

1 Appendix B - Data sources used in the SFRA

1.1 Fluvial flooding

1.1.1 Flood Zones 2 and 3a

Flood Zones 2 and 3a, as shown in Appendix A, were produced from the Environment Agency's Flood Maps (which match the online Environment Agency's Flood Map for Planning), and the 1,000-year and 100-year fluvial model outputs, where they differ from Flood Map for Planning. The model outlines were compared with the Flood Map for Planning to determine whether the latest modelling results should be used, and this is shown in Appendix E.

Over time, the online mapping is likely to be updated more often than the SFRA, so SFRA users should check there are no major changes in their area.

1.1.2 Flood Zone 3b (the Functional Floodplain)

Flood Zone 3b, as shown in Appendix B, has been compiled for the study area as part of this SFRA and is based on the 5% AEP (1 in 20-year chance of flooding in any given year) or 4% AEP (1 in 25-year chance of flooding in any given year) extents produced from Environment Agency detailed hydraulic models, where outputs were available. This information is only available in the SFRA and not shown on the online map.

For areas not covered by detailed models, a precautionary approach should be adopted for Flood Zone 3b with the assumption that the extent of Flood Zone 3b would be equal to Flood Zone 3a. If development is shown to be in Flood Zone 3a, further work should be undertaken as part of a detailed site-specific Flood Risk Assessment to define the extent of Flood Zone 3b.

If the area of interest is in an area that has seen some major changes to the extent of the Flood Zones, having checked the online mapping, Developers will also need to remap Flood Zone 3b as part of a detailed site-specific Flood Risk Assessment.

1.1.3 Climate change

Please refer to Chapter 4 for information on the approach to climate change in this SFRA.

1.1.4 Surface water

Mapping of surface water flood risk in study area has been taken from the Risk of Flooding from Surface Water (RoFfSW) maps published online by the Environment Agency. These maps are intended to provide a consistent standard of assessment for surface water flood risk across England and Wales in order to help LLFAs, the Environment Agency and any potential developers to focus their management of surface water flood risk.

The RoFfSW is derived primarily from identifying topographical flow paths of existing watercourses or dry valleys that contain some isolated ponding locations in low lying areas. They provide a map which displays different levels of surface water flood risk depending on the annual probability of the land in question being inundated by surface water (Table B-1).

Table B-1: RoFfSW risk categories

Category	Definition
High	Flooding occurring as a result of rainfall with a greater than 1 in 30 chance in any given year (annual probability of flooding 3.3%)
Medium	Flooding occurring as a result of rainfall of between 1 in 100 (1%) and 1 in 30 (3.3%) chance in any given year.

Low	Flooding occurring as a result of rainfall of between 1 in 1,000 (0.1%) and 1 in 100 (1%) chance in any given year.
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Although the RoFfSW offers improvement on previously available datasets, the results should not be used to understand flood risk for individual properties. The results should be used for high level assessments such as SFRAs for local authorities. If a site is indicated in the Environment Agency mapping to be at risk from surface water flooding, a more detailed assessment should be considered to more accurately illustrate the flood risk at a site-specific scale.

1.1.5 Groundwater

Mapping of groundwater flood risk has been based on the Areas Susceptible to Groundwater Flooding (AStGWF) dataset.

The AStGWF dataset is a strategic-scale map showing groundwater flood areas on a 1km square grid. It shows the proportion of each 1km grid square, where geological and hydrogeological conditions indicate that groundwater might emerge. It does not show the likelihood of groundwater flooding occurring and does not take account of the chance of flooding from groundwater rebound (e.g. following cessation of mining or industrial activity). This dataset covers a large area of land, and only isolated locations within the overall susceptible area are likely to suffer the consequences of groundwater flooding.

The AStGWF data should be used only in combination with other information, for example local data or historical data. It should not be used as sole evidence for any specific flood risk management, land use planning or other decisions at any scale. However, the data can help to identify areas for assessment at a local scale.

1.1.6 Sewers

Historical incidents of flooding are detailed by Severn Trent Water through their Historic Flood Risk Register (HFRR). The HFRR database records incidents of flooding relating to public foul, combined or surface water sewers and displays which properties suffered flooding. The risk register has been considered in the assessment of flood risk from sewers (see Chapter 5.9).

1.1.7 Reservoirs

The risk of inundation because of reservoir breach or failure of reservoirs within the area has been mapped using the outlines produced as part of the National Inundation Reservoir Mapping (NIRIM) study. These outlines were the same as those on the Long-Term Risk of Flooding website at the time of publication. The Environment Agency are currently updating their national reservoir flood maps and SFRA users should check there are no major changes to the reservoir maps before relying on the mapping in the SFRA.

1.1.8 Overview of supplied data for the South Staffordshire SFRA

Source of flood risk	Data used to inform the assessment	Data supplied by
Historic (all sources)	Historic Flood Map Recorded Flood Outlines Hydraulic Modelling Reports	Environment Agency
	Historic flood incidents/records	Canal and River Trust
	Sewer flooding	Severn Trent Water
Fluvial (including climate change)	Aston Chase Brook and Scotch Brook, Stone Hazard Mapping (2018, CH2M) Bell Brook and Otherton Brook, Penkridge tributaries hazard mapping study (2015, JBA)	Environment Agency

	<p>Ridings Brook SFRM (2009, JBA) Rising Brook (Rugeley) FAS (2014, JBA) Rising Brook and Kingston Brook, Stafford tributaries study (2015, JBA) River Anker SFRM (2006, JBA) River Penk and River Sow, Visualisation model (2011, Halcrow) River Sow, Eccleshall Flood Modelling Study (2017, JBA) Smestow Brook, Wolverhampton, Wombourne and Kingswinford FRM study (2012, URS) River Tame SFRM (2009, Halcrow) River Trent, Model 1 Enhancement (2009, Capita Symonds) River Trent, Fluvial Trent Strategy Model 2 (2005, EA)</p>	
	Flood Map for Planning Flood Zones	Environment Agency
Surface Water	Risk of Flooding from Surface Water dataset	Environment Agency
Groundwater	<p>Areas Susceptible to Groundwater Flooding dataset Bedrock geology/superficial deposits datasets (online dataset)</p>	Environment Agency
Sewer	Hydraulic Flood Risk Register	Severn Trent Water
Reservoir	National Inundation Reservoir Mapping (Long term flood risk map)	Environment Agency
Canal	Description of flood incidences	Canal and River Trust

Appendix D3 – Summary of flood risk in Lichfield District

Flood risk is summarised in the table below for the main urban areas in the District and areas of high flood risk.

Settlement	Fluvial flood risk	Existing defences	Surface water flood risk	Susceptibility to Groundwater flood risk				Reservoir inundation risks	Historic, recorded flood events
				<25%	≥25% <50%	≥50% <75%	≥75%		
Alrewas	The River Trent flows past the north of Alrewas, the Curborough Brook flows past the western edge of the village to join the Trent and the Trent and Mersey canals cuts through the west of the village. Flood Zone 3 reaches properties on Church Road, Mill End Lane, Cotton Close and Croxall Road. Flood Zone 2 further extends in these areas and also to Micklehome Drive. A small unnamed drain flows through the southern edge of the village and is not included in the Flood Zones due to its size, however, could still pose a fluvial flood risk.	None	Major flow paths in the 100-year and 1,000-year surface water events include Mickelhome Drive, Park Road, Post Office Road, Main Street, Fox Lane and Wellfield Road. Large areas of ponding are around Micklehome Drive in all events and other isolated areas throughout the village.				✓	Alrewas is partially located within the inundation extents of Rugeley Ash Lagoons, Stowe Pool, Holly Bush Lake, Chasewater and Blithfield reservoirs.	October 2010 - Pluvial flooding 4 properties with history of sewer flooding.
Armitage/ Handsacre	A number of unnamed watercourses flow northwards through the villages towards the River Trent. The Flood Zones of the River Trent do not reach towards the urban area of the villages, however the Flood Zones of one of the unnamed watercourses extends to properties on Old Road, Ford Way, Lakeside View, Shelley Close, Shropshire Brook Road and Hazel Drive. Not all of the unnamed watercourses flowing through the villages are included in the Flood Zones due to their size, however they could still pose a fluvial flood risk to Armitage and Handsacre.	Earth embankment, right bank of River Trent to the north of the villages	Surface water flow paths follow the topography of the villages and flow towards the River Trent in the north. In the 30-year event the flow routes follow the watercourses and areas of ponding are fairly large where these watercourses become culverted and cross over roads, e.g. from Wordsworth Close to Lakeside Way. An overland flow route starts to form from Upper Lodge Road to the Trent and Mersey Canal in the west of Armitage. These areas of ponding and flow paths become much larger in the 100-year and 1,000-year events. Armitage was identified in the 2015 LFRMS as the rural area at the 2 nd highest risk of surface water flooding in Staffordshire, with 129 properties at risk. Armitage was also identified in the 2010 SWMP as being at high-risk of surface water flooding.	✓		✓	✓	None	11 properties with a history of sewer flooding.
Burntwood	The Redmoor Brook flows past the north of the town and the Flood Zones reach properties on Chorley Road, Ogle Hay Road, Meg Lane and Springle Styche Lane. The Flood Zones of the Crane Brook just reach properties on Highfields Road, Hospital Road and Wharf Lane. The Flood Zones of an unnamed watercourse flowing out of the south-eastern corner of the town reaches properties on Cobby Nook Lane, Pingle Lane, Siskin Close, Forger Close, Burntwood Road and Hammerwich Road. An unnamed watercourse flows south from Cobbett Road towards Chasewater reservoir but is not included in the Flood Zones due to its size, however it could still pose a fluvial flood risk to parts of Burntwood.	None	Surface water flow paths follow the topography of the town. The majority of Burntwood is at higher elevations with surface water running off from the hill towards the surrounding watercourses. Overland flow routes exist in the 30-year event from Robinson Road, over Slade Avenue and through gardens of properties along Hunslet Road towards the watercourses in the east. Another flow route in the 30-year event is present in the Chasetown area, from Sycamore Road to the Crane Brook in the south of the town. Norton Lane and the A5190 are also overland flow routes in the 30-year event. These flow routes widen, and areas of ponding become larger and more frequent in the 100-year and 1,000-year events. Burntwood was identified in the 2015 LFRMS as the urban area at the 8 th highest risk of surface water flooding in Staffordshire, with 620 properties at risk. Burntwood was also identified in the 2010 SWMP as being at high-risk of surface water flooding.	✓	✓		✓	Burntwood is partially located within the inundation extent of Chasewater reservoir.	12 properties with a history of sewer flooding.
Elford	Elford is located on the right bank of the River Tame and an unnamed drain flows through the east of the village partially culverted to join the Tame. Another unnamed watercourse approximately 500m north of Elford flows	None	The 30-year surface water extent in Elford consists of a large area of ponding around the A513 and The Beck, where the unnamed watercourse flows. This becomes a more prominent flow path in the 100-		✓		✓	Elford is partially located within the inundation	

	towards the River Tame downstream of Elford, however due to the flat, low-lying topography of the village Flood Zone 3 from this watercourse extends down to Church Lane in Elford. Flood Zone 3 reaches properties along The Shrubbery and Church Road and Flood Zone 2 inundates the majority of the village due to the low topography of the village.		year event running towards the River Tame and also now covering Croft Close and Church Road. Elford was identified in the 2010 SWMP as being at high-risk of surface water flooding.					extents of Chasewater and Swinfen Lake reservoirs.	
Fazeley	The Bourne Brook flows through Fazeley into the River Tame which flows to the east past the town. Before entering Fazeley the Bourne Brook splits into several channels. Only the south most of these channels is included in the Flood Zones however there may still be a fluvial risk from the other branches. To the west of the A4091, parts of Drayton Manor theme park, the industrial estate, Tongue Avenue and Wrighton Grove and Mill Lane are within Flood Zone 3 with Flood Zone 2 extending slightly further into these areas. To the east of the A4091 the majority of properties are within the Flood Zones with the exception of a few along Tolson Avenue and the A4091.	Embankment/wall on the left bank of the Bourne Brook behind Brook End and the B5404. Embankment/wall/flood gate protecting properties on Mayfair Drive and New Mill Lane.	The 30-year surface water extent in Fazeley is mainly small, isolated areas of ponding with larger pockets of ponding in more rural areas, including the them park. In the 100-year event these areas of ponding become much larger and minor flow routes are present. There are multiple overland flow routes and larger areas of ponding in the 1,000-year event. Fazeley was identified in the 2010 SWMP as being at high-risk of surface water flooding.	✓	✓	✓	✓	Fazeley is partially located within the inundation extents of Rotton Park, Chasewater, Shustoke Lower, Bartley and Canwell Estate reservoirs.	December 1992 – fluvial flooding
Fradley	Two unnamed drains flow through Fradley, one in the north which runs partially culverted along The Moor and the other flows northwards out of the south of Fradley. These are not included in the Flood Zones due to their size, however, could pose a fluvial flood risk to the village, especially should the culverts become blocked.	None	The 100-year and 30-year surface water extents are mainly small, isolated pockets of ponding with many of the roads becoming overland flow paths in the 1,000-year event.		✓	✓	✓	None	
Hopwas	Hopwas lies on the left bank of the River Tame, upstream of Tamworth. The Flood Zones here extend fairly close to the properties in the village along the A51 and Two Trees Close and Hints Road, but it is mainly fields that are at fluvial risk of flooding.	None	There are small, isolated areas of ponding in the 30-year surface water flood event. Flow routes along the A51 and Nursery Lane are present in the 100-year event, with ponding occurring around the River Tame where it crosses the A51. In the 1,000-year event there are flow routes along Hints Lane, the B5404 and through fields to the east of the B5404 and the areas of ponding are more significant.	✓		✓	✓	Hopwas is partially located within the inundation extent of Chasewater reservoir.	
King's Bromley	Kings Bromley is located with the River Trent flowing past the north of the village and the Crawley Brook to the south. Two unnamed drains have their source in the east of the village and could pose a fluvial flood risk. The floodplains around King's Bromley are very wide, however only properties along Church Lane and Manor Walk are within the extent of Flood Zone 3. Flood Zone 2 further affects these areas and also Manor Road, the A515 and the industrial units and college on the A513.	Earth embankment, protecting properties on Manor Road from high levels in the gravel pits	The 30-year surface water extent in King's Bromley consists of two small areas of ponding on the A513 and the A515. These areas of ponding begin to form flow paths in the 100-year event and extends to Manor Road in the 1,000-year event. There are isolated areas of ponding elsewhere in the village in the 100-year and 1,000-year events.				✓	King's Bromley is partially located within the inundation extents of Rugeley Ash lagoons and Blithfield reservoirs.	
Lichfield	The Leamonsley Brook and the Trunkfield Brook flow through the west and south-west of the city respectively and join at Minster Pool and flows culverted through the city as the Curborough Brook. The Trunkfield Brook is not included in the Flood Zones due to its size, however, could still pose a fluvial flood risk to Lichfield. Properties along Swan Road, Bird Street, Dam Street, Stowe Road, St Chads Road, Netherstowe, Chester Close, York Close and the A5192 are located within Flood Zone 3, with Flood Zone 2 affecting more properties in these areas.	None	Flow routes in the city follow the topography with runoff from hills running towards the valleys of the Leomansley, Trunkfield and Curborough Brooks. Flow paths in the 30-year event exist along Pentre Road, Broad Lane, Boley Lane, Roman Way and Hawkesmoor Drive; along Valley Lane; along Grange Lane and Wheel Lane towards the Leamonsley Brook and from Friday Acres towards the Curborough Brook. There are large areas of ponding as surface water backs up behind the railway line in the north of the city. More flow routes and larger areas of ponding are present in the 100-year and 1,000-year events. Lichfield was identified in the 2015 LFRMS as the urban area at the 4 th highest risk of surface water flooding in Staffordshire, with 760 properties at risk.	✓	✓	✓	✓	Lichfield is partially located within the inundation extent of Stowe Pool reservoir.	14 properties with a history of sewer flooding.

			Lichfield was also identified in the 2010 SWMP being at high risk of surface water flooding and was therefore taken forward for a Phase 2 SWMP assessment.						
Shenstone	The Fotherley Brook flows around the west and northern edge of Shenstone and is joined by the Crane Brook where it becomes the Bourne Brook. The Flood Zones of the Bourne Brook extend to just reach properties on Mill Lane and Oakwood Close. Industrial units on Lynn Lane and Birch Brook Lane are within the Flood Zones of the Fotherley Brook.	None	Surface water follows topography from higher ground in the south-east of the village to lower ground in the north and west. The 30-year event is mainly small isolated areas of ponding. Fotherley Road, Richard Cooper Road and Millbrook Road become flow paths in the 100-year event, with larger areas of ponding on Pinfold Hill, Station Road and Richard Cooper Road. These areas of ponding become much larger in the 1,000-year event and there are more areas of ponding.				✓	Shenstone is partially located within the inundation extents of Little Aston Pool, Barr Beacon No.2 and Chasewater reservoirs.	June 2009 – pluvial flooding 12 properties with a history of sewer flooding.
Whittington	There are no watercourses flowing through Whittington therefore the fluvial flood risk is low. The Birmingham and Fazeley/Coventry Canal is located on the eastern and northern edges of the village, so there is some risk of flooding should the canal become breached or overtopped. The Fisherwick Brook has its source just to the east of Whittington but has not been included in the Flood Zones due to its size, therefore this could pose a fluvial flood risk to the village.	None	Surface water flooding in the 30-year event ponds along Fisherwick Road, Main Street, Rockfarm Road, Middleton Road, Blacksmith Lane and Spring Lane with the largest area of ponding around Osprey Close, Kestrel Close and Merlin Way. These areas of ponding join in the 100-year event to form a flow path from Blacksmith Lane to the Fisherwick Brook. In the 1,000-year event this flow path has extended to cover a number of properties in the village. Whittington was identified in the 2015 LFRMS as the rural area at the 4 th highest risk of surface water flooding in Staffordshire, with 79 properties at risk. Whittington was also identified in the 2010 SWMP as being at high-risk of surface water flooding.		✓		✓	None	

Appendix E – Models used in the SFRA

Watercourse	Model details	SFRA Flood Zone 2 and 3a	Model used to map Flood Zone 3b?	Return period Flood Zone 3b is taken from	Climate Change 100-year + 20% outline mapped from this model?	Climate Change 100-year + 30% outline mapped from this model?	Climate Change 100-year + 50% outline mapped from this model?	Climate Change 100-year + 25% outline mapped from this model?	Climate Change 100-year + 35% outline mapped from this model?	Climate Change 100-year + 70% outline mapped from this model?	Comment
Aston Chase Brook	2018, Stone hazard mapping study, CH2M	Model results included in Flood Map for Planning	Yes	20-year	Yes	Yes	Yes	n/a	n/a	n/a	
Bell Brook	2015, Penkridge tributaries hazard mapping study, JBA	Model results included in Flood Map for Planning	Yes	20-year	Yes	Yes	Yes	n/a	n/a	n/a	
Dawley Brook	2012, Wolverhampton, Wombourne and Kingswinford FRM study, Capita Symonds and URS	Model results included in Flood Map for Planning	Yes	20-year	n/a	n/a	n/a	Yes	Yes	Yes	See comments below for Smestow/Wom/Warstones Brook.
Kingston Brook	2015, Stafford tributaries study, JBA	Model results not included in Flood Map for Planning, 100-year and 1,000-year undefended model outlines used to define Flood Zones	Yes	20-year	Yes	Yes	Yes	n/a	n/a	n/a	
Otherton Brook	2015, Penkridge tributaries hazard mapping study, JBA	Model results included in Flood Map for Planning	Yes	20-year	Yes	Yes	Yes	n/a	n/a	n/a	
Ridings Brook	2009, Ridings Brook SFRM, JBA	Model results included in Flood Map for Planning	Yes	20-year	Yes	Yes	Yes	n/a	n/a	n/a	
Rising Brook (Rugeley)	2014, Rising Brook FAS, JBA	Model results included in Flood Map for Planning	Yes	20-year	Yes	Yes	Yes	n/a	n/a	n/a	The climate change outlines were derived from the flood alleviation scheme design model, as this scheme has been implemented and supersedes the 2014 baseline model.
Rising Brook (Stafford)	2015, Stafford tributaries study, JBA	Model results not included in Flood Map for Planning, 100-year and 1,000-year undefended model outlines used to define Flood Zones	Yes	20-year	Yes	Yes	Yes	n/a	n/a	n/a	
River Anker	2006, River Anker SFRM, JBA	Model results included in Flood Map for Planning	Yes	25-year	Yes	Yes	Yes	n/a	n/a	n/a	
River Penk	2011, Visualisation model, Halcrow	Model results not included in Flood Map for Planning, 100-year and 1,000-year undefended model outlines used to define Flood Zones	Yes	20-year	Yes	Yes	Yes	n/a	n/a	n/a	Flood Map for Planning has not been updated with these model results.
River Sow	2011, Visualisation model, Halcrow	Model results not included in Flood Map for Planning, 100-year and 1,000-year undefended model outlines used to define Flood Zones	Yes	20-year	Yes	Yes	Yes	n/a	n/a	n/a	Flood Map for Planning has not been updated with these model results.
River Sow	2017, Eccleshall Flood Modelling Study, JBA	Model results included in Flood Map for Planning	No	n/a	Yes	Yes	Yes	n/a	n/a	n/a	Model only run to update Flood Zones 2 and 3a. 20-year model for Flood Zone 3b was not run.

Watercourse	Model details	SFRA Flood Zone 2 and 3a	Model used to map Flood Zone 3b?	Return period Flood Zone 3b is taken from	Climate Change 100-year + 20% outline mapped from this model?	Climate Change 100-year + 30% outline mapped from this model?	Climate Change 100-year + 50% outline mapped from this model?	Climate Change 100-year + 25% outline mapped from this model?	Climate Change 100-year + 35% outline mapped from this model?	Climate Change 100-year + 70% outline mapped from this model?	Comment
River Tame	2009, River Tame SFRM, Halcrow	Model results included in Flood Map for Planning	Yes	20-year	Yes	Yes	Yes	n/a	n/a	n/a	The climate change 1D mapped outputs extended to cover a large area of Tamworth where defences are present. The maximum stage in the model results was analysed to determine whether flooding would overtop the defences, given the crest level specified in the data, and the extents were trimmed to the defences accordingly. More information is shown below.
River Trent	2009, River Trent Model 1 Enhancement Model, Capita Symonds	Model results included in Flood Map for Planning	Yes	20-year	Yes	Yes	Yes	n/a	n/a	n/a	
River Trent	2009, Stone revised flood zones, River Trent 1 Enhancement Model, Capita Symonds	Model results included in Flood Map for Planning	TBC	20-year	Yes	Yes	Yes	n/a	n/a	n/a	
River Trent	2005, Fluvial Trent Strategy Model 2, Environment Agency	Model results included in Flood Map for Planning	Yes*	25-year	Yes*	Yes*	Yes*	n/a	n/a	n/a	*Downstream of the railway line downstream of Rugeley, Flood Zone 2 was used as a conservative indication of climate change and Flood Zone 3a was used as a conservative indication of Flood Zone 3b, due to 1d mapping techniques producing unreliable results, as full GIS mapping data was not included in the supplied model data.
Scotch Brook	2018, Stone hazard mapping study, CH2M	Model results included in Flood Map for Planning	Yes	20-year	Yes	Yes	Yes	n/a	n/a	n/a	
Smestow Brook	2012, Wolverhampton, Wombourne and Kingswinford FRM study, Capita Symonds and URS	Model results included in Flood Map for Planning	Yes	20-year	n/a	n/a	n/a	Yes	Yes	Yes	The 1D-2D version of the model was able to run for the 25% and 35% climate change scenarios; however, the 70% model failed due to model instabilities. The original modelling study stated that the 1D-2D combined model could not be run stably at high flows, therefore for the 1,000-year model event, a 1D-only model had to be run. This model was therefore used to represent the 70% climate change scenarios and means that the 70% extents were created from 1D-mapping techniques, rather
Warstones Brook	2012, Wolverhampton, Wombourne and Kingswinford FRM study, Capita Symonds and URS	Model results included in Flood Map for Planning	Yes	20-year	n/a	n/a	n/a	Yes	Yes	Yes	
Wom Brook	2012, Wolverhampton, Wombourne and Kingswinford FRM study, Capita Symonds and URS	Model results included in Flood Map for Planning	Yes	20-year	n/a	n/a	n/a	Yes	Yes	Yes	

Watercourse	Model details	SFRA Flood Zone 2 and 3a	Model used to map Flood Zone 3b?	Return period Flood Zone 3b is taken from	Climate Change 100-year + 20% outline mapped from this model?	Climate Change 100-year + 30% outline mapped from this model?	Climate Change 100-year + 50% outline mapped from this model?	Climate Change 100-year + 25% outline mapped from this model?	Climate Change 100-year + 35% outline mapped from this model?	Climate Change 100-year + 70% outline mapped from this model?	Comment
											than 1D-2D outlines as were produced for the 25% and 35% climate change extents.

River Tame mapping

Due to the nature of 1D mapping techniques, defences are not always represented in the model if cross sections do not extend to reach the defences in the floodplain and must therefore be manually edited out of the flood outlines produced from the model. Several defences exist around Tamworth along the Tame, and investigations were undertaken by comparing the maximum stage at different cross sections to the stated crest level of the defence, to determine whether the flood extents would overtop the defence. If the extents did not overtop, the outlines were manually edited to extend as far as the defence but not overtop. This was also done in comparison to the outlines from the 20% CC outline from the original 2009 model. Where the maximum stage at a cross section was greater than the height of one part the defence, but at another cross section on the same defence the maximum stage was lower than the defence height, the extent was assumed to overtop the defence everywhere, as the extents would likely spread behind the defence if any part of it was overtopped.

The extents have been manually trimmed using the best judgement of topography, defence height, maximum stage and defence location; however, it is strongly recommended that developers conduct more detailed modelling as part of a site-specific assessment to confirm the impacts of residual flood risk against defences.

Defence	Cross section	Defence height (m AOD)	Max stage 20% CC (m AOD)	Max stage 30% CC (m AOD)	Max stage 50% CC (m AOD)	Max stage 20% CC ORIGINAL model (m AOD)	Conclusion
Coton Defences (200-year SoP, built 2013)	TM030023RB	58.83	58.201	58.281	58.547	58.191	Original outlines show overtopping, but defences (2013) are more recent than model (2009). Maximum stage of CC does not overtop the defence.
	TM030167RB	58.82	58.336	58.411	58.657	58.327	
	TM030527RB	58.82	58.408	58.483	58.727	58.4	
	TM031111RB	58.82	58.475	58.549	58.79	58.467	
Upstream A51 defences (100-year SoP, built 1962/1999)	TM032303	59.37	59.046	59.082	59.281	59.045	Original outlines do not overtop defence, maximum stage of CC does also does not overtop the defence.
	TM032494	59.46	59.142	59.192	59.371	59.14	
	TM032653	61.51	59.18	59.23	59.429	59.187	
Bitterscote defences (100-year SoP, built 1962)	TFRC1196LB	59.65	59.153	59.202	59.373	59.151	Original outlines do not overtop defence, maximum stage of CC does also does not overtop the defence.
	FRDR0182D	59.89	59.452	59.502	59.686	59.451	
Fazeley Road defences (100-year SoP, built 1963)	TM034260	61.18	61.223	61.319	61.59	61.231	Original outlines overtop the defence and maximum stage of all CC results for TM034260 overtops the defence.
	TM035002	61.55	61.359	61.446	61.664	61.366	
Brook End defence (200-year SoP, built 1963/2014)	TM040105D	62.8	62.194	62.376	62.676	62.208	Original outlines overtop the defence; however, part of the defence was constructed in 2014 which would not have been included in the original model. The maximum stages of all CC results do not overtop the defence.
	TM040232	62.8	62.22	62.401	62.715	62.234	
Mayfair Drive/ New Mill Lane defence (200-year SoP, built 2018)	TM040573	62.78	62.304	62.455	62.763	62.292	Original outlines show overtopping, but defences (2018) are more recent than model (2009). Maximum stage of CC does not overtop the defence.

Appendix F – Flood management assets

Council	Asset	Location	Information
South Staffordshire	Culvert inlet screen	River Penk, under The Parkway adjacent to Gainsborough Drive, Perton	Screen for fluvial debris to prevent culvert blockages
	Culvert inlet screen	River Penk, under The Parkway opposite the Pear and Partridge pub, Perton	Screen for fluvial debris to prevent culvert blockages
	Balancing pond	Upper and Lower Lakes on the River Penk	
	Flood meadow	Bumblehole Meadows, Wombourne	Basin shaped artificial meadow to accommodate storm volumes
	Balancing pond	Brownshore Lane, Essington	Balancing pond with flow regulating apparatus
	Balancing pond	Warstones Brook, Lower Penn	Balancing pond with flow control sluice gates
	Catch pit chamber	Wrottesley Park Road, Perton	Catch pit chamber on a culverted watercourse
	Storage channel	Sparrow's End Lane, Brewood	Storm water storage parallel to the unnamed watercourse
	Piped connection and large concrete culvert	Wyrley and Essington Canal, Broad Lane, Essington	Piped connection between two sections of redundant canal and a large concrete culvert on Broad Lane
	Pools	Baggeridge Country Park	
Lichfield	Trash screen/ grill	Leamonsley Brook, Beacon Park	Several trash screens throughout the park including near the concrete bridge and at the rear of the Discovery Hub
	Outflow grill	Minster Pool, Lichfield	
	Outflow grill	Stowe Pool, Lichfield	
	Trash screen/ grill	Darwin Park, Lichfield	
	Trash screen/ grill	Hawkesyard	
Stafford	Trash screen/ grill	Under the canal at Huddlesford	Approximately 0.5 miles north of the Plough Inn
	Trash screen	Barlaston Common	
	Swales	Vicarage Way, Hixon	
	Culvert	Crown Street, Stone	
	Balancing Pond	Newport Road, Stafford	
	Balancing pond	Common Lane, Stone	
	Trash screen	Exeter Street, Stafford	
	Trash screen	Aston Lodge Park, Stone	
	Trash screen/ balancing pond	Kingsway, Stafford	
	Trash screen	Peel Terrace, Stafford	
	Trash screen	Astonfields Reservoir, Stafford	
	Trash screen	Astonfields Road, Stafford	
	Trash screen	Lichfield Road/Jordan Way, Stone	
	Trash screen	St Vincent Road, Stone	
Trash screen	Pitt Street, Stafford		
Tamworth	Concrete footbridge	Pennymoor Road, Stonydelph	
	Culvert	Ventura Park, between roundabout with Fazeley Road and Ventura Park Road and River Tame	
	Culvert	Shuttington Road	
	Culvert	Durlston Close	Adjacent to footpath/cycle way
	Culvert	Amington	West of Whitley Avenue on boundary between recreation ground and Bollehall Swifts FC
	Piped footpath	Wigginton Park	Pedestrian access culvert
	Jetty/access platform	Wigginton Park	2 within the park
	Culvert	Wigginton Park	
	Culvert	Centurion Park	
	Outlet/inlet	Wilnecote Open Space	Earth dam with weir control structure within outlet structure
	Bridge	Wilnecote Open Space	Four within Wilnecote Open Space
	Weir	Rear of Orkney Drive, Wilnecote	
	Bridge	Rear of Shannon, Wilnecote	Concrete box culvert pedestrian access bridge
	Weir	Rear of Shannon, Wilnecote	Brick weir
	Culvert	Adjacent to Glascode lane, Wilnecote	Pipe culvert
	Weir	Kettlebrook Linear Park	12 within park
	Bridge	Kettlebrook Linear Park	5 within park
	Balancing pond	Kettlebrook Linear Park	5 within park
	Offline pond	Kettlebrook Linear Park	Offline pond with pond dipping platform
	Penstock	Kettlebrook Linear Park	Penstock and access bridge
Culvert	Kettlebrook, culvert exit adjacent to 87 Celladine	Culvert under housing and industrial estate	
Bridge	Peelers Way	Two wooden span pedestrian bridges adjacent to Borrow Pit Lake.	

Council	Asset	Location	Information
Tamworth	Balancing pond	Borrow Pit Lake, adjacent to A51	
	Outlet/inlet	Downstream of Stonydelph Lane	Small pipe culvert linking watercourse to pond
	Balancing pond	Adjacent to A5, Stonydelph	
	Weir	Adjacent to A5, Stonydelph	Series of weirs and reed beds
	Bridge	Footpath cycleway adjacent to A5, Stonydelph	Timber footbridge
	Balancing pond	Adjacent to A5, Stonydelph	
	Bridge	Footpath cycleway adjacent to balancing lake, Stonydelph	
	Weir	Northern end of lake, Stonydelph	
	Weir	Middle of lake, Stonydelph	Concrete weir
	Weir	Kettlebrook, adjacent to Snow Dome car park	Concrete weir
	Bridge	Kettlebrook, adjacent to Snow Dome entrance	Timber footbridge
	Brick headwall	Bolebridge Junction, near to Snow Dome	
	Brick headwall	Land east of A51, near Kettle Brook lake	
	Culvert	Borough boundary, adjacent to golf club	Concrete culvert
	Balancing pond	Borough boundary, adjacent to golf club	
	Culvert	Borough boundary, within golf course	Four within the golf course
	Balancing pond	Borough boundary, within golf course	Two within the golf course
	Culvert	Hodge Lane, beneath horse stables	Concrete culvert
	Culvert	Hodge Lane, adjacent to The Laurels	Concrete culvert
	Bridge	Dosthill Park	Three within park
	Culvert	Adjacent to 22 Chandlers Drive, eastern side	Concrete pipe culvert
	Bridge	Adjacent to Chandlers Drive, eastern side	
	Bridge	Warwickshire Moor, near confluence with River Anker	Timber footbridge set in concrete
	Culvert	Warwickshire Moor, near to railway bridge	
	Bridge	Warwickshire Moor, upstream of railway bridge	
	Bridge	Fazeley Road, giving access to car park	Road bridge
	Bridge	Fazeley Road linking to car park	Steel and concrete footbridge
	Culvert	Whitley Avenue, adjacent to Selker Drive	
	Culvert	Magnus, within pastureland behind Sycamore	
	Weir	Magnus, within pastureland behind Sycamore	Timber weir
	Bridge	Magnus, within pastureland behind Sycamore	
	Bridge	Downstream of pump house off Tamworth Road, Dosthill	Concrete access bridge
	Bridge	Farmer's field north of Coton Lane	Two bridges within the field, one beneath farmer's track
	Culvert	Rear of number 17 Melmerby	
	Outlet/inlet	Wilnecote Open Space	Downstream outlet for dam
	Penstock	Peelers Way	Two in grass verge, one between reed bed and A5 embankment
	Petrol interceptor	Belgrave, near A5 slip road	
	Petrol interceptor	Malborough Way	Two along road
	Petrol interceptor	Kettlebrook Park, adjacent to footpath leading to Jowett	
	Petrol interceptor	Stonydelph Lane, between cycle way and balancing pond	
	Dam	Wilnecote Open Space	
Culvert	By Red Lion public house, Wilnecote		
Culvert	Chandlers Drive		
Culvert	Maybank Cottage Hodge Lane		
Penstock	Malborough Way	Two along road	
Penstock	Belgrave, near A5 slip road	Two near to petrol interceptors	
Penstock	Kettlebrook Linear Park	Three in park	
Penstock	Glascote Heath		
Weir	Chandlers Drive open space	Two in open space	
Culvert	Park, Tamworth Road, Dosthill	In the park opposite 68 Tamworth Road	
Outlet/inlet	Rear of 12-14 Juniper	In woodland at rear of properties	
Bridge	River Anker bridge	Connecting lower area of castle grounds to upper area	
Bridge	River Drive	Footbridge linking castle grounds to Holiday Inn	
Bridge	Glascote Heath, upstream of canal		
Weir	Hodge Lane nature reserve		
Cannock Chase	Bridge	Bentley Brook, Rugeley Road, Hednesford	Brick structure
	Culvert	Bentley Brook, Rugeley Road, Hednesford	Concrete
	Open channel	Bentley Brook, within farm property off Rugeley Road, Hednesford	Earth channel and banks

Council	Asset	Location	Information
Cannock Chase	Culvert	Bentley Brook, adjacent to farmland (horse gallops) and disused quarry, off Rugeley Road, Hednesford	Box culvert of concrete material and steel safety screen
	Culvert	Bentley Brook, Cannock Wood Road, at junction with Bradbury Lane, Hednesford	Concrete culvert
	Open channel	Bentley Brook, Cannock Wood Road, at junction with Bradbury Lane, Hednesford	Earth banks and channel
	Culvert	Bentley Brook, Walkers Rise, Hednesford	Concrete culvert with concrete headwall
	Open channel	Pye Green Ditch, Pye Green	Earth banks and channel
	Bridge	Pye Green Ditch, Pye Green	Wooden footbridge with wooden handrails and steel abutments
	Culvert	Pye Green Ditch, Pye Green	2 concrete box culverts. Steel screen and brick headwalls
	Culvert	Pye Green Ditch, Pye Green	2 concrete culverts and brick headwall
	Bridge	Pye Green Ditch, Pye Green	Brick bridge structure with concrete outfalls adjacent and a steel pipe across the channel
	Culvert	County Brook, rear of industrial units on Burdock Close, Cannock	Concrete culvert and concrete headwall. Steel safety screen
	Open channel	County Brook, rear of industrial units on Burdock Close, Cannock	Earth banks and channel
	Bridge	County Brook, rear of industrial units on Burdock Close, Cannock	Footbridge constructed of wood, with wooden handrails
	Bridge	County Brook, rear of industrial units on Burdock Close and residential properties, Cannock	Footbridge constructed of wood, with wooden handrails
	Open channel	County Brook, rear of industrial units on Burdock Close and residential properties, Cannock	Earth banks and channel
	Weir	County Brook, rear of industrial units on Burdock Close and residential properties, Cannock	Stone and concrete weir structure with brick flow control downstream
	Bridge	County Brook, rear of residential properties and playing field off Hemlock Way, Cannock	Wooden deck and handrails mounted on concrete abutments
	Outfall	County Brook, rear of residential properties and playing field off Hemlock Way, Cannock	Corrugated plastic pipe with brick and rock headwall
	Open channel	County Brook, upstream of footbridge at rear of playing field off Hemlock Way, Cannock	Earth banks and channel
	Outfall	County Brook, rear of playing field off Hemlock Way, Cannock	Clay pipe, no headwall
	Open channel	County Brook, rear of playing field off Hemlock Way, Cannock	Earth banks and channel
	Outfall	County Brook, rear of playing field off Hemlock Way, Cannock	Unable to see due to grassy vegetation
	Culvert	County Brook, rear of playing field off Hemlock Way, Cannock	Twin concrete culverts with stone headwall
	Open channel	County Brook, rear of properties on Sharon Way, Heath Hayes	Earth banks and channel
	Culvert	County Brook, rear of properties on Sharon Way, Heath Hayes	Concrete culvert with brick headwall and steel safety screen.
	Outfall	County Brook, rear of properties on Sharon Way, Heath Hayes	Concrete culvert with brick headwall and steel safety screen
	Weir	County Brook, behind properties on Sharon Way, Hednesford	Brick weir with stone revetment
	Balancing Pond	County Brook, behind properties on Sharon Way, Hednesford	3 concrete culverts with brick headwall at outlet to balancing pond
	Bridge	County Brook, behind properties on Sharon Way, Hednesford	Wooden footbridge
	Bridge	Redmoor Brook, Hayfield Hill, Cannock Wood	Brick arch bridge and steel gate temporarily fixed as a screen
	Bridge	Redmoor Brook, Cumberledge Hill, Cannock Wood	Brick and concrete bridge
	Open channel	Redmoor Brook, Cumberledge Hill, Cannock Wood	Earth banks and channel
	Lock	Golly Brook, rear of Motorhouse 2000 premises, off A5, Cannock	Concrete and brick disused lock and disused access bridge of brick material
	Culvert	Golly Brook, rear of Motorhouse 2000 premises, off A5, Cannock	Concrete culvert with concrete headwall and steel safety screen.
	Open Channel	Golly Brook, adjacent to A5, boundary of Hawkins Tiles, Cannock	Earth banks. Earth channel with some pebbles
	Culvert	Golly Brook, adjacent to A5, boundary of Hawkins Tiles, Cannock	4 brick arch culverts under A5
	Culvert	Golly Brook, north of A5, adjacent to Nissan dealership, Cannock	Box culvert of concrete material
	Open channel	Golly Brook, north of A5, adjacent to Nissan dealership, Cannock	Earth channel and rock and sandbag revetment
	Culvert	Wash Brook, south of A5, Great Wyrley	Concrete culvert with brick headwall
	Open channel	Wash Brook, south of A5, Great Wyrley	Earth channel with some vegetation
	Culvert	Wash Brook, south of A5, Great Wyrley	Flared concrete culvert
Open channel	Wash Brook, south of A5, Great Wyrley	Earth channel with some vegetation	
Outfall	Wash Brook, south of A5, Great Wyrley	Concrete outfall and concrete retaining wall	
Bridge	Wash Brook, south of A5, Great Wyrley	Steel and wooden footbridge with steel handrails	
Revetment	Wash Brook, south of A5, Great Wyrley	Rock filled gabion baskets with concrete slab on top	
Open channel	Wash Brook, adjacent to A5 and lake area off Roman View, Cannock.	Metal revetment on both banks.	
Culvert	Wash Brook, adjacent to A5 and lake area off Roman View, Cannock.	Twin concrete culverts with brick headwall	
Bridge	Wash Brook, access to vacant land used by caravanners off A5, Cannock	Concrete vehicle access bridge with brick abutment	
Culvert	Wash Brook, adjacent to A5, east of Streetway Farm, Cannock	Concrete culvert and brick headwall	
Culvert	Gains Brook, south of A5, Great Wyrley	2 concrete culverts	
Open channel	Gains Brook, south of A5, Great Wyrley	Earth channel and banks	
Culvert	Gains Brook, Gains Lane	Concrete culvert with brick headwall	
Open channel	Gains Brook, Gains Lane	Earth channel and banks	
Open channel	Gains Brook, School Lane	Earth channel and banks	
Culvert	Gains Brook, School Lane	Culvert not visible. Brick headwall	
Culvert	Gains Brook, Walsall Road	Concrete culvert with brick headwall	
Culvert	Gains Brook, Walsall Road	Metal culvert with concrete filled sandbags as headwall	

Council	Asset	Location	Information
Cannock Chase	Bridge	Newlands Brook, Washbrook Lane	Concrete and brick access bridge
	Culvert	Newlands Brook, Newlands Lane	Concrete culvert
	Open channel	Newlands Brook, Newlands Lane	Earth channel and banks
	Culvert	Newlands Brook, Newlands Lane	Twin concrete culverts
	Weir	Newlands Brook, Newlands Lane	Concrete weir structure
	Culvert	Crane Brook, Norton East Road, Norton East.	Box culvert of brick material
	Open channel	Crane Brook, Burntwood Road, Norton East	Earth channel and banks
	Culvert	Crane Brook, Burntwood Road, Norton East	Concrete and brick culvert with brick headwall and steel safety screen
	Open channel	Crane Brook, adjacent to Hednesford Rd, behind properties, Norton East	Earth banks and channel
	Culvert	Crane Brook, adjacent to Hednesford Rd, behind properties, Norton East	Brick headwall
	Culvert	Shaw Brook	Corrugated plastic pipe under vehicle access to farmland
	Culvert	Shaw Brook, rear of Redmoor Inn, Hayfield Hill, Cannock Wood	
	Bridge	Ridings Brook, A5190, adjacent to station car park, downstream of Mill Green, Cannock	Brick headwall, concrete deck and steel undersupport. Brick abutment.
	Culvert	Ridings Brook, A5190, adjacent to station car park, downstream of Mill Green, Cannock	2 corrugated iron half pipes with concrete headwall.
	Open channel	Ridings Brook, upstream of culvert under A5190, Cannock	Earth banks and channel
	Culvert	Ridings Brook, upstream of culvert under A5190, Cannock	Twin concrete box culverts with steel handrails.
	Outfall	Ridings Brook, downstream end of Mill Green, Cannock	Concrete culvert with brick headwall and steel safety screen.
	Culvert	Ridings Brook, downstream end of Mill Green, Cannock	Brick headwall, steel screen.
	Balancing Pond	Ridings Brook, balancing pond at Mill Green, Cannock	Earth banks. Some vegetation. Supports wildlife.
	Open channel	Ridings Brook, upstream of Mill Green, Cannock	Earth channel and banks
	Bridge	Ridings Brook, upstream of Mill Green, Cannock	Concrete deck with steel handrails. Brick abutments.
	Outfall	Ridings Brook, upstream of Mill Green, downstream of ford, Cannock	Clay pipe, no headwall.
	Ford	Ridings Brook, ford upstream of Mill Green, Cannock	Rock and concrete ford with steel fence to collect debris.
	Culvert	Ridings Brook, adjacent to Eastern Way, Hawks Green	Concrete with a concrete headwall.
	Outfall	Ridings Brook, upstream of ford at Mill Green, Cannock	Concrete with brick headwall.
	Outfall	Ridings Brook, adjacent to Eastern Way, Hawks Green	Clay pipe with concrete surround
	Culvert	Ridings Brook, adjacent to Eastern Way, Hawks Green	2 box culverts
	Outfall	Ridings Brook, adjacent to island on Eastern Way and Hawks Green Lane, Hawks Green	Concrete culvert
	Culvert	Ridings Brook, adjacent to island on Eastern Way and Hawks Green Lane, Hawks Green	Concrete culvert with brick headwall and steel safety screen.
	Open channel	Ridings Brook, adjacent to Chase Garage on Eastern Way, Hawks Green	Earth banks and channel
	Outfall	Ridings Brook, adjacent to Eastern Way, Hawks Green	Concrete with concrete headwall and steel screen.
	Open channel	Ridings Brook, adjacent to Eastern Way, Hawks Green	Earth banks and channel
	Outfall	Ridings Brook, adjacent to Eastern Way, Hawks Green	Concrete culvert with brick headwall.
	Outfall	Ridings Brook, near junction of A4610, A460 and Eastern Way, Hawks Green	Plastic pipe with brick headwall.
	Culvert	Ridings Brook, near junction of A4610, A460 and Eastern Way, Hawks Green	Concrete box culvert and concrete headwall.
	Outfall	Ridings Brook, near junction of A4610, A460 and Eastern Way, Hawks Green	Concrete with concrete headwall.
	Culvert	Ridings Brook, adjacent to island junction on Eastern Way under East Cannock Road, Hawks Green	3 no. concrete culverts with concrete headwall.
	Outfall	Ridings Brook, adjacent to island junction on Eastern Way under East Cannock Road, Hawks Green	Corrugated plastic pipe with brick headwall.
	Culvert	Ridings Brook, adjacent to island junction on Eastern Way under East Cannock Road, Hawks Green	Concrete culvert under new access road
	Outfall	Ridings Brook, adjacent to island junction on Eastern Way under East Cannock Road, Hawks Green	Clay pipe with brick headwall.
	Outfall	Ridings Brook, rear of Cannons Health Club off East Cannock Road, Cannock	Clay pipe with brick headwall.
	Outfall	Ridings Brook, rear of Cannons Health Club off East Cannock Road, Cannock	Corrugated plastic pipe
Open channel	Ridings Brook, rear of properties on Swallowfields Drive, Cannock	Earth banks and channel	
Outfall	Ridings Brook, rear of properties on Herondale, Cannock	Concrete pipe with brick headwall steel screen	
Bridge	Ridings Brook, adjacent to private car park and properties on Herondale, Cannock.	Wooden footbridge with concrete abutment	
Bridge	Ridings Brook, within parkland off Stagborough Way, Cannock	Wooden footbridge with wooden abutment	
Open Channel	Longford Brook, Old Penkridge Road, Cannock	Concrete revetment on both banks and a concrete bed	
Culvert	Longford Brook, Old Penkridge Road, Cannock	Concrete culvert with concrete headwall	
Culvert	Longford Brook, Old Penkridge Road, Cannock	Concrete culvert with brick headwall and concrete culvert overflow.	
Balancing Pond	Longford Brook, Old Penkridge Road, Cannock	Earth banks and channel	
Culvert	Longford Brook, Old Penkridge Road, Cannock	Concrete culvert	
Culvert	Longford Brook, Old Penkridge Road, Cannock	Concrete culvert with brick headwall	
Open channel	Longford Brook, Old Penkridge Road, Cannock	Earth banks and channel	
Bridge	Longford Brook, Old Penkridge Road, Cannock	Wooden sleepers	

Council	Asset	Location	Information
Cannock Chase	Culvert	Longford Brook, Old Penkridge Road, Cannock	2 no. concrete culverts with brick and rock headwall and brick weirs.
	Weir	Longford Brook, Old Penkridge Road, Cannock	Wooden weir with wood revetment on banks of channel
	Bridge	Longford Brook, Old Penkridge Road, Cannock	Wooden sleepers crossing channel to form footbridge
	Weir	Longford Brook, Old Penkridge Road, Cannock	Wooden weir
	Culvert	Longford Brook, Old Penkridge Road, Cannock	Twin concrete culverts with stone and brick headwall.
	Weir	Longford Brook, Old Penkridge Road, Cannock	Wooden weir
	Culvert	Longford Brook, Old Penkridge Road, Cannock	Concrete culvert with stone headwall
	Weir	Longford Brook, Old Penkridge Road, Cannock	Brick weir with rock revetment
	Outfall	Longford Brook, Old Penkridge Road, Cannock	Concrete culvert, stone headwall and stone spillway
	Culvert	Longford Brook, Old Penkridge Road, Cannock	Concrete culvert with brick headwall and steel screen
	Open Channel	Rising Brook, near railway viaduct, in the vicinity of Rugeley Bypass, east of Power Station Road, Rugeley.	Earth banks and channel
	Bridge	Rising Brook, rear of the JCB Hydropower factory on the left bank, and downstream of Power Station Road, Rugeley	Concrete access bridge.
	Outfall	Rising Brook, downstream of Power Station Road, Rugeley	Brick culvert and brick wing walls.
	Weir	Rising Brook, approximately 50 metres downstream of Power Station Road, Rugeley	Rubble and debris from the demolition forming an informal weir on the right bank.
	Culvert	Rising Brook, culvert bridge crossing under Power Station Road, Rugeley	Concrete culvert with brickwork headwall.
	Culvert	Rising Brook, rear of Somerfield supermarket in Rugeley town centre.	Upstream end of previous culvert from Power Station Road.
	Open Channel	Rising Brook, rear of Somerfield supermarket in Rugeley town centre.	Earth channel
	Bridge	Rising Brook, within Rugeley town centre.	Timber construction boardwalk
	Culvert	Rising Brook, within Rugeley town centre.	Twin concrete culvert with timber facing.
	Culvert	Rising Brook, Elmore Lane, Elmore Park, Rugeley	Twin concrete culverts in a brick headwall.
	Weir	Rising Brook, Elmore Park, Rugeley	Stone block weir in a cascade formation.
	Weir	Rising Brook, Elmore Park, Rugeley	Concrete weir acting as a flow control structure for the pond.
	Bridge	Rising Brook, upstream end of Elmore Park, downstream of the A51, Rugeley	Timber footbridge with timber handrails and a steel girder
	Bridge	Rising Brook, upstream end of Elmore Park, Rugeley	Stone block arch bridge.
	Open Channel	Rising Brook, upstream of A51 road bridge, Rugeley	Earth banks and channel
	Outfall	Rising Brook, within playing fields upstream of the A51, Rugeley	Concrete pipe in a brick headwall
	Bridge	Rising Brook, opposite Elmore Park and adjacent to playing fields off the A51, Rugeley	Twin brick arch bridge with brick weir under the left arch and a concrete weir under the right arch.
	Open Channel	Rising Brook, adjacent to the playing fields off the A51, Rugeley.	Earth banks and channel
	Bridge	Rising Brook, adjacent to the playing fields off the A51, Rugeley.	Concrete and steel footbridge with stone abutments
	Weir	Rising Brook, adjacent to the playing fields off the A51, Rugeley.	Rock weir with rock revetments on banks of channel
	Weir	Rising Brook, adjacent to the playing fields off the A51, Rugeley.	Rock weir with rock revetment on left bank
	Bridge	Rising Brook, adjacent to the playing fields off the A51, Rugeley.	Concrete and steel footbridge with brick abutments
	Bridge	Rising Brook, adjacent to the playing fields off the A51, Rugeley.	Wooden sleeper deck with brick abutments, steel railings and steel screen.
	Open Channel	Rising Brook, adjacent to the playing fields off the A51, Rugeley.	Earth banks and channel
	Weir	Rising Brook, at High Fall, downstream of Slitting Mill.	Brick weir under a brick and stone bridge
	Bridge	Rising Brook, at Slitting Mill, Rugeley.	Concrete arch footbridge over the open channel
	Bridge	Stafford Brook, bridge underpass of Stafford Brook Road, adjacent to Stafford Brook Farm.	Brick face bridge crossing with concrete wing walls.
	Open Channel	Stafford Brook, adjacent to bridge underpass of Stafford Brook Road and opposite Stafford Brook Farm.	Earth banks and channel
	Bridge	Stafford Brook, Stafford Brook Road, to the east of Bevin's Birches.	Brick faced bridge crossing with brickwork and concrete wing walls.
	Open Channel	Stafford Brook, Stafford Brook Road, east of Bevin's Birches	Earth banks and channel
Bridge	Stafford Brook, Stafford Brook Road, near Silver Trees Caravan Park	Brickwork arch bridge crossing	
Open Channel	Stony Brook, adjacent to Slitting Mill Road, at confluence with Rising Brook.	Earth banks, pebbled channel	
Bridge	Stony Brook, adjacent to Slitting Mill Road, near the confluence with Rising Brook.	Brick arch bridge	
Open Channel	Golf Course Ditch, Municipal Golf Course, Cannock	Earth banks and channel	
Culvert	Milking Brook, western edge of playing field off Hemlock Way, Cannock	Concrete culvert with brick headwall	
Open channel	Milking Brook, western edge of playing field off Hemlock Way, Cannock	Earth channel, stone and concrete revetment	
Outfall	Milking Brook, adjacent to Hemlock Way, Cannock	3 no. outfalls with brick headwall	
Bridge	Milking Brook, adjacent to Hemlock Way, Cannock	2 no. wooden footbridges underneath Hemlock Way overbridge.	
Bridge	Milking Brook, adjacent to Hemlock Way, Cannock	Concrete overbridge	
Open channel	Milking Brook, adjacent to Hemlock Way, Cannock	Stone and concrete revetment on both banks. Earth channel	
Culvert	Milking Brook, end of Woodpecker Way, Cannock	Concrete culvert with brick headwall	
Open channel	Milking Brook, end of Woodpecker Way, Cannock	Earth banks and channel	
Weir	Milking Brook, downstream of balancing pond, south of Hemlock Way, Cannock	Concrete weir	
Balancing Pond	Milking Brook, south of Hemlock Way, Cannock	Online balancing pond with earth banks.	

Council	Asset	Location	Information
Cannock Chase	Outfall	Milking Brook, eastern edge of balancing pond, south of Hemlock Way, Cannock	Clay pipe with brick headwall
	Culvert	Milking Brook, just upstream of balancing pond, south of Hemlock Way, Cannock	Flared concrete culvert with stone headwall
	Outfall	Milking Brook, just upstream of balancing pond, south of Hemlock Way, Cannock	Clay pipe with brick headwall
	Open channel	Milking Brook, upstream of balancing pond, south of Hemlock Way, Cannock	Earth banks and channel
	Outfall	Milking Brook, upstream of balancing pond, south of Hemlock Way, Cannock	Concrete culvert with brick headwall
	Outfall	Milking Brook, upstream of balancing pond, adjacent to Asquith Drive, Cannock	Clay pipe with brick headwall
	Open channel	Milking Brook, upstream of balancing pond, adjacent to Asquith Drive, Cannock	Earth banks and channel
	Outfall	Milking Brook, upstream of balancing pond and adjacent to Elder Close, Cannock	Clay pipe with brick headwall
	Bridge	Milking Brook, upstream of balancing pond and adjacent to Elder Close, Cannock	Wooden footbridge
	Outfall	Milking Brook, adjacent to Hayes Way, Cannock	Concrete pipe with brick headwall
	Culvert	Milking Brook, adjacent to Hayes Way, Cannock	Concrete pipe with brick headwall