

Appendix E : Action Plan

KINGS LYNN ORDINARY WATER COURSE STUDY - ACTION PLAN

*Priority: Short = up to 2 years; Medium - up to 5 years; Ongoing = regular monitoring.

**Cost: Low = £0 - £5000; Medium = £5001 - £10,000; High = £10,000+

SWMP Section	Action		Benefit	Priority (Time)*	Action Owner(s)	Action Partner(s)	Cost**
	What?	How?					
Risk Assessment	Look for opportunities to reduce flood risk to critical transport infrastructure whilst upgrading the existing drainage network in partnership with Anglian Water, Highways Agency, IDB and Network Rail	Discussion with relevant officers of NCC & BCKLWN	Refine understanding of risk to critical infrastructure. Prioritise localised drainage improvements	Medium	NCC	Highways Agency and Anglian Water	Medium
	Installation of additional road gullies or alternative drainage systems to reduce standing water depth and duration	As part of highways improvement programme include additional construction task of installing additional gullies or alternative drainage systems where feasible and required. Consultation with Anglian Water and IDB's may be required.	Reduction in the probability of flooding	Medium	NCC	Anglian Water and NCC Highways	Medium
	Determine extent of i) residential use of at-risk basements [if any], ii) groundwater boreholes and iii) geological conditions, and decide if a risk from flooding exists.	No basements are identified in the EA NRD however this should be confirmed with local knowledge. If basements are identified then use predicted extent of 75year flood to enable determination.	Better understanding of scope of flooding impact, and improving identification of solutions and funding	Short	NCC and BCKLWN	Local Residents, NCC	Low
	Determine whether services (e.g. power, telecommunications) are resilient to surface water flooding	Discuss the overall resilience of services with relevant companies	Community resilience to flooding	Medium	NCC and BCKLWN	Utilities/services companies	Medium
Flood Mitigation - Area Wide Policy	Developments across the catchment to include source control SuDS measure(s), resulting in a net improvement in water quantity or quality discharging to sewer	Development control review and monitoring of policy implementation	Mid-long term reduction in flood risk and improvement in water quality	Ongoing	BCKLWN	EA, NCC (FRM)	Low
	All developments across the catchment (excluding minor house extensions less than 50m ²) which relate to a net increase in impermeable area are to include at least one 'at source' SuDS measure (e.g. water butt, rainwater harvesting tank, bioretention planter box etc). This is to assist in reducing the peak volume of runoff discharging from the site	Development control review and monitoring of policy implementation	Mid-long term reduction in the probability of flooding	Ongoing	BCKLWN	EA, NCC (FWMT)	Low
	Proposed 'brownfield' redevelopments of more than one property or area greater than 0.1 hectare are required to reduce post-development runoff rates for events up to and including the 1 in 100 year return period event with an allowance for climate change (in line with NPPF and UKCIP guidance) to 50% of the existing site conditions. If this results in a discharge rate lower than the Greenfield conditions it is recommended that the Greenfield rates (calculated in accordance with loH124) are used.	Development control review and monitoring of policy implementation	Mid-long term reduction in the probability of flooding	Ongoing	BCKLWN	EA, NCC (FWMT)	Low

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	Developments located in CDCs and for redevelopments of more than one property or area greater than 0.1 hectare require a betterment to Greenfield runoff rates (calculated in accordance with IoH124). It is recommended that a SuDS treatment train is utilised to assist in this reduction.	Development control review and monitoring of policy implementation	Mid-long term reduction in the probability of flooding	Ongoing	BCKLWN	EA, NCC (FRM)	Low
	Implement Policy relating to Best management practises in relation to Water Quality and a reduction in pollutant loads (investigate using the water quality computer software [MUSIC or similar])	Development control review and monitoring of policy implementation	Mid-long term reduction in the probability of flooding	Ongoing	BCKLWN	EA, NCC (FRM)	Low
	Review Policy Areas and implement recommended controls for development within these.	Development control review and monitoring of policy implementation	Mid-long term reduction in the probability of flooding	Ongoing	BCKLWN	EA, NCC (FRM), Anglian Water	Low
	Preferential overland flowpaths (Urban Blue Corridors): This concept aims to manage the conveyance of surface water across an area of the catchment through the long term redesign of the urban landscape to create specific pathways to convey surface water.	Development control review and monitoring of policy implementation	Mid-long term reduction in the probability of flooding	Ongoing	BCKLWN	EA, NCC (FRM), Anglian Water	Low
	Use Anglian WaterMP maps to require developers In areas at risk of flooding to demonstrate compliance with NPPF to ensure development will remain safe and will not increase risk to others, where necessary supported by more detailed integrated hydraulic modelling.	Development Control Policy	Mid-long term reduction in the consequences of flooding	Ongoing	NCC and BCKLWN (Planning Strategy Dpts)	EA, Anglian Water	Low
Mitigation - Maintenance	Ensure drainage systems are operating at capacity - maintenance of gullies	Review existing gully clearance/ maintenance schedules and if necessary revise/prioritise based on surface water flooding predictions in this document	Flooding is not exacerbated	Ongoing	NCC (Highways) and BCKLWN	Anglian Water	High
	Gully Cleaning - Timing of Cleansing Rounds	Coordinate timing of gully cleansing rounds to ensure that they do not coincide with school opening and closing times and other peak times that would prevent gaining access to gullies.	Improved maintenance regimes	Short	NCC (Highways)	BCKLWN	Medium
	Clear Blocked Gullies	Focus attention on the maintenance of gully pots in the OAs which are considered to be high risk and on those areas identified as being at risk from blocked gullies	Reduction in the probability of flooding	Short	NCC (Highways)	BCKLWN	Medium
	Ensure drainage systems are operating at capacity - maintenance of Anglian Water sewers. Anglian Water to recommend SWMP findings to PPM programme, if flooding identified as drainage serviceability issue.	May require mapping of existing drainage infrastructure. Review existing maintenance schedules and if necessary revise/prioritise	Flooding is not exacerbated	Ongoing	Anglian Water	NCC (Highways), BCKLWN	High

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Flood	Maintain ditches and related infrastructure, proactively enforce maintenance of land drainage by riparian owners	Review existing maintenance schedules and if necessary revise/prioritise area of historic blockage (may require public consultation)	Flooding is not exacerbated	Ongoing	NCC, IBDs	Anglian Water, EA	High
	Review all natural assets to ensure the environmental integrity of the area(s) are not compromised by surface water runoff and any changes from development or flow regime	Undertake monitoring of areas(water quality, debris, flora/ fauna, etc)	Maintain environmental benefits	Ongoing	NCC (FRM) and BCKLWN	EA	Medium
Flood Mitigation - Opportunity Areas	Investigate (confirm) whether flooding incidents have occurred in CDCs and other areas identified as being at risk of flooding	Review flooding reports, then conduct survey of local residents (e.g. mail drop, door knocking) to update database	Validate model outputs, resident 'buy in'	Short	BCKLWN	NCC, Local Residents	Medium
	Monitor flood risk related problems and manage future development to minimise impact on flood risk	Development control policy and monitoring of flood risk incident register	Proactive management of potential flood risk in areas of higher risk probability	Ongoing	BCKLWN	NCC (Highways & FRM)	Low
	Undertake further investigations to implement Small Scale SuDS (e.g., Green roofs, rain gardens, permeable paving, soakaways) and Property Level Protection (PLP) where predicted flood risk is confirmed through consultation or future significant rainfall events	Undertake detailed modelling, cost benefit analysis and submit funding applications for flood mitigation schemes	Reduction in the probability of flooding	Ongoing	NCC / BCKLWN	EA / IDB	High
	Undertake further investigations as required where predicted flood risk is confirmed through consultation or future significant rainfall events	Undertake detailed modelling, cost benefit analysis and submit funding applications for flood mitigation schemes	Reduction in the probability of flooding	Ongoing	NCC / BCKLWN	EA / Anglian Water	High

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Flood Mitigation - Emergency Planning and Awareness	Review the emergency planning procedures in areas at risk from surface water flooding	Review depth and hazard model outputs with emergency planning teams	Ensure the safety of people and highlight where additional planning is required	Short	NCC (FRM) and BCKLWN	Category 1 and 2 Responders	Low
	Raise community awareness of simple measures and systems that can be installed at their homes to manage local flooding	Produce information packs and distribute to the community highlighting the low cost and high benefits of rainwater harvesting and water-butts	Improved community awareness of flood risk and 'buy in' to being part of the solution	Medium	NCC (FRM) and BCKLWN	Category 1 and 2 Responders	Medium
	Communicate the risk of flooding and raise awareness within local communities	Prepare and communicate a summary of SWMP outcomes for use by the community	Improved community awareness of flood risk and 'buy in' to being part of the solution	Medium	NCC (FRM) and BCKLWN	Category 1 and 2 Responders	Medium
	Engage Highways Agency to monitor any future flooding and assess the associated risk on all Major Roads	Maintain regular contact with relevant parties to share flood risk information	Understanding of local flood risk and potential impacts	Ongoing	NCC (Highways)	NCC (FRM) and BCKLWN	High
Review and Update	Monitor Action Plan and delivery of actions by responsible parties	Review Action Plan	Ongoing awareness of actions and responsibilities to deliver them	Ongoing	NCC (FRM)	EA, Anglian Water and BCKLWN	Low
	Update Action Plan following one or more of the trigger events occurring	Review SWMP outputs against new information and revise Action Plan to suit	Action Plan is up to date and based on best available information	Medium	NCC (FRM)	EA, Anglian Water and BCKLWN	Low