# Stodmarsh Stream Enhancement Scheme – Bliby Wood_DD1

## Flood Risk Assessment

Greenshank Environmental

cbec eco-engineering UK Ltd

## cbec eco-engineering UK Ltd

Suite MF04, Marr House
Beechwood Business Park,
Inverness, IV2 3BW

**Client:** Greenshank Environmental

**Project Name:** Stodmarsh Stream Enhancement Scheme – Bliby Wood_DD1

**Project Reference:** 2150779

**Document Type:** Flood Risk Assessment

**Project Manager:** Leonardo Camelo

**Author:** Emily Diwell

**Technical Reviewer:** Dan Piggott

## Revision History

| Version | Issued To | Date of Issue |
|---|---|---|
| 1 | Gabriel Connor-Streich | 01/10/2025 |
| 1.1 | Gabriel Connor-Streich | 09/12/2025 |
| 1.2 | Gabriel Connor-Streich | 27/01/2026 |
| **2.0** | Gabriel Connor-Streich | 17/02/2026 |

*Services provided pursuant to this agreement are intended solely for the use and benefit of Greenshank Environmental. No other person or entity shall be entitled to rely on the services, opinions, recommendations, plans or specifications provided pursuant to this agreement without the express written consent of cbec eco-engineering UK Ltd., Suite MF04,. Marr House, Beechwood Business Park, Inverness, IV2 3BW.*

**TABLE OF CONTENTS**



**LIST OF FIGURES**

## 1. CLARIFICATIONS/CORRECTIONS

Following a Notice For Further Information issued by the Environment Agency on the 26th of November 2025, this updated Flood Risk Assessment (FRA) provides clarifications and corrections to support the determination for the permit application submitted on 11/11/2025 by Greenshank Environmental.

Table 1.1 lists all requests received regarding the Flood Risk Assessment, along with a link to the FRA section where the comment is addressed and a summary of the response provided.

**Table 1.1 Summary of clarifications added to this version of the Method Statement**

| EA Comment | Section addressing comment | Summary of clarification/ correction |
|---|---|---|
| It has not been explicitly stated whether the 6 porous log jams have been modelled, or given their 'random configuration', how that modelling issue has been addressed. Please confirm that the inset floodplain, the two-stage channel, the regrading at the tie-in points, the increased sinuosity, and the differing roughness values have all been modelled. | **Section 5.2.3** | All design features were modelled, and a detailed explanation of the exact methods used to model these features is now included within the report. |
| Please provide further information in relation to the wording on Page 11 'however, pass-forward flow hydrographs should be analysed to assess that the proposed designs will have no impact downstream of the project extents'. Does the new topo mean we can take more relevant pass forward flows? | **Section 5.2.6** | The wording has been changed on this sentence to explain better that the hydrographs will be addressed later in the report to assess if downstream flood risk has been impacted by the design.<br><br>The extended topographic data used to update the CAD surfaces enables a more accurately modelled downstream boundary. |
| Sec 4.2.4 provides a description for the 2yr 10yr and 30yr have descriptions – there is no such description for the 30yr +CC and the 1%AEP and the 1%AEP + CC. Is this intentional? | **Section 5.2.4** | There were originally descriptions for all return periods. However, some of the return periods don't have a distinct separate paragraph, as the results display a similar pattern to other return periods and thus are included within the same paragraph together. |

| | | |
|---|---|---|
| Fig 4.2 – 4.7 have 0.14m/0.15m banding. This is too broad for us to make an assessment about whether flood risk has increased as it is not possible to distinguish smaller changes given the map type provided. No comparison on a single map per AEP has been made showing the differences in depths/levels between the design conditions and existing conditions; this would be a valuable addition to the FRA to help us see at a glance the difference across the floodplain. | **Section 5.2.4** | Added depth difference maps with a more detailed legend to allow for more detailed analysis of flood risk throughout the modelled area. |
| There appear to be roughly 7 different properties that could be considered to have the property or the land immediately up to their property fall within the extents of the different AEPs. We cannot tell from the maps provided, how these locations are modelled to have been affected in terms of likelihood and consequence (i.e. flood risk). We would also consider the public footpaths (AE515 & AW379) to be receptors and wish to know how this scheme impacts them. | **Section 5.2.4** | The depth difference maps added to this document have been split into the upstream and downstream portions of the modelled area, to allow for clearer analysis of results.<br><br>Additionally, Table 5.1 examines in detail potential receptor-specific changes to flood risk. |
| **Clarification Session – 21st of January 2026** | | |
| Provide added rationale in the FRA about why increases in flood risk around the footpath | **Section 5.2.5** | Where a footpath crosses the site, predicted flood depth increases are below <5cm, in locations where flood water is already predicted. Where flood depth increases in the vicinity of the footpath crossing the design area, these increases are within agricultural land, with no sensitive neighbouring flood receptors |
| Why was 40% used as the CC for the 1 in 30 year event and 45% for the 1 in 100 year event | **Section 5.2.2** | Considering the dimensions of the modelled catchment, rainfall uplifts provide a more conservative estimate of climate change allowance. In line with the worst-case scenario approach used to model the design |

| | | |
|---|---|---|
| | | interventions, these more conservative flow estimates were used for both existing and design conditions model runs |

## 2. INTRODUCTION

### 2.1 PURPOSE OF STUDY

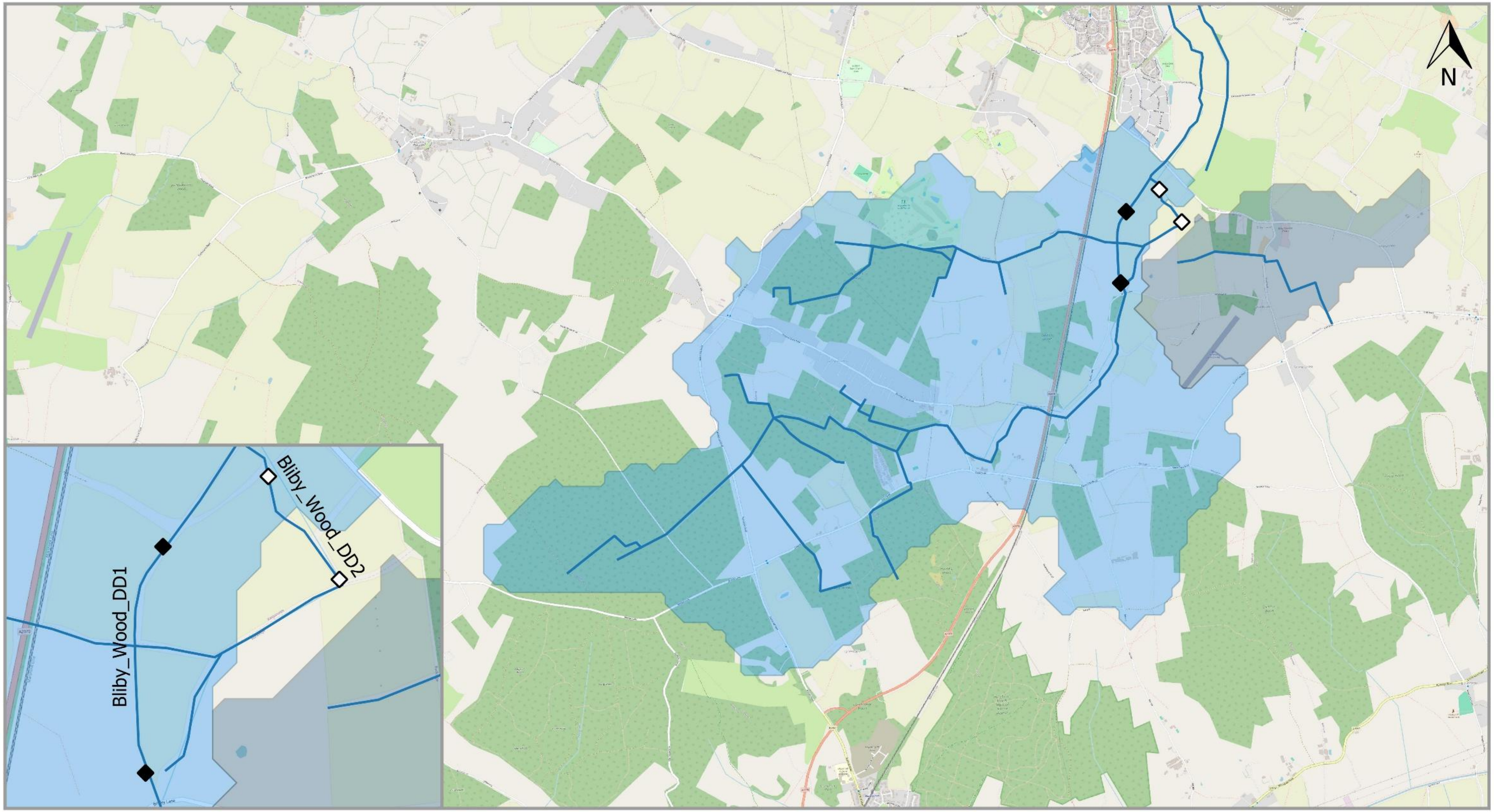
CBEC Eco-engineering UK Ltd (CBEC) was commissioned by Greenshank Environmental (The Client) to support the detailed design of the Stodmarsh Stream Enhancement Scheme (SSES). The Client is working to deliver a nutrient mitigation scheme within the Stodmarsh catchment near Ashford, Kent, applying the recently published Enhanced Drainage Ditch Management framework, which was authored by Greenshank Environmental for Natural England (Connor-Streich, 2024). The framework outlines an approach to redesigning artificial drainage ditches and small, heavily managed watercourses, aiming to slow the flow within the ditch and promote nutrient cycling processes, with its principles being implemented in this scheme.

As part of the overall Stodmarsh project, there are six sites (and seven reaches), with this FRA covering one of the reaches in site six, Bliby Wood. This site is split into two project areas, Bliby_Wood_DD2, which is approximately 280 m in length, centred on Ordnance Survey (OS) National Grid Reference (NGR) TR 02044 37686, and Bliby Wood_DD1, which is approximately 550 m in length, centred on OS NGR TR 01818 37591. This FRA concentrates on the Bliby Wood_DD1 project area.

Detailed designs for the six sites within this project involve a similar strategy, with reprofiling watercourses to incorporate enlarged two-stage cross-sections, with vegetation providing a nutrient cycling function on the second stage of the channel. The aim is to maintain the ditch's essential functionality, providing drainage to surrounding agricultural areas, while promoting hydraulic processes that will slow the flow of water within the ditches. This will increase contact time with vegetation and stimulate nutrient cycling to generate nutrient mitigation.

As part of this study, an assessment of flood risk has been completed in support of the proposed detailed designs; assessing any flood risk concerns raised by the proposed scheme in accordance with National Planning Policy Framework (NPPF). The project site is shown in Figure 2.1.

# 2150779 - BLIBY_WOOD LOCATION MAP




Bliby Wood Project Extents

- ◆ Bliby_Wood_DD1
- ◇ Bliby_Wood_DD2
- Bliby_Wood_DD2 Catchment
- Bliby_Wood_DD1 Catchment
- Watercourses


| | |
|---|---|
| CLIENT | GREENSHANK ENVIRONMENTAL |
| PROJECT | SSES |

0 0.75 1.5 km

Service Layer Credits: Main map sources - Open Street Map, Ashford area. Overview map sources - Open Street Map, Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Aerogrid, IGN, IGP, and the GIS User Community.

| | |
|---|---|
| Project no. | 2150779 |
| Date | 19 AUG 2025 |
| Drawn | ED |
| Designed | -- |
| Reviewed | LC |

Scale @ A4 - 1:35,000
British National Grid
GCS OSGB 1936

**Figure 2.1. Project Location Map**

## 2.2 SCOPE OF STUDY

This document presents a Flood Risk Assessment (FRA) considering the risk of flooding from multiple sources to the site, as well as anticipated impacts of the proposed scheme. This assessment has been prepared to meet the requirements of the National Planning Policy Framework (NPPF). Hydraulic modelling has been carried out as part of the design and assessment work.

Data and information for this FRA were obtained from the following sources:

- Environment Agency (EA); 06/08/2025.
- Kent County Council: 06/08/2025
- River Stour Catchment Flood Management Plan.
- South East River Basin Management Plan.
- LiDAR topographic data.
- Topographic survey and hydraulic modelling carried out by cbec.

# 3. BACKGROUND INFORMATION

## 3.1 CATCHMENT CONTEXT

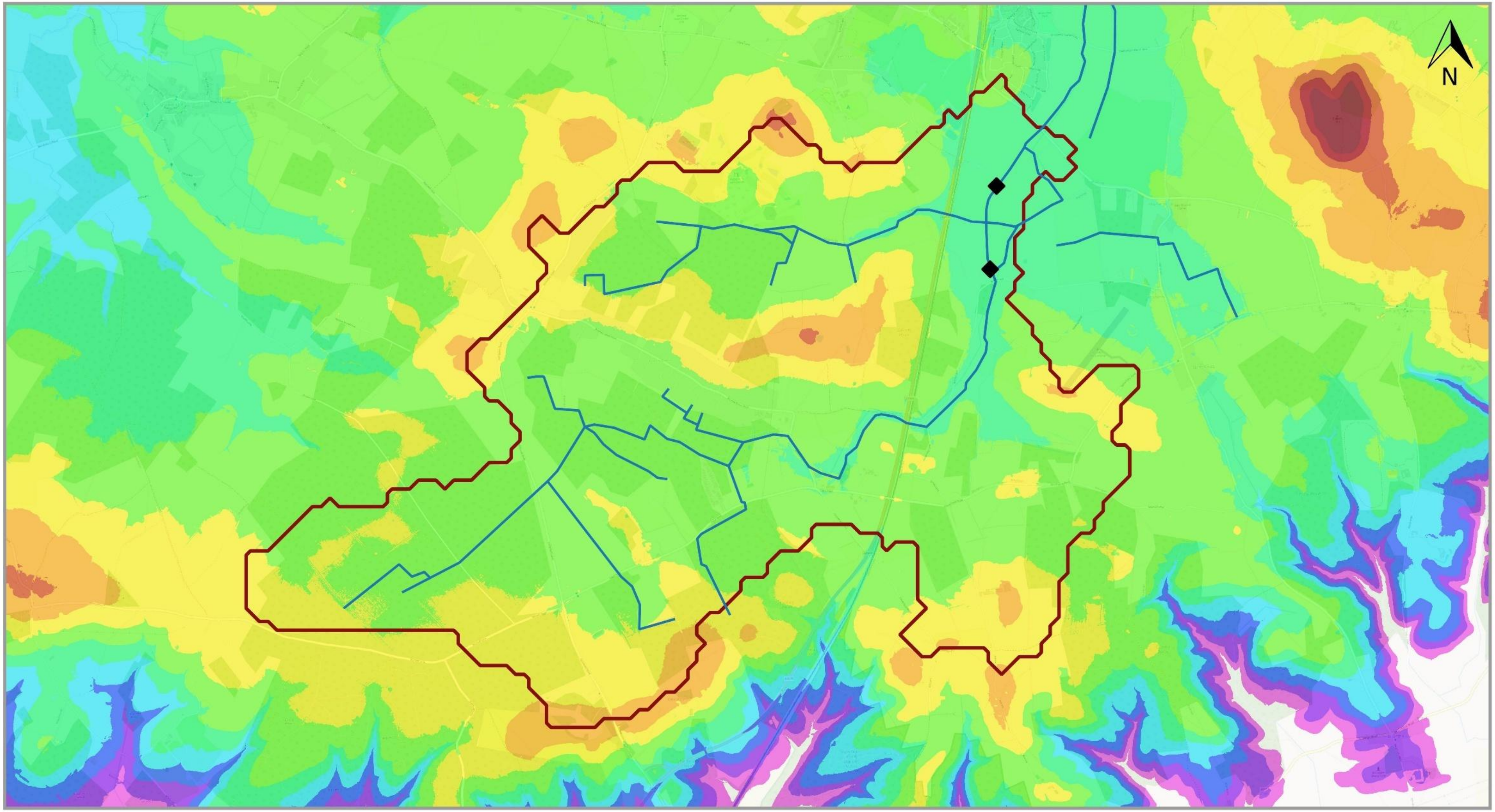
The site is situated within the Stour Upper Operational Catchment; however, the channel is not included within a listed waterbody but is a tributary of the East Stour. The project site is situated between Brisley Lane and Brockmans Lane, approximately 800 m west of Bliby. The centre point of the project site is located approximately 0.8 km west of Bliby, 5.2 km south of Ashford, and 3.7 km northwest of Bilsington.

The site is within the Stour Management Catchment, and as the catchment is smaller than 10 $km^2$, the peak rainfall allowance was selected as a conservative estimation of climate change uplift. For this flood risk assessment, an upper-end allowance was applied to both the 3.3% and 1% annual exceedance rainfall events, with climate change allowances of 40% and 45%, respectively. The increases were implemented by multiplying the 30-year return period peak flow estimate by 1.4, and the 100-year return period peak flow estimate by 1.45. Where peak rainfall allowances could not be applied directly in the software, the ReFH peak flow estimates for the 30-year and 30-year plus 40% climate change, and the 100-year and 100-year plus 45% climate change were used to calculate river flow uplift.

### 3.1.1. <u>Topography</u>

LiDAR data for the site (shown in Figure 3.1) dictates a mostly gently sloping floodplain, with the elevation of the floodplain surrounding the project area at approximately 35 – 40 m AOD. The wider catchment reaches elevations between 50 – 55 m AOD, with some small areas reaching between 55 – 60 m AOD. The majority of the floodplain is flat with the catchment having a gradual slope, exhibited by a DPSBAR of 10.9.

# 2150779 - BLIBY_DD1 LiDAR MAP




LiDAR (mAOD)
- <= 15
- 15 - 20
- 20 - 25
- 25 - 30
- 30 - 35
- 35 - 40
- 40 - 45
- 45 - 50
- 50 - 55
- 55 - 60
- 60 - 65
- > 65

Bliby_Wood_DD1
- Site Extents
- Bliby_Wood_DD1 Catchment
- Watercourses


| | |
|---|---|
| CLIENT | GREENSHANK ENVIRONMENTAL |
| PROJECT | SSES |

0 750 1,500 m

Service Layer Credits: Main map sources - Open Street Map, Ashford area. Overview map sources - Open Street Map, Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Aerogrid, IGN, IGP, and the GIS User Community.

| | |
|---|---|
| Project no. | 2150779 |
| Date | 30 SEP 2025 |
| Drawn | ED |
| Designed | -- |
| Reviewed | LC |

Scale @ A4 - 1:30,000
British National Grid
GCS OSGB 1936

**Figure 3.1. Site LiDAR Map**

## 3.2 EXISTING SITE

The existing site is a mix of arable/horticultural land and improved grassland.

### 3.2.1. Proposed scheme

The aim of the development proposal is to maintain the ditch's essential functionality, providing drainage to surrounding agricultural areas, while promoting hydraulic processes that will slow the flow of water within the ditches. This will increase contact time with vegetation and stimulate nutrient cycling to generate nutrient mitigation. The following design elements have been proposed:

- Creation of enlarged two-stage cross-sections.
- Planting of vegetation on the second stage of the channel.

For further design details, please refer to the design schematics provided in the Technical Reports. A draft of the detailed design drawings is shown in Figure 3.2.

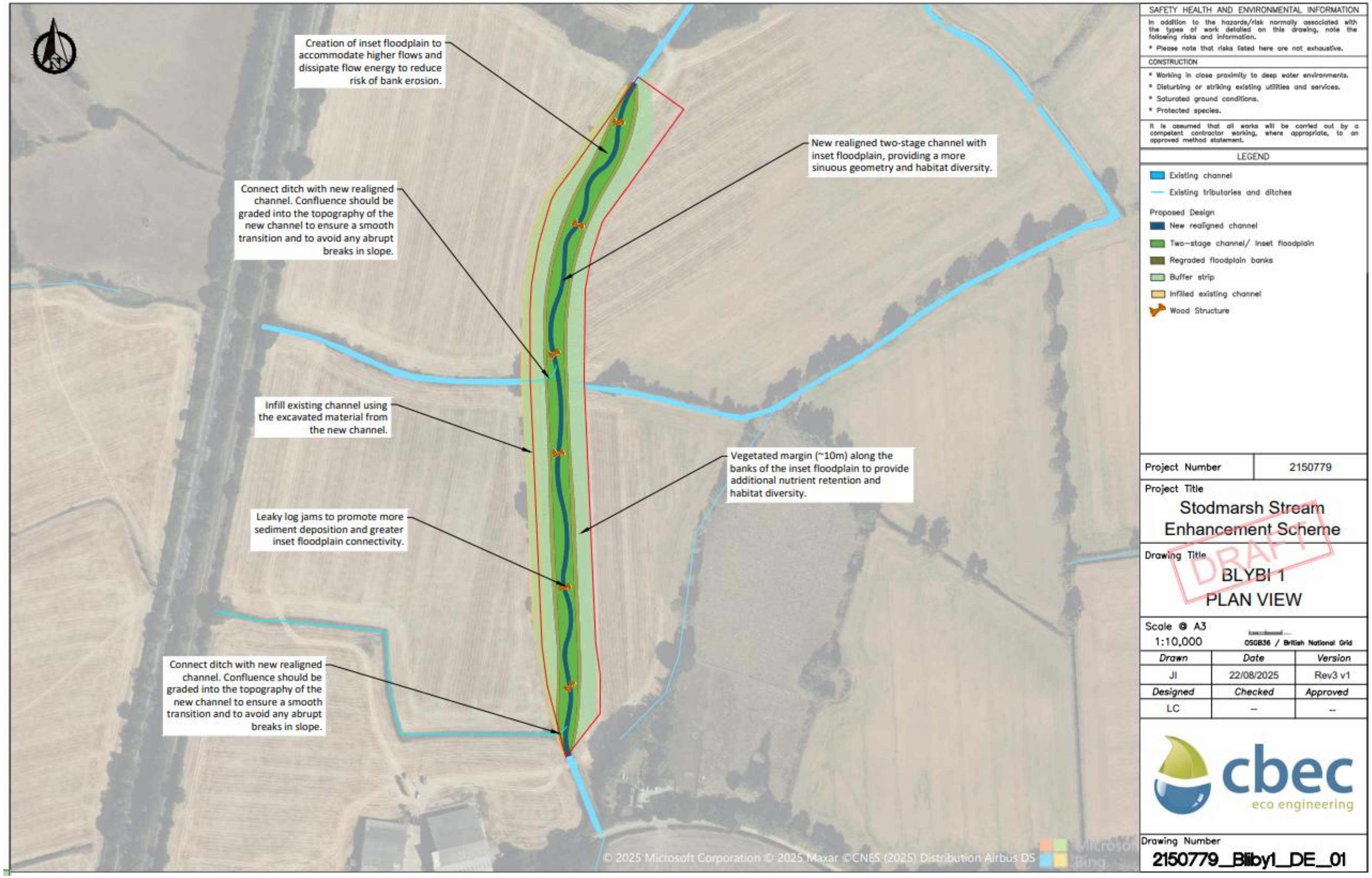



**Figure 3.2. Draft Detailed Design Plan Overview** )

# 4. PLANNING POLICY

## 4.1 KENT COUNTY COUNCIL LOCAL FLOOD RISK STRATEGY

The Kent County Council Local Flood Risk Management Strategy (LFRMS) was prepared and published in June 2013. The project site is situated within Policy Area 3, which is designated for areas that are being effectively managed, with low local flood risk that is not significant. Furthermore, the Kent County Council's Flood Risk to Communities – Ashford Document, published in June 2017[1], has the Bliby_Wood_DD1 project site within the Ashford Rural South Area. The Ashford Rural South NaFRA mapping (contained within the Kent County Council's Flood Risk to Communities – Ashford Document, published in June 2017 document), classifies the long section project extents as a main. The Bliby_Wood_DD1 project extents are included within the medium flood risk extents. Furthermore, this document highlights the project site is within policy area 6 of the catchment flood management plan. Policy 6, is categorised as an area of low to moderate flood risk, where further action will be taken to store water or manage run-off, in locations that provide overall flood risk reduction or environmental benefits.

### 4.1.2. Catchment Flood Management Plan (CMFP)

The site is contained within sub-area 1 of the Stour Catchment Flood Management Plan. This sub-area is named the Upper and Middle Stour Catchment, which is under Policy 6. Policy 6 is for areas of low to moderate flood risk, where the objective is to manage run-off or store water in areas that will provide an overall reduction in flood risk or benefit to the environment (Environment Agency, 2009). In the CFMP the objective for sub-area 1 involve exploring options for flood risk management, including assessing opportunities to increase floodplain storage, attenuation, and connectivity. There are suggestions of removing flood defences where possible to re-naturalise the river corridor therefore, this project appears to meet the aims of this proposal.

### 4.1.3. National Planning Policy Framework (NPPF)

The NPPF provides guidance to both the controlling authorities and prospective developers, including setting tests to protect people and property from flooding. The NPPF provides a Sequential Test, which will help ensure that schemes can be safely and sustainably delivered, and that development is steered away from areas at risk of flooding and does not increase the risk of flooding elsewhere.

As the proposal concerns the implementation of restoration measures within the established river channel, rather than a development in vicinity of a major river, the sequential test is not strictly applicable here. The proposed restoration should not negatively affect flood risk up- or downstream of the site. That has been assessed as part of this study through hydraulic modelling.

## 4.2 ENVIRONMENT AGENCY CONSULTATION

An enquiry was sent to EA regarding the site area for any relevant information they might hold. A response was received in August 2025, within which the following was noted:

- They provided a flood map at the site location derived from the fluvial modelling of Ashford, completed by JBA Consulting in 2012 and the updates completed by JBA in 2016.
- EA holds some records of three flood events affecting the area, within a ~50 m radius of the sites.

[1] Flood-risk-to-communities-in-Ashford.pdf

- They were not aware of any flood protection scheme in this catchment area, or formal flood defences owned or maintained by the EA in the area of this site.
- They hold no other relevant information for the site.
- All fluvial modelling data and maps provided by the EA are presented in Appendix A.

The fluvial modelling of Ashford, completed by JBA Consulting in 2012, models fluvial flooding throughout the project area. The undefended fluvial flood extents map (Figure 7.5 in Appendix A) and the defended fluvial flood extents map (Figure 7.6 of Appendix A) demonstrates there is no flooding shown to be coming from the long section project extents. The flood extents are shown to span the main channel and floodplain just before the upstream project extents. However, the flooding then follows a channel to the right of the main channel, stemming northeast before making a sharp turn back towards the main channel, where the Bliby_Wood_DD2 and Bliby_Wood_DD1 channels have a confluence.

The modelling updates completed by JBA in 2016 include two maps showing the undefended (Figure 7.9 of Appendix A) and defended (Figure 7.10 of Appendix A) climate change flood extents. The undefended fluvial climate change flood extents spread further into the floodplain, with the increase in percentage of climate change applied. The 35% climate change fluvial flood extent reaches the Bliby_Wood_DD1 site, near the middle of the project extent. While the 105% climate change fluvial flood extents spread into the floodplain near the Bliby_Wood_DD1 site and spread across a section of the channel, near the middle of the Bliby_Wood_DD1 project extents. The defended climate change fluvial flood extents are more constrained to the floodplain around the Bliby_Wood_DD2 channel.

The EA have provided a map of data points (Figure 7.2 of Appendix A), where model results were extracted for depth in metres and flood levels in metres above Ordnance Datum Newlyn (mAOD). All data for the points mentioned below, can be seen in Figure 7.3 and Figure 7.4 of Appendix A. The relevant points relating to the Bliby_Wood_DD1 project area include 9, 13, and 17. Point 9 and 13, are situated near the downstream Bliby_Wood_DD1 project area, on the floodplain to the right of the channel, show no data during all return periods. Point 17 is the most significant to the Bliby_Wood_DD1 project area, as this point is situated in the floodplain to the right of the channel, near the middle of the Bliby_Wood_DD1 project extents. Point 17, during the undefended flood modelling, observes depths of 0.06 metres, during a 1000-year return period, with the other return periods observing no data. While Point 17, during the defended flood modelling, observes no depth data, between the 10-year and 100-year plus climate change (20%) return periods.

The EA provided a historic flood extent map (Figure 7.11 in Appendix A) which notes three flood events in, February 2001, November 2000, and March 1974. The two most recent events only show some flood extents out with the project extents. Whereas the flood extents from March 1974 extend just downstream of both the Bliby_Wood_DD1 project area. Therefore, this data does not provide any specific historic flood information for the Bliby_Wood_DD2 and Bliby_Wood_DD1 project areas.

# 5. ASSESSMENT OF FLOOD RISK

## 5.1 ENVIRONMENT AGENCY FLOOD MAP FOR PLANNING

The EA flood map for long term flood risk (see Figure 5.1) shows the flood zones local to the site, as defined by the EA. The map indicates limited fluvial flood risk information for the site, with the majority of the project site having no flood risk. However, there is fluvial flood risk present at the upstream extent of the site. The high fluvial flood risk in this area is not restricted to the channel and spreads into the immediate floodplain. Fluvial flood risk then follows a channel to the east of the main channel, which then flows into the Bliby_Wood_DD2 project area before its confluence with the main channel. The downstream and upstream extents of the main channel and the eastern side channel appear to be connected to the floodplain. Overall, the site is categorised as not being affected by fluvial flood risk. High flood risk is present at the upstream extent of the site, but follows a side channel to the east of the main channel. Therefore, hydraulic modelling is important for determining flood extents at the site and assessing how the design could impact them.

Flood receptors are infrastructural or environmental features which may be sensitive to flooding. Aerial imagery and Ordnance Survey 1:25,000 scale mapping for the project site were reviewed to identify the presence of flood receptors within the vicinity of the proposed development site. There were no flood receptors identified within the project area or surrounding floodplain and therefore, consideration in relation to the sources of flooding identified above and potential flood pathways was not required. However, Brockmans Lane is situated approximately 130 metres downstream of the confluence between the main channel and eastern channel of this project. There are also some properties situated to the north of Brisley Lane, just upstream of the project extents. These are not direct flood receptors within the project; however, pass-forward flow hydrographs will be analysed to assess that the proposed designs will have no impact downstream of the project extents.

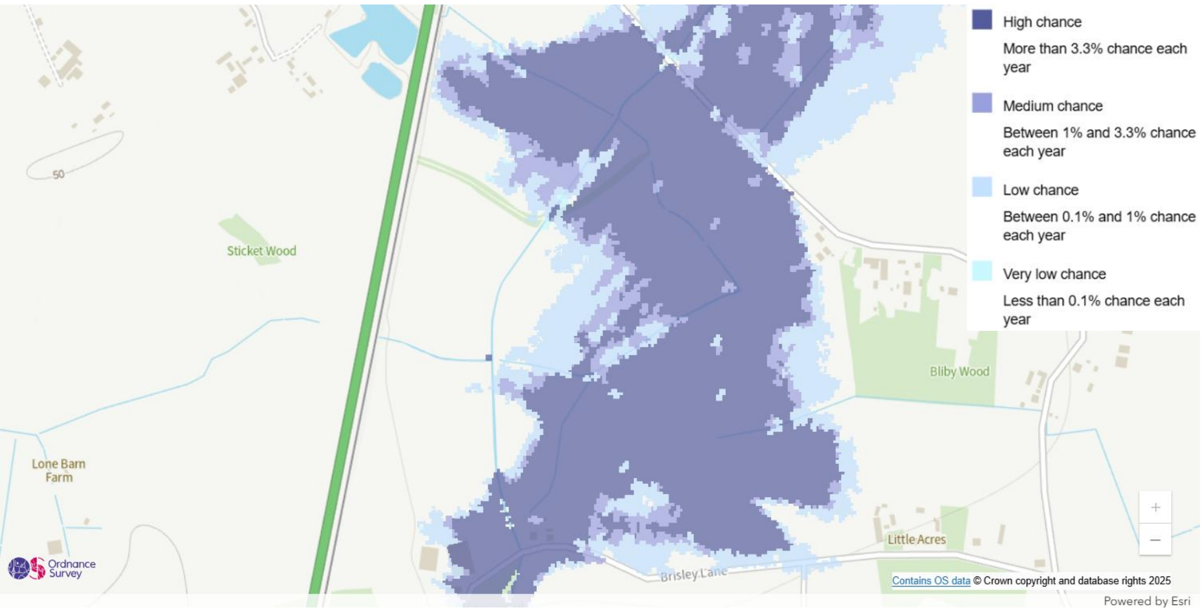



**Figure 5.1. EA flood risk for planning (source: [Technical map - Check your long term flood risk - GOV.UK]() last accessed 08/09/2025).**

### 5.2 HYDRAULIC MODELLING

#### 5.2.1. Introduction

To assess the impact of the proposed restoration, HEC RAS was used to produce a fully 2D model mesh. Two ground models were developed, utilising a combination of CBEC topographic survey data and LiDAR for the pre-development case, along with the implementation of design elements for the post-development case.

#### 5.2.2. Hydrology

To derive flows for the hydraulic model, cbec carried out a hydrological assessment of the Bliby_DD1 catchment. To summarise here, the catchment is a very small (9.64 km$^2$) rural catchment, with the project site situated along a southern tributary of the East Stour. The catchment is very flat (DPSBAR – 10.9), making it slower to respond to flood events.

There are no NRFA gauges located along the watercourse or within the Bliby_DD1 catchment. Therefore, catchment descriptors were obtained from the FEH Web Service, and these were imported into ReFH 2.3 and used to carry out the rainfall-runoff analysis. The default recommended duration of 11 hours was used, with a time step of 1 hour was applied. The recommended duration is generally preferred for ReFH 2.3, as it is calibrated around the associated assumptions.

Considering the dimensions of the modelled catchment, rainfall uplifts provide a more conservative estimate of climate change allowance. In line with the worst-case scenario approach used to model the design interventions, these more conservative flow estimates were used for both existing- and design-condition model runs.

The design peak flows for the 2, 5, 10, 20, 30, 30+CC 50, 75, 100, 100+CC, and 1000-year return periods are summarised in Table 5.1.

**Table 5.1. Final flows for the Bliby_DD1 Catchment.**

| Return period (yrs) | Bliby_DD1 As-rural peak flow (m$^3$/s) |
|---|---|
| 2 | 3.824 |
| 5 | 5.037 |
| 10 | 5.920 |
| 20 | 6.873 |
| 30 | 7.518 |
| 30CC (40%) | 10.778 |
| 50 | 8.480 |
| 75 | 9.414 |
| 100 | 10.186 |
| 100CC (45%) | 15.393 |
| 1000 | 18.423 |

#### 5.2.3. Modelling Approach

The model was developed using a fully 2D approach, in HEC RAS. This approach was taken to provide greater accuracy in the modelling the proposed design elements. 2D modelling can simulate changing flow and velocity across a larger area, with variance around objects and channel bends. This is unlike a 1D model, which can only simulate average flow and velocity at discrete cross sections.

The digital elevation model (DEM) was generated from a combination of topographic survey data, for the channel and LIDAR data for the wider floodplain.

HEC-RAS 2D utilises a flexible mesh system, allowing for higher cell resolution in the channel and other key flow areas, while maintaining lower cell resolution across wider floodplain areas. This means accuracy can be focused on important flow routes, whilst balancing the model runtime with fewer cells in areas where flow tends to be slower and deeper. Breaklines were applied to key features, such as the channel and other design elements, to ensure the 2D mesh accurately captures these important delineations in the terrain surface.

These porous log jams were modelled assuming the structures were entirely blocked, to simulate a more conservative, worst-case flooding scenario. The log jams were put into the model using a terrain modification within HEC RAS software, which were set to the height of the low flow channel and breaklines were used to define the edges of these features within the model mesh. The Mannings' n value used for the existing channel was 0.045, this was carried over into the design scenario for the unchanged channel and low flow channel. The inset floodplain was assigned a higher Manning's n value of 0.065 to represent the vegetation that will occupy this area. Finally, the 10 metre buffer zone on the top of the bank around the two-stage channel was given a Manning's n value of 0.08 to represent the thicker vegetation that will be planted in this area.

#### 5.2.4. Results

The peak flood extents for the 1 in 2, 10, 30, 30-year plus climate change, 100, 100-year plus climate change events were modelled. The pre- and post-development modelling results, for the 2-year to the 100-year-plus climate change events, are shown in Figure 5.2 to Figure 5.6, respectively. The 2-year (Figure 5.2) maximum depth model results map displays a decrease in flood risk towards the upstream extent of the model, in the floodplain on both banks. This reduction in flood extents is shown at the upstream extent of the design area, with a large reduction in flood extents seen in the floodplain on river right (east). There is also a reduction in flood extents in the floodplain on the river left (west), which demonstrates a reduction in flood risk to some properties in this area. The only increase in flood extents is shown near the middle to the downstream extent of the design area, in the floodplain on river right. However, there are no flood receptors in this area. Furthermore, there is a very slight increase in flood extents in the floodplain on river left, just downstream of Brockmans Lane. Again, this area contains no flood receptors. During the 2-year event, there is no increase in flood risk to any receptors and a decrease in flood risk shown near the upstream extent of the model, where some properties are situated in the floodplain on the river left.

The 30-year (Figure 5.3) maximum depth model results maps display similar patterns to the 2-year event, with reduced flood extents near the upstream extent of the design area. There is a very slight reduction in flood extents in the floodplain on the river's left bank, near the upstream extent of the model. A decrease in flood extents is also shown in the floodplain on river right, near the upstream extent of the model. The only increase in flood extents is shown near the middle to the downstream extent of the design area, in the floodplain on river right and on Brockmans Lane.

The 30-year-plus climate change (Figure 5.4) and 100-year (Figure 5.5) maximum depth model results display the same pattern as described above. The only increases in flood extents are shown near the middle to the downstream extent of the design area, in the floodplain on the river right and Brockmans Lane. Also, there are still decreases in flood extents in the floodplain on river right near the upstream extent of the model.

The 100-year-plus climate change (Figure 5.6) maximum depth model results displays the same pattern as described above. However, two areas show a slight decrease in flood extent under design conditions. The first is shown near the middle of the design extents, in the floodplain on the river's left bank. The second is shown in the floodplain on the river right, near some properties south of Brockmans Lane. The main increase in flood extents is shown near the middle of the design extents in the floodplain on the river right. However, this flooding occupies the floodplain and links to flood extents present in the existing conditions events.

The depth difference maps display the difference in maximum depths between design and existing conditions scenarios. The depth difference results for the 2-year to the 100-year plus climate change events are shown in Figure 5.7 to Figure 5.11, respectively. All increases in flood depths shown on the depth difference maps are generally confined to the design area and the surrounding floodplain. During some of the events, there is a very slight increase in flood depths along Cheeseman's Green Lane, Brockmans Lane, Landowner property, and Fairview Industrial Park between 0.00 – 0.01 m, within model tolerances.

Table 5.2 displays the impacts of the modelled flood events on important flood receptors surrounding the site. A map displaying the location of these flood receptors is shown in Figure 5.12. Some flood receptors experience an increase in flood depth of <0.01m across different return-period events. However, this 0.00 – 0.01m variation is expected to be within model tolerances and not associated with an actual increase in flood risk at these receptors.

**Table 5.2. Impact on Flood Receptors**

| Flood Receptor | 1 in 2 Year Event | 1 in 30 Year Event | 1 in 30 Year + CC Event | 1 in 100 Year Event | 1 in 100 + CC Year Event |
|---|---|---|---|---|---|
| Cheeseman's Green Lane | No increase in flood risk | No increase in flood risk | No increase in flood risk | No increase in flood risk | Increase in flood depths <0.01m |
| Brockmans Lane | No increase in flood risk | Increase in flood depths <0.01m | Increase in flood depths <0.01m | Increase in flood depths <0.01m | Increase in flood depths <0.01m |
| Public Footpath | No increase in flood risk | No increase in flood risk | No increase in flood risk | No increase in flood risk | No increase in flood risk |
| Brisley Lane | No increase in flood risk | No increase in flood risk | No increase in flood risk | No increase in flood risk | No increase in flood risk |
| Landowner Property | No increase in flood risk | No increase in flood risk | No increase in flood risk | No increase in flood risk | Increase in flood depths <0.01m |

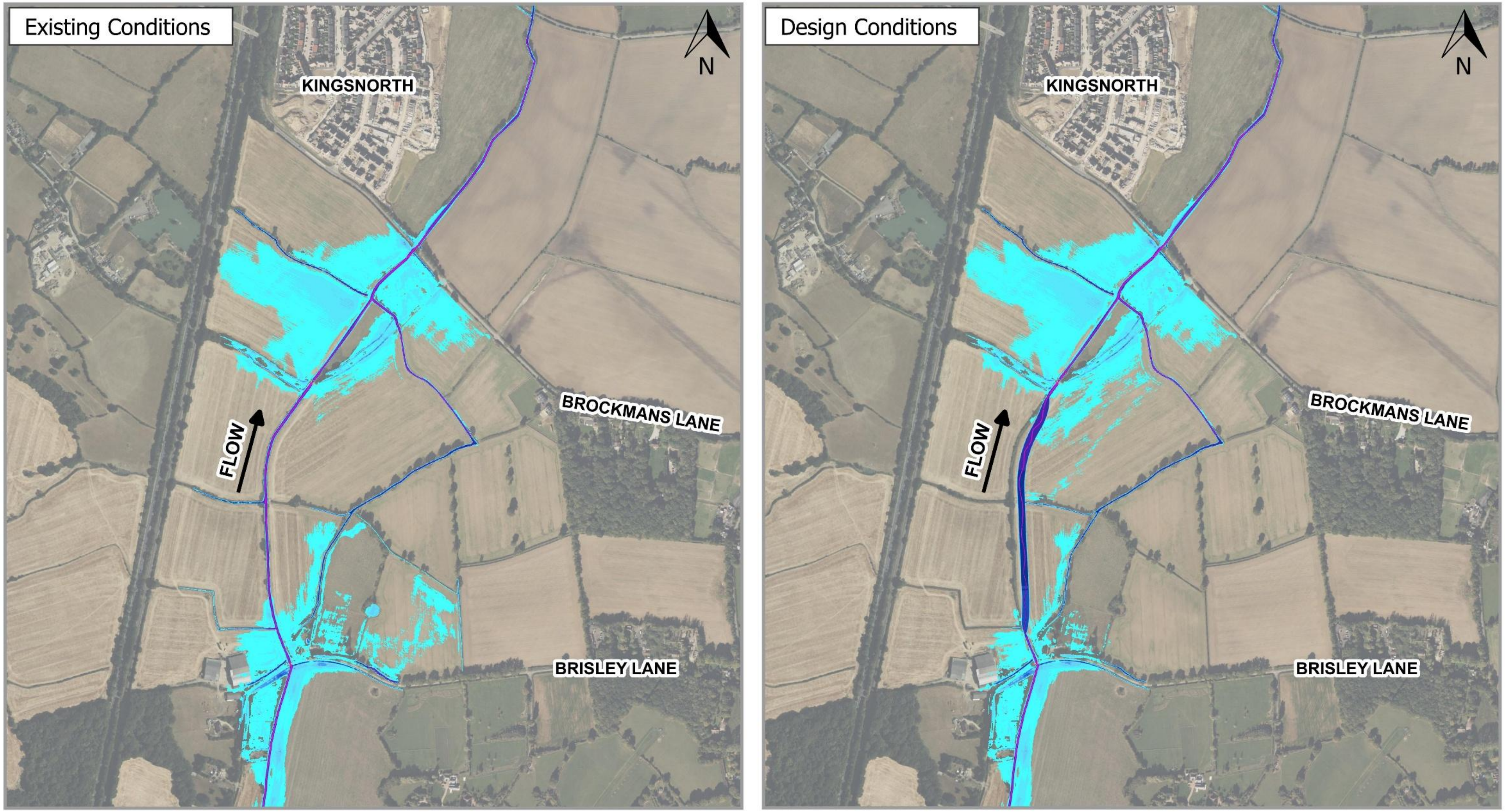
| | | | | | |
|---|---|---|---|---|---|
| Fairview Industrial Park | No increase in flood risk | No increase in flood risk | Increase in flood depths of 0.001m | Increase in flood depths of 0.001m | Increase in flood depths of 0.001m |
| Golden Wood Farm* | Outwith model extents | Outwith model extents | Outwith model extents | Outwith model extents | Outwith model extents |

* Given there are no interventions proposed that could potentially lead to an impact this far upstream as no significant impoundment is proposed (on the contrary)

### 5.2.5. Impact of proposals on fluvial flood risk

The results of the hydraulic modelling show the proposed restoration will have an impact on the flood extents and depths very local to the site. The flood risk receptors affected by changes in flood extent and depth include Cheeseman's Green Lane, Brockmans Lane, a Public Footpath, Landowner Property, and Fairview Industrial Park. Modelling of existing conditions indicates that these areas are already at risk of flooding. The impact of the design condition on these areas is a <0.01m increase in flood depths during certain return period events, which are listed in Table 5.2. Users of the public footpath and other listed flood receptor areas would already be affected by flooding under the existing condition, and thus, the impact of the increase in flood depth at this location is not expected to worsen the usability of the footpath or the other listed flood receptors during flood conditions.

# 2150779 - HYDRAULIC MODELLING RESULTS - 2Y RETURN PERIOD




| Maximum Depth (m) | |
|---|---|
| <= 0.15 | 0.75 - 0.90 |
| 0.15 - 0.30 | 0.90 - 1.05 |
| 0.30 - 0.45 | 1.05 - 1.20 |
| 0.45 - 0.60 | 1.20 - 1.35 |
| 0.60 - 0.75 | 1.35 - 1.50 |
| | > 1.50 |

ASFORD

| | |
|---|---|
| CLIENT | GREENSHANK ENVIRONMENTAL |
| PROJECT | SSES |

0 100 200 300 400 500 m

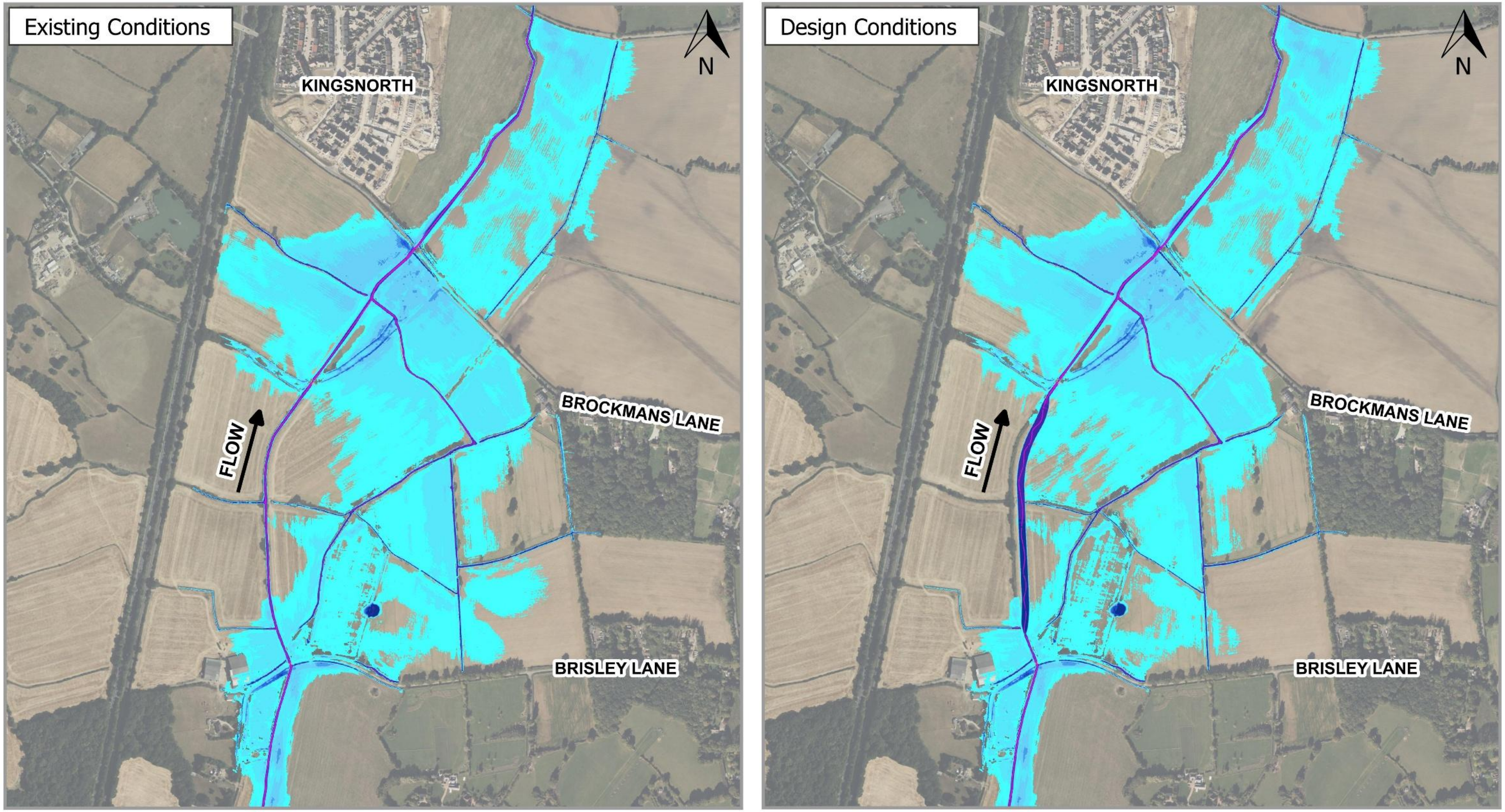
Service Layer Credits: Main map sources - Bing Satellite (2025), Ashford area. Overview map sources - Open Street Map, Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Aerogrid, IGN, IGP, and the GIS User Community.

| | |
|---|---|
| Project no. | 2150779 |
| Date | 08 DEC 2025 |
| Drawn | ED |
| Modelled | ED |
| Reviewed | LC |

Scale @ A4 - 1:11,000
British National Grid
GCS OSGB 1936

**Figure 5.2. 1 in 2 year, Maximum Depth, Hydraulic Modelling Results**

# 2150779 - HYDRAULIC MODELLING RESULTS - 30Y RETURN PERIOD




Maximum Depth (m)

- <= 0.15
- 0.15 - 0.30
- 0.30 - 0.45
- 0.45 - 0.60
- 0.60 - 0.75
- 0.75 - 0.90
- 0.90 - 1.05
- 1.05 - 1.20
- 1.20 - 1.35
- 1.35 - 1.50
- > 1.50


| | |
|---|---|
| CLIENT | GREENSHANK ENVIRONMENTAL |
| PROJECT | SSES |

0 100 200 300 400 500 m

Service Layer Credits: Main map sources - Bing Satellite (2025), Ashford area. Overview map sources - Open Street Map, Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Aerogrid, IGN, IGP, and the GIS User Community.

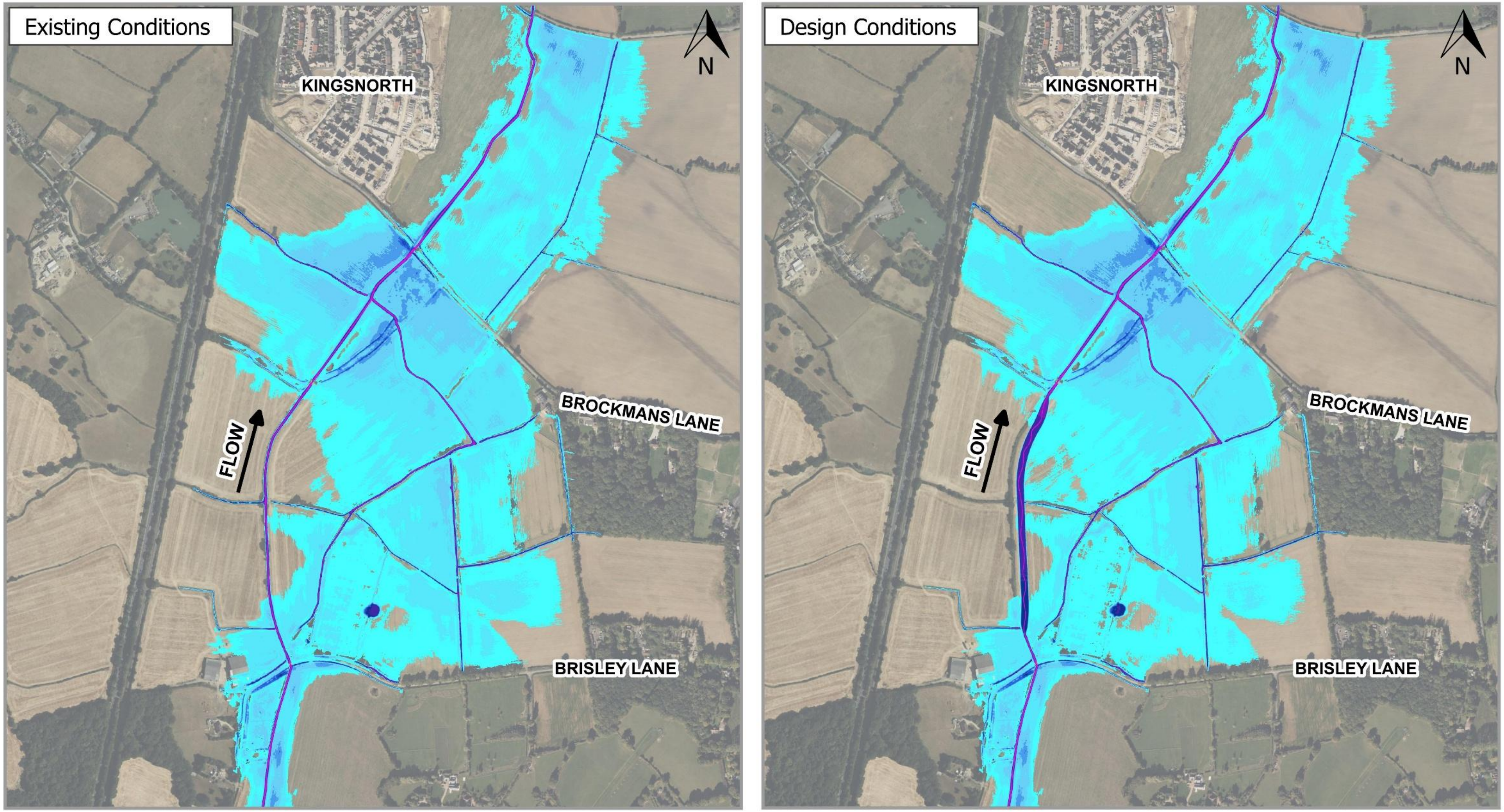
| | |
|---|---|
| Project no. | 2150779 |
| Date | 08 DEC 2025 |
| Drawn | ED |
| Modelled | ED |
| Reviewed | LC |

Scale @ A4 - 1:11,000
British National Grid
GCS OSGB 1936

**Figure 5.3. 1 in 30 year, Maximum Depth, Hydraulic Modelling Results**

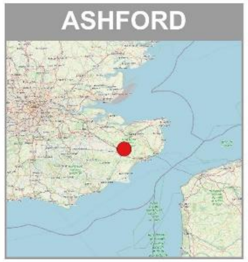
# 2150779 - HYDRAULIC MODELLING RESULTS - 30Y+CC RETURN PERIOD

cbec eco engineering




Maximum Depth (m)

- <= 0.15
- 0.15 - 0.30
- 0.30 - 0.45
- 0.45 - 0.60
- 0.60 - 0.75
- 0.75 - 0.90
- 0.90 - 1.05
- 1.05 - 1.20
- 1.20 - 1.35
- 1.35 - 1.50
- > 1.50




| | |
|---|---|
| CLIENT | GREENSHANK ENVIRONMENTAL |
| PROJECT | SSES |

0 100 200 300 400 500 m

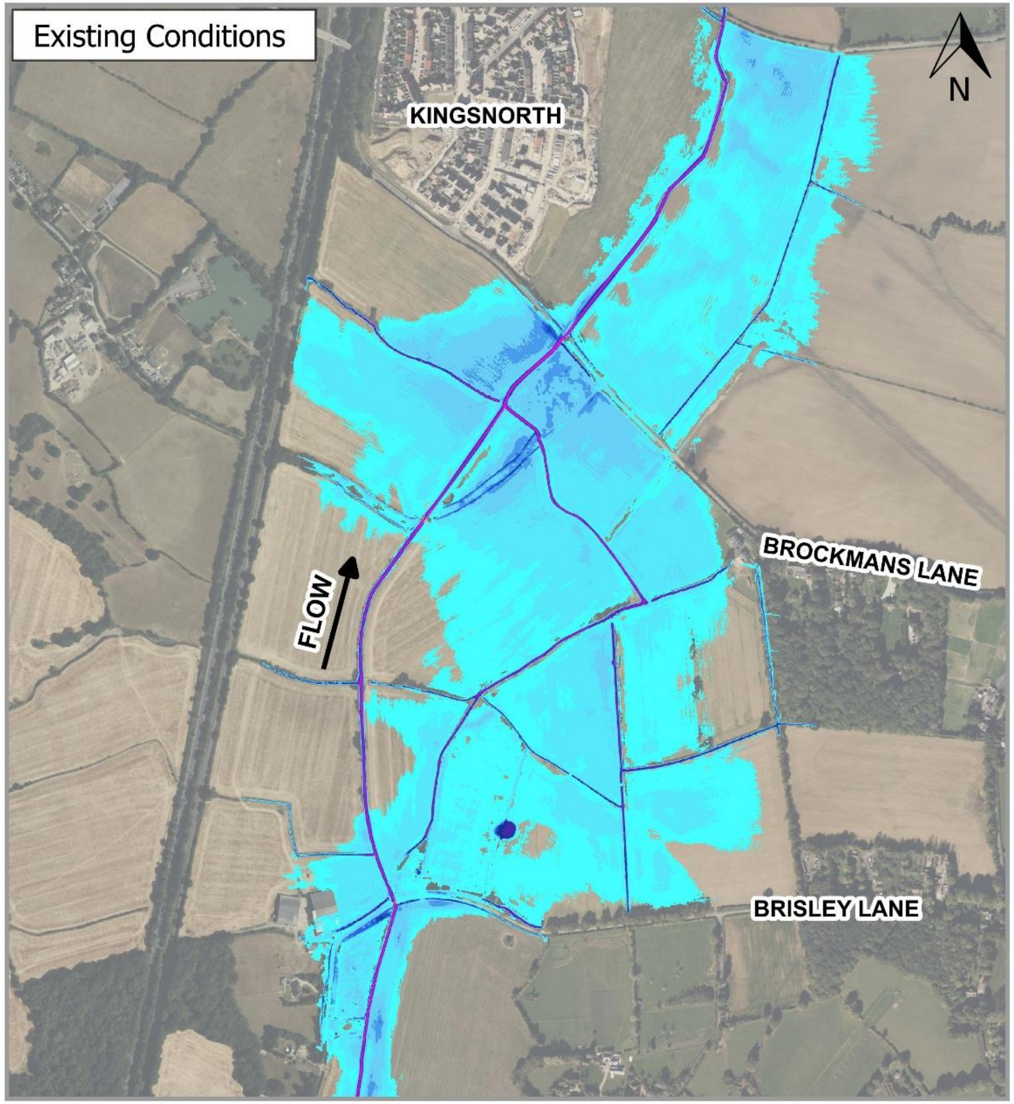
Service Layer Credits: Main map sources - Bing Satellite (2025), Ashford area. Overview map sources - Open Street Map, Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Aerogrid, IGN, IGP, and the GIS User Community.

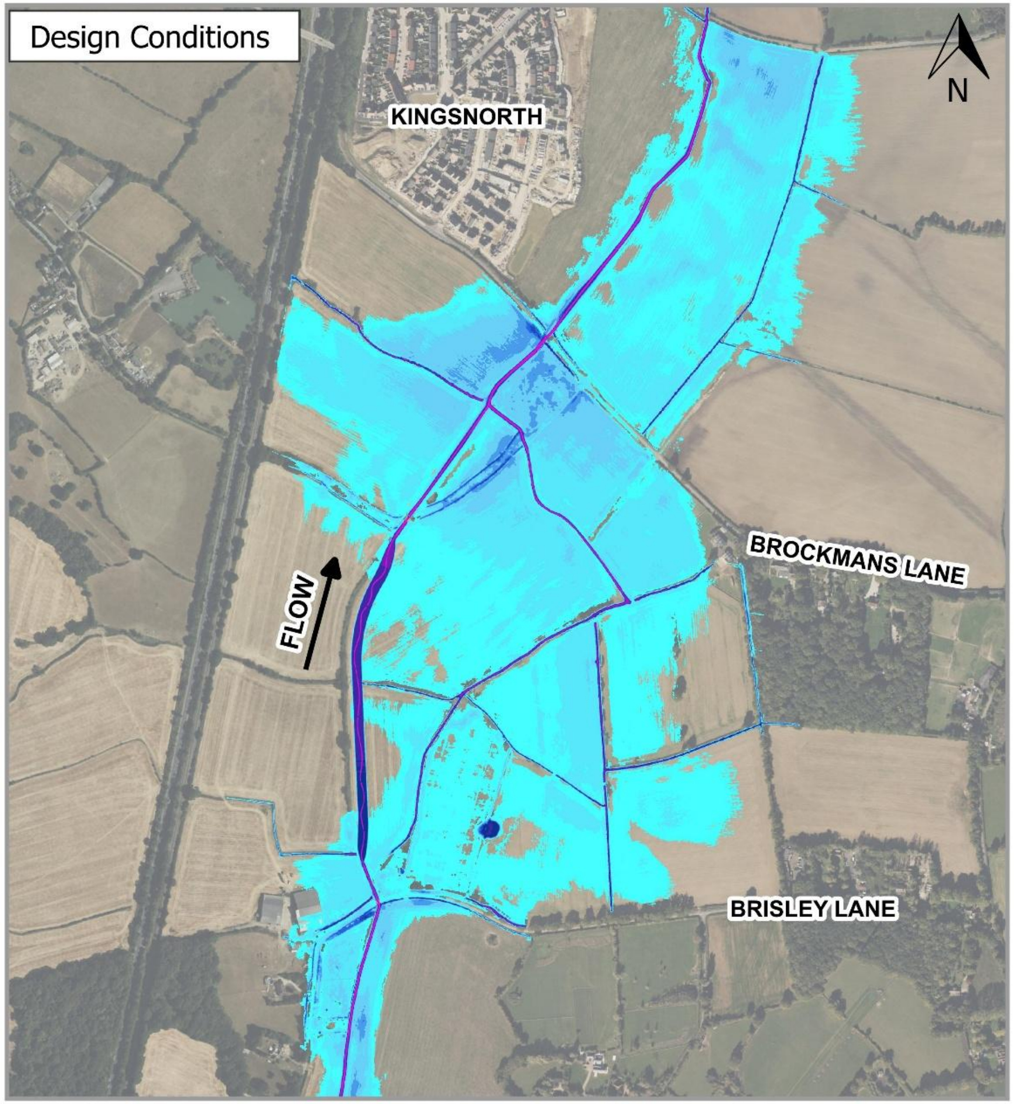
| | |
|---|---|
| Project no. | 2150779 |
| Date | 08 DEC 2025 |
| Drawn | ED |
| Modelled | ED |
| Reviewed | LC |

Scale @ A4 - 1:11,000
British National Grid
GCS OSGB 1936

**Figure 5.4. 1 in 30 year plus Climate Change, Maximum Depth, Hydraulic Modelling Results**

# 2150779 - HYDRAULIC MODELLING RESULTS - 100Y RETURN PERIOD




Maximum Depth (m)

- <= 0.15
- 0.15 - 0.30
- 0.30 - 0.45
- 0.45 - 0.60
- 0.60 - 0.75
- 0.75 - 0.90
- 0.90 - 1.05
- 1.05 - 1.20
- 1.20 - 1.35
- 1.35 - 1.50
- > 1.50


CLIENT: GREENSHANK ENVIRONMENTAL

PROJECT: SSES

0 100 200 300 400 500 m

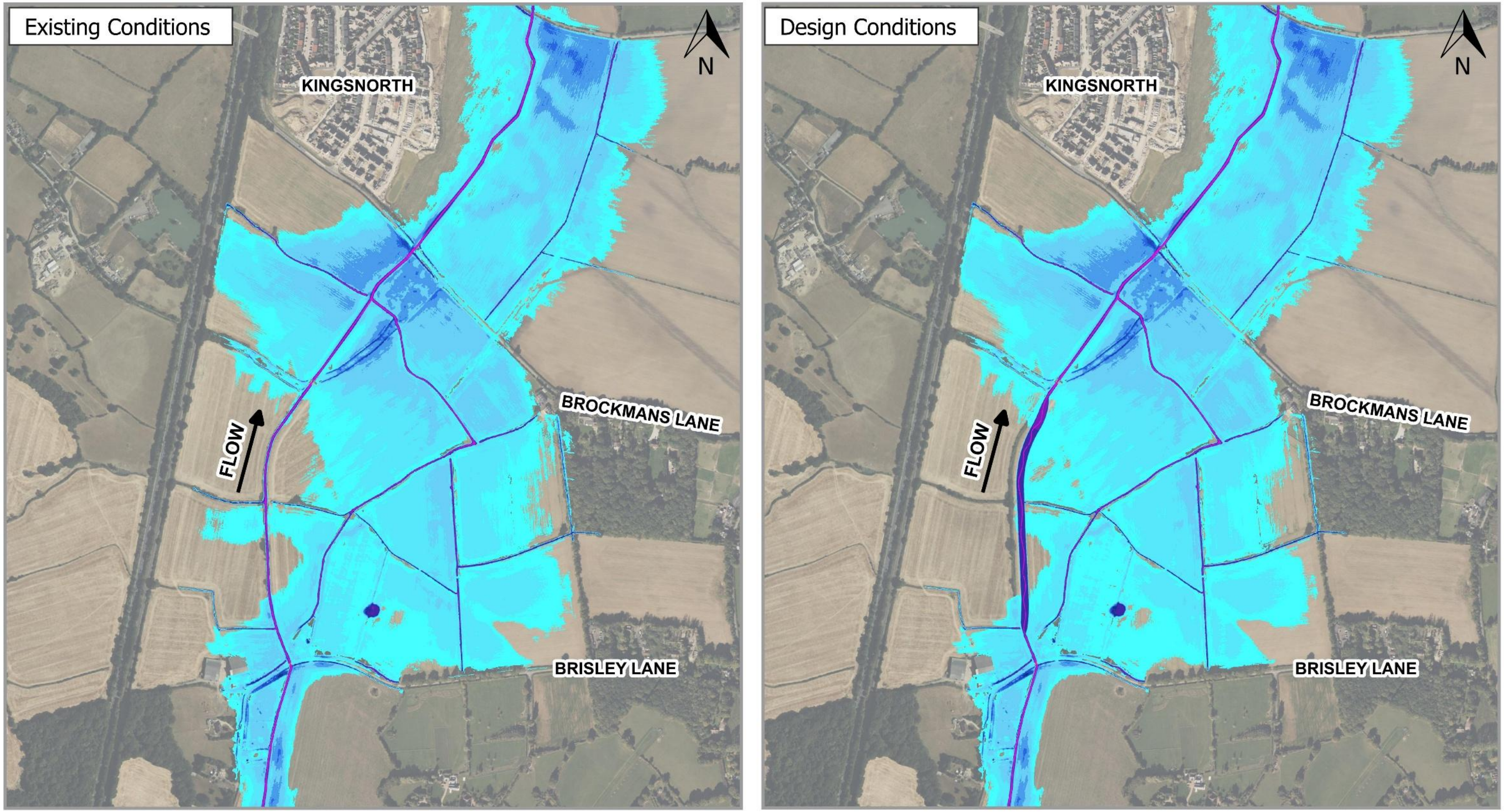
Service Layer Credits: Main map sources - Bing Satellite (2025), Ashford area. Overview map sources - Open Street Map, Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Aerogrid, IGN, IGP, and the GIS User Community.

| | |
|---|---|
| Project no. | 2150779 |
| Date | 08 DEC 2025 |
| Drawn | ED |
| Modelled | ED |
| Reviewed | LC |

Scale @ A4 - 1:11,000
British National Grid
GCS OSGB 1936

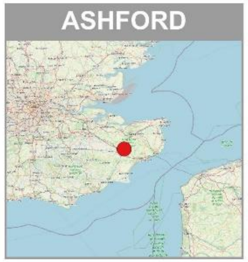
**Figure 5.5. 1 in 100 year, Maximum Depth, Hydraulic Modelling Results**

# 2150779 - HYDRAULIC MODELLING RESULTS - 100Y+CC RETURN PERIOD




Maximum Depth (m)

- <= 0.15
- 0.15 - 0.30
- 0.30 - 0.45
- 0.45 - 0.60
- 0.60 - 0.75
- 0.75 - 0.90
- 0.90 - 1.05
- 1.05 - 1.20
- 1.20 - 1.35
- 1.35 - 1.50
- > 1.50




CLIENT: GREENSHANK ENVIRONMENTAL

PROJECT: SSES

0 100 200 300 400 500 m

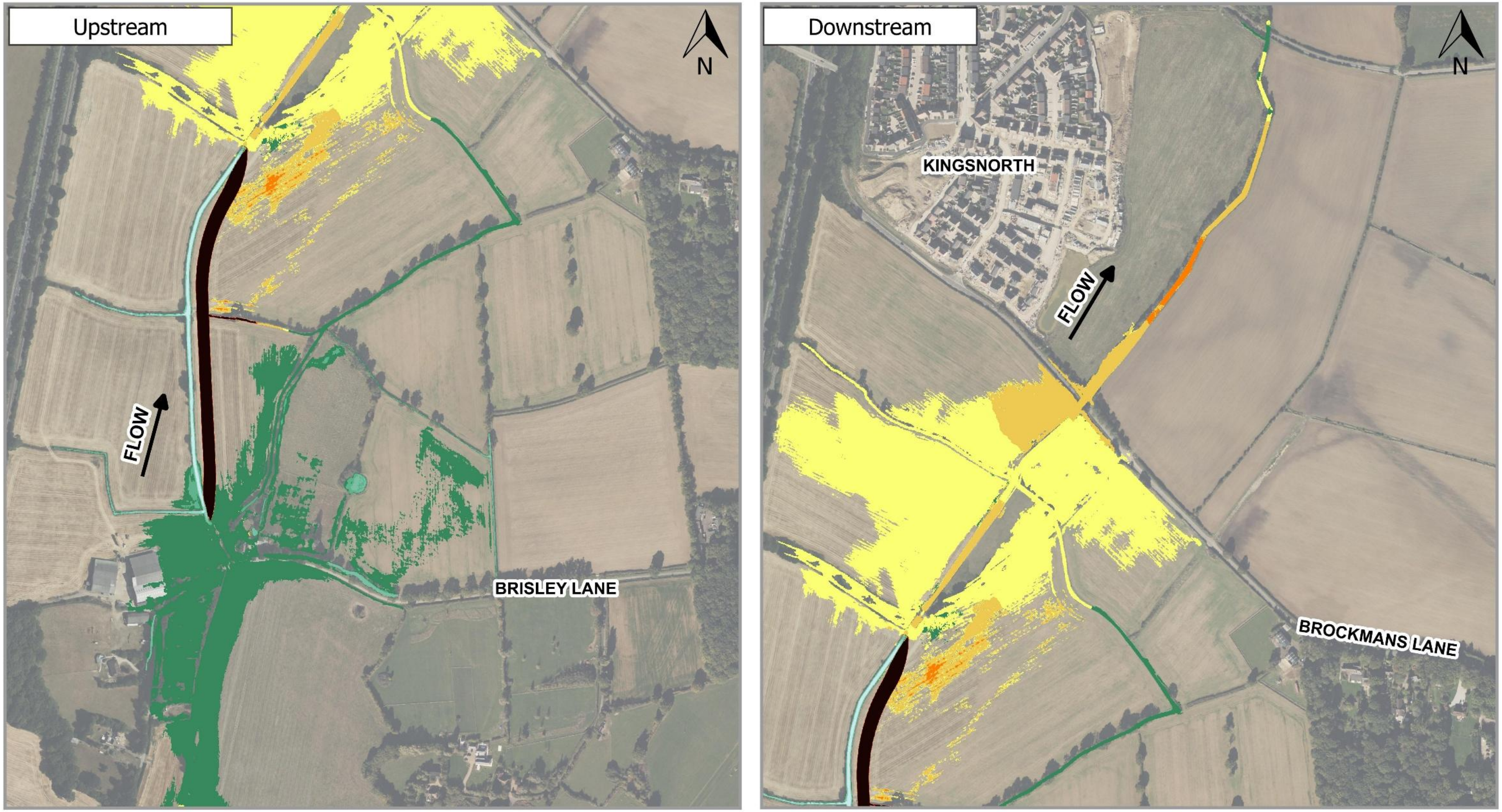
Service Layer Credits: Main map sources - Bing Satellite (2025), Ashford area. Overview map sources - Open Street Map, Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Aerogrid, IGN, IGP, and the GIS User Community.

| | |
|---|---|
| Project no. | 2150779 |
| Date | 08 DEC 2025 |
| Drawn | ED |
| Modelled | ED |
| Reviewed | LC |

Scale @ A4 - 1:11,000
British National Grid
GCS OSGB 1936

**Figure 5.6. 1 in 100 year plus Climate Change, Maximum Depth, Hydraulic Modelling Results**

# 2150779 - HYDRAULIC MODELLING RESULTS - 2Y RETURN PERIOD - DEPTH DIFFERENCE




**Depth Difference (m)**

- <= -1.00
- -1.00 - -0.60
- -0.60 - -0.30
- -0.30 - -0.15
- -0.15 - 0.00
- 0.00 - 0.01
- 0.01 - 0.05
- 0.05 - 0.10
- 0.10 - 0.15
- 0.15 - 0.30
- > 0.30


CLIENT: GREENSHANK ENVIRONMENTAL

PROJECT: SSES

0 75 150 225 300 m

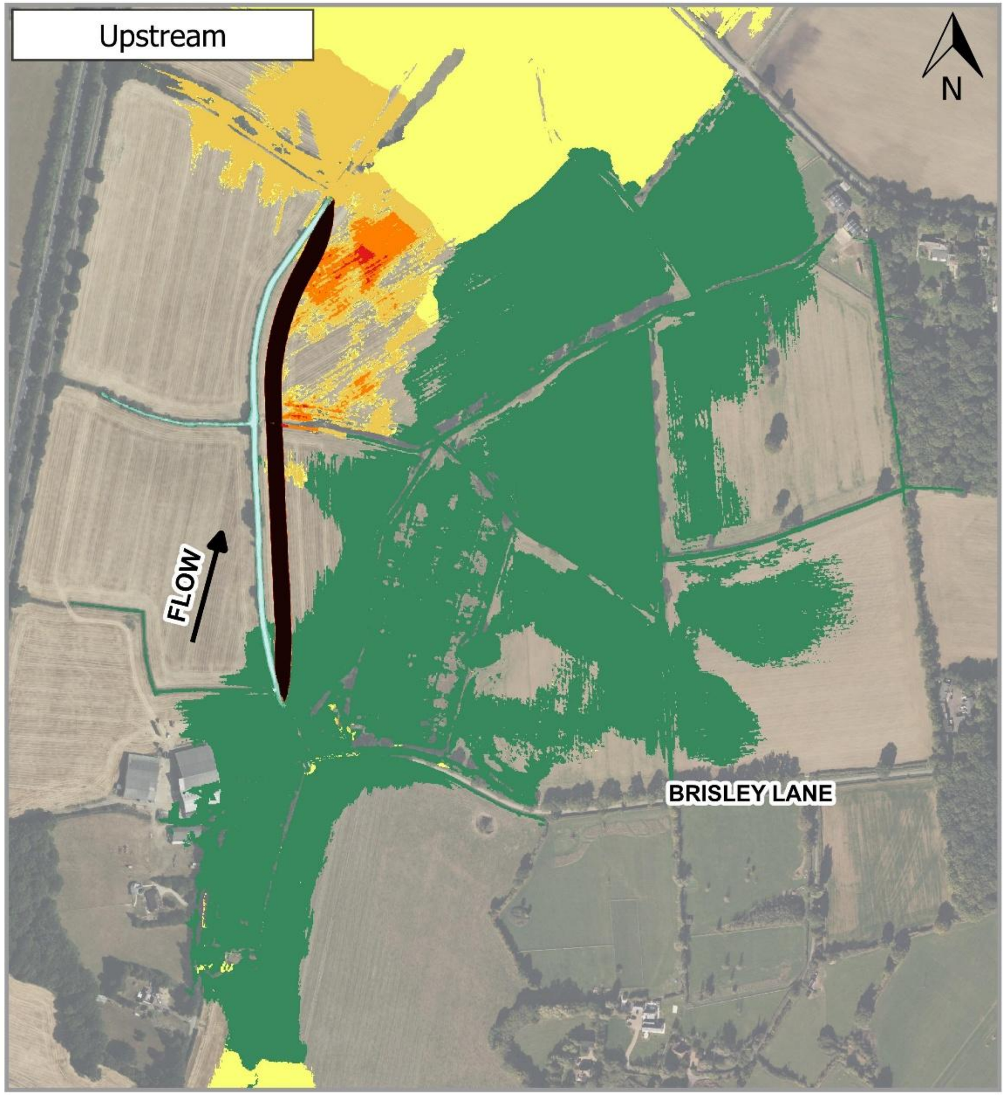
Service Layer Credits: Main map sources - Bing Satellite (2025), Ashford area. Overview map sources - Open Street Map, Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Aerogrid, IGN, IGP, and the GIS User Community.

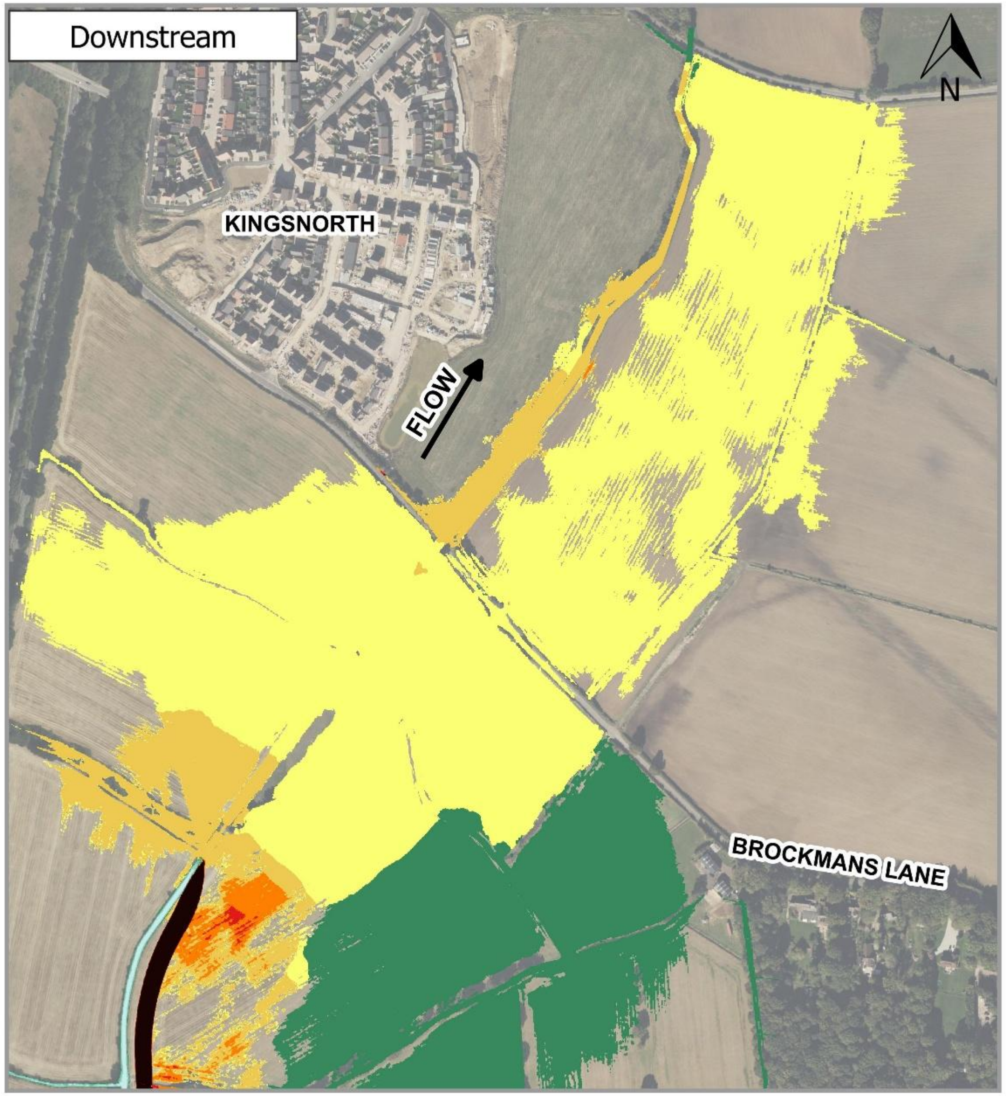
| | |
|---|---|
| Project no. | 2150779 |
| Date | 08 DEC 2025 |
| Drawn | ED |
| Modelled | ED |
| Reviewed | LC |

Scale @ A4 - 1:7,000
British National Grid
GCS OSGB 1936

**Figure 5.7. 1 in 2 year, Depth Difference, Hydraulic Modelling Results**

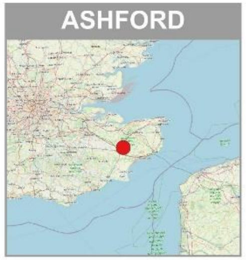
# 2150779 - HYDRAULIC MODELLING RESULTS - 30Y RETURN PERIOD - DEPTH DIFFERENCE




Depth Difference (m)

- <= -1.00
- -1.00 - -0.60
- -0.60 - -0.30
- -0.30 - -0.15
- -0.15 - 0.00
- 0.00 - 0.01
- 0.01 - 0.05
- 0.05 - 0.10
- 0.10 - 0.15
- 0.15 - 0.30
- > 0.30




CLIENT GREENSHANK ENVIRONMENTAL

PROJECT SSES

0 75 150 225 300 m

Service Layer Credits: Main map sources - Bing Satellite (2025), Ashford area. Overview map sources - Open Street Map, Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Aerogrid, IGN, IGP, and the GIS User Community.

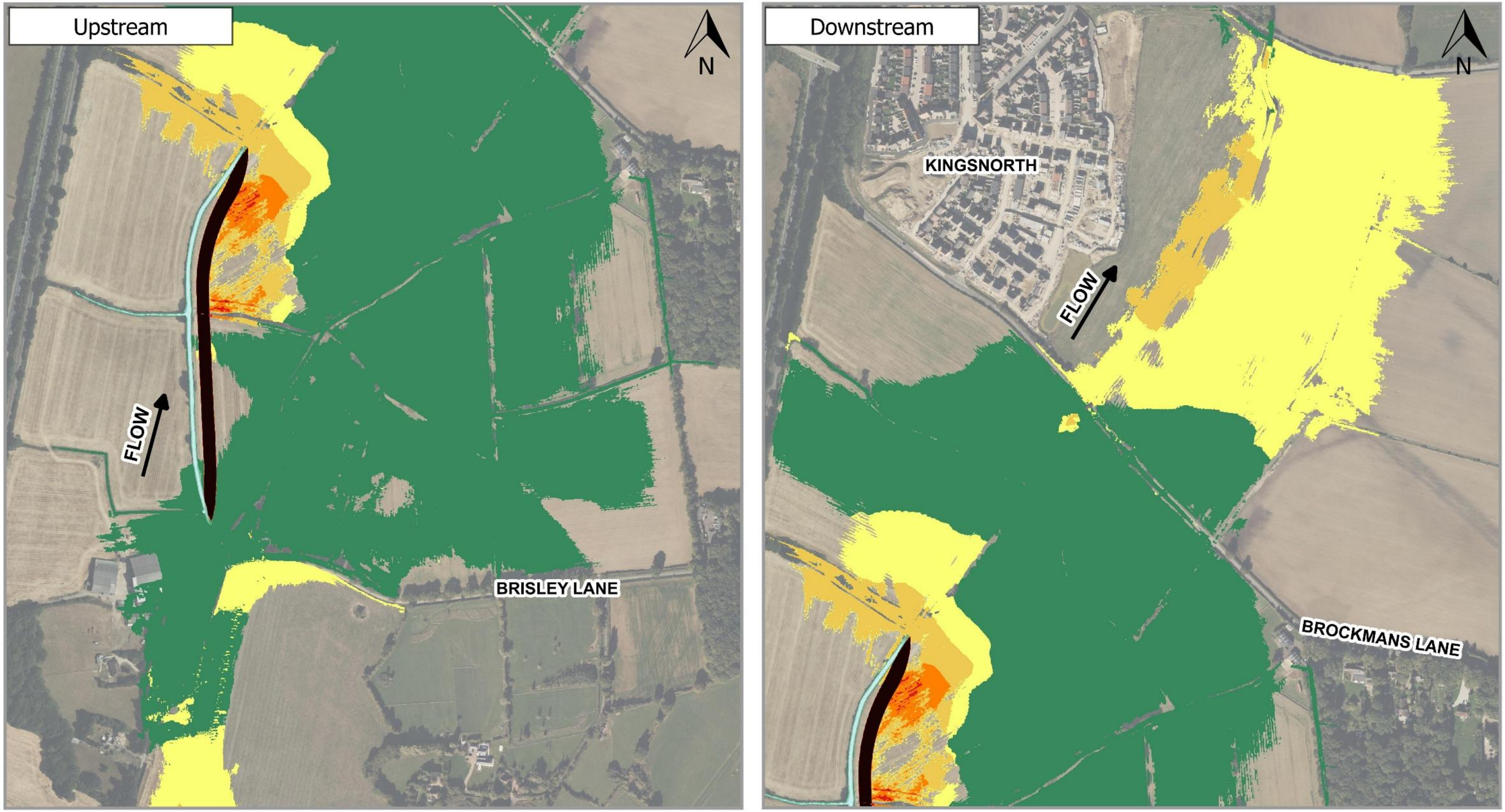
| | |
|---|---|
| Project no. | 2150779 |
| Date | 08 DEC 2025 |
| Drawn | ED |
| Modelled | ED |
| Reviewed | LC |

Scale @ A4 - 1:7,000
British National Grid
GCS OSGB 1936

**Figure 5.8. 1 in 30 year, Depth Difference, Hydraulic Modelling Results**

# 2150779 - HYDRAULIC MODELLING RESULTS - 30Y+CC RETURN PERIOD - DEPTH DIFFERENCE

cbec
eco engineering




| Depth Difference (m) | |
|---|---|
| <= -1.00 | 0.00 - 0.01 |
| -1.00 - -0.60 | 0.01 - 0.05 |
| -0.60 - -0.30 | 0.05 - 0.10 |
| -0.30 - -0.15 | 0.10 - 0.15 |
| -0.15 - 0.00 | 0.15 - 0.30 |
| | > 0.30 |


| | |
|---|---|
| CLIENT | GREENSHANK ENVIRONMENTAL |
| PROJECT | SSES |

0 75 150 225 300 m

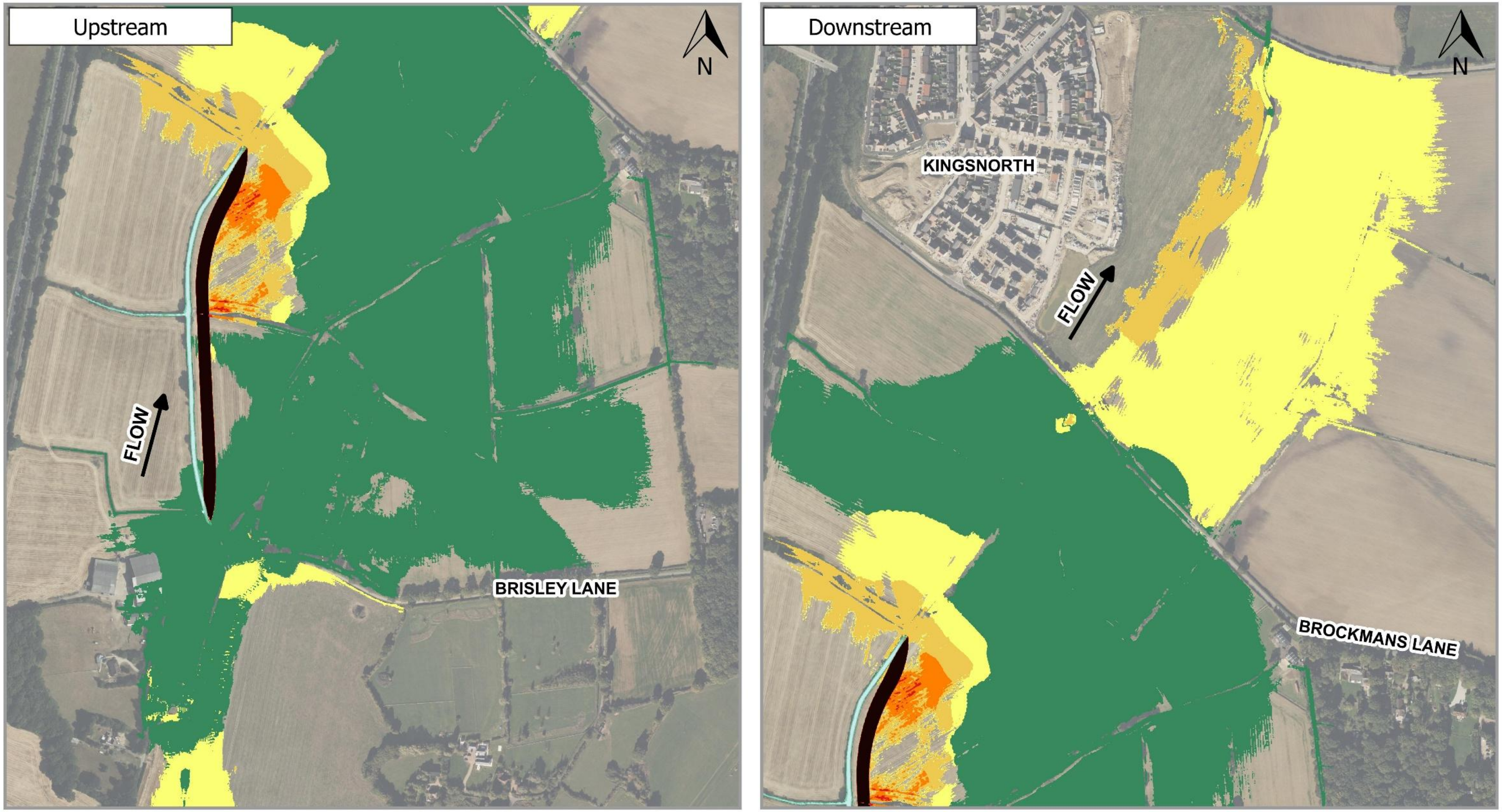
Service Layer Credits: Main map sources - Bing Satellite (2025), Ashford area. Overview map sources - Open Street Map, Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Aerogrid, IGN, IGP, and the GIS User Community.

| | |
|---|---|
| Project no. | 2150779 |
| Date | 08 DEC 2025 |
| Drawn | ED |
| Modelled | ED |
| Reviewed | LC |

Scale @ A4 - 1:7,000
British National Grid
GCS OSGB 1936

**Figure 5.9. 1 in 30 year plus Climate Change, Depth Difference, Hydraulic Modelling Results**

# 2150779 - HYDRAULIC MODELLING RESULTS - 100Y RETURN PERIOD - DEPTH DIFFERENCE




| Depth Difference (m) | |
|---|---|
| <= -1.00 | 0.00 - 0.01 |
| -1.00 - -0.60 | 0.01 - 0.05 |
| -0.60 - -0.30 | 0.05 - 0.10 |
| -0.30 - -0.15 | 0.10 - 0.15 |
| -0.15 - 0.00 | 0.15 - 0.30 |
| | > 0.30 |


| | | | |
|---|---|---|---|
| CLIENT | GREENSHANK ENVIRONMENTAL | Project no. | 2150779 |
| | | Date | 08 DEC 2025 |
| | | Drawn | ED |
| PROJECT | SSES | Modelled | ED |
| | | Reviewed | LC |

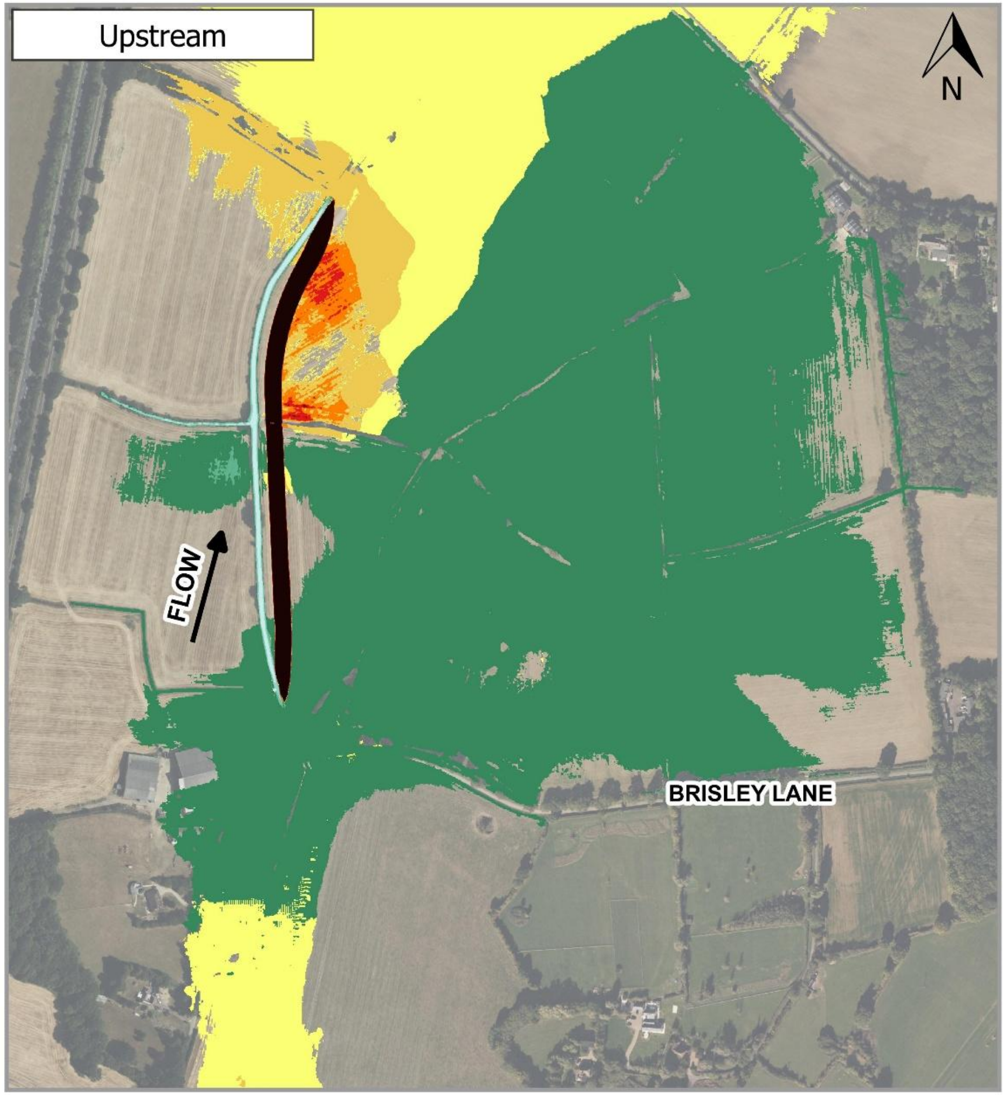
0 75 150 225 300 m

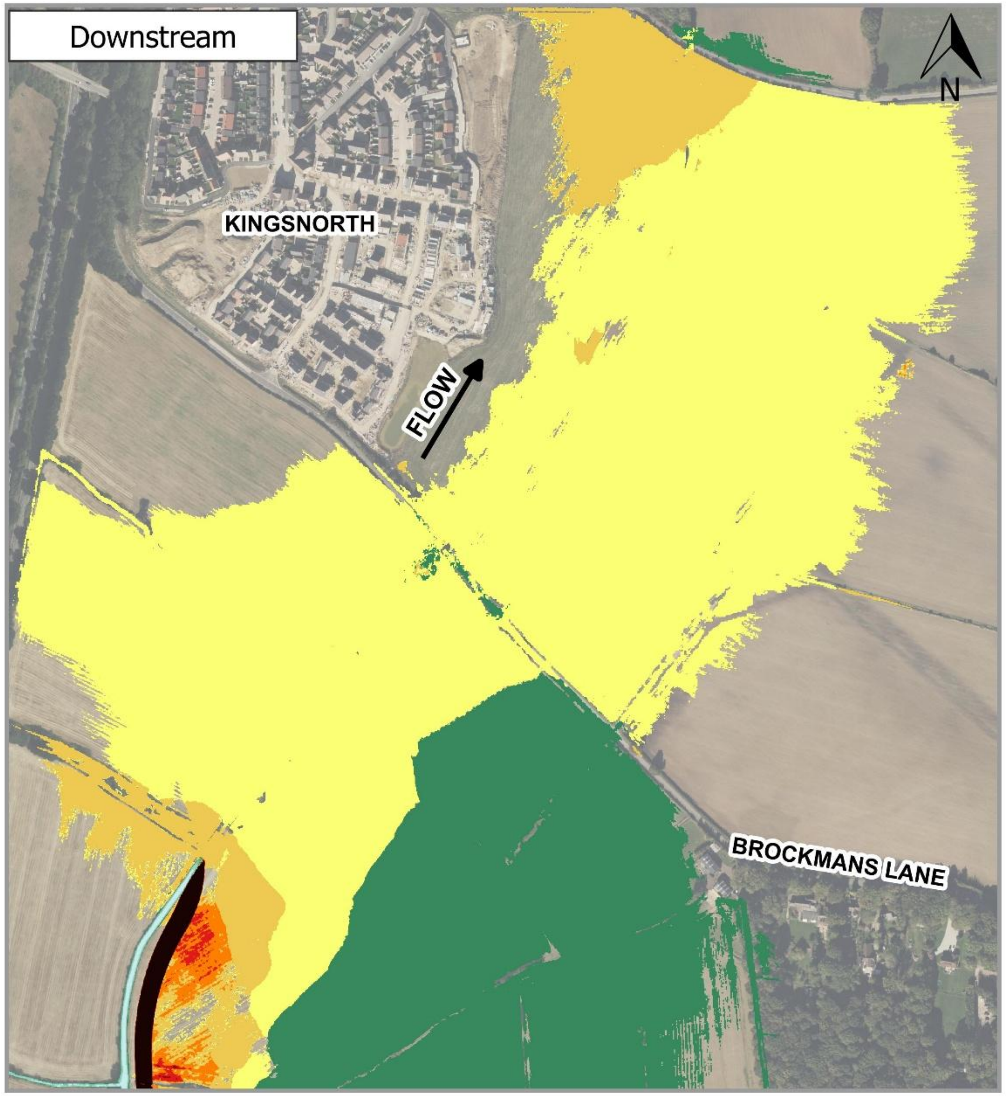
Scale @ A4 - 1:7,000
British National Grid
GCS OSGB 1936

Service Layer Credits: Main map sources - Bing Satellite (2025), Ashford area. Overview map sources - Open Street Map, Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Aerogrid, IGN, IGP, and the GIS User Community.

**Figure 5.10. 1 in 100 year, Depth Difference, Hydraulic Modelling Results**

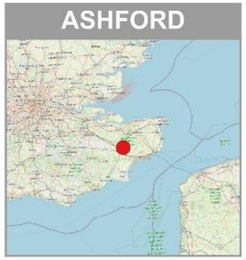
# 2150779 - HYDRAULIC MODELLING RESULTS - 100Y+CC RETURN PERIOD - DEPTH DIFFERENCE




Depth Difference (m)

- <= -1.00
- -1.00 - -0.60
- -0.60 - -0.30
- -0.30 - -0.15
- -0.15 - 0.00
- 0.00 - 0.01
- 0.01 - 0.05
- 0.05 - 0.10
- 0.10 - 0.15
- 0.15 - 0.30
- > 0.30




CLIENT: GREENSHANK ENVIRONMENTAL

PROJECT: SSES

0 75 150 225 300 m

Service Layer Credits: Main map sources - Bing Satellite (2025), Ashford area. Overview map sources - Open Street Map, Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Aerogrid, IGN, IGP, and the GIS User Community.

Project no. 2150779
Date 08 DEC 2025
Drawn ED
Modelled ED
Reviewed LC

Scale @ A4 - 1:7,000
British National Grid
GCS OSGB 1936

**Figure 5.11. 1 in 100 year plus Climate Change, Depth Difference, Hydraulic Modelling Results**

# 2150779 - HYDRAULIC MODELLING RESULTS - FLOOD RECEPTORS MAP

cbec
eco engineering


ASHFORD

| | | | |
|---|---|---|---|
| CLIENT | GREENSHANK ENVIRONMENTAL | Project no. | 2150779 |
| | | Date | 10 FEB 2026 |
| | | Drawn | ED |
| PROJECT | SSES | Modelled | ED |
| | | Reviewed | LC |

0 75 150 225 300 m

Scale @ A4 - 1:7,000
British National Grid
GCS OSGB 1936

Service Layer Credits: Main map sources - Bing Satellite (2025), Ashford area. Overview map sources - Open Street Map, Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Aerogrid, IGN, IGP, and the GIS User Community.

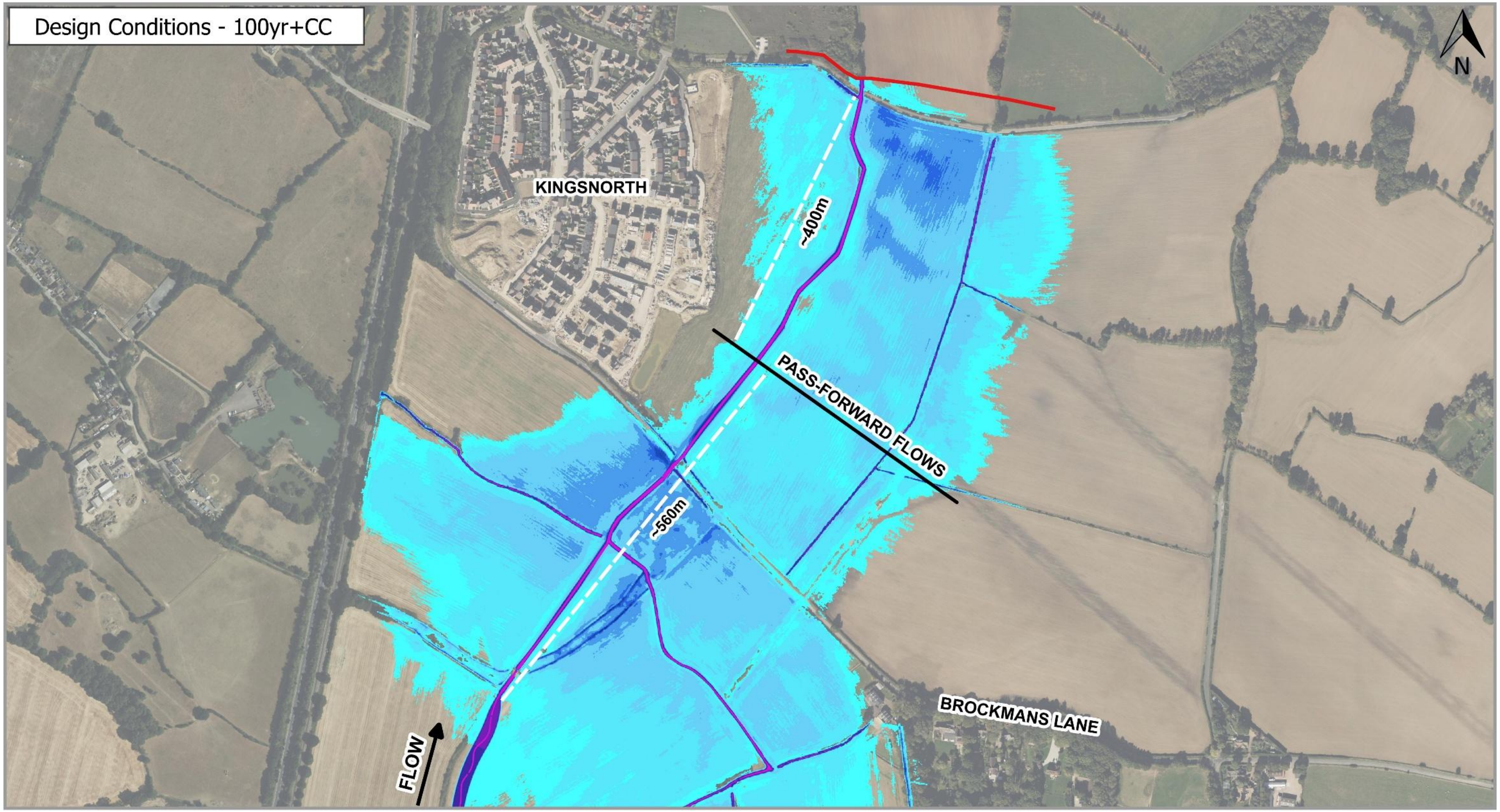
**Figure 5.12. Flood Receptors Location Map**

5.2.6. Pass Forward Flow Hydrographs

Pass-forward flow hydrographs, were taken at the location shown in Figure 5.13. The hydrographs were taken approximately 400 metres upstream of the downstream extent of the model. This is due to the downstream boundary having a localised effect on results. However, this effect only stems approximately 400 metres upstream. The hydrographs taken from this location can be used to assess the downstream impact of the design, as this location is approximately 560 metres downstream of the design site. The hydrographs taken from this location are shown in Figure 5.14. There is no significant change in the hydrographs extracted from this location during all events. This suggests the proposed design will not adversely affect flooding downstream of the modelled area.

# 2150779 - HYDRAULIC MODELLING - PASS-FORWARD FLOW INFORMATION MAP

cbec
eco engineering




**Maximum Depth (m)**

- <= 0.15
- 0.15 - 0.30
- 0.30 - 0.45
- 0.45 - 0.60
- 0.60 - 0.75
- 0.75 - 0.90
- 0.90 - 1.05
- 1.05 - 1.20
- 1.20 - 1.35
- 1.35 - 1.50
- > 1.50

Downstream Model Boundary
Pass-Forward Flow Profile Line


| | |
|---|---|
| CLIENT | GREENSHANK ENVIRONMENTAL |
| PROJECT | SSES |

0 100 200 300 400 500 m



| | |
|---|---|
| Project no. | 2150779 |
| Date | 08 DEC 2025 |
| Drawn | ED |
| Modelled | ED |
| Reviewed | LC |

Scale @ A4 - 1:11,000
British National Grid
GCS OSGB 1936

**Figure 5.13. Map Displaying Pass-Forward Flow Information**

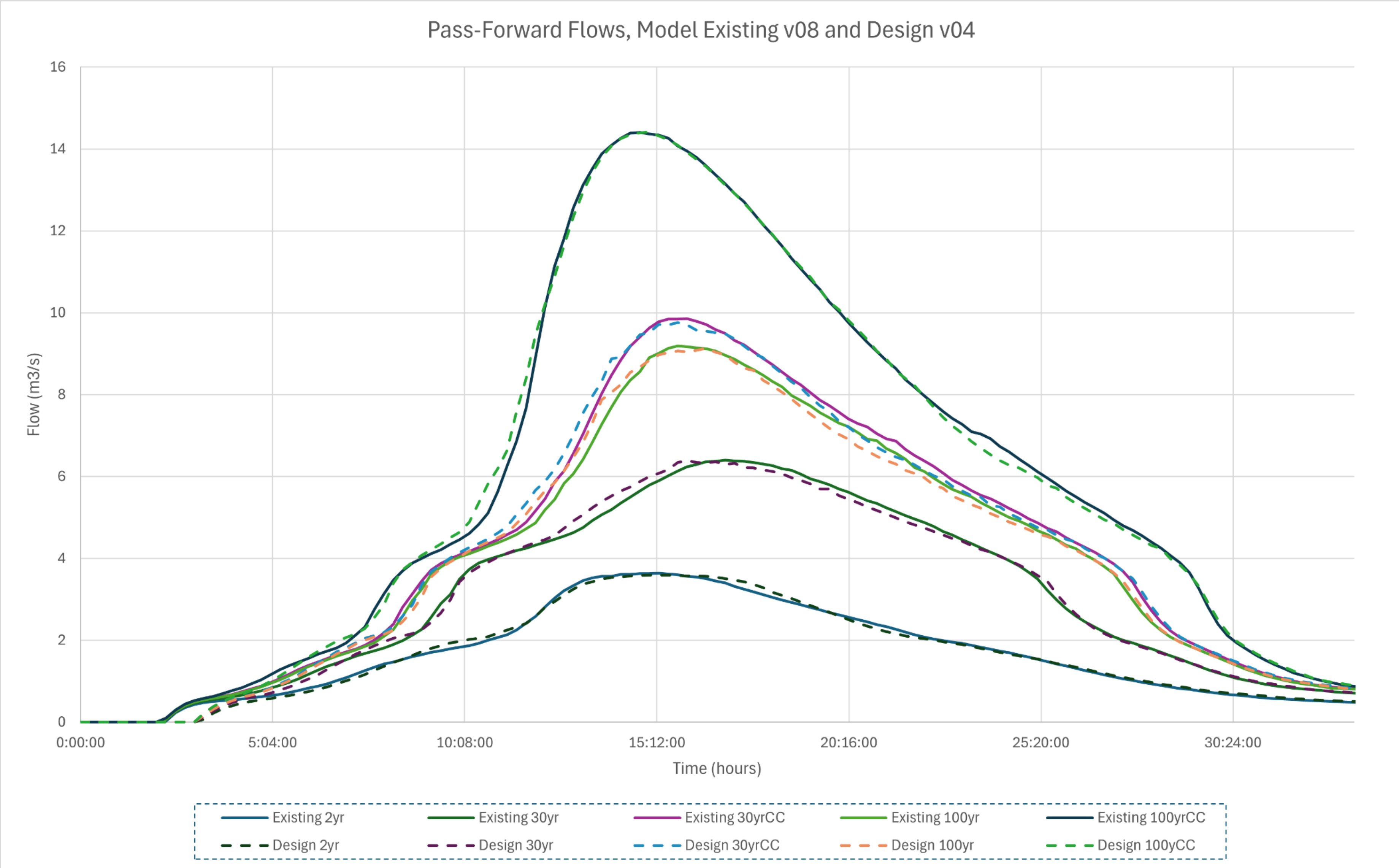



**Figure 5.14. Pass-Forward Flow Plots**

5.3 OTHER SOURCES OF FLOOD RISK

5.3.1. Existing surface water flood risk

The EA surface water flood map for the area is shown in Figure 5.15. Within the project extents there is no chance of surface water flooding along the river channel. There are large areas of high surface water flood risk shown in fields to the west of the project extents. The channels running perpendicular to the main channel, within the western and eastern floodplain are both identified as surface water flow paths, with a high surface water flood risk. Overall, the risk of surface water flooding to the site is not significant.

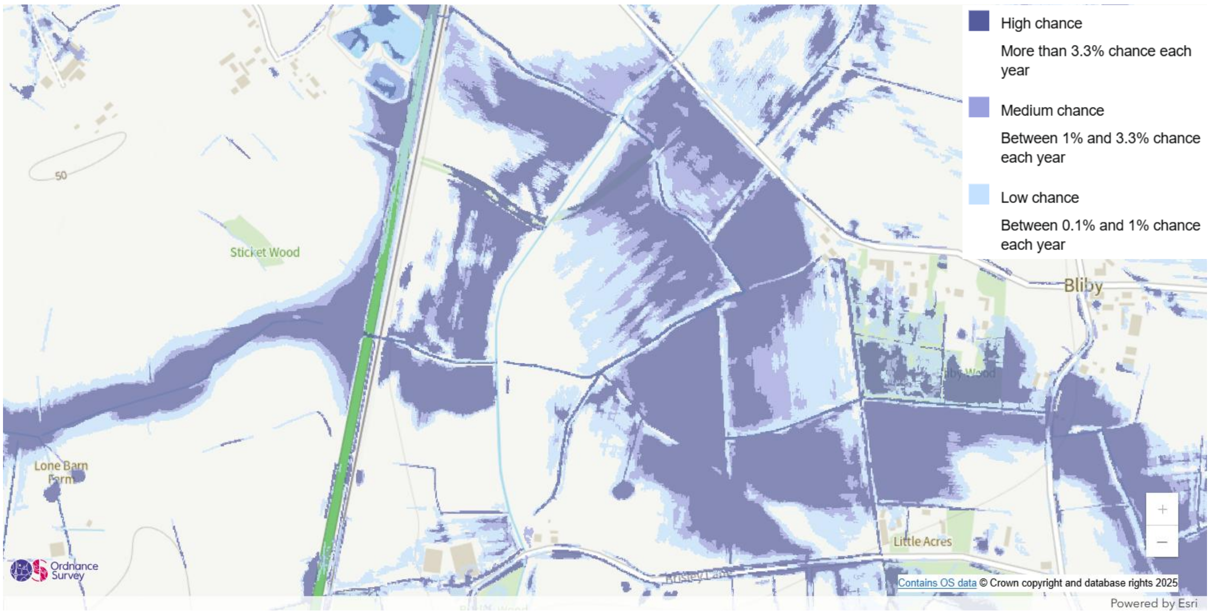



**Figure 5.15. EA surface water flood risk map (source: [Technical map - Check your long term flood risk - GOV.UK] last accessed 08/09/2025).**

5.3.2. Impact of proposals on surface water flood risk

There will be no creation of hardstanding surfaces within this project; however, increasing channel capacity by reprofiling the channel, within the project extents, is likely to increase storage capacity within the project extents. Therefore, any changes to surface water flood risk within project extents are likely to have a positive impact on the existing surface water flood risk at the site.

5.4 RESERVOIR FLOOD RISK

5.4.1. Existing flood risk from reservoirs

The EA existing flood risk from reservoirs map displayed no flood risk from reservoirs is present within the project extents.

5.4.2. Impact of proposals on flood risk from reservoirs

The proposed restoration reach is not currently affected by flood risk from reservoirs and therefore, the flood risk from reservoirs will not be impacted by any proposals.

## 5.5 HISTORIC FLOODING

Historic flood records were checked in the ArcGIS Online Map viewer[2], which displays environment agency data on historic flooding. There was no historic flood data within project extents or within the project catchment. No records of historic flooding within the project site were identified during statutory consultation with EA, Ashford Borough Council, Kent County Council, and the Great Stour Internal Drainage Board.

## 5.6 FLOOD DEFENCE ASSETS

The Environment Agency Spatial Flood Defences data and the Environment Agency Flood Map for Planning, shows there are no flood defences within the project reach.

[2] Historic Flood Map

## 6. CONCLUSIONS

This report has considered the implementation of restoration measures within the established channel of a watercourse near Bliby, Kent.

National Planning Policy aims to steer development away from areas of flooding. Because in this instance the proposal involves the existing river channel, it is not possible to apply the sequential test and avoid areas of flooding. The local catchment flood management plan involve exploring options for flood risk management, including assessing opportunities to increase floodplain storage, attenuation, and connectivity. This project appears to meet the aims of these proposals, however, consideration must be given to receptors within and in the vicinity of the proposed area to ensure there is no increase in flood risk to these.

A hydraulic model of the project site was developed to assess flood risk. This examined flooding under existing conditions and compared it to flooding with the implementation of restoration measures in place. The results of the modelling demonstrated that during design conditions, there were areas within the floodplain which experienced an increase or decrease in floodplain inundation, when compared with existing conditions. The flooding affecting the properties on Brisley Lane, near the upstream extent of the design experiences a reduction in flood extents and depths during all return periods modelled. During some of the events there is an increase in flood depths of <0.01m, affecting flood receptors including Cheeseman's Green Lane, Brockmans Lane, a Public Footpath, Landowner Property, and Fairview Industrial Park. However, all other flood receptors either show a neutral result or a decrease in flood depths or extents during the modelled events.

Therefore, the modelling demonstrates no significant increase in flood risk to flood receptors, and thus the restoration is not expected to put developments and people outside the site at risk.

The lack of a significant increase in flood risk due to the restoration is due to the restoration design. Delivery and ongoing maintenance of the design is being secured with a Conservation Covenant which legally secures an 85-year management period for the restoration. The restoration works will not be delivered until the Conservation Covenant has been completed and starts to bind the landowner with positive obligations to deliver the scheme as per its specification. The landowner is taking on responsibility for maintenance of the scheme as per the new channel design specification and management plan. The landowner is being paid via the natural capital value being generated by the scheme in return for sufficient funding to deliver the scheme over its legally secured 85-year management period.

**APPENDIX A**

STATUTORY CONSULTATION

FROM EA

# 7. EA STATUTORY CONSULTATION RESPONSE

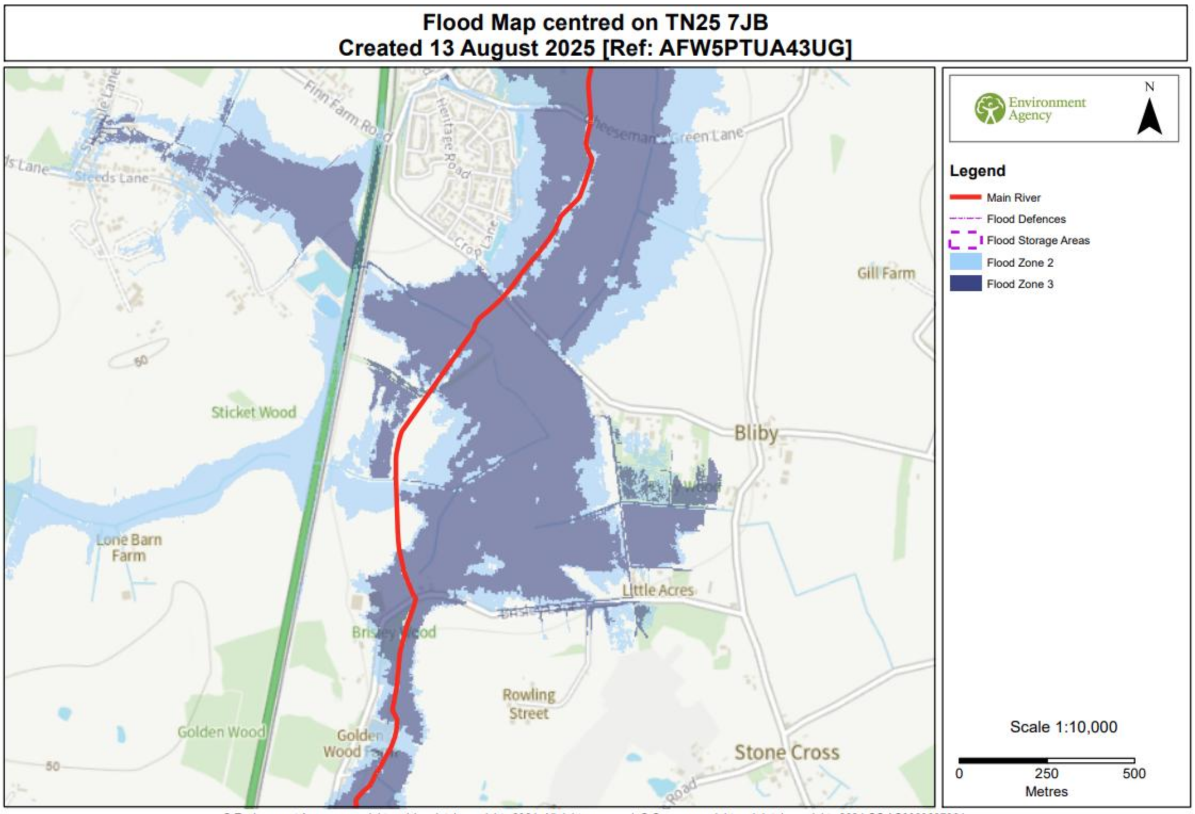





**Figure 7.1. EA Flood Map**

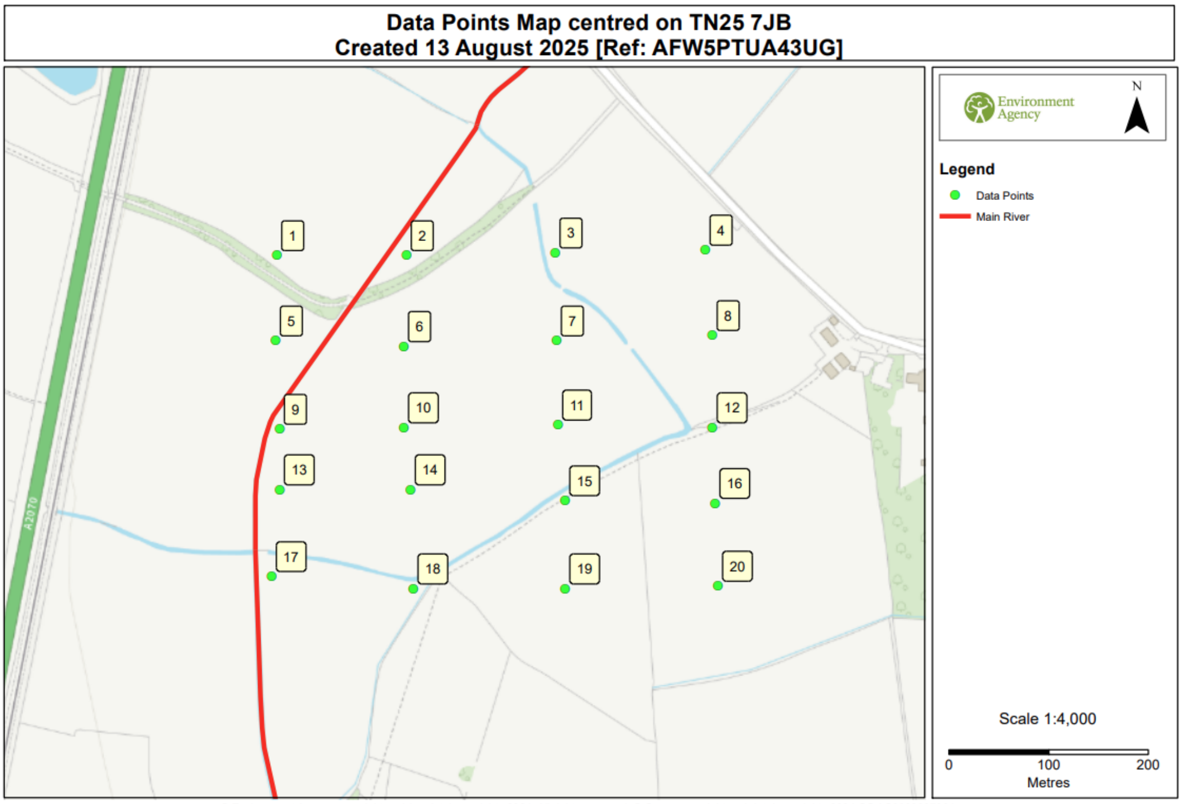





**Figure 7.2. EA Flood Mapping Data Points**

| Point ID | National Grid Reference | | Modelled Fluvial Flood Levels for Annual Exceedance Probability (AEP) events shown (metres AOD) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Undefended | | | | Defended | | | | |
| | Easting | Northing | 5% AEP | 1% AEP | 1% AEP + CC (20%) | 0.1% AEP | 10% AEP | 5% AEP | 2% AEP | 1% AEP | 1% AEP + CC (20%) |
| 1 | 601734 | 137686 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | 601864 | 137686 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 602013 | 137688 | 37.98 | 38.05 | 38.08 | 38.12 | 0.00 | 37.98 | 38.00 | 38.05 | 38.08 |
| 4 | 602164 | 137691 | 0.00 | 38.10 | 38.13 | 38.15 | 0.00 | 0.00 | 38.08 | 38.10 | 38.13 |
| 5 | 601733 | 137600 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6 | 601861 | 137594 | 0.00 | 0.00 | 38.08 | 38.13 | 0.00 | 0.00 | 0.00 | 0.00 | 38.08 |
| 7 | 602015 | 137600 | 38.03 | 38.08 | 38.11 | 38.15 | 38.00 | 38.03 | 38.05 | 38.08 | 38.11 |
| 8 | 602171 | 137605 | 38.10 | 38.14 | 38.16 | 38.18 | 38.06 | 38.10 | 38.12 | 38.14 | 38.16 |
| 9 | 601737 | 137511 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 601861 | 137513 | 0.00 | 0.00 | 0.00 | 38.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11 | 602016 | 137516 | 38.05 | 38.10 | 38.13 | 38.17 | 0.00 | 38.05 | 38.07 | 38.10 | 38.13 |
| 12 | 602171 | 137513 | 38.14 | 38.18 | 38.21 | 38.24 | 38.09 | 38.14 | 38.16 | 38.18 | 38.21 |
| 13 | 601737 | 137451 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14 | 601868 | 137451 | 0.00 | 38.16 | 38.18 | 38.20 | 0.00 | 0.00 | 0.00 | 38.16 | 38.18 |
| 15 | 602023 | 137440 | 38.26 | 38.27 | 38.28 | 38.30 | 38.24 | 38.26 | 38.26 | 38.27 | 38.28 |
| 16 | 602174 | 137437 | 38.15 | 38.20 | 38.23 | 38.27 | 38.10 | 38.15 | 38.17 | 38.20 | 38.23 |
| 17 | 601728 | 137364 | 0.00 | 0.00 | 0.00 | 38.49 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 18 | 601871 | 137351 | 38.41 | 38.42 | 38.43 | 38.46 | 38.38 | 38.41 | 38.39 | 38.42 | 38.43 |
| 19 | 602023 | 137351 | 38.26 | 38.29 | 38.31 | 38.33 | 38.24 | 38.26 | 38.27 | 38.29 | 38.31 |
| 20 | 602176 | 137354 | 38.18 | 38.24 | 38.27 | 38.31 | 0.00 | 38.18 | 38.21 | 38.24 | 38.27 |

**Figure 7.3. Modelled Fluvial Flood Levels in metres above Ordnance Datum Newlyn (mAOD), for Various Annual Exceedance Probabilities. (Note: Data taken from Ashford Fluvial Mapping Study, completed by JBA Consulting Ltd in 2012. Values of 0.00 indicate locations at which the selected points lie outside of a particular modelled flood extent.)**

| Point ID | National Grid Reference | | Modelled Fluvial Flood Depths for Annual Exceedance Probability (AEP) events shown (metres) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Undefended | | | | Defended | | | | |
| | Easting | Northing | 5% AEP | 1% AEP | 1% AEP + CC (20%) | 0.1% AEP | 10% AEP | 5% AEP | 2% AEP | 1% AEP | 1% AEP + CC (20%) |
| 1 | 601734 | 137686 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | 601864 | 137686 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 602013 | 137688 | 0.15 | 0.22 | 0.25 | 0.29 | 0.00 | 0.15 | 0.17 | 0.22 | 0.25 |
| 4 | 602164 | 137691 | 0.00 | 0.05 | 0.07 | 0.10 | 0.00 | 0.00 | 0.03 | 0.05 | 0.07 |
| 5 | 601733 | 137600 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6 | 601861 | 137594 | 0.00 | 0.00 | 0.03 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 |
| 7 | 602015 | 137600 | 0.12 | 0.16 | 0.19 | 0.23 | 0.09 | 0.12 | 0.13 | 0.16 | 0.19 |
| 8 | 602171 | 137605 | 0.19 | 0.23 | 0.25 | 0.28 | 0.15 | 0.19 | 0.21 | 0.23 | 0.25 |
| 9 | 601737 | 137511 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 601861 | 137513 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11 | 602016 | 137516 | 0.06 | 0.11 | 0.14 | 0.18 | 0.00 | 0.06 | 0.08 | 0.11 | 0.14 |
| 12 | 602171 | 137513 | 0.19 | 0.24 | 0.26 | 0.29 | 0.15 | 0.19 | 0.21 | 0.24 | 0.26 |
| 13 | 601737 | 137451 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14 | 601868 | 137451 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| 15 | 602023 | 137440 | 0.04 | 0.05 | 0.06 | 0.08 | 0.03 | 0.04 | 0.05 | 0.05 | 0.06 |
| 16 | 602174 | 137437 | 0.11 | 0.16 | 0.19 | 0.22 | 0.06 | 0.11 | 0.13 | 0.16 | 0.19 |
| 17 | 601728 | 137364 | 0.00 | 0.00 | 0.00 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 18 | 601871 | 137351 | 0.02 | 0.03 | 0.04 | 0.05 | 0.01 | 0.02 | 0.02 | 0.03 | 0.04 |
| 19 | 602023 | 137351 | 0.12 | 0.14 | 0.16 | 0.19 | 0.10 | 0.12 | 0.13 | 0.14 | 0.16 |
| 20 | 602176 | 137354 | 0.05 | 0.12 | 0.14 | 0.18 | 0.00 | 0.05 | 0.08 | 0.12 | 0.14 |

**Figure 7.4. Modelled Fluvial Flood Depths in metres (m), for Various Annual Exceedance Probabilities. (Note: Data taken from Ashford Fluvial Mapping Study, completed by JBA Consulting Ltd in 2012. Values of 0.00 indicate locations at which the selected points lie outside of a particular modelled flood extent.)**

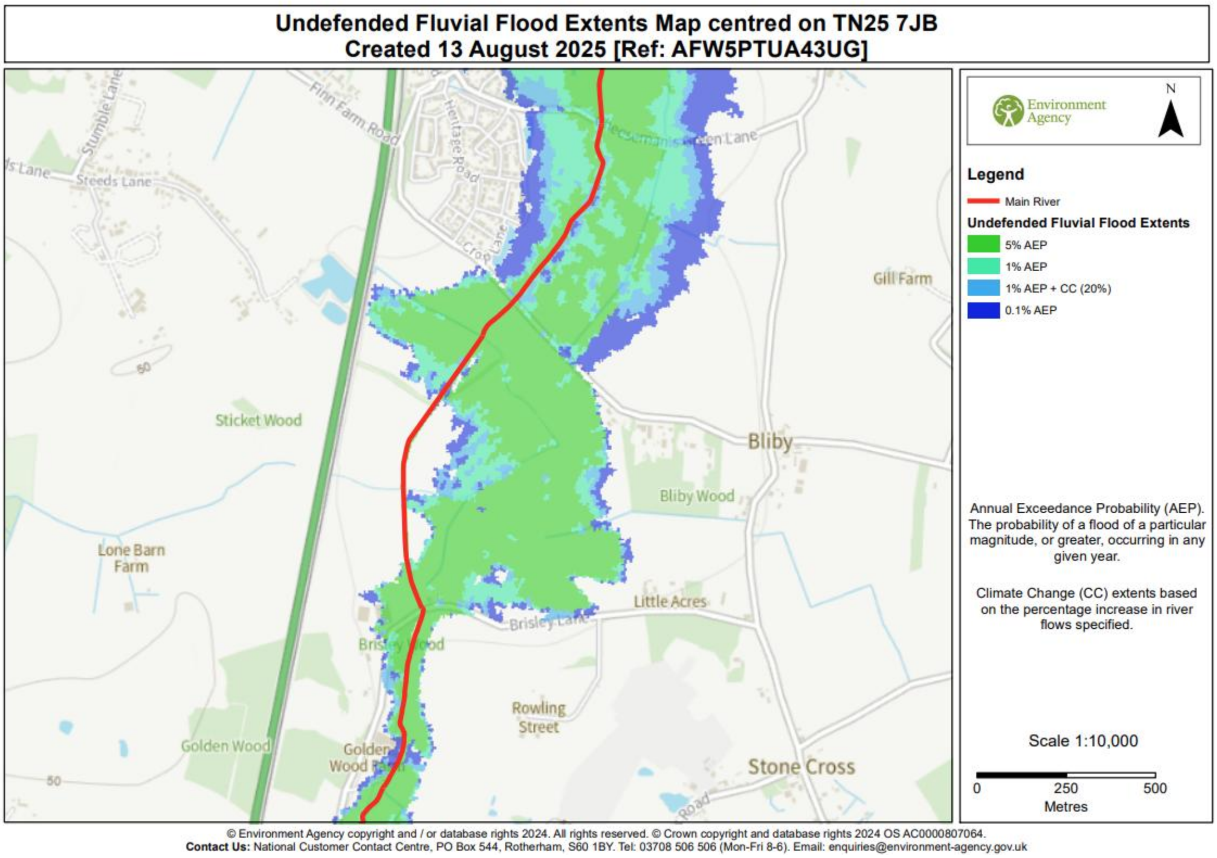



**Figure 7.5. Undefended Fluvial Flood Extents Map**

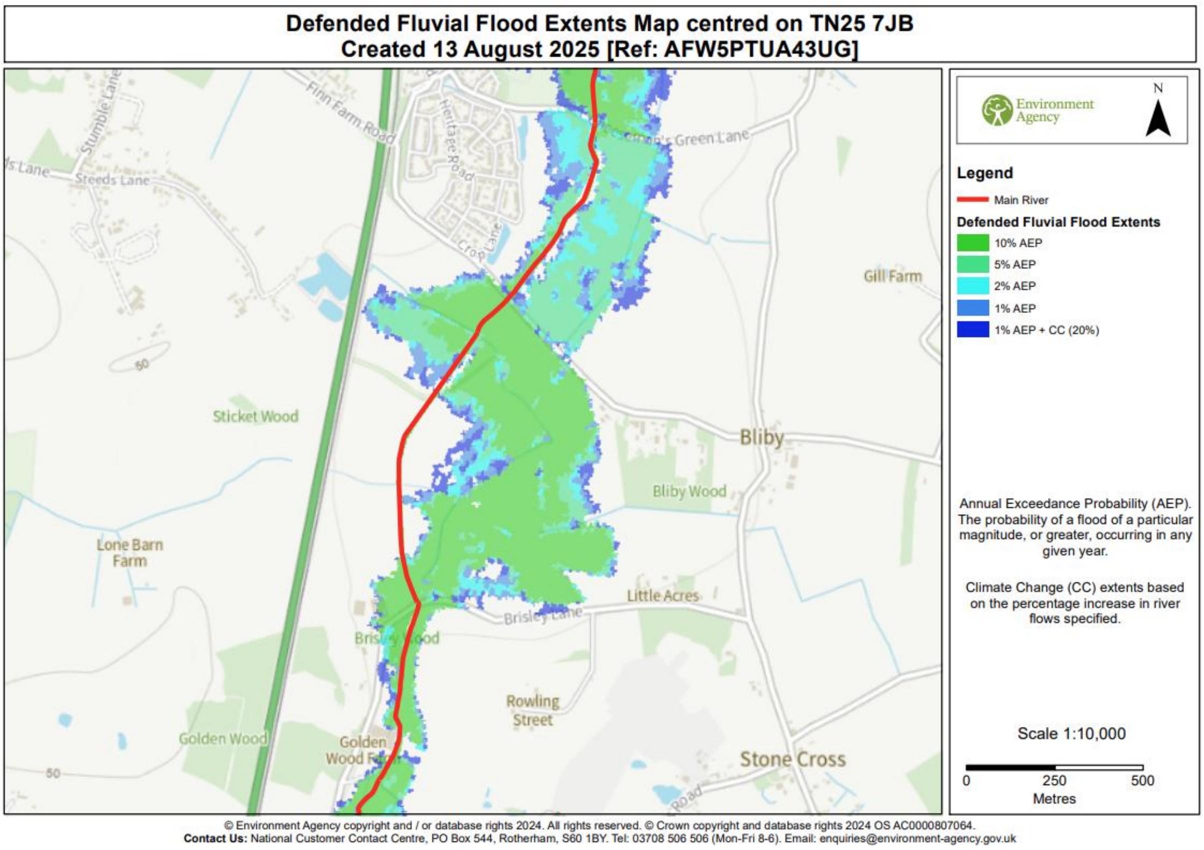



**Figure 7.6. Defended Fluvial Flood Extents Map**

| Point ID | National Grid Reference | | Modelled Fluvial CC Flood Levels for AEP events shown (metres AOD) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Undefended | | | Defended | | |
| | Easting | Northing | 1% AEP + CC (35%) | 1% AEP + CC (45%) | 1% AEP + CC (105%) | 1% AEP + CC (35%) | 1% AEP + CC (45%) | 1% AEP + CC (105%) |
| 1 | 601734 | 137686 | 0.00 | 0.00 | 38.44 | 0.00 | 0.00 | 38.15 |
| 2 | 601864 | 137686 | 0.00 | 0.00 | 38.44 | 0.00 | 0.00 | 38.17 |
| 3 | 602013 | 137688 | 38.11 | 38.12 | 38.44 | 38.10 | 38.11 | 38.16 |
| 4 | 602164 | 137691 | 38.14 | 38.15 | 38.44 | 38.14 | 38.15 | 38.19 |
| 5 | 601733 | 137600 | 0.00 | 0.00 | 38.44 | 0.00 | 0.00 | 0.00 |
| 6 | 601861 | 137594 | 38.11 | 38.12 | 38.44 | 38.11 | 38.12 | 38.18 |
| 7 | 602015 | 137600 | 38.13 | 38.14 | 38.44 | 38.13 | 38.14 | 38.20 |
| 8 | 602171 | 137605 | 38.18 | 38.18 | 38.44 | 38.17 | 38.18 | 38.22 |
| 9 | 601737 | 137511 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 601861 | 137513 | 38.16 | 38.17 | 38.44 | 38.15 | 38.17 | 38.24 |
| 11 | 602016 | 137516 | 38.16 | 38.17 | 38.44 | 38.15 | 38.16 | 38.22 |
| 12 | 602171 | 137513 | 38.22 | 38.23 | 38.44 | 38.22 | 38.23 | 38.27 |
| 13 | 601737 | 137451 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14 | 601868 | 137451 | 38.19 | 38.20 | 38.44 | 38.19 | 38.19 | 38.26 |
| 15 | 602023 | 137440 | 38.29 | 38.30 | 38.44 | 38.29 | 38.30 | 38.33 |
| 16 | 602174 | 137437 | 38.25 | 38.26 | 38.44 | 38.25 | 38.26 | 38.30 |
| 17 | 601728 | 137364 | 38.48 | 38.49 | 38.52 | 0.00 | 38.49 | 38.51 |
| 18 | 601871 | 137351 | 38.45 | 38.46 | 38.49 | 38.44 | 38.45 | 38.48 |
| 19 | 602023 | 137351 | 38.32 | 38.33 | 38.44 | 38.32 | 38.33 | 38.37 |
| 20 | 602176 | 137354 | 38.30 | 38.30 | 38.44 | 38.29 | 38.30 | 38.35 |

**Figure 7.7. Modelled Fluvial Flood Levels in metres above Ordnance Datum Newlyn (mAOD), for Various Annual Exceedance Probabilities. (Note: Data taken from Ashford Mapping Study CC Updates, completed by JBA Consulting Ltd in 2016. Values of 0.00 indicate locations at which the selected points lie outside of a particular modelled flood extent.)**

| Point ID | National Grid Reference | | Modelled Fluvial CC Flood Depths for AEP events shown (metres) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Undefended | | | Defended | | |
| | Easting | Northing | 1% AEP + CC (35%) | 1% AEP + CC (45%) | 1% AEP + CC (105%) | 1% AEP + CC (35%) | 1% AEP + CC (45%) | 1% AEP + CC (105%) |
| 1 | 601734 | 137686 | 0.00 | 0.00 | 0.32 | 0.00 | 0.00 | 0.04 |
| 2 | 601864 | 137686 | 0.00 | 0.00 | 0.35 | 0.00 | 0.00 | 0.08 |
| 3 | 602013 | 137688 | 0.28 | 0.29 | 0.61 | 0.27 | 0.28 | 0.33 |
| 4 | 602164 | 137691 | 0.09 | 0.09 | 0.38 | 0.08 | 0.09 | 0.13 |
| 5 | 601733 | 137600 | 0.00 | 0.00 | 0.12 | 0.00 | 0.00 | 0.00 |
| 6 | 601861 | 137594 | 0.05 | 0.06 | 0.38 | 0.04 | 0.05 | 0.11 |
| 7 | 602015 | 137600 | 0.22 | 0.23 | 0.52 | 0.21 | 0.22 | 0.28 |
| 8 | 602171 | 137605 | 0.27 | 0.27 | 0.53 | 0.26 | 0.27 | 0.31 |
| 9 | 601737 | 137511 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 601861 | 137513 | 0.02 | 0.03 | 0.29 | 0.01 | 0.02 | 0.09 |
| 11 | 602016 | 137516 | 0.17 | 0.18 | 0.45 | 0.16 | 0.17 | 0.23 |
| 12 | 602171 | 137513 | 0.28 | 0.29 | 0.50 | 0.28 | 0.28 | 0.32 |
| 13 | 601737 | 137451 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14 | 601868 | 137451 | 0.01 | 0.01 | 0.24 | 0.01 | 0.01 | 0.06 |
| 15 | 602023 | 137440 | 0.08 | 0.08 | 0.22 | 0.07 | 0.08 | 0.11 |
| 16 | 602174 | 137437 | 0.21 | 0.22 | 0.40 | 0.21 | 0.21 | 0.26 |
| 17 | 601728 | 137364 | 0.05 | 0.06 | 0.08 | 0.00 | 0.05 | 0.08 |
| 18 | 601871 | 137351 | 0.05 | 0.05 | 0.08 | 0.05 | 0.05 | 0.07 |
| 19 | 602023 | 137351 | 0.18 | 0.19 | 0.30 | 0.18 | 0.18 | 0.22 |
| 20 | 602176 | 137354 | 0.17 | 0.18 | 0.32 | 0.16 | 0.17 | 0.22 |

**Figure 7.8. Modelled Fluvial Flood Depths in metres (m), for Various Annual Exceedance Probabilities. (Note: Data taken from Ashford Mapping Study CC Updates, completed by JBA Consulting Ltd in 2016. Values of 0.00 indicate locations at which the selected points lie outside of a particular modelled flood extent.)**

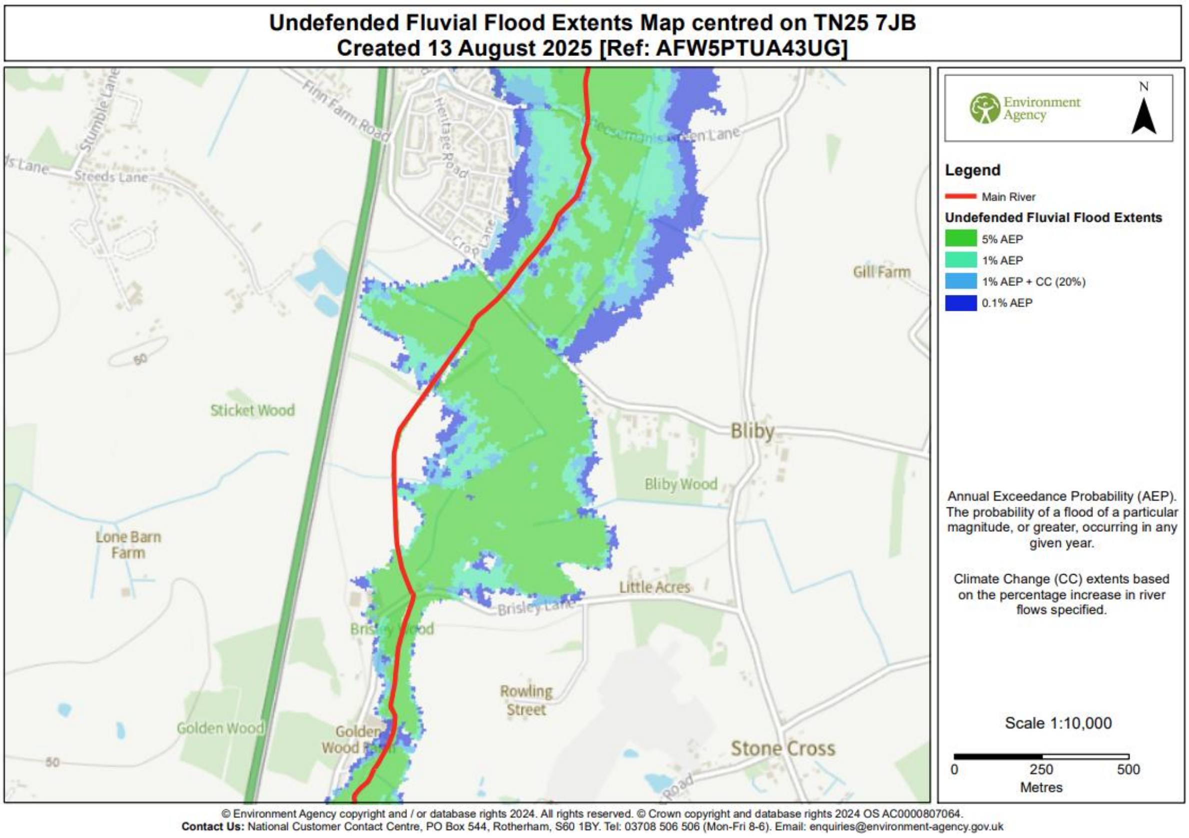



**Figure 7.9. Undefended Fluvial Flood Extents Map**

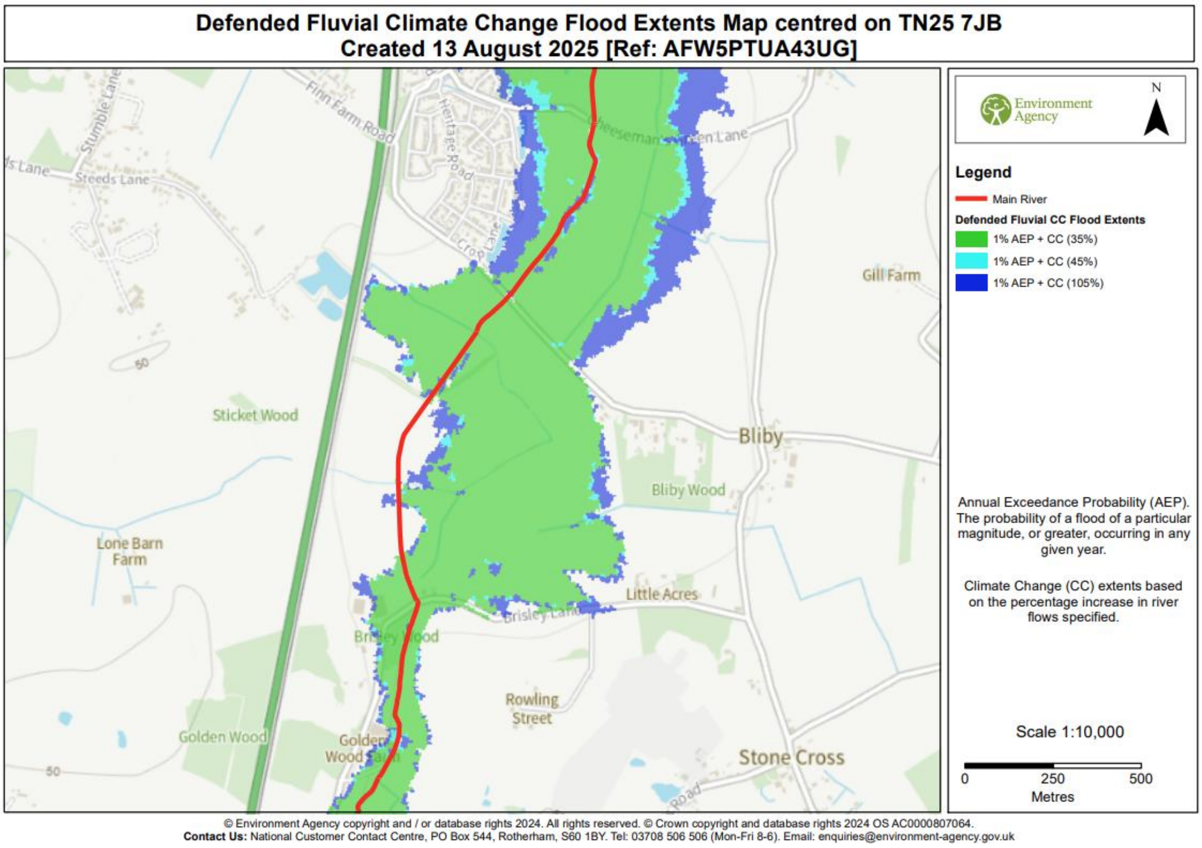



**Figure 7.10. Defended Fluvial Flood Extents Map**

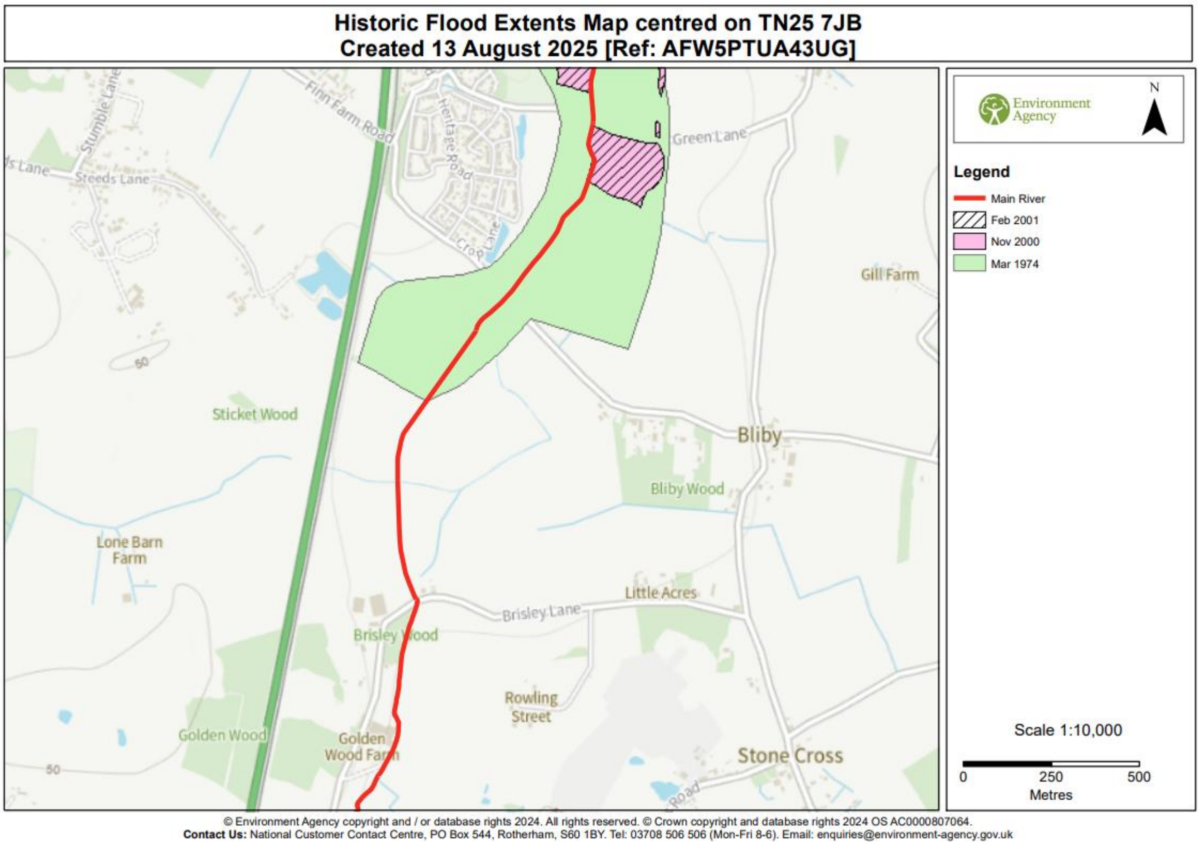



**Figure 7.11. Historic Flood Extents Map**