Flood Risk Assessment

December 2022

EAS

Tuddenham Mill High Street Tuddenham IP28 6SQ

Agellus Tuddenham Ltd



Document History

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The content of this report is based on information available as of November 2022 the validity of the statements made may therefore vary over time as planning guidance / policies and the evidence base change.



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Introduction

- 1.1 EAS has been commissioned by Agellus Tuddenham Ltd. to prepare a Flood Risk Assessment to accompany planning application DC/22/1839/FUL for the retention of a tipi tent at Tuddenham Mill, High Street, Tuddenham, Suffolk, IP28 6SQ. A location plan is enclosed in Appendix A.
- 1.2 The tipi tent is utilised as a temporary events structure and is located within the grounds of the wider mill site. The location of the tipi tent is indicated on a site plan enclosed in Appendix
- 1.3 The Flood Map for Planning has been overlaid with the topographical survey and site layout and can be viewed in Appendix C. The tipi tent is located in Flood Zone 3. Flood Zone 3 is defined as having a 1% or greater probability of flooding from rivers in any year.
- The content of this FRA is based on the advice set out in the National Planning Policy 1.4 Framework (NPPF) published in July 2021, Annex 3: Flood risk vulnerability classification, also from the NPPF and PPG 'Guidance for Flood Risk and Coastal Change', updated in August 2022.
- 1.5 This report is based on Flood Map for Planning, BGS (British Geological Survey) geological information, site specific topographical survey and Anglian Water sewer records.
- 1.6 The report is set out as follows:
 - Section 2 sets out the relevant flood risk and drainage policy background.
 - Section 3 provides a review of the existing site;
 - Section 4 provides a review of all sources of flooding;
 - Section 5 details mitigation measures;
 - Section 6 summarises the findings of the report.



2 Policy Background

Introduction

This section sets out the policy context. This FRA is based on the advice set out in the National Planning Policy Framework (NPPF) published in July 2021, the Planning Practice Guidance (PPG) published March 2014, which is updated on an ad hoc basis and Annex 3: Flood risk vulnerability classification. National Planning Policy Framework (NPPF) (July 2021).

National Planning Policy Framework

- 2.2 Paragraph 167 footnote 55 of the NPPF states:
- 2.3 "A site-specific flood risk assessment should be provided for all developments in Flood Zones 2 and 3. In Flood Zone 1, an assessment should accompany all proposals involving: sites of 1 hectare or more; land which has been identified by the Environment Agency as having critical drainage problems; land identified in a strategic flood risk assessment as being at increased flood risk in future; or land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use."
- 2.4 The flood risk zones are defined as:

Flood Zone 1- This zone comprises land assessed as having a less than 1 in 1,000 annual probability of river flooding (<0.1%)

Flood Zone 2- This zone comprises land assessed as having between a 1 in a 100 and 1 in 1,000 annual probability of river flooding.

Flood Zone 3a- This zone comprises land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), and for tidal flooding at least a 0.5% annual probability of flooding from tidal sources.

Flood Zone 3b- This zone comprises land where water has to flow or be stored in times of flood

2.5 Paragraph 159 discusses the suitability of development location, particularly with regard to future risks induced by climate change:

"Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere".

2.6 Paragraph 160 of the National Planning Policy Framework (NPPF) states:

"Strategic policies should be informed by a strategic flood risk assessment, and should manage flood risk from all sources. They should consider cumulative impacts in, or affecting, local areas susceptible to flooding, and take account of advice from the Environment Agency and other relevant flood risk management authorities, such as lead local flood authorities and internal drainage boards".



West Suffolk Local Plan (Regulation 18) Preferred Options

2.7 Policy NSP20: Flood risk and sustainable drainage

- a. The policy will require that development proposals will not be permitted where they would have an adverse effect on existing watercourses or increase the risk of flooding elsewhere. Development will only be permitted if it has been assessed sequentially as low risk. Development should be safe for its lifetime and not increase flow rate compared to a greenfield scenario.
- b. The policy should make reference to the Suffolk Sustainable Drainage System Guide 2016 (appendix A to the Suffolk Flood Risk Management Strategy) and any updated guidance.
- c. The policy will require all development to consider the use of sustainable drainage systems (SuDS). Sustainable drainage systems design should begin as early as possible. The design of SuDS should consider (in order to reduce the causes and impacts of flooding):
 - Effects of climate change.
 - Effects of development in the catchment.
 - Development near airbases should minimise the opportunities for bird strike.
 - SuDS should be considered in addition to public open space.
 - SuDS should incorporate the four pillars of SuDS: water quality, water quantity, biodiversity and amenity.
 - SuDS should be managed for their whole life.

2.8 Policy NSP21 Water quality and resources:

- a. The policy will safeguard the quality of rivers and ground water including source protection zones.
- b. The policy will require new residential development to be water efficient limiting water consumption to at least 80 litres per person per day, and using efficient water fittings, (in line with the most up to date standard). Non-residential development must be accompanied by a water efficiency strategy.
- c. The policy will require water to be considered as a resource and will expect water butts to be provided for all new dwellings unless it is demonstrated that this is not appropriate. Water capture and re-use systems such as grey water recycling is encouraged on all types of development.

West Suffolk Council Level 1 Strategic Flood Risk Assessment (SFRA) (April 2021)

2.9 An updated Strategic Flood Risk Assessment is required to accompany the new Local Plan following the creation of West Suffolk Council. The SFRA is utilised as a guide when assessing development and flood risks across the district.



- 2.10 The SFRA report was submitted to West Suffolk Council with a series of GIS files containing mapping. The associated list of GIS files has not been published and once formally published the mapping will be displayed on the Local Authority Local Plan evidence base website.
- 2.11 The risk of flooding from a variety of sources has been discussed in detail in Section 4 of this report utilising data and mapping from the Environment Agency that is publicly available.



3 Existing Site Assessment

Site Description

The site is located at Tuddenham Mill , High Street, Tuddenham, Suffolk, IP28 6SQ. The site is a hotel, restaurant and events venue. The tipi tent is understood to be utilised for events such as weddings as well as a dining space.

Local Watercourses

- 3.2 The Tuddenham Mill Stream forms the eastern boundary of the site. The watercourse is not mapped as 'Main River' at the location of the site however is mapped as a 'Main River' immediately upstream north of the mill.
- 3.3 There are numerous unnamed watercourses and ditches located immediately south west of the site.

Internal Drainage Board (IDB)

3.4 The site is not located in an area covered by an internal drainage board.

Site Levels

3.5 A topographical survey is enclosed in Appendix D. The lowest site level in the location of the tipi is 12.92mAOD. The top of bank level in the location of the tipi is 13.3mAOD. Site levels within the main car park to the west of the tipi fall to around 11m AOD.

Sewer Records

3.6 Sewer records were obtained from Anglian Water and are enclosed in Appendix E. There are no adopted foul or surface water sewers within the site. There is a 150dia foul sewer located within the High Street approximately 120m north east of the site.

Geology

- 3.7 The online British Geological Survey (BGS) mapping shows the site is located above an area of Melbourn Rock Member - chalk with superficial deposits of peat.
- 3.8 There are no borehole records within the vicinity of the site.



4 Flood Risk Assessment

Fluvial Flooding

- The Flood Map for Planning has been overlaid with the topographical survey and site layout and can be viewed in Appendix C. The tipi tent is located in Flood Zone 3 with the source of flooding being the Tuddenham Mill Stream.
- 4.2 Flood Zone 3 is defined as having a 1% or greater probability of flooding from rivers in any
- 4.3 With reference to Annex 3 Flood risk vulnerability classification of the PPG, the tipi is considered to have a less vulnerable use.
- 4.4 A flood data request was submitted to the Environment Agency to further assess the fluvial flood risk at the site. The EA response is enclosed in Appendix C. No Product 4 data is available for the site's location and no modelled flows or levels are available.
- 4.5 Modelled flood extents were provided for a range of events from the 20%AEP (Annual Exceedance Probability) to the 0.1%AEP event. Annual Exceedance Probability is defined as the chance or probability of a flooding event occurring annually.
- The site is located in all modelled flood extents including the 20% AEP (5yr), 5%AEP (20yr), 4.6 1%AEP (100yr), 1%AEP+20%climate change AEP and the 0.1%AEP (1000yr).
- 4.7 The site is not identified as being located within a recorded historic flood extent.
- In the absence of EA modelled fluvial data it is not possible to determine flood depths at the 4.8 site however mitigation measures have been detailed in Section 5.
- 4.9 As the Tuddenham Mill Stream is not a 'Main River' at the site's location an EA Flood Risk Activity permit is not considered to be required.

Surface Water Flooding

- 4.10 Surface water flooding refers to flooding caused when the intensity of rainfall, particularly in urban areas, can create runoff which temporarily overwhelms the capacity of the local drainage systems including sewers, rivers and watercourses or does not infiltrate into the ground. The water ponds on the ground and flows towards low-lying land. This source of flood risk is also known as 'pluvial'.
- 4.11 An extract from the surface water mapping sourced from the gov.uk website is enclosed in Appendix F.
- 4.12 The site is at very low risk of surface water flooding. Very low risk means annually this area has a chance of flooding of less than 0.1%.

Groundwater Flooding

4.13 The area is shown to be located above a Principal Aquifer on DEFRA's Magic Map based on the bedrock. A Principal Aquifer is defined as:



"Layers of rock or drift deposits that have high intergranular and/or fracture permeability meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aguifer."

4.14 The presence of the superficial deposits of peat mean there is limited opportunity for ground water emergence.

Sewer Flooding

- 4.15 Sewer flooding generally results from localised short-term intense rainfall events overloading the capacity of the private and public drainage or due to failures or blockages within the public sewer.
- 4.16 Given the distance from the site to the nearest adopted sewer the risk of sewer flooding is considered to be low.

Reservoir Flooding

- 4.17 The located of the tipi is outside of the reservoir flood risk however the wider site is shown to be located within a reservoir flood extent when river levels are normal. Although the specific reservoir is not stated, it is assumed that this would be the resulting flood extent from a failure of one or more of the pumped systems within the Fens.
- 4.18 The pumping station of the Fens have strict maintenance programmes to ensure they continue to work effectively, and back up procedures in the unlikely event of a failure. The likelihood of a failure of a reservoir or pump is minimal and this scenario is highly unlikely. It is not possible to have a prior warning of a failure of this type, and for this reason it has been considered a 'residual risk'.



5 Mitigation Measures

Flood Warning and Evacuation

5.1 A stand-alone Flood Warning and Evacuation Plan has been enclosed in Appendix G. This is an active document and it is the responsibility of the site management to update and be familiar with the evacuation procedures.

Flood Resilient Techniques

- 5.2 The tipi is not a water tight structure and therefore would not displace flood waters as flood waters would simply flow through the tent. It is recommended any fixtures and fittings in the tipi are removed upon receipt of a Flood Warning to minimise damage and to prevent these objects being mobilised by flood waters. Specifically, any electrical equipment in the tipi should be removed immediately upon receipt of the Flood Warning.
- 5.3 The flooring of the tipi is Rola-Trac, a temporary floor protection mapping. Such a flooring product is easy to remove and clean should a flood event occur.
- The flooring as well as the tipi structure should be anchored to the ground to prevent these becoming mobilised in flood waters and becoming a source of hazard debris.

6 Summary and Conclusions

- 6.1 EAS has been commissioned by Agellus Tuddenham Ltd. to prepare a Flood Risk Assessment to accompany planning application DC/22/1839/FUL for the retention of a tipi tent at Tuddenham Mill, High Street, Tuddenham, Suffolk, IP28 6SQ.
- 6.2 The tipi tent is utilised as a temporary events structure and is located within the grounds of the wider mill site which comprises of a hotel, restaurant and events venue.
- 6.3 The site is located in Flood Zone 3, defined as having a 1% or greater probability of flooding in this instance from the Tuddenham Mill Stream. A flood data request was submitted to the Environment Agency to further assess the fluvial flood risk at the site. No modelled flows or levels are available at the site's location however flood extents for a range of modelled events were provided.
- The site is located in all modelled flood extents including the 20% AEP (5yr), 5%AEP, (20yr), 1%AEP (100yr), 1%AEP+20%climate change AEP and the 0.1%AEP (1000yr).
- 6.5 The site is not identified as being located within a recorded historic flood extent.
- 6.6 The site is at very low risk of surface water flooding and is surrounded by a reservoir flood extent. Although the specific reservoir is not stated, it is assumed that this would be the resulting flood extent from a failure of one or more of the pumped systems within the Fens.
- 6.7 A Flood Warning and Evacuation Plan has been prepared. This is an active document and it is the responsibility of the site management to update and be familiar with the evacuation procedures.
- 6.8 The tipi is not a water tight structure and therefore would not displace flood waters as flood waters would simply flow through the tent. It is recommended any fixtures and fittings in the tipi are removed upon receipt of a Flood Warning to minimize damage and to prevent these objects being mobilised by flood waters. Specifically, any electrical equipment in the tipi should be removed immediately upon receipt of the Flood Warning.
- 6.9 The flooring of the tipi is Rola-Trac, a temporary floor protection mapping. Such a flooring product is easy to remove and clean should a flood event occur.
- 6.10 The flooring as well as the tipi structure should be anchored to the ground to prevent these becoming mobilised in flood waters and becoming a source of hazardous debris.
- 6.11 In conclusion, whilst the tipi tent is located in an area at high risk of fluvial flooding from the Tuddenham Mill Stream, the tipi use is considered to be a less vulnerable use and would not displace floodwaters. Moreover, appropriate mitigation measures have been discussed, namely a Flood Warning and Evacuation plan which will improve flood awareness and preparedness.

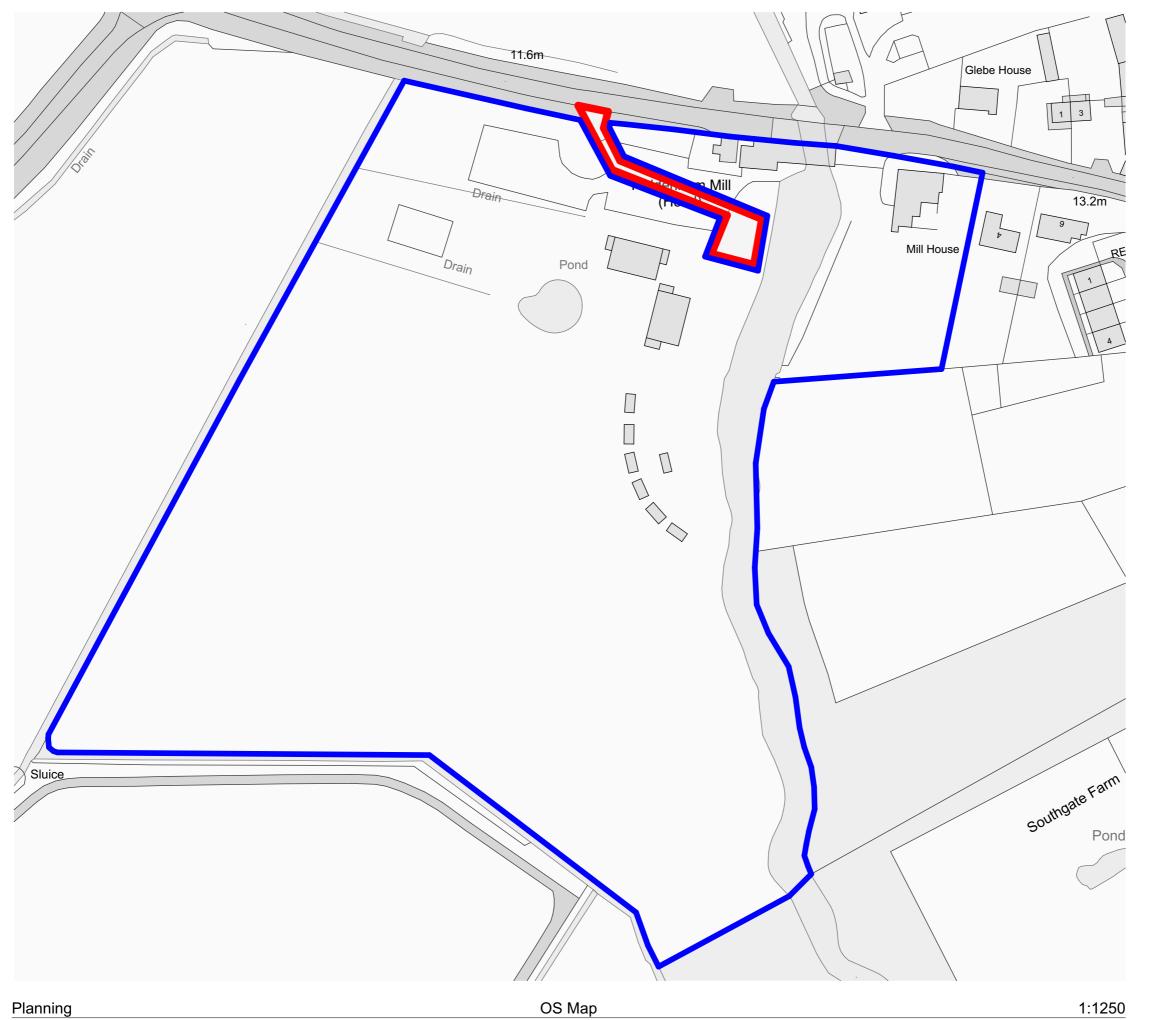


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Appendix: A - Location Plan



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All dimensions to be checked on site.

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PROJECT

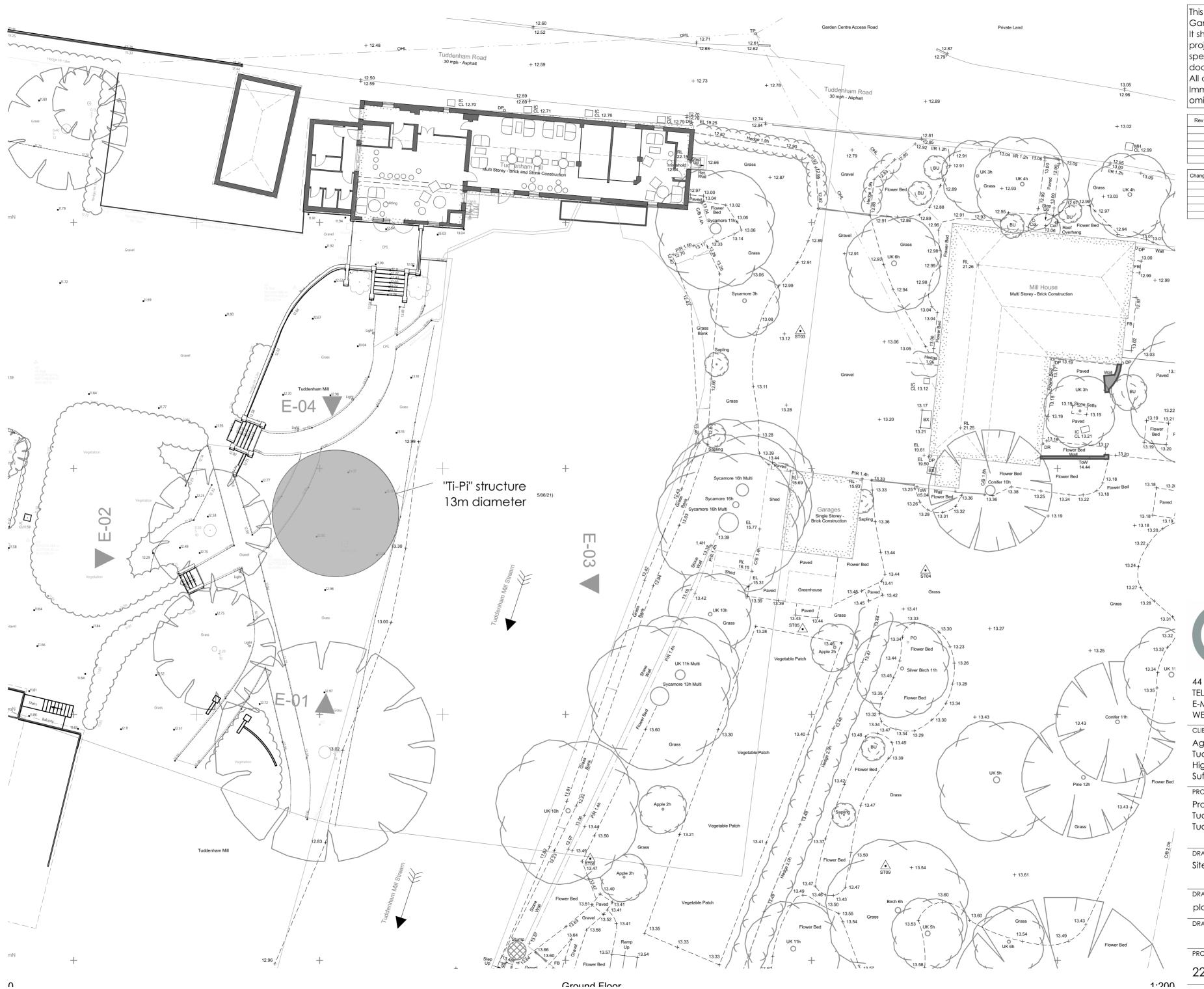
Proposed Temporary "Events" Structure Tuddenham Mill Tuddenham

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Location Plan

DRAWING STATUS		DRAWING SCALE @	A3
planning		1:1250	
DRAWN BY	REVIEWED BY	DATE OF FIRST ISSUE	
G.J		24-10-22	
PROJECT NUMBER	WORK STAGE	DRAWING NUMBER	REVISION
22-952	3	200	



Appendix: B - Location of Tipi



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CLIENT

Agellus Tuddenham Ltd Tuddenham Mill High Street, Tuddenham Suffolk IP28 6SQ

PROJECT

Proposed Temporary "Events" Structure Tuddenham Mill Tuddenham

DRAWING TITLE

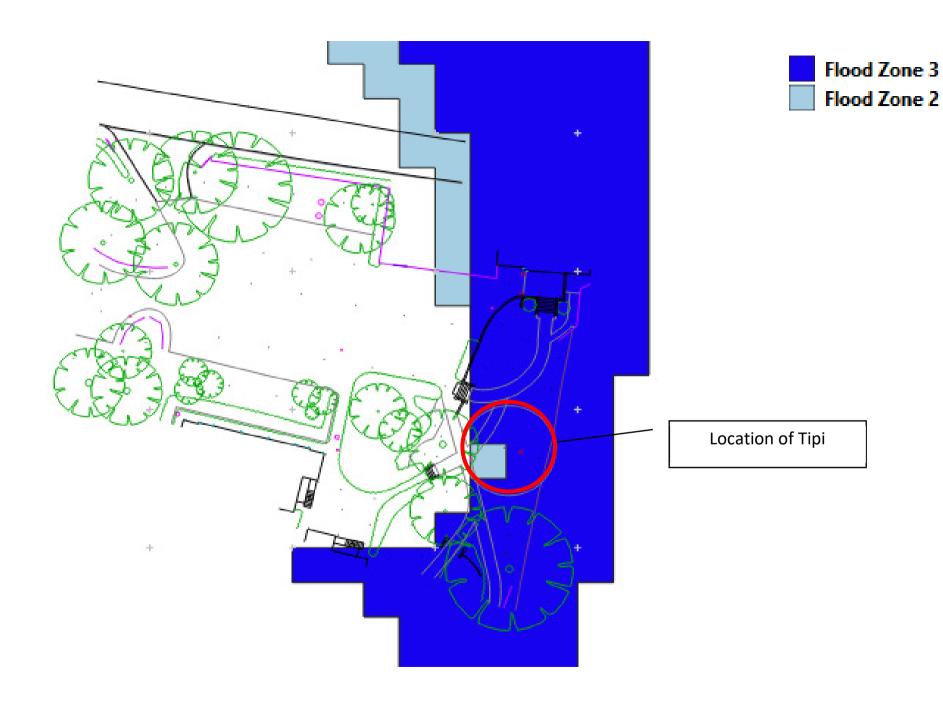
Site Plan

DRAWING STATUS		DRAWING SCALE @ A2	
planning		1:200	
DRAWN BY	REVIEWED BY	DATE OF FIRST ISSUE	
G.J		24-10-22	
PROJECT NUMBER	WORK STAGE	DRAWING NUMBER	REVISION
22-952	3	202	

Ground Floor



Appendix: C - EA Data & Flood Map for Planning



creating a better place



Rose Cargill Our ref EAn/2022/285553

EAS

Dear Rose

Enquiry regarding Products 4, 5, 6 & 7 for Tuddenham Mill, High Street, Tuddenham, IP28 6SQ

Thank you for your enquiry of 28 October 2022.

We respond to requests under the Freedom of Information Act 2000 and Environmental Information Regulations 2004.

The Product 4 information is attached to my email.

There are no flood defences that benefit the site.

A copy of the Flood Risk Assessment (FRA) advisory note is also attached to my email.

Name	Product 4
Description	Detailed Flood Risk Assessment Map for High Street, Tuddenham, IP28 6SQ
Licence	Open Government Licence
Information Warnings	The maps provided are to be used in conjunction with the Datasheet . Please read the Datasheet and take note of information contained within the 'Important Information' section.
Information Warning - OS background mapping	The mapping of features provided as a background in this product is © Ordnance Survey. It is provided to give context to this product. The Open Government Licence does not apply to this background mapping. You are granted a non-exclusive, royalty free, revocable licence solely to view the Licensed Data for non-commercial purposes for the period during which the Environment Agency makes it available. You are not permitted to copy, sub-license, distribute, sell or otherwise make available the Licensed Data to third parties in any form. Third party rights to enforce the terms of this licence shall be reserved to OS.
Attribution	Contains Environment Agency information © Environment Agency and/or database rights. Contains Ordnance Survey data © Crown copyright 2022 Ordnance Survey 100024198.

East Anglia Area

Ipswich Office, Iceni House, Cobham Road, Ipswich, Suffolk, IP3 9JD Brampton Office, Bromholme Lane, Brampton, Huntingdon, PE28 4NE General Enquiries: 03708 506506

Email: enquiries@environment-agency.gov.uk



The Product 5, 6 & 7 information we hold has been uploaded to our sharefile system and can be accessed for 30 days using this link:

https://ea.sharefile.com/d-s5dcafba81d9c49e6bf280f4265fc255a

Name	Products 5, 6 and 7
Description	Report - Eastern Rivers Modelling Report: Lower Rivers, October
	2015, JBA Consulting
	Model output data for and Calibrated and Verified Model Input Data
	for Eastern Rivers Modelling: Cut Off Channel, MP1, September
	2015, JBA Consulting
Licence	The following information is not available under the Open
	Government Licence but we may be able to license it to you under
	the Environment Agency Conditional Licence Environment Agency
	Conditional Licence:
	However, you MUST first check the supporting information and the
	above link to determine if the conditions on use are suitable for your
	purposes. If they aren't, this information is not provided with a licence
0 1:::	for use, and the data is provided for read right only.
Conditions	1.0 You may use the Information for your internal or personal
	purposes and may only sublicense others to use it if you do so under
	a written licence which includes the terms of these conditions and the
	agreement and in particular may not allow any period of use longer
	than the period licensed to you.
	2.0 Notwithstanding the fact that the standard wording of the
	Environment Agency Conditional Licence indicates that it is
	perpetual, this Licence has a limited duration of 5 years at the end of
	which it will terminate automatically without notice.
	3.0 We have restricted use of the Information as a result of legal
	restrictions placed upon us to protect the rights or confidentialities of
	others. In this instance it is because of third party data. If you contact
	us in writing (this includes email) we will, as far as confidentiality
	rules allow, provide you with details including, if available, how you
	might seek permission from a third party to extend your use rights.
	4.1 The Information may contain some data that we believe is within the definition of "personal data" under the Data Protection Act 1998
	but we consider that we will not be in breach of the Act if we disclose
	it to you with conditions set out in this condition and the conditions above. This personal data comprises names of individuals or
	commentary relating to property that may be owned by an individual
	or commentary relating to the activities of an individual. 4.2 Under the Act a person who holds and uses or passes to others
	personal data is responsible for any compliance with the Act and so
	we have no option but to warn you that this means you have
	responsibility to check that you are compliant with the Act in respect
	of this personal data.
	5.0 The location of public water supply abstraction sources must not
	be published to a resolution more detailed than 1km2. Information
	about the operation of flood assets should not be published.
	about the operation of hood assets should not be published.

East Anglia Area

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Email: enquiries@environment-agency.gov.uk

	6.1 Where we have supplied model data which may include model inputs or outputs you agree to supply to the Environment Agency copies of any assessments/studies and related outputs, modifications or derivatives created pursuant to the supply to you of the Information, all of which are hereinafter referred to as "the Data". 6.2 You agree, in the public interest to grant to the Environment Agency a perpetual royalty free non-exclusive licence to use the Data or any part thereof for its internal purposes or to use it in any way as part of Environment Agency derivative products which it supplies free of charge to others such as incorporation into the Environment Agency's Open Data mapping products.
Information Warnings	Please be aware that model data is not raw, factual or measured but comprises of estimations or modelled results based on the data
vvairiiigs	available to us.
Attribution	Contains Environment Agency information © Environment Agency
	and/or database rights.
	May contain Ordnance Survey data © Crown copyright 2022
	Ordnance Survey 100024198.

Data Available Online

Many of our flood datasets are available online:

- Flood Map For Planning (<u>Flood Zone 2</u>, <u>Flood Zone 3</u>, <u>Flood Storage Areas</u>, <u>Flood Defences</u>, Areas Benefiting from Defences,)
- Risk of Flooding from Rivers and Sea
- Historic Flood Map
- Current Flood Warnings

What's In Your BackYard (WIYBY) is no longer available.

Most of the data is still available via other sharing services such as <u>DATA.GOV.UK</u>, <u>MAGIC</u> <u>map</u> and new <u>GOV.UK</u> <u>digital services</u>. Where the datasets are no longer available as maps, you will be able to download and use within specialist applications.

To find out all the services the Environment Agency have available, please click here.

For any other enquiries please send your request to us at: Enquiries EastAnglia@environment-agency.gov.uk.

<u>Additional information</u>

Please be aware that we now charge for planning advice provided to developers, agents and landowners. If you would like advice to inform a future planning application for this site then please complete our https://www.gov.uk/government/publications/pre-planning-application-enquiry-form-preliminary-opinion and email it to our Sustainable Places team.

planning.brampton@environment-agency.gov.uk They will initially provide you with a free response identifying the following:

- the environmental constraints affecting the proposal;
- the environmental issues raised by the proposal;
- the information we need for the subsequent planning application to address the issues identified and demonstrate an acceptable development;

East Anglia Area

Ipswich Office, Iceni House, Cobham Road, Ipswich, Suffolk, IP3 9JD Brampton Office, Bromholme Lane, Brampton, Huntingdon, PE28 4NE

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Email: enquiries@environment-agency.gov.uk

• any required environmental permits.

If you require any further information from them (for example, a meeting or the detailed review of a technical document) they will need to set up a charging agreement. Further information can be found on our <u>website</u>.

Climate Change Allowances

For information on the use climate change allowances in Flood Risk Assessments, please see the attached document - **East_Anglian_External Climate Change Allowances Guidance_March2022.pdf**.

The guidance provides climate change allowances for peak river flow, peak rainfall, sea level rise, wind speed and wave height. The guidance provides a range of allowances to assess fluvial flooding, which varies depending on which management catchment a site lies within. It advises on which allowances to use for assessing the impact of climate change on fluvial flood risk based on vulnerability classification, flood zone and development lifetime.

If you want to discuss this please call our Sustainable Places team on 020 8474 5242.

Please get in touch if you have any further queries or contact us within two months if you'd like us to review the information we have sent.

Yours sincerely

Teresa Chapman

Teresa Chapman
Customers and Engagement Officer

Direct dial: 02030 255472

General Enquiries: 03708 506506

Email: enquiries@environment-agency.gov.uk



This datasheet provides supporting information for your Product 4. It will be clearly indicated if we are unable to provide information to fulfil any part of your request.

Important Information

The following information should considered when using the material provided to fulfil this request.

Information	
Limited Modelled Extents Provided	
No Product 8 Data	Unfortunately we do not have any breach data at this location.

No Modelled Water Levels and Flows

Unfortunately we do not hold any modelled level and flow data that is relevant for this site.

Recorded Flood Events

Where included, the Recorded Flood Event Outlines map provides an indication of areas which have flooded. Not all properties shown to be within the outline will have flooded.

Flood Event	Start	End	Source	Cause

	may have occurred that we do not have records for, and other organisations such as: local
	authorities or IDBs may have records.

General Information

Flood Map for Planning (Rivers and Sea)

The Flood Map for Planning (Rivers and Sea) indicates the area at risk of flooding for a flood event with a 0.5% chance of occurring in any year for flooding from the sea, or a 1% chance of occurring in any year for fluvial (river) flooding (Flood Zone 3).

It also shows the extent of the Extreme Flood Outlines (Flood Zone 2) 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. The Flood Zones refer to the land at risk of flooding and do not refer to individual properties.

The Flood Map for Planning (Rivers and Sea) can be viewed and downloaded as a PDF file on GOV.UK by following this link: https://flood-map-for-planning.service.gov.uk or downloaded in GIS format under an open data licence from the following address: https://data.gov.uk/publisher/environment-agency

The Flood Map is updated on a quarterly basis to account for any amendments required.

Surface Water, Ordinary Watercourses and Groundwater Flooding

Lead Local Flood Authorities (LLFA) are responsible for managing local flood risk from ordinary watercourses, surface water flooding and groundwater flooding. You should check with the LLFA as they may have more up to date information regarding this type of flooding.

The Risk of Flooding from Surface Water Flood Map can be viewed and downloaded as a PDF file on GOV.UK by following this link: https://flood-warning-information.service.gov.uk/long-term-flood-risk

Information on how to reduce the impact of flooding from groundwater can be found online by the following link: https://www.gov.uk/government/publications/flooding-from-groundwater

Flooding from Reservoirs

The Risk of Flooding from Reservoirs Flood Map can be viewed and downloaded as a PDF file on GOV.UK by following this link: https://flood-warning-information.service.gov.uk/long-term-flood-risk

Sewer Flooding

Your local water company may have information on sewage flooding in your area of interest.

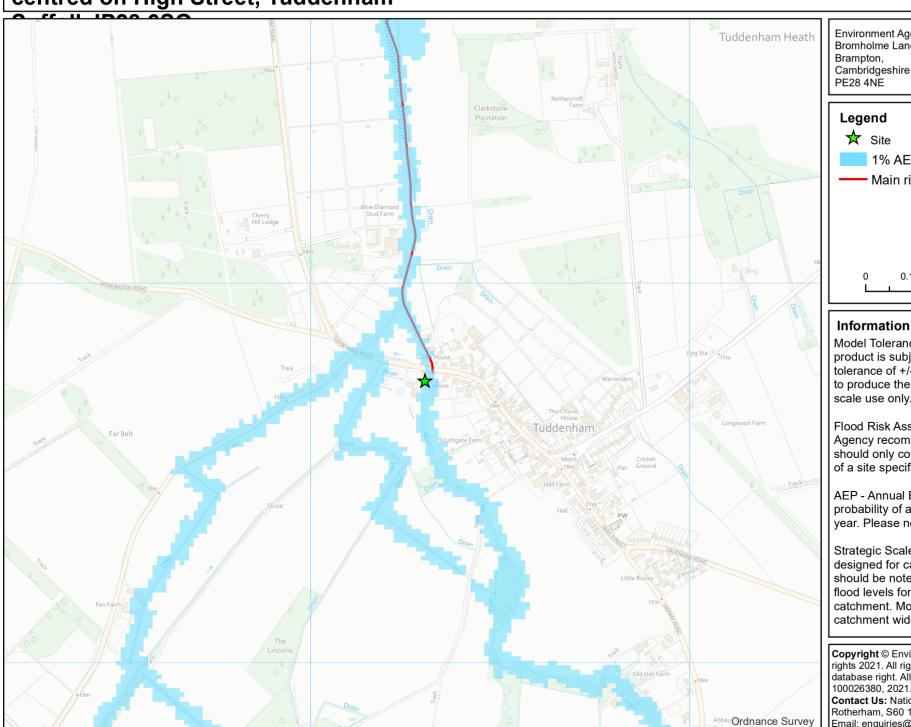
Areas Benefitting from Defences

Areas Benefitting from Defences show the area benefiting from defences from a 1 in 100 (1% AEP) year fluvial event or a 1 in 200 (0.5% AEP) tidal/coastal event.

The associated dataset can be downloaded in GIS from the following link: https://data.gov.uk/dataset/flood-map-for-planning-rivers-and-sea-areas-benefiting-from-defences

Defended Climate Change Model Flood Outlines centred on High Street, Tuddenham

NGR 573269. 271758 Ref 285553 Created 10/11/2022



Environment Agency Bromholme Lane. Brampton Cambridgeshire PE28 4NE

Main river

0.125



0.5 km



Model Tolerance - Any data included in this product is subject to a standard modelling tolerance of +/- 150mm. The fluvial models used to produce these results are intended for strategic scale use only.

1% AEP + 20% climate change

0.25

Flood Risk Assessments - The Environment Agency recommends any Flood Risk Assessment should only consider these results in the context of a site specific assessment.

AEP - Annual Exceedance Probability - The probability of a given event occurring in any one year. Please note this is not a return period.

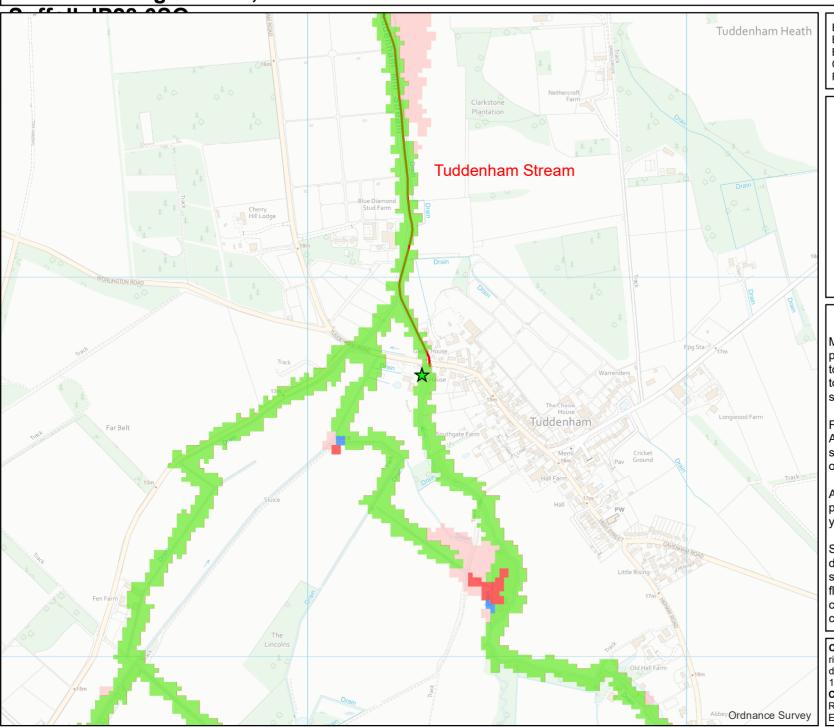
Strategic Scale Model - This model has been designed for catchment wide flood risk mapping. It should be noted that it was not created to produce flood levels for specific development sites within the catchment. Modelled outlines take into account catchment wide defences if present.

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Defended Model Flood Outlines centred on High Street, Tuddenham

NGR 573269, 271758 Ref 285553 Created 10/11/2022



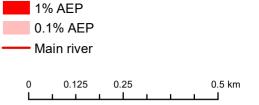
Environment Agency Bromholme Lane, Brampton, Cambridgeshire PE28 4NE

20% AEP

5% AEP

Legend Site





Information

Model Tolerance - Any data included in this product is subject to a standard modelling tolerance of +/- 150mm. The fluvial models used to produce these results are intended for strategic scale use only.

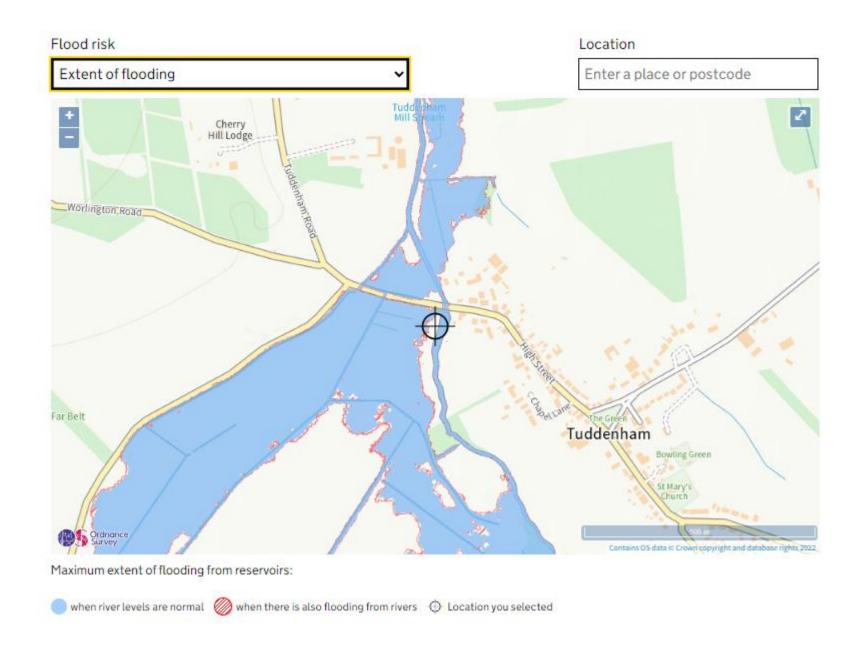
Flood Risk Assessments - The Environment Agency recommends any Flood Risk Assessment should only consider these results in the context of a site specific assessment.

AEP - Annual Exceedance Probability - The probability of a given event occurring in any one year. Please note this is not a return period.

Strategic Scale Model - This model has been designed for catchment wide flood risk mapping. It should be noted that it was not created to produce flood levels for specific development sites within the catchment. Modelled outlines take into account catchment wide defences if present.

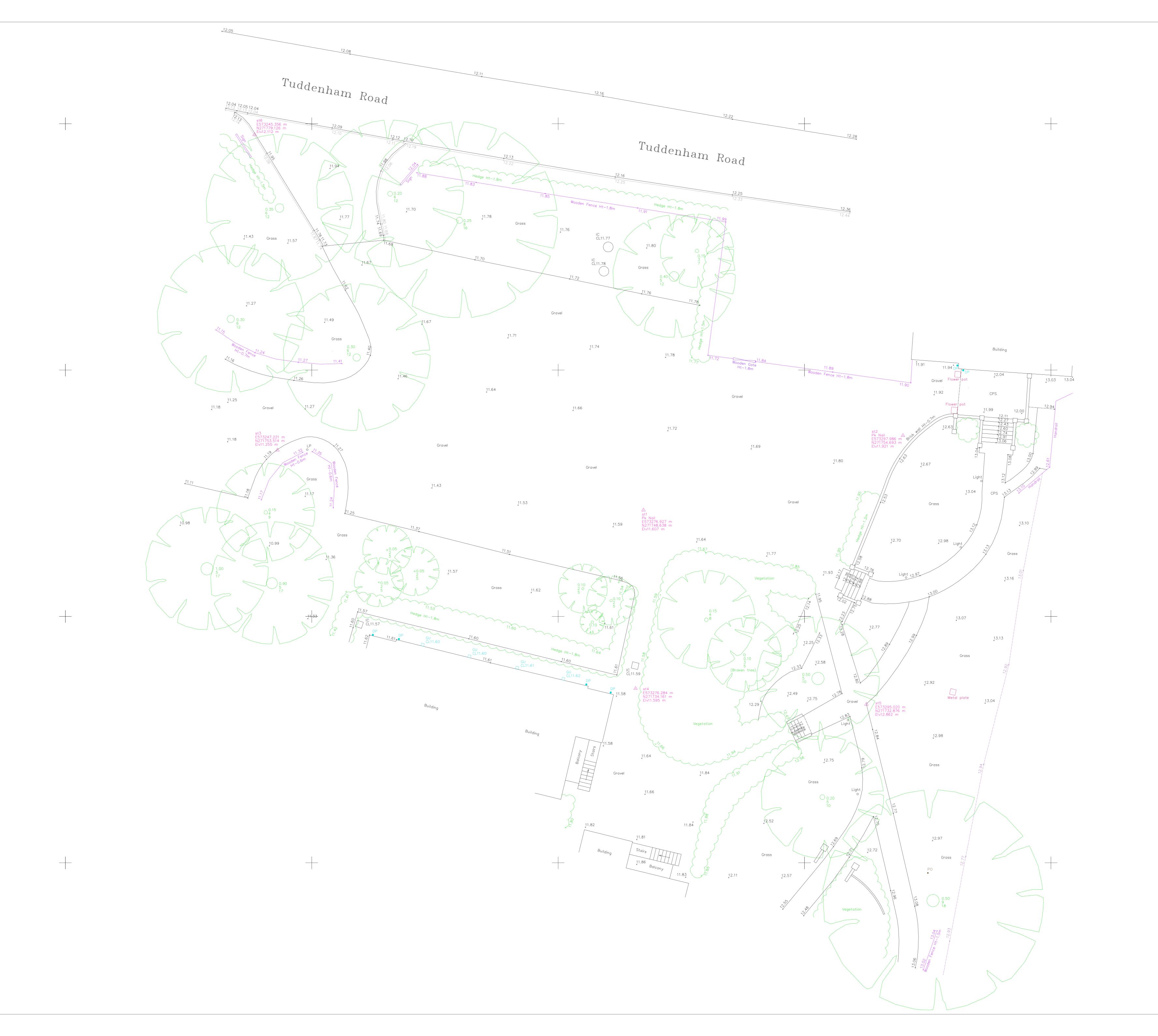
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Appendix: D - Topographical Survey



TOPOGRAPHICAL & MEASURED BUILDING SURVEYS Abbreviations and symbols AH Arch Head Height
AR Assumed Route
AV Air Valve
BB Belisha Beacon NB Name Board OHL Overhead Line (approx) Pan Panel Fence BH Bore Hole PB Post Box BL Bed Level PM Parking Meter BO Bollard PO Post BrP Brace Post
BS Bus Stop P/R Post & Rail Fence P/W Post & Wire Fence P/Wall Partition Wall B/W Barbed Wire Fence RE Rodding Eye BX Box (Utilities)
C/B Close Board Fence RL Ridge Level RP Reflector Post CH Cill Height RS Road Sign CL Cover Level RSD Roller Shutter Door C/L Chain Link Fence RSJ Rolled Steel Joist SI Sign Post C-Lev Ceiling Level Col Column
C/P Chestnut Paling Fence SP Arch Spring Point Height SV Stop Valve CR Cable Riser
DC Drainage Channel SW Surface Water DH Door Head Height
DP Down Pipe
DR Drain Tac Tactile Paving TC Telecom Cover TH Trial Pit EL Eaves Level THL Threshold Level TL Traffic Light EP Electric Pole ER Earth Rod ToW Top of Wall ET EP+Transformer TP Telegraph Pole FB Flower Bed TV Cable TV Cover FBD Floor Board Direction UB Universal Beam FH Fire Hydrant UC Unknown Cover FBD Floor Board Direction UK Unknown Tree FH Fire Hydrant USB Under Side Beam FL Floor Level UTL Unable To Lift FP Flag Pole VP Vent Pipe FW Foul Water WB Waste Bin GU Gully GV Gas Valve WL Water Level WM Water Meter HH Head Height IC Inspection Cover WO Wash Out WV Water Valve IL Invert Level (x.xx) Floor to Ceiling Height I/R Iron Railings KO Kerb Outlet LP Lamp Post MH Manhole (XXX)F/c Floor to False Ceiling Ht Survey Control Station

General note:

Trees are drawn to scale showing the average canopy spread. Descriptions and heights should be used as a guide only. All building names, descriptions, number of storeys, construction type including roof line details are indicative only and taken externally from ground

All below ground details including drainage, voids and services have been identified from above ground and therefore all details relating to these features including; sizes, depth, description etc will be approximate only. All critical dimensions and connections should be checked and verified prior to

starting work.

Detail, services and features may not have been surveyed if obstructed or not reasonably visible at the time of the survey. Measurements to internal walls are taken to the wall finishes at approx 1m above the floor level and

the wall assumed to be vertical. Cill heights are measured as floor to the cill and head heights are measured from cill to the top of The contractor must check and verify all site and building dimensions, levels, utilities and drainage

details and connections prior to commencing work. Any errors or discrepancies must be notified to EAS Transport Planning Ltd immediately. The accuracy of the digital data is the same as

the plotting scale implies. All dimensions are in meters unless otherwise stated.

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Sheet layout:



The coordinate system and level datum established for this survey is related to Ordnance Survey (OS) national grid using GPS.

REVISION: SURVEY DATE: SURVEYED BY: CHECKED BY: APPROVED BY: PE

Rev01 20/07/2019 BP SA PE

Topographical survey

Unit 23, The Maltings, Stanstead Abbotts, Hertfordshire, SG12 8HG Tel: 01920 871777

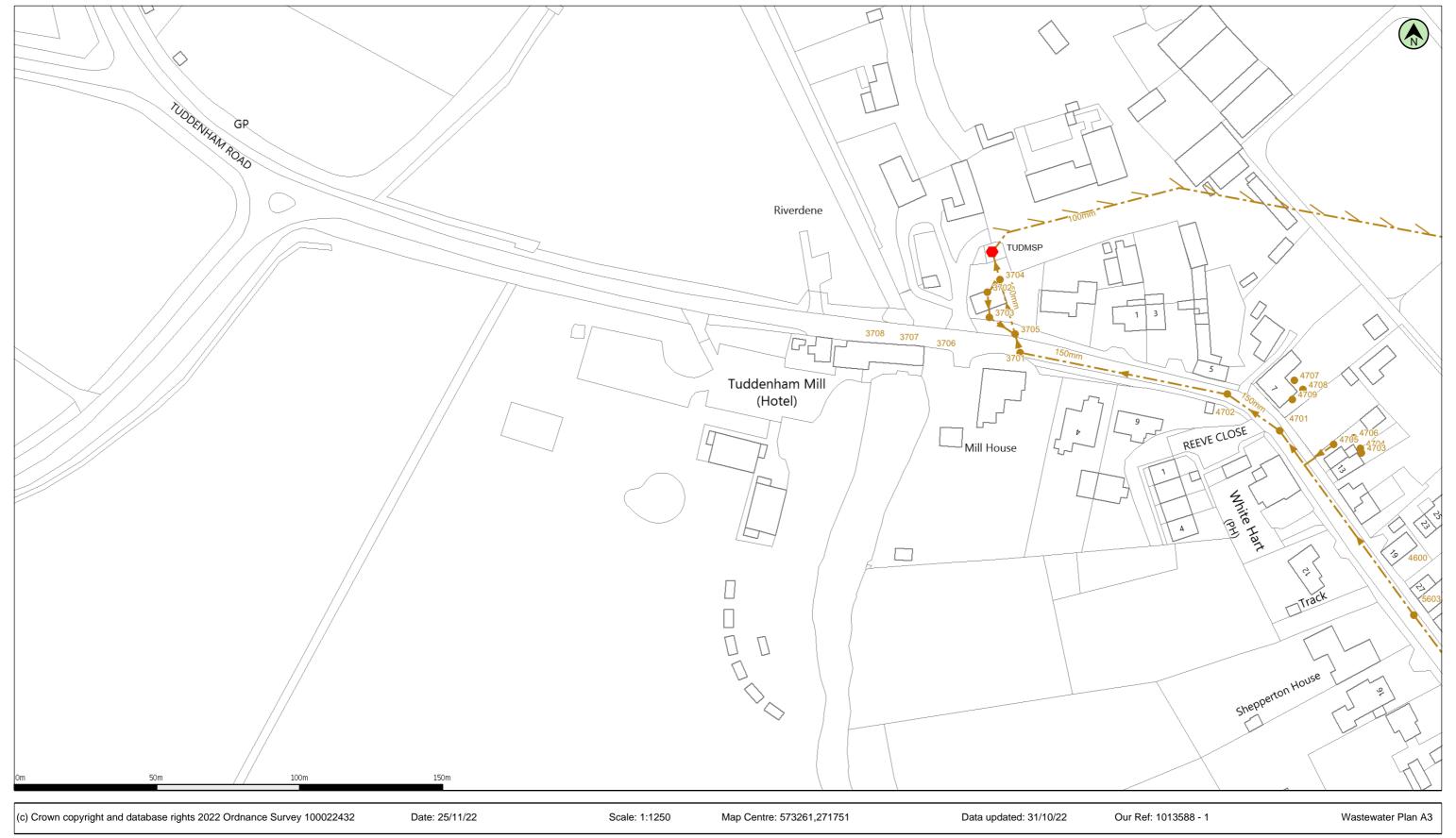
www.eastp.co.uk

Gary Johns Architects

Tuddenham Mill, High St, Tuddenham, Newmarket IP28 6SQ



Appendix: E - Sewer Mapping



This plan is provided by Anglian Water pursuant its obligations under the Water Industry Act 1991 sections 198 or 199. It must be used in conjunction with any search results attached. The information on this plan is based on data currently recorded but position must be regarded as approximate. Service pipes, private sewers and drains are generally not shown. Users of this map are strongly advised to commission their own survey of the area shown on the plan before carrying out any works. The actual position of all apparatus MUST be established by trial holes. No liability whatsoever, including liability for negligence, is accepted by Anglian Water for any error or inaccuracy or omission, including the failure to accurately record, or record at all, the location of any water main, discharge pipe, sewer or disposal main or any item of apparatus. This information is valid for the date printed. This plan is produced by Anglian Water Services Limited (c) Crown copyright and database rights 2022 Ordnance Survey 100022432. This map is to be used for the purposes of viewing the location of Anglian Water plant only. Any other uses of the map data or further copies is not permitted. This notice is not intended to exclude or restrict liability for death or personal injury resulting from negligence.

Foul Sewer
Surface Sewer

Combined Sewer
Final Effluent
Rising Main*
Private Sewer*
Decommissioned Sewer

Manhole*

Sewage Treatment Works

Public Pumping Station

Manhole*
Decommissioned Pumping Station

*(Colour denotes effluent type)





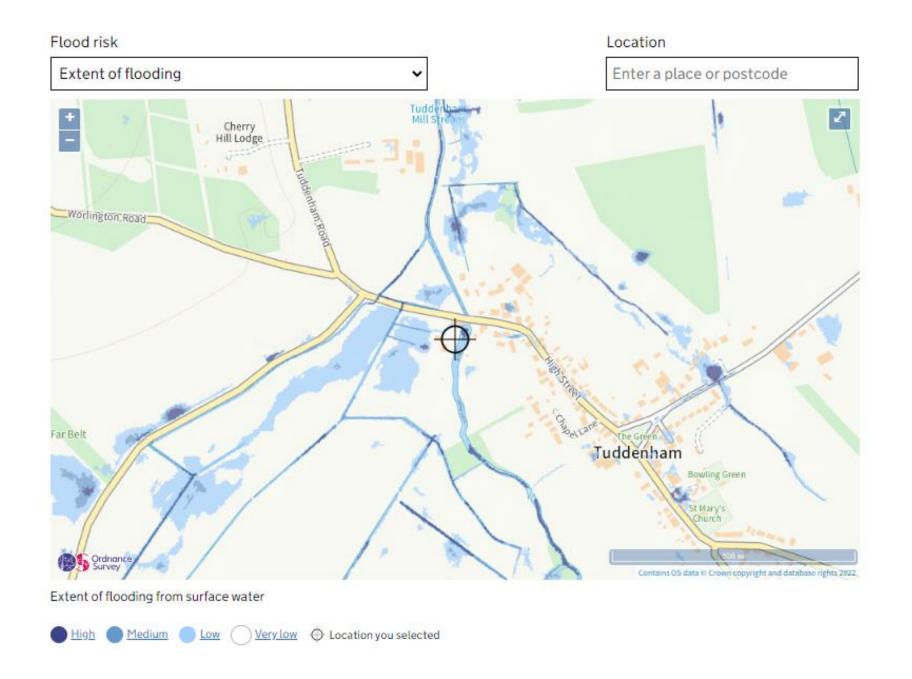
Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
3701	F	20.92	17.56	3.36
3702	F	-	-	-
3703	F	-	-	-
3704	F	-	-	-
3705	F	-	-	-
4701	F	21.56	19.53	2.03
4702	F	20.72	19.04	1.68
4703	F	-	-	-
4704	F	-	-	-
4705	F	-	-	-
4706	F	-	-	-
4707	F	-	-	-
4708	F	-	-	-
4709	F	-	-	-
5603	F	21.77	19.68	2.09

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert



Appendix: F - Surface Water Flood Map





Appendix: G - Flood Warning and Evacuation Plan

Flood Warning and **Evacuation Plan**

December 2022

EAS

Tuddenham Mill **High Street** Tuddenham **IP28 6SQ**

Agellus Tuddenham Ltd



Document History

JOB NUMBER: 4228/2022

DOCUMENT REF: Tuddenham Mill Flood Warning & Evacuation Plan REVISIONS: B-For Submission

Revision	Comments	Ву	Checked	Authorised	Date
Α	Draft	RC	SA	SA	29.11.22
В	For Submission	RC	PE	PE	02.12.22
С					
D					
Е					

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Introduction

- This Flood Risk Warning and Evacuation Plan (FWEP) has been divided into two sections. Sections 1.1 1 and 2 provide background information on the proposed tipi venue and the flood risk mechanisms, which may be useful for the site owner and/or manager. The site owner/manager should be aware of the contents of Sections 3 to 9.
- The site is located at Tuddenham Mill, High Street, Tuddenham, Suffolk, IP28 6SQ (grid ref. TL 1.2 73303 71736) and is within the administrative boundary of West Suffolk.
- 1.3 The site location is shown on Figure 1.
- 1.4 The tipi tent is utilised as a temporary events structure and is located within the grounds of the wider mill site which comprises of a hotel, restaurant and events venue.



(Contains data available under Open Database Licence © OpenStreetMap contributors source: openstreetmap.org)

Figure 1: Site Location



Site Location



- 1.5 The Flood Map for Planning shows the majority of the tipi is located in Flood Zone 3 and not to benefit from defences. A negligible area of the tipi is located in Flood Zone 2. The flood risks to the site are further explained in Section 2.
- 1.6 This FWEP supports the Flood Risk Assessment (FRA) for the development, which is dated November 2022 and prepared by EAS. The FRA should be consulted for additional information on flood risk to the site.
- 1.7 It will be the responsibility of the site manager/owner to review and implement the Flood Warning and Evacuation Plan, and to ensure that the staff and site visitors are aware of the risk to the area.
- 1.8 It is recommended that management and staff familiarise themselves with this information. This document could be provided to staff both in electric and paper format, with a copy kept at the main site office.
- 1.9 The contents of this document are as follows:
 - **Section 2** sets out the background to the site.
 - Section 3 details how to prepare for a flood, and what to do in the event of a flood.
 - **Section 4** discusses what to do during a flood and the evacuation route.
 - **Section 5** explains what to do after a flood.
 - Section 6 sets out the roles of other bodies.
 - **Section 7** identifies the relevant contacts.
 - **Section 8** explains how the plan should be updated.
 - Section 9 includes additional sources of information.

2 Background

2.1 The FRA prepared for the proposals note the most significant source of flood risk to the site is the Tuddenham Mill Stream which forms the eastern boundary of the site. **Figure 2** shows an overlay of the location of the tipi and the Flood Map for Planning. The majority of the tent is located in Flood Zone 3 with a negligible area located in Flood Zone 2.

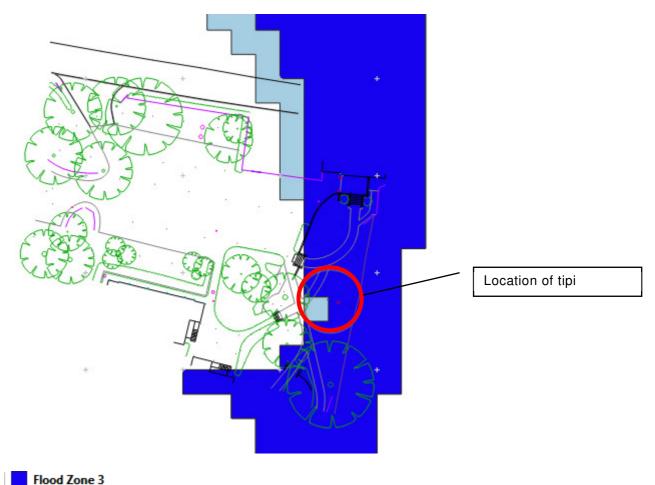


Figure 2: EA Floodmap for Planning

Flood Zone 2

- 2.2 A flood data request was submitted to the Environment Agency to further assess the fluvial flood risk at the site. No Product 4 data is available for the site's location and no modelled flows or levels are available. It is therefore not possible to calculate a flood depth at the site.
- 2.3 The site is located in all modelled flood extents including the 20% AEP (5yr), 5%AEP (20yr), 1%AEP (100yr), 1%AEP+20%climate change AEP and the 0.1%AEP (1000yr).
- 2.4 The site is not identified as being located within a recorded historic flood extent.



- 2.5 To improve flood awareness a Flood Warning Notice should be displayed. This could be displaced within the outdoor venue space as well as in the wider mill reception area.
- 2.6 **Figure 4** shows an example of such a notice.
- 2.7 Visitors to the site, who may not be familiar with the area should be made aware of the flood warning notice and if there is any warning in place at the time of their arrival.

FLOOD WARNING NOTICE

The site is at risk of flooding from the Tuddenham Mill Stream

You are advised to subscribe to the Environment Agency Floodline Service and check the current flood warning status issued by the Environment Agency



FLOOD ALERT – BE PREPARED!



FLOOD WARNING – ACT NOW! EVACUATE & CLOSE THE TIPI VENUE. REMOVE LOOSE FIXTURES, FITTINGS & ELECTRICAL EQUIPMENT.



SEVERE FLOOD WARNING – EXTREME DANGER TO PEOPLE AND PROPERTY. EVACUATE AND CLOSE TIPI IMMEDIATELY

For more information call the Floodline or visit the Environment Agency website here: https://flood-warning-information.service.gov.uk/ Floodline: 0345 988 1188 (24 hours a day, calls charged at local rate)

Figure 4: Flood Warning and Safety Procedures Notice for display at the reception desk

3 What to do before a flood – Be Prepared!

EA Flood Warning Service

- 3.1 The owner/manager of the site should subscribe to the EA flood warning service.
- 3.2 The EA operate a flood forecasting and warning service in areas at risk of flooding from rivers or the sea, which relies on direct measurements of rainfall, river levels, tide levels, in house predictive models, rainfall radar data and information from the Met Office. This service operates 24 hours a day, 365 days a year.

The management should register with the flood warning service by using the link below:

https://www.fws.environment-agency.gov.uk/app/olr/register

Alternatively, registration can be completed by telephone via the EA Floodline on **0345 988 1188**. The flood warning message will then be sent to a telephone number supplied by the person subscribing.

- 3.3 The site is located in the **River Lark from Sicklesmere to Isleham** Flood Warning Area.
- 3.4 The latest river and sea levels near the site can be checked here:
- 3.5 https://check-for-flooding.service.gov.uk/location?g=IP28%206SQ
- 3.6 In the event of a serious flood event across the site the competent warning authority is the Environment Agency. When a flood is expected the Local Authority and local emergency services will be responsible for public care and safety. This section sets out 5 action levels and the actions associated with each phase of the flood risk as:
 - i. Annual Review



Flood Alert

iii.

Flood Warning



Severe Flood Warning

v. Warnings no Longer in Force



3.7 All contacts required within this section are listed in the list of contacts in **Sections 5 and 6**.

ANNUAL REVIEW

- 3.8 This Flood Warning and Evacuation Plan should be reviewed at least annually by the site management, and the following actions should be taken in line with Environment Agency guidance:
 - Reading the plan and updating the contacts list.
 - Contact the Environment Agency Floodline Service on 0345 988 1188 to check that the flood risk to the property has not changed, for example more flood defences may be built nearby.
 - Contact the Environment Agency Flood Warning Service on 0345 988 1188 to register to receive flood alerts direct to your phone.
 - Prepare and maintain a flood kit to contain items which are essential for evacuation.
 - Check your insurance cover ensure it covers flood damage
 - Know how to turn off the gas, electricity and water mains supplies if applicable
 - Think about what items you would want to move to safety during a flood
- 3.9 The **flood kit** will also be useful for general emergency situations and should be stored where it can be easily accessed and should include:
 - Torches
 - Blankets or sleeping bags, warm clothing and waterproofs
 - First-aid kits, including a supply of any essential medication
 - A list of useful telephone numbers
 - A supply of bottled water
 - A stock of non-perishable food items
 - A portable radio and supply of batteries
 - Wellington boots or similar waterproof boots
- 3.10 It is important that these emergency measures are in place **before** a flood event so that should evacuation be required staff do not spend time organising belongings at a time when an evacuation should be taking place.

EAS

Tuddenham Mill Flood Warning and Evacuation Plan

FLOOD ALERT



flood Alert means that flooding is possible and that you need to be prepared.

- 3.11 The EA will issue a Flood Alert status when flooding is possible through their website and Flood Warning Direct based upon the weather and river conditions.
- 3.12 Upon receiving a Flood Alert, the manager of the site and staff should review the Emergency Plan Procedures. At this stage, evacuation is not necessary however staff should remain vigilant.
- 3.13 Visitors to the site should be made aware that a Flood Alert has been issued and they should remain vigilant and follow instruction from staff should evacuation be required.
- 3.14 When a Flood Alert is issued the following action should be taken by management:
 - Be aware of river and sea levels and whether the water level is rising or falling. This can be checked on the GOV.UK website here: https://checkfor-flooding.service.gov.uk/location?q=IP28%206SQ
 - Reconsider travel plans.
 - Listen to and watch for weather and flood warnings on local radio and television stations
 - Contact the local emergency authorities to find out whether evacuation is likely to be necessary and where they are providing for evacuees. See emergency contacts list below.
 - Call the EA Floodline on 0345 988 1188 and/or check the website
 periodically and listen to and watch for weather and flood warnings on local
 radio and television stations. If water levels begin to fall without reaching
 the properties, management should continue to monitor the situation; and
 stay alert and be ready to evacuate until the EA issues "All Clear" status.
 - Check that a flood kit has been prepared.
 - Consider moving loose fixtures and fittings and ensure the tipi structure and flooring is securely anchored to the ground.

Preparing for Emergencies

3.15 West Suffolk District Council has lots of useful information of how to prepare for a flood, what to do in the event of the flood and what do after a flood event. This information can be accessed on the website https://www.westsuffolk.gov.uk/Emergency-planning/emergencyincidents.cfm.



4 What to do during a flood – Act Now!

Flood Warning and Severe Flood Warning

FLOOD WARNING



Flood Warning means that flooding of homes and businesses is expected. Act now.

- 4.1 Upon receiving the Flood Warning, staff should be prepared for flooding to occur. It is advised to safeguard the premises and to evacuate before safe access is lost. Any loose fixtures and fittings and electric equipment that can be easily removed from the tipi should be moved away from the channel into an area of Flood Zone 1. As the tipi is located immediately adjacent to the bank, flood waters could encroach into the site very quickly therefore there should be no delay to responding to the Flood Warnings.
- 4.2 At this stage the following actions should be taken:
 - The Environment Agency aim to provide at least 2 hours warning between the Flood Warning alert being issued and the commencement of flooding. The EA recommend that individuals should evacuate when a Flood Warning or Severe Flood Warning status is issued. If river levels continue to rise, staff members and any customers are advised to evacuate the premises before safe access is lost.
 - Locate, water, electricity and gas supplies and know how to switch them off
 if evacuation is necessary (if safe to do so).
 - Call the EA Floodline on 0345 988 11 88 and/or check the website periodically and listen to and watch for weather and flood warnings on local radio and television stations.
 - Evacuate the premises until the EA removes the Flood Warning.
- 4.3 Staff should follow the evacuation route detailed in **Section 5**, before safe access is lost. It is highly recommended that staff and any customers leave the premises before this happens.
- 4.4 THE SITE SHOULD BE EVACUATED PRIOR TO THE ISSUING OF A SEVERE FLOOD WARNING.

SEVERE FLOOD WARNING



Severe flood warning means that severe flooding is expected. There is extreme danger to life and property and people are advised to act immediately i.e. evacuate.

- 4.5 If a 'Severe Flood Warning' is issued, it will be necessary to evacuate the premises if not already having done so.
- 4.6 At this stage the following actions should be taken:
 - At this level, walking and driving through flood water will be extremely hazardous and should be avoided.
 - It is not usually advised to walk or drive through flood waters therefore evacuation should take place prior to a severe flood warning.
 - No members of staff or visitors should return to the tipi if flood waters have encroached into the site
 - At this stage the Local Authority, the emergency services and the Environment Agency should be managing the situation, with widespread flooding potentially over a large area.
 - Call 999 if you are in immediate danger.
- 4.7 Staff are <u>strongly</u> advised to evacuate the premises prior to receiving a Severe Flood Warning. It is not safe to walk or drive through flood waters and should staff ignore the opportunity to leave the site, safe access and egress could be lost. As there is no refuge area within the site, following the evacuation route prior to the onset of encroaching flood waters is particularly important.

Evacuation

4.8 **Figures 4 and 5** show the safe evacuation route. It appears that the quickest route to an area shown in Flood Zone 1 would be to exit the car park and head east towards Tuddenham.



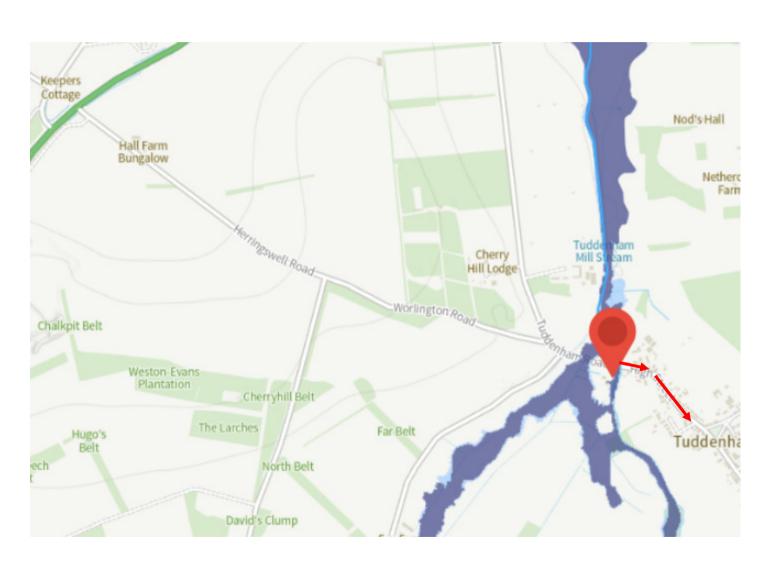


Figure 4: Evacuation Route and EA Flood Map for Planning



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Figure 5: Evacuation Route



Evacuation Route

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5 What to do after a flood – Returning to the site

WARNINGS NO LONGER IN FORCE

When warnings are no longer in force, no further flooding is currently expected in your area; however flood water may still be present.

- 5.1 Management should contact the Local Authority to check that it is safe to return to the premises. If floodwaters have entered the site, it is likely there would be debris and sediment deposits. The site would need to be cleaned before business can resume. Likewise, the existing onsite office building will need to be cleaned, disinfected and repaired and fully dried out prior to reoccupation. It must be checked that the building is safe before entering, and if there is any doubt professional opinion should be sought.
- 5.2 This Flood Warning and Evacuation Plan should be revisited after a flood event to make sure the procedures were followed, if any updates are required or if any lessons can be learned from the event.

6 Roles of Other Bodies

6.1 There are many organisations that will play a part in response to a major flooding incident; emergency services, utility companies and voluntary agencies to name but a few. Below are the roles and responsibilities of some of the principal organisations that will be involved in the early stages of a response.

Environment Agency (EA)

- Predicting flooding from statutory main rivers and the sea including the location, timing and magnitude
- Issuing of Flood Warnings to partner agencies and ensuring that the public are warned and informed
- Maintenance and operation of sea and river flood defences. Checking defences and undertaking essential repairs as required
- Monitoring and clearing blockages of culverts and repairing breaches of defences
- Support the Police and Local Authority by providing materials, equipment and manpower as far as resources and other duties permit
- Advisory role in dealing with pollution issues as a result of flooding

MET Office

- The Met office issues severe weather warnings for heavy rain, snow, severe gales etc.
- Warnings are delivered directly to Local Authorities, the emergency services and the media.

Police

- Co-ordination of the emergency services at a major flood event, as well as helping to save lives and protect property
- Establishment of cordons where practical to facilitate the work of the emergency services
- In conjunction with other emergency services, to evacuate people from properties at risk, if necessary
- Collation and dissemination of casualty information

Fire & Rescue



- Saving lives and rescuing trapped people
- Provide monitoring procedures in respect of health and safety of those persons operating within an established cordon
- Carry out essential damage control measures including pumping out flood water and salvage work
- Rendering humanitarian services in support of the Local Authority

Local Authority

- Providing flood evacuation points for shelter and temporary accommodation
- Providing support to the emergency services
- Mitigation of the effects of an emergency on people, including emergency feeding, accommodation and welfare.
- Co-ordination of the voluntary sector response
- Information services to the public and media
- Environmental health advice
- Rehabilitation of the community and restoration of the environment

Utility Companies

- In the event of a flood, will secure their services and equipment to ensure continuity of supply
- Repair services disrupted by flood
- Provide alternative means of supply during service disruption if life and death health risks are identified.



7 Relevant Contacts

7.1 The emergency contact details below should be checked annually by the management of the premises. Many of the details are yet to be confirmed and marked below as **TBC**.

Environment Agency Floodline: 0345 988 1188

Electricity provider: TBC

Gas provider: TBC

Water company: Anglian Water

(Emergency number: 0800 771881)

Telephone provider: TBC

Insurance company and policy number: TBC

Local council: West Suffolk

Customer Services: 01284 763233

Out of hours emergency service: 01284 763252

Local radio station: BBC Radio Suffolk

Travel/weather info: www.bbc.co.uk

Description of location to close off utilities:

-Electricity: TBC

-Gas: TBC

Location of Emergency Kit: TBC

Family member / friend contact and address details for temporary evacuation: TBC

Fire Brigade (local number): 01638 676260

NHS: 111

West Suffolk Hospital: 01284713000

7.2 It is useful to keep a note of the location of cut off valves in the event that utilities need to be turned off in an emergency. This may not be appliable to the tipi but may be useful for other buildings on site. **Figure 6** can be used to record this information along with any other notes relevant to switching off utilities.



Service	Location of Cut-off Switches and Valves	Notes (e.g. who is responsible to do this, where is the key kept)
Electricity		
Gas		
Water		
Telephone/IT		

Figure 6: Utilities Information

8 Updating the Plan

- 8.1 It is intended that this Flood Risk Management Plan be a live document to be managed by the site manager:
- 8.2 The plan should be reviewed:
 - Every 3 years or;
 - As a result of lessons identified following a flood event or exercise, or;
 - Following changes of ownership/use of the site or;
 - Following changes to the Flood Warning process.
- 8.3 A record of any changes made to this plan should be kept in the table below for information:

Date of Review	Changes to Plan	Issued to



9 Sources of Additional Useful Information

- 9.1 Am I at risk of Flooding?
 - https://flood-map-for-planning.service.gov.uk/
- 9.2 EA Flood Warning Codes
 - https://flood-warning-information.service.gov.uk/
- 9.3 Flood Warnings Direct
 - https://www.gov.uk/sign-up-for-flood-warnings
- 9.4 Business Flood Checklist
 - https://www.gov.uk/prepare-for-flooding/future-flooding
- 9.5 Preparing your home or business for flooding
 - https://www.gov.uk/prepare-for-a-flood
 - https://www.gov.uk/prepare-for-a-flood/make-a-flood-plan
- 9.6 Before, During and After a Flood Advice Guides
 - https://www.gov.uk/help-during-flood