

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 3.0

Level 2 Community Level Guidance Tables

Community details	Community	Emneth			
	Flood Risk Summary	Highest risk flooding mechanism	Surface water		
		Most likely source of flooding	Surface water (very low risk)		
Sources of flood risk	Existing drainage features	<ul style="list-style-type: none"> Small drains surrounding the community. Small areas of open drain identified within the community. 			
	Fluvial	No			
	Tidal	Small impact in Flood Zone 2			
	Surface Water	Small impact from 3.3% AEP event and 1% and more significant impact in the 0.1% AEP events.			
	Residual Risk	No			
	IDB watercourse present?	<ul style="list-style-type: none"> This community is completely covered by the King's Lynn Internal Drainage Board (IDB), in the admin area of the Water Management Alliance (WMA). There are a number of IDB drains under the remit of King's Lynn IDB, which have an influence on the community. Middle Level Commissioners IDB 'Hundred of Wisbech IDB' lies to the immediate south-west of Emneth. 			
Flood history	<ul style="list-style-type: none"> The Environment Agency recorded flood outlines dataset indicates no record of flooding. The provided Section 19 data for the flooding in Summer 2014 shows internal flooding of several properties in Emneth resulting from surface water flooding, overloading of fluvial watercourses and the high groundwater table. An internet search also provided visual evidence of flooding in Summer 2014 in Emneth. There are records of sewer flooding in this community from September 2014 and February 2015. 				
	Flood risk management infrastructure	Defences	Defence Type	Flooding Type	Standard of Protection
		-	-	-	-
		N/A			
Opportunities for sustainable development	Asset management	No EA pipeline schemes at or near this community.			
	Capital investment policy and regeneration	No current schemes identified for this community.			

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	Higher level policy	<ul style="list-style-type: none"> Emneth 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 due to the impacts from climate change. Actions should be taken to manage the increase in risk. The Emneth community is designated as low-lying fenland in the hinterland of the Wash Shoreline Management Plan (SMP) 2 and is protected by defences along the wash coastline and 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. 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. 	
Emergency planning	Flood warning	The community is partially covered by the 'East of Wisbech along the A47 to Terrington St John and surrounding areas' Flood Alert area and the and 'Tidal river from Denver to south of King's Lynn' Flood Warning Service.	
	Access and egress	<ul style="list-style-type: none"> Possible during all affected tidal events apart from a small inundation to the east of the community. Access and egress is possible apart from a few isolated areas to the east of the community in the all surface water events 	
Climate Change	Implications for the community	There is a small increase in the impact of surface water when taking into account the future effects of climate change.	
Requirements for drainage control and impact mitigation	Broad scale assessment of possible SuDS	Bedrock Geology	Mudstone, siltstone and sandstone
		Superficial Geology	Clay and silt
		Soil Type	Naturally high groundwater
		Groundwater Source Protection Zone	No
		Historic Landfill Site	Small area along the west of community from Wisbech Canal.

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		<ul style="list-style-type: none"> • Areas Susceptible to Groundwater Flooding data is not available for this community, as such the potential of broadscale assessment is limited and the suitability of SuDS will need to be determined by on-site investigations. • Source control techniques are likely to be suitable for this community. • Infiltration techniques will be suitable providing there are areas of a site not at high or medium ground water flood risk. As areas of the community have been designated as historic landfill, further site investigation should be carried out to assess potential for drainage by infiltration. • Detention features may be feasible providing site slopes are <5% at the location of the detention feature. If the site has groundwater issues, then a liner will be required. If landfill contamination is a risk to the site, then a liner may be required to mitigate against potential contamination issues. • Filtration systems are probably suitable providing site slopes are <5% and the depth to the water table is >1m. If the site has groundwater issues, then a liner will be required. • All forms of conveyance features are likely to be suitable. 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"> • Emneth is identified as a Key Rural Service Centre in King's Lynn and West Norfolk Borough Council's Local Plan. • An area of 1.1 hectares in Emneth has been allocated with residential development of at least 36 new dwellings, according to the Local Plan. 	

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	Requirements and guidance for site-specific Flood Risk Assessment	<ul style="list-style-type: none"> New development must seek opportunities to reduce overall level of surface water flood risk at the community. The Flood Risk Assessment (FRA) should address all forms of flood risk (coastal inundation, fluvial, pluvial and groundwater). Investigate impacts of climate change on fluvial, tidal and surface water flooding. Green infrastructure should be considered within the mitigation measures for surface water runoff. Ensure safe access and egress due to the impact of climate change on additional surface water flooding. This community has areas within its boundary designated by the Environment Agency as being a landfill site. A thorough ground investigation will be required as part of a detailed site-specific FRA to determine the extent of the contamination and the impact this may have on SuDS. As such, proposed SuDS should be discussed with the relevant stakeholders (Local Planning Authority, Lead Local Flood Authority and Environment Agency) at an early stage to understand possible constraints. Areas Susceptible to Groundwater Flooding data is not available for this community, as such the potential of broadscale assessment is limited and the suitability of SuDS will need to be determined by on-site investigations. Investigate impacts of tidal breach. 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 from structures along these watercourses. Early consultation with the WLMA and Middle Level Commissioners (MLC) (where relevant) is strongly recommended in this area. 		
Conclusions and recommendations		Tidal and Coastal	Fluvial	Surface Water
		0.1% AEP	No Risk	3.3% AEP
		<ul style="list-style-type: none"> The community is mainly within Flood Zone 1 An area of 1.1 hectares in Emneth has been allocated with residential development of at least 36 new dwellings, according to the Local Plan. Recent flood history from surface water flooding from Summer 2014. Consider mitigation for surface water flooding Ensure safe access and egress. Early consultation with the WMA and MLC (where relevant) is strongly recommended in this area. 		
Mapping Information				

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Flood Zones		<ul style="list-style-type: none"> Compiled from the Environment Agency supplied outlines of the tidal Wash Model, 2018. 	