

Appendix A: SUDS Review and Historical Flooding



Geology and SUDS Review

Sustainable Drainage systems

Traditionally, built developments have utilised piped drainage systems to manage storm water and convey surface water run-off away from developed areas as quickly as possible. Typically these systems connect to the public sewer system for treatment and/or disposal to local watercourses. Whilst this approach rapidly transfers storm water from developed areas, the alteration of natural drainage processes can potentially impact on downstream areas by increasing flood risk and reducing water quality. Receiving watercourses are therefore much more sensitive to rainfall intensity, volume and catchment land uses after a catchment or areas of a catchment have been developed.

Due to the difficulties associated with updating sewer systems it is uncommon for sewer and drainage systems to keep pace with the rate of development/re-development and the increasingly stringent controls placed on discharges to watercourses. As development progresses and/or urban areas expand these systems become inadequate for the volumes and rates of storm water they receive, resulting in increased flood risk and/or pollution of watercourses. Allied to this are the implications of climate change on rainfall intensities leading to flashier catchment/site responses and surcharging of piped systems.

In addition, as flood risk has increased in importance within planning policy, a disparity has emerged between the design standard of conventional sewer systems (1 in 30 year) and the typical design standard flood (1 in 100 year). This results in drainage inadequacies for the flood return period developments need to consider, often resulting in potential flood risk from surface water/combined sewer systems.

A sustainable solution to these issues is to reduce the volume and rate of water entering the sewer system and watercourses.

What are Sustainable Drainage Systems?

SuDS are the preferred method for managing the surface water run-off generated by developed sites. Building Regulations (Approved Document Part H – Drainage and Waste Disposal), PPS25 Annex F and the EA advocate the use of SuDS for surface water run-off. PPS25 notes the regional planning bodies and the LPAs should promote their use for the management of runoff. SuDS seek to manage surface water as close to its source as possible, mimicking surface water flows arising from the site prior to the proposed development. Typically this approach involves a move away from piped systems to softer engineering solutions inspired by natural drainage processes.

Discharge rates from a developed area vary depending on the characteristics of the site pre-development. If the site was originally greenfield in nature, surface water discharge rates should mimic the greenfield rate. In accordance with PPS25 peak flow rates of surface water leaving a developed site should be no greater than the rates prior to the proposed development, unless specific off-site arrangements can be made that result in the same net effect. Where possible, efforts should be made to improve the current situation with regard to discharge from the site, particularly in areas known to suffer from surface water inundation.

SuDS should be designed to take into account the surface water run-off quantity, flows, rates and also water quality ensuring their effective operation up to and including the 1 in 100 year design standard flood (including an increase in peak rainfall of 30% to account for climate change). In addition, these systems must be proven to be effective for the lifetime of the development, minimum of 100 years for residential developments and the lifetime for commercial development will be defined by the characteristics of the development (as outlined by PPS25).

Wherever possible, a SuDS technique should seek to contribute to each of the three goals identified below with the favoured system contributing significantly to each objective:



- Reduce flood risk (to the site and neighbouring areas);
- Reduce pollution; and
- Provide landscape and wildlife benefit.

The goal of SuDS can be achieved by utilising the management train concept. The management train (Sustainable Drainage Systems, CIRIA Publication C609, 2004) provides a hierarchy of techniques, where each component adds to the performance of the whole system. These are listed below in order of preference:

- Prevention: good site design and upkeep to prevent runoff and pollution (e.g. limited paved areas, regular pavement sweeping);
- Source Control: runoff control at/near to source (e.g. rainwater harvesting, green roofs, pervious pavements);
- Site control: water management from a multitude of catchments (e.g. route water from roofs, impermeable paved areas to one infiltration/holding site); and
- Regional control: integrated runoff management from a number of sites (e.g. into a detention pond).

In keeping with the guidance of PPS25 local authorities should encourage the application of SuDS techniques. This chapter presents a summary of the SuDS techniques currently available and a review of the soils and geology of the Harborough area, enabling HDC to identify where SuDS techniques could be employed in development schemes.

The application of SuDS techniques is not limited to one technique per site. Often a successful SuDS solution will utilise a number of techniques in combination, providing flood risk, pollution and landscape/wildlife benefits. In addition, SuDS can be employed on a strategic scale, for example with a number of sites contributing to large scale jointly funded and managed SuDS.

Planning

All relevant organisations should meet at an early stage to agree on the most appropriate drainage system for the particular development. These organisations may include HDC, STW and AW amongst others. There are, at present, no legally binding obligations relating to the provision and maintenance of SuDS. However, PPS25 states that:

"where the surface water system is provided solely to serve any particular development the construction and ongoing maintenance costs should be fully funded by the developer".

The most appropriate agreement is under Section 106 of the Town and Country Planning Act (1990). Under this agreement a SuDS maintenance procedure can be determined. When a decision has been made regarding a SuDS method, the various organizations involved should agree on a management and responsibility strategy. Problems arise when this has not been decided upon prior to adoption and the SuDS system can fail.

SuDS Techniques

SuDS techniques can be used to reduce the rate and volume and improve the water quality of surface water discharges from sites to the receiving environment (i.e. natural watercourse or public sewer etc). Various SuDS techniques are available; however, the techniques operate on two main principles;

- Infiltration; and
- Attenuation.

All systems generally fall into one of the above categories, or a combination of the two.

The design of SuDS measures should be undertaken as part of the drainage strategy and design for a development site. A ground investigation may be required to assess the suitability of using infiltration measures, with this information being used to assess the required volume of on-site storage. Hydrological



analysis should be undertaken using industry approved procedures such as the Flood Estimation Handbook to ensure a robust design storage volume is obtained.

Infiltration SuDS

This type of SuDS relies on discharges to ground, where suitable ground conditions allow. Therefore, infiltration SuDS are reliant on the local ground conditions (i.e. permeability of soils and geology, the groundwater table depth and the importance of underlying aquifers as water resources etc.) for their successful operation. Before implementing this type of SuDS, detailed ground investigation should be carried out as there is the potential for mobilisation of contamination if any is present.

Various infiltration SuDS techniques are available for directing the surface water runoff to ground. However, development pressures and a desire to maximise development potential often result in typically small areas available for infiltration systems. These small areas, allied to the rapid rates of runoff generation, often require some form of attenuation as part of the infiltration system. The storage may be provided in the sub-base of a permeable surface, within the chamber of a soakaway or as a pond/water feature. Infiltration measures include the use of permeable surfaces and other systems that are generally located below ground.

Attenuation SuDS

Should it be found that the ground conditions are not favourable for infiltration techniques, the surface water runoff discharged from a site will need to be attenuated using on-site storage. While this is a SuDS technique that will reduce the rate of discharge from the site, the overall volume will not be minimised using on-site storage alone. An important factor that needs to be taken into consideration when assessing the suitability of on-site storage as part of a proposed development is the volume required and the associated impacts the storage will impose on development proposals and risks to neighbouring properties.

An allowable rate of discharge from the site will need to be agreed with the EA, HDC, STW and AW. This can have significant implications to the proposed development with regards to the large volume of storage that may be required. On-site storage can be constructed both above ground and below ground with the above ground systems usually being the cheaper option on a cost per metre cubed of storage basis. It should be noted however, that below ground systems may pose fewer constraints on the developable area of the site.

On site storage measures include basins, ponds, and other more engineered forms of storage underground (please refer to the SuDS manual for further information regarding specific SuDS techniques).

Alternative Forms of Attenuation

In many situations the development of a site may involve proposals that would inhibit the use of basins or ponds as a means of managing the surface water run-off discharged from the site. This may be due to space limitations, economic feasibility, or other issues such as health and safety etc. In these situations it may be appropriate to use a storage option that is viewed as being more 'engineered' than an open basin or pond. Most of these methods involve the provision of storage beneath the ground surface, which may be advantageous with regards to the developable area of the site; however, consideration needs to be given to construction methods, maintenance access and to any development that takes place over an underground storage facility. The provision of large volumes of storage underground also has potential cost implication.

Methods for providing alternative attenuation include:

- Deep shafts,
- Geo-cellular systems
- Oversized pipes;



- Rainwater harvesting;
- Tanks; and
- Green roofs.

Combined Infiltration / Attenuation Systems

In most situations, SuDS systems include both infiltration and storage. Most of the techniques identified above can be used in combination; however, dedicated infiltration and attenuation systems include swales and filter strips. Combined systems often meet all three goals of SuDS whilst also reducing the land take required to accommodate them.

SuDS Suitability in HDC Study Area

The underlying ground conditions of a development site will often determine the type of SuDS approach to be used at development sites. This will need to be determined through ground investigations carried out on-site; however, an initial assessment of the suitability of a site to the use of SuDS can be obtained from a review of the available soils/geological maps of the area.

Tables A1 and A2 indicate the types of soils, drift deposits, and solid geology that are present in the HDC area, and their likely suitability to infiltration measures. This is based on a review of information supplied by the British Geological Survey (BGS). This included information comprising the solid geology, and superficial geology in the area. In addition, the Environment Agency supplied information on the groundwater vulnerability of the area, this including information regarding the aquifer status (e.g. major, minor or non - aquifer).

Tables A1 and A2 present ground conditions found within HDC and the types of SuDS techniques that may be suitable for a site located on these materials based on a review of available information and our experience and should not supersede site specific data and ground investigations.

In the design of any drainage system and SuDS approach, consideration should be given to site specific characteristics and where possible be based on primary data from site investigations. The information presented in Tables A1 and A2 is provided as a guide and should not be used to accept or refuse SuDS techniques.

In summary, the solid geology of the area mainly comprises Triassic and Jurassic mudstones and siltstones, with some areas of Triassic Blue Lias formation (interbedded mudstone and limestone) in the southwest. The extreme northwest of the area has some small areas of quartz diorite intrusions, and there is some mid Jurassic Lower Lincolnshire Limestone to the south east of the area (e.g. to the east of Medbourne and the boundary with Corby Borough Council.

The superficial geology of the area, from the information supplied by BGS, mainly comprises deposits of diamicton; this is defined as poorly sorted sediment, containing a wide variety of particle sizes. Where superficial deposits exist, it is the properties of these deposits which are more likely to determine the infiltration potential of the site.

If diamicton is of glacial origin this would be termed glacial till, a glacial till is extremely heterogeneous sediment and may vary from clays to mixtures of clay, sand, gravel and boulders. As such, areas of coarser sediment may be suitable for infiltration, but areas with a higher clay content are unlikely to be suitable for infiltration based SuDS.

Other than areas of diamicton there are areas of 'clay, silt, sand and gravel' associated with river beds, this is likely to refer to alluvial deposits, and infiltration is likely to be possible in these area.

Mainly associated with the 'clay, silt, sand and gravel' deposits there are 'Sand & Gravel' deposits. These appear to be, in the main, associated with river terrace deposits and occur with the 'clay, silt, sand and



gravel' deposits, although there are other areas of Sand & Gravel in areas around Tugby which appear not to be associated with river deposits.

Mainly in the east and south of the HDC area, there are areas with no superficial deposits. From the mapping these areas appear to be areas between the higher ground containing the diamicton deposits. In these areas the topsoil covering to sites would be situated directly onto the parent rock material, which is mainly mudstone and siltstone. The possibility for infiltration would in this case be more dependent upon the infiltration properties of the parent rock material.

Source Protection Zones

Source Protection Zones (SPZs) are areas indicated by the Environment Agency to protect vulnerable abstractions. Within this area there are three Total Catchment areas of SPZs. These are located between North Kilworth and Husbands Bosworth, to the south east of Husbands Bosworth, and to the northwest of Welford.

In these areas the groundwater is considered more vulnerable to potentially polluting substances, and the application of SuDS in this area may require pollution attenuation techniques – dependent upon the site uses, and the origin of the runoff.



Settlement Name	Solid Geology	Superficial Deposits	Aquifer Type	SPZ	SuDS Recommendation
Arnesby	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by Diamicton	Non aquifer	None	Attenuation systems
Ashby Magna	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by Diamicton	Non aquifer	None	Attenuation systems
Billesdon	Late Jurassic, early Triassic Blue Lias Formation - Mudstone, in south with early Jurassic Dyrham Formation Siltstone and Mudstone in the north	Overlain by Diamicton and 'Sand and Gravel' in the south, no superficial cover to the north of area	Minor aquifer to south of area and non aquifer to north	None	Infiltration and combined infiltration*, also attenuation systems
Bitteswell	Triassic Blue Lias Formation - Mudstone and Limestone	Overlain by Diamicton	Mainly minor aquifer, some non aquifer in east	None	Attenuation systems
Broughton Ashby	Triassic Mercia Mudstone Group - Mudstone	Overlain by Diamicton, with some 'Clay Silt, Sand & Gravel' associated with river deposits	Minor aquifer	none	Infiltration and combined infiltration*, also attenuation systems
Burton Overy	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by some 'Sand & Gravel', and Diamicton	Minor aquifer associated with sand and gravel, non aquifer elsewhere	None	Infiltration and combined infiltration*, also attenuation systems
Church Langton	Early Jurassic Dyrham Formation - Siltstone and Mudstone	Overlain by Diamicton	Non aquifer	None	Attenuation systems
Claybrooke Magna	Triassic Mercia Mudstone Group - Mudstone	Overlain by mainly Diamicton, with some 'Sand & Gravel' to east of area	Minor aquifer in east (sand and gravel deposits), non aquifer elsewhere	None	Infiltration and combined infiltration*, also attenuation systems
Dunton Bassett	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by 'Sand & Gravel', some Diamicton	Mainly non aquifer, non aquifer elsewhere	None	Infiltration and combined infiltration, also attenuation systems
East Langton	Early Jurassic Dyrham Formation - Siltstone and Mudstone	Overlain by Diamicton	Non aquifer	None	Attenuation systems
Fleckney		Overlain by Diamicton, with some 'Clay Silt, Sand & Gravel' associated with river deposits	with river terrace deposits, non aquifer elsewhere	None	Infiltration and combined infiltration*, also attenuation systems
Foxton	southern half is Early Jurassic Dyrham Formation - Siltstone and Mudstone, with north half being Late Triassic, early Jurassic Blue Lias Formation – Mudstone	No superficial deposits	Non aquifer	None	Infiltration and combined infiltration, also attenuation systems

Table A-1: Geology and SuDS Recommendations



Harborough District Council Strategic Flood Risk Assessment D119550

Settlement Name	Solid Geology	Superficial Deposits	Aquifer Type	SPZ	SuDS Recommendation
Gilmorton	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by Diamicton	Non aquifer	None	Attenuation systems
Great Bowden	some Early Jurassic Dyrham Formation in the west, rest is Blue Lias Formation Mudstone	No superficial deposits	Non aquifer	None	Infiltration and combined infiltration, also attenuation systems
Great Easton	Early Jurassic Charmouth Mudstone Formation - Mudstone	some 'Sand & Gravel' in the south, other areas with no superficial deposits	minor aquifer in south coinciding with sand and gravel layers, non aquifer elsewhere	None	Infiltration and combined infiltration*, also attenuation systems
Great Glen	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by some 'Clay, Silt, Sand and Gravel' associated with River. Diamicton and 'Sand &Gravel' associated with higher ground	Minor aquifer associated with river and sand and gravel deposits to east of area, west of river non aquifer status	None	Infiltration and combined infiltration*, also attenuation systems
Hallaton	Early Jurassic Whitby Mudstone Formation - mudstone	Overlain mainly 'Sand & Gravel'	Minor aquifer	None	Infiltration and combined infiltration*, also attenuation systems
Houghton on the Hill	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by mainly 'Sand & Gravel', with some Diamicton	Minor aquifer in south coinciding with sand and gravel layers, non aquifer elsewhere	None	Infiltration and combined infiltration*, also attenuation systems
Hungarton	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by Diamicton with some 'Sand & Gravel'	Minor aquifer in south and non aquifer in north	None	Infiltration and combined infiltration*, also attenuation systems
Husbands Bosworth	Early Jurassic Dyrham Formation - Siltstone and Mudstone	Overlain by Diamicton	Non aquifer	Total catchment SPZ to east and northwest of settlement, and 2km to the south	Attenuation systems
Kibworth	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by Diamicton, and some 'Sand & Gravel' in north. No superficial deposits in south of area	Non aquifer	None	Infiltration and combined infiltration, also attenuation systems
Leire	Triassic Mercia Mudstone Group - Mudstone	Overlain by Diamicton in south, though 'Sand & Gravel', with Clays and Silt I n northern half of area	Minor aquifer associated with sand and gravel, non aquifer in northern half of area	None	Infiltration and combined infiltration*, also attenuation systems
Lubenham	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by 'Sands & Gravel', with 'Clay, Silt, Sand & Gravel' associated with river deposits	Minor aquifer associated with river deposits, non aquifer elsewhere	None	Infiltration and combined infiltration*, also attenuation systems



Harborough District Council Strategic Flood Risk Assessment D119550

Settlement Name	Solid Geology	Superficial Deposits	Aquifer Type	SPZ	SuDS Recommendation
Lutterworth	western half of development is Triassic Blue Lias Formation, and eastern half is Blue Lias Formation mudstone	Overlain by 'Sand & Gravel' mainly in west with mainly Diamicton cover in the east	Minor aquifer in west, and non aquifer in east	None	Infiltration and combined infiltration*, also attenuation systems
Market Harborough	some Early Jurassic Dyrham Formation in the north, rest is Blue Lias Formation Mudstone	Overlain by 'Sands & Gravel', with 'Clay, Silt, Sand & Gravel' associated with river deposits	Minor aquifer associated with river deposits, non aquifer elsewhere	None	Infiltration and combined infiltration**, also attenuation systems
Medbourne	Late Triassic, early Jurassic Blue Lias Formation - Mudstone - in centre with early Jurassic Dyrham Formation to east and west of area	Overlain by areas of 'Sand & Gravel' and 'Clay, Silt, Sand and Gravel' associated with river terraces	Minor aquifer in areas of sand and gravel, and clay, silt, sand and gravel associated with river terrace deposits. To the east is non aquifer status	None	Infiltration and combined infiltration*, also attenuation systems
Newton Harcourt	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by Diamicton	Non aquifer	None	Attenuation systems
North Kilworth	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by Diamicton with 'Clay, Silt, Sand and Gravel' associated with river terraces	Minor aquifer	Total Catchment SPZ to north of settlement boundary	Infiltration and combined infiltration*, also attenuation systems
Peatling Magna	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by Diamicton	Non aquifer	None	Attenuation systems
Saddington	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by Diamicton	Non aquifer	None	Attenuation systems
Scraptoft and Thurnby	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by 'Clay, Silt Sand and Gravel' associated with River , with some 'Sands & Gravel' and Diamicton	Minor aquifer associated with river deposits, non aquifer elsewhere	None	Infiltration and combined infiltration*, also attenuation systems
Smeeton Westerby	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by Diamicton	Non aquifer	None	Attenuation systems
South Kilworth	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by Diamicton with some 'Sands & Gravel' to west of area	Minor aquifer in area, and sands and gravels, non aquifer in the east	None	Infiltration and combined infiltration**, also attenuation systems
Stoughton	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by 'Sands & Gravel', with some Diamicton in south	Minor aquifer	None	Infiltration and combined infiltration*, also attenuation systems
Swinford	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by Diamicton	Non aquifer	None	Attenuation systems
Thorpe Langton	Early Jurassic Dyrham Formation - Siltstone and Mudstone	No superficial deposits	Non aquifer	None	Attenuation systems



Harborough District Council Strategic Flood Risk Assessment D119550

Settlement Name	Solid Geology	Superficial Deposits	Aquifer Type	SPZ	SuDS Recommendation
Tilton on the hill	Early Jurassic Whitby Mudstone Formation - mudstone	Overlain by 'Sands & Gravel'	Minor aquifer	None	Infiltration and combined infiltration*, also attenuation systems
Tugby	Early Jurassic Whitby Mudstone Formation - mudstone	Overlain by 'Sands & Gravel'	Minor aquifer	None	Infiltration and combined infiltration*, also attenuation systems
Tur Langton	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by Diamicton	Non aquifer	None	Attenuation systems
Ullesthorpe	Triassic Mercia Mudstone Group - Mudstone	Overlain by Diamicton, with 'Sands & Gravel' in west of area	Minor aquifer	None	Infiltration and combined infiltration*, also attenuation systems
Walcote	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by Diamicton, with some 'Clay Silt, Sand & Gravel' associated with river deposits	Minor aquifer associated with river deposits, non aquifer elsewhere	None	Infiltration and combined infiltration*, also attenuation systems
Walton	Late Triassic, early Jurassic Blue Lias Formation - Mudstone	Overlain by Diamicton	Non aquifer	None	Attenuation systems

* Subject to Incorporation of appropriate pollution prevention measures.

SuDS Recommendation normally based on aquifer map soil classes. However, soil classes overlying the aquifers not included in information received, therefore, this recommendation made on the basis of likely underlying permeability of solid and superficial geology.

- Diamicton: this is a poorly sorted sediment, which has the potential for some permeability dependant on local site conditions.
- Sand and gravel : these areas are likely to have greater permeability than diamicton, and therefore, have greater potential for infiltration and SuDS applications – dependant on local site conditions.

Date Location(s) Source of Flooding (e.g Watercourse) & Impact Sewer Flooding - 4 times in 6 years. Affected multiple local shops and Market Harborough town centre 1998-2004 businesses. South west of Smeeton at the confluence of the Grand Union Canal Reservoir Embankment/Canal Breach. It was stated that owing to the aqueduct and a feeder channel from Saddlington Reservoir. great pressure from the heavy rains, water began to overflow the towingpath from a small crack in the canal embankment, but the fissure quickly became enlarged breaching the embankment. An observer at the time said ".. From lock to lock, between which the accident occurred, was a space of ten miles, and a great deal of this water poured through the opening into the valley below, carrying corn, trees, and rubbish with it". The feeder of the canal from the reservoir was then restricted and a cut was made in its bank, allowing the water to flood an adjacent meadow, where it discharged into a culvert, and thence into a second feeder channel into Langton Brook, conveying water towards the River Welland. An approximate twenty foot reach of the canal was guoted as being 23-24 August 1865 destroyed. Market Harborough and Leicester 25 November 1852 Market Harborough and Leicester were inundated (source not specified). Market Harborough Surface Water Runoff - 2 inches of rain in approximately 2 hours. The centre of the town was badly flooded. Hail stones as big as marbles were June 1946 reported. Photos taken of the event (source not specified). July 1958 Market Harborough July 1880 Market Harborough Harborough Hotel, Burton Street, Market Harborough A board showing maximum flood levels (floodmarks) has been maintained close to the entrance and is used for comparisons in reports of historical floods - this event proved 7 inches higher than in July 1880. August 1922 Market Harborough Observer at Market Harborough noted, p108, "The flood in October was October 1875 the greatest here since 1801." Fluvial - River Swift. Lutterworth - "Crops much spoilt; meadows adjoining Lutterworth July 1875 the Swift are all under water." Fluvial - River Swift. Following 3.28 inches of rain fell in 73 hours at Lutterworth September 1931 Lutterworth . Fluvial - River Soar. Quoting the Daily Chronicle. "The great downpour of rain has caused a remarkable flood in the Soar Valley (Leicestershire), which for twenty miles has been converted into a wide and deep lake, the flood-waters rolling over the tops of the hedges at many points. The roadways are impassable, and much damage has been done." 11-Nov-06 Fluvial - River Soar. "A succession of thunderstorms passed over Leicesteshire Leicestershire, June 19th, from the south-west ... rain fell in torrents, 19 June 1871 placing the low-lying districts under water..." 23 August 1865 Fleckney Fluvial - River Sence. 4.40 inches of rain. Market Harborough Fluvial - River Soar tributary. Following 4.00 inches of rain at Market 18 June 1872 Harborough. Fluvial - River Sence. Quoting The Times "... a storm of rain of almost Kibworth, Smeeton, and Fleckney unparalleled severity. For 20 hours the rain poured down in a steady torrent. Houses in the low-lying districts were flooded with water, and roads were impassable. At the Kibworth Railway Station there is a sharp incline; here the water rushed down with such force, that the ballast covering the sleepers was washed away, and the line very much

weakened. The gas works at Kibworth also suffered, and a great deal of

corn has been laid under water".

Table A2: All Historical Flooding Records

23 August 1865

Source of Information				
BBC News				
CBHE				

	Market Harborough town centre		
	Market Harborough town centre	Fluvial - River Welland. "worst flooding in living memory", "submerged	
		under 5 feet of water" (prior to current defence provisions). Followed	
		heavy rain. Shops hotels and pubs damaged. Many homes were also	
01-Jul-58		affected and firefighters had to evacuate people living in Walcote Road.	
07 May 1999	Swedish Close, Foxton	Fluvial - Foxton Brook surcharge	
07 May 1999	The Headlands, Market Harborough	Highway surcharge	
07 May 1999	Ireton Road, Market Harborough	Highway surcharge	
07 May 1999	Coventry Road, Market Harborough	Highway surcharge – flooding to property	
07.14 4000	Grange Lane, Thurnby	Highway surcharge flood across the road, blocked gully or system over	
07 May 1999		capacity.	
07 May 1999	Anthony Drive, Thurnby	Highway surcharge – drains blocked houses under threat of flooding.	
07 May 1999	Main Street, Foxton	Highway surcharge water surrounding the property	
07 May 1999	Hollies Way, Thurnby	Highway surcharge. Garden flooded house now under threat.	
07 May 1999	Riverside Road, Market Harborough	Flooding across the road, belief gully is blocked.	
07 May 1999	Church Street Market Harborough	Request for sandbags	
07 May 1999	High Street, Market Harborough	Overflowing manhole due to lack of sewer capacity.	
10 June 1999	High Street, Market Harborough	Flooding of cellar due to heavy storm conditions.	
06 July 2000	Church Street, Market Harborough	Internal flooding affecting property cellar following heavy localised storm.	
18 July 2001	High Street, Market Harborough	Internal flooding - insufficient capacity of local public sewers prior to	
-		discharge to the River Welland.	
30 July 2002	High Street, The Square, Coventry Road, St Marys Road,	Internal flooding - insufficient capacity of local public sewers prior to	
	Northampton Road, Church Street & Adam & Eve St - All within	discharge to the River Welland.	
	Market Harborough		
31 July 2002	High Street, Market Harborough	Internal flooding - insufficient capacity of local public sewers prior to	
31 July 2002		discharge to the River Welland.	
01 August 2002	The Square Market Herbergueb	Internal flooding of cellar. Water 600mm deep. Sewers discharging into	
01 August 2002	The Square, Market Harborough		
00.4		the River Welland unable to handle the flow after the storm.	
08 August 2002	Church Street, Market Harborough	External flooding from manhole in the road.	
03 September 2002	The Square, Market Harborough	Internal flooding following heavy rainfall.	
09 September 2002	The Square, Market Harborough	Overflowing sewer. Floodwater entering cellar.	
06 July 2006	High Street, Kings Fead Place, Northampton Road, The Square, St	Internal flooding following heavy rainfall. Insufficient capacity of local public	;
	Marys Road, Coventry Road, Fairfield Road & Douglas Drive - All	sewers prior to discharge to the River Welland.	
	Market Harborough		
06 July 2006	Main Street, Scraptoft	Highway flooding following heavy rainfall.	
,	Scraptoft	Overland Flow & Surface Water Runoff Extremely saturated land was	
15th January 2008		unable to cope with extensive periods of heavy rainfall.	
15 January 2008	Main Street Shawell	Highway flooding following heavy rainfall. Homes at risk	
15 January 2008	Badger Close, Fleckney	Surface run off from fields at rear of properties causing flooding to	
15 January 2000	Dauger Olose, I leuniey	gardens. Properties at risk.	
45 1	Leader Deed, Ored Oler		
15 January 2008	London Road , Great Glen	Highway gullies unable to cope with heavy rainfall.	
15 January 2008	Cranoe Road, Glooston	Fluvial - River Welland surcharge causing external flooding of property.	
15 January 2008	Swedish Close, Foxton	Fluvial - Foxton Brook surcharge, external flooding of property.	
15 January 2008	The Green, Lubenham	Surface Water Runoff - From fields and highway causing flooding.	
2		Properties at risk.	
15 January 2008	Brook Lane, Billesdon	Fluvial - Billesdon Brook surcharge causing external flooding of property.	
01 April 2008	Station Road, Great Glen	Surface Water Runoff - From fields and highway.	
01 April 2008		Fluvial - Un-named Watercourse. Cemetery waterlogged in times of heavy	
	Great Bowden Cemetery, Great Bowden		
		rainfall, due to damaged land drainage in adjacent field. Land drain has	
		now been replaced and no further problems.	
29 April 2008	Snows Lane, Keyham	Fluvial - Keyham Brook – surcharge due to blockage in Brook, notice	
-			
		served on riparian owners and blockage cleared, no further problems in	

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HDC

01 July 2008	Washbrook Lane, Burton Overy	Fluvial - Blockage in ditch causing flooding to adjacent property. Notice served and ditch cleared – no further problems.	HDC
01 September 2008	Dunton Road, Broughton Astley	Surface Water Runoff - From fields and pond at rear of properties causing flooding of gardens. Properties at risk.	HDC
-	Newton Harcourt	Localised flooding.	HDC
-	Kibworth	Localised flooding.	HDC
-	Jct Woodmarket & Orchard Road, Lutterworth	Lay-by floods.	LCC Highways
	Jct Welland Park Road and Northampton Road, Market Harborough		
-		Dip in road causes flood near crossing.	LCC Highways
-	Coventry Road, Market Harborough.		LCC Highways
-	Carlton Lane to Bell Street, Burton Overy	Water not going into main - surcharging.	LCC Highways
-	Church Hill Road, Cranoe	Mains problem where road turns into river.	LCC Highways
-	Bennetts Hill, Dunton Bassett	Mains problem - water floods village hall down to public right of way.	LCC Highways
-	Manor Road, Great Bowden	Main runs under property.	LCC Highways
-	Welford Road, Husbands Bosworth	Pub cellar floods.	LCC Highways
-	Back Lane, Leire	Surface water running off highway ground.	LCC Highways
-	Burnmill Road & Hammond Way, Market Harborough	Flooding in road dip.	LCC Highways
-	Mill Lane, Smeeton Westerby	Surface water running down tract and causing problems on Mill Lane.	LCC Highways
-	Northampton Road, Market Harborough	Marshalls Court floods.	LCC Highways
-	Ullesthorpe Road, Claybrooke Parva	Flooding near bridge culvert.	LCC Highways
06 July 2006	High Street, Market Harborough	Flooding in area.	LFRS
13 August 2006	Naseby Way, Great Glen	Flooded Premise.	LFRS
06 July 2006	Northampton Road, Market Harbo	Flooded Premise.	LFRS
15 January 2008	The Green, Lubenham	Flooded Premise.	LFRS
02 July 2007	Sharnford Road, Frolesworth	Flooded Premise.	LFRS
01 January 2008	Leicester Road, Lutterworth	Major water leak.	LFRS
· · · · · · , · · · ·	Marefield Road, Marefield	Fluvial - Land Drainage Channel. Blocked/broken pipe beneath main road	
-		through the village.	Parish Council/Parish Meet
_	High Cross Road, Claybrooke Magna	Fluvial - Unnamed watercourse following heavy rainfall.	Parish Council/Parish Meeti
	Arnesby Lane, Peatling Magna	Surface Water Runoff & Overland Flow - Drain overflow runs downhill	
-		causing icy surface in winter.	Parish Council/Parish Meet
	School Lane, Peatling Magna	Surface Water Runoff - Blocked drains from debris washing down hill from	
	Concor Land, i calling Magna	poorly maintained verges after heavy rainfall - approximately 6 inches	Parish Council/Parish Meet
-		deep.	
	Arnesby Lane, Peatling Magna near pumping station	Fluvial - Unnamed watercourse. Insufficient capacity of channel following	
_	Arriesby Lane, i eating Magna near pumping station	heavy rainfall flooded road approximately 6 inches deep.	Parish Council/Parish Meet
	East of Peatling Magna	neavy rainiai hooded foad approximately o inches deep.	
	Last of Feating Mayria	Fluvial - Unnamed watercourse. Insufficient capacity of channel. Public	
		footpath bridge impassible following heavy rainfall - approximately 15-24	Parish Council/Parish Meet
-	Courth coast of Doctling Magne	inches deep at bridge. Approach to bridge eroded.	
	South east of Peatling Magna	Fluvial - Unnamed watercourse. Insufficient capacity of channel, low lying	Parish Council/Parish Meet
-	Couth cost of Deptiling Manua	land.	
	South east of Peatling Magna	Fluvial - Unnamed watercourse. Insufficient capacity of channel. Public	Daviah Causail/Daviah Maat
		footpath bridge impassible following heavy rainfall - approx 15-24 inches	Parish Council/Parish Meet
-		deep at bridge and in fields. Approach to bridge eroded.	
	Folly Bridge, Barley Lane, Peatling Magna	Fluvial - Unnamed watercourse. Insufficient capacity of bridge culvert	
		beneath road following heavy rainfall - approx 12 inches deep - impassible	Parish Council/Parish Meet
-		for small vehicles.	
	Peatling Road, Peatling Magna		
		Surface Water Runoff - water from fields flows into road rather than field	Parish Council/Parish Mee
2006		drains. Road flooded 6-12 inches deep following moderate rainfall.	
-	Fields north of Barley Lane, Peatling Magna	Fluvial - Unnamed watercourse. Insufficient capacity of channel.	Parish Council/Parish Mee
2007 & 2008	Junction of Station Road & Angus Close, Thurnby	Following heavy rainfall - several inches deep.	Parish Council/Parish Mee
-	Fiona Drive, Thurnby	Standing water.	Parish Council/Parish Mee
2007 & 2008	Junction of A47 Uppingham Road & Grange Lane, Thurnby	Following heavy rainfall - several inches deep.	Parish Council/Parish Mee
2001 0 2000		Semi permanent standing water.	

2007 & 2008	Grange Lane, Thurnby	Following heavy rainfall - several inches deep.	Parish Council/Parish Meet
-	Lakeside Court, Thurnby	Following heavy rainfall.	Parish Council/Parish Meet
-	Stoughton Road, Thurnby	Following heavy rainfall.	Parish Council/Parish Meet
-	Adjacent Court Road near Scout premises, Thurnby	Following heavy rainfall, deep pond appears.	Parish Council/Parish Meet
	Pastoral land between Kimcote Road and Gurney Lane, Kimcote &		Parish Council/Parish Meet
-	Walton	Fluvial - Unnamed watercourse following heavy rainfall.	Farish Council/Farish Mee
	Frolesworth Road, south of Frolesworth village	Fluvial - Runoff from fields into agricultural drain following heavy rainfall.	Parish Council/Parish Meet
-		Inadequately sized ditches.	Parish Council/Parish Mee
	Broughton Road, Frolesworth	Surface Water Runoff - From fields onto road following heavy rainfall.	Deviah Oeuweeil/Deviah Mee
-		Inadequately sized ditches.	Parish Council/Parish Mee
	Broughton Road, near Lodge Cottage, Frolesworth	Fluvial & Overland Flow - Runoff from fields into agricultural drain	
		following heavy rainfall - out of bank flows onto road. Inadequately sized	Parish Council/Parish Mee
-		ditches.	
	Hallaton Road near Church Barn, Blaston	Surface Water Runoff - Flooding of road due to blocked/inadequate	
-		drains/gullies.	Parish Council/Parish Mee
	Boads flooded - Brook Lane between Hollands Lane and Barnsdale.	Surface Water Runoff - Blocked drains and gullies leading to Great Easton	
1998	Great Easton	Brook. Road flooded.	Parish Council/Parish Mee
1000	Track junction north of Cotesbach Fields Farm, Cotesbach	Surface Water Runoff & Overland Flow - Drains blocked. Encouraged by	
		land configuration, water from ditches and fields following heavy rainfall.	Parish Council/Parish Mee
-		Impassible route by cars when flooded.	
	Inundated road along Main Street outside Village Hall, Cotesbach	Surface Water Runoff - Storm drains overwhelmed following heavy	
	Inunualeu toau along Main Street outside Village Hall, Cotespach	rainfall.	Parish Council/Parish Mee
-	Main Dood, parthern adap of Claubrooks Darive	Fluvial - Water draining from field unable to discharge due to agricultural	
	Main Road, northern edge of Claybrooke Parva	drain capacity reduced by vegetation debris.	Parish Council/Parish Mee
-	Main Deed between Claybreeks Stables and I Westberre		
	Main Road between Claybrooke Stables and Ullesthorpe	Fluvial - Following heavy rainfall blocked culvert causes water from an	Parish Council/Parish Mee
-		unnamed watercourse to flow over road.	
	Field north of Main Road, Claybrooke Parva		Parish Council/Parish Mee
-		Fluvial - Following heavy rainfall, unnamed watercourse floods grass area.	
	Brindly Lane, Great Glen	Fluvial - River Sense. Heavy rainfall, river capacity exceeded and surface	Parish Council/Parish Mee
-		water runoff. Culvert becomes blocked obstructing flow.	
	North of London Road, Great Glen	Fluvial - River Sense. Heavy rainfall, river capacity exceeded and surface	Parish Council/Parish Mee
-		water runoff.	
	Gaulby Lane, Little Stretton	Fluvial - River Sense. 2 feet deep following heavy rain across road and	Parish Council/Parish Mee
-		over adjoining fields. Low bridge, overgrown river banks.	
	Gartree Road, Little Stretton	Fluvial - River Sense. 2 feet deep following heavy rain across road and	Parish Council/Parish Mee
-		over adjoining fields. Low bridge, overgrown river banks.	
	Junction of A47 Uppingham Road with Main Street, Skeffington	Surface Water Runoff - Blocked/inadequate drains. Following heavy	
		rainfall approximately 0.05m deep - occured since completeion of new	Parish Council/Parish Mee
-		development in vicinity.	
	Church Lane, Stockerston	Surface Water Runoff - Gullies overgrown causing water to run downhill	Derich Courseil/Derich Ma
2000		and Flash Floods	Parish Council/Parish Mee
-	Uppingham Road, Stockerston	Surface Water Runoff - Water sits on road and field drains full.	Parish Council/Parish Mee
	Junction of B4114 with B581, Broughton Astley		
01 March 2007		Fluvial - River Soar. Following prolonged heavy rainfall - burst river banks.	Parish Council/Parish Mee
	Allotment Gardens, north of Broughton Way, Broughton Astley	Fluvial - Broughton Brook. Following prolonged heavy rainfall - burst river	
01 March 2007		banks.	Parish Council/Parish Mee
	Fields surrounding Elms Farm, north of Broughton Way, Broughton	Fluvial - Broughton Brook. Following prolonged heavy rainfall - burst river	
01 March 2007	Astley	banks.	Parish Council/Parish Mee
	Station Road/Church Close, Broughton Astley	Fluvial - Broughton Brook. Following prolonged heavy rainfall - burst river	
01 March 2007	Station Hoad, Ondron Olose, Broughton Astley	banks.	Parish Council/Parish Mee
01 March 2007	Langton Road opposite Crance Grance Cance	Surface Water Runoff - Blocked/inadequate drains. Water standing	
	Langton Road opposite Cranoe Grange, Canoe		Parish Council/Parish Me
-	Lengton Dood/Church Lill read innotion Orange	on/flowing over the road. Surface Water Runoff - Blocked/inadequate drains. Water standing	
	Langton Road/Church Hill road junction, Cranoe		Parish Council/Parish Mee
-		on/flowing over the road.	
	Church Hill Road, north Cranoe	Surface Water Runoff - Blocked/inadequate drains. Water standing	Parish Council/Parish Mee
-		on/flowing over the road.	

		Tel 1. 1. Martin and a discourse of the second seco	
-	Welham Lane, west of Churchfield House, south of Cranoe	Fluvial - Water standing on/flowing over the road resulting from blocked culvert of unnamed watercourse.	Parish Council/Parish Meeting
-	B577 Main road through centre of Claybrooke Parva	Surface Water Runoff - Following rainfall >2hrs causing overland flow. Eventually discharges into stream.	Parish Council/Parish Meeting
_	Junction of Goadby Hill (road) and Palmers Lane, Goadby	Surface Water Runoff - Heavy rain causes runoff to accumulate on road (approx. 3 inches deep).	Parish Council/Parish Meeting
-	North of Palmers Lane, Goadby	Surface Water Runoff & Overland Flow - Heavy rain causes runoff from track to flow south (approx. 3 inches deep). Stormwater drain capacity exceeded.	Parish Council/Parish Meeting
-	Peace Hill (road), Horse Hill (road) intersection towards Glooston, Goadby	Surface Water Runoff	Parish Council/Parish Meeting
_	Fields between Moseley and Goadby	Fluvial - Fallen trees resrtict flow in narrow watercourses. (6 inches to 3 feet deep within banktop level). Culvert prone to blockage along unnamed watercourse.	Parish Council/Parish Meeting
-	Fields between Moseley and Goadby	Fluvial - Fallen trees resrtict flow in narrow watercourses. (6 inches to 3 feet deep within banktop level). Culvert prone to blockage along unnamed watercourse.	Parish Council/Parish Meeting
-	Fields between Moseley and Goadby	Fluvial - Fallen trees resrtict flow in narrow watercourses. (6 inches to 3 feet deep within banktop level). Culvert prone to blockage along unnamed watercourse.	Parish Council/Parish Meeting
_	Track east of Stamborough Mill, Dunton Bassett	Surface Water Runoff - Footpath becomes difficult to cross.	Parish Council/Parish Meeting
-	Fields west of Manor house, Dunton Bassett	Fluvial & Surface Water Runoff - Footpath becomes difficult to cross near a spring.	Parish Council/Parish Meeting
-	B581 Junction of Broughton Lane and Cooper's Lane, Dunton Bassett	Surface Water Runoff - Blocked drains.	Parish Council/Parish Meeting
-	Junction of Bennets Hill and The Mount, Dunton Bassett	Surface Water Runoff - Blocked drains.	Parish Council/Parish Meeting
-	A426 North East Dunton Bassett	Surface Water Runoff - Blocked drains.	Parish Council/Parish Meeting
June 1981	Springbank, Medbourne	Surface Water Runoff, Overland Flow & Fluvial - Medbourne Brook. Following heavy rain & associated runoff from fields into Medbourne Brook - 19 houses flooded up to 3 feet deep.	Parish Council/Parish Meeting
June 1982	Old Green, Medbourne	Surface Water Runoff, Overland Flow & Fluvial - Following heavy rain & associated runoff from fields - 19 houses flooded up to 3 feet deep.	Parish Council/Parish Meeting
August 1980	Brookside, Medbourne	Surface Water Runoff & Overland Flow - Following heavy rain & associated runoff from fields - 4 houses flooded up to 1 feet deep.	Parish Council/Parish Meeting
-	Junction of Drayton Road, Middleton Road and Great Easton Road, Bringhurst	Surface Water Runoff - Runoff from village temporarily floods road following heavy rain. Top drains become blocked.	Parish Council/Parish Meeting
_	Main street, near Orchard Farm, Drayton	Surface Water Runoff - Following heavy rain on road temporarily floods.	Parish Council/Parish Meeting
1998	Main Street, Drayton	Surface Water Runoff & Overland Flow - Blocked/inadequate drains. 5 houses slightly damaged in centre of village. Freak weather caused ground to become saturated causing water to run off fields.	Parish Council/Parish Meeting
-	Fields surrounding River Welland, Drayton area	Fluvial - River Welland. Agricultural land flooded.	Parish Council/Parish Meeting
November 2007	Tilton/Oakham Road - Withcote sign area approaching from Tilton	Surface Water Runoff - Blocked road drains, culverts and ditches in the area.	Parish Council/Parish Meeting
-	Across Tilton/Oakham Road north of Sauvey Castle	Surface Water Runoff - Water on road caused school bus to skid. Blocked road drains, culverts and ditches between the northern and southern Withcote signs.	Parish Council/Parish Meeting
2007 to 2008	Bosworth Road entering Theddingworth village from west.	Surface Water Runoff & Overland Flow - Heavier than normal rainfall flooded road and verges.	Parish Council/Parish Meeting
2007 to 2008	A4304 Main Street junction with Station Road, Theddingworth	Surface Water Runoff - Blocked/inadequate gully following heavy rainfall flooded road and pavement.	Parish Council/Parish Meeting
	Station Road, Mowsley Road junction, Theddingworth	Surface Water Runoff - Following heavy rainfall, blocked/inadequate drains flooding road and verges.	Parish Council/Parish Meeting
2008 to 2008		lurans nooung road and verges.	

[Junction of Directon Dood with Hollston Dood, Olympton	Surface Motor Dupoff Decked/inchaguate ditch ducing quarflowed	
	Junction of Blaston Road with Hallaton Road, Slawston	Surface Water Runoff - Blocked/inadequate ditch drains overflowed	Pariah Council/Daviah Masting
		allowing surface water from fields to flow across road - causes a hazard	Parish Council/Parish Meeting
-		during in freezing conditions.	
	Welham Road, south Slawston	Fluvial - Unnamed watercourse & River Welland. Serious flooding,	Parish Council/Parish Meeting
2006		impassible by all but highest 4 x 4s.	3
	Green Lane, south Slawston/ Weston By Welland	Fluvial - River Welland. Serious flooding, blocked bridge culvert below	Parish Council/Parish Meeting
2006		road.	
	Medbourne Road, south east Slawston	Surface Water Runoff & Overland Flow - Blocked/inadequate drains,	
		water flows down from Slawston Hill along the road towards Weston	Parish Council/Parish Meeting
-		House where it accumulates.	
-	Junction of Slawston Road and Main Street, Slawston	Surface Water Runoff - Blocked drains.	Parish Council/Parish Meeting
-	Welham Road, south Slawston	Surface Water Runoff & Overland Flow - Blocked drains.	Parish Council/Parish Meeting
-	Main Street, Slawston	Surface Water Runoff - Blocked drains.	Parish Council/Parish Meeting
-	South of Fleckney Road, Kibworth Beauchamp	Surface Water Runoff - Neighbouring the Fire Station flood following heavy rainfall.	Parish Council/Parish Meeting
_	Smeeton Road, Kibworth Beauchamp	Surface Water Runoff, Overland Flow - Following heavy rainfall.	Parish Council/Parish Meeting
	Rear of houses along Granary Close, Kibworth Beauchamp	Fluvial - Drainage ditch between houses and school following heavy	
-		rainfall.	Parish Council/Parish Meeting
	West of Weir Road, Kibworth Beauchamp	Surface Water Runoff - Footpath running alongside school playing fields	Parish Council/Parish Meeting
-		floods, resulting in adjacent terraced houses becoming flooded.	
	New Road beneath railway bridge, Kibworth Beauchamp	Surface Water Runoff - Lowpoint in road and water running down from	Parish Council/Parish Meeting
-		bridge during heavy rainfall.	•
-	Warwick Road Recreation Ground, Kibworth Beauchamp	Surface Water Runoff - Area to the side of the skate park flooded.	Parish Council/Parish Meeting
-	High Street, Kibworth Beauchamp	Surface Water Runoff - Following heavy rainfall.	Parish Council/Parish Meeting
-	Imperial (Beauchamp) Road, Kibworth Beauchamp	Surface Water Runoff - Following heavy rainfall.	Parish Council/Parish Meeting
-	Corner of Halford Road & Imperial (Beauchamp) Road, Kibworth Beauchamp	Surface Water Runoff - Following heavy rainfall.	Parish Council/Parish Meeting
	Main Street outside allotment, Tugby	Surface Water Runoff - Following heavy rainfall, damaged the surface of	
-		the entrance to the Village Hall car park.	Parish Council/Parish Meeting
	Junction of Main Street with A47 Uppingham Road, Tugby	Surface Water Runoff - Following heavy rainfall, causes a danger to traffic	
-		entering and leaving the village.	Parish Council/Parish Meeting
	Main Street junction with Chapel Lane and Wellfield Close, Tugby	Surface Water Runoff - Flooded internal ground floor of properties 10-	
		12mm deep following heavy rain, driveways 200mm. Only 2 gullies	
		present feeding into 125mm foul sewer - combined with sewage over	Parish Council/Parish Meeting
July 2004 & September 2008		road.	
	Corner of Church Hill with Main Street, Scraptoft Hall, Scraptoft		
		Overland Flow - Blocked/inadequate drains & Lake overflow within	Parish Council/Parish Meeting
-		Scraptoft Hall grounds exacerbated by lack of vegetation maintenance.	
	Beeby Road, Scraptoft	Surface Water Runoff. Houses experienced raised water levels since	
-		recent development of former Scraptoft Campus.	Parish Council/Parish Meeting
-	Junction of Thurncourt Road with Station Lane, Scraptoft	Surface Water Runoff - Blocked/inadequate drains.	Parish Council/Parish Meeting
-	A6 beneath railway bridge, Kibworth Harcourt	Surface Water Runoff - Inadequate highway drains. Road alignment.	Parish Council/Parish Meeting
-	Junction of Langton Road with Carlton Road, Kibworth Harcourt	Surface Water Runoff - Inadequate highway drains. Road alignment.	Parish Council/Parish Meeting
	Junction of New Road with Brookfield Way, Kibworth Harcourt	Fluvial - unnamed watercourse. Stream passing beneath New Road	
-		impeded by debris blockage of culvert grid/trash screen.	Parish Council/Parish Meeting
-	Fields adjacent Warwick Road, Kibworth Harcourt	Surface Water Runoff & Rising Groundwater.	Parish Council/Parish Meeting
	Junction of Mill Road and Main Street, Ullesthorpe	Surface Water Runoff - Blocked/inadequate drains along Main Road	
		blocked with tarmac following resurfacing - Drains have been rebuilt and	Parish Council/Parish Meeting
Regular Occurrence		cleaned to no avail.	and country and mooting
	Field west of Main Street at Allexton Bridge, Allexton		
Less prone to flooding in		Fluvial - Eye Brook. Following heavy rain, water in excess of capacity	
recent years following		below bridge fills drainage channels alongside road and within old	Parish Council/Parish Meeting
construction of relief channel.		channel.	
		Jonannei.	

	Main Street and field to the east of Allexton Bridge, Allexton	Fluvial - Eye Brook. Runoff from fields down Hallaton Road has flooded	
Less prone to flooding in	Main Street and held to the east of Allexton Bhuge, Allexton	road near bridge, however LCC Highways have installed new drainage so	
recent years following		far alleviating problem. Eye Brook channel between Allexton and reservoir	Parish Council/Parish Meeting
construction of relief channel.		overgrown - tree branches in river.	
construction of relief channel.	Snows Lane, Keyham	Fluvial - Melton Brook. Following heavy rain creates puddles on road	
	Shows Lane, Reynam	where brook overflows. Still passible 3-4 inches deep.	Parish Council/Parish Meeting
-	Cumlay Dood, Smooton Westerby	where brook overhows. Still passible 3-4 menes deep.	
	Gumley Road, Smeeton Westerby	Curfees Water Duroff Fallowing because rain Dearlow situated durin at	Deviate Oerveelik/Deviate Meeting
		Surface Water Runoff - Following heavy rain. Poorley situated drain at	Parish Council/Parish Meeting
-		corner with Main street and a blocked drain in a dip. 6-12 inches deep.	
	Gumley Road, Smeeton Westerby	Surface Water Runoff - Blocked/inadequate drains. Shallow gradient from	Parish Council/Parish Meeting
-		manhole to sewer with root damage.	
	Bridge and meadows eitherside of Gumley Road, Smeeton	Fluvial - Langton Brook. Following heavy rain, water in excess of capacity	Parish Council/Parish Meeting
05-Oct-08	Westerby	below bridge.	,
	Footpath beneath Grand Union Canal aqueduct, south east of		Parish Council/Parish Meeting
Continual	Smeeton Westerby	Artificial Source - Grand Union Canal. Likeley seepage from canal.	- a
	Fields between Bowden Road and dismantled railway culvert, south	Fluvial - unnamed watercourse. Incapacity of culvert beneath old railway	Parish Council/Parish Meeting
-	of Thorpe Langton	line restricts flow downstream causing fields to the west.	
	Fields between Bowden Road and Bowden Lane, south of Thorpe	Fluvial - unnamed watercourse. Incapacity of culvert beneath Bowden	Parish Council/Parish Meeting
-	Langton	Lane restricts flow downstream causing fields to the west.	
-	Wellham Road, Thorpe Langton	Fluvial - Stonton Brook. Following rainfall.	Parish Council/Parish Meeting
-	Bowden road, Thorpe Langton	Fluvial - Langton Brook. Following rainfall.	Parish Council/Parish Meeting
-	Wild Meadow, Bowden Lane, south west of Wellham	Fluvial - Stonton Brook. 2 feet deep within grounds of caravan park.	Parish Council/Parish Meeting
	Fields north of Thorpe Langton	Surface Water Runoff - Following heavy rainfall into river, may be	
		exacerbated by impermeable surfaces upstream and vegetation blockage	Parish Council/Parish Meeting
-		of land drains.	0
29 July 2002, 09 September	Church Sreet, Billesdon		
2002, 20 January 2003, 11		Fluvial - Billesdon Brook & Surface Water Runoff - Following heavy rain.	
March 2003, 22 July 2004, 26		Various properties flooded. Backing up of surface water & foul sewers.	Parish Council/Parish Meeting
April 2005, 13 August 2005 &		Affected gardens, outbuildings, internal floors of commercial/residential	
September 2006		premises and cellars. Superficial blockage of gullies with leaves/debris.	
	Brook Lane, Billesdon		
		Fluvial - Billesdon Brook & Surface Water Runoff - Following heavy rain.	
		Various properties flooded. Backing up of surface water & foul sewers.	Parish Council/Parish Meeting
Regular Occurrence over last		Affected gardens, outbuildings, internal floors of commercial/residential	r ansh oouncil/r ansh Meeting
60 years+		premises and cellars. Superficial blockage of gullies with leaves/debris.	
	Corner of Main Street with Dag Lane, Mowsley	premises and cenars. Superiolal blockage of guilles with leaves/debris.	
	Conter of Main Street with Day Lane, Mowsley	Curfoso Water Dupoff I act debrie blocks ourfoso water droing/rullion	Parish Council/Parish Meeting
Regular Occurrence	In action of Main Otra at and Ocaldinaton Dead Manualan	Surface Water Runoff - Leaf debris blocks surface water drains/gullies.	
07-08 November 2008 &	Junction of Main Street and Saddington Road, Mowsley	O the Allehand D and the base of the black of the second second second second second second second second second	Parish Council/Parish Meeting
Regular Occurrence		Surface Water Runoff - Leaf debris blocks surface water drains/gullies.	
	Saddington Road, Mowsley	Surface Water Runoff - Play area. Leaf debris blocks surface water	Parish Council/Parish Meeting
-		drains/gullies.	,
-	Field west of Lowesby	Surface Water Runoff. From surrounding fields.	Parish Council/Parish Meeting
-	Rear of houses, south east of Lowesby Lane, Lowesby	Surface Water Runoff. From fields.	Parish Council/Parish Meeting
-	B6047 Melton Road, north of Lowesby	Not Known. Dip in the road.	Parish Council/Parish Meeting
-	B6047 Thimble Hall Road, north west of Lowesby	Possibly from a stream (fluvial). Creates a problem on the road bend.	Parish Council/Parish Meeting
_	Ingarsby Lane, Old Ingarsby	Fluvial - unnamed watercourse.	Parish Council/Parish Meeting
	Sludge Hall Farm, Endersby Lane, Cold Newton	Not Specified. Serious flooding problem.	Parish Council/Parish Meeting
	North west of The Square, Shearsby	Surface Water Runoff & Overland Flow - Runoff and overland flow from	
27 October 2008 & 05 October		fields. Partially/totally blocked stormwater culverts. Trash screen/debris	Parish Council/Parish Meeting
2008		filter becomes blocked.	
	South east of The Square, Shearsby	Fluvial - unnamed watercourse - Runoff from fields. Trash screen/debris	
		filter becomes blocked. Poor bank vegetation clearance. Resuted in water	Parish Council/Parish Meeting
		fountains lifting culvert off its seatings.	

February 2000, 17-22 April 2000, 06 November 2000		River Sense	EA
25 December 1999, 28	Great Glen, Wistow, Newton Harcourt, North of Kilby.		
-		River Avon	EA
-	From Catthorpe to Stanford on Avon continuing along HDC southern		EA
	North of Cotesbach near sewage works, south Lutterworth, north of		
טט⁼וקר <i>ז</i> -	East of great Bowden to east of Caldicott.	River Welland	EA
Apr-08	Fields, west of North Kilworth	Overland Flow & Surface Water Runoff. From fields accumulates near spring. Significant rainfall over short time period.	Parish Council/Parish Meetin
Apr-08		time period. Discharges onto road. Blocked/inadequate highway drains due to poor maintenance.	Parish Council/Parish Meetir
Apr-08	A4304 Lutterworth Road, west North Kilworth	during heavy rain due to inadequately sized drain beneath STW road. Surface Water Runoff - From fields following significant rainfall over short	Parish Council/Parish Meetir
Apr-08	South east of Cranmer Lane, North Kilworth	Surface Water Runoff - & Overland Flow - Significant rainfall over short time period. Blocked/inadequate drainage channels. Blocked farm drain. Surface Water Runoff - Blocked/inadequate highway drains. Ponding	Parish Council/Parish Meetir
Apr-08		Blocked/inadequate drains. Sumphole flooded.	Parish Council/Parish Meetir
Apr-08	East of Cranmer Lane, North Kilworth	backed up, effluent found in stream. Surface Water Runoff - Significant rainfall over short time period.	
Apr-08	East of Nether Hall, North Kilworth	over short time period. Surcharging surface water drains. Suspected misconnections with foul sewer causing effluent to flow down the street. Sewer pump failure. Significant rainfall over short time period. Sewage	Parish Council/Parish Meeti
	Green Lane, North Kilworth	Surface Water Runoff - Blocked/inadequate gullies. Significant rainfall	Parish Council/Parish Meetir
Apr-08	Corner of Green Lane with Church Street, North Kilworth	Surface Water Runoff - Blocked/inadequate gullies. Significant rainfall over short time period. Regular flooding up to 0.2m.	Parish Council/Parish Meeti
Apr-08	West End opposite Wash Pit Lane, North Kilworth	Surface Water Runoff - & Overland Flow - Significant rainfall over short time period. Blocked/inadequate drains. Yard submerged.	Parish Council/Parish Meeti
Apr-08		short time period. Stream discharges surface water runoff from fields onto road. Poorly maintained road ditches.	Parish Council/Parish Meeti
Apr-08	Kilworth West of B5414 Pinchet Lane, North Kilworth	road. Significant rainfall over short time period. Overland Flow & Fluvial - unnamed watercourse. Significant rainfall over	Parish Council/Parish Meetii
-	Junction of B5414 Pinchet Lane and A4304 Station Road, North	Surface Water Runoff - Blocked/inadequate drains beneath access road to new development on Wheelwright Close. Water discharges onto the	Pariah Caunail/Pariah Maati
	Junction of Farndon Road, School Lane, Church Walk and Rushes Lane, Lubenham	Fluvial - River Welland. Bridge over river beneath dismantled railway line. Capacity for water exceeded and backs up along the adjacent roads. Road becomes impassible for most cars beneath railway bridge.	Parish Council/Parish Meetir
Regular Occurence		conditions. Fluvial - River Swift. Following prolonged heavy rainfall.	Parish Council/Parish Meeti
	Outside Town Hall, Station Road, Lutterworth	Surface Water Runoff - Blocked/inadequate drains. Surface water sewer floods regularly following heavy rain. Town hall long suffered from damp	Parish Council/Parish Meetir
23 March 2007	Garden along Welford Road, Shearsby	Surface Water Runoff & Overland Flow - Blocked/inadequate drainage channels. Overland runoff from fields and roads. Resuted in water fountains lifting drain covers off their seatings.	Parish Council/Parish Meeti
15 January 2008	Brook Lane & Back Lane, Shearsby	Surface Water Runoff & Overland Flow - Blocked/inadequate clearance of drain/gully covers. Runoff from roads.	Parish Council/Parish Meeti
_	Mill Lane, Shearsby	Surface Water Runoff & Overland Flow - Blocked/inadequate clearance of drain/gully covers. Runoff from roads.	Parish Council/Parish Meetii
25 November 2006, 30 December 2006 & 26 July 2007		and foul sewage. Resuted in water fountains lifting off drain covers. Roads, gardens, ground floors and basements of homes inundated. Depths between 8 to 24 inches.	Parish Council/Parish Meetii
	The Square, Shearsby	Surface Water Runoff & Foul Sewearage - Blocked/inadequate drains/gullies. Overland runoff from fields and roads, both surface water	

-	West of Broughton Astley	River Soar	EA
-	Broughton Astley	Broughton Brook	EA
25 December 1999, 28	Great Glen, Burton Overy		
February 2000, 22 & 28 April			
2000, 02 May 2000 & 06			
November 2000		Burton Brook	EA
-	Great Easton	Great Easton Brook	EA
-	Caldicott	Eye Brook	EA
-	West of Blaston	Medbourne Brook	EA
-	South Market Harborough	Tributary of River Jordan	EA