

Sequential Flood Risk Test for Mid Sussex Neighbourhood Plans

Introduction

This Sequential Test has been prepared to assess the flood risk of all sites within the parish that have been identified as suitable, available and achievable for housing development through the Mid Sussex District Council Housing Supply Document (2013) and any additional sites considered in the preparation of Neighbourhood Plans.

The sequential test draws upon information gathered and detailed within the District Council's Strategic Flood Risk Assessment (SFRA) (March 2008). The tests follow the steps outlined in the National Planning Policy Framework and accompanying technical guidance, and follows examples of best practice as highlighted by the Environment Agency.

The National Planning Policy Framework (paragraph 100) requires Plans such as the District Plan and Neighbourhood Plans to “apply a sequential, risk-based approach to the location of development to avoid where possible flood risk to people and property and manage any residual risk, taking account of the impacts of climate change, by applying the **Sequential Test**, and, if necessary, applying the **Exception Test**”

Neighbourhood Plans have been prepared to enable Towns and Parishes to plan how their communities will change and develop in the future. In addition to strategic sites identified in the proposed submission District Plan (and subject to a separate flood risk assessment) each Neighbourhood Plan Area has indicated a level of additional homes that are being planned for. In preparing Local Plans the Council are required to undertake a flood risk test. A sequential approach is used to steer new development to areas at the lowest risk of flooding.

The District Plan sets the framework for Neighbourhood Plans and has identified a housing requirement of 10,600 new homes for the plan period up to 2031 that includes 2,000 over the plan period that are to be delivered through Neighbourhood Plans.

The Strategic Flood Risk Assessment identified that approximately 9 sq kilometres of the District is at high risk of fluvial (river) flooding. The risk of river flooding of an area is categorised by the probability of flooding occurring in that area in any given year and these categories are summarised in Table 1.

Flood Zone	Risk of Fluvial Flooding
1	Low probability – land assessed as having a less than 1 in 1,000 annual probability of flooding (<0.1%)
2	Medium probability – land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of flooding (1% - 0.1%)
3a	High probability – land assessed as having a 1 in 100 or greater annual probability of flooding (>1%)
3b	This zone comprises land where water has to flow or be stored in times of flood.

Table 1: Summary of Flood Risk Zones

Technical Guidance to the National Planning Policy Framework classifies types of development into five categories of flood risk vulnerability; essential infrastructure, highly vulnerable, more vulnerable, less vulnerable and water-compatible development. Appendix B lists the types of development that are classified under each flood risk vulnerability classification.

The Sequential Test

Within each flood zone, new development should be directed first to sites at the lowest probability of flooding and the flood vulnerability of the intended use matched to the flood risk of the site, i.e. higher vulnerability uses should be located on parts of the site at lowest probability of flooding. The Sequential Test is the process to ensure that this happens. Sites included in the Sequential Test have been grouped by parish (Appendix A).

The Sequential and Exception Test are national planning policy requirements. These tests are not intended to prevent all development on sites liable to flooding; accepting that some form of development may have to be located here. The Exception Test is only appropriate when there are large areas in Flood Zones 2 and 3, where the Sequential Test alone cannot deliver acceptable sites but where some continuing development is necessary for wider sustainable development reasons.

It may also be appropriate where restrictive national designations such as landscape, heritage and nature conservation designations prevent the availability of unconstrained sites in lower risk areas.

Table 2 shows which type of development can be appropriately located in each flood zone, and where the Exception Test is required.

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	✓	X	Exception test required	✓
	Zone 3b functional floodplain	Exception test required	✓	X	X	X

Key: ✓ Development is appropriate.
 X Development should not be permitted.

Table 2: Flood risk Vulnerability and flood zone compatibility

APPENDIX A – Neighbourhood Plan Areas

Hurstpierpoint and Sayers Common

Analysis of proposed development areas identified for housing and employment development

This table shows the following:

- Locations identified for potential development in the Neighbourhood Plan.
- The existing flood risk characteristics of these locations.
- The existing land use(s) of each area.
- The proposed use(s) of each area.
- The flood risk vulnerability classification for each existing and proposed use (see Appendix A for definitions of these classifications).

The Neighbourhood Plan policy H4 allows for 30 to 40 new homes at Sayers Common over the Plan period but specific locations are not identified. A review and appraisal of deliverable housing sites will be undertaken at an early stage in the Plan period. The village of Sayers Common is located entirely within flood zone 1 but there are currently surface water flood issues that must be resolved in accordance with policy H4.

Location	Flood risk zone/s (area of site within flood zone)	Existing Flood Defences	Existing Uses	Proposed Development	Flood vulnerability classification	Can the proposed development be located in the net developable area?
Land north of Highfield Drive, Hurstpierpoint	1 (5.03ha)	None	Agriculture	Residential – 17 new homes (policy H3)	More vulnerable	Yes; the site is located within Flood Zone 1.
Land at Little Park Farm, north of Hurstpierpoint	1 (24.4ha)	None	Agriculture	Residential – 140 new homes (policy H3)	More vulnerable	Yes; the site is located within Flood Zone 1.

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Land at Chalkers Lane, Hurstpierpoint	1 (1.15ha)	None	Agriculture	Residential – 95 new homes (policy H3)	More vulnerable	Yes; the site is located within Flood Zone 1.
Goddards Green Business Park	1 (20ha)	None	Agriculture	Employment – 20 hectare Business Park (policy E1)	Less vulnerable	Yes; the site is located within Flood Zone 1.
Whiteoaks Farm and Valley Farm	1 (7.07ha)	None	Employment	Development which maintains and enhances employment in this location (policy E2)	Less vulnerable	Yes; the site is located within Flood Zone 1.
Hurstpierpoint College	1 (28.285ha) and 3 (0.055ha)	None	Education	Development that enhances the role of the College as a school and local employer (policy C6)	More vulnerable	Yes; the site is almost entirely located within Flood Zone 1.
Hurst Meadows	1 (16ha)	None	Agriculture	New area of countryside public open space for informal recreation (policy A1)	Water-compatible development	Yes; the site is located within Flood Zone 1.
Land adjacent to Fairfield Recreation Ground	1 (1.45ha)	None	Agriculture	Additional formal playing space (policy A2)	Water-compatible development	Yes; the site is located within Flood Zone 1.
Northern Arc Outdoor Community Sports	1 (19.3ha)	None	Agriculture	Outdoor Community Sports (policy A3)	Water-compatible development	Yes; the site is located within Flood Zone 1.
Fairfield Pavillion	1	None	Cricket Facilities	Development as a community and sports facility (policy A4)	Less vulnerable/ Water-compatible development	Yes; the site is located within Flood Zone 1.

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St Georges Place	1	None		Cemetery (policy A5)	Less vulnerable	Yes; the site is located within Flood Zone 1.
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Note: Areas identified as having historically flooded in the District Council’s Strategic Flood Risk Assessment, but have not been identified as either Flood Zones 2 or 3 on the Environment Agency’s flood map, have been defined as areas of Flood Zone 3b for the purposes of this exercise.

The Sequential Test

Potential housing development sites assessed through the Housing Supply Document 2013 within the Neighbourhood Plan Area are all located within Flood Zone 1 as shown below.

1. Are the proposed development areas in Flood Zone 1 – Low probability of flood risk?	
Yes	<p>Development areas wholly within Flood Zone 1:</p> <ul style="list-style-type: none"> Land north of Highfield Drive, Hurstpierpoint Land at Little Park Farm, north of Hurstpierpoint Land at Chalkers Lane, Hurstpierpoint Goddards Green Business Park Whiteoaks Farm and Valley Farm, Sayers Common Hurst Meadows Land adjacent to Fairfield Recreation Ground Northern Arc Outdoor Community Sports Fairfield Pavillion St Georges Place Cemetery
No	<p>Development areas partly outside of Flood Zone 1:</p> <ul style="list-style-type: none"> Hurstpierpoint College –0.2% (0.055ha) located in Flood Zone 3

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2. Could the following proposed development areas in Flood Zones 2 and 3 be alternatively located in Flood Zone 1?

Yes - Hurstpierpoint College – partly located outside Flood Zone 1 (0.2% of area) but any development could be directed away from this small portion at the eastern edge of the area.

Conclusion

With the exception of a very small area of one 28 hectare site, all locations are within Flood Zone 1, and therefore development is considered appropriate in flood risk terms. There is no requirement to carry out the Exception Test.

APPENDIX B – Flood Risk Vulnerability Classification (as per “Technical Guidance to the National Planning Policy Framework”)

<p>Essential infrastructure</p> <ul style="list-style-type: none">- Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk.- Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including electricity generating power stations and grid and primary substations; and water treatment works that need to remain operational in times of flood.- Wind turbines.
<p>Highly vulnerable</p> <ul style="list-style-type: none">- Police stations, ambulance stations and fire stations and command centres and telecommunications installations required to be operational during flooding.- Emergency dispersal points.- Basement dwellings.- Caravans, mobile homes and park homes intended for permanent residential use³.- Installations requiring hazardous substances consent. (Where there is a demonstrable need to locate such installations for bulk storage of materials with port or other similar facilities, or such installations with energy infrastructure or carbon capture and storage installations, that require coastal or water-side locations, or need to be located in other high flood risk areas, in these instances the facilities should be classified as “essential infrastructure”).
<p>More vulnerable</p> <ul style="list-style-type: none">- Hospitals.- Residential institutions such as residential care homes, children’s homes, social services homes, prisons and hostels.- Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels.- Non–residential uses for health services, nurseries and educational establishments.- Landfill and sites used for waste management facilities for hazardous waste.- Sites used for holiday or short-let caravans and camping, <i>subject to a specific warning and evacuation plan</i>.
<p>Less vulnerable</p> <ul style="list-style-type: none">- Police, ambulance and fire stations which are <i>not</i> required to be operational during flooding.- Buildings used for shops, financial, professional and other services, restaurants and cafes, hot food takeaways, offices, general industry, storage and distribution, non–residential institutions not included in “more vulnerable”, and assembly and leisure.- Land and buildings used for agriculture and forestry.- Waste treatment (except landfill and hazardous waste facilities).- Minerals working and processing (except for sand and gravel working).

APPENDIX B – Flood Risk Vulnerability Classification (as per “Technical Guidance to the National Planning Policy Framework”)

- Water treatment works which do *not* need to remain operational during times of flood.
- Sewage treatment works (if adequate measures to control pollution and manage sewage during flooding events are in place).

Water-compatible development

- Flood control infrastructure.
- Water transmission infrastructure and pumping stations.
- Sewage transmission infrastructure and pumping stations.
- Sand and gravel working.
- Docks, marinas and wharves.
- Navigation facilities.
- Ministry of Defence defence installations.
- Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location.
- Water-based recreation (excluding sleeping accommodation).
- Lifeguard and coastguard stations.
- Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms.
- Essential ancillary sleeping or residential accommodation for staff required by uses in this category, *subject to a specific warning and evacuation plan.*