

**This Appendix provides specific information on the following subjects for Bournemouth:**

- (1) Hydrology
- (2) Relevant local planning policy from the Bournemouth Borough-wide Local Plan 1994-2011
- (3) Sewer flooding
- (4) Key points from the SFRA specific to Bournemouth

**(1) Hydrology**

The River Stour flows from the north of Kinson in a south-easterly direction along the borough boundary to Christchurch harbour. To the west of the borough is the River Bourne which also flows in a south-easterly direction to the coast near West Hill.

**(2) Bournemouth Borough-wide Local Plan 1994 – 2011 (February 2002)**

The over arching policy in the Bournemouth Local Plan is Policy 3.28. This states that:

*“Development will not be permitted in, or in the vicinity of, areas liable to flood, watercourses or flood defence works where it would impede floodwater flows, reduce the capacity of washlands or increase flooding risks elsewhere, lead to danger to life, damage to property or where it could interfere with drainage authorities ability to carry out maintenance work, and neither should development lead to wasteful expenditure on remedial works.”*

Further policy related to development in ‘high risk’ areas is echoed in Policy 3.25 of the Local Plan:

*“Proposals for development or redevelopment within 200 metres of cliffs and chines, or in proximity to steep embankments, will incorporate the measures necessary to demonstrate that such development will have no adverse effect upon existing cliffs, chines or steep embankments. Proposals for major developments in these areas will be required to submit a development impact assessment to show the proposal will have no adverse effect on land stability”.*

In addition, Policy 3.26 dictates that:

*Development that is acceptable along the river and other watercourses should be sited and designed to protect or enhance their:*

- (i) visual and physical quality;*
- (ii) nature conservation, biodiversity and natural qualities; and,*
- (iii) landscape setting.*

In addition, Policy 3.24 ensures that additional development will not affect the ‘natural processes’ of the marine and fluvial environment:

*“Developments which will generate additional foul, combined and/or surface water drainage will only be permitted where arrangements are made for their satisfactory disposal”.*

**(3) Sewer flooding within Bournemouth**

Wessex Water’s sewer flooding plan for Bournemouth shows the majority of flooding is located in the vicinity of West Cliff, with other isolated incidents throughout the Borough. It is likely that these incidents are associated with network incapacity as a result of development along the coastline or through poor performance of one of the many STW or pumping stations located in the area. The sewer network is combined and, thus, it is likely that the system is now under capacity as a result of greater surface water connectivity and /or storm intensity. The flood

events comprises 3 DG5AP's (2 internal incidents in 10 years) and 9 DG5BI's (1 internal incident in 10 years). Solutions comprising storage, diversion, local upsizing of sewers and upgrading of pumping stations may alleviate current flooding, and are considered appropriate for the areas which have already been extensively developed.

#### **(5) Key points from the SFRA specific to Bournemouth**

- Flooding from the sea has not affected Bournemouth in the past.
- No groundwater flooding events have been recorded in Bournemouth
- Twelve properties are currently at risk of sewer flooding within Bournemouth, but Wessex Water intends to implement solutions to alleviate flooding in these properties by March 2010.
- Tile Set B shows limited flood defences within Bournemouth, but if development is proposed behind any of these defences a detailed breach and overtopping assessment will need to be carried out to inform the sequential test and to ensure that the potential loss of life can be safely managed throughout the lifetime of the development.
- A Major Incident Plans (MIP) is in place for Bournemouth which is of a good standard, but Ilford should be separated out with a MIP produced for this location. MIPs describe the nature of flood risk, defences, flood warning procedures, roles and responsibilities before, during and after a flood incident.
- In the application of SUDS techniques it is recommended that priority is given to the use of surface water drainage techniques due to the generally permeable soils throughout Bournemouth. However prior to implementing these techniques, each site should confirm that the use of infiltration drainage will not increase the risks of groundwater flooding.
- The Building Regulations Part H state that the preferred option for the disposal of property runoff is via soakaway. However, there are cliff instability problems over the length of the Bournemouth coastline and the Council has a policy which prevents soakaways being used within a strip approximately 200 metres inland from the cliffs (Bournemouth District Wide Local Plan Adopted 2002).
- The coastal flood zones delineated in *Volume II, Tile Set D* illustrate the 0.5% annual probability flood event in 2070 and 2115 with an allowance for climate change. These flood extents correspond with the design life for a commercial development (60 years) and a residential development (100 years). If development is proposed near the coast, wave action must be considered and an allowance made for the potential effects of increased wind speeds and wave heights.
- The 0.5% tidal annual probability flood extent for 2070 and 2115, with an allowance for climate change, has potential implications on the following policy areas:
  - Green Belt
  - Flood Plain
  - Site of Special Scientific Interest
  - Site of Special Scientific Interest, Special Area of Conservation & Special Protection Area
  - Site of Nature Conservation Interest

- Heathland
- Area of Archaeological Importance
- Mobile Home Park

A large proportion of these implications are within the Hengistbury Head area. However, there are some implications further inland. In particular, both the 2070 and 2115 scenarios have implications on residential properties within Wick, and it is noteworthy that the 2115 scenario includes land either side of the railway line. The A35 and Iford Bridge are also potentially impacted. There is a need to re-consider the wording of current policies to ensure they take into account these potential effects of climate change.

- Bournemouth intersects with Climate Change Flood Zones 3b and 3a in a limited number of areas. In allocating sites for development within Bournemouth, Bournemouth Borough Council will be required to undertake the Sequential Test if proposing any sites that lie within Flood Zones 2, 3a and 3b at any point in the developments life. This will ensure the more vulnerable uses of land can be allocated to the lowest risk sites.