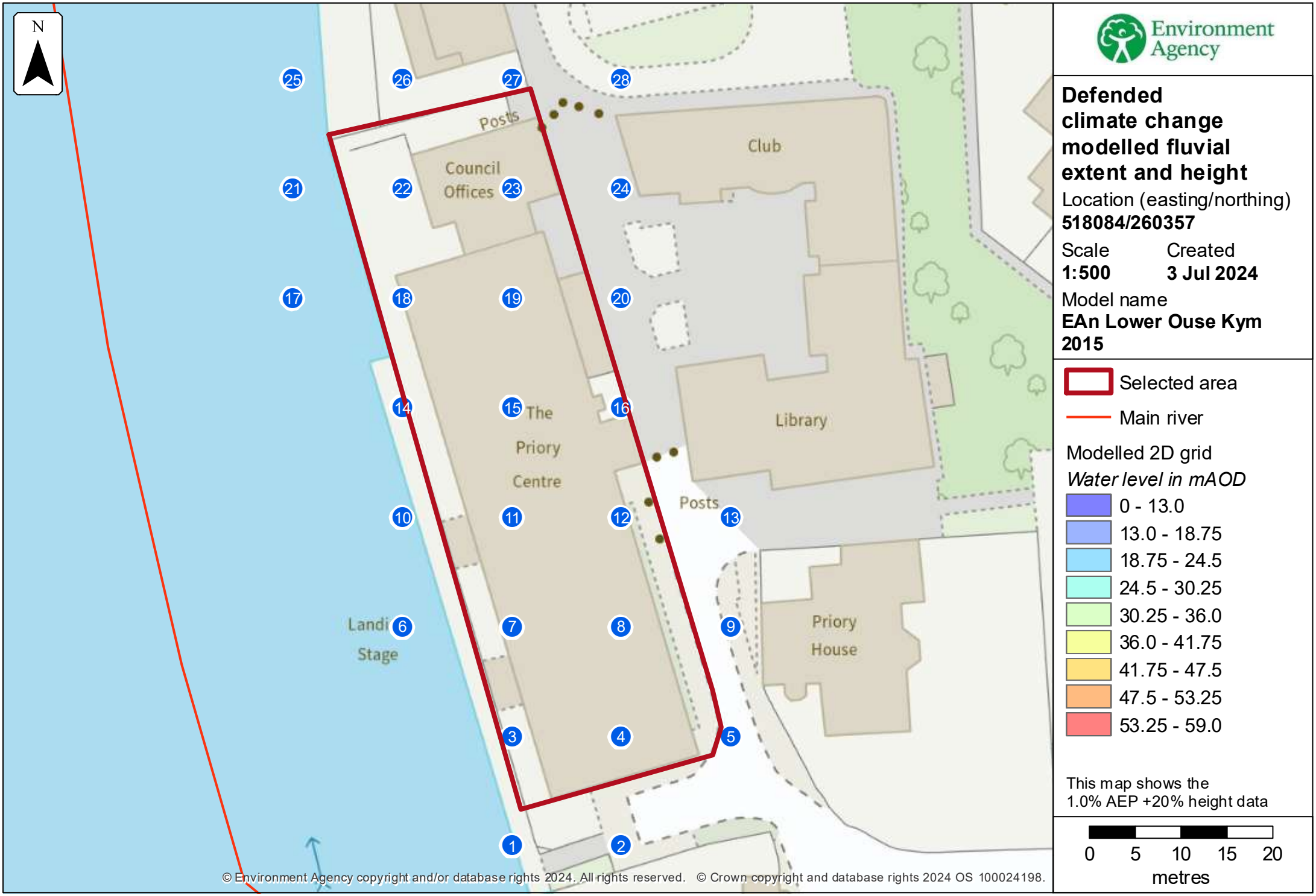
Sample point data

Defended climate change

Label	Easting	Northing	1% AEP (+20%)	
			Depth	Height
1	518083	260314	1.89	15.57
2	518095	260314	NoData	NoData
3	518083	260326	0.28	15.56
4	518095	260326	NoData	NoData
5	518107	260326	NoData	NoData
6	518071	260338	0.64	15.56
7	518083	260338	0.64	15.56
8	518095	260338	NoData	NoData
9	518107	260338	NoData	NoData
10	518071	260350	0.64	15.56
11	518083	260350	0.64	15.56
12	518095	260350	NoData	NoData
13	518107	260350	NoData	NoData
14	518071	260362	NoData	NoData
15	518083	260362	NoData	NoData
16	518095	260362	NoData	NoData

Label	Easting	Northing	1% AEP (+20%)	
			Depth	Height
17	518059	260374	2.08	15.55
18	518071	260374	NoData	NoData
19	518083	260374	NoData	NoData
20	518095	260374	NoData	NoData
21	518059	260386	1.55	15.55
22	518071	260386	NoData	NoData
23	518083	260386	NoData	NoData
24	518095	260386	NoData	NoData
25	518059	260398	1.01	15.55
26	518071	260398	0.35	15.55
27	518083	260398	0.35	15.55
28	518095	260398	0.13	15.55

Data in this table comes from the EAn Lower Ouse Upstream 2015 model.
Height values are shown in mAOD, and depth values are shown in metres.
Any blank cells show where a particular scenario has not been modelled for this location.
Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.



Environment Agency

Defended climate change modelled fluvial extent and height

Location (easting/northing)
518084/260357

Scale
1:500

Created
3 Jul 2024

Model name
EAn Lower Ouse Kym 2015

Selected area

Main river

Modelled 2D grid
Water level in mAOD

- 0 - 13.0
- 13.0 - 18.75
- 18.75 - 24.5
- 24.5 - 30.25
- 30.25 - 36.0
- 36.0 - 41.75
- 41.75 - 47.5
- 47.5 - 53.25
- 53.25 - 59.0

This map shows the 1.0% AEP +20% height data

0 5 10 15 20
metres

Sample point data

Defended climate change

Label	Easting	Northing	1% AEP (+20%)	
			Depth	Height
1	518083	260314	NoData	NoData
2	518095	260314	NoData	NoData
3	518083	260326	NoData	NoData
4	518095	260326	NoData	NoData
5	518107	260326	NoData	NoData
6	518071	260338	NoData	NoData
7	518083	260338	NoData	NoData
8	518095	260338	NoData	NoData
9	518107	260338	NoData	NoData
10	518071	260350	NoData	NoData
11	518083	260350	NoData	NoData
12	518095	260350	NoData	NoData
13	518107	260350	NoData	NoData
14	518071	260362	NoData	NoData
15	518083	260362	NoData	NoData
16	518095	260362	NoData	NoData

Label	Easting	Northing	1% AEP (+20%)	
			Depth	Height
17	518059	260374	NoData	NoData
18	518071	260374	NoData	NoData
19	518083	260374	NoData	NoData
20	518095	260374	NoData	NoData
21	518059	260386	NoData	NoData
22	518071	260386	NoData	NoData
23	518083	260386	NoData	NoData
24	518095	260386	NoData	NoData
25	518059	260398	NoData	NoData
26	518071	260398	NoData	NoData
27	518083	260398	NoData	NoData
28	518095	260398	NoData	NoData

Data in this table comes from the EAn Lower Ouse Kym 2015 model.
Height values are shown in mAOD, and depth values are shown in metres.
Any blank cells show where a particular scenario has not been modelled for this location.
Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.

Strategic flood risk assessments

We recommend that you check the relevant local authority's strategic flood risk assessment (SFRA) as part of your work to prepare a site specific flood risk assessment.

This should give you information about:

- the potential impacts of climate change in this catchment
- areas defined as functional floodplain
- flooding from other sources, such as surface water, ground water and reservoirs

About this data

This data has been generated by strategic scale flood models and is not intended for use at the individual property scale. If you're intending to use this data as part of a flood risk assessment, please include an appropriate modelling tolerance as part of your assessment. The Environment Agency regularly updates its modelling. We recommend that you check the data provided is the most recent, before submitting your flood risk assessment.

Flood risk activity permits

Under the Environmental Permitting (England and Wales) Regulations 2016 some developments may require an environmental permit for flood risk activities from the Environment Agency. This includes any permanent or temporary works that are in, over, under, or nearby a designated main river or flood defence structure.

Find out more about flood risk activity permits

Help and advice

Contact the East Anglia Environment Agency team at enquiries_eastanglia@environment-agency.gov.uk for:

- more information about getting a product 5, 6, 7 or 8
- general help and advice about the site you're requesting data for

Flood risk assessments: Climate change allowances

Application of the allowances and local considerations

East Anglia; Essex, Norfolk, Suffolk, Cambridgeshire and Bedfordshire

1) The climate change allowances

The National Planning Practice Guidance refers planners, developers and advisors to the Environment Agency guidance on considering climate change in Flood Risk Assessments (FRAs). This guidance was updated in October 2021 and is available on Gov.uk. The guidance can be used for planning applications, local plans, neighbourhood plans and other projects. It provides climate change allowances for peak river flow, peak rainfall, sea level rise, wind speed and wave height. The guidance provides a range of allowances to assess fluvial flooding, rather than a single national allowance. It advises on what allowances to use for assessment based on vulnerability classification, flood zone and development lifetime.

2) Assessment of climate change impacts on fluvial flooding

Where existing EA flood risk datasets and models do not provide the required climate change allowances, it is up to developers to undertake any work needed to appropriately assess the impacts of climate change on flood risk. They can do this by using the approaches in **Table A** below:

Table A below indicates the level of technical assessment of climate change impacts on fluvial flooding appropriate for new developments depending on their scale and location. This should be used as **a guide only**. Ultimately, the agreed approach should be based on expert local knowledge of flood risk conditions, local sensitivities and other influences. **For these reasons, we recommend that applicants and / or their consultants should contact the Environment Agency at the pre-planning application stage to confirm the assessment approach, on a case by case basis**. The email addresses for our Sustainable Places teams at our respective offices can be found in Section 8 below.

Table A defines three possible approaches to account for flood risk impacts due to climate change, in new development proposals:

- **Basic:** Developer can add an allowance to the 'design flood' (i.e. 1% annual probability) peak levels to account for potential climate change impacts. The allowance should be derived and agreed locally by Environment Agency teams.
- **Intermediate:** Developer can use existing modelled flood and flow data to construct a stage-discharge rating curve, which can be used to interpolate a flood level based on the required peak flow allowance being applied to the 'design flood' flow.
- **Detailed:** Perform detailed hydraulic modelling, either through re-running Environment Agency hydraulic models (if available) or construction of a new model by the developer.

Table A – Indicative guide to assessment approach

VULNERABILITY CLASSIFICATION	FLOOD ZONE	DEVELOPMENT TYPE		
		NON-MAJOR	SMALL-MAJOR	LARGE-MAJOR
ESSENTIAL INFRASTRUCTURE	Zone 2	Detailed		
	Zone 3a	Detailed		
	Zone 3b	Detailed		
HIGHLY VULNERABLE	Zone 2	Intermediate/ Basic	Intermediate/ Basic	Detailed
	Zone 3a	Not appropriate development		
	Zone 3b	Not appropriate development		
MORE VULNERABLE	Zone 2	Basic	Basic	Intermediate/ Basic
	Zone 3a	Intermediate/ Basic	Detailed	Detailed
	Zone 3b	Not appropriate development		
LESS VULNERABLE	Zone 2	Basic	Basic	Intermediate/ Basic
	Zone 3a	Basic	Basic	Detailed
	Zone 3b	Not appropriate development		
WATER COMPATIBLE	Zone 2	None		
	Zone 3a	Intermediate/ Basic		
	Zone 3b	Detailed		

Note: Where the table states 'not appropriate development', this is in line with national planning policy. If in exceptional circumstances such development types are proposed in these locations, we would expect a detailed modelling approach to be used.

NOTES:

- Non-Major: 1-9 dwellings/ less than 0.5 ha | Office / light industrial under 1ha | General industrial under 1 ha | Retail under 1 ha | Gypsy/traveller site between 0 and 9 pitches
- Small-Major: 10 to 30 dwellings | Office / light industrial 1ha to 5ha | General industrial 1ha to 5ha | Retail over 1ha to 5ha | Gypsy/traveller site over 10 to 30 pitches
- Large-Major: 30+ dwellings | Office / light industrial 5ha+ | General industrial 5ha+ | Retail 5ha+ | Gypsy/traveler site over 30+ pitches | any other development that creates a non-residential building or development over 1000 sq m.

The assessment approach should be agreed with the Environment Agency as part of pre-planning application discussions to avoid abortive work.

3) Specific local considerations

Where the Environment Agency and the applicant and / or their consultant has agreed that a '**basic**´ level of assessment is appropriate, the figures in Table B below can be used as a precautionary allowance for potential climate change impacts on peak 'design' (i.e. 1% annual probability) fluvial flood level rather than undertaking detailed modelling.

Table B – Local precautionary allowances for potential climate change impacts

Essex, Norfolk and Suffolk

Hydraulic Model (Watercourse)	Precautionary allowance (basic approach)
Blackwater & Brain - Blackwater between TL7520925623 and TL7820324314 Brain between TL7373323312 and TL7683821321	500mm
Other main rivers, tributaries and ordinary watercourses	For other main rivers, tributaries and ordinary watercourses that are not stated above, basic allowances have not been calculated. In this instance you can either: • If flow data is available you can request this data from us and can conduct an intermediate assessment yourself • Or alternatively, you can choose to undertake a Detailed Assessment and "perform detailed hydraulic modelling, through either re-running our hydraulic models (if available) or constructing a new model

Cambridgeshire and Bedfordshire

Watercourse / Model	Precautionary allowance (basic approach)
Alconbury Brook	600mm
River Kym	
Lower Ouse (Model Extent)	700mm
Mid Ouse (Cold Brayfield to Bromham – between SP9156852223 and TL0132950919)	700mm
Mid Ouse (East of Bedford to Roxton – between TL0791848903 and TL1618854543)	700mm
River Hiz and River Purwell	400mm
River Ivel	500mm
Pix Brook	450mm
Potton Brook	500mm
River Cam and tributaries (excluding the Cam Lodes and the Slade System)	450mm
Great Barford (ordinary watercourses)	500mm
Bromham (ordinary watercourse)	550mm

NOTES:

Urban areas excluded from the 'basic' approach: St Ives, Holywell, Godmanchester, Swavesey, Over, Bedford, Newport Pagnell, Buckingham and Leighton Buzzard. More detailed assessment of climate change allowances will need to be undertaken in these locations.

Use of these allowances will only be accepted after discussion with the Environment Agency.

4) Fluvial flood risk mitigation

For planning consultations where we are a statutory consultee and our Flood risk standing advice **does not** apply we use the following benchmarks to inform flood risk mitigation for different vulnerability classifications. **These are a guide only**. **We strongly recommend you contact us at the pre-planning application stage to confirm this on a case by case basis.** For planning consultations where we are not a statutory consultee or our Flood risk Standing advice applies, we recommend that local planning authorities and developers use these benchmarks but we do not expect to be consulted.

- For development classed as '**essential infrastructure**' our benchmark for flood risk mitigation is for it to be designed to the '**higher central**' climate change allowance for the epoch that most closely represents the lifetime of the development, including decommissioning. Please note that nationally significant infrastructure projects (NSIPs) may also need to assess a **credible maximum climate change scenario** by applying the '**upper end**' allowance for peak river flow as a sensitivity test. This will help to determine how sensitive the development is to changes in the climate and to ensure that it can be adapted to large-scale climate change over its lifetime.

- For **highly vulnerable**, **more vulnerable, less vulnerable and water compatible** developments in flood zones 2 and 3a, the '**central**' climate change allowance is our minimum benchmark for flood risk mitigation. For large urban settlement extensions or developments that form new communities, the credible maximum climate change scenario must be assessed; in these circumstances, you should use the '**upper end'** allowance.

- For **water compatible** development in flood zone 3b, the '**central**' climate change allowance for the epoch that most closely represents the lifetime of the development is our minimum benchmark for flood risk mitigation.

For peak river flow allowances and a visual representation of the above, please see Tables 1 and 2 below.

Table 1 peak river flow allowances by Management Catchment (use 1961 to 1990 baseline)

Management Catchment	Allowance category	Total potential change anticipated for '2020s' (2015 to 39)	Total potential change anticipated for '2050s' (2040 to 2069)	Total potential change anticipated for '2080s' (2070 to 2125)
Upper and Bedford Ouse	**Upper end**	24%	30%	58%
	Higher central	10%	11%	30%
	Central	5%	4%	19%
Cam and Ely Ouse	**Upper End**	21%	22%	45%
	Higher Central	7%	5%	19%
	Central	2%	-2%	9%
Old Bedford and Middle Level	**Upper End**	23%	22%	39%
	Higher central	9%	4%	15%
	Central	3%	-3%	6%
North West Norfolk	**Upper End**	30%	34%	57%
	Higher central	18%	18%	33%
	Central	13%	11%	23%
North Norfolk Rivers	**Upper End**	26%	27%	48%
	Higher central	13%	11%	24%
	Central	7%	4%	14%
Broadland Rivers	**Upper End**	27%	27%	44%
	Higher central	14%	10%	20%
	Central	8%	3%	11%
East Suffolk	**Upper End**	25%	29%	54%
	Higher central	13%	13%	29%
	Central	8%	7%	19%
Combined Essex	**Upper End**	27%	37%	72%
	Higher central	13%	16%	38%
	Central	7%	8%	25%

South Essex	**Upper End**	22%	27%	48%
	Higher central	11%	11%	26%
	Central	6%	5%	17%

If you are not sure which management catchment your site falls within, please use the guidance and link to the peak river flow map, which can be found at: https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances#peak-river-flow-allowances

Table 2: Using peak river flow allowances for flood risk assessments

Flood Zone	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
2	higher central[1]	central[2]	central[2]	central	central
3a	higher central[1]	**X**	central[2]	central	central
3b	higher central[1]	**X**	**X**	**X**	central

X – Development should not be permitted
If (exceptionally) development is considered appropriate when not in accordance with flood zone vulnerability categories, then it would be appropriate to use the higher central allowance.

[1] For NSIPs, the 'upper end' allowance should be used to assess a credible maximum climate change scenario.

[2] For large urban settlement extensions or developments that form new communities, the credible maximum climate change scenario must be assessed. In these circumstances, you should use the 'upper end' allowance.

There may be circumstances where local evidence supports the use of other data or allowances. Where you think this is the case we may want to check this data and how you propose to use it.

Assessing off-site impacts and calculating floodplain compensation

The appropriate allowance to assess off-site impacts and calculation floodplain compensation requirements depends on the land uses in affected areas.

The '**central'** allowance should be used in most cases. However, the '**higher central'** allowance should be used when the affected area contains essential infrastructure.

5) Development in tidal flood risk areas

For flood risk assessments and strategic flood risk assessments, assess both the **higher central** and **upper end** allowances for all development vulnerability classes (see table 3 below).

For NSIPs and large urban settlement extensions or developments that form new communities, the **credible maximum climate change scenario** should be assessed (sea level rise and sensitivity test allowances for offshore wind speed and extreme wave height and storm surge uplift). To assess the flood risk from a high impact climate change scenario, you should use the H^{++} allowance of 1.9m for the total sea level rise to 2100.

Table 3: sea level allowances for each epoch in mm for each year (based on a 1981 to 2000 baseline) – the total sea level risk for each epoch is in brackets

Area of England	Allowance	2000 to 2035 (mm)	2036 to 2065 (mm)	2066 to 2095 (mm)	2096 to 2125 (mm)	Cumulative rise 2000 to 2125 (metres)
Anglian	Higher central	5.8 (203)	8.7 (261)	11.6 (348)	13 (390)	1.20
Anglian	Upper end	7 (245)	11.3 (339)	15.8 (474)	18.1 (543)	1.60
South east	Higher central	5.7 (200)	8.7 (261)	11.6 (348)	13.1 (393)	1.20
South east	Upper end	6.9 (242)	11.3 (339)	15.8 (474)	18.2 (546)	1.60

6) Tidal flood risk mitigation

For planning consultations where we are a statutory consultee and our flood risk standing advice does not apply, we use the following benchmarks to inform flood risk mitigation for different vulnerability classifications. **These are a guide only. We strongly recommend you contact us at the pre-planning application stage to confirm this on a case by case basis. Please note you may be charged for this advice.** For planning consultations where we are not a statutory consultee or our flood risk standing advice applies, we recommend that local planning authorities and developers use these benchmarks but we do not expect to be consulted.

- For development classed as essential Infrastructure, highly vulnerable development and more vulnerable development, our minimum benchmark for flood risk mitigation is the **'upper end'** climate change allowance for the development lifetime (including decommissioning where relevant).

- For water compatible or less vulnerable development (e.g. commercial), our minimum benchmark for flood risk mitigation is the **'higher central'** climate change allowance for the development lifetime. In sensitive locations it may be necessary to use the **'upper end'** allowance to inform built in resilience.

If you are using our 2018 Coastal Flood Modelling Data outputs:
The **upper end** allowance become progressively higher each year than the climate change flood level outputs used in our current 2018 coastal flood model. So as an approximation we recommend that the following uplift values are added on to the on-site climate change flood levels provided in the Product 4:

- For development lifetimes extending to 2122, add 0.34m
- For development lifetimes extending to 2123, add 0.36m
- For development lifetimes extending to 2124, add 0.38m
- For development lifetimes extending to 2125, add 0.40m

If the proposed development is greater than 30 houses and the flood zone is in an open-coast location, we recommend that a more accurate impact of the increased upper end flood levels on the overtopping on-site flood levels is modelled by rerunning our coastal overtopping model with the new flood levels; you can obtain the model from us with a Product 6 and 7 request. If the site is located within a small or constrained tidal or coastal floodplain then regardless of the size of the development, you may also need to undertake remodelling of the flood levels to obtain an accurate assessment of the impacts of climate change; please contact us for advice (contact details in Section 8 below).

If you are using our Broads 2008 Flood Modelling Data outputs:
For the **upper end** allowance, please add the following uplift values onto the climate change flood levels provided in the Product 4:

- For development lifetimes extending to 2122, add 0.34m
- For development lifetimes extending to 2123, add 0.36m
- For development lifetimes extending to 2124, add 0.38m
- For development lifetimes extending to 2125, add 0.40m

If you are using our 2008 Thames Flood Modelling Data outputs:
Please add the appropriate climate change allowances for the South East River Basin District onto the present day flood levels obtained in the Product 4, starting from a base year of 2005. The allowances should be applied to the year appropriate to the respective development lifetime for residential or commercial developments.
***** note**:*** *We anticipate that there will be updated flood modelling outputs available for the Thames Estuary in mid-2022. Developers preparing Flood Risk Assessments for developments in this area should check for availability of new data with the East Anglia (East) PSO team (contact details in Section 8 below).*

There may be circumstances where local evidence supports the use of other data or allowances. Where you think this is the case, we may want to check this data and how you propose to use it.

7) Assessment of climate change impacts for Surface Water Management

Please see the latest advice on the use of Peak Rainfall Intensity climate change allowances, which can be found here: https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances

The Environment Agency is not a statutory consultee to the land use planning system for the consideration of surface water flood risk and management. We therefore recommend that you contact the relevant Lead Local Flood Authority (contact details listed below) to discuss Flood Risk Assessment requirements to support your development's surface water management proposals.

Cambridgeshire County Council - fr.planning@cambridgeshire.gov.uk
Central Bedfordshire Council – floodrisk@centralbedfordshire.gov.uk
Bedford Borough Council – floodrisk@bedford.gov.uk
Milton Keynes Council – llfa@milton-keynes.gov.uk
Buckinghamshire County Council - floodmanagement@buckscc.gov.uk
Herts County Council - floodandwatermanagement@hertscc.gov.uk
Northamptonshire County Council - floodandwater@northamptonshire.gov.uk
Norfolk County Council – llfa@norfolk.gov.uk
Suffolk County Council – floods@suffolk.gov.uk
Essex County Council – suds@essex.gov.uk
Thurrock Council – TransportDevelopment@thurrock.gov.uk
Southend-on-Sea Council – llfa@southend.gov.uk

8) Our Service

Non-chargeable service

We will give a free opinion on:

- What climate change allowance to apply to a particular development type
- Which technical approach is suitable in the FRA

Chargeable service:

- Review of climate change impacts using intermediate and detailed technical approaches (i.e. modelling review)
- Assessment and review of proposals for managed adaptation.

Contact Details

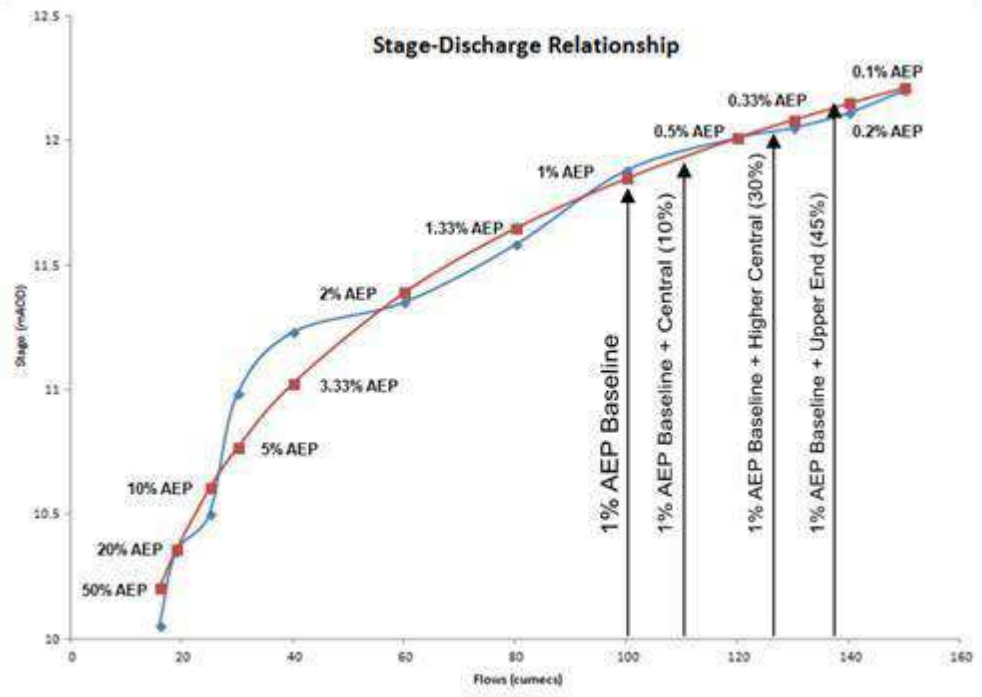
For East Anglia (Great Ouse Catchment): planning.brampton@environment-agency.gov.uk

For East Anglia (East): planning.ipswich@environment-agency.gov.uk

Appendix 1 – Further information on the Intermediate approach.

1) The methodology the chart is based on does not produce an accurate stage-discharge rating and is a simplified methodology for producing flood levels that can be applied in low risk small-scale development situations.
2) The method should not be applied where there is existing detailed modelled climate change outputs that use the new allowances. In such circumstances, the 'with climate change' modelled scenarios should be applied.

An example stage-discharge relationship is shown below.



APPENDIX E – EXISTING AND PROPOSED ON-SITE FLOOD LEVEL MODELLING



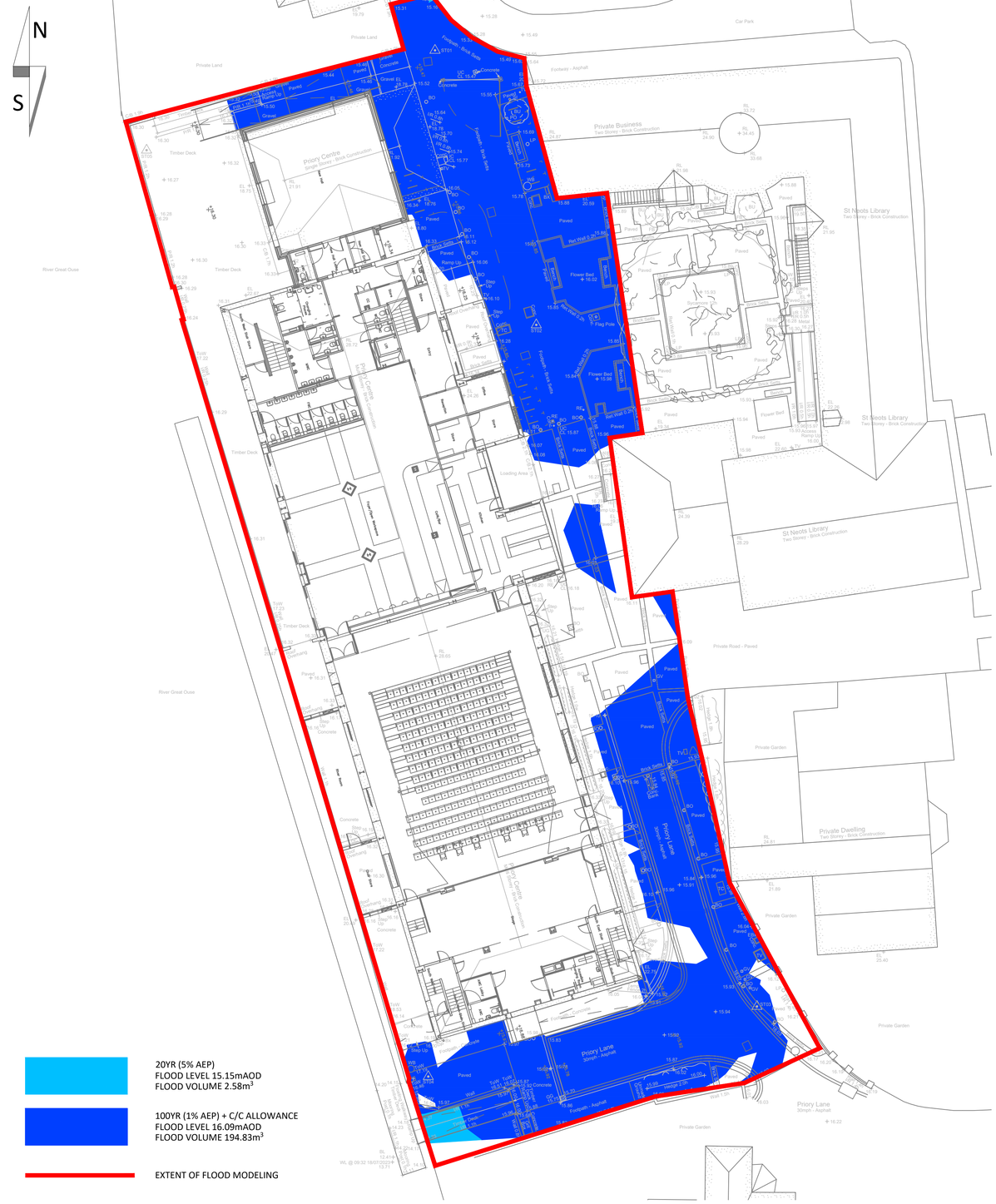
20YR (5% AEP)
FLOOD LEVEL 15.15mAOD
FLOOD VOLUME 2.58m³

100YR (1% AEP) + C/C ALLOWANCE
FLOOD LEVEL 16.09mAOD
FLOOD VOLUME 181.85m³

EXTENT OF FLOOD MODELING

EXISTING FLOOD EXTENT

SCALE 1:200



20YR (5% AEP)
FLOOD LEVEL 15.15mAOD
FLOOD VOLUME 2.58m³

100YR (1% AEP) + C/C ALLOWANCE
FLOOD LEVEL 16.09mAOD
FLOOD VOLUME 194.83m³

EXTENT OF FLOOD MODELING

PROPOSED FLOOD EXTENT

SCALE 1:200

simple works

NOTES:

1. NO DIMENSIONS TO BE SCALED FROM THIS DRAWING.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, SERVICES AND ENGINEERS DRAWINGS TOGETHER WITH THE RELEVANT SPECIFICATION AND GENERAL NOTES
3. ANY NON STRUCTURAL ITEMS SUCH AS WATERPROOFING, CLADDING, FINISHES, FIRE STOPPING ARE TO BE THE ARCHITECTS SPECIFICATIONS.
4. ALL PROPRIETARY PRODUCTS ARE TO BE USED AND INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS DETAILS AND REQUIREMENTS.
5. THE STRUCTURE IS DESIGNED AND DETAILED FOR THE PERMANANT CONDITION ONLY THE CONTRACTOR IS RESPONSIBLE FOR THE STRUCTURE IN ITS TEMPORARY CONDITION, ANY TEMPORARY WORKS REQUIRED DURING CONSTRUCTION AND ANY TEMPORARY LOADS ONTO THE EXISTING AND NEW STRUCTURE WHICH SHALL BE LESS THAN THOSE FOR WHICH IT HAS BEEN CONFIRMED OR DESIGNED RESPECTIVELY
6. ALL WORKS UNDERTAKEN BY CONTRACTOR TO BE COMPLIANT WITH RELEVANT AND CURRENT BUILDING CODES, REGULATIONS AND GOOD PRACTICES.

NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY
P1	02.08.24	STAGE 4 ISSUE	ADB

PROJECT NAME: THE PRIORY, ST NEOTS

CLIENT NAME: HUNTINGDON DISTRICT COUNCIL

PROJECT No.: 1940

SCALE @ A1: 1:200

DRAWN / CHECKED: ADB NR

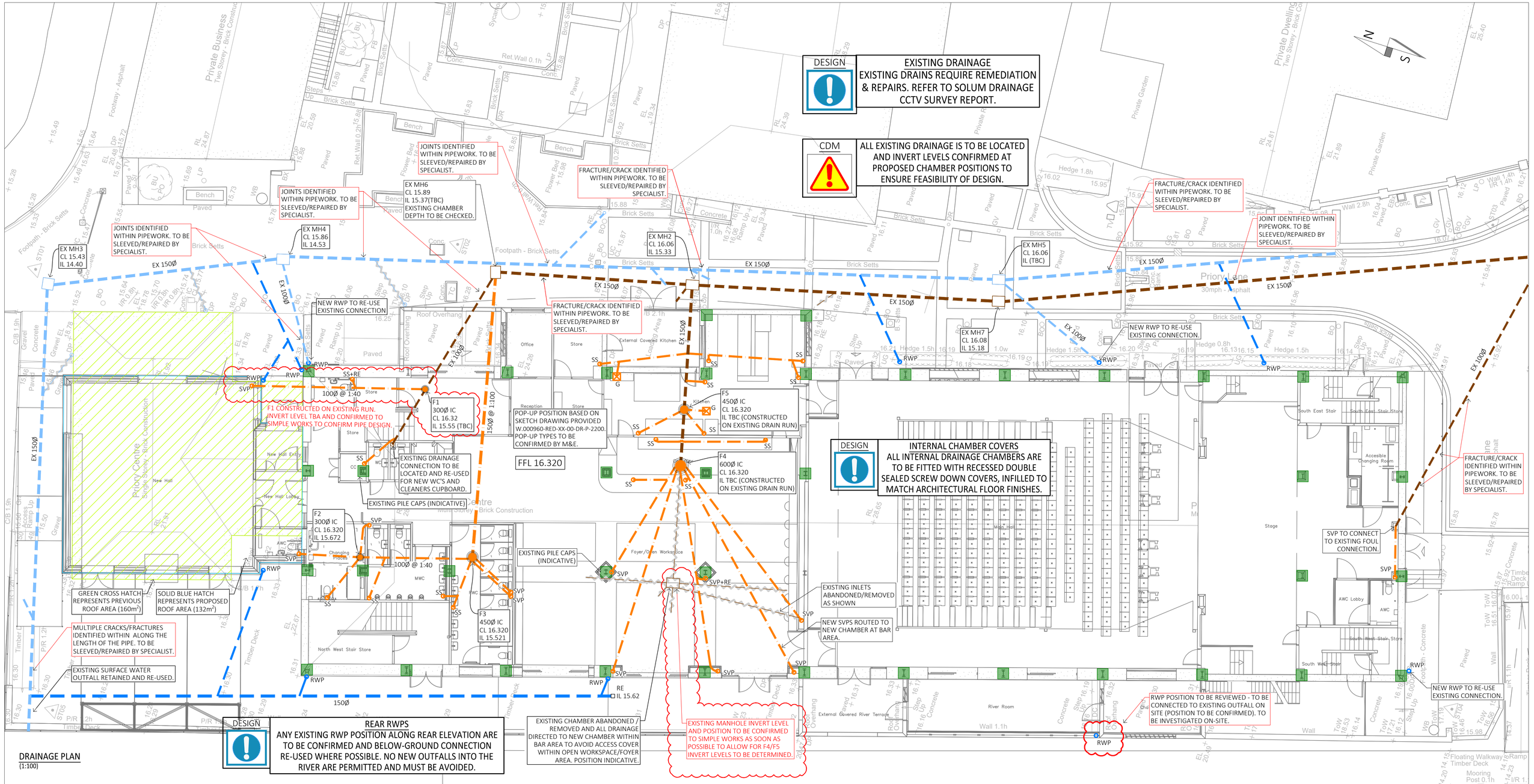
STATUS: STAGE 4

TITLE: EXISTING & PROPOSED FLOOD EXTENTS

Project: Org: Zone: Level: Type: Disc: Sheet: Rev: DATE:

1940-SMW-XX-XX-DR-D-0010-P1 02.08.24

APPENDIX F – PROPOSED DRAINAGE DRAWINGS



DRAINAGE PLAN
(1:100)

LEGEND

- PROPOSED PRIVATE SURFACE WATER SEWER
- PROPOSED PRIVATE FOUL SEWER
- EXISTING PRIVATE SURFACE WATER SEWER
- EXISTING PRIVATE FOUL WATER SEWER
- EXISTING DRAINAGE TO BE ABANDONED
- SVP — SOIL VENT PIPE (POSITION PROVIDED BY M&E)
- SS — STUB STACK (POSITION PROVIDED BY M&E)
- G — PROPOSED INTERNAL FOUL GULLY (POSITION PROVIDED BY M&E)
- RWP — RAINWATER DOWNPIPE (POSITION PROVIDED BY ARCHITECT)
- RE — RODDING EYE

GENERAL DRAINAGE NOTES.

1. ALL PRECAST CONCRETE UNITS ARE TO BE TO BS 5911 (CLASS 3 SULPHATE RESISTANT CEMENT).
2. ALL INTERNAL CHAMBER COVERS ARE TO BE RECESSED DOUBLE SEALED SCREW DOWN COVERS COMPLYING WITH BS EN 124. INFILLED TO MATCH ARCHITECTURAL FLOOR FINISHES.
3. ALL PRIVATE DRAINAGE WORKS TO BE IN ACCORDANCE WITH PART H OF THE BUILDING REGULATIONS AND BS EN 752
4. ALL MANHOLE COVER LEVELS ARE APPROXIMATE AND TO BE ADJUSTED TO SUIT THE PROPOSED LEVELS
5. THE CONTRACTOR IS TO ALLOW FOR ALL ABANDONED DRAINAGE RUNS TO BE REMOVED OR GROUTED UP AS NECESSARY
6. THE CONTRACTOR IS TO ALLOW FOR JET WASHING OF ALL LENGTHS OF EXISTING SEWERS WHICH ARE TO BE RETAINED.
7. THE CONTRACTOR IS TO ALLOW FOR JET WASHING OF THE ENTIRE DRAINAGE SYSTEM ON COMPLETION OF WORKS.
8. THE CONTRACTOR MUST CHECK THE LEVELS AND CONDITION OF ALL EXISTING DRAINAGE OUTFALLS PRIOR TO CONSTRUCTION OF ANY DRAINAGE, UNLESS OTHERWISE AGREED, TO ENSURE THE PROPOSED DESIGN MAY BE ACHIEVED. ANY DISCREPANCIES MUST BE REPORTED TO SIMPLE WORKS IMMEDIATELY.
9. ALL RWP, SVP AND FOUL DRAINAGE POSITIONS, INCLUDING UNDERSLAB GULLIES, ARE TO BE CONFIRMED BY THE ARCHITECT/M&E ENGINEER.
10. WHERE RWP'S STUB STACKS AND SVP'S ARE CONNECTED DIRECT TO THE DRAIN, RODDING ACCESS PLATES ARE TO BE PROVIDED.
11. ALL FOUL WATER DRAINS ARE TO BE 100Ø @ 1:40 U.N.O.
12. ALL SURFACE WATER DRAINS ARE TO BE 100Ø @ 1:60 U.N.O

DESIGN NOTES.

1. THIS DRAWING IS BASED ON ARCHITECTS DARINGS REF. 295_GA_111 PROPOSED SITE PLAN, 295_GA_120 PROPOSED PLAN G+0.
2. EXITING DRAINAGE IS BASED ON CCTV SURVEY DRAWING REF. SS-11285-THE-PRIORY-CCTV-R0.DWG FILE AND SOLUM SURVEY Ltd REPORT REF. 11285 THE PRIORY REPORT.
3. ALL SVP, POP-UP POSITION ARE BASED ON M&E DRAWING REF. W.000960-RED-XX-00-DR-P-2200.
4. ALL INTERNAL DRAINAGE CHAMBERS ARE ARE TO BE FITTED WITH RECESSED DOUBLE SEALED SCREW DOWN COVERS, INFILLED TO MATCH ARCHITECTURAL FLOOR FINISHES.
5. EXISTING DRAINS REQUIRE REMEDIATION & REPAIRS. REFER TO SOLUM DRAINAGE CCTV SURVEY REPORT.
6. THE PROPOSED DRAINAGE DESIGN IS SUBJECT TO AMENDMENT ON COMPLETION OF FLOOD RISK ASSESSMENT AND ANY FINDINGS THEREIN.

simple works

NOTES:

1. NO DIMENSIONS TO BE SCALED FROM THIS DRAWING.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, SERVICES AND ENGINEERS DRAWINGS TOGETHER WITH THE RELEVANT SPECIFICATION AND GENERAL NOTES
3. ANY NON STRUCTURAL ITEMS SUCH AS WATERPROOFING, CLADDING, FINISHES, FIRE STOPPING ARE TO BE THE ARCHITECTS SPECIFICATIONS.
4. ALL PROPRIETARY PRODUCTS ARE TO BE USED AND INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS DETAILS AND REQUIREMENTS.
5. THE STRUCTURE IS DESIGNED AND DETAILED FOR THE PERMANANT CONDITION ONLY THE CONTRACTOR IS RESPONSIBLE FOR THE STRUCTURE IN ITS TEMPORARY CONDITION, ANY TEMPORARY WORKS REQUIRED DURING CONSTRUCTION AND ANY TEMPORARY LOADS ONTO THE EXISTING AND NEW STRUCTURE WHICH SHALL BE LESS THAN THOSE FOR WHICH IT HAS BEEN CONFIRMED OR DESIGNED RESPECTIVELY
6. ALL WORKS UNDERTAKEN BY CONTRACTOR TO BE COMPLIANT WITH RELEVANT AND CURRENT BUILDING CODES, REGULATIONS AND GOOD PRACTICES.

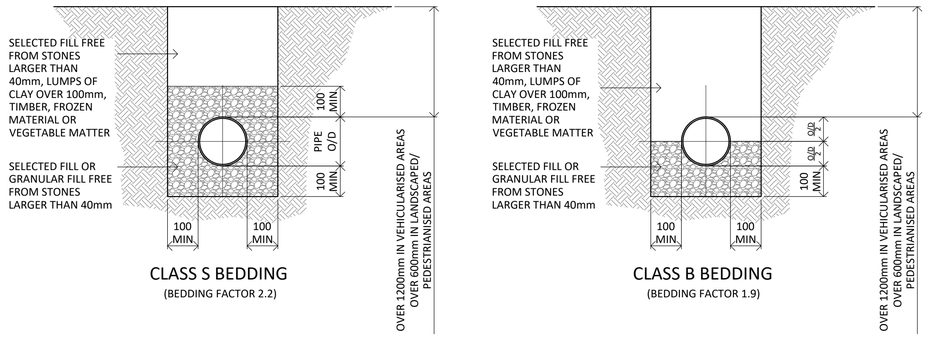
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY
P3	02.08.24	UPDATED TO SUIT FLOOD RISK ASSESSMENT	NR
P2	30.07.24	STAGE 4 ISSUE	ADB
P1	21.02.24	FORMAL DRAWING ISSUE	NR

PROJECT NAME: THE PRIORY, ST NEOTS
CLIENT NAME: HUNTINGDON DISTRICT COUNCIL
PROJECT No.: 1940
SCALE @ A1: 1:100
DRAWN / CHECKED: ADB NR
STATUS: STAGE 4
TITLE: PROPOSED DRAINAGE PLAN
Project: Org: Zone: Level: Type: Disc: Sheet: Rev: 1940-SMW-XX-XX-DR-D-0001-P3
DATE: 02.08.24

NOTES:

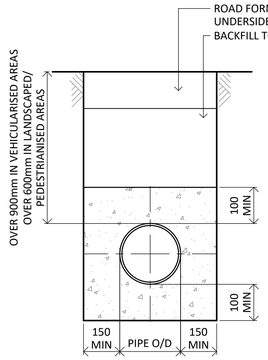
1. BEDDING BENEATH AND OVER THE PIPE TO BE LIGHTLY COMPACTED.
2. BEDDING TO THE SIDES TO BE WELL COMPACTED.
3. CARE IS TO BE TAKEN AS TO NOT DISPLACE THE PIPE FROM ITS INTENDED POSITION.
4. GEOTEXTILES MAY BE USED WHERE DIRECTED OR APPROVED BY THE ENGINEER IN CERTAIN SOILS EG RUNNING SAND IN VERY WET CONDITIONS.
5. IN VERY WET CONDITIONS, WHERE DIRECTED OR APPROVED BY THE ENGINEER A TEMPORARY LAND DRAIN MAY BE LAID WITHIN THE GRANULAR BED.
6. CLASS S BEDDING IS TO BE USED WITH ALL FLEXIBLE PIPES.
7. FIRST 300mm ABOVE CROWN OF PIPE IS TO BE LIGHTLY TAMPED BY HAND



CLASS S BEDDING
(BEDDING FACTOR 2.2)

CLASS B BEDDING
(BEDDING FACTOR 1.9)

GRANULAR PIPE BEDDING DETAILS



CLASS A BEDDING
PLAIN CONCRETE BED & SURROUND
(BEDDING FACTOR 2.6)

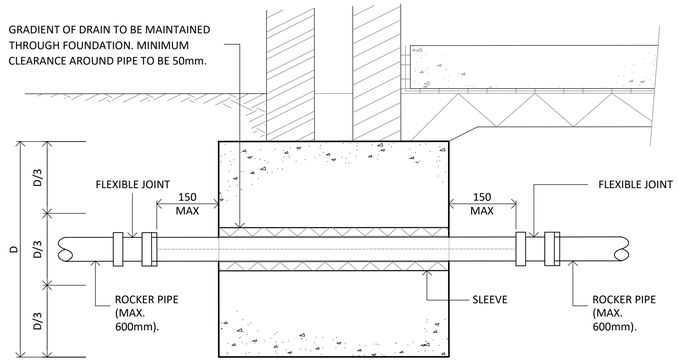
NOTES:

1. FLEXIBLE JOINTS SHALL BE PROVIDED IN CONCRETE, BY INSERTING COMPRESSIBLE BOARD AT INTERVALS NOT EXCEEDING 5m. PRECUT TO DIAMETER, HEIGHT AND WIDTH EQUAL TO THE CONCRETE CROSS SECTION.
2. WHERE PIPES WITH FLEXIBLE JOINTS ARE USED, THE CONCRETE PROTECTION IS TO BE INTERRUPTED OVER ITS FULL CROSS-SECTION BY A SHAPED FORMER OF BITUMEN IMPREGNATED COMPRESSIBLE FILLER. THESE INTERRUPTIONS SHALL COINCIDE WITH PIPE JOINTS AND MUST NOT EXCEED 5m.
3. CONCRETE TO BE CLASS 2 SULPHATE RESISTING CONCRETE (GRADE GEN3)
4. CARE IS TO BE TAKEN AS TO NOT DISPLACE THE PIPE FROM ITS INTENDED POSITION.
5. GEOTEXTILES MAY BE USED WHERE DIRECTED OR APPROVED BY THE ENGINEER IN CERTAIN SOILS EG RUNNING SAND IN VERY WET CONDITIONS.
6. WHERE FLEXIBLE PIPES ARE USED, CARE MUST BE TAKEN TO PREVENT THE PIPES FROM FLOATING.

CONCRETE PIPE BEDDING DETAILS

DESIGN NOTES

1. DO NOT SCALE THIS DRAWING. WORK ONLY TO FIGURED DIMENSIONS.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ENGINEERS, ARCHITECTS AND SUB-CONTRACTORS DRAWINGS AND DETAILS.



NOTES:

1. DRAIN SLEEVE / DUCT TO BE LOCATED WHOLLY WITHIN THE MIDDLE THIRD OF THE FOUNDATION DEPTH (D). THE ENGINEER IS TO BE ADVISED IF THIS IS NOT POSSIBLE.
2. IN NORMAL SOIL CONDITIONS THE SLEEVE/DUCT IS TO GIVE A 50mm CLEARANCE ALL ROUND THE OUTSIDE OF THE DRAIN PIPE (THIS MAY BE ACHIEVED BY LIGHTLY PACKING THE SPACE WITH COMPRESSIBLE FILLER MATERIAL)
3. MAXIMUM SLEEVE SIZE TO BE 300mm.

DRAINS THROUGH STRIP FOUNDATIONS

NOTES:

1. IMPORTED GRANULAR MATERIALS TO INCLUDE AGGREGATES TO BS 12620:2002, AIR-COOLED BLAST FURNACE SLAG TO BS EN 12620:2002 & SINTERED PULVERIZED FUEL ASH TO BS EN 13055-1:2002.
2. ANGULAR MATERIALS SHOULD BE CHOSEN TO ENSURE SUFFICIENT SUPPORT IS PROVIDED TO HEAVIER PIPES.
3. CLASS S BEDDING SHALL BE USED WITH ALL FLEXIBLE PIPES

PIPE DIAMETER	CLASS OF BEDDING	IMPORTED GRANULAR MATERIAL (NOTE 1)
100MM	S B	10MM NOMINAL SIZE
OVER 100MM TO 150MM	S B	10MM OR 14MM NOM. SINGLE SIZE OR 14MM TO 5MM GRADED.
OVER 150MM TO 500MM	S B	10, 14 OR 20MM NOM. SINGLE SIZE OR 14MM TO 5MM GRADED OR 20MM TO 5MM GRADED
OVER 500MM (NOTE 2)	S B	10, 14 OR 20MM NOM. SINGLE SIZE OR 14MM TO 5MM GRADED OR 20MM TO 5MM GRADED OR 40MM TO 5MM GRADED

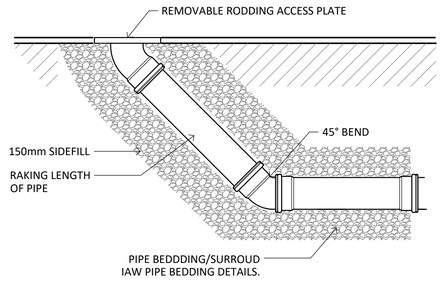
GRANULAR BEDDING AND SIDE FILL MATERIAL FOR RIGID AND FLEXIBLE PIPES

NOTES:

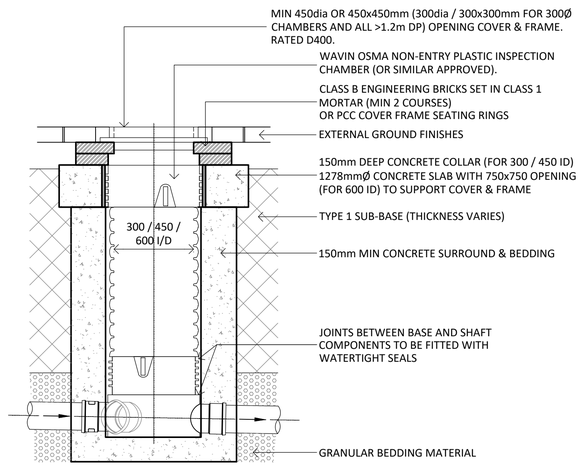
1. DIMENSION Y1 SHALL BE USED UNLESS Y2 IS SPECIFIED OR DIRECTED BY THE ENGINEER.
2. DIMENSION Y2 SHALL BE USED IN PLACE OF Y1 WHERE THE EXCAVATION IS IN ROCK OR IN MIXED SOILS CONTAINING ROCK BEDS, BOULDERS, LARGE FLINTS OR OTHER IRREGULAR HARD SPOTS.
3. DIMENSION Y2 SHALL BE INCREASED BY 40mm FOR EACH ADDITIONAL 1.0m OF COVER IN EXCESS OF 5.0m.
4. DIMENSION L IS THE WIDTH OF THE COMPRESSIBLE FILLER REQUIRED AT JOINTS IN CONCRETE PROTECTION TO PIPES (CLASS A)

PIPE DIAMETER	Y MINIMUM		MAXIMUM TRENCH WIDTH	L
	Y1 MIN.	Y2 MIN.		
100	100	200	700	18
150	100	200	750	18
200	100	200	800	18
225	100	200	825	18
250	100	200	850	18
300	100	200	925	18
350	100	200	1000	18
375	100	200	1090	18
400	150	200	1025	18
450	150	200	1175	36

DIMENSIONS FOR PIPE BEDDING

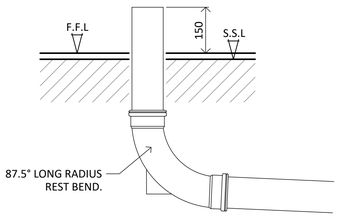


TYPICAL RODDING EYE DETAIL

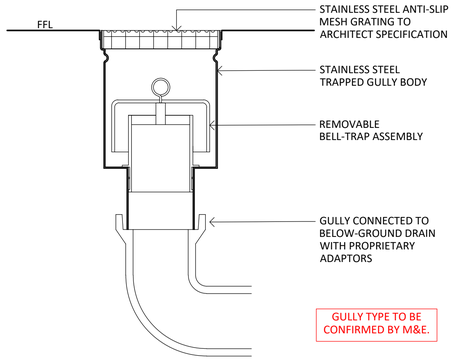


TYPICAL PLASTIC INSPECTION CHAMBER

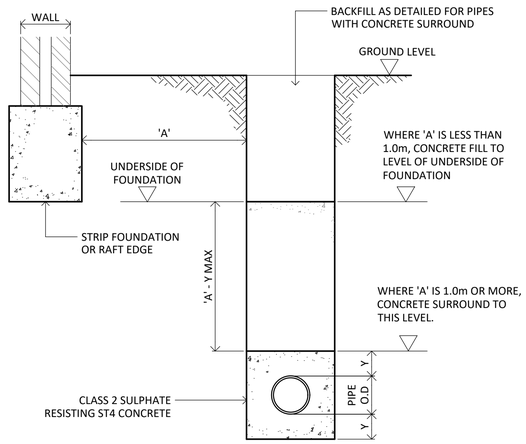
DEPTH TO SOFFIT = MAXIMUM DEPTH TO INVERT 3.0m (NON-ENTRY)
D400 LOADING (MAX 40t VEHICLE LOADING)



TYPICAL DRAINAGE POP UP DETAIL



INTERNAL FOUL GULLY



PIPE RUNS NEAR BUILDINGS

simple works

NOTES:

1. NO DIMENSIONS TO BE SCALED FROM THIS DRAWING.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, SERVICES AND ENGINEERS DRAWINGS TOGETHER WITH THE RELEVANT SPECIFICATION AND GENERAL NOTES
3. ANY NON STRUCTURAL ITEMS SUCH AS WATERPROOFING, CLADDING, FINISHES, FIRE STOPPING ARE TO BE THE ARCHITECTS SPECIFICATIONS.
4. ALL PROPRIETARY PRODUCTS ARE TO BE USED AND INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS DETAILS AND REQUIREMENTS.
5. THE STRUCTURE IS DESIGNED AND DETAILED FOR THE PERMANANT CONDITION ONLY THE CONTRACTOR IS RESPONSIBLE FOR THE STRUCTURE IN ITS TEMPORARY CONDITION, ANY TEMPORARY WORKS REQUIRED DURING CONSTRUCTION AND ANY TEMPORARY LOADS ONTO THE EXISTING AND NEW STRUCTURE WHICH SHALL BE LESS THAN THOSE FOR WHICH IT HAS BEEN CONFIRMED OR DESIGNED RESPECTIVELY
6. ALL WORKS UNDERTAKEN BY CONTRACTOR TO BE COMPLIANT WITH RELEVANT AND CURRENT BUILDING CODES, REGULATIONS AND GOOD PRACTICES.

NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY
P1	30.07.24	STAGE 4 ISSUE	NR

PROJECT NAME: THE PRIORY, ST NEOTS
CLIENT NAME: HUNTINGDON DISTRICT COUNCIL
PROJECT No.: 1940
SCALE @ A1: 1:10,20
DRAWN / CHECKED: ADB NR
STATUS: STAGE 4
TITLE: OUTLINE DRAINAGE PLAN

Project:	Org:	Zone:	Level:	Type:	Disc:	Sheet:	Rev:	DATE:
1940-	SMW-	XX-	XX-	DR-	D-	0002-	P1	30.07.24

Appendix G – SEH Documentation

- Plant & Equipment Procedure
- Excavation Procedure
- Control of dust Procedure
- Waste Procedure
- Oil & Fuel Procedure
- Emergency Response Plan
- Spill Kit check Sheet
- Environmental Incident Report
- Site Cabin Poster - Spill Response Procedure Poster

French SEH Construction	COMPANY PROCEDURE	No:	**CP 307.09**
		Page:	**1 of 5**
PLANT AND EQUIPMENT		Issue:	**F**
		Date:	**27/09/23**

98Issue details: 3.3.6 added defective plant to be removed from use.				
Reviewed by:	QSE review:	Management approval:	Approval reference:	
P Rodwell	P Drage	P Rodwell	98	456

1.0 Introduction

1.1 This procedure provides guidance for controlling plant and equipment, including that used by subcontractors, in accordance with safety and environmental requirements.
Note: Lifting equipment is covered in CP 308.07

1.2 Requirements for plant and equipment are detailed in *Construction Site Safety (GE700)*, which includes references to legislation and further information. Guidance and advice should also be obtained from the QSE Team.

1.3 Forklift trucks, tele-handlers and mobile elevating work platforms (MEWPs) require particular controls to be applied on site, including operator authorisation, issue of keys and daily records of use. It is recommended that these controls are similarly applied to other plant on site wherever possible.

2.0 Responsibilities

2.1 Contracts Manager

2.2 **Site Manager** - the person in charge of the project, based on site (normally a Site Manager, Site Agent or Site Foreman).

2.3 Buyer

3.0 Method

3.1 Plant Requirements and Orders

3.1.1 At an early stage in the contract, determine the non-standard/specialist/large items of plant/equipment that may be required. Arrange with the plant supplier to source and advise on availability and cost. **Site Manager**

Note: The following details should be provided as a minimum:
- contract name and number;
- description of the items required;
- quantity of each item;
- anticipated delivery date(s);
- anticipated duration(s) (where appropriate).

3.1.2	Arrange with the plant supplier to source and advise on availability and cost. Note: The following details should be provided as a minimum: - contract name and number; - description of the items required; - quantity of each item; - anticipated delivery date(s); - anticipated duration(s) (where appropriate).	**Buyer/Site Manager**
3.1.3	Ensure key plant and equipment, ie that which is critical to an operation and cannot be readily replaced in case of breakdown (eg tower crane, piling rig, etc), is identified within *Method Statements* (see CP 302.03).	**Site Manager / Contracts Manager**
3.1.4	Ensure all plant/equipment chosen is suitable for the works and conforms to the relevant safety and environmental requirements, particularly with regard to noise and vibration levels. Consider any alternatives (where appropriate). Note 1: Wherever possible, reduced/low-vibration tools should be chosen to minimise the risk of hand/arm vibration syndrome (HAVS). Note 2: Plant/equipment using environmentally considerate hydraulic oil should be chosen for working near water courses where containment booms are impractical.	**Buyer/ Site Manager**
3.1.5	Ensure arrangements for hiring plant/equipment are only made by authorised persons.	**Buyer/ Site Manager**
3.1.6	Ensure (wherever possible) suppliers are used who are known from past experience for their quality, reliability and competitive rates.	**Buyer/ Site Manager**
3.1.7	Ensure full details of the plant/equipment required, including any hire arrangements, are passed to the Buyer for inclusion on the plant hire order. Note: The following details must be established and included on the plant hire order (where appropriate): - an adequate description; - basic hire rate; - delivery/collection rates;	**Site Manager**
3.2	**Operator Competency**	
3.2.1	Check the competency of plant/equipment operators and retain copies of their CPCS cards (or equivalent records) in the site file. Note: CP 310.04 Appendix A provides a method of assessing the competency of work equipment operators.	**Site Manager**

3.2.2	Ensure similar competency checks are carried out for operators using subcontractors' plant/equipment (and similar written authorisations provided where required).	**Site Manager**
3.2.3	Ensure each operator using ride-on plant covered by SEH's insurance has a valid driving licence.	**Site Manager**
3.3	**Control**	
3.3.1	Check each item of plant/equipment upon its arrival on site against the delivery note and/or plant hire order to ensure the correct item has been delivered.	**Site Manager**
3.3.2	Check that the plant/equipment is in a serviceable condition, Recording any defects, damage or worn items (especially tyres and buckets) visible on delivery.	**Site Manager**
3.3.3	Ensure all plant/equipment is supplied with an accompanying current test/inspection certificate (where appropriate) in accordance with statutory requirements.	**Site Manager**
3.3.4	Ensure the plant/equipment is supplied with the manufacturers and/or hirer's operating instructions, along with any health and safety guidance for its use (where appropriate) and this information is passed on to the operators involved.	**Site Manager**
3.3.5	Ensure plant/equipment is provided with drip trays and/or other arrangements to control any spills as appropriate. Ensure any internal bunding is clean and free of fuel.	**Site Manager**
3.3.6	Ensure the general condition and mechanical safety of the plant/equipment is checked daily before use by a competent person (normally the trained operator), and any defects are promptly rectified. Any plant/ mechanical equipment found to be defective must be removed from use until rectified or replaced.	**Site Manager**
3.3.7	Check that plant/equipment remains free of oil leaks and black smoke emissions. Especially check pressurised systems and any wear and tear on the hydraulics.	**Site Manager**

3.3.8	Ensure plant/equipment is used and maintained (and calibrated where necessary) in accordance with the manufacturer's and/or hirer's operating instructions. Note: Particular attention should be given to plant/equipment on long term hire to ensure the hire company's responsibility for its regular inspection and maintenance continues to be fulfilled.	**Site Manager**
3.3.9	Where any key plant/equipment has been identified, ensure an appropriate maintenance regime is in force to minimise the risk of breakdown, and/or back-up arrangements are made.	**Site Manager**
3.3.10	Ensure any personal protective equipment (PPE) required while operating the plant/equipment is available to and used by the operator (see CP 310.08).	**Site Manager**
3.3.11	Ensure self-propelled plant/equipment is prevented from being started-up by unauthorised persons. Ensure ignition keys (and other starting devices) are properly controlled, issued only to authorised personnel, and removed from all items of plant/equipment when not in use or left unattended.	**Site Manager**
3.3.12	Ensure suitable arrangements are made for the secure parking or storage of plant/equipment when not in use to prevent theft and damage.	**Site Manager**
3.3.13	Check each item of plant/equipment when it is off-hired and highlight any damage in writing at the time of off-hiring where appropriate to the hire company and project surveyor.	**Site Manager**
3.3.14	Ensure subcontractors' plant/equipment is in a serviceable condition and also conforms to the requirements of 3.2.3 to 3.2.13 above.	**Site Manager**
3.3.15	Control the issue of plant ignition keys. Only issue keys to authorised operators and ensure the plant is only used by them. Ensure all keys are returned promptly after use.	**Site Manager**
3.4	**Plant Records**	
3.4.1	Ensure operators' time sheets are signed only by authorised persons.	**Site Manager**

3.4.2	Ensure plant/equipment that is no longer required is off-hired by notifying the supplier and obtaining an off-hire note number. Ensure they are advised of the off-hire date, and make arrangements for collection.	**Site Manager**
3.4.3	Ensure all items of plant/equipment are booked-in on the P*lant Record Sheets*, along with off-hire note numbers.	**Site Manager**

4.0	**Records and Standard Forms**	QA form ref
4.1	*Site Method Statement*	SEH QAF 015
4.2	Plant hire order	
4.3	Operators' CPCS cards	
4.4	Operators' Driving Licences	
4.5	Delivery Notes	
4.6	Test/Inspection Certificates	
4.7	Manufacturers' Operating Instructions	
4.8	Operators' Time Sheets	
4.9	*Plant Records Sheet*	SEH QAF 823

5.0 **References**

5.1 CP 308.07 – Lifting Operations

5.2 Construction Site Safety (GE700)

5.3 CP 302.03 – Hazard/Risk Assessments and Method Statements

5.4 CP 310.04 – Site Induction and Training

5.5 CP 310.08 – PPE (Personal Protective Equipment)

6.0 **Appendices**

6.1 None

Issue details: Reviewed and Reissued				
Reviewed by:	QSE review:	Management approval:	Approval references:	
P Drage	P Drage	P Rodwell	86	417

1.0 Introduction

1.1 This procedure describes the requirements for excavation works on site.

1.2 Requirements for excavations are detailed in *Construction Site Safety (GE700)*, which includes references to legislation and further information. Guidance and advice should also be obtained from the QSE Team.

1.3 Generally excavation works are carried out under a *Permit to Penetrate the Ground* system for the primary purpose of identifying and avoiding damage to buried services.

1.4 Particular requirements for excavating around or near buried services are described in CP 310.27.

1.5 Due to the varied nature of excavation works, this procedure does not set out methods of working. These will be decided by experienced site personnel, designated by the site manager, and covered by *Method Statements* (where appropriate).

1.6 The aims of this procedure are to ensure:

- consideration is given to all relevant aspects of the excavation works (including health, safety and environmental), and appropriate methods of work are adopted;
- excavations are carried out using properly authorised *Permit to Penetrate the Ground*
- inspections of the excavation works are carried out.

1.7 This procedure also covers the requirements when penetrating ground not only in a excavation scenario, for example driving in stakes, piling, post driving etc.

2.0 Responsibilities

2.1 Contracts Manager

2.2 **Site Manager** – the person in charge of the project, based on site (normally a Site Manager, Site Agent or Site Foreman)

3.0 Method

3.1 Identification

3.1.1	Identify the nature and complexity of the excavation works involved in the project, and therefore their requirements for assessment and monitoring in accordance with this procedure identify any hand dig operations. Also determine whether loading from stock piles needs to be assessed.	**Site Manager**
3.1.2	Obtain relevant licences/permits for excavation works from the local authorities (where appropriate).	**Contracts Manager**

3.2 Assessment

3.2.1	Assess the specific project requirements and the permanent works details.	**Site Manager**
3.2.2	Assess the soil/ground conditions from the soils reports, borehole logs, etc paying particular attention to ground water levels. Ensure all available information has been obtained.	**Site Manager**
3.2.3	Assess whether there is or likely to be contaminated ground and associated hazards (see CP 310.09) Note: Where appropriate, the former use of the site should be established, eg whether it has been used for chemical processes, tipping waste, etc.	**Site Manager**
3.2.4	Assess the existing services in the area to be excavated and determine requirements for hand digging and trial holes (see CP 310.27).	**Site Manager**
3.2.5	Assess whether any temporary works are required to support the excavation works and consider requirements for design as appropriate. (See CP 307.12)	**Site Manager**
3.2.6	Assess whether there is a requirement to dispose of surplus excavated material, and make arrangements with a registered carrier and/or licensed tip as necessary. (See CP 310.11)	**Site Manager**
3.2.7	Assess the setting out requirements for the excavation works.	**Site Manager**

3.2.8	Ensure sufficient information is available to carry out the above assessments. If not, arrange for further investigations to be carried out before proceeding with the excavation works.	**Site Manager**
3.2.9	Determine (from the information available, and the type and duration of the intended work) the significant risks involved, the persons likely to be affected, and a suitable method of working, including the use and suitability of plant. Take account of the relevant health, safety and environmental requirements. Note 1: Due consideration needs to be given to the available working space when determining the suitability of plant. Note 2: Wherever possible, reduced/low-vibration plant and equipment should be chosen to minimise the risk of whole body vibration (WBV) and hand/arm vibration (HAV).	**Site Manager**
3.2.10	Prepare appropriate *Hazard/Risk Assessments* (HRAs) and/or *Site Method Statements* (in consultation with the QSE Team where necessary). Review, approve and sign the documents. (See CP 302.03.)	**Site Manager**
3.2.11	Ensure subcontractors involved with excavation works provide suitable *Hazard/Risks Assessments* and/or *Site Method Statements*, and review their documents accordingly (see CP 302.02). Also ensure they provide records showing competency of personnel.	**Site Manager**
3.2.12	Ensure *Hazard/Risk Assessments* and *Site Method Statements* address the issued concerning excavation works, and provide appropriate control measures that reduce the risk to personnel, public and the environment to the lowest practicable level.	**Site Manager**
3.2.13	Review the works to be carried out and consider the use of alternative methods and/or materials to minimise the hazard where the HRA indicates that onerous measures must otherwise be taken to ensure safety.	**Site Manager**
3.2.14	Agree the method of working, suitability of plant, etc with the SEH operatives and/or subcontractor (where appropriate) and ensure they are fully aware of the assessments that have been made. Note: Where a subcontractor has their own procedure, agreement should be reached with them to ensure it is consistent with this procedure.	**Site Manager**

3.3 Control

3.3.1	Ensure all existing services are located and marked on site, prior to commencing the excavation works (see CP 310.27)	**Site Manager**
3.3.2	Complete a *Permit to Penetrate the Ground* for each excavation, including hand digging operations and trial holes to locate services. Include information concerning the location of services and highlight the significant hazards identified in the HRA. Note this includes driving in stakes, piling, post driving etc.	**Site Manager**
3.3.3	Ensure no excavation is carried out until the *Permit to Penetrate the Ground* has been authorised by the person directly supervising the work (normally the foreman).	**Site Manager**
3.3.4	Ensure all personnel involved are fully aware of the hazards associated with excavation works, and are trained and/or competent to carry out their specific tasks.	**Site Manager**
3.3.5	Brief the personnel involved and ensure they fully understand the *Hazard/Risk Assessment* and/or *Site Method Statement*, and *Permit to Penetrate the Ground*. Obtain their names and signatures on a copy of the documents and/or *Briefing Sheet* to acknowledge receipt of the information, instruction and any PPE. Note: Subcontractors (except labour only) are responsible for providing instruction, training and PPE to their own personnel and for providing suitable records to demonstrate this.	**Site Manager**
3.3.6	Make operators and other personnel involved aware of the particular hazards associated with slewing and buried services when using excavators. Obtain their names and signatures on a risk assessments and/or method statements.	**Site Manager**
3.3.7	Check that the requirements of the *Hazard/Risk Assessment* and/or *Site Method Statement* are fully implemented and sign the *Permit to Penetrate the Ground* to authorise the excavation works. Note: Where excavation works are carried out by subcontractors (except labour only), the subcontractor's supervisor should be responsible for checking that the requirements are implemented and signing the permit.	**Site Manager**

3.3.8	Check for changes to the excavation, services or working conditions daily and/or at the start of each shift. Note any minor changes and advise all personnel involved accordingly. Continue to use the permit only if there are no significant changes and sign to re-authorise the permit. Request a new permit whenever significant changes to the excavation, services or working conditions occur. If in any doubt, stop work and report to the site manager for a reassessment of the hazards and risks. Note: Particular attention should be paid to the location of services and any changing soil/ground conditions and water levels.	**Site Manager**
3.3.9	When the work has been completed or stopped, sign to cancel the permit. Return the cancelled permit to the site office for filing.	**Site Manager**
3.3.10	Monitor the work regularly, including that carried out by subcontractors, to ensure the approved working methods are adhered to, control measures are fully implemented and appropriate PPE is used. Check that the conditions are as anticipated, if they are not, or if conditions change, reassess the resultant risk	**Site Manager**
3.3.11	Check that the plant used corresponds to that detailed in the *Method Statement* and remains suitable for the works being undertaken.	**Site Manager**
3.3.12	Carry out an inspection of each excavation daily and/or at the start of each shift, and also after any event likely to have affected its stability (eg adverse weather conditions). Complete a *Scaffold/Excavation Inspection Report* at least weekly to record the inspections.	**Site Manager**
3.3.13	Ensure any temporary works are inspected by a competent person following their installation and at the start of each shift, and satisfy the design requirements (see CP 307.12).	**Site Manager**
3.3.14	Upon completion of the excavation works, inspect the formation and carry out level checks, etc as required. Complete and sign-off *Inspection Record(s)* for the works, and/or ensure the subcontractor carried out his own inspection(s) and submits appropriate record(s).	**Site Manager**

4.0	**Records and Standard Forms**	QA form ref
4.1	Local authority licences/permits	
4.2	*Hazard/Risk Assessment*	SEH QAF 085
4.3	*Site Method Statements*	SEH QAF 015
4.4	*Competency Records*	
4.5	*Permit to Penetrate the Ground*	SEH QAF 053
4.6	*Scaffold/Excavation inspection Report*	SEH QAF 180
4.7	*Inspection Record*	SEH QAF 006
4.8	*Briefing Sheet*	SEH QAF 139

5.0 **References**

5.1 Construction Site Safety (GE700)

5.2 CP 310.27 – Buried Services

5.3 CP 310.09 – Asbestos, Lead and Contaminated Ground

5.4 CP 307.12 – Temporary Works

5.5 CP 310.11 – Waste

5.6 CP 302.03 – Hazard/Risk Assessments and Method Statements

6.0 **Appendices**

6.1 None

French SEH Construction	COMPANY PROCEDURE	No:	**CP 310.60**
		Page:	**1 of 3**
	CONTROL OF DUST	Issue:	**C**
		Date:	**08/03/22**

Issue details:	Reviewed, demolition dust now considered.		
Reviewed by:	QSE review:	Management approval:	Approval reference:
P Drage	P Drage	P Rodwell	80 398

1.0 Introduction

1.1 This procedure covers the requirements for controlling dust on site.

1.2 SEH has a legal duty under the *Environmental Protection Act 1990* to avoid creating or spreading dust that causes a nuisance to the workforce, neighbours and the environment. Failure to do so may result in prosecution and an unlimited fine.

1.3 Requirements for the control of substances hazardous to health (COSHH) also apply to dust created as a result of SEH's activities.

1.4 The *CIRIA Environmental Good Practice Site Guide* includes references to legislation and further information.

2.0 Responsibilities

2.1 Site Manager

2.2 Supervisor

3.0 Method

3.1 Identification

3.1.1 Identify the activities that involve dust as a significant aspect and/or hazard to health. **Site Manager**

3.1.2 Identify any particularly sensitive surrounding areas that could be affected by dust from the works. **Site Manager**

3.2 Assessment

3.2.1	Prepare *Hazard/Risk Assessments* (HRAs) as appropriate (using the *Risk Assessment Database*) (see CP 302.03). Note: When assessing the likelihood of dust being generated from the identified activities, consideration should be given to: • location of the work; • weather conditions and time of year; • prevailing winds and degree of exposure; • materials involved; • methods and equipment used.	**Site Manager**
3.2.2	Ensure *Hazard/Risk Assessments* take full account of the requirements for COSHH (see CP 310.01).	**Site Manager**

3.3 Control

3.3.1	Ensure all personnel are made aware of the particular risks associated with dust on site via induction training and toolbox talks (see CP 310.04).	**Supervisor**
3.3.2	Monitor the works regularly, including that carried out by subcontractors, to ensure the approved working methods are adhered to and the generation of dust is minimised. Ensure control measures are fully implemented and where necessary, appropriate PPE is used.	**Supervisor**
3.3.3	Collect and dispose of debris before it can become a dust nuisance. Suppress dust at source wherever possible (eg by using vacuum dust collection equipment for woodworking, cutting, etc).	**Supervisor**
3.3.4	Ensure areas where gritblasting or similar processes are being performed are fully enclosed wherever possible, to prevent the escape of grit and dust.	**Supervisor**
3.3.5	Apply water sprays to haul/site roads, earthworks, stockpiles and whilst conducting certain demolition activities during dry weather to minimise dust problems. Control the accumulation of loose material on site roads by regular sweeping, and (where appropriate) impose and enforce site speed limits.	**Supervisor**

3.3.6	Ensure soil and bulk materials are sheeted where appropriate when being transported to or from site.	**Supervisor**
3.3.7	Ensure stockpiles of soil and bulk materials are smoothed and profiled to reduce the generation of dust in windy conditions. Note: Stockpiles of low height and gentle side slopes are most effective.	**Supervisor**

3.4 **Incident Reporting**

3.4.1	Complete an *Environmental Incident Report* to record any significant dust problem that causes, or is likely to cause pollution (see CP 302.07).	**Site Manager**

4.0	**Records and Standard Forms**	QA form ref
4.1	*Hazard/Risk Assessment*	SEH QAF 085
4.2	Risk Assessment Database	
4.3	*Environmental Incident Report*	SEH QAF 109

5.0 **References**

5.1 Environmental Protection Act 1990
5.2 CIRIA Environmental Good Practice Site Guide
5.3 CP 310.01 - Control of Substances Hazardous to Health
5.4 CP 302.03 - Hazard/Risk Assessments and Method Statements
5.5 CP 310.04 - Site Induction and Training
5.6 CP 302.07 - Accident and Incident Management

French SEH Construction	COMPANY PROCEDURE	No:	**CP 310.11**
		Page:	**1 of 4**
	WASTE	Issue:	**D**
		Date:	**08/03/22**

Issue details:	Reviewed and Reissued.		
Reviewed by:	QSE review:	Management approval:	Approval reference:
P Drage	P Drage	P Rodwell	80 392

1.0 **Introduction**

1.1 This procedure provides guidance for managing waste on site, including its minimisation, handling and disposal.

1.2 Waste management encompasses both environmental and health & safety responsibilities. While the effective management of waste is good for the environment, in minimising the costs of handling and disposal, it also makes good business sense.

1.3 Requirements for dealing with waste are detailed in *Construction Site Safety (GE700)*, which includes references to legislation. Further information is provided in the *Construction Environmental Manual* hosted on the group intranet.

1.4 Generally there are requirements to control all types of waste, ie household, industrial and commercial. It is an offence to treat, keep or dispose of controlled waste in a manner likely to cause pollution of the environment or harm to human health. Waste is further classified as:

- **Hazardous:** wastes that are dangerous to keep or dispose of. They are defined in legislation and include oils, solvents, lead, asbestos, etc and other materials contaminated with them. They must be treated prior to disposal.
- **Non-hazardous:** all wastes that are not hazardous.
- **Inert:** non-hazardous wastes that do not decompose. They are defined in legislation and include concrete, bricks, soil (excluding topsoil), etc. They should be segregated from other waste to avoid paying landfill tax at the highest rate when disposed of (eg soil is charged at the lower rate if it is not mixed with other waste; if it is reused, there is no tax liability).

1.5 It is a legal requirement for waste to be managed in accordance with the waste hierarchy:

1. **Avoid** producing waste in the first place;
2. **Reduce** materials used or wasted;
3. **Reuse** materials where possible;
4. **Recycle** waste where suitable and practicable;
5. **Dispose** of waste in a responsible manner.

2.0 **Responsibilities**

2.1 **Contracts Manager**

2.2 **Site Manager** - the person in charge of the project, based on site.

2.3 **Supervisor** - the person supervising a particular section of work.

2.4 **Buyer**

3.0 **Method**

3.1 **Planning**

3.1.1	When required a *Site Waste Management Plan* (SWMP) is to be developed to include the site-specific arrangements. Ensure the SWMP is in place before any work starts on site and maintain it up to date for the duration of the contract. Note 1: Where a specific SWMP is required by client, for example Breeam, this can be used instead of SEH template. Note 2: A SWMP will only be completed when contractually required or when there is site specific reason to complete one.	**Contracts Manager**
3.1.2	Consider the different types of waste that will be generated during the project and plan to achieve the most cost effective and environmentally positive means of management and disposal. Note: Where space on site allows waste should be segregated into specific skips etc.	**Contracts Manager**
3.1.3	Investigate opportunities for reusing and recycling waste materials. Note: All efforts should be made to promote reuse or recycling rather than incurring landfill tax on material sent to tip.	**Contracts Manager**
3.1.4	Ensure subcontractors provide full details of their own waste management requirements, particularly for specialist activities. Incorporate these details into the *Site Waste Management Plan* and ensure waste management arrangements are clearly communicated to all site personnel.	**Site Manager**
3.1.5	Identify any requirements for waste management permits or exemptions.	**Contracts Manager**

3.1.6	Plan the storage of waste on site with environmental protection and ease of recycling in mind. Note: It is an offence to mix hazardous and non-hazardous wastes.	**Site Manager**
3.1.7	Arrange necessary services for collection, transport, and disposal or recycling of the waste.	**Site Manager**
3.1.8	Obtain a permit for any skip or container that is to be left on the highway.	**Site Manager**
3.2	**Handling and Storage**	
3.2.1	Implement any planned arrangements for segregation of waste. Ensure personnel are aware of the segregation required and skips, etc are clearly identified.	**Site Manager**
3.2.2	Ensure waste is handled, stored and transported safely to prevent spills, leaks, wind-blown debris or scavenging by vandals, thieves, children or animals.	**Supervisor**
3.2.3	Ensure lorries and skips are properly covered with protective sheeting, especially where they contain contaminated materials.	**Supervisor**
3.2.4	Ensure different types of waste materials are treated as separate loads and are not mixed.	**Supervisor**
3.2.5	Hazardous waste streams must be kept separate and not mixed	**Supervisor**
3.3	**Disposal**	
3.3.1	Ensure the carrier selected to transport waste is a 'registered carrier'. Obtain and retain a copy of the carrier's registration certificate. Check the validity of the carrier's registration with the EA. Note: Carriers' registrations may be checked via the EA's website.	**Buyer**
3.3.2	Arrange testing for material to aid classification as inert, non-hazardous or hazardous where these properties are not known.	**Site Manager**

3.3.3	Ensure the waste is transported to a licensed disposal site. Arrange waste acceptance criteria (WAC) testing where required for material going directly to landfill and check that the site's licence is appropriate for receiving the waste.	**Site Manager**
3.3.4	Ensure a clear description of the waste is given on the transfer/consignment note along with its identification (LoW/EWC) code.	**Site Manager**
3.3.5	Ensure transfer/consignment notes are fully completed and signed by all parties. Keep copies of WTNs for a minimum of 2 years, and HWCNs for 3 years. This is to be forwarded to Head office.	**Site Manager**
3.3.6	Record all waste movements on the *Site Waste Management Plan* when they happen or as soon thereafter as is practically possible.	**Site Manager**

3.4 **Imported Material**

3.4.1	Ensure an appropriate permit or exemption is obtained where 'waste' material (eg crushed concrete, soil, etc) is imported to site.	**Site Manager**

4.0	**Records and Standard Forms**	QA form ref
4.1	Site Waste Management Plan	SEH QAF 089
4.2	Waste management permits/exemptions	
4.3	Permits for skips	
4.4	Carrier registration certificates	
4.5	WAC test results	
4.6	Disposal site licences	
4.7	Transfer / Consignment Notes (WTNs / HWCNs)	

5.0 **References**

5.1 Construction Site Safety (GE700)

5.2 *Construction Environmental Manual – Intranet*

5.3 List of Wastes (LoW)/European Waste Catalogue (EWC)

French SEH Construction	COMPANY PROCEDURE	No:	**CP 310.62**
		Page:	**1 of 6**
OIL AND FUEL		Issue:	**E**
		Date:	**08/03/22**

Issue details:	Periodic review (no changes)		
Reviewed by:	QSE review:	Management approval:	Approval reference:
P Drage	P Drage	P Rodwell	80 399

1.0 **Introduction**

1.1 This procedure covers the requirements for storing oil and fuel, and pollution prevention.

1.2 SEH has a legal duty to:

- store oil and fuel in a safe manner;
- avoid pollution of 'controlled waters' (ie surface water drainage, streams, rivers, etc) and land;
- dispose of waste oil and fuel in the proper manner.

1.3 Spilled oil and fuel is a significant cause of water pollution from sites. This results in many prosecutions in the construction industry and fines are punitive. SEH is also liable for the cost of any clean up operations required. Prevention of spillage by using the correct equipment and practices is therefore essential.

1.4 The Construction Environmental Manual on the Intranet includes references to legislation and further information. Guidance and advice should also be obtained from the Environmental Manager, QSE Team.

1.5 A general oil and fuel site checklist is provided in Appendix A.

2.0 **Responsibilities**

2.1 **Site Manager**

2.2 **Supervisor**

3.0 Method

3.1 General

3.1.1	Identify the activities that involve oil and fuel as a significant aspect and prepare *Hazard/Risk Assessments* (HRAs) as appropriate (using the *Risk Assessment Database*) (see CP 302.03).	**Site Manager**
3.1.2	Ensure all personnel are made aware of the particular risks associated with oil and fuel on site and the emergency response in the event of a spill, via induction training and toolbox talks (see CP 310.04).	**Supervisor**

3.2 Oil and Fuel Storage

3.2.1	Identify the need for oil/fuel storage on site and consider the quantity and methods (ie large tank, small stores or mobile bowser). Determine requirements in conjunction with those of the main contractor (if applicable) and subcontractors.	**Site Manager**
3.2.2	Assess the oil/fuel storage location identifying potential routes for pollution should containment fail. Ensure it is situated at least 10 m away from the site drainage system and the edge of any watercourse. Note: If this is not possible, adequate measures must be put in place to prevent or contain any spillage, such as creating a fall away from or blocking any drainage points.	**Site Manager**
3.2.3	Ensure oil/fuel stores are located in an area away from vehicle movements or otherwise guarded to prevent collision.	**Site Manager**
3.2.4	Ensure the oil/fuel storage is set up on an impermeable base within a bund to contain at least 110% of the maximum capacity. Ensure all ancillary equipment (valves, hoses, etc) are contained securely within the bund when not in use. Note: A means of protecting open bunds from rainwater should be considered. This can be achieved by building a scaffold lean-to or other appropriate sheeted or enclosed structure.	**Site Manager**
3.2.5	Ensure the oil/fuel storage facilities are guarded against vandalism and theft. Ensure hoses are not vulnerable to being tampered with or cut for unauthorised access.	**Site Manager**

3.2.6	Ensure the oil/fuel storage facilities, including bowsers, are locked-off when not in use.	**Site Manager**
3.2.7	Ensure oil/fuel deliveries are supervised by a designated person.	**Site Manager**
3.2.8	Ensure bulk fuel tanks are clearly labelled to show their contents and capacities. Note: This should help to prevent delivery personnel mixing fuel types and allow them to check that there is sufficient room in the tank for the delivery.	**Site Manager**
3.3	**Spill Prevention Containment and Refuelling**	
3.3.1	Ensure spill kit(s) are provided and readily available at suitable location(s) on site, in particular at each oil/fuel storage facility and carried with mobile bowsers.	**Site Manager**
3.3.2	Ensure spill kit(s) are fully stocked with the required items, and keep them replenished. Ensure the contents are checked monthly and the *Spill Kit Check Sheet* is completed accordingly.	**Site Manager**
3.3.3	Determine the site-specific arrangements for refuelling of plant. Restrict refuelling operations to designated competent personnel. Note: Refuelling should preferably be carried out at one location by bringing the plant to the tank or bowser.	**Site Manager**
3.3.4	Inspect plant and equipment regularly to avoid oil and fuel leaks. Ensure it is properly maintained and any leaks are immediately attended to.	**Supervisor**
3.3.5	Use drip trays with absorbent sheets under all static plant (eg pumps and generators) and empty them regularly into a dedicated oil waste container.	**Supervisor**
3.3.6	Ensure drip trays with absorbent sheets are used when servicing plant and during refuelling from mobile bowsers.	**Supervisor**
3.4	**Emergency Preparedness and Response**	
3.4.1	Ensure all personnel (including subcontractors) are fully aware of the arrangements detailed in the *Emergency Response Plan*.	**Supervisor**

3.4.2	Protect all watercourses and drains at risk by installing booms to contain any spills.	**Supervisor**
3.4.3	Consider using biodegradable oils in hydraulic equipment when working on or near water where suitable containment is not possible (eg where there is fast-flowing water, river traffic, etc).	**Supervisor**
3.4.4	Ensure personnel take immediate action in the event of an oil/fuel spill, as detailed in Appendix B.	**Supervisor**
3.4.5	Complete an *Environmental Incident Report* to record any significant oil or fuel spillage that causes, or is likely to cause pollution (see CP 302.07).	**Site Manager**

3.5 **Disposal**

3.5.1	Ensure dedicated containers are provided for the collection of used oil, absorbents, etc, awaiting disposal.	**Site Manager**
3.5.2	Ensure used oil, absorbents, etc, are treated as hazardous waste and disposed of accordingly (see CP 310.11).	**Site Manager**

4.0	**Records and Standard Forms**	QA form ref
4.1	*Hazard/Risk Assessment*	SEH QAF 085
4.2	Risk Assessment Database	
4.3	*Emergency Response Plan*	SEH QAF 157
4.4	*Spill Kit Check Sheet*	SEH QAF 186
4.5	*Environmental Incident Report*	SEH QAF 109

5.0 **References**

5.1 Construction Environmental Manual - Intranet
5.2 CP 302.03 - Hazard/Risk Assessments and Method Statements
5.3 CP 310.04 - Site Induction and Training
5.4 CP 310.02 - Emergency Procedures
5.5 CP 302.07 - Accident and Incident Management
5.6 CP 310.11 – Waste

6.0 **Appendices**

6.1 Appendix A - Oil & Fuel Checklist
6.2 Appendix B - Emergency Action - Oil & Fuel Spillage

Appendix A
Oil & Fuel Checklist

- Is the oil/fuel storage bund in good condition with no cracks or evidence of leakage, particularly at corner points?
- Is the bund free from excessive rainwater and debris build-up?
- Are all tank components (hoses, valves, etc) contained within the bund?
- Are there any leaks from the hoses, joints or valves on the oil/fuel storage facility?
- Is the oil/fuel storage facility locked-off when not in use?
- Are bulk fuel tanks clearly labelled to show their contents and capacities?
- Are oil/fuel stores guarded to prevent collision from vehicles?
- Are spill kits and emergency instructions suitably located and readily accessible?
- Are spill kits fully stocked and the contents in good condition?
- Are drip trays with absorbent sheets used under all static plant?
- Are drip trays emptied regularly and not left to overflow when it rains?
- Are spills effectively managed and used absorbents properly disposed of?

Appendix B
Emergency Action - Oil & Fuel Spillage

- **Be safe**, use protective clothing and eliminate sources of ignition.
- **Stop leaks** where possible.
- **Contain the spill** using materials from the spill kit or improvise with sand, earth or other materials to hand.
- **Block drains** using materials from the spill kit or improvise by using polythene, car mats, bungs and the like.
- **Absorb the spill** using absorbent materials from the spill kit (pads, cushions, etc) or improvise with other materials such as earth.
- **Inform** the Site Manager as soon as possible.
- **Get help** if the spill is difficult to contain or has entered a drainage system or watercourse. Do not delay in seeking professional clean-up assistance.
  Environment Agency Hotline: 0800 80 70 60
- **Place contaminated materials** in the dedicated container. Treat as hazardous waste and dispose of in accordance with the Site Manager's instructions.
- **Seek first aid** if any substances have affected the eyes or skin, or have been swallowed or inhaled.

French SEH Construction	**Emergency Response Plan**	No:	
		Date:	

CONTRACT: The Priory, PE19 2BH – Job 1432						
Distribution			Originated by: David Relf		Approved by:	
Site	☒		Name:		Name:	
HO	☐		Signature:		Signature:	
This document needs to be updated as necessary to record changes in the emergency conditions, training given and the results of testing the emergency arrangements						
Title of Emergency:						

CONTACT NUMBERS			
Emergency Services	999	Director	Paul Rodwell
Local Police	01480 456111	Project Manager	David Relf
Local Doctor	01480 219317	Site Manager	TBC
Local Authority	01480 388388	Health & Safety Manager	Phil Drage
Environment Agency	01480 388302		
Clean-up Contractor	TBC		
Waste contractor	TBC		
Electrical Contractor	TBC		
Tanker Service	TBC		

EMERGENCY CONDITIONS	
Materials or Contaminants	TBC
Item or Area to be Affected	TBC
Quantity or Extent	TBC

Site drainage plan required (attached)	Yes	☒ Temp plan to be added	No	☐

Preventative Measures Taken:	

Equipment Required:

CONTRACT:					
Emergency Action Requires:					
TRAINING:					
Details of training received		Names of personnel		Date received	
PREPAREDNESS TESTING/ TEST 1					
Frequency of testing emergency arrangements:					
Date of last test		Date of next test:			
Details of last test					
Did the test have the require outcome?		Yes	☐	No	☐
TEST 2					
Date of last test		Date of next test:			
Details of last test					
Did the test have the required outcome?		Yes	☐	No	☐

French SEH Construction	**Spill Kit Check Sheet**	No:	
		Date:	

Contract:		Contract No:	

Spill Kit Type:	Green Wheelie Bin	☐	Green Holdall	☐

Typical / Standard Contents:

	Laminated: 'How to Use' Sheet	1		Oil Seals	4	
	Dammit-Mat (450x650mm)	1		Oil Walrus	1	
	Dammit-X Ready Mix (800g)	1		Oil Cushion	1	
	Disposal Bags and Ties	2		Oil Pads	50	

Additional Items:

	Oil Roll (49m x 960mm x 3.5mm, 8kg)
	Dedicated Container for Used Oil Absorbents (220L)

Contents of Spill Kits should be checked monthly, replenished as necessary, and recorded below.

Date	Details of Check / Items Replenished	Name	Signature

French SEH Construction	**Environmental Incident Report**	No:	___/EIR/_____
		Date:	

Report by:		Signed:	
Contract Title:		Contract no:	
Site Address:		Tel:	
		Fax:	
		Site Manager:	
		Contracts Manager:	

Incident occurred:			
Date:		Time:	
Incident discovered: (if not detected until later)			
Date:		Time:	
Incident witnessed/discovered by: (this could be an employee or member of the public)			
Weather conditions at time of the incident:			
Nature of work:			
Equipment / processes involved:			
Person(s) / organisation(s) performing / supervising the work:			
Description and circumstances of the incident:			
Extent of the problem:	(ie has pollution entered the ground or a watercourse; what is the magnitude and area of any contamination?		

French SEH Construction	**Environmental Incident Report**	No:	___/EIR/_____
		Date:	

Health and safety:	(have any individuals been harmed or exposed to potential harm as a result of the incident? If so, provide brief details below and action a separate *Accident/Dangerous Occurrence/Disease Internal Report).*
Has any property been affected/damaged?	
Information/instruction/training: was there a *Hazard/Risk Assessment* and/or *Method Statement* in place?	
Was there an emergency procedure in place?	
Investigations performed:	(ie sampling and testing)
Remedial action taken:	
Key personnel/organisations involved or informed:	
Conclusions and recommendations to prevent incident recurring:	

Distribution:	☐	Site Manager	☐	Environmental Manager
	☐	Regional Manager	☐	Safety Manager

ENVIRONMENTAL ASPECT & IMPACT REGISTER

Severity						
	5 = Extreme	5	10	15	20	25
	4 = Major	4	8	12	16	20
	3 = Moderate	3	6	9	12	15
	2 = Minor	2	4	6	8	10
	1 = Trivial	1	2	3	4	5
		1 = Rare	2 = Unlikely	3 = Moderate	4 = Likely	5 = Very Likely
		Likelihood				

Guidance Notes

The rating given will be calculated following a chart score of severity of 1=Trivial to 5=Extreme; and the likelihood of impact occurring rated 1=Rare to 5=Very Likely - where a high number will result in a significant impact leading to critical damage to the environment.
The two ratings are plotted on the chart below and the subsequent rating shown in the chart, The items will be determined as follows; Green = 1 to 4; Yellow = 5-10; Red = 12 to 25

Ensure that information for any substance brought onto site/ premises is taken from the Material Safety Data Sheet and the specific risks to the environment, including fire water runoff or atmospheric damage control and spillage requirements are noted on the assessment.

Contract Name:	The Priory Centre	**Contracts Manager & Project Manager:**	Simon Hubert & David Relf
Contract Number:	1432	**Date:**	14.12.23

				Enter No: 1 to 5						Resultant Mitigation (1-5)		
Activity	**Applicable**	**Environmental Aspect**	**Environmental Impact**	**Likelihood**	**Severity**	**Significance Rating**	**Control Measures**	**Positive Impact**	**Legislation**	**Likelihood**	**Severity**	**Revised Rating**
Site set up	YES	Destruction of habitat, damage to vegetation, injury to fauna.	Loss of Biodiversity Pollution of surface water, storm water drains and watercourses.	3	3	9	* Traffic Management Plan * Spill kits * Avoid all contact with fauna and threatened flora. * Avoid parking or storing construction materials and fuel under trees where practical. * Avoid creating stockpiles under trees, in order to avoid compaction within the root zone. * Do not undertake tree felling or hedgerow clearance during the bird nesting season. * Comply with Tree Preservation Order * Do not try to touch or otherwise disturb any wildlife. * Refer to Associated Doc. O (Ecological Management Plan)		Please see Onederland for the One Group Construction Relevant Legislation	1	3	3
Land Clearance / Ground Strip	Yes	Invasive species (controlled plants) e.g. Japanese Knotweed, Giant Hogweed, Himalayan Balsam, Ragwort	Pollution to ground and harmful to wildlife	1	3	3	Consult Ecology and Site Investigation Reports to identify any invasive species; If any invasive species are identified within the reports, recommended protocols will be adhered to; General guidance can be found within our Environmental Toolbox Talks; Immediately stop all work near the suspect plant and inform the Environmental Advisor		Please see Onederland for the One Group Construction Relevant Legislation	1	1	1
	YES	Wildlife & Ecology Habitat e.g. newts, badgers, bats, birds, water voles etc	Harmful to wildlife	3	4	12	* Consult Site Investigation Reports to identify any wildlife present. * If any wildlife is identified within the reports, recommended protocols will be adhered to. * General guidance can be found within our Environmental Toolbox Talks * Immediately stop work if you discover any wildlife present and inform the Environmental Advisor * Refer to Associated Doc. O (Ecological Report & Method Satements) and comply with all requirements * Further ecological asessment to be undertaken of sheds which are to be demolished as it's noted that hedgehogs may be present * Any hedge/tree removal work to be undertaken outside bird nesting season	(Assoc. Doc O)	Please see Onederland for the One Group Construction Relevant Legislation	1	4	4
Excavation / Intrusive Works	YES	Destruction of habitat, damage to vegetation, injury to fauna	Loss of Biodiversity	3	2	6	* Avoid all contact with fauna and threatened flora. * Avoid parking or storing construction materials under trees where practical. * Avoid creating stockpiles under trees, in order to avoid compaction within the root zone. * Dispose of all food scraps from work sites. * Cover or fence off all trenches and excavations overnight to prevent animal trapping, where practical. * Refer to Associated Doc. O (Ecological Report & Method Satements) and comply with all requirements * Further ecological asessment to be undertaken of sheds which are to be demolished * Install tree protection as identified * Any hedge/tree removal work to be undertaken outside bird nesting season	Where possible, excavated materials are to be retained on site and used in landscaped areas.	Please see Onederland for the One Group Construction Relevant Legislation	1	2	2
	YES	Air Quality	Air pollution	2	3	6	* Minimize vehicle movement and speed on unsealed tracks and paths. * Consider conducting dust-emitting works with water sprays, where not prevented by water restrictions or if risk of water pollution is likely. * During high wind periods, consider covering stockpiles when not in use. * During high wind periods, consider using water sprays on stockpiles, where this is not prevented by water restrictions. * Cover vehicles transporting bulk materials such as soils and wastes to prevent loss of load or dust generation.		Please see Onederland for the One Group Construction Relevant Legislation	1	1	1

Contract Name:	The Priory Centre	Contracts Manager & Project Manager:	Simon Hubert & David Relf
Contract Number:	1432	Date:	14.12.23

				Enter No: 1 to 5						Resultant Mitigation (1-5)		
Activity	**Applicable**	**Environmental Aspect**	**Environmental Impact**	**Likelihood**	**Severity**	**Significance Rating**	**Control Measures**	**Positive Impact**	**Legislation**	**Likelihood**	**Severity**	**Revised Rating**
	Yes	Discovery of Archaeological structures and finds	Loss on Natural Resources Damage to heritage items	1	4	4	* Do not assume that any artefacts or findings are not important. * Do not remove any items from site such as bones, coins etc. as this is illegal. * Stop work if you find any archaeological features. * Cordon off the area and ensure no person enters the area until authorised to do so by the local authority. Inform the local authority immediately. * Follow the instructions of any appointed representative or archaeologist is assigned to the find. * Do not allow any operations close by such as dewatering or vibration operations to continue that are in your control as this may damage further unknown items.		Please see Onederland for the One Group Construction Relevant Legislation	1	3	3
	YES	Free running silts within rain / surface waters on site	Pollution to Ground. Pollution to controlled waters. Unauthorised discharge to sewer or land drains. Harmful to wildlife.	3	2	6	* Do not dewater any excavation without checking where the silt is going to be discharged to. * Only discharge silted water into settlement systems such as holding ponds, baffle tanks or authorised grassed area. * Do not allow silty waters to be pumped directly into any rivers, steams, ditches or surface water drains. * Minimize disturbance to vegetation cover for any activities. * Do not store soils, stones or other aggregates close to water courses. Rainwater will cause wash off into these water courses. * Do not cut ditches / cuts to relieve standing waters from heavy rain. * Ensure hard standing and roads swept regularly to reduce mud / silt build up which can be washed away in rain. * Protect surface water drains. Combined drains and water courses by using sand bags, bail filters or Terram / Geotextile bunds. * Do not dewater any excavation without checking where the silt is going to be discharged to. * Only discharge silted water into settlement systems such as holding ponds, baffle tanks or authorised grassed area. * Do not allow silty waters to be pumped directly into any rivers, steams, ditches or surface water drains. • Minimize disturbance to vegetation cover for any activities. • Do not store soils, stones or other aggregates close to water courses. Rainwater will cause wash off into these water courses.		Please see Onederland for the One Group Construction Relevant Legislation	1	3	3
	YES	Discovery of building materials that contain asbestos.	Irreversible respiratory health hazard caused by airborne particles. Pollution to Ground. Pollution to controlled waters.	5	5	25	* All work to immediately stop and inform Health, Safety & Environmental Advisor and appoint specialist testing organisation to sample and confirm suspect materials. * Use of qualified and disposal contractors. * Asbestos awareness training. * Toolbox talks * Asbestos survey to be undertaken on buildings which are to be removed/demolished - see Assocaited Documents I		Please see Onederland for the One Group Construction Relevant Legislation	1	5	5
Field activities involving excavation near water course, activities requiring surface or groundwater removal from excavations or drilling activities	YES	Inappropriate disposal of liquid waste	Pollution of watercourses	3	4	12	* Construct temporary drainage devices to control soil and water movement from the site. These may include, diversion drains, silt fences, bunds and booms; * Potentially contaminated water must be stored in an appropriate container in a bounded area on-site, for subsequent appropriate disposal. * Obtain consent from the appropriate authority if potentially contaminated water is to be discharged to the sewer system. * Locate stockpiles of construction materials a suitable distance from watercourses and drains to prevent impact. * Ensure any concrete washout is suitably collected and disposed of. * Toolbox Talks * Emergency Response Plan		Please see Onederland for the One Group Construction Relevant Legislation	2	4	8
Field activities using plant and machinery e.g. drill rigs, generators etc.	YES	Noise	Disturbance of local community/ neighbours - breach of Section 60/61	4	3	12	* Keep noise to a minimum and adhere to the noise levels as set out by the authority. * Adhere to site working hours. * Noise mitigation measures to be incorporated. * Adhere to site working hours. * Agree working hours (noisy work only between 0800 & 1700) * Noise monitoring (if required)		Please see Onederland for the One Group Construction Relevant Legislation	2	2	4

Contract Name:		The Priory Centre				**Contracts Manager & Project Manager:**		Simon Hubert & David Relf				
Contract Number:		1432				**Date:**		14.12.23				
				Enter No: 1 to 5						**Resultant Mitigation (1-5)**		
Activity	**Applicable**	**Environmental Aspect**	**Environmental Impact**	**Likelihood**	**Severity**	**Significance Rating**	**Control Measures**	**Positive Impact**	**Legislation**	**Likelihood**	**Severity**	**Revised Rating**
	YES	Vibration	Disturbance of local community/ neighbours. Prosecution as a breach of planning consent/other requirement	4	2	8	* Identify parties to be affected * Use properly maintaned machinery * Use approprite construction techniques, considering location of surrounding buildings and their sensitivity to vibration. * Agree working hours (noisy work only between 0800 & 1700) * Vibration monitoring (if required)		Please see Onederland for the One Group Construction Relevant Legislation	2	2	4
	YES	Lighting	Nuisance to neighbours and the use of a natural resource	1	2	2	* Planning conditions - conditions reviwed and no restrictions on lighting during construction * Check lights do not shine into dwellings/neighbourng properties * Turn all non-essential lighting of at end of day * PIR sensors fitted to lights		Please see Onederland for the One Group Construction Relevant Legislation	1	1	1
Decorating	Yes	Disposal of paint tins	Pollution of storm water or surface water drains, water courses, or groundwater. Contamination of ground. Harmful to wildlife.	3	3	9	* Proper and safe disposal of waste must be ensured even after it has been passed on to another party. The duty of care has no time limit. It extends until the waste has either been disposed of or fully recovered. * Duty of care requires that all waste is stored and disposed of responsibly, it is only handled or dealt with by authorised individuals or companies and a record is to be kept of all waste received or transferred (i.e. Waste Transfer Notes (WTN)). A WTN must be created for each load of waste that leaves the site. The waste should be adequately described on the WTN. * Ensure those that treat, store or dispose of the waste have Waste Management Licence or Exemption Certificate. * Ensure that the carrier is a registered waste carrier for this purpose. * Check to establish if any containers or other materials taken back by the supplier are being reprocessed or disposed of. * Ensure that all wastes that arise irregularly (e.g. redundant materials, wastes arising from cleaning up spills) are declared on TWNs. Some may be regarded as hazardous waste. * Ensure that all contractors use the identified skips and bins and that these are kept in good order. No waste is to be left on the floors around the skip / bin. Use skip sheeting to reduce dusts or wind scatter.		Please see Onederland for the One Group Construction Relevant Legislation	1	3	3
Storage and use of hazardous materials e.g. diesel, petrol, oil	YES	Poor materials handling practices	Contamination of soil, water and air due to spillage. Contamination of ground. Harmful to wildlife. Damage to human health Cost of clean-up, prosecutions.	4	3	12	* Store hazardous materials securely, away from drains and watercourses in accodance with COSHH Assessments * Emergency Response Plan * Suitable training in the form of Site Inductions, Method Statements and Toolbox Talks COSHH Assessments for hazrdous substances * Store bulk petrol, diesel and oil in bunded tanks and store smaller containers on drip trays that have 110% capacity of the larger container. * Keep a spill kit near to fuel and oil storage areas. * Always put lids om any containers after use. * Ensure that all containers are undamaged. * Ensure that all refuelling is constantly attended and only undertaken at least 10m away from watercourses and drains. * Lock the mobile bowser or storage tank after use. * Use drip trays under all static plant and during refuelling from mobile plant. * Clean up any minor spillages. * Do not use high pressure delivery systems when filling small containers. * Use funnels when refuelling small plant and equipment to avoid spillages. * Use the automatic shut off "pistol grip" delivery systems when refuelling from tanks or mobile bowser. Do not tamper with the shut off system at anytime. * Do not leave refuelling hoses outside bunds after use. * Do not leave bunds and drip trays to overflow. * Do not pour petrol, diesel or waste oil down drains and gullies.			1	2	2
Material Use	YES	Material procurement and handling	Depletion of natural resources. Use of illegal/non-sustainable sources Energy used in the production and manufacture. Wastage of materials	5	3	15	* Use of materials with recycled content * Ensure source of material is certified (FSC, PEFC, ISO 14001) * Reduce wastage by storing materials correctly * Prefabrication * Planning conditions / client requirement (BREEAM assessment materials) * Timber delivery tickets reviewed * Carry out accurate ordering materials to avoid waste * Provide adequate storage for materials to prevent damage * Encourage sub-contractors to deliver materials on a 'Just in Time' basis * Ensure completed works are adequately protectected from damage * Carry out manual handing Toolbox Talks	Use recycled aggregates for hardstandings, re-use and incorporate within permenant works. Re-use any timber where possible for noggins etc and minor formwork etc Re-use site-won topsoil		2	1	2

Contract Name:	The Priory Centre	Contracts Manager & Project Manager:	Simon Hubert & David Relf
Contract Number:	1432	Date:	14.12.23

				Enter No: 1 to 5						Resultant Mitigation (1-5)		
Activity	**Applicable**	**Environmental Aspect**	**Environmental Impact**	**Likelihood**	**Severity**	**Significance Rating**	**Control Measures**	**Positive Impact**	**Legislation**	**Likelihood**	**Severity**	**Revised Rating**
Cement / Gypsum based products	YES	Cement, Mortar, Concrete and Plaster Washout	Harmful to wildlife. Pollution to controlled water. Unauthorised discharge to sewer or land drains	5	3	15	* Identify all water watercourses, gullies and drains prior to commencing work. * Undertake mixing / batching works well away from watercourses and drains. * Use only designated areas for concrete washout. * Where necessary protect nearby drains against washout water running into them. * Do not wash off any tools or plant in watercourses. * Store bulk and bagged cement and concrete additives at least 10m away from watercourses, gullies and drains. * Provide washout pits.		Please see Onederland for the One Group Construction Relevant Legislation	2	1	2
Energy used as fuel for lighting, equipment, heating and cooling.	YES	Electricity, gas, liquid fuels	Reduction in natural resources. Greenhouse effect from generation.	4	2	8	* Monitor/meter electricity, gas and liquid fuel consumption records. * Raise staff awareness via information bulletins / Emails. * Spot checks to ensure electrical equipment turned off when not in use. * Investment in technology i.e. Light sensors, timers. * Regular maintenance. * Close all windows when using heating systems.		Please see Onederland for the One Group Construction Relevant Legislation	2	1	2
Water use	YES	Drinking water, toilets, cleaning, construction activities	Reduction in natural resources. Greenhouse effect from generation.	5	2	10	* Usage monitored/metered and minimised where practicable.	Consider use of water butts to collect rainwater from site accomdation for use in appropriate site activities	Please see Onederland for the One Group Construction Relevant Legislation	2	1	2
Waste	YES	Disposing of non-hazardous waste	Reduction in natural resources. Pollution to ground.	5	2	10	* Proper and safe disposal of waste must be ensured even after it has been passed on to another party. The duty of care has no time limit. It extends until the waste has either been disposed of or fully recovered. * Duty of care requires that all waste is stored and disposed of responsibly, it is only handled or dealt with by authorised individuals or companies and a record is to be kept of all waste received or transferred (i.e. Waste Transfer Notes (WTN)). A WTN must be created for each load of waste that leaves the site. The waste should be adequately described on the WTN. * Ensure those that treat, store or dispose of the waste have Waste Management Licence or Exemption Certificate. * Ensure that the carrier is a registered waste carrier for this purpose. * Check to establish if any containers or other materials taken back by the supplier are being reprocessed or disposed of. * Ensure that all wastes that arise irregularly (e.g. redundant materials, wastes arising from cleaning up spills) are declared on WTNs. Some may be regarded as hazardous waste. * Ensure that all contractors use the identified skips and bins and that these are kept in good order. No waste is to be left on the floors around the skip / bin. Use skip sheeting to reduce dusts or wind scatter. * On-site segregation of waste types		Please see Onederland for the One Group Construction Relevant Legislation	1	2	2
	YES	Litter	Nuisanace to neighbours, damage to site	4	2	8	* Litter pick as necessary * Site inspections * Site Induction * Provision of litter bins on site		Please see Onederland for the One Group Construction Relevant Legislation	2	1	2
	YES	Disposing of hazardous waste	Reduction in natural resources. Pollution to ground. Harmful to wildlife.	3	5	15	Mixing of hazardous with non-hazardous waste is prohibited. * The mixing of different categories of hazardous waste together in the same container is prohibited. * Whenever hazardous waste is removed, a consignment note must be completed and accompany the hazardous waste. * Ensure that the carrier is a registered waste carrier for this purpose. * Check that the waste carrier will supply the Hazardous Waste Consignment Note prior to arranging the removal of the waste. * Get a copy of the completed consignment note form the Carrier as proof the materials have been disposed of appropriately. By law consignment notes need to be kept for at least 3 years. * A producer, holder or consignor of hazardous waste, must keep a record in the Hazardous Waste Register register of the quantity, nature, origin, destination, frequency of collection, mode of transport and treatment of the waste. This must be kept for three years.		Please see Onederland for the One Group Construction Relevant Legislation	2	2	4
Transport	YES	Driving to / from site or office	Reduction in natural resources. Pollution to ground. Harmful to wildlife. Greenhouse effect from generation.	5	2	10	* Vehicle sharing is encouraged. * Energy efficient company car and van fleet. * Renew company car fleet every 4 years.		Please see Onederland for the One Group Construction Relevant Legislation	2	1	2

Contract Name:		The Priory Centre				**Contracts Manager & Project Manager:**		Simon Hubert & David Relf				
Contract Number:		1432				**Date:**		14.12.23				
				Enter No: 1 to 5							**Resultant Mitigation (1-5)**	
Activity	**Applicable**	**Environmental Aspect**	**Environmental Impact**	**Likelihood**	**Severity**	**Significance Rating**	**Control Measures**	**Positive Impact**	**Legislation**	**Likelihood**	**Severity**	**Revised Rating**
Life Cycle	YES	Location and Orientation of the building, design of building, material choice, procurement, energy usage, life span, disposal requirements	Disturbance to local community and loss of bio-diversity. Reduction/loss of natural resources. Energy used in production and manufacture. Greenhouse effect from generation. Energy used for final disposal. Pollution to ground	3	2	6	* Consultation in design and planning process, with all interested parties * Minimise vegetation disturbance and clearance * Negate or minimise any disturbance to any wildlife * Specifiy materials with recycled content * Ensure source of material is certified (FSC, PEFC, ISO 14001) * Specify materials that can be disposed of in an evironmentally concious manner, negating or reducing disposal to landfill. * Specify energy efficient services installations * Specify renewable energy installations	Desing includes for: * Efficient LED lighting * Heat recovery units * Highly insulated building envelope	Please see Onederland for the One Group Construction Relevant Legislation	2	2	4

Spill Response Procedure

Oil, chemicals, or cement/concrete wash water

Take Control	The first trained person on scene should take control
	- **Stop work** (If safe to do so) - Consider the **Risks** - Fire or explosion ? (sources of ignition) - Fume Inhalation ? - **Find the source** and stop any more from spilling (if safe) - **Secure the area** - do you need to evacuate the building? - Notify the Site Office - Major /significant spill call the Emergency Services (999) - Install portable drain blockers to all surface water outfalls to protect the River Great Ouse
Identify, Contain and Protect	

	- Wear appropriate **PPE**
	- **Identify** the spill & find the COSHH/MSDS's.
	- **Contain** the spillage immediately e.g. with
	  ○ Spill kit socks
	  ○ Spill kit absorbent pads
	- **Protect** drainage by using the clay drain covers

Clean Up & Dispose	
	- **Clean up** the spill with the absorbent pads - All contaminated materials are now classified as **hazardous waste** - Bag up in the disposable bags in the spill kits & use the cable ties to seal the bag - Notify the Site office that a spill has occurred and what hazardous materials need to be disposed of.
Report	

	- **Notify** your Head Office
	- If the spill is contained complete the **appropriate Incident form and report to your Health & Safety Team**
	  ○ The material that has entered any drains or is affecting the environment
	  ○ The location
	  ○ Reasons for incident
	  ○ Quantity involved

Appendix H – Environmental Permit – to follow