

King's Lynn and West Norfolk Borough Strategic Flood Risk Assessment Level 2 Community Level Guidance Tables

Completed by	JBA consulting
Date	March 2019
Author	Freyja Scarborough
Reviewer / Sign-off	Hannah Coogan
Version Number	Version 2.0

Level 2 Community Level Guidance Tables

Community details	Community	Southery			
	Flood Risk Summary	Highest risk flooding mechanism	Fluvial		
		Most likely source of flooding	Fluvial		
Sources of flood risk	Existing drainage features	<ul style="list-style-type: none"> Surrounding the community there are a number of small unnamed drains, the main concentration of which are to the east of the community. There are two drains open watercourse between culvert within the community in the east of the community. 			
	Fluvial	Indicative Flood Zone 3b along the southern community boundary.			
	Tidal	No			
	Surface Water	Minor impact from surface water in the 3.3% and 1% AEP events. Larger impact in the 0.1% AEP event.			
	Residual Risk	<ul style="list-style-type: none"> Minor residual risk from fluvial breach from the River Great Ouse on the southern boundary of the community and to the west, in areas of low elevation surrounding the community. Minor risk of flooding from breach of the New Barn Reservoir in the south-west of the community.			
	IDB watercourse present?	<ul style="list-style-type: none"> Partial inclusion in Southery & District Internal Drainage Board (IDB) along the southern boundary of the community. White Bridge drain flows past the south-western corner of the community. Ten Foot drain flows past the south-east corner of the community. 			
	Flood history	<ul style="list-style-type: none"> The Environment Agency have no recorded flood outlines or Sewer Records. An internet search provided textual evidence of flooding from overflowing drainage systems in Southery in June 2009. Norfolk County Council flood investigations show that in Summer 2014 there was internal flooding of a property on Lynn Road, caused by run-off from significant rainfall and exceedance of drainage systems. 			
Flood risk management infrastructure	Defences	Defence Type	Flooding Type	Standard of Protection	Condition
		Embankment (x2)	Fluvial	100	3 (Fair)
		Embankment	Fluvial	100	4 (Poor)
		The areas benefitting from defences information covers a small area of the southern community and most of the surrounding area where high ground is not present.			
Opportunities for sustainable development	Asset management	The proposed works along Ten Mile Bank due to commence post 2021 under the Environment Agency Pipeline will better protect 12 households.			
	Capital investment policy and regeneration	No current schemes identified for this community.			

King's Lynn and West Norfolk Borough Strategic Flood Risk Assessment Level 2 Community Level Guidance Tables

Completed by	JBA consulting
Date	March 2019
Author	Freyja Scarborough
Reviewer / Sign-off	Hannah Coogan
Version Number	Version 2.0

Level 2 Community Level Guidance Tables

Community details	Community	Southery	
	Flood Risk Summary	Highest risk flooding mechanism	Fluvial
		Most likely source of flooding	Fluvial
	Higher level policy	<p>This community is not explicitly mentioned in any higher-level policy documents.</p> <p>This area is within the Great Ouse Catchment Flood Management Plan and sub area 10, the Fens. Within this sub-area the current flood risk is appropriately managed. However, the risk is expected to significantly rise in the future with impacts from climate change.</p> <p>Southery is designated as low-lying fenland in the hinterland of the Wash Shoreline Management Plan (SMP) 2 is protected by defences along the wash coastline and is therefore relevant to the SMP. The policy within this area (PDZ1) is to maintain the current defences into the future, considering an 'envelope of potential developments' for all future scenarios.</p> <p>CFMP/ SMP policies set the high level and strategic direction for flood risk and coastal change management. There is no guarantee that funding will be available from national, regional or local sources to implement the policy. More detailed strategy and scheme work considers funding needs and availability at a community level.</p>	
Emergency planning	Flood warning	The community is partially covered by the 'Ely Ouse' Environment Agency Flood Alert Area.	
	Access and egress	<ul style="list-style-type: none"> • During a fluvial event, access and egress routes out of Southery for all AEP events are very limited, as flood zones surround the community. • Minor localised impacts on access and egress in the 3.3% and 1% AEP fluvial events. Access and egress is more difficult in the 0.1% AEP event. 	
Climate Change	Implications for the community	<ul style="list-style-type: none"> • Increase in flooding from surface water due to climate change. 	
Requirements for drainage control and impact mitigation	Broad scale assessment of possible SuDS	Bedrock Geology	Sandstone and siltstone; Mudstone
		Superficial Geology	Diamicton, Sand and Gravel, and Peat
		Soil Type	Naturally wet
		Groundwater Source Protection Zone	No
		Historic Landfill Site	No

King's Lynn and West Norfolk Borough Strategic Flood Risk Assessment Level 2 Community Level Guidance Tables

Completed by	JBA consulting
Date	March 2019
Author	Freyja Scarborough
Reviewer / Sign-off	Hannah Coogan
Version Number	Version 2.0

Level 2 Community Level Guidance Tables

Community details	Community	Southery	
	Flood Risk Summary	Highest risk flooding mechanism	Fluvial
		Most likely source of flooding	Fluvial
		<ul style="list-style-type: none"> Source control techniques are likely to be suitable for this community. Mapping suggests groundwater flooding is unlikely to be an issue in this community, as such infiltration techniques will probably be suitable. Detention features may be feasible providing site slopes are <5% at the location of the detention feature. Filtration systems are probably suitable providing site slopes are <5% and the depth to the water table is >1m. If the site has contamination issues, then a liner will be required. Suitability of conveyance features will be dependent on receiving waterbodies and the extent of pumping, storage and detention in relation to IDB assets and the 10 Mile Bank and River Great Ouse. Where slopes are >5%, features should follow contours or utilise check dams to slow flows. 	
NPPF and planning implications	Existing Local Considerations	<ul style="list-style-type: none"> The Borough Council's Local Plan has allocated the Rural Village Southery with 15 additional dwellings. The development will require SUDS, because the Surface Water Network has been identified as being at capacity. Southery is in an area benefiting from fluvial defences. It should be considered, to mitigate the impacts of flooding in this community, that a contribution to the maintenance of this defence infrastructure may be considered to assist with safeguarding of residual risk from defence breach within the community. This is especially relevant due to the poor condition ratings of these defences. 	

King's Lynn and West Norfolk Borough Strategic Flood Risk Assessment Level 2 Community Level Guidance Tables

Completed by	JBA consulting
Date	March 2019
Author	Freyja Scarborough
Reviewer / Sign-off	Hannah Coogan
Version Number	Version 2.0

Level 2 Community Level Guidance Tables

Community details	Community	Southery		
	Flood Risk Summary	Highest risk flooding mechanism	Fluvial	
		Most likely source of flooding	Fluvial	
	Requirements and guidance for site-specific Flood Risk Assessment	<ul style="list-style-type: none"> • Early consultation with the Downham Group of IDBs is recommended depending on site location and impact from IDB drains. • The Flood Risk Assessment (FRA) should address all forms of flood risk impacting this community (fluvial and pluvial). • Ensure safe access and egress from the site in fluvial and surface water flood events and prepare a flood evacuation plan for the site. • Detailed hydraulic modelling will need to consider any drains within and surrounding the community that are likely to affect the site to assess fluvial flood risk in the community (including IDB drains). Hydraulic modelling should also seek to understand the impact of residual risk from culvert blockage to any proposed site. • Consider the impact of a tidal or fluvial breach by sequentially placing the highest vulnerability part of the development in the areas of lowest flood risk, applying the Councils Flood Risk Design Guidance and creating a site-specific emergency plan for flood events. • Consider the impacts of climate change especially from fluvial flood risk. • An FRA should suggest appropriate mitigation (flood resilience measures). • The FRA must demonstrate how the development would provide wider sustainability benefits to the community that outweigh the risk associated with flooding and that the development would be safe for its lifetime without increasing flood risk elsewhere and, where possible, would reduce flood risk overall. • Consider the impacts of fluvial defence breach on the community. 		
			Tidal and Coastal	Fluvial
		No Risk	5% AEP and Beach	3.3% AEP
	Conclusions and recommendations	<ul style="list-style-type: none"> • Much of the community is situated on high ground and in Flood Zone 1. • Ensure safe access and egress especially in fluvial events and recommend that a flood evacuation plan is put in place. • New development will require SUDS, because the Surface Water Network has been identified as being at capacity. • Historical records of drainage exceeding capacity. • Strongly recommend early consultation with Downham Group of IDBs where applicable. • Consider mitigation for surface water flooding. • Consideration should be given to providing a contribution to the defences protecting this community. 		

King's Lynn and West Norfolk Borough Strategic Flood Risk Assessment Level 2 Community Level Guidance Tables

Completed by	JBA consulting
Date	March 2019
Author	Freyja Scarborough
Reviewer / Sign-off	Hannah Coogan
Version Number	Version 2.0

Level 2 Community Level Guidance Tables

Community details	Community	Southery	
	Flood Risk Summary	Highest risk flooding mechanism	Fluvial
		Most likely source of flooding	Fluvial
Mapping Information			
Flood Zones		All Flood Zones are comprised of Environment Agency Flood Zones containing fluvial outlines.	