

FLOOD RISK CONSULTANCY LIMITED

Sites Selected for Allocation:  
Sequential & Exceptions Tests

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Trawden Forest  
Neighbourhood Plan

Client: Trawden Forest Parish Council

**Report No: 2017-100-01 Revision B**

**Date: 02/10/2017**



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# Sites Selected for Allocation: Sequential & Exceptions Tests

Trawden Forest Neighbourhood Plan

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## Document Control

Document Title: Sites Selected for Allocation – Sequential & Exceptions Test

Project Number: 2017-100

Revision	Date	Issued to	Status	Comments
/	25/08/2017	Adele Waddington Trawden Forest Parish Council  John Dransfield Trawden Forest Parish Council	DRAFT	
A	29/08/2017	Adele Waddington Trawden Forest Parish Council  John Dransfield Trawden Forest Parish Council	FINAL	Amended following receipt of Client comments
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## Contract

This report describes work commissioned by Trawden Forest Parish Council on 28<sup>th</sup> June 2017. Donna Metcalf of Flood Risk Consultancy carried out the work.

Prepared by.....Donna Metcalf (Managing Director)

Reviewed by.....Chris Vose (Flood Risk Consultant)

Approved by.....Donna Metcalf (Managing Director)

## Disclaimer

This document has been prepared solely as a Sequential & Exceptions Test to support the emerging Neighbourhood Plan developed by Trawden Forest Parish Council. The Flood Risk Consultancy Ltd accepts no responsibility or liability for any use that is made of this document other than by the Client for the purposes for which it was originally commissioned and prepared.

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# Sites Selected for Allocation: Sequential & Exceptions Tests

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## 1.0 Introduction

### 1.1 General

This document demonstrates how the site allocations identified within the Trawden Forest Neighbourhood Plan, currently being drafted, comply with the requirements of the National Planning Policy Framework (NPPF) and the National Planning Practice Guidance with regard to flood risk.

The flood risk Sequential Test considers those sites which are within areas of flood risk, as established in the Pendle Borough Council's Strategic Flood Risk Assessment (SFRA) and the most recent Environment Agency mapping.

Trawden Brook was modelled by JBA in 2001 as part of the EA's Section 105 modelling framework; and has been used to inform flood mapping associated with the watercourse.

This assessment assists with the process of site allocation within the Neighbourhood Plan.

It is advised that proposed site for allocation have also been subject to a detailed Sustainability Appraisal (SA) which includes flood risk considerations.

Some elements of the mapping used in the SFRA have been superseded by updated mapping from the Environment Agency, and recently updated surface water flood mapping.

The sequential and exception tests follow the steps outlined in the Planning Practice Guidance and draw on information gathered and detailed within Pendle Borough Council's SFRA document for Trawden.

Current mapping divides flood risk from river sources into different flood zones i.e. Flood Zone 1 (low risk), 2 (medium risk), 3a (high flood risk) and 3b (functional floodplain).

Surface water flood risk is also divided into very low, low, medium and high-risk categories.

The Trawden Forest Neighbourhood Plan is currently under preparation and has not yet been formally published; however, a draft copy of the document has been made available to assist in preparation of the Sequential and Exceptions Test Report.

Covering the wider area, Pendle Borough Council's Local Plan together with the Strategic Flood Risk Assessment, Sustainability Appraisal and other consultation documents can be found on their website at:

[http://www.pendle.gov.uk/info/20072/planning\\_policies/273/local\\_plan/2](http://www.pendle.gov.uk/info/20072/planning_policies/273/local_plan/2)

[http://www.pendle.gov.uk/downloads/download/2718/strategic\\_flood\\_risk\\_assessment](http://www.pendle.gov.uk/downloads/download/2718/strategic_flood_risk_assessment)

[http://www.pendle.gov.uk/info/20072/planning\\_policies/275/development\\_plan\\_documents/4](http://www.pendle.gov.uk/info/20072/planning_policies/275/development_plan_documents/4)

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## 1.2 Report Structure

Sections 2 and 3 of the report describe the process required to undertake the sequential and exception tests respectively.

Appendix A provides a table of the sites allocated through the Sustainability Appraisal process.

Appendix B demonstrates the application of the sequential and exception tests to proposed site allocations which include land outside of Flood Zone 1.

## 1.3 Data Sources

This assessment is based on desk-top study of information from the following sources:

- National Planning Policy Framework (2012)
  - Planning Practice Guidance at [www.gov.uk](http://www.gov.uk) (March 2014)
  - Flood Map for Planning
  - Long Term Flood Risk Map
  - Pendle Borough Council Local Plan Core Strategy
  - Pendle Borough Council Level 1 SFRA
  - Trawden Forest Sustainability Appraisal for the Neighbourhood Plan
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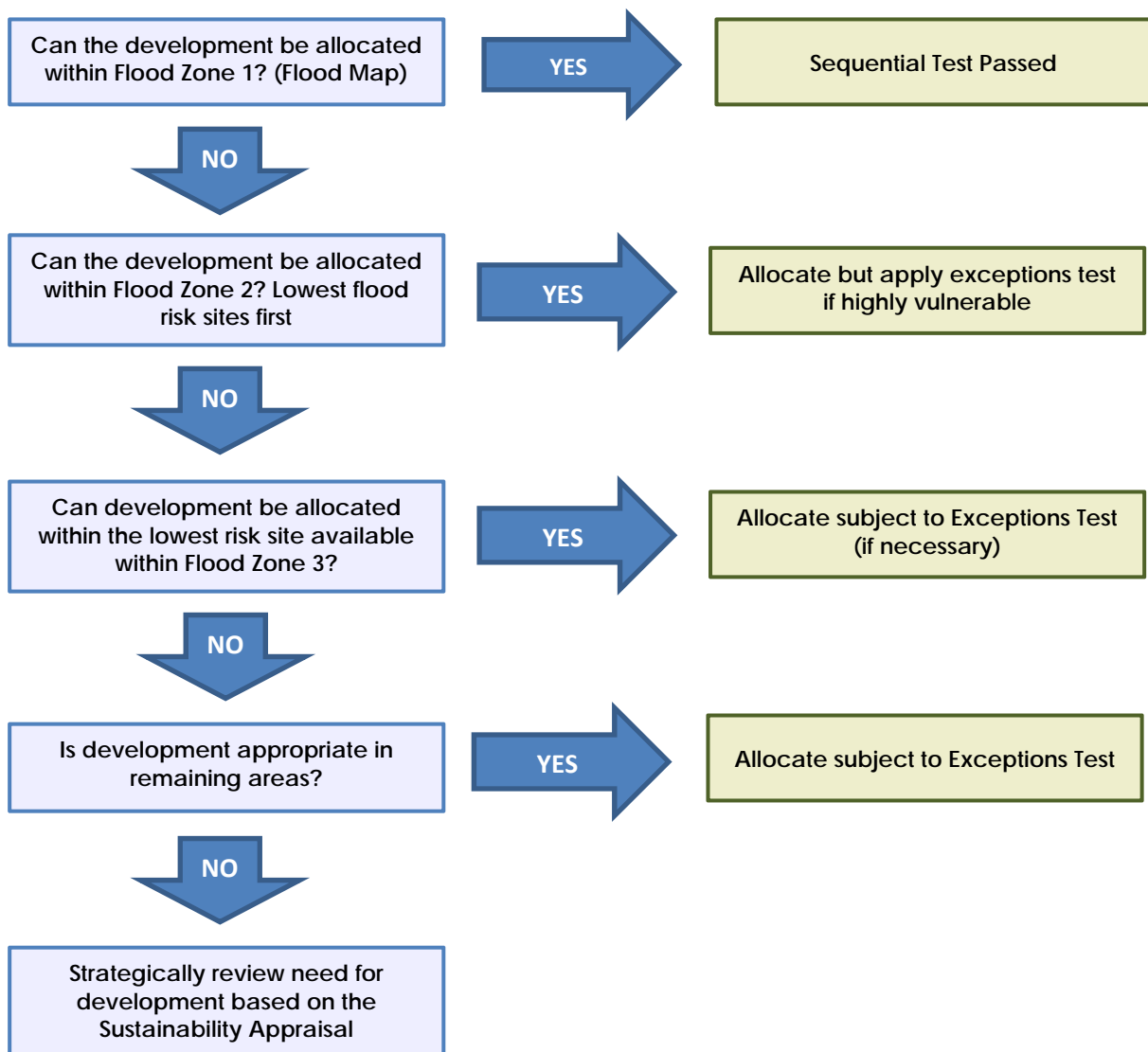
## 2.0 The Sequential Test

### 2.1 National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) 2012 and National Planning Practice Guidance set out that the aim of the sequential test is to steer new development to areas with the lowest probability of flooding.

Only where there are no reasonably available sites in Flood Zones 1 or 2 should the suitability of sites in Flood Zone 3 (areas with a high probability of river or sea flooding) be considered, taking into account the flood risk vulnerability of land uses and applying the exception test if required (See Table 2).

Where sustainable development cannot be achieved through new development located entirely within areas with a low probability of flooding, the Sequential Test should be applied according to the diagram provided below:



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### 2.2 Flood Zones

- **Flood Zone 1:** Low probability (less than 1 in 1000 year (<0.1% AEP) annual probability of river or sea flooding in any year).
- **Flood Zone 2:** Medium probability (between 1 in 100 year (1.0% AEP) and 1 in 1000 year (0.1% AEP) annual probability of river flooding; or between 1 in 200 year (0.2% AEP) and 1 in 1000 year (0.1% AEP) annual probability of sea flooding in any year).
- **Flood Zone 3a:** High probability (1 in 100 year (1.0% AEP) or greater annual probability of river flooding in any year or 1 in 200 year (0.5% AEP) or greater annual probability of sea flooding in any year).
- **Flood Zone 3b:** This zone comprises land where water has to flow or be stored in times of flood. Land which would flood with an annual probability of 1 in 20 (5% AEP), or is designed to flood in an extreme flood (0.1%) should provide a starting point for discussions to identify functional floodplain.

### 2.3 Vulnerability of Different Development Types

- **Essential Infrastructure:** Transport infrastructure (railways and motorways etc...); utility infrastructure (primary sub-stations, water treatment facilities; power stations; and wind turbines).
- **Water Compatible Development:** Flood control infrastructure; water and sewage infrastructure; navigation facilities.
- **Highly Vulnerable:** Emergency services; basement dwellings; mobile home parks; industrial or other facilities requiring hazardous substance consent.
- **More Vulnerable:** Hospitals; residential dwellings; educational facilities; landfill sites caravan and camping sites.
- **Less Vulnerable:** Commercial premises; emergency services not required during a flood; agricultural land.

### 2.4 Flood Zone Compatibility Matrix

Flood Risk Vulnerability Classification		Essential Infrastructure	Water compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
Flood Zone	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	✓	Exception Test required	✓	✓
	Zone 3a	❖ Exception Test required	✓	✗	Exception Test required	✓
	Zone 3b	Exception Test required	✓	✗	✗	➤ ✗

✓ Development is appropriate

✗ Development should not be permitted

# Sites Selected for Allocation: Sequential & Exceptions Tests

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### Notes:

- This table does not show the application of the sequential test which should be applied first to guide development to Flood Zone 1, then Zone 2, and then Zone 3; nor does it reflect the need to avoid flood risk from sources other than rivers and the sea;
- The sequential and exception tests do not need to be applied to minor developments and changes of use, except for a change of use to a caravan, camping or chalet site, or to a mobile home or park home site;
- Some developments may contain different elements of vulnerability and the highest vulnerability category should be used, unless the development is considered in its component parts.
  
- ❖ In Flood Zone 3a, essential infrastructure should be designed and constructed to remain operational and safe in times of flood.
  
- In Flood Zone 3b (functional floodplain) essential infrastructure that has to be there and has passed the exception test, and water-compatible uses, should be designed and constructed to:
  - remain operational and safe for users in times of flood;
  - result in no net loss of floodplain storage;
  - not impede water flows and not increase flood risk elsewhere.

The site allocations within the Trawden Forest Neighbourhood Plan have been identified using a set of criteria which assesses the sustainability of each site.

This assessment identifies whether the sites are located within flood zones 1, 2 or 3, alongside other identified key constraints.

Of the 11No sites initially identified, the top six scoring sites in terms of sustainability have been nominated for allocation within the emerging Neighbourhood Plan.

Each of these sites, has been assessed in terms of the Sequential Test and Exceptions Test, with the results of the assessment presented within Appendix B.

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### 3.0 The Exceptions Test

Paragraph 102 of the NPPF establishes the need for the exception test to be applied where it is not possible for sustainable development to be achieved wholly within areas with a lower probability of flooding.

For the exception test to be passed it must be demonstrated that:

- the development provides wider sustainability benefits to the community that outweigh flood risk, informed by a Strategic Flood Risk Assessment where one has been prepared; and
- a site-specific flood risk assessment must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.

Both elements of the test will have to be passed for development to be allocated or permitted.

To fulfil the first part of the exception test, the sustainability appraisal undertaken by Trawden Forest Parish Council has been utilised to provide evidence of wider sustainability benefits to the community.

If a potential site allocation fails to score positively against the aims and objectives of the sustainability appraisal, or is not otherwise capable of demonstrating sustainability benefits, it should be considered whether the use of planning conditions and/or planning obligations could make it do so.

Where this is not possible, the exception test is deemed to be not satisfied, and the site should be removed from the list of allocated sites.

In fulfilling the second part of the test the wider safety issues need to be considered. A site-specific flood risk assessment will be required at the planning application stage in order to satisfy this part of the test.

The sequential test demonstrates that there are three sites allocated through the Neighbourhood Plan where the exception test is required. The assessments for each of these sites are set out within Appendix B.

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### 4.0 Conclusion

This report concludes that of the 6No sites proposed for allocation within the emerging Neighbourhood Plan for Trawden Forest, 3No sites are situated within or predominantly within Flood Zone 1, and therefore automatically pass the flood risk sequential test and are considered to be suitable for development.

Three proposed housing sites are located within Flood Zones 2 and 3a and so the Sequential and Exception tests have been applied.

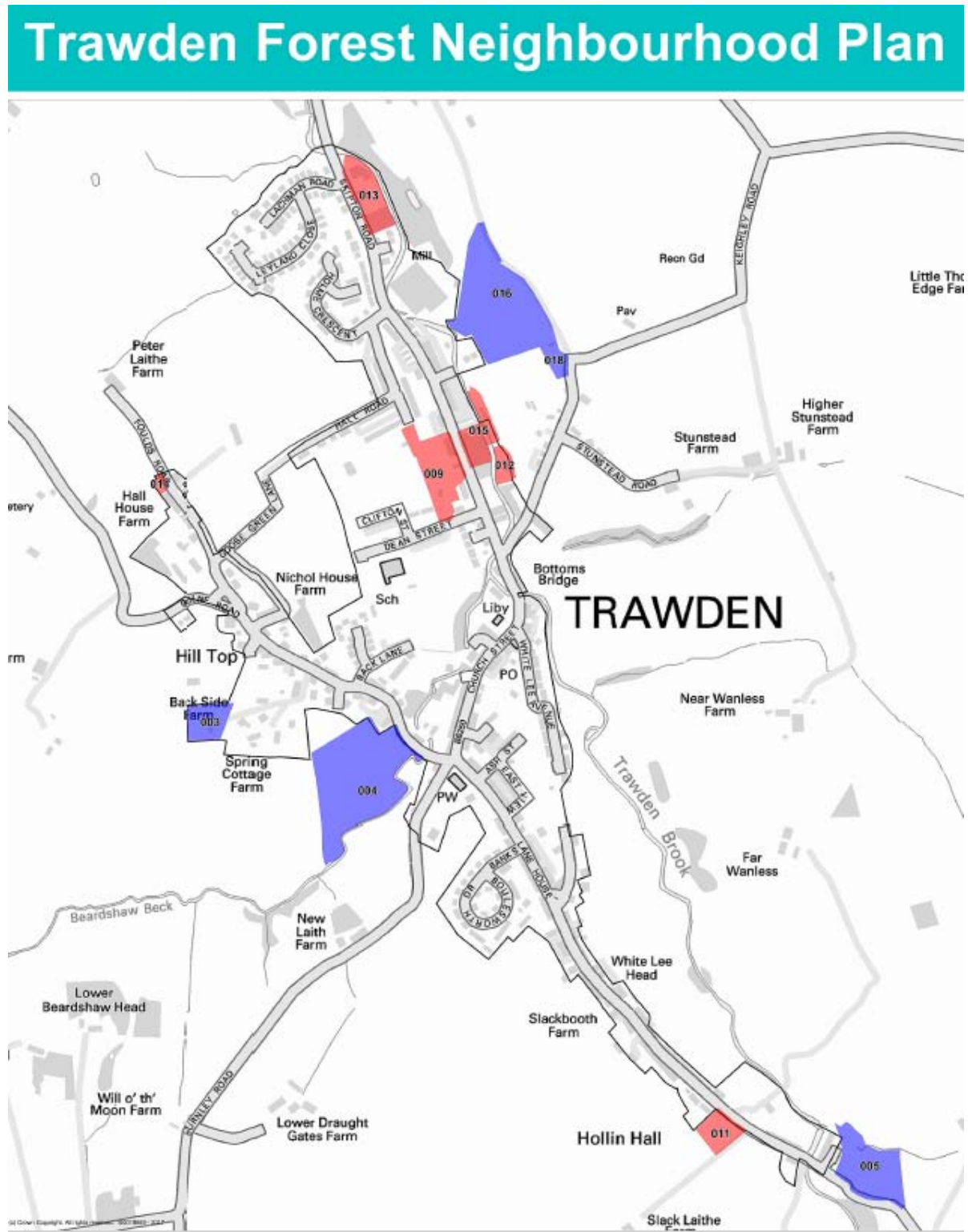
The exception tests show that in principle the wider sustainability benefits of development on these sites outweigh the risk of flooding; however, this is subject to site specific flood risk assessments providing evidence that suitable and robust measures can be incorporated into any given development plan to minimise the impact of flooding to both the properties and people to an acceptable level, over its design lifetime.

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## Appendix A – Site Allocation (Selected & Rejected)



Trawden Forest Neighbourhood Plan - Consultation

- Proposed Housing Site Allocations
- Site selected for allocation
- Site rejected for allocation
- Trawden Settlement Boundary



## Sites Selected for Allocation: Sequential & Exceptions Tests

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Site Reference	Status	Site Location
003	Rejected for Allocation	Back Side (Bright Terrace)
004	Rejected for Allocation	South of Green Meadow
005	Rejected for Allocation	East of Ryecroft
009	Selected for Allocation	Land North of Dean Street
011	Selected for Allocation	Land Adjacent to 37 Hollin Hall
012	Selected for Allocation	Site Rear of Black Carr
013	Selected for Allocation	Concept Staging
014	Selected for Allocation	Hall House Farm
015	Selected for Allocation	Black Carr Mill
016	Rejected for Allocation	Joe Meadow & Little Wood
018	Rejected for Allocation	Land adjacent to Goat House, Rock Lane

It is noted that the sites highlighted above (green) have not achieved the necessary criteria to be deemed suitable for residential development following application of the Sustainability Assessment; and therefore, application of the Sequential Test is not required.

Of the initial 11no sites identified only 6no site require further investigation.

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### Appendix B – The Sequential & Exceptions Test Requirement for All Selected Sites

<b>Site 009 (Suitable for Allocation) - Land North of Dean Street</b>	
<b>Approx. Site Area</b>	0.66 Hectares
<b>Flood Zone</b>	Flood Zones 1, 2 and 3 (low, medium and high risk)
<b>Functional Floodplain (Zone 3b)</b>	No
<b>Is the proposed Use Acceptable in this Flood Zone</b>	Yes
<b>Is the site at Risk from Other Forms of Flooding</b>	Indirectly – surface water flooding adjacent to the site Increased surface water runoff generated by the development at the site.
<b>Brownfield/Greenfield Site</b>	Mixed Brownfield/Greenfield
<b>Considerations</b>	<p>Plot is located to the west of Skipton Road; with fluvial flood risk identified from Trawden Brook. Flooding from the watercourse is identified to encroach into Skipton Road adjacent to the development site, however only marginally within the site.</p> <p>The extent of flooding within the site in terms of area is approximated below and is noted to be concentrated within the existing Brookside Garage Site, which is low-lying in comparison to the remaining area within the site boundary:</p> <p>Flood Zone 3 (high risk) - &lt;1% (&lt;0.006Ha) Flood Zone 2 (medium risk) – 1.5% (0.01Ha) Flood Zone 1 (low risk) – 97.5% (0.627Ha)</p> <p>Site access located within Flood Zone 1 (low risk) can be provided from Dean Street.</p> <p>Observations indicate that the site is steeply sloped; with ground levels at the west boundary elevated approximately 13m above the highway at Skipton Road.</p> <p>The surface water flood map indicates a high risk of flooding from this source along Skipton Road with depths of flooding predicted to be between 300mm and 900mm; with no surface water flood risk within the site boundary.</p> <p>As such access and egress from the development via Skipton Road needs some consideration to ensure safe routes into and away from the site at all times for residents.</p> <p>Undertaking a review of the local area indicates that a safer pedestrian route is available from Dean Street towards Back Lane via established public rights of way; and to St Mary's Church or the Public Library on Church Street, both of which are located within Flood Zone 1, although is also subject to surface water flooding, however is considered to present a lesser hazard to pedestrians than Skipton Road.</p>

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The flood risk from this secondary source along the suggested egress route from the site, ranges from low to high risk, with anticipated water depth considered to be less 300mm.

In terms of surface water flood risk very low, low, medium and high-risk events are defined as follows:

**High:** greater than 1 in 30 years (3.3%).  
**Medium:** between 1 in 100 years (1%) and 1 in 30 years (3.3%).  
**Low:** between 1 in 1000 years (0.1%) and 1 in 100 years (1%).  
**Very Low:** less than 1 in 1000 years (0.1%).








Development of the site will result in an increase in surface water runoff. Disposal of runoff from a potential new development at this location via infiltration to ground is unlikely to be feasible, and owing to topography is not recommended, to prevent potential groundwater emergence downhill.

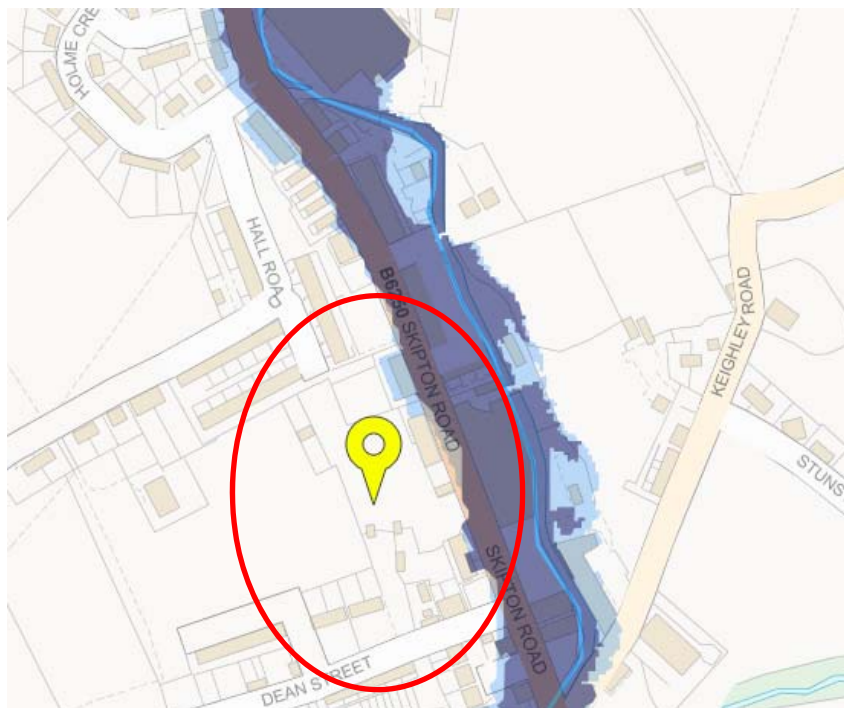
Surface water would need to be directed to a watercourse or public sewer (subject to agreement with United Utilities) in Dean Street and/or Skipton Road, in accordance with the hierarchy set out within Building Regulations.

Domestic foul flows will need to be directed to the public sewer network within Dean Street and/or Skipton Road.

Surface Water runoff rates leaving the site must not exceed existing greenfield runoff rates; with suitable attenuation volume provided within the drainage strategy to store water on-site; up to and including the 1 in 100 year plus climate change rainfall event.

### Fluvial (River) Flood Risk

-  Flood zone 3
-  Areas benefiting from flood defences
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Flood storage area

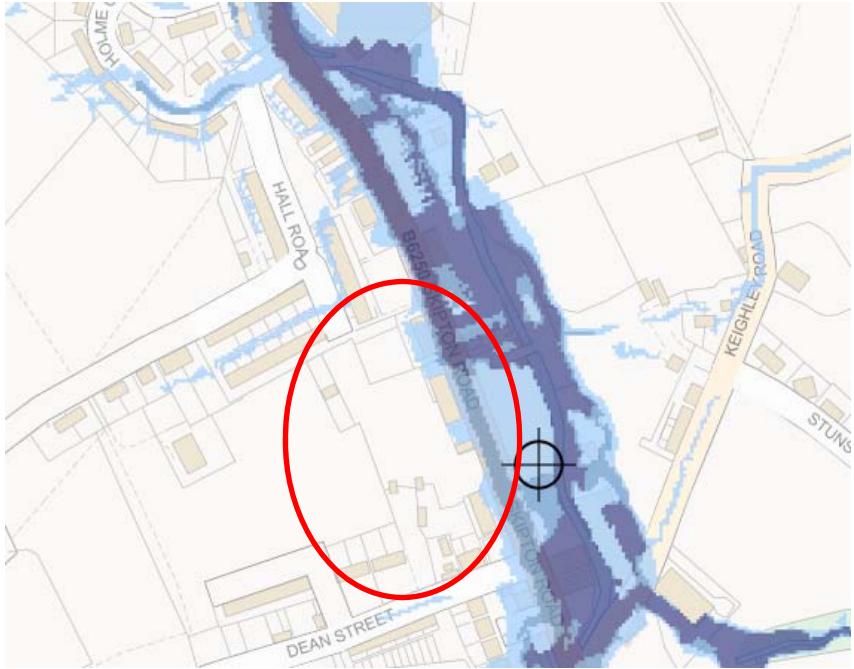
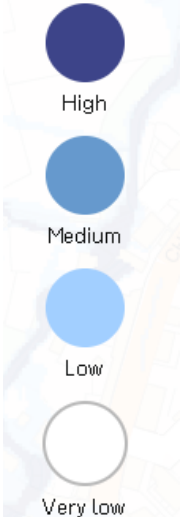




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<b>Surface Water Flood Risk (Pluvial)</b>	
<p><b>Flood risk</b></p> 	<p>Site was deemed acceptable for allocation within the Neighbourhood Plan through the sustainability appraisal process which resulted in a positive score against a set of objectives.</p> <p>Notably there are no significant constraints in regard to accessibility to the site, which is available from Dean Street; and is in close proximity to essential amenities such as a GP Surgery; and public transport.</p> <p>The assessment has also identified that development at this site would not incur loss of green infrastructure or open space within the village; and therefore, not detract from the landscape character of the area.</p> <p>The sustainability appraisal acknowledges proximity of the site to Trawden Brook; and management of surface water runoff will need to be incorporated into any proposed development plan.</p>
<b>Exceptions Test</b>	<p>Not Required</p>
<b>Site Specific Flood Risk Assessment</b>	<p>Size of site is in excess of 0.5Ha and therefore in accordance with the requirements of the NPPF will require a Flood Risk Assessment and Sustainable Drainage Strategy to satisfy Lancashire County Council in their role as Lead Local Flood Authority and Statutory Planning Consultee.</p>
<b>Summary</b>	<p>The site is located predominantly within Flood Zone 1 and therefore passes the Sequential Test.</p>

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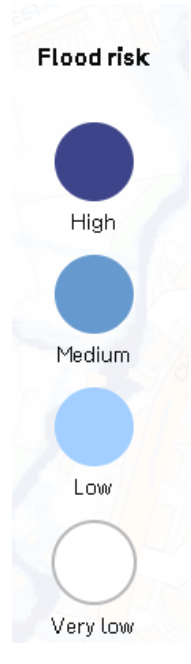





<b>Site 011 (Suitable for Allocation) - Land Adjacent to 37 Hollin Hall</b>	
<b>Approx. Site Area</b>	0.28 Hectares
<b>Flood Zone</b>	Flood Zone 1 (low risk)
<b>Functional Floodplain (Zone 3b)</b>	No
<b>Is the proposed Use Acceptable in this Flood Zone</b>	Yes
<b>Is the site at Risk from Other Forms of Flooding</b>	No
<b>Brownfield/Greenfield Site</b>	Greenfield
<b>Considerations</b>	<p>Plot is located to the south side of Lanehouse; and direct access could be provided from the highway.</p> <p>The site is located within Flood Zone 1 and therefore has a very low risk from fluvial (river) flooding.</p> <p>Reviewing the latest flood maps, the site also has a very low risk from other sources of flooding.</p> <p>Observations indicate that the site is steeply sloped; with ground levels at the south boundary elevated approximately 7m above the adjoining highway.</p> <p>Disposal of surface water from a potential new development at this location via infiltration to ground is unlikely to be feasible, and not recommended, to prevent potential groundwater emergence downhill.</p> <p>Surface water would need to be directed to a watercourse or public sewer (subject to agreement with United Utilities) in Lanehouse, in accordance with the hierarchy set out within Building Regulations.</p> <p>Domestic foul flows will need to be directed to the public sewer network within proximity to Lanehouse.</p> <p>Surface Water runoff rates leaving the site must not exceed existing greenfield runoff rates; with suitable attenuation volume provided to store water on-site; up to and including the 1 in 100 year plus climate change rainfall event.</p>



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<p><b>Fluvial (River) Flood Risk</b></p>  <ul style="list-style-type: none"> <li> Flood zone 3</li> <li> Areas benefiting from flood defences</li> <li> Flood zone 2</li> <li> Flood zone 1</li> <li> Flood defence</li> <li> Main river</li> <li> Flood storage area</li> </ul>	
<p><b>Surface Water Flood Routes (Pluvial)</b></p>  <p><b>Flood risk</b></p> <ul style="list-style-type: none"> <li> High</li> <li> Medium</li> <li> Low</li> <li> Very low</li> </ul>	
<p><b>Sustainability Appraisal</b></p>	<p>The site was deemed acceptable for allocation within the Neighbourhood Plan through the sustainability appraisal process which resulted in a positive score against a set of objectives.</p> <p>Notably there are no significant constraints in regard to accessibility to the site; and identify it to be in close proximity to</p>

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	<p>essential amenities such as a GP Surgery; but not close to public transport.</p> <p>The assessment has also identified that development at this site would not incur loss of green infrastructure or open space within the village; however it may have some detrimental impact in regard to the landscape character of Trawden.</p>
<b>Exceptions Test</b>	Not Required
<b>Site Specific Flood Risk Assessment</b>	Not required.
<b>Summary</b>	The site is located within Flood Zone 1 and therefore passes the Sequential Test

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Site 012 (Suitable for Allocation) - Site Rear of Black Carr	
Approx. Site Area	0.11 Hectares
Flood Zone	Flood Zone 2 & 3 (medium to high risk)
Functional Floodplain (Zone 3b)	No
Is the proposed Use Acceptable in this Flood Zone	Yes- subject to suitable mitigation to reduce the impact of flooding at the site and passing the Exceptions Test.
Is the site at Risk from Other Forms of Flooding	Yes – surface water flooding
Brownfield/Greenfield Site	Brownfield
Consideration	<p>Small site located to the rear of Black Carr Mill; and immediately adjacent to Trawden Brook.</p> <p>Access from Skipton Road is available via the Black Carr Mill Site. Trawden Brook provides the primary source of flood risk at the site.</p> <p>The extent of flooding within the site in terms of area is approximated below:</p> <p>Flood Zone 3 (high risk) - 35% (0.038Ha) Flood Zone 2 (medium risk) – 65% (0.072Ha)</p> <p>The surface water flood map indicates high risk of flooding from this source at the site, with water depths anticipated to reach up to 300mm.</p> <p>In terms of surface water flood risk very low, low, medium and high-risk events are defined as follows:</p> <p><b>High:</b> greater than 1 in 30 years (3.3%). <b>Medium:</b> between 1 in 100 years (1%) and 1 in 30 years (3.3%). <b>Low:</b> between 1 in 1000 years (0.1%) and 1 in 100 years (1%). <b>Very Low:</b> less than 1 in 1000 years (0.1%).</p> <p>The site is relatively flat in nature and benefits from close proximity to existing public drainage infrastructure within Skipton Road.</p> <p>Disposal of surface water from a potential new development at this location via infiltration to ground is unlikely to be feasible, and should be directed to watercourse (adjacent to the site), in accordance with the hierarchy set out within Building Regulations.</p> <p>Domestic foul flows will need to be directed to Skipton Road.</p> <p>Surface Water runoff rates leaving the site must not exceed existing runoff rates for the brownfield development; with suitable attenuation volume provided to store water on-site; up to and including the 1 in 100 year plus climate change rainfall event.</p> <p>Proposed residential units within this site should be placed within Flood Zone 2 i.e. the area within the site which exhibits the lowest flood risk.</p>

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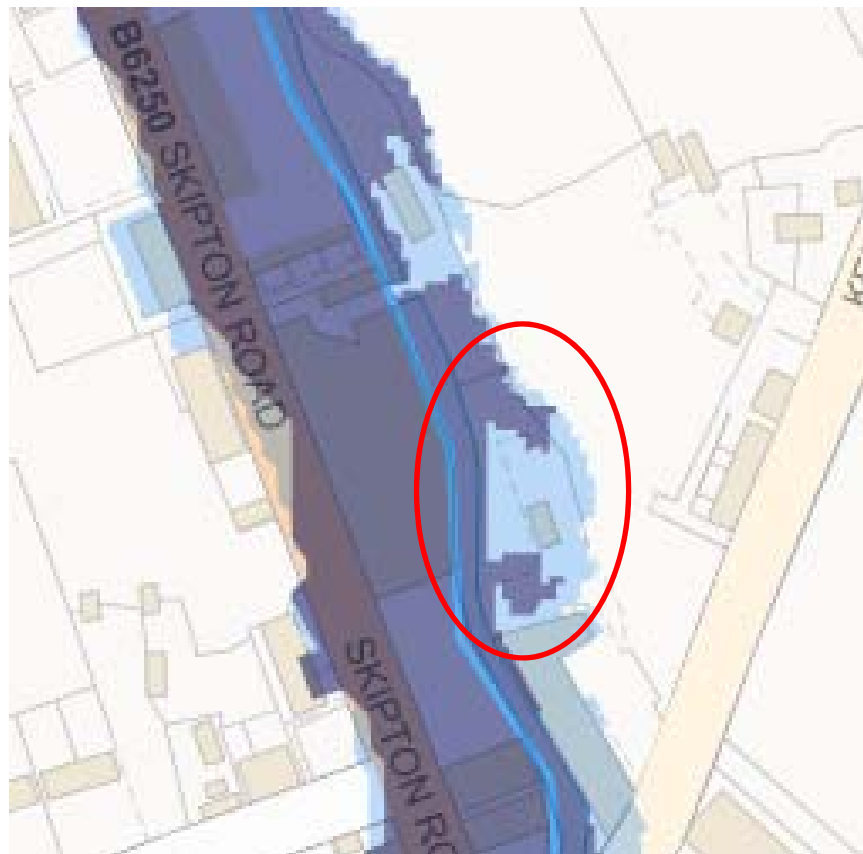
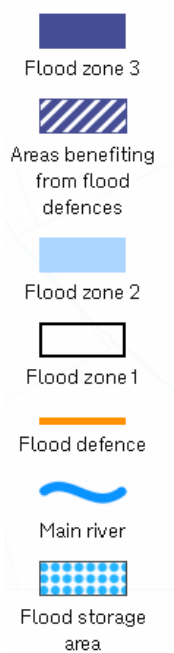
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Suitable and robust mitigation must be included within any development proposals which aim to include/address the following:

- Suitable elevation of finished ground floor levels to minimise the potential for ingress of flood water from either Trawden Brook or as a result of surface water flooding into the properties.
- Use of flood resistant/resilient materials and/or proprietary products to minimise the impact of flooding.
- Identification of a safe route for residents away from the site; and Skipton Road. Review of flood mapping indicates a potential route eastward towards Rock Lane, subject to further investigation and negotiations with land owners.
- Minimising placement of buildings within Flood Zone 3 and/or raising of ground levels above existing to negate the need for flood storage compensation provision and increasing the flood risk for others.
- Incorporate the EA's requisite easement of 8m from the top of river bank.
- Other mitigation identified through the undertaking of a site specific flood risk assessment

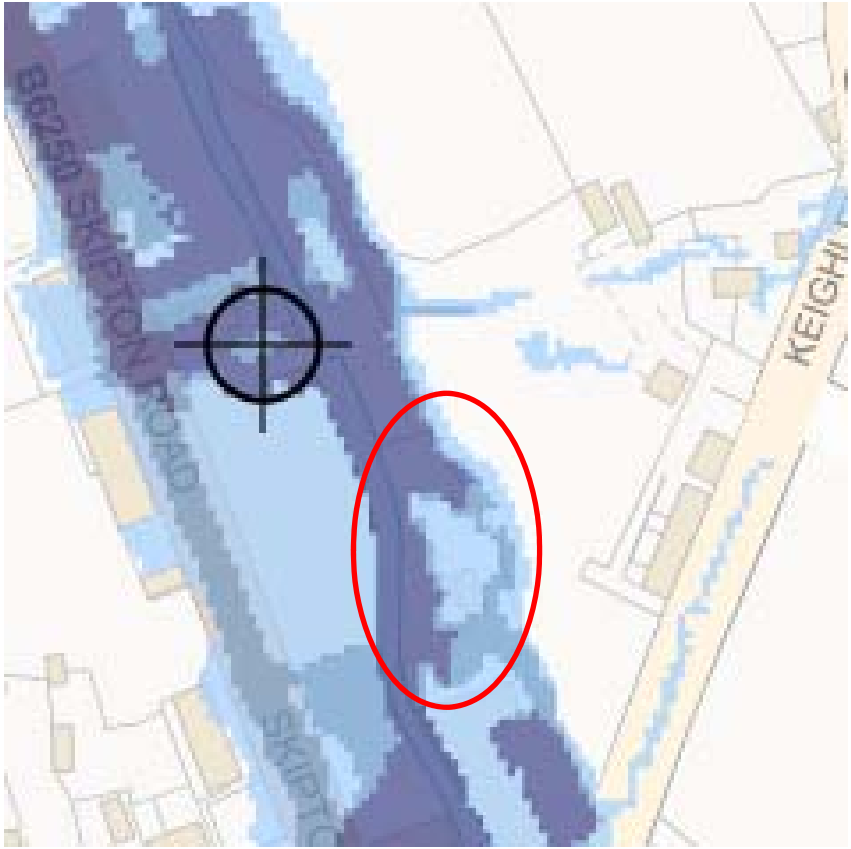




## Fluvial (River) Flood Risk



# Sites Selected for Allocation: Sequential & Exceptions Tests

Trawden Forest Neighbourhood Plan

Report No: 2017-100-01 Revision B

<b>Surface Water Flood Routes (Pluvial)</b>	
<p><b>Flood risk</b></p> <ul style="list-style-type: none"> <li> High</li> <li> Medium</li> <li> Low</li> <li> Very Low</li> </ul>	<p>The site was deemed acceptable for allocation within the Neighbourhood Plan through the sustainability appraisal process which resulted in a positive score against a set of objectives.</p> <p>Notably there are no significant constraints in regard to accessibility to the site; and identify it to be in close proximity to essential amenities such as a GP Surgery; and public transport.</p> <p>The assessment has also identified that development at this site would not incur loss of green infrastructure or open space within the village; and redevelopment is unlikely to have any detrimental impact in regard to the landscape character of Trawden.</p>
<b>Exceptions Test</b>	<p>Required</p>
<p><b>Can it be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk?</b></p>	<p>Although this site has scored negatively in terms of flood risk, in the Sustainability Appraisal it is considered to score positively in relation to other sustainability objectives; and therefore overall is considered to have passed this element of the Exception Test.</p>
<p><b>A site-specific flood risk assessment must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood</b></p>	<p>A site-specific flood risk assessment will be required to assess in detail the extent and depth of flooding associated with the identified sources for any development proposals put forward for this site.</p> <p>The FRA will assist the identification of suitable and robust measures which may be incorporated into the development proposals to</p>

## Sites Selected for Allocation: Sequential & Exceptions Tests

Trawden Forest Neighbourhood Plan

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<b>risk elsewhere, and, where possible, will reduce flood risk overall.</b>	reduce the impact of flood risk to both development and people to an acceptable level.
<b>Summary</b>	<p>The site is located within Flood Zones 2 and 3a and it is noted that development can be directed to the area within the site with the lowest flood risk i.e. Flood Zone 2.</p> <p>There is a limited number of alternative sites identified within Trawden Forest, with many considered to be less sustainable than the site located to the rear of Black Carr Mill.</p> <p>It is considered that a number of measures could be included within development proposals to minimise the impact of flooding on both the development and its residents.</p> <p>In conclusion, the site is considered to pass the Sequential and Exceptions Test.</p>

## Sites Selected for Allocation: Sequential & Exceptions Tests

Trawden Forest Neighbourhood Plan

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Site 013 (Suitable for Allocation) – Concept Staging/Whiteholme Mill (Skipton Road)	
Approx. Site Area	0.48 Hectares
Flood Zone	Flood Zone 3 (high risk)
Functional Floodplain (Zone 3b)	No
Is the proposed Use Acceptable in this Flood Zone	Yes- subject to suitable mitigation to reduce the impact of flooding at the site and passing the Exceptions Test.
Is the site at Risk from Other Forms of Flooding	Yes – surface water flooding
Brownfield/Greenfield Site	Brownfield
Consideration	<p>Site is located on the west bank of Trawden Brook; with current use identified as commercial therefore 'less vulnerable' type development.</p> <p>The watercourse presents the primary source of flooding at the site, which is accessed directly from Skipton Road.</p> <p>The extent of flooding within the site in terms of area is approximated below:</p> <p>Flood Zone 3 (high risk) - 100% (0.48Ha)</p> <p>The surface water flood map indicates high risk of flooding from this source at the site, with water depths anticipated to reach up to 900mm.</p> <p>In terms of surface water flood risk very low, low, medium and high-risk events are defined as follows:</p> <p><b>High:</b> greater than 1 in 30 years (3.3%).  <b>Medium:</b> between 1 in 100 years (1%) and 1 in 30 years (3.3%).  <b>Low:</b> between 1 in 1000 years (0.1%) and 1 in 100 years (1%).  <b>Very Low:</b> less than 1 in 1000 years (0.1%).</p> <p>The site is relatively flat in nature and benefits from close proximity to existing public drainage infrastructure within Skipton Road.</p> <p>Disposal of surface water from a potential new development at this location via infiltration to ground is unlikely to be feasible, and should be directed to a/the watercourse (adjacent to the site), in accordance with the hierarchy set out within Building Regulations.</p> <p>Domestic foul flows will need to be directed to Skipton Road.</p> <p>Surface Water runoff rates leaving the site must not exceed existing runoff rates for the brownfield development; with suitable attenuation volume provided to store water on-site; up to and including the 1 in 100 year plus climate change rainfall event.</p> <p>Proposed residential units within this site should be placed within the areas of the site which are assessed to have the lowest flood risk.</p>



# Sites Selected for Allocation: Sequential & Exceptions Tests

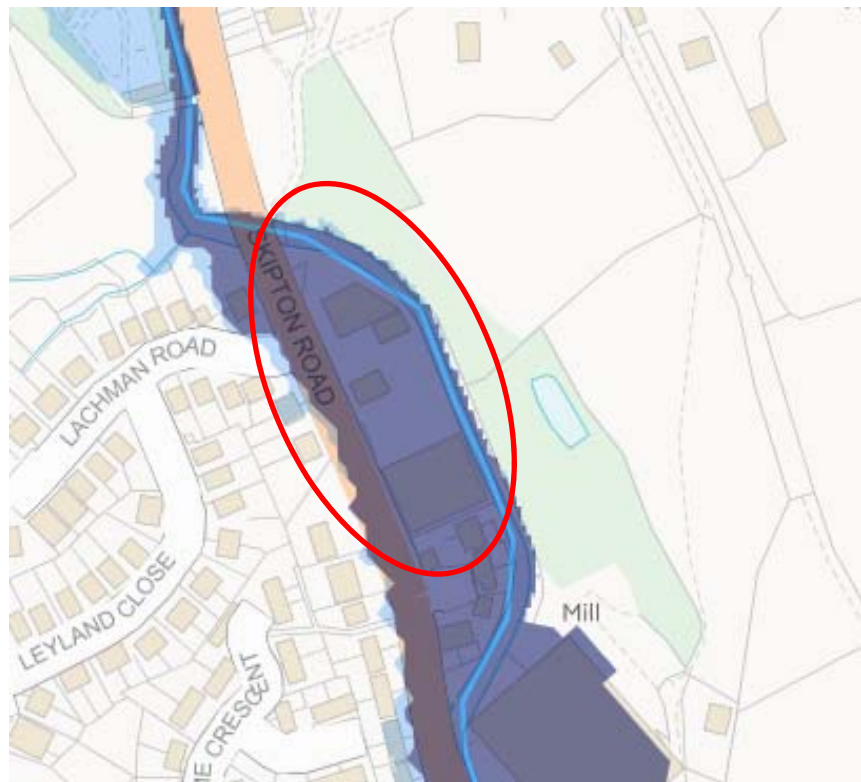
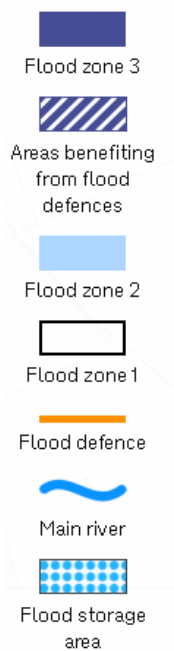
## Trawden Forest Neighbourhood Plan

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Suitable and robust mitigation must be included within any development proposals which aim to include/address the following:

- Suitable elevation of finished ground floor levels to minimise the potential for ingress of flood water from either Trawden Brook or as a result of surface water flooding into the properties.
- Use of flood resistant/resilient materials and/or proprietary products to minimise the impact of flooding.
- Identification of a safe route for residents away from the site. Review of flood mapping indicates a potential route west across Skipton Road, where nearby development in Lachman Road is shown to lie within Flood Zone 1.
- Minimising placement of buildings and/or raising of ground levels above existing to negate the need for flood storage compensation provision and increasing the flood risk for others. Apartment type buildings with undercroft areas, or town house style dwellings with garages which are designed to flood may be considered suitable.
- Incorporate the EA's requisite easement of 8m from the top of river bank.

### Fluvial (River) Flood Risk









# Sites Selected for Allocation: Sequential & Exceptions Tests

Trawden Forest Neighbourhood Plan

Report No: 2017-100-01 Revision B

<b>Surface Water Flood Routes (Pluvial)</b>	
<p><b>Flood risk</b></p> <ul style="list-style-type: none"> <li> High</li> <li> Medium</li> <li> Low</li> <li> Very low</li> </ul>	<p>The site was deemed acceptable for allocation within the Neighbourhood Plan through the sustainability appraisal process which resulted in a positive score against a set of objectives.</p> <p>Notably there are no significant constraints in regard to accessibility to the site; and identify it to be in close proximity to essential amenities such as a GP Surgery; and public transport provision.</p> <p>The assessment has also identified that development at this site would not incur loss of green infrastructure or open space within the village; and redevelopment is unlikely to have any detrimental impact in regard to the landscape character of Trawden.</p>
<b>Sustainability Appraisal</b>	<p>The site was deemed acceptable for allocation within the Neighbourhood Plan through the sustainability appraisal process which resulted in a positive score against a set of objectives.</p> <p>Notably there are no significant constraints in regard to accessibility to the site; and identify it to be in close proximity to essential amenities such as a GP Surgery; and public transport provision.</p> <p>The assessment has also identified that development at this site would not incur loss of green infrastructure or open space within the village; and redevelopment is unlikely to have any detrimental impact in regard to the landscape character of Trawden.</p>
<b>Exceptions Test</b>	<p>Required</p>
<p><b>Can it be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk?</b></p>	<p>Although this site has scored negatively in terms of flood risk in the Sustainability Appraisal it is considered to score positively in relation to other sustainability objectives; and therefore, overall is considered to have passed this element of the Exception Test.</p>
<p><b>A site-specific flood risk assessment must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood</b></p>	<p>A site-specific flood risk assessment will be required to assess in detail the extent and depth of flooding associated with the identified sources for any development proposals put forward for this site.</p> <p>The FRA will assist the identification of suitable and robust measures which may be incorporated into the development proposals to reduce the impact of flood risk to both development and people</p>

## Sites Selected for Allocation: Sequential & Exceptions Tests

### Trawden Forest Neighbourhood Plan

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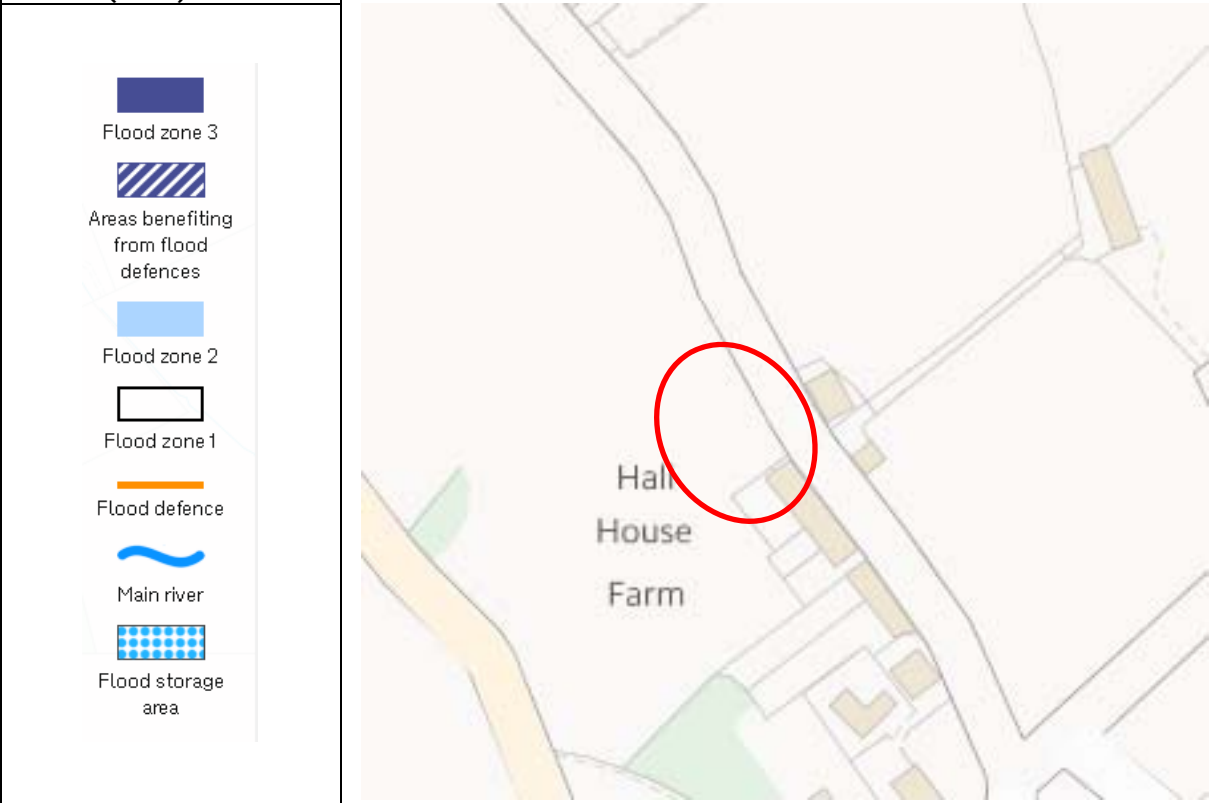
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<p><b>risk elsewhere, and, where possible, will reduce flood risk overall.</b></p>	<p>to an acceptable level; and ensure that any development at this site will not increase flood risk for others.</p> <p>Although the site is slightly below the threshold, it is considered advisable that a sustainable drainage strategy is prepared for the site to assess how surface water runoff from the site can be sustainably managed over its lifetime.</p>
<p><b>Summary</b></p>	<p>The site is located within Flood Zones 3a, with very little area available within the site at a lower risk of flooding.</p> <p>It is highlighted that there is a limited number of alternative sites identified within Trawden Forest, with many considered to be significantly less sustainable than the site, referenced as Concept Staging off Skipton Road.</p> <p>It is considered that a number of measures could be included within development proposals to minimise the impact of flooding on both the development and its residents.</p> <p>In conclusion, the site is considered to pass the Sequential and Exceptions Test.</p>

# Sites Selected for Allocation: Sequential & Exceptions Tests

Trawden Forest Neighbourhood Plan

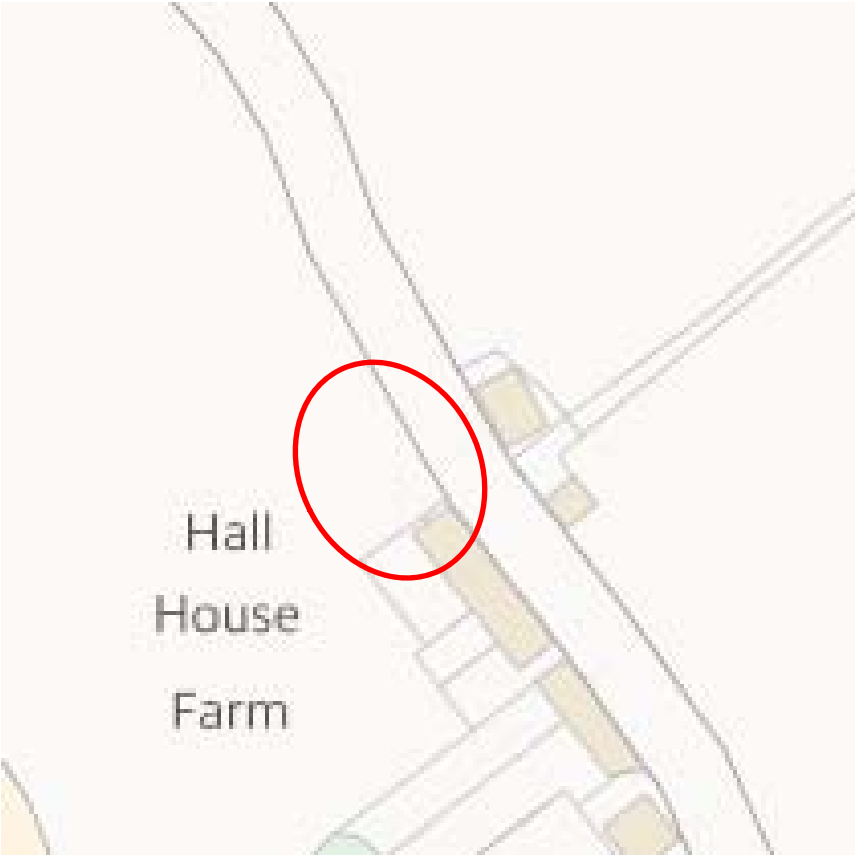
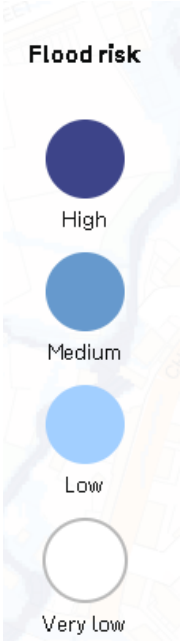
Report No: 2017-100-01 Revision B

Site 014 (Suitable for Allocation) – Hall House Farm (Foulds Road)	
Approx. Site Area	0.03 Hectares
Flood Zone	Flood Zone 1 (low risk)
Functional Floodplain (Zone 3b)	No
Is the proposed Use Acceptable in this Flood Zone	Yes
Is the site at Risk from Other Forms of Flooding	No
Brownfield/Greenfield Site	Greenfield
Consideration	<p>Small site located immediately adjacent to residential development at No11 Foulds Road.</p> <p>Site is located within Flood Zone 1 and has a low risk of flooding from fluvial (river) sources.</p> <p>Other sources of flood risk also present a low risk at the Foulds Road site.</p>
<b>Fluvial (River) Flood Risk</b>	

# Sites Selected for Allocation: Sequential & Exceptions Tests

Trawden Forest Neighbourhood Plan

Report No: 2017-100-01 Revision B

<b>Surface Water Flood Routes (Pluvial)</b>	
<p><b>Flood risk</b></p> 	<p>The site was deemed acceptable for allocation within the Neighbourhood Plan through the sustainability appraisal process which resulted in a positive score against a set of objectives.</p> <p>Notably there are no significant constraints in regard to accessibility to the site; and identify it to be in close proximity to essential amenities such as a GP Surgery; however, is considered to be remote from public transport.</p> <p>The assessment has also identified that development at this site would not incur loss of green infrastructure or open space within the village; and redevelopment is unlikely to have any detrimental impact in regard to the landscape character of Trawden.</p>
<b>Exceptions Test</b>	<p>Not Required</p>
<b>Site Specific Flood Risk Assessment</b>	<p>Not Required.</p>
<b>Summary</b>	<p>The site is located within Flood Zones 1 and automatically passes the Sequential Test.</p>

## Sites Selected for Allocation: Sequential & Exceptions Tests

Trawden Forest Neighbourhood Plan

Report No: 2017-100-01 Revision B

Site 015 (Suitable for Allocation) – Black Carr Mill (Skipton Road)	
Approx. Site Area	0.33 Hectares
Flood Zone	Flood Zone 2 and 3a ( medium to high risk)
Functional Floodplain (Zone 3b)	No
Is the proposed Use Acceptable in this Flood Zone	Yes- subject to suitable mitigation to reduce the impact of flooding at the site and passing the Exceptions Test.
Is the site at Risk from Other Forms of Flooding	Yes – surface water flooding
Brownfield/Greenfield Site	Brownfield
Consideration	<p>Site is spans across Trawden Brook; with the existing mill building located on the west bank and open storage accessible via a road bridge on the east bank of the watercourse.</p> <p>The site is currently vacant; however historically has accommodated commercial therefore 'less vulnerable' type development.</p> <p>The watercourse presents the primary source of flooding at the site, which is accessed directly from Skipton Road.</p> <p>The extent of flooding within the site in terms of area is approximated below:</p> <p>Flood Zone 2 (medium risk) - 14% (0.046Ha) Flood Zone 3 (high risk) - 86% (0.028Ha)</p> <p>The surface water flood map indicates high risk of flooding from this source at the site, with water depths anticipated to reach up to 900mm.</p> <p>In terms of surface water flood risk very low, low, medium and high-risk events are defined as follows:</p> <p><b>High:</b> greater than 1 in 30 years (3.3%). <b>Medium:</b> between 1 in 100 years (1%) and 1 in 30 years (3.3%). <b>Low:</b> between 1 in 1000 years (0.1%) and 1 in 100 years (1%). <b>Very Low:</b> less than 1 in 1000 years (0.1%).</p> <p>The site is relatively flat in nature and benefits from close proximity to existing public drainage infrastructure within Skipton Road.</p> <p>Disposal of surface water from a potential new development at this location via infiltration to ground is unlikely to be feasible, and should be directed to a/the watercourse (adjacent to the site), in accordance with the hierarchy set out within Building Regulations.</p> <p>Domestic foul flows will need to be directed to Skipton Road.</p> <p>Surface Water runoff rates leaving the site must not exceed existing runoff rates for the brownfield development; with suitable</p>

# Sites Selected for Allocation: Sequential & Exceptions Tests

Trawden Forest Neighbourhood Plan

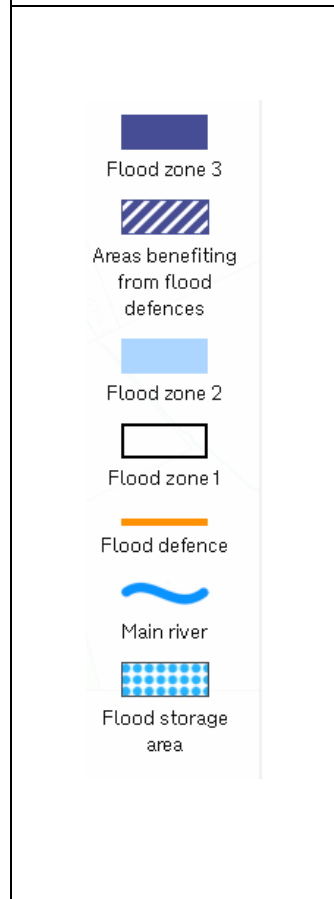
Report No: 2017-100-01 Revision B

attenuation volume provided to store water on-site; up to and including the 1 in 100 year plus climate change rainfall event. Proposed residential units within this site should be placed within the areas of the site which are assessed to have the lowest flood risk.

Suitable and robust mitigation must be included within any development proposals which aim to include/address the following:

- Suitable elevation of finished ground floor levels to minimise the potential for ingress of flood water from either Trawden Brook or as a result of surface water flooding into the properties.
- Use of flood resistant/resilient materials and/or proprietary products to minimise the impact of flooding.
- Identification of a safe route for residents away from the site. Review of flood mapping indicates a potential route eastward towards Rock Lane, subject to negotiations with land owners
- Minimising placement of buildings and/or raising of ground levels above existing to negate the need for flood storage compensation provision and increasing the flood risk for others. Apartment type buildings with undercroft areas, or town house style dwellings with garages which are designed to flood may be considered suitable.
- Incorporate the EA's requisite easement of 8m from the top of river bank.

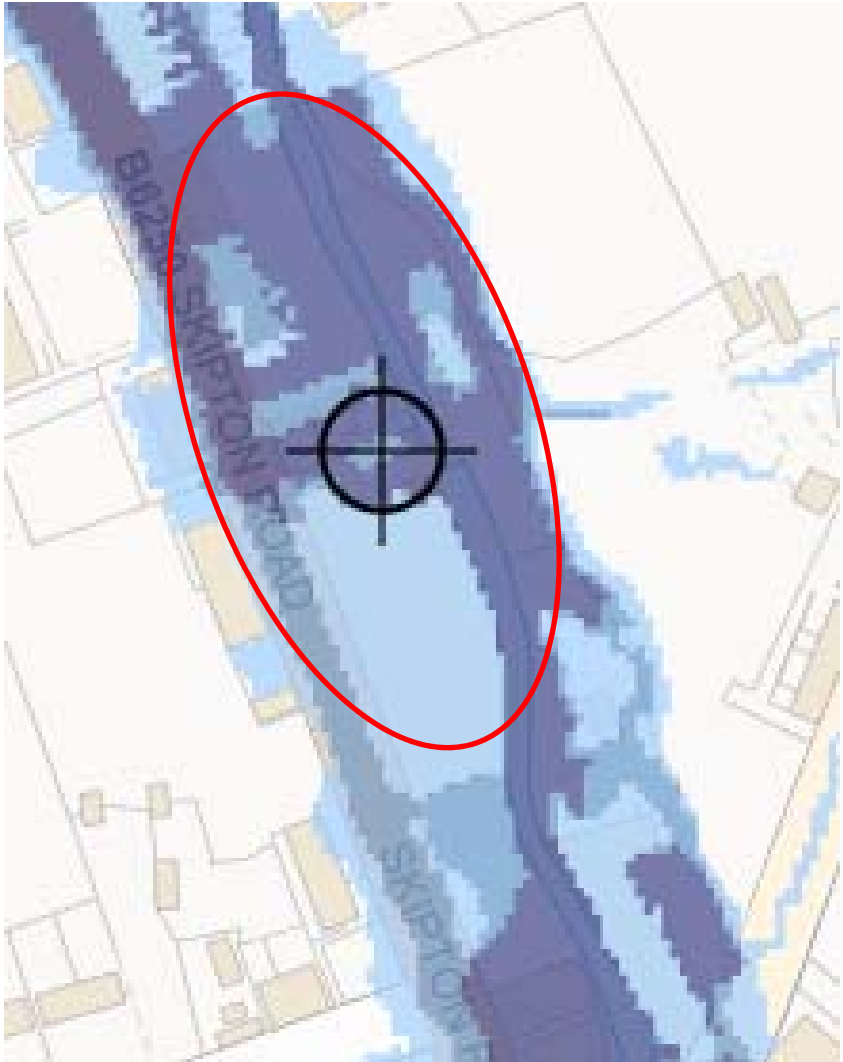




## Fluvial (River) Flood Risk



# Sites Selected for Allocation: Sequential & Exceptions Tests

Trawden Forest Neighbourhood Plan

Report No: 2017-100-01 Revision B

<b>Surface Water Flood Routes (Pluvial)</b>	
<p><b>Flood risk</b></p> <ul style="list-style-type: none"> <li> High</li> <li> Medium</li> <li> Low</li> <li> Very low</li> </ul>	<p>The site was deemed acceptable for allocation within the Neighbourhood Plan through the sustainability appraisal process which resulted in a positive score against a set of objectives.</p> <p>Notably there are no significant constraints in regard to accessibility to the site; and identify it to be in close proximity to essential amenities such as a GP Surgery; and public transport provision.</p> <p>The assessment has also identified that development at this site would not incur loss of green infrastructure or open space within the village; and redevelopment is unlikely to have any detrimental impact in regard to the landscape character of Trawden.</p>
<b>Exceptions Test</b>	<p>Required</p>
<p><b>Can it be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk?</b></p>	<p>Although this site has scored negatively in terms of flood risk in the Sustainability Appraisal it is considered to score positively in relation to other sustainability objectives; and therefore, overall is considered to have passed this element of the Exception Test.</p>



## Sites Selected for Allocation: Sequential & Exceptions Tests

### Trawden Forest Neighbourhood Plan

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<p><b>A site-specific flood risk assessment must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.</b></p>	<p>A site-specific flood risk assessment will be required to assess in detail the extent and depth of flooding associated with the identified sources for any development proposals put forward for this site.</p> <p>The FRA will assist the identification of suitable and robust measures which may be incorporated into the development proposals to reduce the impact of flood risk to both development and people to an acceptable level; and ensure that any development at this site will not increase flood risk for others.</p> <p>Although the site is slightly below the threshold, it is considered advisable that a sustainable drainage strategy is prepared for the site to assess how surface water runoff from the site can be sustainably managed over its lifetime.</p>
<p><b>Summary</b></p>	<p>The site is located within Flood Zones 2 and 3a, with very little area available within the site at a lower risk of flooding.</p> <p>It is highlighted that there is a limited number of alternative sites identified within Trawden Forest, with many considered to be significantly less sustainable than the site at Black Carr Mill.</p> <p>It is considered that a number of measures could be included within development proposals to minimise the impact of flooding on both the development and its residents.</p> <p>In conclusion, the site is considered to pass the Sequential and Exceptions Test.</p>