## Local Flood Risk Management Strategy

**Action Plan** 

**March 2014** 



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## Overview

A change to the MCC Constitution has taken place to reflect the Council's new Lead Local Flood Authority (LLFA) duties and powers. Following that, a number of services have been established to fulfil these new powers and responsibilities.

A protocol for flood incident investigations and reporting has been agreed with other Greater Manchester Authorities and the call centre scripts and website have been updated to reflect the protocol. A flooding incident database has been established which along with collated historical flooding incidents has informed the requirement for emergency works, e.g. culvert, trash screen and channel debris clearance; the prioritisation of flood risk management schemes to be put forward for grant funding (e.g. LFRMS Action 10F and 10G); and also the prioritisation of maintenance regimes (LFRMS Action 4).

A flood risk asset database has been established which includes ordinary watercourses, small reservoirs, groundwater and surface water that now fall under the Council's responsibility and third party assets (e.g. Main Rivers, Canal infrastructure and Sewers). Initial culvert and channel inspections are on-going and various actions have been identified to improve the evidence base, e.g. hidden watercourse study (LFRMS Action 10A). A desktop study has been undertaken to understand the flood risk posed by culvert blockages which is being used to inform future risk based prioritisation of maintenance work and will also inform prioritisation of improvement works to manage flood risk (e.g. LFRMS Action 10D).

Procedures and protocols for Consenting have been developed and information on works requiring consenting has been put on the Council website. The on-going updates to the flood risk evidence base (asset register and flooding incident database) will continue to inform the consenting process.

Protocols are in place to provide flood risk and drainage comments on Planning Applications as the LLFA is taking over these responsibilities from the Environment Agency. The service is in place to respond to drainage queries from the public. The ongoing updates to the flood risk evidence base will continue to inform the planning approval process and the provision of advice to drainage queries.

The Council has established channels of communication with other Risk Management Authorities (RMAs) to exchange information on flooding incidents and to identify opportunities for joint funding to manage flood risk issues. The Council has established representation in different flood risk management groups across Greater Manchester. Working in partnership will help facilitate the prioritisation of flood risk management schemes to be put forward for grant funding (e.g. LFRMS Action 10) and working with Manchester Communities (LFRMS Action 8).

The following table sets out the local flood risk management actions identified for Manchester to progress the Local Flood Risk Management Strategy (LFRMS). These actions will be reviewed and updated and new actions will be developed to respond to changing circumstances and new flood risk management priorities. The Actions are consistent with the LFRMS and a range of factors will help inform which projects are progressed, including modelled risk, reported flooding incidents, known problems, bid scores and political priorities, and in many cases the work will be iterative: funding for studies will help inform works / measures to reduce risk, and identify the people / organisations responsible. These may take a number of years to progress.

Actions	Lead Partner	Supporting Partners	Supporting Policies	Expected Delivery Timescale	Strategic Context and Reasoning
LFRMS Action 1 Develop Local Flood Risk Management Partnership arrangements	LLFA	EA HA LHA NAS UU	LFRMS 1, 2, 3, 4, 5, 9	Within 6 months of adoption of LFRMS	Co-operation is a cornerstone of local flood risk management, given its complex and overlapping nature, and through partnership working more can be achieved than by working individually. It will be essential for the Risk Management Authorities (RMAs) and the Navigation Authorities (NAs) operating in Manchester to work well together. Other stakeholders, including landowners and the public will also be engaged where relevant. Partnership arrangements are expected to develop iteratively over time, as different organisations set out their approach to meeting their statutory roles and responsibilities, and how best to engage with wider interests, such as the Emergency Services / Civil Contingencies, the Local Planning Authority, neighbouring Lead Local Flood Authorities (LLFAs) and local communities. With limited resources, a proportionate approach that focuses on agreed priorities is likely to be needed. Partnership arrangements are expected to work at different levels: - Senior level (to provide direction and ensure cooperation) - Operational level (to progress actions and communications)

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					The establishment of the Sustainable Drainage System (SuDS) Approving Body (SAB) and the impacts that this may have on the partnership arrangements will need to be considered at that time, once roles and functions have been determined.
LFRMS Action 2 Agree the roles and responsibilities of the Risk Management Authorties (RMAs) and Navigation Authorities (NAs) in Manchester, including protocols for communication and cooperation	LLFA	EA HA LHA NAs UU LPA Neighbouring LLFAs Civil Contingencies Emergency Services	LFRMS 1, 3, 4, 5, 8, 9	Within 6 months of adoption of LFRMS	Given the complexity, uncertainties and apparently overlapping responsibilities it will be helpful for the RMAs and NAs to agree what their respective roles and responsibilities will be, and establish protocols for communicating and working together, and with other important stakeholders, such as the Emergency Services / Civil Contingencies, the Local Planning Authority and neighbouring LLFAs.
LFRMS Action 2A Confirm responsibility for the management of flood risk from canals.	LLFA	EA NAs Neighbouring LLFAs Natural England	LFRMS 3, 4, 5, 9	Within 6 months of adoption of LFRMS	Establishing and agreeing roles and responsibilities for flood risk management from the Manchester Ship Canal (including the 'Grey' Irwell) and the Ashton, Bridgewater and Rochdale canals between the LLFA and the appropriate NA is essential to effectively manage the risk of flooding from these watercourses. Through Section 13(4)(b) of the Flood & Water Management Act 2010, an LLFA can

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					arrange for a flood risk management function to be exercised on its behalf by a NA, which if used in relation to canals would confirm responsibility for NA to manage flood risk from their canals. Given the legislative overlap between LLFAs and NAs in this respect it is important to clarify roles and responsibilities for flood risk management from canals.
					Engagement with neighbouring LLFAs who share these canals would also be beneficial, and where there are interactions with other watercourses - such as between the (main) river Medlock and the Bridgewater Canal in Manchester City Centre, the Environment Agency should also be involved.
					The Rochdale Canal Special Area of Conservation (SAC) in neighbouring Oldham Council means that works that impact upon the canal in Manchester should have regard to the potential impacts on this designated site.
LFRMS Action 2B Establish responsibility for the management of flood risk from watercourses of unknown status.	LLFA	UU EA HA LHA	LFRMS 1, 3, 4, 5, 8, 9	Within 6 months of adoption of LFRMS	Establishing roles and responsibilities for managing flood risk from watercourses where ownership and / or status is unclear will help ensure effective flood risk management. The status of many watercourses in the City has changed over time, including through new developments,

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					highways drainage infrastructure. This may impede a timely and effective response to a flood from one of these sources so it will be important to develop appropriate protocols for such situations, as well as considering opportunities for collaborative working and the sharing of resources between RMAs.
LFRMS Action 3	LLFA	EA	LFRMS	Ongoing	Maintaining an up-to-date evidence
Improve and maintain the flood risk evidence base to support both risk assessment and the prioritisation of future actions to manage local flood risk.		UU HA LHAs	1, 2, 3, 4, 5, 8, 9		base is important to help identify and prioritise locations for flood risk management interventions. Addressing gaps in the evidence base, improving the quality of the evidence base, and keeping the evidence base up-to-date are the three main areas of work to be covered. Working with other stakeholders could provide opportunities
1156.		NAs Neighbouring			
		LLFAs			
		Landowners			for sharing information, combining budgets and reducing costs. This information will be used to inform future interventions
LFRMS Action 3A	LLFA	EA	LFRMS	Ongoing	Ensure that effective mechanisms and
Record local flooding incidents appropriately and use this information to manage risk.		Landowners	1, 3, 4, 8		procedures exist for recording information about flooding from ordinary watercourses, groundwater and surface water, and for using this information to manage risk. Interactions with other sources of flooding should also be considered.
LFRMS Action 3B	LLFA	EA	LFRMS	Within 12	Across England main rivers have been
Undertake broad-scale modelling of all		UU	1, 2, 3, 4, 5, 8	months of adoption of	modelled for flood risk by the Environment Agency and flood zones

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unmodelled non-main rivers in Manchester.		HA LHA		LFRMS	from certain storm events established; for most non-main rivers, however, modelling has not been undertaken.
					The first stage in managing risk from ordinary watercourses is to understand the potential risk by modelling the free- flow conditions of watercourses during defined storm events. This would identify the extent of flooding, the properties affected, and thereby inform the best means of managing fluvial flood risk.
					Non-main rivers are often wholly or partly culverted, and the risk from blocked or collapsed culverts will also need to be considered.
					Understanding interactions with the sewer system and highway drains would be helpful.
LFRMS Action 3C Undertake detailed assessment of overtopping and breach risk from broad canals.	LLFA	NAS EA	LFRMS 1, 2, 3, 4, 5, 8	As agreed with Navigation Authorities	The best available information currently available for assessing risk from canals is from the Manchester, Salford and Trafford Hybrid Strategic Flood Risk Assessment (SFRA), but it is important to recognise that this was a fairly simplistic assessment. Further work to explore the extent and severity of the residual flood risk from canals will help to refine how many properties are at potential risk, and to develop appropriate risk management responses.

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LFRMS Action 3D Identify, map and risk assess all ponds and small reservoirs within Manchester that are classed as ordinary watercourses, to inform future inspections, maintenance and flood risk management.	LLFA	Landowners EA LHA HA UU	LFRMS 1, 2, 3, 4, 5, 8, 9	Within 12 months of adoption of LFRMS	By identifying and mapping these ordinary watercourses and undertaking a detailed assessment of the potential risk they pose an approach for how the risk can be managed proportionately will be developed. Working with landowners in this respect is essential, and understanding potential interactions with sewers, drains and main rivers will also be important.
LFRMS Action 3E Maintain up to date information on all Flood Risk Assets, including those listed in the LLFA Register, and the LLFA list of designated features / structures.	LLFA	EA UU LHA HA NAS	LFRMS 1, 3, 5	Ongoing	Identification and regular inspection of assets will help inform maintenance works and will thereby enable the drainage infrastructure within Manchester to function; this should reduce the risk and severity of flooding incidents within the city.
LFRMS Action 4 Develop comprehensive inspection and maintenance programmes for the drainage system within Manchester.	LLFA	EA HA LHA UU NAs Landowners	LFRMS 1, 2, 3, 4, 5, 8, 9	Within 6 months of adoption of LFRMS	The drainage infrastructure within Manchester is complex, in different ownerships, often interconnected, and in different states of repair. In order to function effectively it must be maintained, and this will involve regular inspection, cleaning, clearance, repair and refurbishment work, together with a responsive capability to deal with any problems that arise and need to be addressed urgently. For the LLFA this should be closely linked to the upkeep of

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					the Asset Register, and / or the Designation of any features or structures. Any maintenance works would need to involve relevant infrastructure / asset or land owners, and for Sustainable Drainage Systems (SuDS) the SAB, once its duties commence. This information will be used to inform future interventions.
LFRMS Action 4A Identify priority locations for more intensive ongoing maintenance and condition monitoring activities for the drainage system.	LLFA	EA HA LHA UU NAs Landowners	LFRMS 1, 2, 3, 4, 5, 8, 9	Within 6 months of adoption of LFRMS	Based on modelled flood risk, vulnerable land-uses and the number of recorded flood incidents, certain locations are likely to be higher priorities for flood risk management monitoring an maintenance than others. For theses areas, a more intensive inspection and maintenance regime should be operated by the organisation responsible for this task. These locations may change over time and sharing information between RMAs and others will help retain focus on priorities.
LFRMS Action 4B Ensure that there is a responsive capability to address emergency situations.	LLFA	EA HA LHA UU NAs Landowners	LFRMS 2, 3, 4, 5, 8, 9	Within 6 months of adoption of LFRMS	Some maintenance, such as clearing a blocked culvert, may need to be undertaken outside of the scheduled maintenance programme to prevent flooding. Some responsive capacity should therefore be retained by the responsible bodies to address situations that may arise.

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LFRMS Action 4C Designate features and / or structures that may have a significant effect on local flood risk.	LLFA	-	LFRMS 1, 2, 3, 4, 5, 8	Ongoing	Using powers under Section 30 of the Flood and Water Management Act 2010, the LLFA may designate features or structures it considers to affect flood risk. This would prevent alteration, removal or replacement of the structure / feature without prior approval. In most circumstances the owners of flood risk management infrastructure – formal or otherwise – are well aware of the important role they have and keep them well maintained. In situations where they are in a poor state of repair (or are likely to become so), or where ownership is unknown, or there is a risk to the continued function, the LLFA may choose to designate.
LFRMS Action 5 Ensure that applications for Consenting Works to Ordinary Watercourses are determined in accordance with the aim and objectives of the Local Flood Risk Management Strategy.	LLFA	-	LFRMS 3, 4, 5, 9	Ongoing	This duty passed to the LLFA in April 2012 from the Environment Agency. Applications that conflict with the aim and objectives of the LFRMS (such as works that may obstruct or impede the flow of ordinary watercourses or adversely effect flood defences or harm biodiversity) are unlikely to be acceptable; where unacceptable works have been undertaken without consent, enforcement action will be taken if considered if expedient.
LFRMS Action 6 Establish a Critical Drainage Area covering the whole of the City of	LLFA	UU EA HA	LFRMS 3, 6, 9	Within 6 months of adoption of LFRMS	At present, most of the City is included within a Critical Drainage Area (CDA), but some areas are not, even though there are surface water issues affecting

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Manchester.		LHA LPA Neighbouring LLFAs			these areas. With the agreement of the RMAs, classifying the entire City as a CDA would mean that consistent consideration of surface water issues can be given.
					The establishment of an agreed CDA is particularly relevant in terms of any developments that require planning permission, which would thereby require a flood risk assessment in line with the National Planning Policy Framework (Paragraph 103 footnote 20), although this would be clearly proportional to the scale of the development and the risks to be considered.
LFRMS Action 7 Develop best-practice drainage guidance to assist developers in reducing flood risk to and from their schemes.	LLFA	EA UU LPA Neighbouring LLFAs	LFRMS 3, 6, 9	Within 12 months of adoption of LFRMS	Working with RMAs and other stakeholders, the development of such guidance should help improve the quality of schemes and save time in dealing with them. Long-term maintenance will be an important consideration for SuDS schemes, and guidance may need to be refreshed once Section 32 of the Flood and Water Management Act 2010 commences.
LFRMS Action 8 Work with Manchester communities at risk of flooding from ordinary watercourses, groundwater and surface water runoff, to promote awareness and resilience, including property level works.	LLFA	EA UU LHA HA NAs Landowners	LFRMS 3, 5	Ongoing	Improving awareness of flood risk will help communities to engage in the management of the risk, including improving their resilience. Communities will be engaged in a number of ways, including, website information, leaflets, consultations linked to specific projects, or contact in relation to reporting a flood event to the LLFA, or the investigations

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					into a flood event taking place.
LFRMS Action 9 Monitor progress with LFRMS.	LLFA	EA HA LHA UU NAs Neighbouring LLFAs	LFRMS 1, 3, 9	Ongoing; annual monitoring.	It is important to monitor progress with the LFRMS to see how effective it is at improving local flood risk management and delivering the LFRMS Aim and Objectives; it is also a requirement of Section 9 of the Flood and Water Management Act 2010. This will entail developing appropriate indicators and appraisal methods against which progress with the strategy will be assessed, as referenced in Chapter 6 of the LFRMS. Reference to the Strategic Environmental Assessment (SEA) Environmental Report will be helpful in this respect.
LFRMS Action 10 Develop an updateable programme of flood risk management interventions within Manchester, the progression of which will manage / reduce flood risk and improve water quality and biodiversity.	LLFA	EA HA LHA UU NAS LPA Landowners Environmental organisations	LFRMS 1, 2, 3, 4, 5, 8, 9	Ongoing	These actions could include investigative studies, flood risk modelling, establishing flood warning / alert areas, capital works including refuse clearance and asset repairs / replacements, landscaping schemes, or resilience works / flood defences, and would be informed by the evidence base – vulnerability of uses, modelled risk, recorded flood incidents, and where available, detailed investigations and studies. This will become a work programme used to secure funding to implement priority interventions, including working with relevant stakeholders and works will be progressed over appropriate

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					timescales. Failure to secure funding will prevent or curtail delivery; unsuccessful projects may be re- submitted in future years, or higher priority projects may replace them.
					The Greater Manchester Surface Water Management Plan (SWMP) is likely to provide a number of potential projects, which would be prioritised along with other projects according to the approach contained in the LFRMS, including history of flooding or assessed risks.
LFRMS Action 10A Undertake desktop and where appropriate site investigations into the locations of remaining 'hidden watercourses, particularly in the south of the City north of the Mersey.	LLFA	EA UU Landowners	LFRMS 1, 2, 3, 4, 5, 8	Funding Bid 2013/14 Intervention 2014/15	This action will improve the flood risk management evidence base, and thereby help to inform priority interventions. Future interventions may be taken forward in collaboration with other stakeholders, potentially linked to their work programmes, as well as helping to inform monitoring and maintenance of drainage infrastructure. Awareness of flood risk would be raised through this action and it would also provide a context to Investigating / Reporting work.
LFRMS Action 10B Shaw Brook Flood Modelling Appraisal and Options Assessment to reduce surface water flooding	LLFA	EA UU LHA Landowners	LFRMS 1, 3, 4, 5, 9	Funding Bid 2013/14 Intervention	This action will improve the flood risk management evidence base. Future interventions at or affecting Shaw Brook may be taken forward in collaboration with other stakeholders, potentially linked to their infrastructure and work

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	Integrated modelling of sewers and watercourses to enable selection of surface water management options to reduce risk of flooding.				proposal only at present)	monitoring and maintenance of drainage infrastructure. Awareness of flood risk would be raised through this action and works undertaken pursuant to it would seek to contribute to sustainable development.
	LFRMS Action 10C	LLFA	EA	LFRMS	Funding Bid	This action will improve the flood risk
	Cringle Brook, Willow Brook and Ley Brook		UU	1, 3, 4, 5, 9	2013/14	management evidence base. Future interventions at or affecting Cringle
	Flood Modelling Appraisal and Options		LHA Landowners		Intervention	Brook, Willow Brook and Ley Brook may be taken forward in collaboration with
	Assessment to reduce surface water flooding		Landowners		2014-17 (A	other stakeholders, potentially linked to their infrastructure and work
	Integrated modelling of sewers and watercourses to enable selection of surface water management options to reduce risk of flooding.				proposal at present)	programmes, and including the monitoring and maintenance of drainage infrastructure. Awareness of flood risk would be raised through this action and works undertaken pursuant to it would seek to contribute to sustainable development.
	LFRMS Action 10D	LLFA	EA	LFRMS	Funding Bid	This action will focus on priority
	Trash screen		LPA	1, 2, 3, 4, 5, 9	2013/14	locations informed by the evidence base and may be taken forward in
	replacement with new structures		Landowners		Intervention	collaboration with other stakeholders. This is a maintenance activity and would help to raise awareness of flood risk at various locations. Works undertaken
					2015/16 (A proposal at present)	would seek to contribute to sustainable development.
	LFRMS Action 10E	LLFA	EA	LFRMS	Funding Bid	This action will focus on priority
	One off clearance of open		Landowners	1, 2, 3, 4, 5, 9	2013/14	locations informed by the evidence base and may be taken forward in

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watercourses				Intervention 2015/16 Green and Clean Initiative)	collaboration with other stakeholders. This is a maintenance activity and would help to raise awareness of flood risk at various locations. Works undertaken would seek to contribute to sustainable development.
LFRMS Action 10F Blackley New Road, Elbourne Road, Hill Crescent and Buckland Avenue (adjacent to Lower King William Pond) flooding of properties Ground investigation and appraisal to establish sources and pathways of increased surface and ground water on site and if possible, outline proposed mitigation measures.	LLFA	EA UU Landowners	LFRMS 1, 2, 3, 4, 5, 9	Funding Bid 2013/14 Intervention 2014-17	This action focuses on a reported problem, and may be taken forward in collaboration with other stakeholders. This may have maintenance implications and whatever works are undertaken to address the problem would need to be monitored. The action would help to raise awareness of flood risk and what can be done to manage the risk. Any works undertaken would seek to contribute to sustainable development.
LFRMS Action 10G Lower King William Pond outfall Design and installation of new outfall and overflow from the pond to prevent future blockage and flooding.	LLFA		LFRMS 1, 2, 4, 5, 9	Funding Bid 2013/14 Intervention 2014-17	This action focuses on a known problem, and may have future maintenance implications and whatever works are undertaken would need to be monitored. The action would help to raise awareness of flood risk and what can be done to manage the risk. Any works undertaken would seek to contribute to sustainable development.

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LFRMS Action 10H Slack Road Sewer replacement Appraisal of condition and connections of the existing sewer networks that floods to identify location to connect the upgraded drainage and fund capital works	LLFA	UU	LFRMS 1, 2, 3, 4, 5, 9	Funding Bid 2013/14 Intervention 2015/16 (A proposal at present)	This action focuses on a known problem, and may be taken forward in collaboration with other stakeholders This may have maintenance implications and whatever works are undertaken would need to be monitored. The action would help to raise awareness of flood risk and what can be done to manage the risk. Any works undertaken would seek to contribute to sustainable development.
LFRMS Action 10I Lowton Avenue, Harpurhey, properties flooding appraisal Ground investigation and appraisal to establish sources and pathways of increased surface and ground water on site and if possible, outline proposed mitigation measures [DON'T KNOW WHAT THIS PROJECT IS]	LLFA	Landowners	LFRMS 1, 2, 3, 4, 5, 9	Funding Bid 2013/14 Intervention 2014/15	This action focuses on a known problem, and may be taken forward in collaboration with other stakeholders. This may have maintenance implications and whatever works are undertaken would need to be monitored. The action would help to raise awareness of flood risk and what can be done to manage the risk. Any works undertaken would seek to contribute to sustainable development.
LFRMS Action 10J Didsbury Golf Course flooding appraisal Raising the level of the access road to prevent regular flooding and enable access and egress to the	LLFA	EA Landowners	LFRMS 1, 2, 3, 4, 5, 9	Funding Bid 2013/14 Intervention 2015/16 (A	This action focuses on a known problem, and may be taken forward in collaboration with other stakeholders. This may have maintenance implications and whatever works are undertaken would need to be monitored. The action would help to raise awareness of flood risk and what can be done to manage the risk. Any works undertaken would

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Club.				proposal at present)	seek to contribute to sustainable development.
LFRMS Action 10K Didsbury Rugby Club flooding appraisal	LLFA	EA, UU Landowners	LFRMS 1, 2, 3, 4, 5, 9	Funding Bid 2013/14	This action focuses on a known problem, and may be taken forward in collaboration with other stakeholders. This may have maintenance implications
Appraisal of condition and connections of the existing sewer networks that floods to identify location to				Intervention	and whatever works are undertaken would need to be monitored. The action would help to raise awareness of flood risk and what can be done to manage
to identify location to connect the upgraded drainage and fund capital works				2015/16 (A proposal at present)	the risk. Any works undertaken would seek to contribute to sustainable development.