

**FLOOD RISK ASSESSMENT
FOR A COMMERCIAL AND RESIDENTIAL DEVELOPMENT
AT GLENSIDE SOUTH, PINCHBECK**

FINAL REPORT

ECL1322-3/PETER HUMPHREY ASSOCIATES

DATE OCTOBER 2025

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DISCLAIMER

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1.0 INTRODUCTION

This Flood Risk Assessment has been prepared in accordance with National Planning Policy Framework (NPPF) and supporting planning practice guidance (PPG) on Flood Risk and Coastal Change.

In areas at risk of flooding or for sites of 1 hectare or more, developers are required to undertake a site-specific Flood Risk Assessment to accompany an application for planning permission. This Flood Risk Assessment has been produced on behalf of Mr K Whincup in respect of a development that consists of a glamping pod, 10 grass camping pitches, managers accommodation, welfare building and machine store on land north west of The Chestnuts, Glenside South, Pinchbeck.

A planning application for the proposed development has been submitted by Peter Humphrey Associates. This flood risk assessment has been updated to respond to comments from the Environment Agency.

2.0 SITE LOCATION AND DESCRIPTION

2.1 Site Location

The site is located on land north west of The Chestnuts, Glenside South, Pinchbeck, Spalding, PE12 3SA. The National Grid Reference of the site is 52317/32589.

The location of the site is shown in Figure 1.



Figure 1 – Location Plan (© OpenStreetMap contributors)

2.2 Existing Site

The site is on the southern side of Glenside South. The site consists of an area of agricultural land however it is unsuitable for modern agricultural processes due to the established trees and vegetation. The site includes a lake. There are residential dwellings to the east and west of the site and agricultural land to the south.

Environment Agency LIDAR data shows that site levels are typically between +3.0m OD and +3.6m OD. The carriageway level of Glenside South adjacent to the site is +4.8m OD. The land to the south of the site is typically at a level between +2.8m OD and +3.0m OD.

The site is in the Welland and Deepings Internal Drainage Board (IDB) District. Surface water at the site drains through a local network and hence to the IDB drain system. The nearest IDB maintained watercourse, Reedy Graft, is 750m south of the site.

The online British Geological Survey maps indicate that the site is likely to be underlain by Oxford Clay Formation mudstone. The bedrock is shown to be overlain with superficial deposits of clay and silt.

2.3 Proposed Development

The proposed development is a fishery that comprises a glamping pod, 10 grass camping pitches, managers accommodation, welfare building and machine store. The managers accommodation will be a single storey glamping pod. Details of the proposed development are provided in Attachment 1.

2.4 Local Development Documents

The South East Lincolnshire Local Plan 2011 – 2036, adopted in March 2019, is the Local Plan for the district. Policy 4: Approach to Flood Risk states the requirements for flood risk reduction.

The South East Lincolnshire Level 1 and Level 2 Strategic Flood Risk Assessment (SFRA) was prepared in June 2017.

The Joint Lincolnshire Flood Risk and Drainage Management Strategy has been prepared by Lincolnshire County Council as the Lead Local Flood Authority. The purpose of the Strategy is to increase the safety of people across Lincolnshire by reducing the number of people at risk of flooding, increasing the resilience of local communities, and reducing the impact of flooding

2.5 Available Flood Risk Information

An extract from the Environment Agency Flood Map for Planning is shown in Figure 2. The site is located within Flood Zone 3, an area with a high probability of flooding.

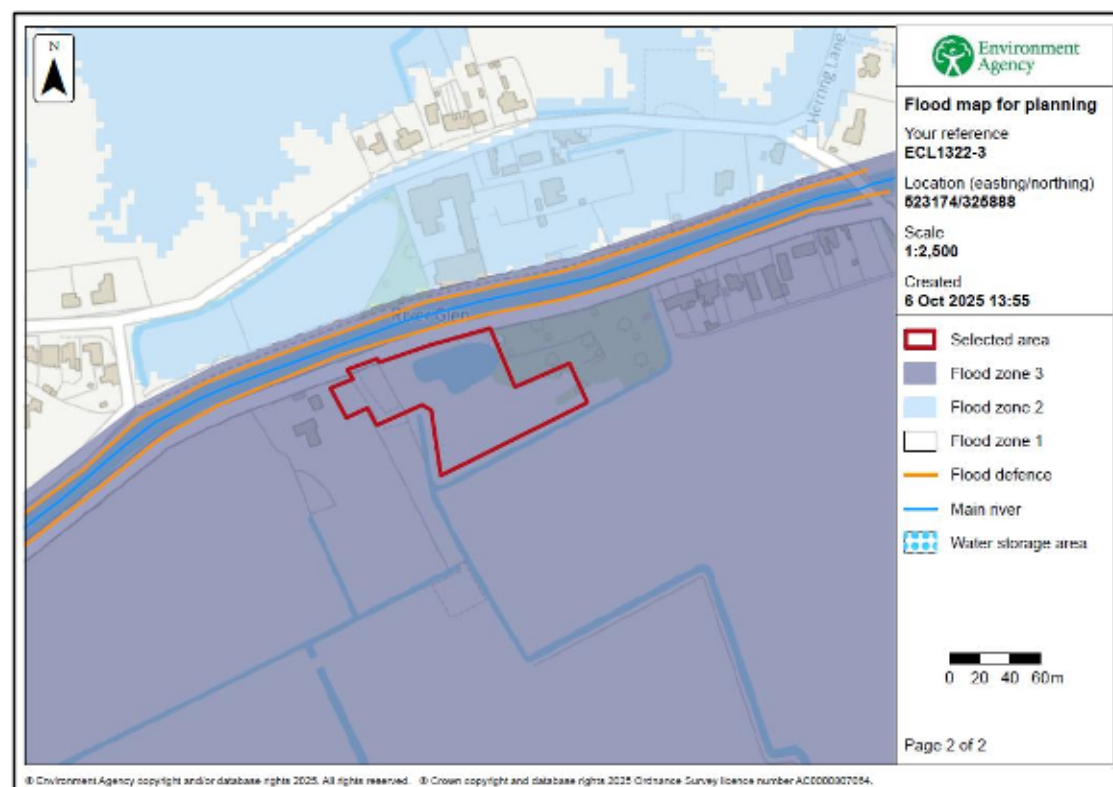


Figure 2 – Environment Agency Flood Map for Planning

The Environment Agency Long Term Flood Risk maps provide an indication of the risk from the primary sources of flooding. The details provided with these maps are summarised in Table 1. The depth of flooding identified is the maximum depth that occurs during a low chance (between 0.1% and 1% chance each year) event.

	Present Day		2050 Epoch	
	Chance of Flooding	Depth (Low chance)	Risk of Flooding	Depth (Low chance)
Rivers and the Sea	The southern part of the site has a medium chance (between 1% and 3.3% chance each year)	No data available	No data available	No data available
Surface Water	Isolated areas of the site have a low chance (between 0.1% and 1% chance each year)	Below 0.2	Isolated areas of the site have a low chance (between 0.1% and 1% chance each year)	Below 0.2
Reservoir	Outside of the area at risk.			

Table 1 – Environment Agency Long Term Flood Risk Maps

Table 2 shows the level of risk at the site within the South East Lincolnshire SFRA. The proposed development will be single storey and therefore the 0.1% annual probability event has been considered.

SFRA Map	Present Day	2115
Residual Flood Hazard Map for the 0.1% event	Maximum hazard at the site is 'Danger for Most'	Maximum hazard at the site is 'Danger for Most'
Residual Peak Depth Map for the 0.1% event	The peak flood depth is between 0.25m and 0.5m	The peak flood depth is between 0.5m and 1.0m

Table 2 – Flood Risk within SFRA Maps

Site specific flood risk assessment data provided by the Environment Agency is provided in Attachment 2.

3.0 FLOOD RISK VULNERABILITY

3.1 The Sequential and Exception Test

The NPPF requires the application of a Sequential Test to ensure that new development is in areas with the lowest probability of flooding.

The Exception Test is a method to demonstrate and help ensure that flood risk to people and property will be managed, while allowing necessary development to go ahead in situations where suitable sites at lower risk of flooding are not available.

3.2 Vulnerability Classification

Table 2 of the PPG Flood Risk and Coastal Change categorises different types of uses and development according to their vulnerability to flood risk. The managers accommodation is covered by the description of caravans, mobile homes and park homes intended for permanent residential use and is classified as 'Highly Vulnerable'.

Table 3 of the PPG Flood Risk and Coastal Change sets out Flood Risk Vulnerability and flood zone 'compatibility'. The site is in Flood Zone 3 and the development is 'Highly Vulnerable' therefore the development is inappropriate. Section 3.3 describes the reasons why, in this case, the development could be permitted.

PPG Flood Risk and Coastal Change defines that the lifetime of the development in terms of flood risk and coastal change is 100 years.

3.3 Application of the Sequential and Exception Test

It is for the Local Planning Authority, using the evidence provided and taking advice from the Environment Agency as appropriate, to consider whether an application passes the Sequential Test.

The managers accommodation within the site will enable onsite living. Having the Site Manager living within the development will provide a benefit to fish welfare, to those staying overnight within the site, and to security of the site. The applicant considers that these benefits make the development appropriate.

The layout of the development has considered the flood hazard classification across the site. The glamping pod, camping pitches, and managers accommodation have been located in areas of Low Hazard or Danger for Some. Furthermore the finished floor level of the managers accommodation and glamping pod will be above the potential flood level. Based upon the configuration which positions the built footprint in the sequentially preferable areas of the site and the proposed mitigation measures, the development could be considered to pass the Sequential Test.

The Exception Test requires consideration of the wider sustainability benefits of a development and that the development would be safe and residual risks managed.

The economic value of rural areas is dependent upon the success of the businesses within them. Provision of the development, including a dwelling at this site to enable the Site Manager to live within the development, will be a benefit to the rural economy.

Section 5 of this Flood Risk Assessment describes the flood mitigation measures and the management of the residual risks, demonstrating that this development will be safe and not increase flood risk elsewhere. The development is considered to pass the Exception Test.

4.0 SITE SPECIFIC FLOOD RISK

4.1 Local Flood Assets

The site is approximately 30m south of the River Glen. The risk of flooding at the site is reduced by an embankment on the southern bank of the River Glen. The defences are the responsibility of the Environment Agency.

There is a long-term strategy for the maintenance of the Environment Agency defences which is reviewed and updated periodically.

There is an extensive local drainage network managed by Welland and Deepings IDB. The Reedy Graft, an IDB maintained watercourses that is 750m south of the site. The site and the surrounding land are within the Fourth District catchment and drain in a south westerly direction to Fourth District Pumping Station. Fourth District Pumping Station discharges to Vernatt's Drain which flows into the River Welland at Surfleet.

During the operation and maintenance of its pumping stations, associated structures, and channel systems, the IDB seeks to maintain a general standard capable of providing flood protection to its district. A routine maintenance programme is in place to ensure that the Boards assets are commensurate with the standard of protection that is sought.

Current maintenance standards of the Welland and Deepings IDB and the Environment Agency are generally good.

4.2 Sources of Flooding

A summary of the sources of flooding is provided in Table 3.

Source of Flooding	Level of Risk
Drainage Network Flooding	The risk is assessed in Section 4.3.
Surface Water Flooding	Based upon the EA maps the risk is low / very low.
Fluvial Flooding	The risk is assessed in Section 4.3.
Tidal Flooding	The risk is not at risk of tidal flooding.
Reservoir Flooding	Based upon the EA maps the site is not at risk of reservoir flooding.
Groundwater Flooding	There is no evidence to suggest the site is at risk of groundwater flooding.

Table 3 – Sources of Flooding

4.3 Probability of Flooding

The probability of flooding associated with blockages in the Welland and Deepings IDB drainage system is low due to the maintenance standards achieved and managed by the IDB.

Through the operation and maintenance of the pumping stations and the channel system the Board seek to maintain a general standard capable to providing flood protection to agricultural land and developed areas of 1 in 20 years and 1 in 100 years, respectively. The risk associated with flood events that exceed the standard of protection provided is lowered due to the Welland & Deeping IDB main drains incorporating freeboard. This freeboard provides storage during the exceedance events.

Present day flood levels for the River Glen were provided by the Environment Agency. The flood levels (m AOD) at the model node adjacent to the site are shown in the Table 4 below.

Node	Annual Probability		
	5%	3.3%	1%
Glen 7082	4.32	4.34	4.41

Table 4 – Present day River Glen flood levels (m AOD)

The River Glen defences are in excess of +5.0m OD and provide protection during the 1% annual probability (1 in 100 chance each year) fluvial event.

4.4 Historic Flooding

During the preparation of this assessment, no evidence was discovered of the site being flooded.

4.5 Climate Change

Climate change is likely to impact the site through increased rainfall intensity and duration affecting the local drainage network and increased flood levels in the River Glen.

The Flood Risk Assessments: Climate Change Allowances guidance states that a range of climate change allowances should be considered. For the 2080s (100 year) timeframe within the Welland Management Catchment the allowance ranges from 17% to 53%. The higher central allowance for climate change is 28%.

The modelled flood level for the 1% annual probability (1 in 100 chance each year) event with 20% climate change is 4.49m AOD. Based upon the level of the defences the site is not at risk when climate change is considered.

In summary the existing systems and defences are appropriate for the design life of the development (i.e. 100 years).

4.6 Residual Risk

There is a residual risk of flooding at the site should a breach of the tidal defences occur. The South East Lincolnshire SFRA includes maps demonstrating the residual peak depth in 2115.

The proposed dwelling is single storey and therefore any mitigation measures will need to consider the 0.1% annual probability (1 in 1000 chance each year) event in 2115. An extract from this map is shown in Figure 3 below.

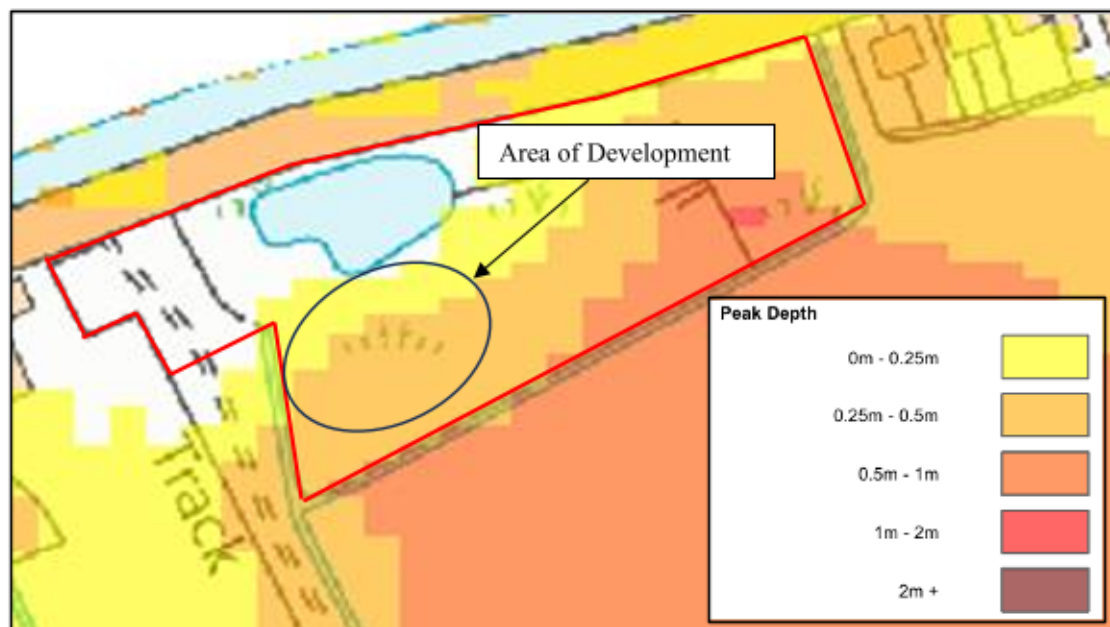


Figure 3 – SFRA 2116 Residual Peak Depth Map during the 0.1% Annual Probability Event

When climate change allowances are applied to the 0.1% annual probability (1 in 1000 chance each year) event the maximum flood depth within the area to be occupied by the proposed glamping pod, camping pitches, and managers accommodation is between 0.25m and 0.5m.

Policy 4 of the Local Plan states that caravan, chalet log cabin, camping, and touring sites at risk of fluvial flooding where there is a 'Danger for Most' hazard classification should not be permitted. Figure 4 shows the layout of the site and the hazard classification. The proposed glamping pod, camping pitches, and managers accommodation are within areas with a Low Hazard or Danger for Some risk classification.

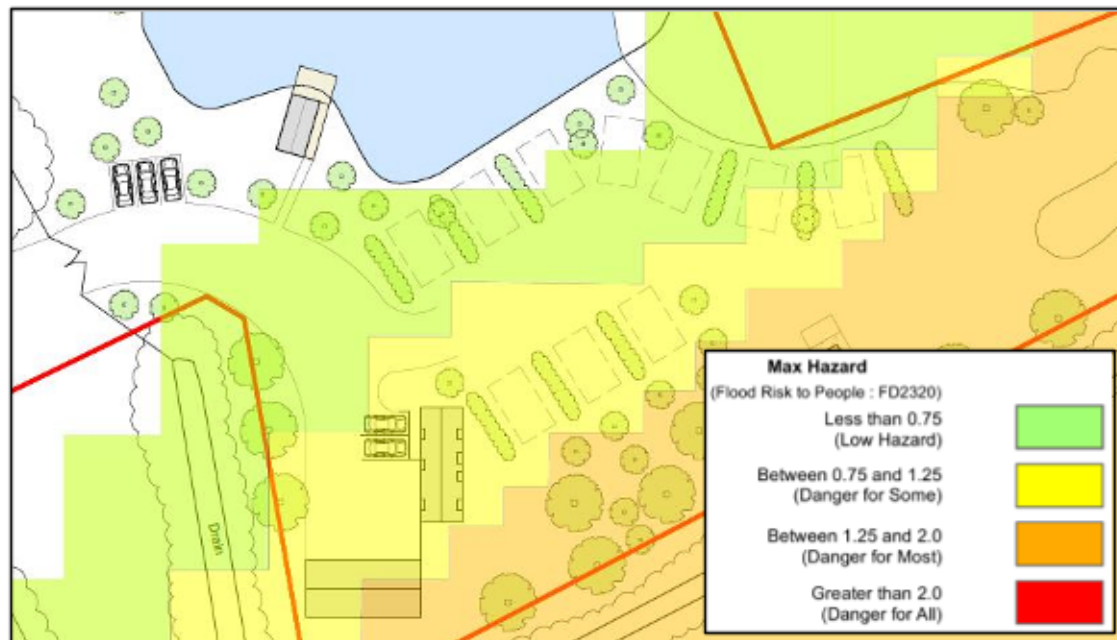


Figure 4 – Site Layout and Hazard Classification

The Environment Agency response highlights that potentially there is a greater risk than that indicated on the hazard maps due to the sites proximity to the flood defence. It is acknowledged that a breach adjacent to the site could increase the level of risk. However, the flood defence is also the B1180 and therefore would be subject to regular inspection and maintenance as part of the highway network. It is therefore considered that the probability of a breach adjacent to the site would be remote. .

5.0 FLOOD RISK MITIGATION

5.1 Summary of Risks

The probability of this development flooding from localised drainage systems is low. Failure of Fourth District Pumping Station could lead to an increased level of risk at the site.

The probability of the site flooding from any Environment Agency system is less than 1% annual probability (1 in 100 chance each year) because of the standards of the existing flood defences. Over time there will be a gradual increase in risk to the site due to climate change. During the design life of the development it is not anticipated that the site would flood.

The SFRA considers the residual risk associated with overtopping and a breach in the defences in 2115. The managers accommodation, glamping pod, and camping pitches are within an area with a maximum flood depth of between 0.25m and 0.5m and a hazard rating of Low Hazard or Danger for Some.

The development increases the impermeable area and therefore has the potential to increase flood risk elsewhere.

5.2 Mitigation Measures

Based upon the information available during the preparation of this flood risk assessment it is recommended that the finished floor levels of the dwelling and glamping pod are 0.5m above surrounding ground level. It is recommended that there is flood resilient construction to a level of 0.8m above ground level.

The developer should ensure that the eventual occupier of the dwelling is sufficiently aware of the risk of flooding, and the standard of the existing defences. The Environment Agency operates a flood warning system for properties at risk of flooding to enable householders to protect life or take actions to manage the effect of flooding on property. Floodline Warnings Service is a national system run by the Environment Agency for broadcasting flooding warnings. The occupier of the dwelling should register to receive flood warnings.

Should there be a failure of Fourth District Pumping Station and conditions were such to put properties and land at risk of flooding, the IDB would take emergency action to maintain the drainage level of service by using temporary pumping equipment.

It is recommended that surface water run-off is managed so that stormwater from the development will not affect any adjoining properties or increase the flood risk elsewhere.

6.0 CONCLUSIONS

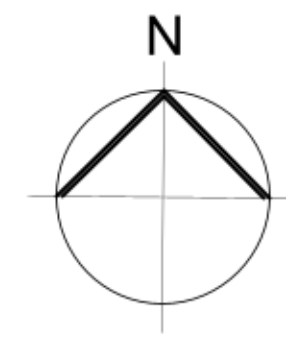
As a result of the assessment, the following conclusions have been reached.

- The proposed development is a fishery that comprises a glamping pod, 10 grass camping pitches, managers accommodation, welfare building and machine store on land north west of The Chestnuts, Glenside South, Pinchbeck.
- The site is located within an Internal Drainage Board catchment and through the operation and maintenance of the pumping stations and the channel system the Board seek to maintain a general standard capable to providing flood protection to agricultural land and developed areas of 1 in 20 and 1 in 100 years, respectively.
- The proposed development is protected during the 1% annual probability (1 in 100 chance each year) event including an allowance for climate change by defences on the River Glen.
- It is recommended that the finished floor levels of the dwelling and lakeside pod are 0.5m above ground level and there is flood resilient construction to a level of 0.8m above ground level.
- The development passes the Sequential Test and Exception Test and is therefore suitable for the proposed location.

ATTACHMENT 1

**PROPOSED SITE PLAN
(DWG 6911/02G)**

**FLOOD HAZARD DRAWING
(DWG 6911/05A)**



A -		
REVISIONS		
JOB NO.	PAPER SIZE	DATE
6911/02G	A1	JAN 2005
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The Construction (Design and Management) Regulations 2015: Peter Humphrey Associates' form of appointment with the client confirms whether the agent is appointed as 'Designer' or 'Principal Designer' under these regulations. Nevertheless, the design phase has been carried out with due consideration for the safety during construction, occupation and maintenance of the project. No extraordinary hazards or risks were identified outside of the routine construction operations that would not already been apparent to a competent contractor.		

CLIENT
MR K WHINCUP

PROJECT
PROPOSED DEVELOPMENT

SITE
LAND NORTH-WEST OF 'THE CHESTNUTS'
GLENSIDE SOUTH
PINCHBECK
SPALDING, Lincs
PE11 3SA

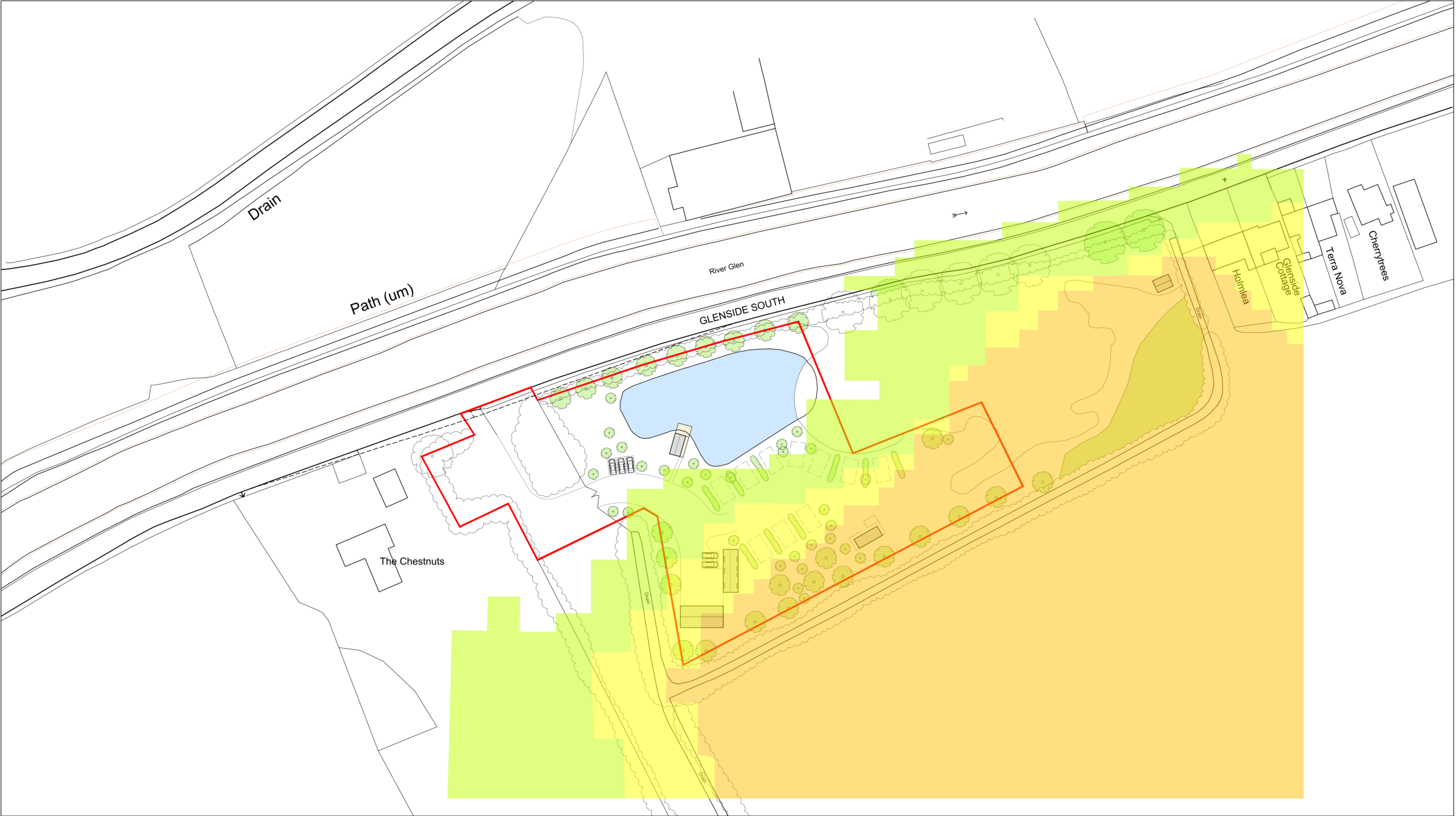
DRAWING
PLANNING DRAWING 2 (PROPOSED SITE PLAN)



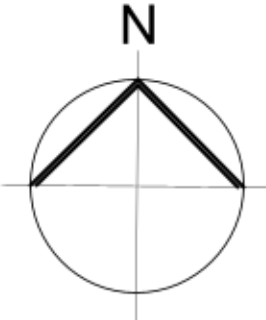
**PETER HUMPHREY
ASSOCIATES**

ADDRESS: 2 CHAPEL ROAD, WISBECH, CAMBS, PE13 1RG.

TELEPHONE: 01945 466966
E-MAIL: info@peterhumphrey.co.uk
WEB: www.peterhumphrey.co.uk



Proposed Site Plan - With Flood Hazard Mapping Overlay 1:500



A -
REVISIONS

JOB NO.	PAPER SIZE	DATE
6911/05A	A1	SEPT 2025

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CLIENT
MR K WHINCUP

PROJECT
PROPOSED DEVELOPMENT

SITE
LAND NORTH-WEST OF 'THE CHESTNUTS'
GLENSIDE SOUTH
PINCHBECK
SPALDING, Lincs
PE11 3SA

DRAWING
PLANNING DRAWING 5 (FLOOD HAZARD)

PHA
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ATTACHMENT 2

ENVIRONMENT AGENCY FLOOD RISK INFORMATION

Tim Ellingham
tim@ellinghamconsulting.co.uk

Our ref: CCN-2024-368965

Date: 24/07/2024

Dear Tim,

Provision of Flood Risk Information for Glenside South, Pinchbeck.

Thank you for your request for our flood risk information for the above site. The information is set out below and attached. It is important you read any contextual notes on the maps provided.

If you are preparing a Flood Risk Assessment (FRA) for this site, please note this information may not be sufficient by itself to produce an adequate FRA to demonstrate the development is safe over its lifetime. Additional information may be required to carry out an appropriate assessment of all risk, such as consequence of a breach in defences.

We aim to review our information on a regular basis, so if you are using this data more than twelve months from the date of this letter, please contact us again to check it is still valid.

Please read the letter in full as the information covered has been updated in **June 2023**.

1. Flood Map for Planning

The attached map includes the current Flood Map for Planning for your area. The map indicates the area at risk of flooding, **assuming no flood defences exist**, for a flood with a 0.5% chance of occurring in any year for flooding from the sea, or a 1% chance of occurring for fluvial (river) flooding. It also shows the extent of the Extreme Flood Outline which represents the extent of a flood with a 0.1% chance of occurring in any year, or the highest recorded historic extent if greater.

In some locations, such as around the fens and the large coastal floodplains, showing the area at risk of flooding assuming no defences may give a slightly misleading picture in that if there were no flood defences, water would spread out across these large floodplains. This flooding could cover large areas of land but to relatively shallow depths and could leave pockets of locally slightly higher land as isolated dry islands. It is important to understand the actual risk of the flooding to these dry islands, particularly in the event of defence failure.

The Flood Map for Planning also shows the location of formal raised flood defences and flood storage reservoirs. It represents areas at risk of flooding for present day only and does not take account of climate change.

The Flood Map for Planning only indicates the extent and likelihood of flooding from rivers or the sea. It should also be remembered flooding may occur from other sources such as surface water sewers, road drainage, etc.

2. Recorded Flood Outlines

With regards to the history of flooding I can advise we do not have any records of flooding in this area. It is possible recent flooding may have occurred which we are currently investigating, therefore this information may be subject to change. It is possible other flooding may have occurred which other risk management authorities, such as the Lead Local Flood Authority (ie top tier council) or Internal Drainage Board (where they exist) have responsibility.

Please note, our Recorded Flood Outlines do not reflect the latest (October 2023-present) flood incidents. Due to the scale of the events, it will take time to gather the information and verify the extent of the flooding before we are able to provide this information.

3. Schemes in the area

There are no ongoing capital projects to reduce or sustain the current flood risk to this site.

4. Fluvial Flood Risk Information

This site is considered to be at risk of flooding from main rivers.

The site may also be at risk from local ordinary watercourses for which other risk management authorities, such as the Lead Local Flood Authority (ie top tier council) or Internal Drainage Board (where they exist) have responsibility.

4.1 Fluvial Defence Information

The existing fluvial defences reducing the risk of flooding from main river to this site consist of embankments. They are in good condition and reduce the risk of flooding (at the defence) to a 1% (1 in 100) chance of occurring in any year. We inspect these defences routinely to ensure potential defects are identified.

Refer to paragraph 3 for details of any ongoing capital projects to reduce the flood risk to this site.

4.2 Fluvial Modelled Levels and Flows

Available modelled fluvial flood levels and flows for the model nodes shown on the attached map are set out in the data table attached. This data is taken from the model named on the data table, which is the most up-to-date model currently available.

Please note these levels are "in-channel" levels and therefore may not represent the flood level on the floodplain, particularly where the channel is embanked or has raised defences.

Our models may not have the most up to date climate change allowances. In time we will update our models for the latest allowances. You should refer to '[Flood risk assessments: climate change allowances](#)' to check if the allowances modelled are appropriate for the type of development you are proposing and its location. You may need to undertake further assessment of future flood risk using different allowances to ensure your assessment of future flood risk is based on best available evidence.

4.3 Fluvial Modelled Flood Extents

Our modelled flood extents, which take into account flood defences, do not impact this site.

There may still be a residual risk of fluvial flooding to your site due to the failure of flood management infrastructure such as a breach of a raised flood defence. You may need to undertake further assessment of this residual risk using the data provided.

4.4 Fluvial Hazard Mapping

For certain locations we have carried out modelling to map the maximum values of flood depth, velocity and hazard rating (danger to people) resulting from overtopping and / or breaching of defences at specific locations for a number of scenarios.

At present this information is available for fluvial flood risk in Northampton, Lincoln, Wainfleet and some isolated rural locations.

The number of locations we have this information for is expected to increase in time.

At present this site is not covered by any Environment Agency hazard mapping.

Detailed Hazard Mapping is available within the 2017 Update of South Holland Strategic Flood Risk Assessment. This can be downloaded via the following link:

<http://www.southeastlincslocalplan.org/water/>

5. Tidal Flood Risk Information

This site is not considered to be at risk from tidal flooding.

6. Development Planning

If you would like local guidance on preparing a flood risk assessment for a planning application, please contact our Sustainable Places team at LNplanning@environment-agency.gov.uk. It will help if you mention this data request and attach your site location plan.

We provide free preliminary advice; additional/detailed advice, review of draft FRAs and meetings are chargeable at a rate set to cover our costs, currently £100 (plus VAT) per hour of staff time. Further details are available on our website at

<https://www.gov.uk/guidance/developers-get-environmental-advice-on-your-planning-proposals>.

General advice on flood risk assessment for planning applications can be found on GOV.UK at <https://www.gov.uk/guidance/flood-risk-assessment-for-planning-applications>

Climate change will increase flood risk due to overtopping of defences. Please note, unless specified otherwise, the climate change data included has an allowance for 20% increase in flow. Updated guidance on how climate change could affect flood risk to new development - 'Flood risk assessments: climate change allowances' was published on GOV.UK in **July 2021**. The appropriate updated climate change allowance should be applied in a Flood Risk Assessment.

You should also consult the Strategic Flood Risk Assessment produced by your local planning authority.

7. Data Licence and Other Supporting Information

We respond to requests for recorded information we hold under the Freedom of Information Act 2000 (FOIA) and the associated Environmental Information Regulations 2004 (EIR).

This information is provided in accordance with the Open Government Licence which can be found here: <http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>

Further information on flood risk can be found on the GOV.UK website at:
<https://www.gov.uk/browse/environment-countryside/flooding-extreme-weather>

8. Other Flood Risk Management Authorities

The information provided with this letter relates to flood risk from main river or the sea. The Flood Map for Surface Water can be viewed at <https://www.gov.uk/check-long-term-flood-risk>

Additional information may be available from other risk management authorities, such as the Lead Local Flood Authority (ie top tier council) or Internal Drainage Board (where they exist).

I hope we have correctly interpreted your request. If you have any queries or would like to discuss the content of this letter further please contact Christopher using the email address below and quoting our CCN reference number above.

Yours sincerely,



+44 7385226602

for John O'Neill

Welland and Nene Partnerships and Strategic Overview Team Leader

e-mail PSOWN@environment-agency.gov.uk

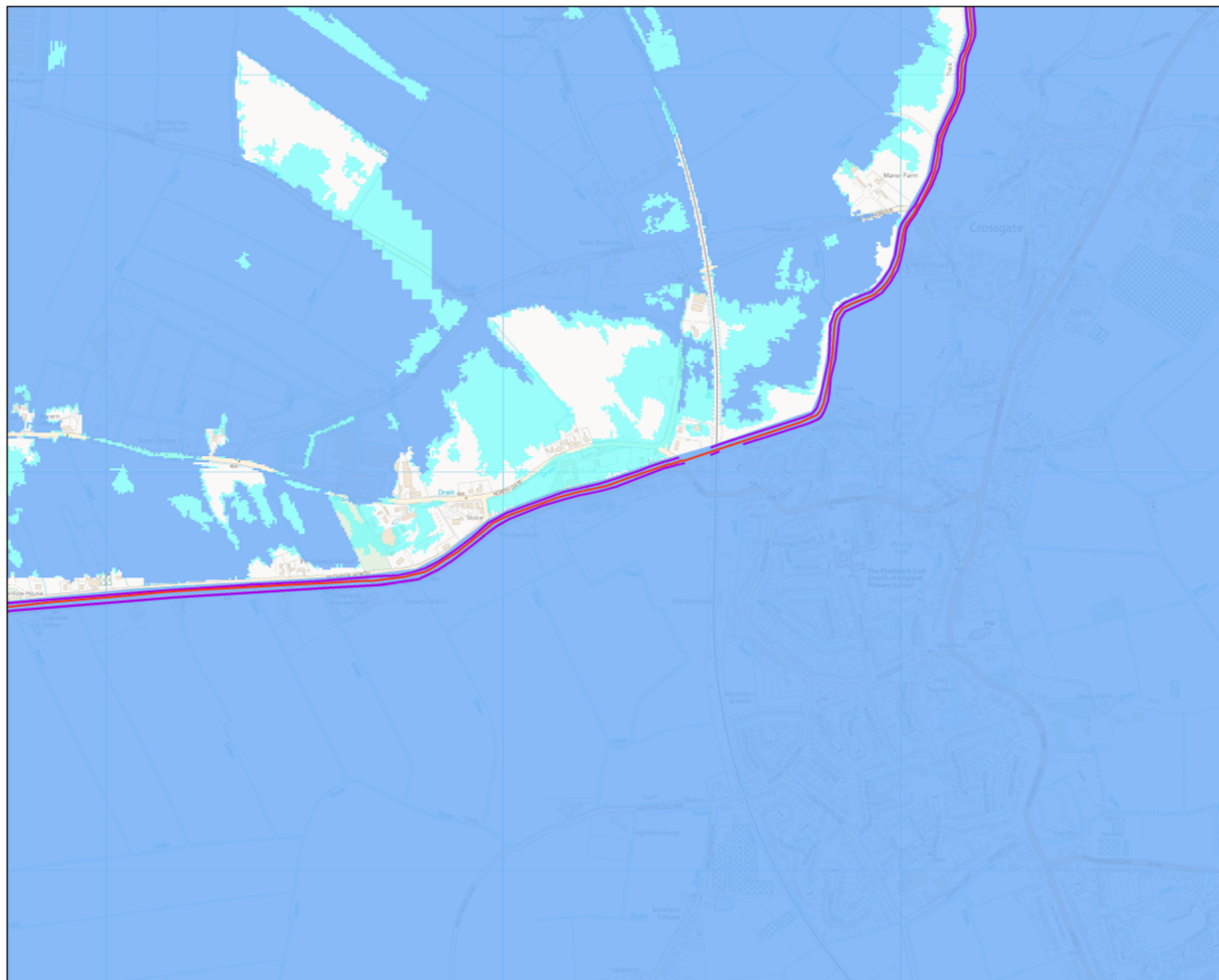
Enc.

Flood Map for Planning

Modelled Node Points Map

Modelled Fluvial Levels and Flows Data Sheet

Flood Map centred on TF 23297 25943 - created July 2024 [Ref: CCN-2024-368965]



Scale 1:10,000



Legend

- Main Rivers
- Raised Defences
- Flood Storage Areas
- Areas at Risk of Flooding from Rivers or the Sea
- Extreme Flood Outline

Dark blue shows the area that could be affected by flooding, either from rivers or the sea, if there were no flood defences. This area could be flooded:

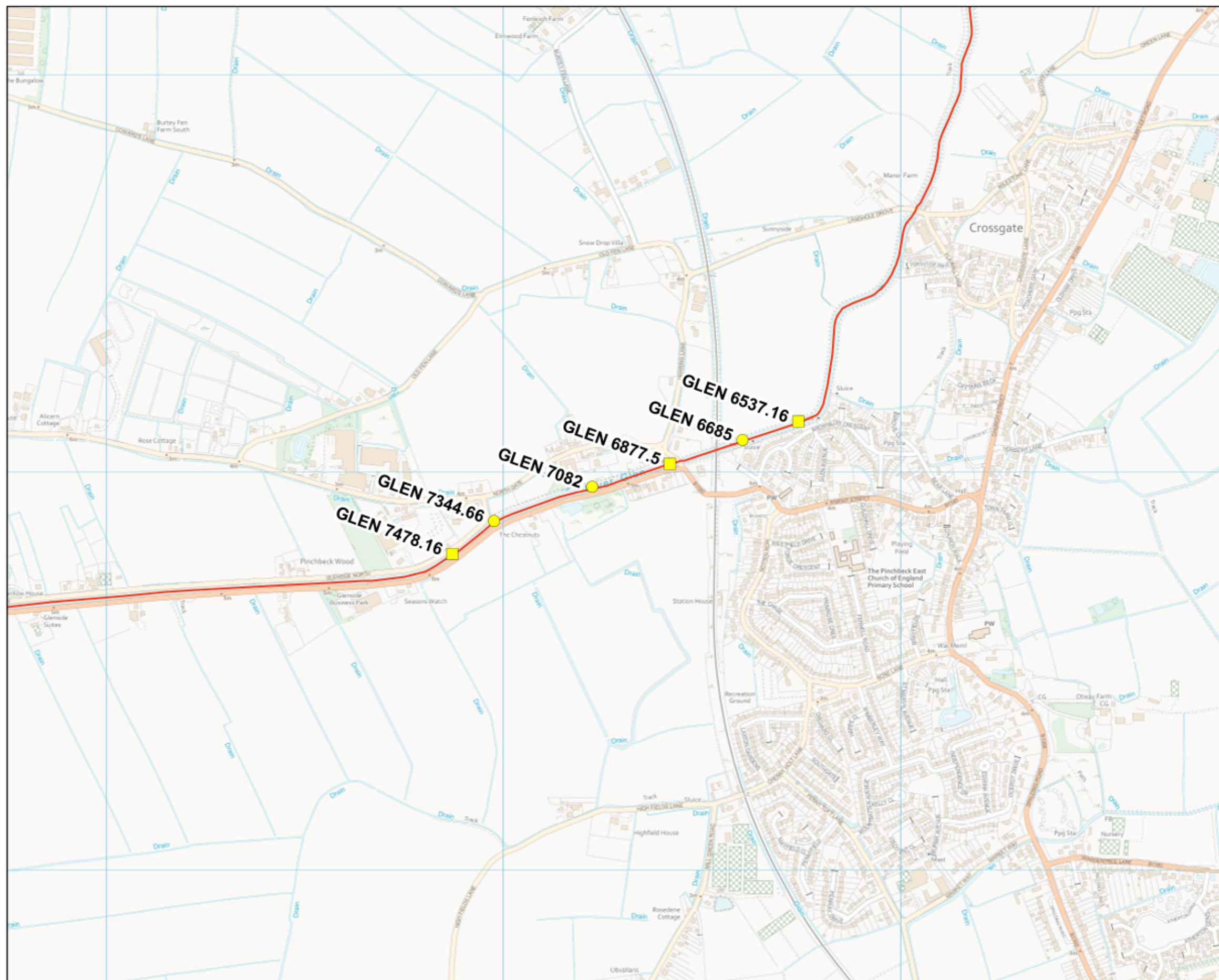
- from the sea by a flood that has a 0.5% (1 in 200) or greater chance of happening each year.
- or from a river by a flood that has a 1% (1 in 100) or greater chance of happening each year.

Light blue shows the extent of the Extreme Flood Outline, which represents the extent of a flood event with a 0.1% chance of occurring in any year, or the highest recorded historic extent if greater.

These two colours show the extent of the natural floodplain if there were no flood defences or certain other manmade structures and channel improvements. Sites outside the two extents, but behind raised defences, may be affected by flooding if the defences are overtopped or fail.

Created by the Partnerships and Strategic Overview Team, Kettering

Modelled Node Map centred on TF 23297 25943 - created July 2024 [Ref: CCN-2024-368965]



Scale 1:10,000



Legend

-  ModelledNodes-Flows
-  Modelled Nodes - Levels
-  Main Rivers

Created by the Partnerships and Strategic Overview Team,
Kettering

Fluvial Flood Levels (mODN)

The fluvial flood levels for the model nodes shown on the attached map are set out in the table below. They are measured in metres above Ordnance Datum Newlyn (mODN).

			Annual Exceedance Probability - Maximum Flows (m³/s)											
Node Label	Easting	Northing	50% (1 in 2)	20% (1 in 5)	10% (1 in 10)	5% (1 in 20)	3.33% (1in 30)	2% (1 in 50)	1.33% (1 in 75)	1% (1 in 100)	1% (1 in 100) inc 20% Climate Change	0.5% (1 in 200)	0.1% (1 in 1000)	0.1% (1 in 1000) inc 20% Climate Change
GLEN 6685	523603	326081	4.01	4.16	4.23	4.31	4.32	4.34	4.35	4.38	4.44	4.60	4.84	4.94
GLEN 7082	523224	325963	4.04	4.17	4.25	4.32	4.34	4.36	4.39	4.41	4.49	4.70	4.87	5.01
GLEN 7344.66	522977	325877	4.05	4.18	4.26	4.33	4.35	4.38	4.40	4.42	4.51	4.73	4.89	5.03

Fluvial Flood Flows (m³/s)

The fluvial flood flows for the model nodes shown on the attached map are set out in the table below. They are measured in metres cubed per second (m³/s).

			Annual Exceedance Probability - Maximum Flows (m³/s)											
Node Label	Easting	Northing	50% (1 in 2)	20% (1 in 5)	10% (1 in 10)	5% (1 in 20)	3.33% (1in 30)	2% (1 in 50)	1.33% (1 in 75)	1% (1 in 100)	1% (1 in 100) inc 20% Climate Change	0.5% (1 in 200)	0.1% (1 in 1000)	0.1% (1 in 1000) inc 20% Climate Change
GLEN 6537.16	523743	326128	26.12	29.60	31.23	33.30	33.91	34.76	35.49	36.01	39.09	48.40	43.86	56.98
GLEN 6877.5	523420	326022	25.87	29.37	30.99	33.06	33.67	34.52	35.25	35.77	38.80	48.16	43.45	56.93
GLEN 7478.16	522872	325795	25.54	29.11	30.75	32.82	33.42	34.25	34.97	35.47	38.46	48.06	42.95	56.88