

Information In Support of Planning Application

Land To South of High Croft Close PO22 8DS



Flood Risk Assessment

PPS25 Sequential and Exception Test

August 2016

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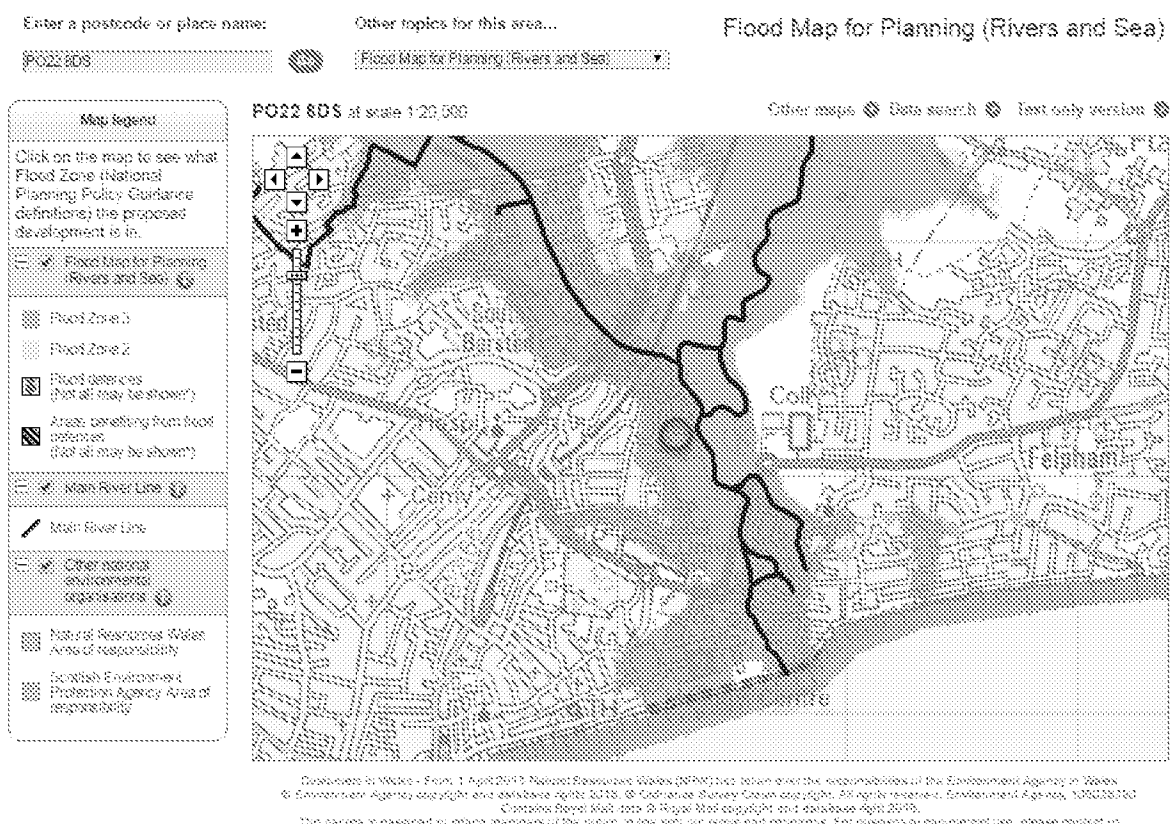
References

Flood Risk Assessment

Existing Site

The existing site is situated to the south of Highcroft Close and is bounded by allotments to the north, a pumping station to the east and residential bungalows to the west. The site consists of maintained grass to the south of the site and unmaintained trees and brambles to the north boundary to the allotments.

Further to researching the Environment Agency website, in accordance with the Guidance Notes on Arun District Councils website. It is evident that the Site – Land South of Highcroft Close, Bognor Regis PO22 8DS falls within Flood Risk Zone 3. This has been indicated on the Flood Map for Planning, obtained from the Environment Agency website, as below:-



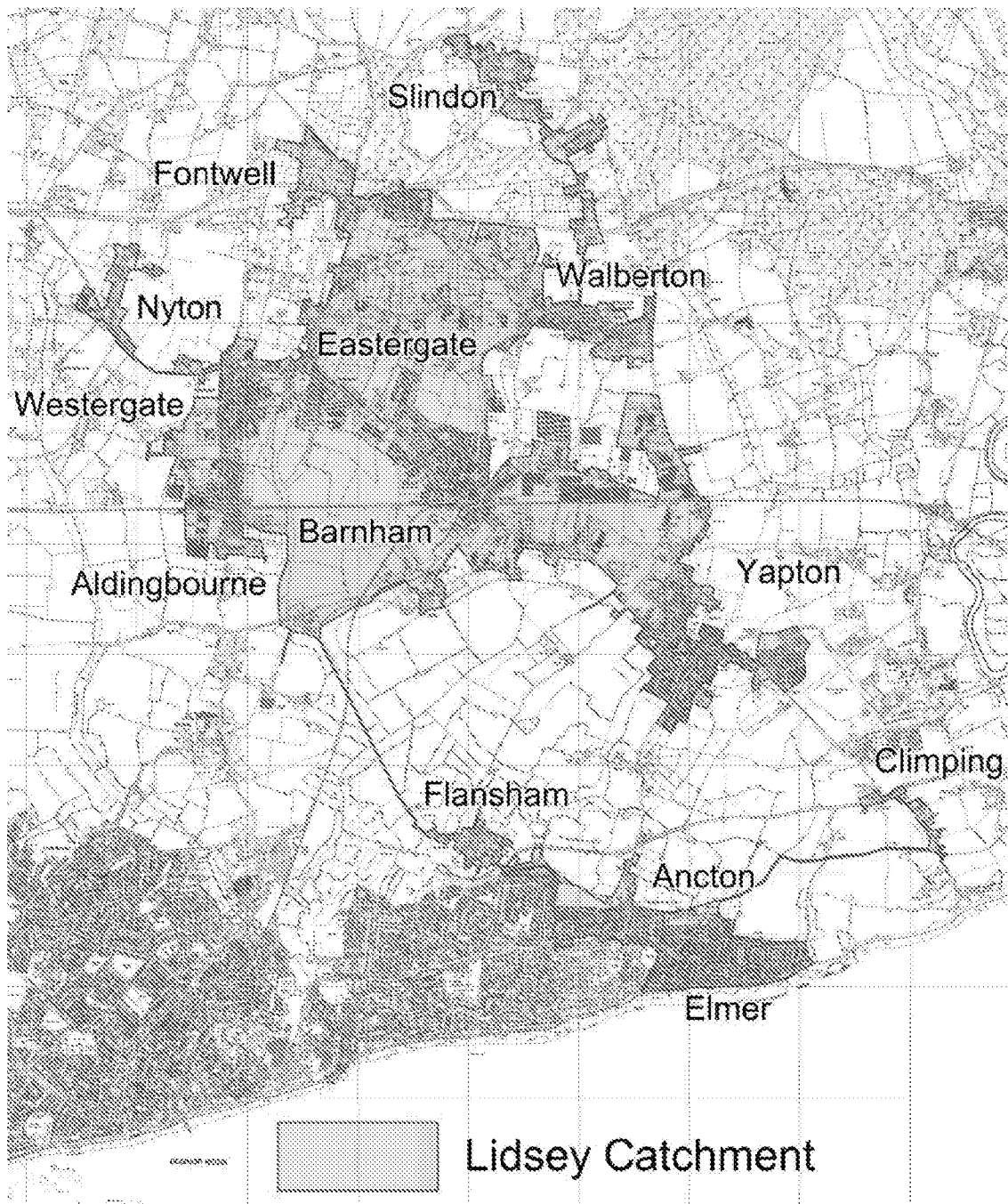
Site Location

Flood Zone 3 - land assessed as having a 1 in 100 or greater annual probability of river flooding ($>1\%$), or a 1 in 200 or greater annual probability of flooding from the sea ($>0.5\%$) in any year.

It has been identified that a Proposed FFL of 2.65 would be appropriate on this development.

Lidsey Drainage Catchment Area

The Site is not located within the Lidsey Drainage catchment area.



Flood Risk Vulnerability Classification

In Planning Policy Statement 25: Development and Flood Risk (PPS25) different types of development are divided into five flood risk vulnerability classifications:

- Essential infrastructure
- Highly vulnerable
- More vulnerable
- Less vulnerable
- Water compatible development.

Subject to the application of the Sequential Test, PPS25 specifies which of these types of development are suitable within each zone:

Zone 1 (Low Probability): This zone comprises land assessed as having a less than 1 in 1000 annual probability of river or sea flooding in any year (<0.1%). All types of development are appropriate in this zone.

Zone 2 (Medium Probability): This zone comprises land assessed as having between a 1 in 100 and 1 in 1000 annual probability of river flooding (1% – 0.1%) or between a 1 in 200 and 1 in 1000 annual probability of sea flooding (0.5% – 0.1%) in any year. The water-compatible, less vulnerable and more vulnerable uses of land and essential infrastructure are appropriate in this Zone. The highly vulnerable uses are only appropriate in this zone if the Exception Test is passed.

Zone 3a (High Probability): This zone comprises land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%) or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year. The water-compatible and less vulnerable uses of land are appropriate in this zone. The highly vulnerable uses should not be permitted in this zone. The more vulnerable and essential infrastructure uses should only be permitted in this zone if the Exception Test is passed.

Zone 3b (Functional Floodplain): This zone comprises land where water has to flow or be stored in times of flood. SFRAs should identify this Flood Zone (land which would flood with an annual probability of 1 in 20 (5%) or greater in any year or is designed to flood in an extreme (0.1%) flood, or at another probability to be agreed between the LPA and the Environment Agency, including water conveyance routes). Only the water-compatible uses and the essential infrastructure that have to be there should be permitted in this zone. Essential infrastructure in this zone should pass the Exception Test and be designed and constructed to meet a number of flood risk related targets. The less vulnerable, more vulnerable and highly vulnerable uses should not be permitted in this zone.

Table 1-1: Flood Risk Vulnerability Classification

Essential Infrastructure	Essential transport infrastructure and strategic utility infrastructure, including electricity generating power stations and grid and primary substations.
Highly Vulnerable	Police stations, Ambulance stations and Fire stations and Command Centres and telecommunications installations and emergency dispersal points. Basement dwellings, caravans, mobile homes and park homes intended for permanent residential use. Installations requiring hazardous substances consent.
More Vulnerable	Hospitals, residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels. Buildings used for dwellings, student halls of residence, drinking establishments, nightclubs, hotels and sites used for holiday or short-let caravans and camping. Non-residential uses for health services, nurseries and education. Landfill and waste management facilities for hazardous waste.
Less Vulnerable	Buildings used for shops, financial, professional and other services, restaurants and cafes, offices, industry, storage and distribution, 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). Water treatment plants and sewage treatment plants (if adequate pollution control measures are in place).
Water-compatible Development	Flood control infrastructure, water transmission infrastructure and pumping stations. Sewage transmission infrastructure and pumping stations. Sand and gravel workings. Docks, marinas and wharves, navigation facilities. MOD 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. Essential sleeping or residential accommodation for staff required by uses in this category, subject to a warning and evacuation plan.

Notes:

This classification is based partly on DEFRA/Environment Agency research on Flood Risks to People (FD2321/TR2) and also on the need of some uses to keep functioning during flooding.

Buildings that combine a mixture of uses should be placed into the higher of the relevant classes of flood risk. Developments that allow uses to be distributed over the site may fall within several classes of flood risk sensitivity.

The impact of a flood on the particular uses identified within this flood risk vulnerability classification will vary within each vulnerability class. Therefore, the flood risk management infrastructure and other risk mitigation measures needed to ensure the development is safe may differ between uses within a particular vulnerability classification.

(Source: PPS25 Table 2)

The Sequential Test

Sequential Test

PPS25 provides the basis for the sequential approach; it recommends that LPAs use a risk based approach to development planning. When allocating or approving land for development in flood risk areas, those responsible for making development decisions are expected to demonstrate that there are no suitable alternative development sites located in lower flood risk areas.

The methodology introduces a Sequential Test. The Environment Agency Flood Zone Map will provide the basis of the test. At each step, sites of lower flood risk are identified and prioritised in order of vulnerability to flood risk.

The Councils are required to prioritise the allocation of land for development in ascending order from Flood Risk Zone 1 to 3, including the subdivisions of Flood Risk Zone 3, if necessary. The Environment Agency has statutory responsibility and must be consulted on all development applications allocated with medium and high risk zones, including those in areas with critical drainage problems. In these circumstances, PPS25 requires demonstration that there are no reasonable alternatives, in lower flood risk categories, available for development. Where appropriate, the Exception Test is to be applied.

Planning Policy Statement 4: Planning for Sustainable Economic Development (PPS 4), outlines the sequential approach that Local Authorities should use when identifying suitable sites.

The Site: - Land to the South of Highcroft Close, Bognor Regis, West Sussex, PO22 8DS

The proposed development is located in the Ward of Hotham in Bognor Regis, a town located to the east of Chichester, to the South of Chichester, to the South of the South Downs and to the west of Worthing and Brighton. It is one of the main coastal towns in West Sussex, hosting the infamous Butlins Holiday Centre and acts as a service provider for many surrounding villages.

The Proposed Site is located to vacant land to the South of Highcroft Close, which comprises a cul-de-sac development of 6 No. semi-detached bungalows. To the immediate west of the site is a Pumping Station.

Arun District occupies some 85 square miles in the heart of West Sussex spanning the coastal plain (with 14.5 miles of coastline including the underdeveloped Climbing Gap) and the lower dip slope of the South Downs (the latter now part of the National Park which occupies roughly half of the District). The population of around 142,000 is concentrated in the major centres of Bognor Regis and Littlehampton on the coast and Barnham and Arundel inland. Socio-economically, the population has relatively high levels of elderly people. Although generally prosperous, certain areas in Bognor (such as Pevensy and Marine wards) and Littlehampton (such as River and Ham wards) have high levels of social deprivation.

Key features defining the District's environmental character are the chalk dip slope of the South Downs which includes areas of deciduous (often ancient) woodland on the lower slopes, the flood plain of the River Arun which runs south through the centre of the District,

the extensive rising dip slope of the South Downs, Arundel Castle and historic parkland. The District contains nine Sites of Special Scientific Interest (including the internationally designated Pagham Harbour), 32 Conservation Areas, 980 listed buildings (46 at Grades I or II*) and the Arundel Castle Parks and Gardens.

Identifying flood risks to the Existing Site and Others

The Flood Zone classifications have been provided by the Environment Agency maps, which have been informed by the SFRA. The proposed development is within Flood Zone 3, See Appendix 4.

Analysis of Areas for Potential Strategic Development				
Flood Risk Zones are identified in the Arun District Council Strategic Flood Risk Assessment (Climate Change scenarios are not included)				
Strategic Development Area	Flood Risk Zone(s)	Existing Uses	Potential Uses	Flood Vulnerability Classification (according to PPS25 Table D2)
Land to the South of Highcroft Close, PO22 8DS	Fluvial 3a 1.93% Tidal 3a 3.18%	Open Space	Residential Amenity / Open Space	More Vulnerable Water compatible development
Land to the North East of Brooks Lane, PO22	Fluvial 3a Tidal 3a	Currently Greenfield/farmland	Amenity Open Space Residential	Water Compatible Development More Vulnerable
Land to the North East of Whitfield Close, PO22	Fluvial 3a Tidal 3a	Amenity/Open Space	Residential Amenity / Open Space	More Vulnerable Water Compatible Development

Analysis of Areas considered for Potential Strategic Development but Rejected			
<u>Alternative Strategic Development Areas Considered</u>	<u>Flood Risk Zone(s)</u>	<u>Existing Uses</u>	<u>Reasons for Dismissing</u>
Land to the North East of Brooks Lane, PO22	Fluvial: 3a Tidal: 3a	Agricultural Land	Development would encroach into open countryside. Runs directly adjacent to the River, elevating risks. Surrounding landscape would be sensitive to change. Therefore the area is not suitable for any scale strategic development.
Land to the North East of Whitfield Close, PO22	Fluvial 3a Tidal 3a	Amenity / Open Space	Development would encroach into open countryside. Runs directly adjacent to the River, elevating risks. Surrounding landscape would be sensitive to change. Therefore the area is not suitable for any scale strategic development.

Arun District is affected by varying degrees from flooding; the sources affecting most of the land are from rivers, the sea and groundwater.

Flood Risk Indicator	Area (km²)	% of total area
Size of planning area	224	
Total of developed area	40	18
Area in Flood Zone 2 (flooding from rivers – 0.1% AEP)	23	10
Area in Flood Zone 2 (flooding from the sea – 0.1% AEP)	31	14
Area in Flood Zone 3a (flooding from rivers – 0.1% AEP)	21	9
Area in Flood Zone 3a (flooding from the sea – 0.1% AEP)	28	13
Area in Flood Zone 3a (flooding from rivers – defended 5% AEP)	10	4
Area in Flood Zone 3a (flooding from the sea – defended 5% AEP)	4	2

We have searched extensively to locate a development site of similar / adequate size, outside of Flood Zone 3 in the appropriate development area with little success. Development Sites outside this Zone 3 within the immediate area are in a commercial setting not urban including offices / general industry / storage and distribution.

For the purposes of this document 'reasonable available' sites would include any sites that are known to the Local Planning Authority (LPA) and meet the functional requirements of the application proposed.

The development cannot be redirected to a Zone 2 – Medium Probability. Other locations have been considered to locate new development as outlined above.

We believe that we can achieve the necessary tasks to demonstrate that an adequate standard of safety can be achieved.

The Exception Test

1. Do the development proposals make a positive contribution to sustainable communities and to the sustainable development objectives of the Arun District Local Development Framework (the Sustainability Objectives for the Core Strategy).	
SA Objective 1: To achieve successful and inclusive communities	
Yes	Development within the Ward of Hotham to provide additional residential accommodation.
SA Objective 2: To ensure Arun delivers high quality housing and provides excellent social infrastructure	
Yes	Promoting local distinctiveness by using examples of local vernacular while incorporating best practice design from elsewhere.
SA Objective 3: Ensure a diverse and thriving economic base to support Arun's growth	
Yes	Development will have a positive impact on achieving sustainable levels of prosperity and economic growth for Bognor Regis.
SA Objective 4: To improve the vibrancy of Arun's town centres	
Yes	Development will be walking distance of Bognor Regis town centre reducing the reliance on the car.
SA Objective 5: To ensure efficient and sustainable movement within and beyond Arun	
Yes	- Access to public transport will reduce the need for journeys by car. - Development will accommodate walking, cycling, public transport, with the car last. - Improving transport infrastructure between Bognor Regis with the rest of the region.
SA Objective 6: To enhance Arun's environmental integrity	
Yes	Explain how: Development will have a positive impact on achieving sustainable patterns of development.

SA Objective 7: To maximise natural resource efficiency

Yes	Implementation of a SuDS system:- a environmentally friendly approach to managing rainfall that uses landscape features to deal with surface water. SuDS aim to: • Control the flow, volume and frequency of water leaving a development area • Prevent pollution by intercepting silt and cleaning runoff from hard surfaces • Provide attractive surroundings for the community • Create opportunities for wildlife A SuDS Plan (Sustainable Drainage and Landscape Management Plan) will be submitted for further consideration. Design will allow for the highest groundwater table in support of the design. Data for Infiltration Rates/Percolation Tests will be undertaken and submitted for further consideration. Provision to ensure that there is capacity in the system to contain below ground level the 1 in 100 year event plus 30% on stored volumes, as an allowance for climate change. Provision to ensure adequate freeboard between the base of the soakaway structure and the highest recorded annual groundwater level identified at this location.
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APPENDICES

Appendix 1	Flood Defence Location Map
Appendix 2	Supporting Documents from Environment Agency dated 17/08/16
Appendix 3	Product 4 Flood Risk Data from Environment Agency dated 17/08/16
Appendix 4	Flood Map for Planning (Rivers and Sea) Centred PO22 8DS. Created 11/08/16 – Supplied by Environment Agency
Appendix 5	Modelled Flood Outlines centred on Land to South of High Croft Close PO22 8DS. Created 11/08/2016 (Ref:SSD/19141) - A
Appendix 6	Modelled Flood Outlines centred on Land to South of High Croft Close PO22 8DS. Created 16/08/2016 (Ref:SSD/19141) - B
Appendix 7	Modelled Flood Outlines centred on Land to South of High Croft Close PO22 8DS. Created 17/08/2016 (Ref:SSD/19141) - C
Appendix 8	Modelled Flood Outlines centred on Land to South of High Croft Close PO22 8DS. Created 11/08/2016 (Ref:SSD/19141) - D
Appendix 9	Modelled Site Node Points centred on Land to South of High Croft Close PO22 8DS. Created 17/08/2016 (Ref:SSD/19141) - E
Appendix 10	Site Level Plan 5070-04
Appendix 11	Bognor Regis Ward Divisions
Appendix 12	Bognor Regis Town Council Boundary – Green Infrastructure Network
Appendix 13	West Sussex – Residential Land Availability Survey 2015 Page 4
Appendix 14	Policy Map 3 Bognor Regis and Surrounding Area – Arun Local Plan 2011

REFERENCES

Arun Local Plan (2011-2031) Sequential & Exception Tests – October 2014

The National Planning Policy Framework (NPPF) (2012) paragraphs 93 to 108

Planning Practice Guidance (PPG) 2014 (paragraph 19)

Planning Policy Statement 25

Arun District Council 5 Year Housing Land Supply 2015-2020

Arun District Council Duty to Cooperate Statement 2015

Arun District Council – Authority Monitoring Report 1st April 2013 – 31st March 2014