Agenda

AGENDA for a meeting of the ENVIRONMENT, PLANNING AND TRANSPORT CABINET PANEL in COUNCIL CHAMBER at County Hall, Hertford on FRIDAY, 11 MAY 2017at 10:00AM

MEMBERS OF THE PANEL (12) (Quorum 3)

D A Ashley (Chairman), D J Barnard, S Bedford, S J Boulton, R C Deering, S J Featherstone, N A Hollinghurst, A K Khan, G McAndrew, A Stevenson (Vice-Chairman), J A West, A S B Walkington

Meetings of the Cabinet Panel are open to the public (this includes the press) and attendance is welcomed. However, there may be occasions when the public are excluded from the meeting for particular items of business. Any such items are taken at the end of the public part of the meeting and are listed under "Part II ('closed') agenda".

The Committee Room B is fitted with an audio system to assist those with hearing impairment. Anyone who wishes to use this should contact main (front) reception.

Members are reminded that all equalities implications and equalities impact assessments undertaken in relation to any matter on this agenda must be rigorously considered prior to any decision being reached on that matter.

Members are reminded that:

(1) if they consider that they have a Disclosable Pecuniary Interest in any matter to be considered at the meeting they must declare that interest and must not participate in or vote on that matter unless a dispensation has been granted by the Standards Committee;

(2) if they consider that they have a Declarable Interest (as defined in paragraph 5.3 of the Code of Conduct for Members) in any matter to be considered at the meeting they must declare the existence and nature of that interest. If a member has a Declarable Interest they should consider whether they should participate in consideration of the matter and vote on it.

PART I (PUBLIC) AGENDA

1. MINUTES

To confirm the Minutes of the meeting held on 24 April 2018 (attached).

2. PUBLIC PETITIONS

The opportunity for any member of the public, being resident in or a registere d local government elector of Hertfordshire to present a petition relating to a matter with which the Council is concerned, and is relevant to the remit of this Cabinet Panel, containing 100 or more signatures of residents or business ratepayers of Hertfordshire.

Notification of intent to present a petition must have been given to the Chief Legal Officer at least 20 clear days before the meeting where an item relating to the subject matter of the petition does not appear in the agenda, or at least 5 clear days where the item is the subject of a report already on the agenda.

[Members of the public who are considering raising an issue of concern via a petition are advised to contact their local member of the Council. The Council's arrangements for the receipt of petitions are set out in Annex 22 - Petitions Scheme of the Constitution.]

If you have any queries about the procedure please contact Michelle Diprose, by telephone on (01992 555566) or by e-mail to michelle.diprose@hertfordshire.gov.uk

At the time of the publication of the agenda no notices of petitions have been received.

3. ALIGN HS2s UPDATE

Report of the Chief Executive

4. SUB NATIONAL TRANSPORT BOARDS – HERTFORDSHIRE COUNTY COUNCIL'S POSITION AND MEMBERSHIP

Report of the Chief Executive

5. UPDATE ON AND OPTIONS FOR CHANGES TO THE SAVERCARD SCHEME

Report of the Chief Executive

6. REVIEW OF HERTFORDSHIRE'S LOCAL FLOOD RISK MANAGEMENT STRATEGY – CONSULTATION ON DRAFT STRATEGY

Report of the Chief Executive

7. UPDATE REPORT ON TREE HEALTH ISSUES AND THE POTENTIAL IMPACT ON HERTFORDSHIRE COUNTY COUNCIL

Report of the Chief Executive

8. LONDON STANSTED AIRPORT - PLANNING APPLICATION FOR PLANNING PERMISSION FOR AIRFIELD INFRASTRUCTURE

Report of the Chief Executive

9. GOVERNMENT CONSULTATIONS ON CHANGES TO THE NATIONAL PLANNING POLICY FRAMEWORK AND SUPPORTING DEVELOPMENT THROUGH DEVELOPER CONTRIBUTIONS

Report of the Chief Executive

10. ENVIRONMENT, PLANNING & TRANSPORT PERFORMANCE INDICATORS REVIEW

Report of the Chief Executive

11. ENVIRONMENT, PLANNING & TRANSPORT PERFORMANCE MONITOR QUARTER 4 – JANUARY – MARCH 2018

Report of the Chief Executive

12. OTHER PART I BUSINESS

Such Part I (public) business which, if the Chairman agrees, is of sufficient urgency to warrant consideration.

PART II ('CLOSED') AGENDA

EXCLUSION OF PRESS AND PUBLIC

There are no items of Part II business on this agenda. If Part II business is notified the Chairman will move:-

"That under Section 100(A) (4) of the Local Government Act 1972, the press and public be excluded from the meeting for the following item/s of business on the grounds that it/they involve/s the likely disclosure of exempt information as defined in paragraph/s ……. of Part 1 of Schedule 12A to the said Act and the public interest in maintaining the exemption outweighs the public interest in disclosing the information."

If you require further information about this agenda please contact Michelle Diprose, Democratic Services, telephone number (01992) 555566 or email michelle.diprose@hertfordshire.gov.uk

Agenda documents are also available on the internet at: Environment, Planning & Transport Cabinet Panel.

KATHRYN PETTITT
CHIEF LEGAL OFFICER

Minutes

To:	All Members of the Environment, Planning and Transport Cabinet Panel, Chief Executive, Chief Officers, All officers named for 'actions'	From:	Legal, Democratic & Statutory Services
		Ask for:	Michelle Diprose
		Ext:	25566

ENVIRONMENT, PLANNING AND TRANSPORT CABINET PANEL, TUESDAY, 24 APRIL 2018

ATTENDANCE

MEMBERS OF THE PANEL

D A Ashley (Chairman), S J Boulton, S J Featherstone, N Hollinghurst, G McAndrew, N Quinton (substitute for S Bedford), R H Smith (substitute for R C Deering), A Stevenson (Vice-Chairman), J A West, A S B Walkington

OTHER MEMBERS IN ATTENDENCE

D Andrews, J R Jones

Upon consideration of the agenda for the Environment, Planning and Transport Cabinet Panel meeting on Tuesday, 24 April 2018 as circulated, copy annexed, conclusions were reached and are recorded below:

Note: No conflicts of interest were declared by any member of the Cabinet Panel in relation to the matters on which conclusions were reached at this meeting.

PART I ('OPEN') BUSINESS

ACTION

1. MINUTES

1.1 The Minutes of the Cabinet Panel meeting held on Friday, 9 March 2018 were agreed and signed by the Chairman.

2. PUBLIC PETITIONS

2.1 There were no public petitions

3. PUBLIC CONSULTATION ON A DRAFT NEW LOCAL TRANSPORT PLAN

[Officer Contact: Rajesh Kungur, Senior Transport Planning and Policy Officer, Strategic Transport and Rail, Tel: (01992) 555282]

3.1 The Panel received a report seeking its consideration to proposed amendments to the draft Local Transport Plan 4 following public consultation. Members noted that given the positive feedback received on the Local Transport Plan it had a few minor amendments including consultation responses which included some key themes and additional requests for Sustainable Travel Towns (STT), additional daughter documents and minor amendments to policies. Following discussion the Panel suggested to change the 'daughter document' title to 'supporting documents'

3.2 The Panel noted through the consultation process a number of requests were made to expand the list of 'Sustainable Travel Towns'. Members asked how officers 'Defined a Sustainable Town' and noted the concept was still evolving and it was difficult to pull a definition together.

3.3 In relation to not having a defined criteria the Panel suggested that none of the suggested SST as detailed at 6.2 of the report be listed within the LPT4 as the criteria for reaching a SST was not known.

3.4 It was noted that officers were developing a set of criteria for identifying what elements a STT would need to include and the level of support that was required from District and Borough Councils.

3.5 In relation to the criteria for STT it was noted that what worked in one town would not necessarily work in another and a set of principles were needed for each town, these were currently being developed.

3.6 In relation to the performance indicators (PI's) detailed at point 7 of the report a Member raised concern the metric for cycling and walking had disappeared and thought it was an important metric to take into consideration. Members were informed there were a range of PI's that needed to be simplified, but there could be supplementary PI's relating to the same in other travel strategy documents, so this information would come through on the supporting document and therefore is why it is not included in the LTP4.

3.7 In relation to the Emissions PI officers agreed to report back on what this PI covered i.e. tail pipe / wear of tyres / brake linings of vehicles emissions.

Rajesh Kungur / Trevor Mason to action

3.8 In relation to 'funding element' the Panel raised concerns of the wording of the new suggested paragraph and suggested an alternative to include 'commit to allocated funding'. It was noted that it would be difficult to say 'The County Council Commits' as any funding was due to external funding received. Officers agreed they would re-word the paragraph to take this into consideration.

3.9 The Panel believed there should be mention of segregated cycleway's detailed in the plan in order for them to be used more. In relation to electric cycle's and the growing number in demand, a Member sought clarification as they were restricted to 15 mph, that they would be used on the cycleway's. The Panel were informed that the electric cycles were recognised as 'bicycles' and there would indeed be able to use the cycleway's, this policy would come through travel plans on what the most appropriate way forward would be. Officers also pointed out that segregated cycle ways and electric bicycles are mentioned in the LTP Active Travel policy context.

3.10 Members were keen that in order to encourage people to cycle safe and segregated cycleway's were needed in the plan. Some of the other points mentioned by Member were:

- cyclists in Europe were given a higher priority over cars
- provision of cycle storage stations at specific junctions to enable people to finish their journey by public transport
- cross boarder co-operation
- Inter-urban cycle routes

3.11 The Panel believed that cycling should be strengthened in the LTP and the needs of walking and cycling facilities that are detailed in the hierarchy plans needed to push planning through to the LTP. It was noted the LTP4 was already being used in responses on emerging local plans and officers are liaising with all District and Boroughs within Hertfordshire. It was also noted the LTP would go to the Local Planning Authority once it had been agreed at Cabinet and County Council.

3.12 In relation to the list of key rivers and waterways a Member queried why it was suggested that the list be removed from the LTP and could it not be reviewed under 'key waterways'. In response officers advised there was not a definitive list of rivers and did not want to leave any key rivers out of the plan therefore it would be wrong to identify major rivers as it was about the impact on all watercourses.

3.13 The Panel were informed that in relation to the 'Rural Transport Strategy' it was hoped this would not take too long to implement. It was noted the existing town strategy would be revisited to adapt it to a rural strategy.

3.14 Officers informed the Panel there would be a conference to launch the LTP4 and a workshop after the Summer so local authorities and developers would get a better understanding of the plan.

3.15 Members supported the workshop and believed it was a good opportunity for the Council to be seen to have good initiatives. They also agreed it would be a great accolade to be the first town in Hertfordshire to become a STT.

3.16 Members also sought clarification on the new 'Garden Town' it was agreed to change the wording to include 'Harlow and Gilston Garden Town'.

3.17 A suggestion of a self-driving car travelling to stations on a defined route possibly on a well-designed footway or cycleway could meet the needs of sustainable travel in the future.

3.18 Members agreed that wording for the following be amended and circulated to the Panel following this meeting:

- Daughter documents
- Tailpipe emissions
- Commitment to see funding
- 3 to 10 mile section 106 criteria
- New garden Town Harlow
- Sustainable Travel Town criteria

Rajesh Kungur / Trevor Mason to action

3.19 The Chairman asked officers to circulate information on the funding of the St Albans Shuttle Bus to the Panel. Information to include who contributed and who was contacted etc.

Rajesh Kungur / Trevor Mason to action

Conclusion:

3.20 The Cabinet Panel:

a) Noted the consultation responses and the recommended changes to the draft Local Transport Plan 4, attached at Appendix A and Appendix B to the report

b) Recommended to Cabinet that it agrees:-

I. That the Local Transport Plan 4 supporting documents should include a new Rural Transport Strategy

II. Than an Electric Vehicle technical report be produced with consideration for an Electric vehicle strategy at a later date

c) Recommended to Cabinet that it recommends to Council that it adopts the draft Local Transport Plan at Appendix B

d) Agreed amended wording be circulated to the Panel following this meeting

e) Information in relation to the St Albans Shuttle Bus funding be circulated to Members

4. OTHER PART I BUSINESS

4.1 There was no other part I business.

KATHRYN PETTITT
CHIEF LEGAL OFFICER **CHAIRMAN**_____

Agenda Item No.

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HERTFORDSHIRE COUNTY COUNCIL

ENVIRONMENT, PLANNING AND TRANSPORT CABINET PANEL FRIDAY, 11 MAY 2018 10.00AM

HIGH SPEED TWO (HS2) UPDATE REPORT

Report of the Chief Executive

Author: Jenny Foster, HS2 Project Principal Planning Officer
Telephone (01992) 556621

Executive Member: Derrick Ashley, Environment, Planning & Transport

1. Purpose of report

1.1 The purpose of the report is:

a) To update Members of the progress of HS2 in Hertfordshire.

b) To introduce a presentation from the Main Works Civils Contractors Align Joint Venture to Members

2. Summary

2.1 The High Speed Rail (London – West Midlands) Act 2017 received Royal Assent on 22 February 2017. Since receiving Royal Assent, HS2 Ltd has appointed three Joint Ventures to undertake the works packages between London Euston and Birmingham. For works within Hertfordshire, Align Joint Venture ("Align") is the Main Works Civils Contractor.

2.2 The County Council is working closely with Align through regular meetings and through the Colne Valley Regional Park Panel.

3. Recommendations

3.1 That the Environment, Planning and Transport Panel note the content of this report and the presentation from Align to be delivered at the meeting.

4. Background

4.1 Align will construct the 1.9 kilometres of track passing through Hertfordshire. This consists of the north launch to the Colne Valley Viaduct, a new overbridge at Tilehouse Lane, the Chiltern Tunnel south portal and the Chiltern Tunnel itself.

4.2 These works will require one of the largest construction compounds along phase one of the route to be built to the east of the M25 and south of Chalfont Lane. The compound will also support a number of satellite compounds associated with the tunnel and viaduct construction.

4.3 Align are currently developing plans for the compounds- covering accommodation, offices, catering facilities, concrete batching plant, materials storage, the tunnel boring machine and other construction associated activities.

4.4 Align anticipate mobilising the compound around October / November 2018. Tunnelling is expected to commence late 2019 and will continue for around 4 years until completed.

4.5 At this time it is understood that the area used for construction will be progressively restored as specific construction activities are completed.

4.6 Members may be aware of works already underway in Hertfordshire for the HS2 scheme. These works are enabling works being carried out by Early Works Civils Contractors.

4.7 These works consist of: closure of Chalfont Lane for around 8 years, archaeological and ground investigations, moving of a water main along Chalfont Lane, construction of two slip roads onto the M25 between junctions 16 and 17, and construction of a link road from Shire Lane to Hornhill Road. These works are currently expected to be completed around July 2018.

4.8 We will continue to update Members regularly on progress.

4.9 We also ask Members to be aware of a report to Highways Cabinet Panel – titled HS2 Update Information Paper by Rupert Thacker is available here.

5 Financial Implications

5.1 There are no financial implications associated with this report.

6 Equalities

6.1 When considering proposals placed before Members it is important that they are fully aware of, and have themselves rigorously considered, the equality implications of the decision that they are making.

6.2 Rigorous consideration will ensure that proper appreciation of any potential impact of that decision on the County Council's statutory obligations under the Public Sector Equality Duty. As a minimum this requires decision makers to read and carefully consider the content of any Equalities Impact Assessment (EqIA) produced by officers.

6.3 The Equality Act 2010 requires the County Council when exercising its functions to have due regard to the need to (a) eliminate discrimination, harassment, victimisation and other conduct prohibited under the Act; (b) advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it and (c) foster good relations between persons who share a relevant protected characteristic and persons who do not share it. The protected characteristics under the Equality Act 2010 are age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion and belief, sex and sexual orientation.

6.4 Equalities issues have been examined as part of the Impact Assessment of HS2 through the parliamentary approval process and therefore, no further assessment or plan is required.

Agenda Item No.

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HERTFORDSHIRE COUNTY COUNCIL

ENVIRONMENT, PLANNING & TRANSPORT CABINET PANEL
FRIDAY, 11 MAY 2018 AT 10:00AM

SUB NATIONAL TRANSPORT BOARDS – HERTFORDSHIRE COUNTY COUNCIL'S POSITION AND MEMBERSHIP

Report of the Chief Executive

Author: Jan Hayes-Griffin, Assistant Director (Planning & Economy) (Tel: 01992 555206)

Executive Member: Derrick Ashley, Environment, Planning & Transport

1. PURPOSE OF REPORT

To set out the background to the emergence of Sub National Transport Boards (STB's) nationally and to consider Hertfordshire County Council's policy position and future membership of emerging STB's in the region.

2. SUMMARY

2.1 The Government is encouraging Local Transport Authorities (County and Unitary) to come together to create strategic groupings to lead on the development of regional transport strategies to support economic growth, advise on local priorities for future infrastructure planning and investment and coordinate the delivery of cross border transport functions. The exact role and function of each Strategic Transport Body (STB) will vary from region to region and could include a bid for devolved powers and funding from Government.

2.2 A number of these groupings are beginning to emerge nationally with some planning to seek full powers to create a statutory STB within the next 2-3 years.

2.3 Hertfordshire's economic growth and strategic transport concerns are varied and governed by our unique location in the Oxford London Cambridge Golden Triangle and the main transport corridors that run through the county.

2.4 There are two emerging STB's adjoining Hertfordshire and it is now timely to consider whether Hertfordshire County Council should now formally join one of these to ensure we are able to get our strategic

transport issues on the table and begin to influence Government on future investment priorities and needs.

3. RECOMMENDATIONS

3.1 That the Environment Planning and Transport Cabinet Panel is asked to consider and comment on the suggested way forward set out in paragraph 10.3, and pass those views onto Cabinet to enable them to make a formal decision in June.

4. BACKGROUND

4.1 Part 5A of Local Transport Act 2008 (introduced by the Cities and Local Government Devolution Act 2016) provides for the devolution of strategic transport responsibilities to Strategic Transport Bodies. The Act specifically enables Transport for the North (TfN) to be created, and for local partners to put forward to Government, proposals to establish a statutory Sub National Transport Body.

4.2 The Act gives the Secretary of State for Transport an enabling power to establish an STB.

- The STB must be set up as a corporate body
- At least two “relevant authorities” (County Councils or Unitary Authorities, Combined Authorities and Integrated Transport Authorities) must apply to the Secretary of State to establish an STB.
- These authorities must agree to jointly make a proposal for an STB for the area.
- The proposed STB must cover the whole of the area of all member authorities. An authority cannot be split between two or more STBs.
- All authorities (not just “relevant" authorities) in an area must be consulted before a bid is made. This includes all authorities adjoining the area of an STB.
- An STB has to “facilitate the development and implementation of transport strategies for the area” and “promote economic growth in that area”

4.3 Regulations specify that the Secretary of State must approve:

- The name of an STB, the geographic area covered by the board, the relevant authorities making up the board (including any Combined Authorities, County Councils, Integrated Transport Authorities (ITA’s) and Unitary Authorities).
- The Constitution of the STB including size and composition of the Board. Voting Members shall be the elected Members of relevant authorities and where they exist, elected Mayors, and Chairs of any ITA’s. The board may co-opt representatives onto the Board from LEPs, transport organisations and Business but these are non-voting.

- Executive arrangements
- Arrangements for Review and Scrutiny
- The delegation of functions from the STB to relevant authorities and the transfer of transport functions to the STB from relevant authorities, or the joint exercise of functions.
- Any changes to the Board composition and area
- The removal of or adding of relevant authorities to STBs
- Funding to cover the running costs of STBs

4.4 Individual Highways Authorities would still be required to produce a Local Transport Plan and the continuation of Local Transport Boards would be a local decision.

4.5 The Government's Transport Investment Strategy (TIS) published 2017, talks about the opportunity for greater devolution of transport decision making and funding across the country. The Government recognises there has been a gap in transport planning at regional level to deal with transport issues/schemes that are of significance larger than local highway administrative areas, but below those of national importance.

4.6 The TIS sets out the core functions of STB's

> *The precise role and function of STBs will vary by region in order to reflect local and cross-regional transport and economic growth needs. However, STBs will all fulfil a similar strategic role and the Department considers they should have the following core functions, to:*
>
> - *prepare a pan-regional transport strategy to support economic growth and development in the region;*
> - *provide, based on their strategy, advice to the Secretary of State about the development and prioritisation of transport investments in their region;*
> - *co-ordinate the carrying out of transport functions that are exercisable by its constituent authorities, such as the implementation of smart ticketing initiatives; and,*
> - *potentially, to play a role in the investment and oversight of performance on major roads in their region (that are not part of the national network maintained by Highways England).*

4.7 The Government has recently consulted on proposals to create a 'Major Road Network' (MRN) for strategically important local authority A roads because of the contribution they make to the economic wellbeing of the country. This middle tier of economically and strategically important local authority A roads would sit between the nationally managed Strategic Road Network (SRN) and the rest of the Local Road Network. A proportion of the National Roads Fund would be reallocated to the MRN. Funding decisions for the MRN would be

linked to reducing congestion, supporting economic and housing growth plans and creating a more resilient MRN. It is envisaged that STBs will in future have a key role in influencing and coordinating investment plans at and between the SRN and MRN levels with DfT and Highways England.

4.8 There is no mandatory requirement to establish an STB – it is for the locality to determine the need. However recent discussions with DfT indicate encouragement for STBs. There is no nationally set timetable. DfT has said they envisage 8/9 large STBs across the country with groupings of Local Authorities' that make sense in terms of economic geography rather than historic regional administrative boundaries. Any proposals for STBs need to come forward from relevant authorities with strong consensus and commitment built from the bottom up and clarity about the extent of powers being sought from Government.

5. EMERGING MODELS AROUND THE COUNTRY

5.1 A number of authorities around the country are coming together in strategic partnerships to begin to develop proposals for STBs to ensure strategic level transport infrastructure and investment planning supports regional growth ambitions. Some of these have emerged as part of the Devolution Agenda and the creation of elected mayors. They build on governance structures that have existed for some time in these areas.

5.1.1 Midlands Connect – Powering the Midland Engine

- Partnership of 28 Local Authorities, 11 LEP's, Network Rail and Highways England set up in 2014, covering 14 cities, a population of 11.5m and economy worth £222bn to UK plc. Covers Worcestershire, Shropshire, Lincolnshire, Derbyshire, Nottinghamshire, Leicestershire, Herefordshire, Staffordshire, Warwickshire, Birmingham and all the MBC's in the West Midlands.
- Have set up a Strategic Board led by independent chair Sir John Peace, and representatives from the LEPs, the LTA Leaders, Network Rail, Highways England and a Department for Transport Minister. Supported by a Partnership Advisory Board, Programme Steering Group and Technical Advisory Group. It has a dedicated Midlands Connect Project Team and a £5m pooled pump priming budget.
- Transport Strategy for the region developed 2017.

5.1.2 Transport for the North – One Agenda, One Economy, One North

- Partnership of 10 Local Authorities, 10 LEP's, DfT, Highways England, Network Rail, HS2, and Secretary of State for Transport covering the city regions of Liverpool, Manchester, Leeds, Sheffield, Newcastle, Hull, and also Cumbria, Lancashire, Cheshire, North

Yorkshire, and Tees Valley. A population of 15m residents and £290bn economy.
- Vision and objectives, Northern Transport Strategy and Governance principles agreed by TFN Board and Government in March 2015.
- Business Plan developed to feed into DfT/ Highways England and Network Rail national funding and prioritisation process.

5.1.3 Transport for the South East

Last year, Local Authorities in the South East established a Shadow STB stretching from Kent, through East and West Sussex, Brighton and Hove City, Medway Council, Surrey, Hampshire, Isle of Wight, Portsmouth, Southampton City Councils, Berkshire Local Transport Body and relevant LEPs with a view to seeking statutory powers by 2020. The Shadow Board is in the process of developing a Transport Strategy and have established a small dedicated team to support the emerging STB.

5.1.4 Transport for the East

- During 2017 Essex County Council promoted the debate to create an STB covering Norfolk, Suffolk, Cambridgeshire, Hertfordshire and Essex. This covers the area previously covered by the East of England Regional Transport Forum.

- The proposals envisage an informal partnership at first, building eventually into a statutory STB with the County Highways Authorities and the five Unitaries, Highways England, Network Rail and DfT, and representatives from the regions ports, airports and the relevant LEPs. The first stage would be to develop a Vison for Transport for the East and a transport strategy identifying key priorities for each partner.

- Areas of common interest across the region were identified as:

    - Developing the overarching transport strategy for the sub region and identifying key priorities for each partner.
    - Establishing a Rail Forum to input to future infrastructure requirements and franchise specifications.
    - Highway Network resilience
    - “Total transport” solutions
    - Innovation in Transport
    - Integrated Ticketing and Mobility.

- These proposals were agreed at the East of England Transport Summit on 21 December 2017. The first meeting of East of England Sub Transport Forum took place in March 2018 and agreed its Terms of Reference and future work programme.

5.1.5 England's Economic Heartland Strategic Alliance (EEH)

- This is a Partnership of County and Unitary authorities in Buckinghamshire, Oxfordshire, Northamptonshire, Cambridgeshire, Milton Keynes, Luton Borough Council, Central Beds, Bedford Borough Council, Peterborough City, and associated LEPs (OXLEP, SE Midlands LEP and Bucks and Thames Valley LEP). Most recently Swindon Borough Council has joined the EEH because of the synergy between its local economic sectors and the wider EEH area.

- This is the 'economic' arc from Oxford to Cambridge with a high concentration of 21st century high value technology based sectors, Research and Development institutions and innovation potential. £92.5m value economy. Aim is to generate an extra 15-20% GVA for UK plc.

- The Alliance was originally set up by the three County Leaders from Oxfordshire, Bucks and Northants in recognition that there was a need

  - To address strategic infrastructure constraints – transport, digital, energy and utilities in order to unlock economic activity and raise productivity to match and exceed global competitors in the sub region.

  - To share knowledge and work in partnership to unlock the areas economic potential.

  - To create a more powerful voice for the area and promote stronger integration of investment by Government, its agencies and LA's in terms of infrastructure and service providers.

- The Alliance is concerned with a much wider agenda not just transport. It sees itself as leading the future economic growth of this corridor and ensuring the right infrastructure is put in place to support it. It is currently extending its membership to include representatives from LPA's along the corridor to ensure better engagement on strategic planning issues going forward and ultimately to develop an overarching growth vision for the corridor with National Policy Statement Status.

- The work of the Strategic Alliance is supported by a small team of officers: the EEH Business Unit. Funding for the Business Unit is a combination of contributions from the partners and funding from the DfT. Buckinghamshire County Council act as the Accountable Body for the Strategic Alliance and host the EEH Business Unit. The EEH Business Unit is also the secretariat for the Oxford – Milton Keynes – Cambridge Corridor All Party Parliamentary Group

which is chaired by Iain Stewart MP (the Whitehall champion for the corridor), and also supports the East-West Rail Consortium.

- The Strategic Transport Forum was established in February 2016 and its terms of reference revised in December 2017: this was in part to reflect on experience in the first 18 months and also as part of the transition towards it becoming a Sub-National Transport Body. The members of the Forum are the Local Transport Authorities; representatives from the Local Enterprise Partnerships, and 'growth boards' (such as Oxfordshire Growth Board) are associate members – reflecting the legislative framework that it is the LTAs that promote the STB. Other associate members of the Forum are Highways England, Network Rail, DfT, public transport operators, the Transport Systems Catapult and our delivery partners

- The Forum is working closely with Transport for the South East and GLA/TfL to ensure that strategic transport issues across the wider South East region are looked at collaboratively. This is an aspect of the Forum's work where there is a desire to strengthen working relationships further.

- In October 2017 the National Infrastructure Commission published its final report on the potential for the Oxford – Milton Keynes – Cambridge corridor. The original call for evidence from the NIC was prepared jointly by the LEPs – including Herts LEP – this reflected the fact that the economic geography is very much about the Oxford – Cambridge – London triangle. This highlighted the importance of the corridor to the long-term success of the UK economy, citing that the area has the potential to be the UK's Silicon Valley. At the same time the NIC warned that its future success was not guaranteed and that there is a need to improve connectivity, particularly east-west connectivity. The NIC report also noted the momentum that has been gained by EEH and encouraged local and national government to build on that momentum.

- The Government has also announced its intention to develop an Expressway linking Oxford-Milton Keynes-Cambridge and Highways England is currently developing options for the route – some of it will be a new road to complete the 'missing links', and some upgrading of existing roads. In addition the East-West Rail Consortium has been established to develop a cross country rail connection along the corridor. EEH are playing a key role in liaising with DfT, Highways England and Network Rail on these issues and pressing that such infrastructure projects are considered alongside housing and economic growth issues, not in isolation.

6. KEY ISSUES FOR HERTFORDSHIRE

6.1 Decisions about national and regional infrastructure projects and funding are still largely managed centrally by Government, the National Infrastructure Commission, Highways England and Network Rail. The creation of Sub National Transport Bodies provides the opportunity to influence those decisions, lobby for local priorities and seek the transfer of powers, funding and more 'local' control for infrastructure planning in an area. However these areas are very large, driven importantly by economic geography not traditional administrative boundaries where there are synergies and opportunities to drive growth through improved connectivity and collaboration. These Bodies seek to fill the gap between the usual County Local Transport Plans and National Transport Plans, working across boundaries on critical sub national transport and infrastructure issues.

6.2 The pace is quickening on the emerging thinking on STBs with many authorities seeking to make their case to Government early to shape and influence the debate. Discussions with DfT have indicated encouragement for Local Transport Authorities (LTA's) to "self select" based on their best fit. Whilst there is no compulsion to join a STB, or any deadline, increasingly these emerging STB's are beginning to shape sub regional transport strategies, priorities and investment plans for their areas during 2018 and then seeking formal status in 2019 - 2021. It is important that Hertfordshire's transport issues, views and infrastructure needs are fed into one of these emerging structures in good time.

6.3 The key issue for Hertfordshire is which one of the two emerging STB's that adjoin us, should we join? Because of our strategic location adjacent to London, Hertfordshire faces a number of directions on different issues.

6.4 Hertfordshire's economic geography is centrally aligned to the nationally recognised London-Oxford-Cambridge Golden Triangle particularly in relation to our specialist economic sectors, innovation and skills issues. This is recognised in the Hertfordshire's LEPs Strategic Economic Plan – Perfectly Placed for Business, and will almost certainly be reinforced by the LEPs future Local Industrial Strategy which is due to be prepared next year.

6.5 In terms of strategic transport concerns, whilst our main North – South connectivity and major routes are good (albeit with some significant congestion points e.g. A1(M)), our East – West connectivity is weak. Given the future levels of growth being planned along the A414, A505 and A507 corridors, it is these East – West corridors that will need significant investment in future.

6.6 The Transport for the East option effectively recreates the previous East of England Regional Transport Forum, which was heavily

influenced by regional interests to the east and north east parts of the region. Whilst there is clear joint interest in relation to the East Herts/West Essex/M11 corridor, Hertfordshire has very little in common with the rest of the East Anglia region economically or in transport terms.

6.7 The Economic Heartland Strategic Alliance at first glance seems too 'north' or too 'west' for Hertfordshire. However it makes absolute sense in terms of economic geography. The geography of the Economic Heartland has major synergies with the 'Golden Triangle' priorities set out in the Hertfordshire LEP's Strategic Economic Plan, and even more so given the recent report by the NIC 'Partnering for Prosperity' - A new deal for the Cambridge-Milton Keynes-Oxford Arc.

- In terms of transport corridors, East – West connectivity both road and rail is a key priority for Economic Heartland.

- This has therefore significant overlap with Hertfordshire's East – West Transport issues and concerns.

6.8 EEH is very keen for Hertfordshire to join the Strategic Alliance. The size and nature of Hertfordshire's economy strengthens their position as an emerging STB, and provides a critical link for them with London. Hertfordshire will therefore be in a strong position to influence the Alliance to ensure our needs and priorities are recognised. There is also the opportunity for Hertfordshire to lead on London related transport matters at the Transport Forum.

6.9 The LPAs in the middle section of the Oxford-Milton Keynes-Cambridge corridor - Aylesbury, Milton Keynes, Luton, Central Beds – are currently in discussion to develop an integrated Growth Plan and establish a Growth Board for this area. Clearly this will have significant implications for Hertfordshire County Council and our northern Districts that border the corridor, and this further strengthens our case for joining EEH.

7. RELATIONSHIP WITH LONDON

7.1 In Hertfordshire, our strategic transport issues are driven by our transport corridors (M1, A1(M) and A10/M11 and increasingly the A414), and growth pressure across our borders at Luton, West Essex/Stansted and North London. They are also intrinsically linked to the needs of the 40% of our working age residents who commute into London every day.

7.2 In London responsibility for transport and planning has been devolved to the Mayor for almost 20 years with Transport for London responsible for virtually every aspect of transport in the capital. However there is no effective mechanism for dialogue between TfL and the wider Home Counties on transport issues that affect the commuter belt. TfL are

currently seeking powers from DfT to control all over-ground rail franchises in and around London.

7.3 Hertfordshire supports the extension of TfL type powers and services to the wider 'commuter belt' area in order to improve connectivity and integration of the transport offer to the public. The need for greater dialogue about the transport and infrastructure needs and priorities of the wider Greater London area has been recognised as part of the consultation process on the recently published Growth Plan for London.

7.4 These concerns are shared by a number of authorities close to London and have been shared with DfT. The Executive Member for Planning Transport and Environment has written to his counterparts of all the Counties and Unitaries around London, seeking support for some representation of LA's in the Home Counties on the TfL Board, and making the case with the GLA/Mayor's office. This agenda needs to be taken forward as well as any decision on STBs.

8. CONSULTATION WITH KEY HERTFORDSHIRE PARTNERS

8.1 Informal discussions have been held with the Hertfordshire LEP and they are minded to join England Economic Heartland, because of the economic and digital connectivity synergies across the area.

8.2 Member level discussions have taken place with Essex County Council and other Transport for East member authorities to explain Hertfordshire County Council's dilemma and policy position. At the first meeting of Transport for East in March, Hertfordshire County Council and East Herts District Council (nominated by the Herts Leaders Group) attended as Observers. Cross border economic and transport partnerships are currently being strengthened in the LSCC corridor to reflect the need to maintain focus on this key corridor.

8.3 Earlier this year, Officers wrote to all Hertfordshire District and Borough Leaders and Chief Executives outlining the issues facing Hertfordshire County Council's choices regarding emerging STB structures. With the exception of Easts Herts who were naturally concerned about the LSCC corridor area, no other concerns were raised. However it is planned to raise this at the next meeting of the Hertfordshire Leaders in June to ensure there is support for the direction of travel and to seek a nomination from one of the District/Borough Councils to sit on the STB.

9. FINANCIAL IMPLICATIONS

9.1 Joining either the Economic Heartland or Transport for the East will involve making a financial contribution towards the costs of the partnership and any studies/strategies that are commissioned. At present the Economic Heartland authorities are contributing £50k per annum into a pooled budget for the partnership. This level of contribution can be met from within Hertfordshire County Council's existing budgets in the Environment and Infrastructure Department.

9.2 Transport for the East has yet to agree on the level of funding contributions to provide technical and administrative support for the new partnership.

9.3 The move towards a formal STB will involve significant further work and costs to scope/define the nature of any future functions or devolved powers that the STB may seek, and be subject to the development of a full business case before any formal commitment is made.

9.4 One of the key purposes of an STB is to provide a strong voice for infrastructure planning and resources to drive economic growth, and to influence Government, particularly DfT, Highways England and Network Rail in their project prioritisation and future investment plans. This would potentially give access to and strengthen the case for funding opportunities that would not otherwise be directly available. An STB can also seek devolved powers and direct funding as part of their bid to Government.

10. CONCLUSIONS

10.1 The creation of STBs provides the opportunity to develop a more effective route for the shaping, development and coordination of strategic transport infrastructure for Hertfordshire, and a way of more powerfully influencing national decisions about local transport priorities and funding. It also provides another possible route for seeking additional transport powers and devolved funding.

10.2 The legislation governing STB's infers that a County Council can only join one STB. However which ever "party" Hertfordshire joins, there will never be a 'perfect fit' and there will always be cross border issues we will need to collaborate on in another direction. It has been suggested a Local Transport Authority can join one STB as a full member and another as an "associate".

10.3 It is felt that the emerging Economic Heartland STB is therefore a better fit for Hertfordshire in terms of economic geography and their focus on East – West infrastructure issues echoes our concerns about East – West connectivity. It is suggested therefore that the County

Council joins Economic Heartland as a full member. However the issues in the LSCC/M11 corridor are also important to us and we should also join Transport for the East as an Associate Member.

10.4 This is an evolving situation and we are aware that discussions are continuing between EEH and Authorities in the East of England to ensure cross border collaboration, and the possibility of a larger STB extending from Oxfordshire right across to the east coast ports in the long term.

11. Equalities

[1] When considering proposals placed before Members it is important that they are fully aware of, and have themselves rigorously considered the equalities implications of the decision that they are taking.

[2] Rigorous consideration will ensure that proper appreciation of any potential impact of that decision on the County Council's statutory obligations under the Public Sector Equality Duty. As a minimum this requires decision makers to read and carefully consider the content of any Equalities Impact Assessment (EqIA) produced by officers.

[3] The Equality Act 2010 requires the Council when exercising its functions to have due regard to the need to (a) eliminate discrimination, harassment, victimisation and other conduct prohibited under the Act; (b) advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it and (c) foster good relations between persons who share a relevant protected characteristic and persons who do not share it. The protected characteristics under the Equality Act 2010 are age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion and belief, sex and sexual orientation.

[4] There is no EQIA as this report is concerned with the County Council's consideration as which Strategic Regional Transport Partnership organisation it may join. There are no direct or indirect implications for any persons with protected characteristics of this report and Panel will not make a decision relating to its contents.

HERTFORDSHIRE COUNTY COUNCIL

Agenda Item No.

5

ENVIRONMENT, PLANNING AND TRANSPORT CABINET PANEL
FRIDAY, 11 MAY 2018 AT 10.00AM

UPDATE ON AND OPTIONS FOR CHANGES TO THE SAVERCARD SCHEME

Report of the Chief Executive

Author: Matt Lale, Passenger Transport Manager
Telephone (01992) 588633

Executive Member: Derrick Ashley, Environment, Planning & Transport

1 Purpose of report

1.1 The purpose of this report is to update the Panel on the Hertfordshire SaverCard Scheme and to set out two options for broadening the scheme for the Panel to consider.

2 Summary

2.1 The County Council has operated a concessionary scheme for children and students in Hertfordshire in some form since 1986 when the Transport Act (1985) was implemented. The Hertfordshire SaverCard was introduced in 2005 and offers bus travel for students aged 11 – 18 years of age at 50% off the normal adult fare. Last year 12,716 Hertfordshire SaverCards were issued.

2.2 The SaverCard is a very popular product and the uptake in purchasing a card is increasing every year. Whilst this scheme is non-statutory it is an integral part of the current Bus Strategy and was a key mitigation for the Home to School Transport policy changes in 2011-12.

3 Recommendations

3.1 That the Cabinet Panel are asked to note the content of the report and the work officers will do to try to extend the SaverCard Scheme to 19 year olds.

4 Background

4.1 Unlike the rail industry, there is no legal obligation for bus operators to have a discounted ‘child fare’ scheme. However, the County Council makes provision for a SaverCard scheme to ensure that there is consistent half-price travel available for any young person, in full-time education and residing in Hertfordshire, wishing to travel by bus across the county.

4.2 The scheme is formally operated by the Council in accordance with the Hertfordshire Concessionary Fares Scheme for Children and Students and is neither a nationally agreed scheme, nor a statutory function and is negotiated with local bus operators each year. The total cost of supporting and administering the scheme is £1.672 million and includes a budgeted income target from sales amounting to £145k a year.

4.3 If the scheme did not exist then students would have to either pay full fare or use locally operated schemes as most operators do offer their own reduced travel to students but the discount is variable (between 25-30%) and may not be transferable between different operators on a particular route.

4,4 SaverCard is not a 'Home to School' ticket scheme, it is valid at all times, seven days a week on all bus services operating within Hertfordshire. The scheme offers 50% discount on daily single and return journeys. Any journeys beyond that (weekly, monthly or season tickets) are determined by the commercial operators themselves.

4.5 The general cost of operation for bus operators is related to the number of vehicles required to run services during the peak travel periods. Many of the operators' vehicles would only be required to operate during this period, and therefore traditionally the bus operators did not offer discounted tickets before 09.00. The scheme was introduced to bring a consistent approach across all services regardless of operator. In addition, to assist those staying on for sixth form or going on to further education by enabling young people in full time education up to the age of 18 to travel at half the adult fare.

4.7 The annual charge for the SaverCard is £20, which is reduced to £15 when applied for online (online applications now account for 92% of all SaverCards issued). The price has not changed since 2015. The cost for the card holder can be recovered in savings within as little as 2-3 weeks usage in most cases and therefore presents significant savings to families.

4.8 Following on from the November 2017 Environment, Planning and Transport Panel it was decided to increase the SaverCard cost by £5 this was later discussed at Cabinet in December where the decision was deferred for another year.

4.9 The table below shows the number of SaverCards issued over the last five academic years:

Year	Cards issued
2011/2 *	8,513
2012/3 *	7,305
2013/4	9,839
2014/5	11,043
2015/6	11,780
2016/17	12,716

* *The number of users (as opposed to number of cards issued) was higher than shown in the years 2011/12 and 2012/13 as cards issued then were valid for the period of the students' eligibility rather than just one year*.

4.10 The average take-up of the Hertfordshire SaverCard from 2010/11 to 2016/17 is 18.6% of the eligible young people / student population.

4.11 Parents are able to apply online by going to the SaverCard website and putting in their child's details and uploading a current picture of their child. Once the details have been put in then the parent is able to pay for the card. The child's information gets sent to an external supplier who produces the cards and sends them out in the post.

Benefits of the SaverCard in Hertfordshire

4.12 The SaverCard provides discounted fares for young people in full-time education, thereby making travel to school/colleges by bus significantly more financially attractive when compared to alternative modes of transport. The County Council does much to promote travel by bus, as detailed in the Bus Strategy and Intalink Strategy and is also included in the draft Local Transport Plan 4. The scheme is designed to encourage young people to travel by bus, not just for education trips but also for social and leisure purposes as this promotes independent travel. The reduced fares generate additional trips which in turn help to sustain the local bus network.

4.13 Non-financial benefits include the promotion of active travel by walking to and from bus stops as an alternative to more sedentary car journeys; contribution to the reduction in traffic congestion, air quality and road safety, albeit in a small way; and giving young people and students the flexibility and independence of getting around by bus instead of parents using their cars.Therefore, the SaverCard has a significant role to play in the promotion of sustainable transport, as well as supporting the council's priorities such as promoting independence, health and well-being.

4.14 Whilst this scheme is non-statutory the Hertfordshire SaverCard is part of the offer made for discounted travel for students contained within the council's Bus Strategy *(revised January 2015).* It is important to note the scheme was put forward as a key mitigation for the Home to School Transport policy changes in 2011-12, when the "800" series of contracted school buses for non-entitled children was withdrawn.

5 Options to Extend the Scheme

5.1 Last year the Environment, Planning and Transport Cabinet Panel considered whether to increases charges for the annual Savercard fees. As part of that process and discussion it was suggested that officers should investigate if, within current resource allocation, there was any scope to extend the scheme to provide greater coverage to a larger number of eligible bus users.

5.2 The only way to achieve a broadening of the current scheme at no additional cost to the County Council is by negotiation with bus operators. Any expansion will add potential cost to an operator so a realistic approach must be taken to what is achievable via negotiation.

5.3 There are potential benefits to the operator in encouraging a greater number of new users on to buses (albeit at a discounted rate) in that the additional customers may continue to use the bus network after they are no longer eligible for a discount and a greater number of people using public transport may bring

new customers along and provide a greater level of sustainability to marginal services.

5.4 Two options were considered within the constraints of the aim of a net nil change to the budget position.

5.5 Option 1 – Negotiate with bus operators to expand the SaverCard Scheme to include 19 year olds within the existing budget

5.5.1 The SaverCard Scheme is for 11-18 year olds. Expanding that age range to cover full time students in education up to 19 years old would mean students would be able to apply for the SaverCard up to the day before their 20th birthday.

5.5.2 Currently there are 11,888 adults between 18-19 years of age in full time education in Hertfordshire. Based on current take up, rates assuming 20% of those students would purchase a SaverCard, this would mean an additional 2,378 students being part of the scheme. This would be subject to negotiation with bus operators in agreeing to cater for more users for the same level of subsidy.

5.2 Option 2 - An update of the Savercard being expanded to Apprentices

5.2.1 Currently the scheme is only for students who live in Hertfordshire who are in full time education aged 11-18. However, following changes to the apprenticeship funding system in May 2017 and the national drive to increase the number of apprenticeships the SaverCard Scheme was reviewed to include those participating in an apprenticeship scheme. In the academic year 16/17 there were 1,956 apprenticeships recorded in Hertfordshire who could have benefited from the discounted travel arrangement, this number is currently increasing for all ages. Apprenticeship numbers for 17/18 have not been published yet but the numbers are expected to increase. An apprentice can be of any age and under the Equalities Act 2010 a person must not be discriminated against because they are (or are not) a certain age. To include apprentices into the scheme will mean negotiations with bus operators in agreeing to cater for more users for the same level of subsidy.

6 Next Steps

6.1 Officers will begin negations, in partnership with specialist retained consultants with the aim to extend the Savercard scheme to all apprentices and 19 year olds in full time education. The focus is maintaining that the scheme is supporting students who are in education that live-in Hertfordshire. Any changes to the SaverCard Scheme would be rolled out in 2019/20 due to the need to set up additional back office systems and to tie in with the academic year.

7 Financial Implications

7.1 Any financial implications would be based on negotiations with bus operators. The SaverCard is a fixed pot so for options to be taken forward and implemented bus operators would have to agree to do so based on the current reimbursement. If agreement cannot be reached then made it will not be possible to implement the options due to the increase pressure on the fixed pot.

8. Equalities issues

8.1 When considering proposals placed before Members it is important that they are fully aware of, and have themselves rigorously considered the equalities implications of the decision that they are taking.

8.2 Rigorous consideration will ensure that proper appreciation of any potential impact of that decision on the county council's statutory obligations under the Public Sector Equality Duty. As a minimum this requires decision makers to read and carefully consider the content of any Equalities Impact Assessment (EqIA) produced by officers.

8.3 The Equality Act 2010 requires the Council when exercising its functions to have due regard to the need to (a) eliminate discrimination, harassment, victimisation and other conduct prohibited under the Act; (b) advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it and (c) foster good relations between persons who share a relevant protected characteristic and persons who do not share it. The protected characteristics under the Equality Act 2010 are age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion and belief, sex and sexual orientation.

8.4 At this preliminary stage a full EqIA has not yet been undertaken. However, subject to Panel's recommendations a full EqIA will be prepared to assist with informing any future decisions by Members.

Background Information

November 2017 Environment, Planning & Transport Cabinet Panel - Update on SaverCard report

HERTFORDSHIRE COUNTY COUNCIL

Agenda Item No.

6

ENVIRONMENT, PLANNING AND TRANSPORT CABINET PANEL
FRIDAY, 11 MAY 2018 AT 10:00AM

REVIEW OF HERTFORDSHIRE'S LOCAL FLOOD RISK MANAGEMENT STRATEGY – CONSULTATION ON DRAFT STRATEGY

Report of the Chief Executive

Authors: Andy Hardstaff, Flood Risk Management Team Leader, Tel (01992) 556470

Executive Member: Derrick Ashley, Environment, Planning and Transport

1. Purpose of report

1.1. To seek the Panel's views on the arrangements for consultation on the draft revised Local Flood Risk Management Strategy (LFRMS) for Hertfordshire.

2. Summary

2.1. As Lead Local Flood Authority (LLFA), Hertfordshire County Council has a statutory duty to "develop, maintain, apply and monitor" a LFRMS for the county. The LFRMS is how the LLFA will aim to discharge its general duty to provide leadership in managing local flood risk (from surface water, groundwater and ordinary watercourses[1]) and helps to provide a focal point for identifying and promoting a range of flood risk related activity across Hertfordshire.

2.2. The first LFRMS for Hertfordshire was approved in February 2013 by Cabinet with an early review programmed for 2016. This was considered necessary as it was expected that many of the objectives in the first LFRMS relating to development of service delivery would be achieved in this timeframe and the overall context for the LFRMS would evolve as legislative changes in areas related to flood risk management became established.

[1] An ordinary watercourse is a watercourse that is not part of a main river and includes rivers, streams, ditches, drains, cuts, culverts, dikes, sluices, sewers (other than public sewers within the meaning of the Water Industry Act 1991) and passages, through which water flows.

2.3. A consultation with key stakeholders, (listed at 6.2), on the issues and options to be considered in the second LFRMS was undertaken in 2016 and the findings from the analysis were presented to this Panel on 7 December 2016.

2.4. The findings from the review of the first Preliminary Flood Risk Assessment (PFRA)[2] which were presented to this Panel on 7 September 2017 have also been incorporated as part of the LFRMS review.

2.5 This report introduces the draft of the second LFRMS for the period 2018 to 2028 (the executive summary of which is included as Appendix A of this report). It also sets out the draft consultation programme (at Appendix B of this report), which will run from May to July 2018 and the proposed consultation questions (at Appendix C of this report). The intention is for the finalised strategy to be formally adopted in November 2018.

3. Recommendation

3.1 That the Environment, Planning and Transport Cabinet Panel supports:

1. the draft LFRMS and consultation questions for consultation with stakeholders and residents, and
2 the consultation proposals and indicative timetable as set out in section 6 and Appendix B of this report.

4. Background

4.1. The Flood and Water Management Act 2010 (F&WMA) describes in outline what the LFRMS must contain and that it must be consistent with the national strategy for Flood and Coastal Erosion Risk Management in England, the current version of which was published by the Environment Agency in July 2011.

4.2. The draft second LFRMS has been guided by the analysis of the:

- Issues and Options consultation (reported to this panel 6 December 2016)
- Strategic Environmental Assessment (SEA) scoping document
- Flood Risk Management Topic Group held in October 2016 (reported to this panel 6 December 2016)
- Revised Preliminary Flood Risk Assessment for Hertfordshire (reported to this panel September 2017)

[2] The Preliminary Flood Risk Assessment is strategic assessment of flood risk. It looked at historical flood events and identified the potential for future flood events which may have a significant adverse consequence on human health, the environment, cultural heritage and economic activity. Outcome of the Preliminary Flood Risk Assessment informed the flood risk management priorities and actions in the first LFRMS.

4.3. Following on from the analysis of the Issues and Options consultation a technical paper was written for each of the topic areas and the key points from these were then collated for inclusion in the second LFRMS. The technical papers also drew on additional sources of information including:

- Flood Incident Record; which includes all confirmed flooding incidents in Hertfordshire reported to the LLFA.
- Surface Water Management Plans (SWMPs); district based assessments that to date have been produced for six of the ten districts in Hertfordshire. (Although they have not been completed for the whole county there is sufficient experience to date to inform policy development in the second LFRMS and any specific actions from the remaining four will be incorporated into annual work programmes as required).
- Initial assessments and other studies of potential options to manage flood risk at several locations.
- Flood investigations carried out to meet the requirements of s19 of the F&WMA.
- Review of Ordinary Watercourse regulation performance.
- Review of advice given as statutory consultee to local planning authorities.

4.4. The findings of the SEA scoping were considered in the drafting of the policies and actions. An SEA of the final second LFRMS will need to be carried out and published alongside the LFRMS together with the Habitat Regulations Assessment which is currently being reviewed.

4.5. A number of recommendations of the scrutiny held by the Flood Risk Management Topic Group were material in the development of the second LFRMS and have been incorporated in the draft. Detail on these recommendations was reported to this Panel on 7 December 2016 alongside the analysis of the Issues and Options consultation.

4.6. The County Council as LLFA was required under the Flood Risk Regulations 2009 to update the Preliminary Flood Risk Assessment (PFRA) which was first carried out in 2010. The information collected in the PFRA gives a good overview of the LLFA's understanding of the level of flood risk in Hertfordshire.

4.7. The PFRA, flood investigations and SWMPs form part of the evidence base and rationale for development of the second LFRMS. These will be published as part of the consultation or are already available on the county council's website in the case of the flood investigations.

5. Outline of the consultation draft of LFRMS2

5.1. A full version of the consultation draft of LFRMS2 can be found at:

Local Flood Risk Management Strategy

In addition a hard copy can be found in the Members room. In sections 1 to 3 and in Appendices 1 and 2, the document sets out the background and context for flood risk management in Hertfordshire. This covers the organisations and stakeholders involved in managing flood risk, the types of flood risk, their significance and the related issues.

5.2. Policies and proposed actions are contained in sections 4, 5 and 6 which are set out under the following six key principles:

- Taking a risk-based approach to local flood risk management
- Working in partnership to manage flood risk in the county
- Improving our understanding of flood risk to better inform decision making
- Supporting those at risk of flooding to manage that risk
- Working to reduce the likelihood of flooding where possible
- Ensuring that flood risk arising from new development is managed

5.3. The main aspects of the revisions to the first LFRMS are briefly outlined below:

- Updating of the background information to reflect changes since the first strategy was produced.
- Setting out proposals for strategic partnership working on flood risk through a sub group of the Hertfordshire Infrastructure and Planning Partnership (HIPP).
- Exploration of the potential to work with community based groups.
- A commitment to publish the best available surface water flood risk data.
- Highlighting and supporting the role of individuals in managing flood risk.
- Clarifying the circumstances under which the LLFA will investigate flooding and the extent of what will be examined and reported.
- Policies relating to the LLFA's regulatory role on ordinary watercourses outlining the available powers and a presumption against culverting and building over watercourses.
- Proposing that the register of structures and features that have an impact on flood risk management is used to actively manage these assets.
- The establishment of a small projects fund to be used where affordable and appropriate to the resolution of situations where ownership or responsibility for a flood risk asset in need of restoration or repair cannot be determined.
- Refining a methodology and criteria for guiding investment in flood risk management schemes.
- Incorporating the current LLFA policies relating to Sustainable Drainage which have been updated; these are relevant to the role of the LLFA as a statutory consultee in the planning system.
- Setting out that the LLFA should work with district councils to develop a consistent framework across the county for the regulation of activity relating to ordinary watercourses. This may include consideration of delegation of powers to the LLFA.

6. Consultation Proposals and Programme

6.1. The consultation period for the draft second LFRMS for Hertfordshire is scheduled to run from mid-May to the end of July 2018. During this time the county council will be consulting with key stakeholders and residents to obtain their views on the document.

6.2. The consultation process is to be divided into three distinct strands:

1. Consultation with stakeholders. This will be based on the draft second LFRMS and consultation document supported by a series of workshops and one to one meetings. Stakeholders will include: the Environment Agency; the District and Borough Councils; the Bedfordshire and Ivel Internal Drainage Board; Thames Water Utilities Limited; Anglian Water; the Highways England and the Canal and River Trust.

2. Internal consultation with key service departments within Hertfordshire County Council. This will include Highways, Fire & Rescue and the Resilience service.

3. Consultation with residents. This will be through the county council website and will be promoted with support from the county council's communication team.

6.3. After the close of the consultation all responses will be reviewed and the draft second LFRMS will be finalised. It will then be presented, together with a report compiling all of the responses received during the consultation exercise and the Strategic Environmental Assessment, to this Panel with a recommendation for it to be adopted by the county council.

Strategic Environmental Assessment and Habitats Regulatory Assessment

6.4. As a statutory plan the LFRMS is subject to both Strategic Environmental Appraisal (SEA) and Habitats Regulatory Assessment (HRA). The results of both of these processes will be fed into the development of the plan.

6.5. The details of these processes were set out in the report to this Panel on 30 June 2016 and the stages of reporting are set out in the indicative timetable at Appendix B.

6.6. The SEA and the review of the current HRA will be published alongside the LFRMS for Hertfordshire when is presented this panel for endorsement prior to recommendation to the Cabinet for the strategy to be adopted.

7. Financial Implications

7.1. The review of the LFRMS has been planned into existing budgets.

7.2. Implementation of the second LFRMS is likely to have limited financial implications for the County Council. The detail of this will emerge as the LFRMS is developed and will be reported to this Panel at the appropriate stage in the adoption process.

7.3. The development work to support the implementation of the strategy, including an anticipated £50k for the proposed small projects fund, will be funded through existing budgets, as the emphasis of work is starting to shift from research and investigation to identify flood risk to one of implementation and active management. Additional funding would need to be sought for specific initiatives and any capital projects.

7.4. Should any specific initiatives be identified, they will need to be progressed at the rate affordable within existing budgets unless additional funding can be identified. Any proposed capital projects would be dependent upon identifying external funding or future bids for the County Councils capital.

8. Equalities Implications

8.1 When considering proposals placed before Members it is important that they are fully aware of, and have themselves rigorously considered the equalities implications of the decision that they are taking.

8.2 Rigorous consideration will ensure that proper appreciation of any potential impact of that decision on the County Council's statutory obligations under the Public Sector Equality Duty. As a minimum this requires decision makers to read and carefully consider the content of any Equalities Impact Assessment (EqIA) produced by officers.

8.3 The Equality Act 2010 requires the Council when exercising its functions to have due regard to the need to (a) eliminate discrimination, harassment, victimisation and other conduct prohibited under the Act; (b) advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it and (c) foster good relations between persons who share a relevant protected characteristic and persons who do not share it. The protected characteristics under the Equality Act 2010 are age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion and belief, sex and sexual orientation.

8.4 The majority of the activity in the draft second LFRMS is directed by how runoff and groundwater is influenced by physical features and in these instances topography rather than demography is the most significant factor. However the consultation process and the proposed actions to support individuals and communities to understand and manage their flood risk relies on access to information which will almost exclusively be online. Consideration will be given to any reasonable requests for provision of the consultation in accessible formats.

8.5 An Equality Impact Assessment (EqIA) will be updated following the consultation and provided to this Panel prior to adoption of the final second LFRMS.

Background Information

- Flood and Water Management Act 2010 (Defra)
- Local Flood Risk Management Strategy for Hertfordshire (2013)
- Preliminary Flood Risk Assessment for Hertfordshire (2010) reviewed (2017)
- Report of the Review of Hertfordshire's Local Flood Risk Management Strategy – Issues and Options Consultation (HCC EPT Cabinet Panel 30 June 2016)
- Report of Consultation on the Issues and Options for the Review of the Local Flood Risk Management Strategy (LFRMS) for Hertfordshire and the Recommended Scope for The LFRMS Review (HCC EPT Cabinet Panel 7 December 2016)

Appendices

Appendix A: Executive Summary of the consultation draft of the second Hertfordshire Local Flood Risk Management Strategy

Appendix B: Indicative Timetable for completing review of the Local Flood Risk Management Strategy for Hertfordshire (revised)

Appendix C: Questions to structure consultation responses

HERTFORDSHIRE COUNTY COUNCIL

LFRMS 2

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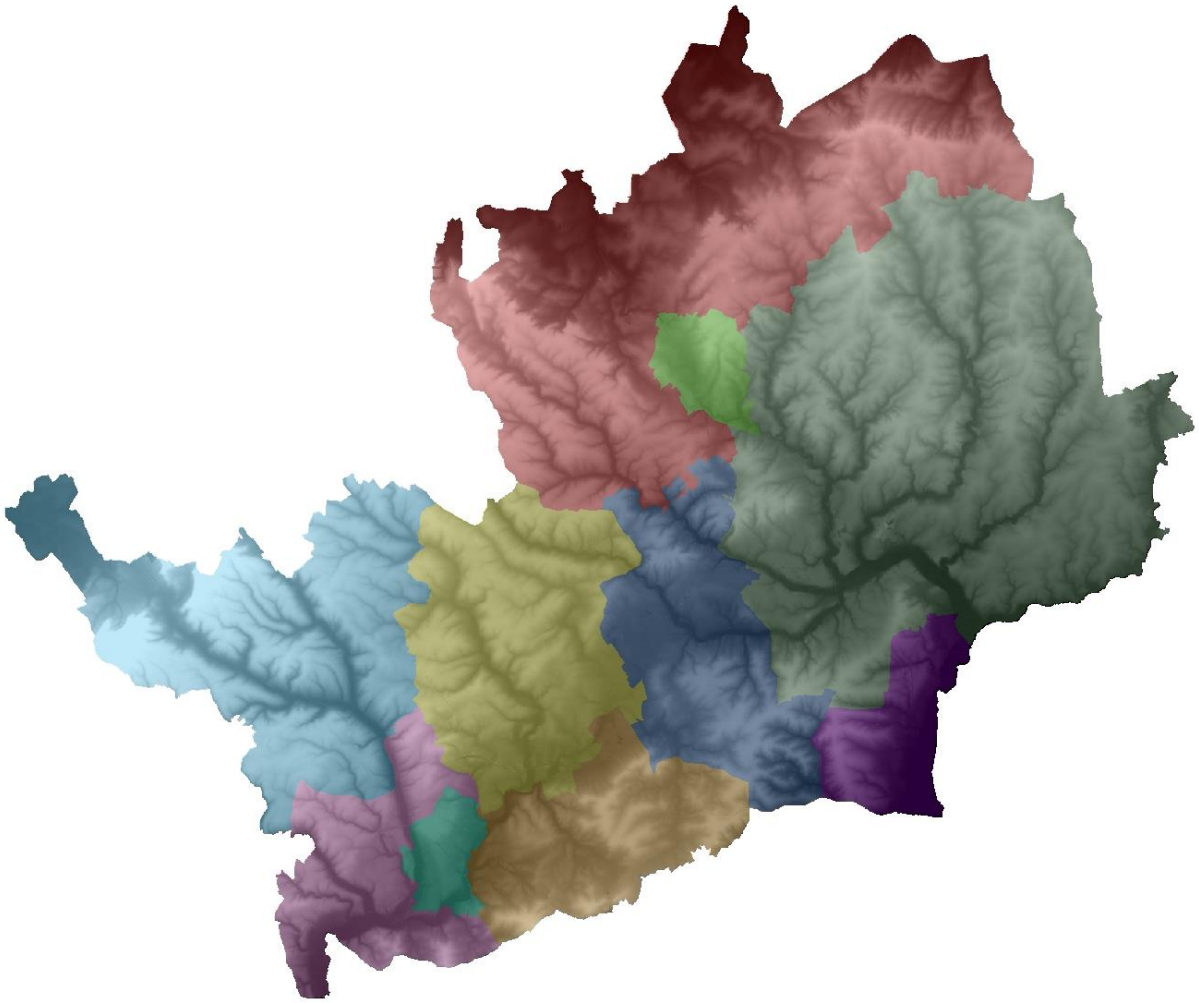
A STRATEGY FOR THE MANAGEMENT OF LOCAL SOURCES OF FLOOD RISK



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Glossary

Acronym	Term	Explanation
AEP	**Annual Exceedance Probability**	A way of expressing the probability of a natural hazard event (usually a rainfall or flooding event) occurring annually and is expressed as a percentage. It is used to help evaluate designs and investment in flood risk management. Bigger rainfall events occur (are exceeded) less often and will therefore have a lesser annual probability so a 0.1% AEP event would be expected to occur less frequently that a 1% AEP event. It would be anticipated that a 1% AEP event would on average occur once in 100 years however this is a probability based on historical statistics and so the time between such events may be greater or less than 100 years and the predicted changes to climate and weather patterns will mean that the probability of events of a given level will change over time.
	Aquifer	Layers of permeable rock which provide water storage - important for supporting water supply and/or river flows.
AStGF	**Areas Susceptible to Groundwater Flooding**	Mapping produced by the Environment Agency to show areas with a potential for groundwater emergence.
AStSW	**Areas Susceptible to Surface Water**	First generation mapping produced by the Environment Agency to provide broad areas where surface water flooding was likely to cause problems in three bands ranging from less susceptible to more susceptible to flooding. The methodology assumed that sewer and drainage systems were full and did not account for infiltration or the impacts of the location of buildings.
CFMP	**Catchment Flood Management Plan**	CFMPs assess flood risk from all sources across a river catchment area and establish flood risk management policies for those areas to assist in understanding flood risk within the catchment and delivering sustainable flood risk management in the long term.
	Climate Change	Long term variations in the climate of the earth including temperature, wind and rainfall patterns.
	Culvert	An enclosed section of watercourse. For example where a section of roadside ditch is piped to facilitate a vehicle crossing.

DCLG	**Department for Communities and Local Government**	(Now Ministry for Housing Communities and Local Government). Government department responsible for policy and regulations supporting local government, communities and neighbourhoods
Defra	**Department for Environment, Food and Rural Affairs**	Government department responsible for policy and regulations on the environment, food and rural affairs.
	DG5 register	Records of property flooding from the drainage and sewer network collated and held by water companies.
EA	**Environment Agency**	A non-departmental public body responsible for protecting and improving the environment and promoting sustainable development.
	European Floods Directive	European Commission legislation which aims to provide a consistent approach to managing flood risk across Europe.
FAS	**Flood Alleviation Scheme**	A capital scheme to provide defences or storage for flood water to alleviate flooding within a surrounding area.
FCERM	**Flood and Coastal Erosion Risk Management**	Measures including strategies, policies and schemes designed to manage flood and coastal erosion risk at a national, regional or local scale. Also referred to as FRM - Flood Risk Management.
FCERM GiA	**FCERM Grant in Aid**	Part of the Environment Agency's overall capital allocation to invest in flood risk management schemes.
FMfSW	**Flood Map for Surface Water**	Second generation mapping produced by the Environment Agency to provide broad areas where surface water flooding was likely to cause problems based on two different chances of rainfall and displayed in two bands - surface water flooding and deep surface water flooding. The methodology assumed an allowance for infiltration and a national average drainage capacity, and mapped building locations. This has been superseded by third generation mapping which is now termed RoFfSW map
	Flood Risk Area	An area where there is a significant risk of flooding from local flood risk sources including surface water, groundwater and ordinary watercourses, identified using guidance produced by Defra as areas where a 'cluster' of square kilometres affected by flood risk holds in excess of 30,000 people.
FRR	**Flood Risk Regulations 2009**	UK regulations implementing the requirements of the European Floods Directive which aims to provide a consistent

		approach to managing flood risk across Europe, based on a six year cycle of assessment and planning.
FWMA	**Flood and Water Management Act 2010**	UK legislation which sets out the roles and responsibilities for flood and coastal erosion risk management in England, in response to the Pitt review of the 2007 floods.
	Flood Zone 3	This zone comprises land assessed as having a 1 in 100 (>1%) or greater chance in any year of fluvial flooding.
	Flood Zone 2	This zone comprises land assessed as having between a 1 in 100 and 1 in 1000 (1% – 0.1%) chance in any year of fluvial flooding.
	Fluvial	Relating to rivers or streams (compare with entry for pluvial below). Generally used to describe flooding from main rivers – fluvial flooding.
	Fluvial Flooding	Flooding where water in a river exceeds the capacity of the river banks and spills into the surrounding area.
	Groundwater Flooding	Flooding where water stored underground rises above the surface of the land level in areas which are not channels or drainage pathways.
iFRAs	**Indicative Flood Risk Area**	Areas identified by the EA as part of PFRA development where more than 30,000 people are at risk of flooding (built up from clusters of 1km squares where at least 200 are potentially at risk of significant surface water flooding).
HCC	**Hertfordshire County Council**	The County Council, and Lead Local Flood Authority for Hertfordshire.
HRF	**Hertfordshire Resilience Forum**	A forum bringing together organisations which have a duty to co-operate under the Civil Contingencies Act, and those who respond to emergencies, to prepare an emergency plan.
LFRMS	**Local Flood Risk Management Strategy**	The local strategy for a LLFA to identify the various flood risk management functions of different authorities and organisations, assess local flood risk, produce objectives and measures for managing flood risk, the costs and benefits of those measures and how they will be implemented, and contributions to wider environmental objectives.
LLFA	**Lead Local Flood Authority**	A county or unitary authority responsible for taking the lead on local flood risk management matters
	Local levy	Annual levy collected from local authorities by the Regional Flood and Coastal Committee to fund flood and coastal erosion risk

		management within its area.
	Main river	Main rivers are usually larger rivers and streams which have been identified and recorded on the Main River map. Environment Agency powers to carry out flood defence work apply to main rivers only to carry out maintenance, improvement or construction work to manage flood risk. The Environment Agency decides which watercourses are main rivers after consultation with other risk management authorities and the public.
NFRMS	**National Flood Risk Management Strategy**	The national strategy for England developed by the Environment Agency to identify the various flood risk management functions of different authorities and organisations, objectives and measures for managing flood risk, the costs and benefits of those measures and how they will be implemented, impacts of climate change and contributions to wider environmental objectives.
NPPF	**National Planning Policy Framework**	The new national planning regime. See entry on PPS25 below for an explanation of the relevance to this Strategy.
	Ordinary watercourse	A stream, ditch, cut, sluice or non-public sewer which is not classified as a main river.
PFRA	**Preliminary Flood Risk Assessment**	An assessment under the FRR which assesses significant historic and future flood risks within an area, identifying significant flood risk areas and providing information on flooding for reporting to the European Commission.
	Pluvial	Relating to rain (compare with entry for fluvial above). Generally used to describe surface water flooding – pluvial flooding.
PPS25	**Planning Policy Statement 25**	Guidance on how flood risk should be covered in planning policy and development control. Although superseded by the National Planning Policy Framework the principles are likely to be carried through in local plans and related guidance.
RFCC	**Regional Flood and Coastal Committee**	Committees established by the Environment Agency consisting of members representing LLFAs and independent members, who ensure that there are plans for identifying and managing flood risk across catchments, promote investment in flood and coastal erosion risk management and provide a link

		between risk management authorities and other relevant bodies.
RMA	**Risk Management Authority**	As defined under the Flood and Water Management Act as LLFAs, the Environment Agency, District or borough councils where there is no unitary authority, internal drainage boards, water companies and highways authorities.
RoFfSW map		Risk of Flooding from Surface Water. Refresh of third generation national surface flood maps.
	Single Data List	A list of all the data returns that central government expects from local government - it replaces the previous National Indicator Set and consolidates other requirements.
SFRA	**Strategic Flood Risk Assessment (Level 1 and Level 2)**	An assessment providing information on areas at risk from all sources of flooding, used to provide an evidence base for flood risk and planning decisions.
	Surface water flooding	Flooding where rainwater collects on the surface of the ground due to soil being saturated or drainage and watercourses in the area are full to capacity or not accessible by the rainwater due to land levels.
SWMP	**Surface Water Management Plan**	A plan which assesses surface water flooding within a given area and outlines the preferred approach to managing that risk. The plan is undertaken in consultation with key partners who are responsible for flood risk management and drainage in that area. The plan should influence future resources; emergency and land use planning and identify areas where flood alleviation works may be required.
	Sustainable Development	Development undertaken in a manner to ensure that the needs of the current generation do not adversely impact the lives of future generations, improving and enhancing the area concerned.
SuDS	**Sustainable Drainage Systems**	Methods for draining and storing surface water in a resilient way designed to mimic natural drainage processes as far as possible, providing multiple environmental benefits.

Overview

The first Local Flood Risk Management Strategy (LFRMS) for Hertfordshire was approved by the county council in February 2013. At the time of approval the Lead Local Flood Authority (LLFA) had only been in existence from May 2010. This new role was established by the Flood and Water Management Act 2010 which set out new powers and duties for local authorities, linked to the management of flood risk. At the time that the LLFA came into being there was no consistent approach to the management of flood risk at a local level across the county. The LLFA has now been in place for seven years and the understanding of local flood risk across Hertfordshire has improved considerably as a result of the research that has been undertaken and the experience of flooding events that have occurred across the county.

Photograph 1: Floodwater affecting the highway

Over this period there has been change in the legislation and guidance relating to the functions and responsibilities of the LLFA. The legislation requiring the establishment of a body to regulate and manage sustainable drainage on new development was not commenced; instead LLFAs have become a statutory consultee within the development planning process advising Local Planning Authorities on local flood risk and the suitability of surface water drainage arrangements for major development.

The knowledge and experience that has been gained from the first seven years of the LLFA has informed this review of the LFRMS. The information gained on local flood risk and the significant points that this has raised for managing flood risk in the county are summarised below:

- The national mapping of predicted surface water flood risk was updated in December 2013. The current third generation mapping of Flood Risk from Surface Water provides a good starting point to understand the potential flood risk in an area arising from surface water flows.

- District wide assessments of surface water flood risk have been completed for St Albans, Watford, North Hertfordshire, Dacorum, East Hertfordshire and Broxbourne. The studies for Welwyn Hatfield, Hertsmere, Three Rivers and Stevenage are underway and are due to be completed in 2019.
- A risk assessment has been carried out for all known ordinary watercourses in Hertfordshire and those where the risk of flooding is predicted to be highest are now on an inspection programme.
- Flooding events are now recorded and investigated and this is helping the LLFA to develop a better understanding of local flood risk.

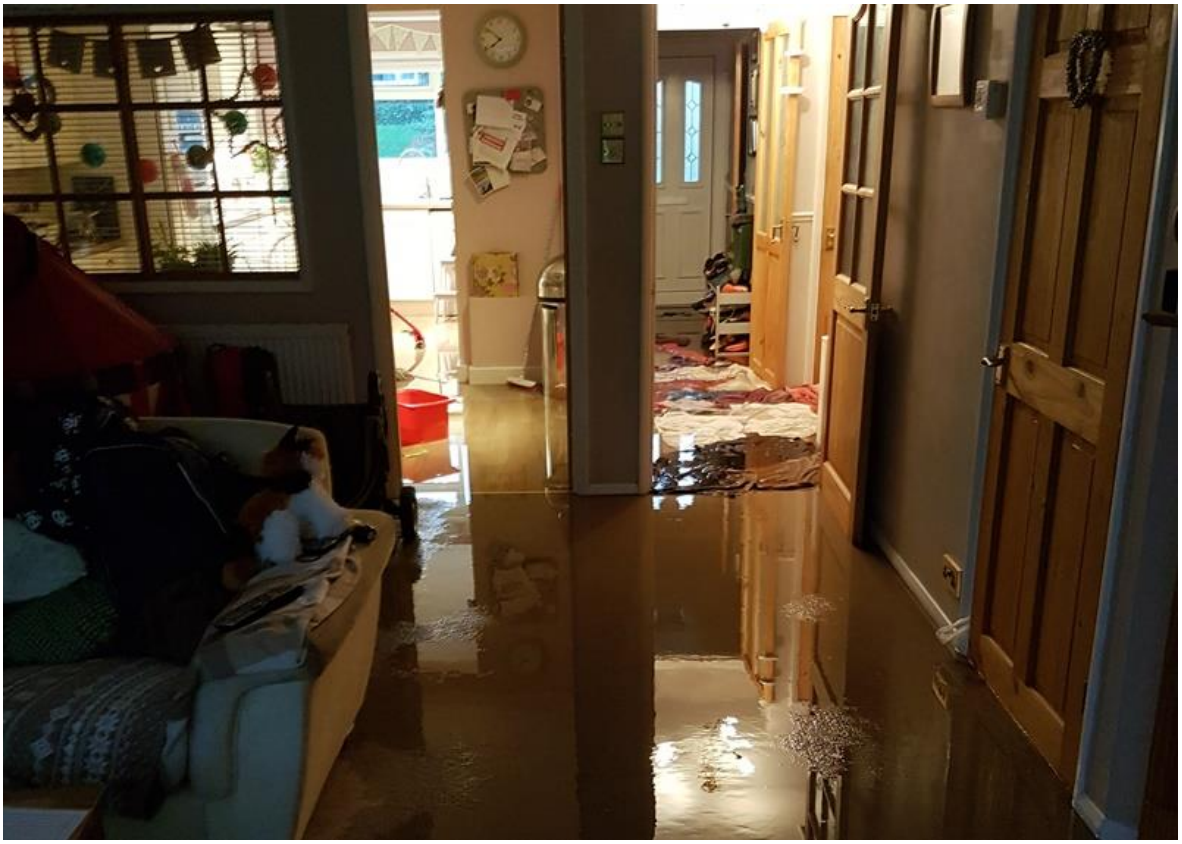
Photograph 2: An abandoned car in floodwater

- A number of studies have been undertaken following formal flood investigations to provide an assessment of the viability of practical interventions to manage flood risk.
- The LLFA has established a register of structures and features that significantly affect local flood risk and this has been published. The research for this has helped the LLFA to identify significant assets which are not currently being managed.
- Studies for a number of flood risk management projects in the county have benefitted from funding through the Regional Flood and Coastal Committees as part of their 6 year programme and this work has provided the LLFA with a greater awareness of the practical challenges of funding flood risk management projects in the county.
- The LLFA has explored the potential for working with multiple partners on flood risk management issues and projects at both the strategic and project level.
- As a statutory consultee to the land use planning process for major development the LLFA is now better placed to identify flood risk issues and opportunities linked to major new development across the county and to seek betterment where this is possible.
- More information is now available to the general public about local flood risk from all sources but this does not yet seem to be resulting in individuals taking an active role in managing flood risk to their own property.

1. Why is a strategy needed?

Flooding due to intense or prolonged rainfall is an environmental risk that we need to understand as there will be a range of potential consequences depending on the area where it occurs. Where it involves property it can cause substantial physical, financial and emotional damage; adversely affecting the local economy and quality of life. It is therefore important to evaluate flood risk within Hertfordshire and review how the potential impacts can be managed.

At a household level flooding will cause varying degrees of disruption and whatever the level of damage suffered the experience is likely to have longer term consequences. In the case of internal flooding people as a minimum will have to deal with wet floor coverings and potential contamination. In extreme cases it has meant that people have been unable to return to their home for an extended period, while they wait for it to be repaired. So in addition to damage and material loss suffered during an event there is potential for longer term disruption of people's lives which may have an impact on schooling, work, caring responsibilities, and general well-being.



Photograph 3: Internal property flooding

When businesses and infrastructure are affected by flooding it will have a wider impact than the specific property or site. It may disrupt travel, utility supply employment or services such as hospitals and care of vulnerable people. The majority of infrastructure providers take flood risk into account and larger organisations will normally have business continuity and resilience plans in place which will help to guide recovery from flooding impacts. Smaller businesses will

generally be less able to deal with a flood event and to manage the subsequent recovery.

The majority of people understand the general mechanism of flooding, in that water ends up in places where it is not usually found and that the water may have come from one or more of a range of sources (including rainfall, rivers, the sea or through the failure of a manmade structure such as a reservoir, sewer or a water main). There may not be a similar understanding of the detail of the potential mechanisms of flooding or the respective roles of organisations that are involved in the management of flood risk.

For some, awareness of the damage that can be caused will come from news coverage of flooding events on a regional or national scale. For others it will be the personal experience of the misery and disruption caused when water enters a building. As a consequence, for some the risk of flooding will be a remote consideration and for others with personal experience, it is something that can cause apprehension whenever heavy rain is forecast.

Most reporting of flooding focuses on large or catastrophic events where intervention is required by organisations such as the Environment Agency or the relevant local authority. As a result there may be an assumption that these bodies are responsible for dealing with all things relating to flooding and that individuals or communities have no role to play outside the immediate period of any flood event. Whilst these organisations have a role to play in the management of flood risk and in responding to civil emergencies they cannot eliminate the risk of flooding. So the general population has to be encouraged and supported to play an active role in managing their own flood risk as individuals and within communities.

Photograph 4: Fire & Rescue Service attending flooding

The level of flood risk across the county will change over time. The predicted impacts of climate change are likely to result in the frequency and severity of flooding increasing. Our improved understanding of flood risk needs to be applied to guide

new development in order that it can be located and designed to minimise flood risk and where possible reduce it for existing properties.

A range of legislation gives powers and duties to agencies and authorities to manage aspects of flood risk, with each organisation having a remit which covers one or more specific sources of flooding. Whilst the definition of roles may be necessary for practicality and accountability it has the potential to fragment available resources, confuse and interfere with communication. The major pieces of legislation are:

- Flood and Water Management Act 2010 - Defines Lead Local Flood Authorities, Risk Management Authorities (RMAs) sets out the requirements for Local Flood Risk Management Strategies, Investigations and Asset Registers.

- Flood Risk Regulations 2009 - Enshrines the European Flood Risk Regulations in UK legislation and sets out the requirement to carry out assessment and reporting on management of significant flood risk.

- Water Industry Act 1991 - Sets out the role of private Water and Sewerage providers and the requirement to effectually drain their area.

- Water Resources Act 1991 - Sets out the role and many of the duties and powers of the Environment Agency.

- Land Drainage Act 1991 - Sets out powers to regulate watercourses (LLFAs and IDBs, and to manage flood risk from watercourses (non-county LLFAs and district councils), surface runoff and groundwater (LLFAs).

- Highways Act 1980 - Sets out powers of Highway Authorities to manage drainage and flooding affecting highways.

- Public Health Act 1936 - Sets out district, borough and parish councils' powers to manage nuisances from ditches and ponds.

Ultimately the responsibility for managing flood risk to an individual property lies with the property owner. However in some circumstances it is appropriate for a local authority or other organisation to develop a scheme that will protect a number of properties. Generally these would be publicly funded and so need to meet the criteria that the cost of building and operating the scheme over a period of time will be less that the calculated predicted benefits (avoidance of damage) for the same period.

Experience over the past seven years has shown that the majority of proposals for engineering schemes involving fewer than ten properties are unlikely to be viable so to effectively manage flood risk alternative approaches will need to be developed. This may include small scale interventions widely dispersed across catchments introducing elements of sustainable drainage (SuDS) in urban areas and working with natural processes Natural Flood Management (NFM) in urban fringe and rural areas.

As well as considering developing new structures or assets a comprehensive approach to flood risk management also needs to make the best use of existing assets including watercourses and man-made features. Flood risk structures that have fallen into disrepair have been found In the course of investigating flooding incidents. This may have been due to assets being overlooked following organisational change or unforeseen consequences from budgetary prioritisation. Identification of these structures and their flood risk function will help support the case for appropriate management providing the owner can be identified. Where this is not the case and assets have become “orphaned” consideration needs to be given to a means of securing their function.

Photograph 5: Unmaintained culverts blocked by trees, plants & debris

The aim of this strategy is to give an understanding of local flood risk in Hertfordshire and the actions that will be taken to manage it most appropriately within available resources.

2. Understanding Local Flood Risk

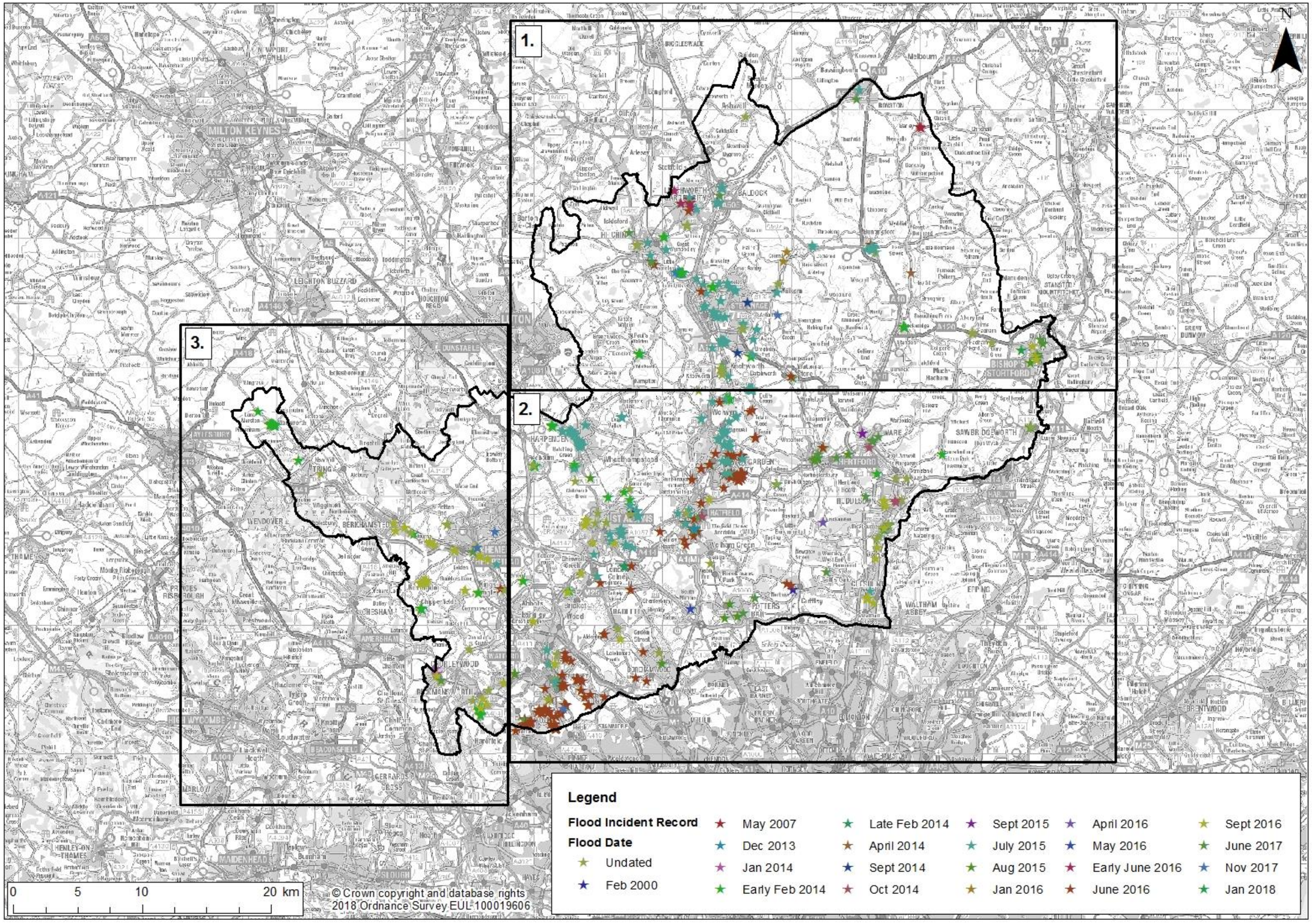
In Hertfordshire the main sources of flood risk are surface water, rivers and other watercourses (fluvial) and, less frequently, groundwater.

Research for the second PFRA in 2017 confirmed the understanding that local flood risk (mainly surface water) is not concentrated in a few locations but is dispersed across the county. The assessment also considered flood risk from ordinary watercourses and groundwater which was found to represent only a small proportion of reported flooding. Flood risk from ordinary watercourses has not been estimated separately as in smaller catchments there is a large degree of overlap with surface water. Groundwater flood risk is difficult to estimate accurately and is not directly comparable as it is usually the result of rainfall over a longer period of time rather than from a single storm.

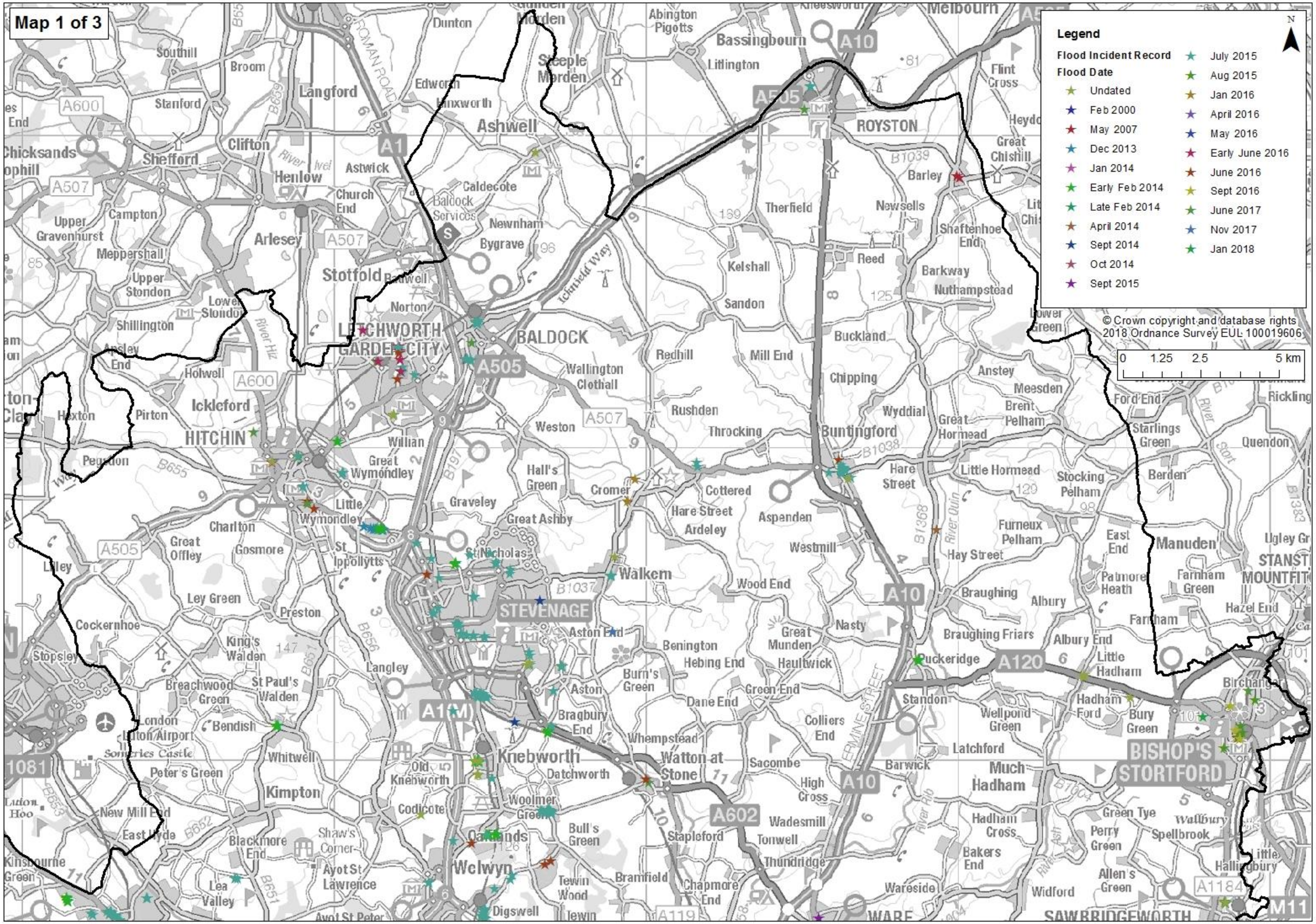
As well as events caused by a single source there may be in-combination effects, such as when elevated river levels impede surface water drainage which then results in flooding due to surface water not being able to drain away. Some areas may be at risk from more than one source of flooding, for example a property in a river valley may be vulnerable to river flooding as a result of prolonged rainfall or surface water flooding on another occasion due to an intense storm.

Historic records of flooding across the county are not consistent and vary greatly, depending upon the location and over time making it difficult to provide a consistent picture of any past flooding across the county.

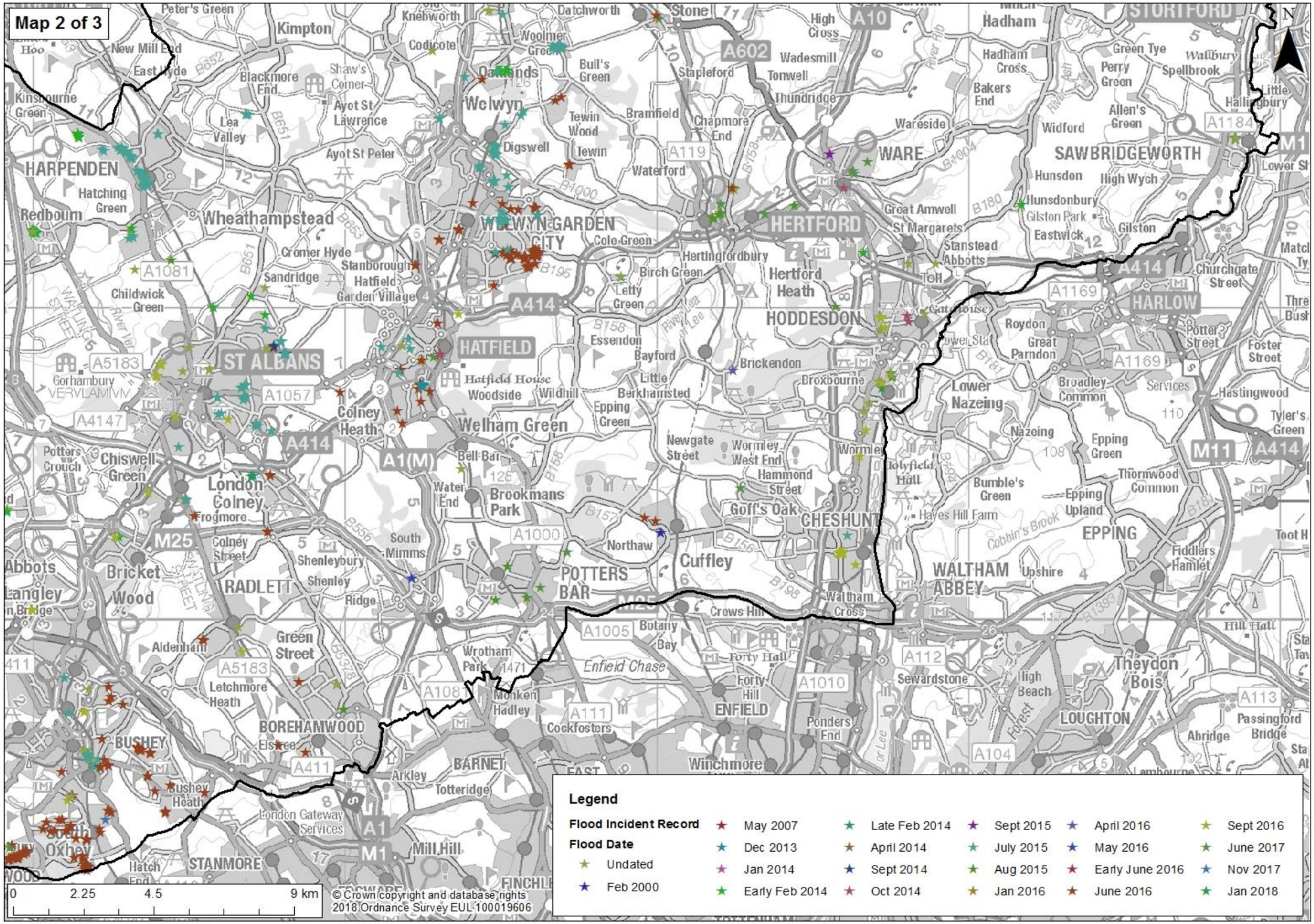
From 2011 all incidences of flooding that have come to the attention of the LLFA have been validated and logged in a consistent format. Over 800 new records have been entered in the authority's flood incident database since 2011. The majority of these flooding events are from surface water resulting from storm events in December 2013; February, July and September 2014; July 2015; and June and September 2016 see Map 1 showing the locations of reported flooding events since 2011.



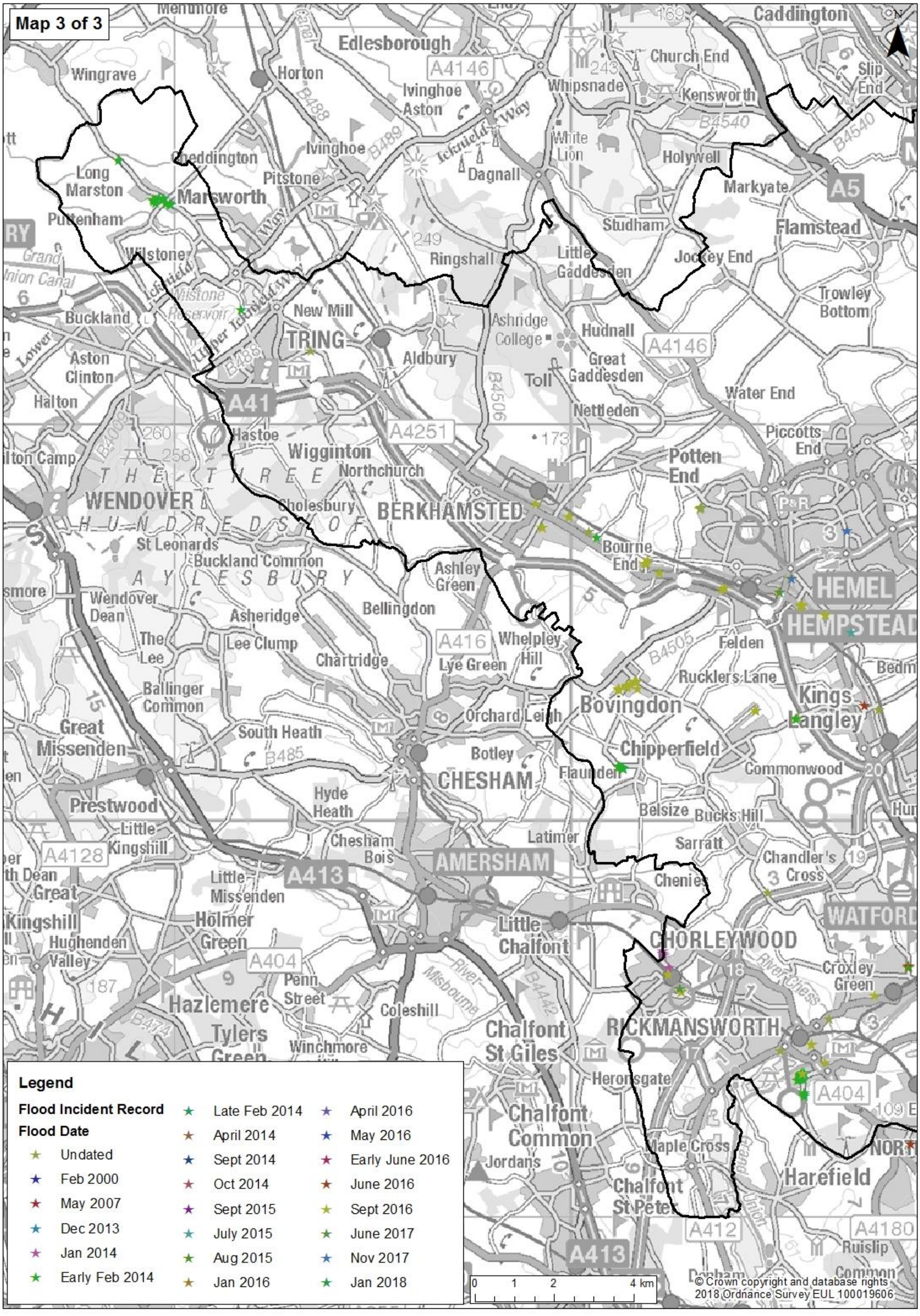
Map 1: Overview Map – Flood Incident Record for Hertfordshire



Map 1a: Map 1 of 3 – Flood Incident Record for Hertfordshire (North)



Map 1b: Map 2 of 3 – Flood Incident Records for Hertfordshire (South)



Map 1c: Map 3 of 3 – Flood Incident Record for Hertfordshire (West)

2.1. Surface Water Flooding

Surface water flooding is caused when local drainage capacity and infiltration is unable to cope with the volume of water experienced during periods of sustained or heavy rainfall. Flooding then results from overland flows causing ponding of water where it becomes obstructed or collects in low lying areas.

Modelling the potential impact of storm events gives an insight into the risk of future flooding. Currently the national surface water flood risk map RoFfSW is the best available indication of predicted surface water flood risk across Hertfordshire. Although this is the third generation of the national surface water mapping, it still cannot be used to absolutely determine the flood risk for individual properties. This is because of the assumptions that have had to be used to make it practical to produce. Property specific information such as threshold heights are assumed, individual drainage networks have not been included and the base mapping and modelling methodology does not pick up the effect of small scale features which can have an influence on surface water flows in a specific location.

The map indicates a dispersed pattern of many small areas with predicted surface water flood risk across the whole of Hertfordshire which when added together give a total of between 30 to 60 thousand properties in or near areas where there is a predicted high or medium risk of flooding from surface water. The potential for surface water flooding is predicted to be present in most of Hertfordshire's settlements. The estimated numbers of properties for each district area (Local Authority) are shown in Table 1 and the general locations can be seen in Map 2 on the following pages.

Table 1: Number of properties shown to be at risk in the RoFfSW map
Note: Property is counted to be at risk, where any part of its boundary is touching the modelled flood outline in the RoFfSW map with a predicted flood depth of 150mm or greater

Local Authority	High 1 in 30 (3.33% AEP)	Medium 1 in 100 (1% AEP)
Broxbourne	1,242	4,227
Dacorum	4,188	8,213
East Herts	4,272	8,615
Hertsmere	3,347	6,665
North Herts	3,945	7,772
St Albans	3,667	7,661
Stevenage	1,911	3,944
Three Rivers	2,452	4,868
Watford	2,167	4,886
Welwyn Hatfield	2,478	6,027
Total (Hertfordshire)	29,669	62,878

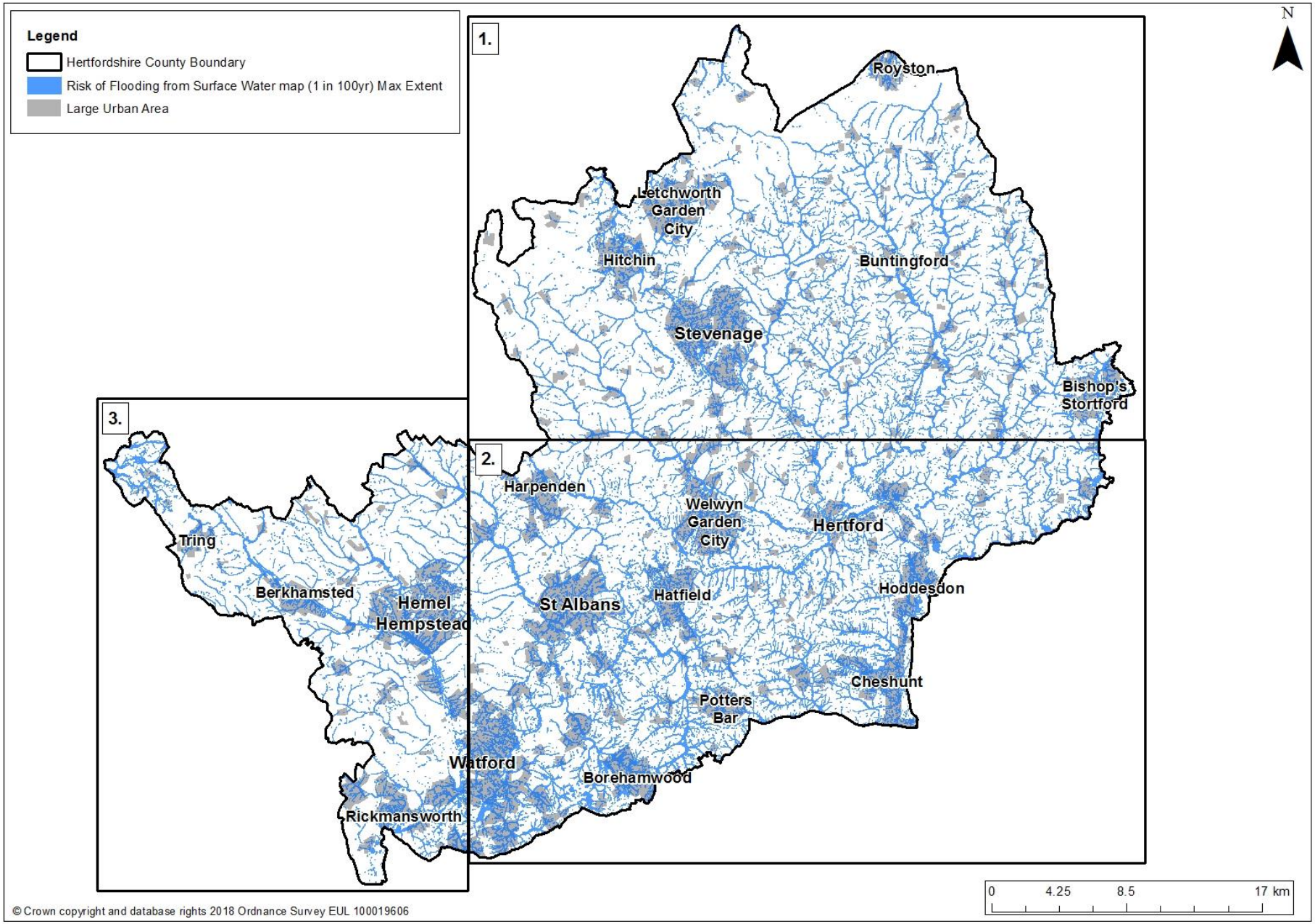
The lack of certainty about the predicted total is due to the complexities and challenges associated with the modelling of flood risk. For surface water and small watercourses the relatively small catchment sizes being analysed make models

complex to develop and small features in the landform, man-made features and drainage systems can have an influence. Therefore in order for the models to be accurate they require detailed survey information to be included.

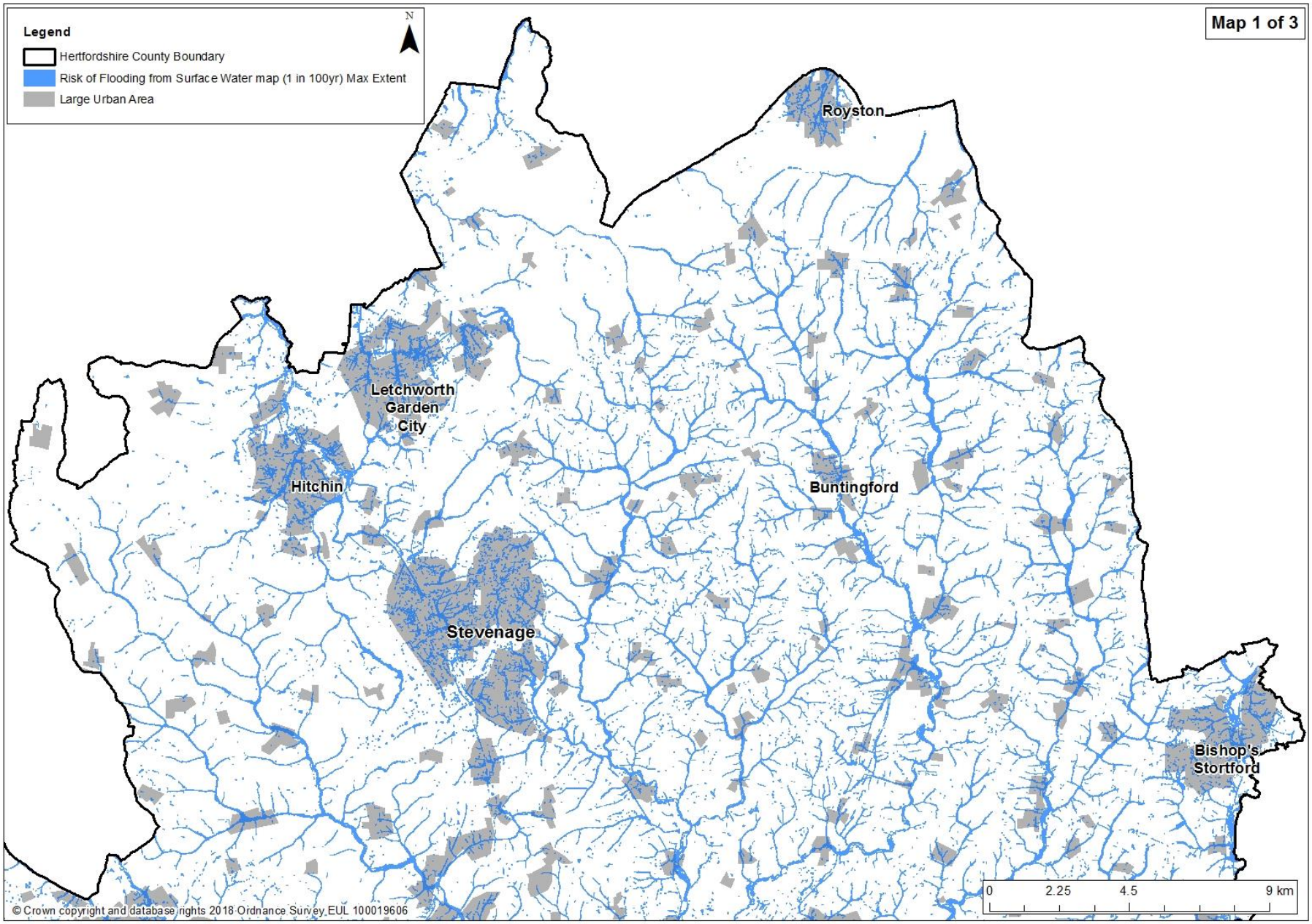
It is challenging to carry out any large scale spatial analysis to accurately predict the impacts of surface water flooding down to the property level. Accurate modelling requires the collection of detailed survey data which can be costly to collect and integrate into any large scale flood model.

The recording and investigation of flooding events in the county is helping to refine the LLFA's understanding of how the RoFfSW can be used to assess the potential flood risk for an area and to give an insight into the significant factors that affect flood risk at the property level.

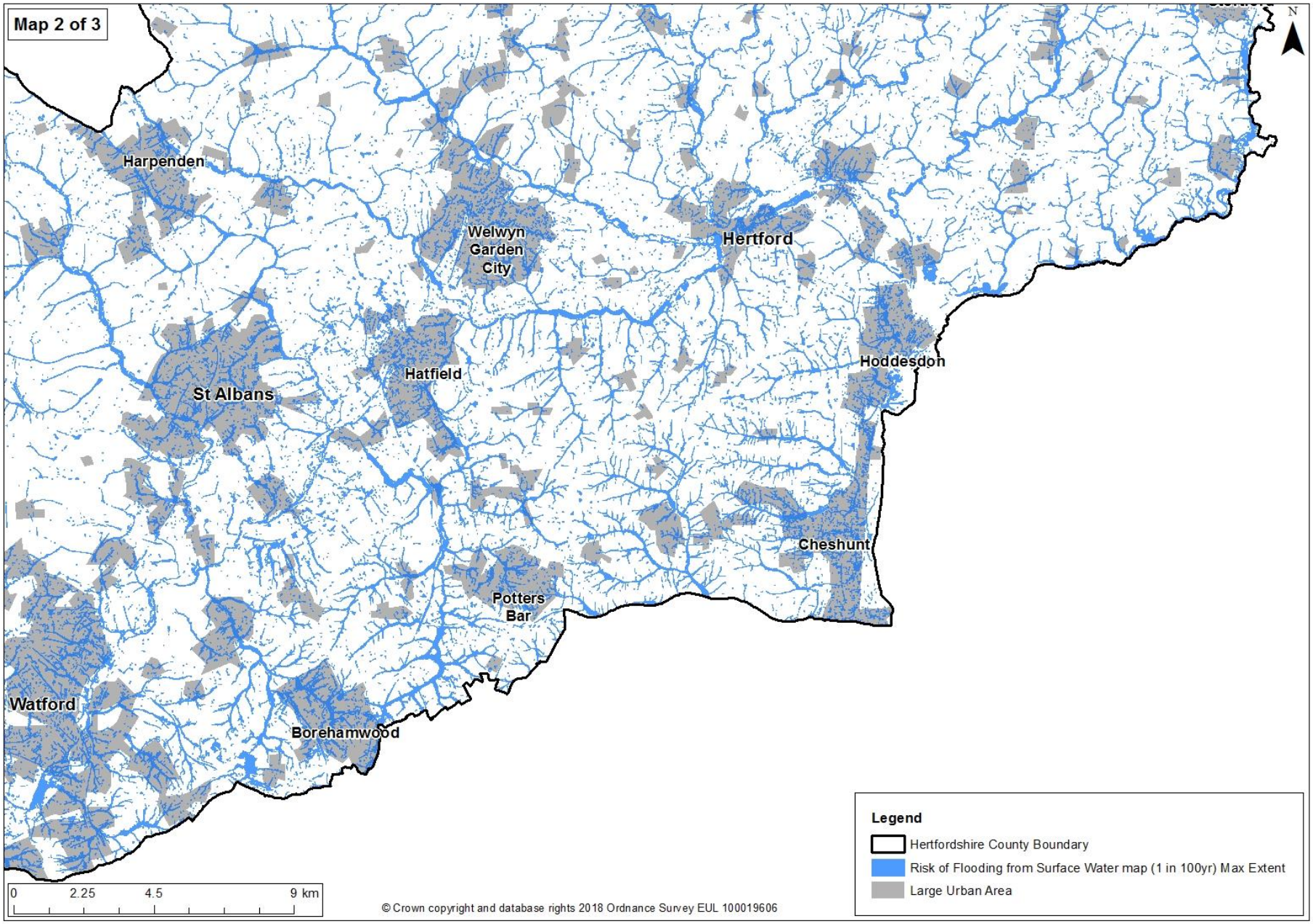
The risk of surface water flooding in the county is likely to increase as the extent of built-up areas and the area of impermeable hard surfacing (such as driveways, car parking, paths and extensions) is added to across the county. It is therefore essential that suitable mitigation such as Sustainable Drainage Systems (SuDS) is put in place to reduce and manage this risk where possible. In addition climate change predictions are indicating that the likelihood and frequency of surface water flooding will increase and this increase in risk has to be considered when planning for new development in the county.



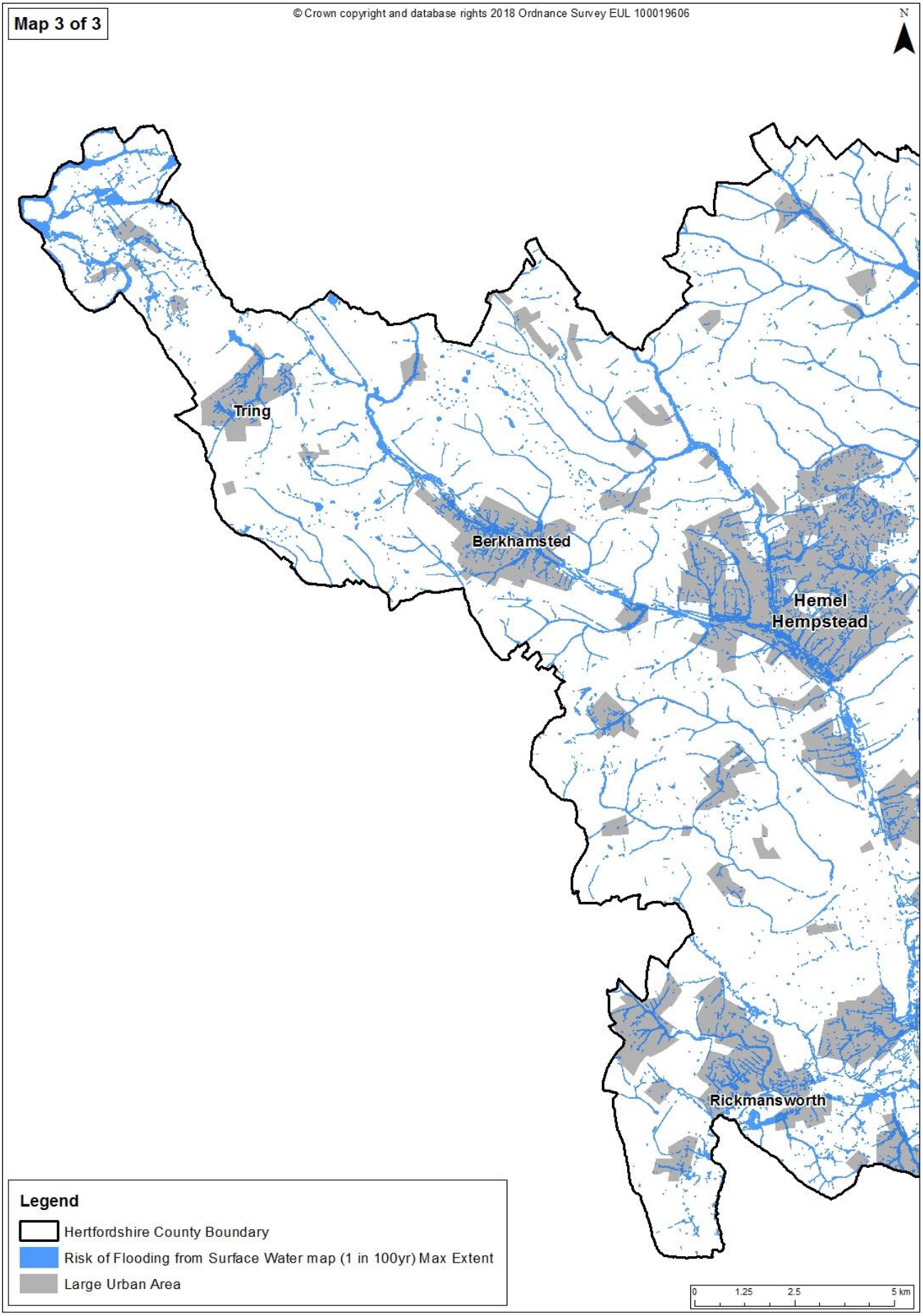
Map 2: Overview Map – Risk of Flooding from Surface Water map (1% AEP event) for Hertfordshire



Map 2a: Map 1 of 3 – Risk of Flooding from Surface Water (1% AEP event) for Hertfordshire (North)



Map 2b: Map 2 of 3 – Risk of Flooding from Surface Water map (1% AEP event) in Hertfordshire (South)



Map 2c: Map 3 of 3 – Risk of Flooding from Surface Water map (1% AEP event) for Hertfordshire (West)

2.2. Fluvial Flooding

Fluvial flooding occurs when the capacity of a watercourse is reached, causing water to spill out of the channel onto adjoining areas, known as the floodplain. In some areas, the floodplain of the river may be undeveloped or have more flood compatible[1] uses such as farming, but in some areas development has occurred within floodplains.

Larger watercourses especially where there may be significant flood risk are designated as Main River and the Environment Agency hold the necessary legal powers and responsibilities to manage the associated flood risk. The remaining watercourses are known as ordinary watercourses and in a shire county area such as Hertfordshire the relevant district or borough council holds the legal powers to manage the associated flood risk.

Predicted flood zones associated with Main Rivers are mapped and available to view online at the following location:

https://flood-warning-information.service.gov.uk/long-term-flood-risk

An overview is included in Map 3 on the following pages.

Floodplain modelling does not exist for the majority of ordinary watercourses across the county, some of the larger ones have been mapped as part of main river systems and recently some of the Strategic Flood Risk Assessments published by the Local Planning Authorities have included modelled flood risk for the larger ordinary watercourses.

In the flood plains of larger rivers there may appear to be an overlap between flood risk from the river and surface water. However this is usually the result of two distinct and separate flooding mechanisms, one where water is leaving the river channel the other where the passage of water running over the surface is interrupted on its path to the river channel. The significance of this is that an action that would reduce the risk of flooding from a river may not reduce the risk of flooding from surface water and could in some cases increase the risk (in practice this would be reviewed as part of any scheme assessment).

For practical purposes there is a large degree of overlap between flood risk associated with watercourses in small catchments and surface water. Although some flood risk from small watercourses may be associated with constrictions in the channel such as culverts, generally the influence of small watercourses will be picked up in detailed modelling for surface water flood risk. Photograph 6 shows an example of a constriction on a small watercourse.

[1] Although farming will not significantly reduce the volume of water able to be stored in the flood plain farming activities can nonetheless be impacted depending on the timing of flooding and type of farming being carried out.

Photograph 6: A culvert on a small watercourse

In Hertfordshire there are an estimated 1,709 residential addresses that are in areas with a high fluvial flood likelihood (3.3% AEP or greater in any one year) and 4,159 that are in areas of medium fluvial flood likelihood (between 3.3% and 1% AEP in any one year) (2014 figures reported by the EA to the Thames RFCC 24/11/16). There have been intermittent occurrences of fluvial flooding across the county during the past few years, with the most notable events occurring in February 2014.

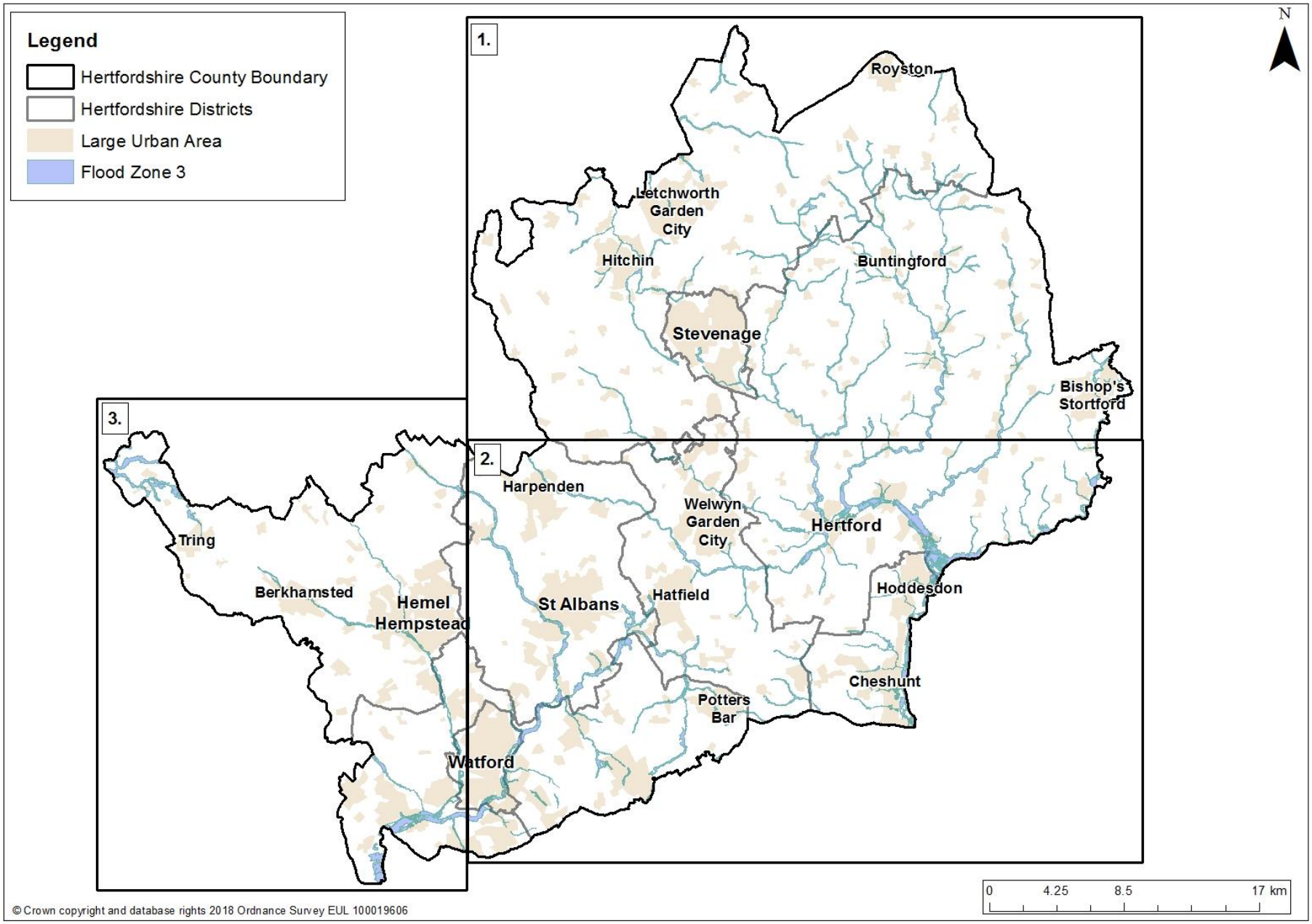
The context to the management of flood risk in the Thames and Anglian Catchments river basin catchments are set out in the respective river basin Flood Risk Management Plans. For the Thames Region the relevant catchments that impact upon Hertfordshire are the Colne, London, the Thame and the South Chilterns and the Upper Lee. Details of these can be found in the following publication:

https://www.gov.uk/government/publications/thames-river-basin-district-flood-risk-management-plan

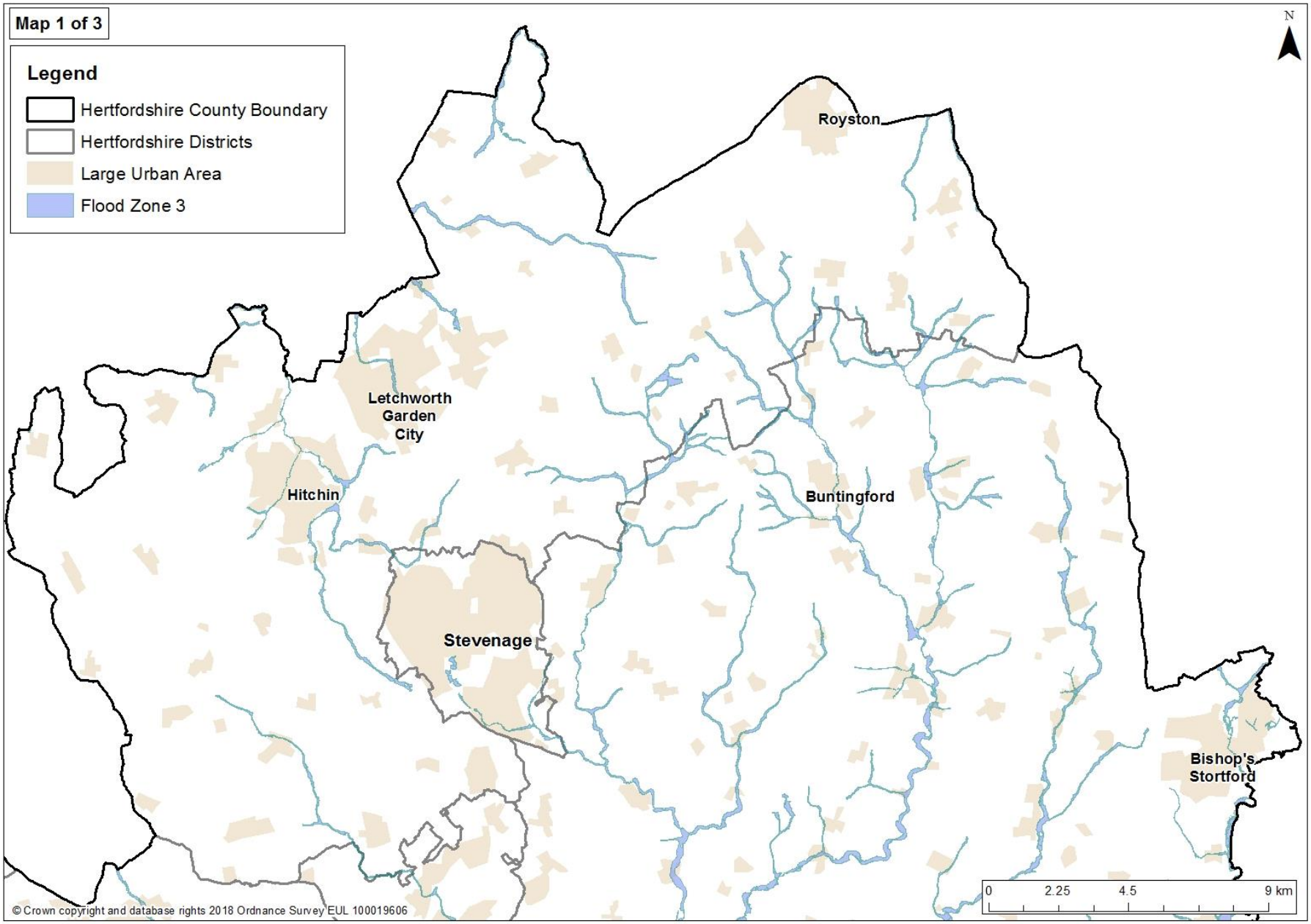
For the Anglian Region the relevant catchments for Hertfordshire are the Upper and Bedford Ouse Catchment together with Cam and Ely Ouse catchments. Details of these can be found in the following publication:

https://www.gov.uk/government/publications/anglian-river-basin-district-flood-risk-management-plan

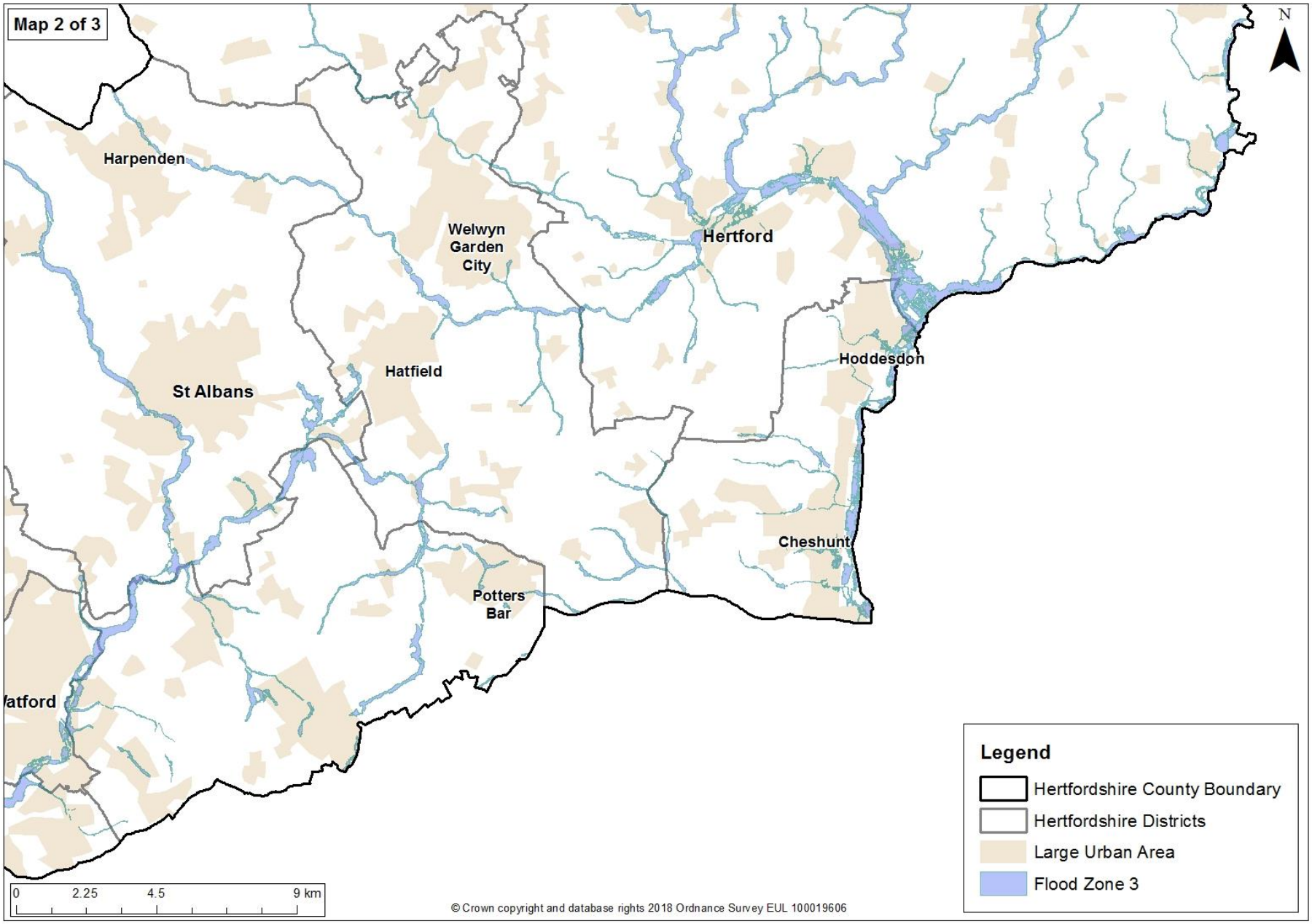
The Environment Agency offers a flood alert and flood warning service to households in areas of high fluvial flood risk.



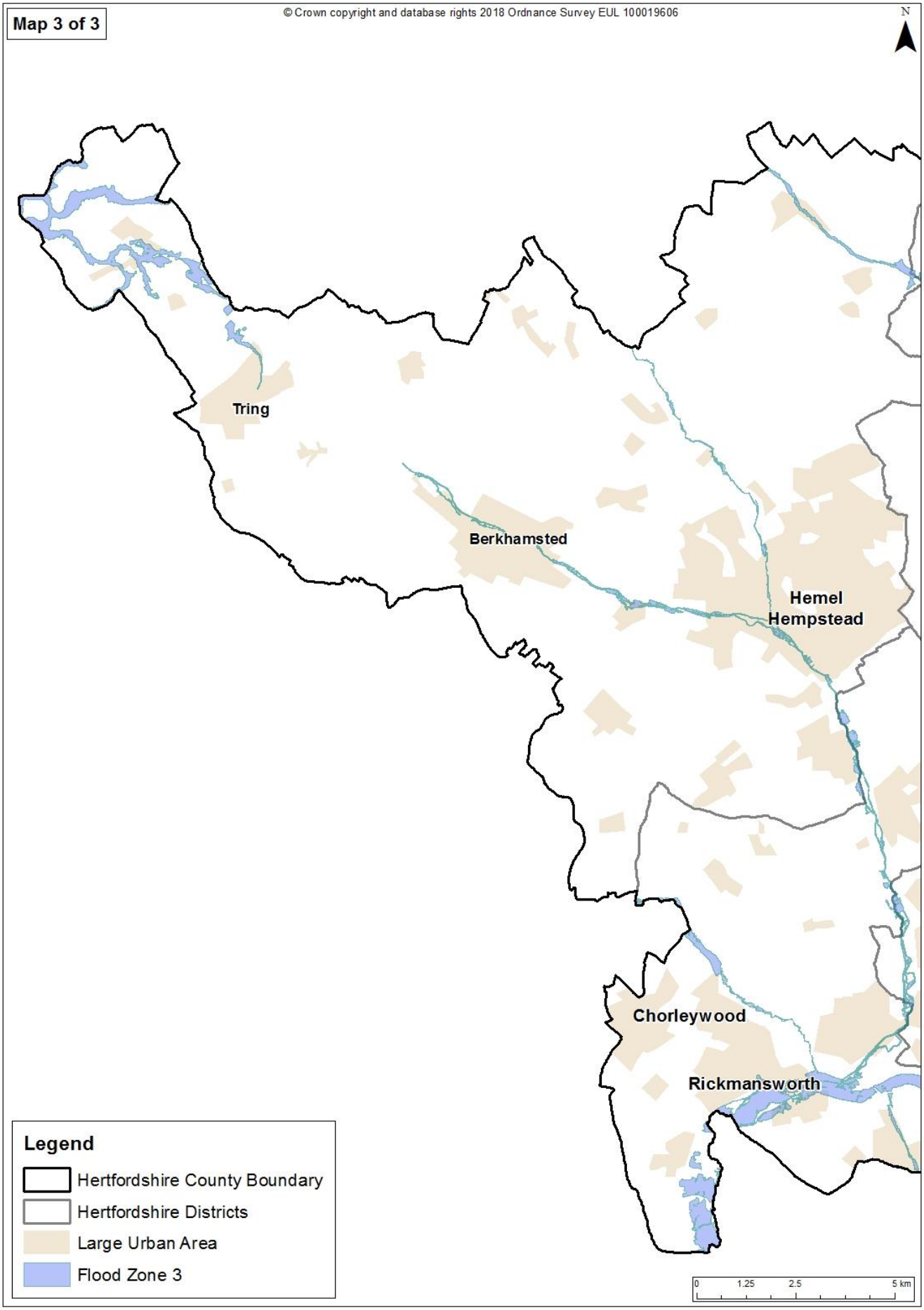
Map 3: Overview Map – Fluvial Flood Zone 3 in Hertfordshire



Map 3a: Map 1 of 3 – Fluvial Flood Zone 3 in Hertfordshire (North)



Map 3b: Map 1 of 3 – Flood Risk Zone 3 Hertfordshire (South)



Map 3c: Map 3 of 3 – Fluvial Flood Zone 3 in Hertfordshire (West)

2.3. Groundwater Flooding

Groundwater flooding occurs when the water held underground rises to a level where it breaks the surface in areas away from usual channels and drainage pathways. It is generally a result of exceptional extended periods of heavy rain, but can also occur as a result of reduced abstraction[2], underground leaks or the displacement of underground flows. Once groundwater flooding has occurred, the water can remain at the surface for extended periods of time.

The presence of the chalk aquifer in Hertfordshire and other under groundwater bearing areas such as the river gravel deposits mean that there is potential for groundwater flooding in Hertfordshire. There are confirmed cases of groundwater flooding in the county ranging from localised emergence affecting single properties to a number of larger events that have impacted at the settlement scale.

Photograph 7: Groundwater emergence & extensive ponding

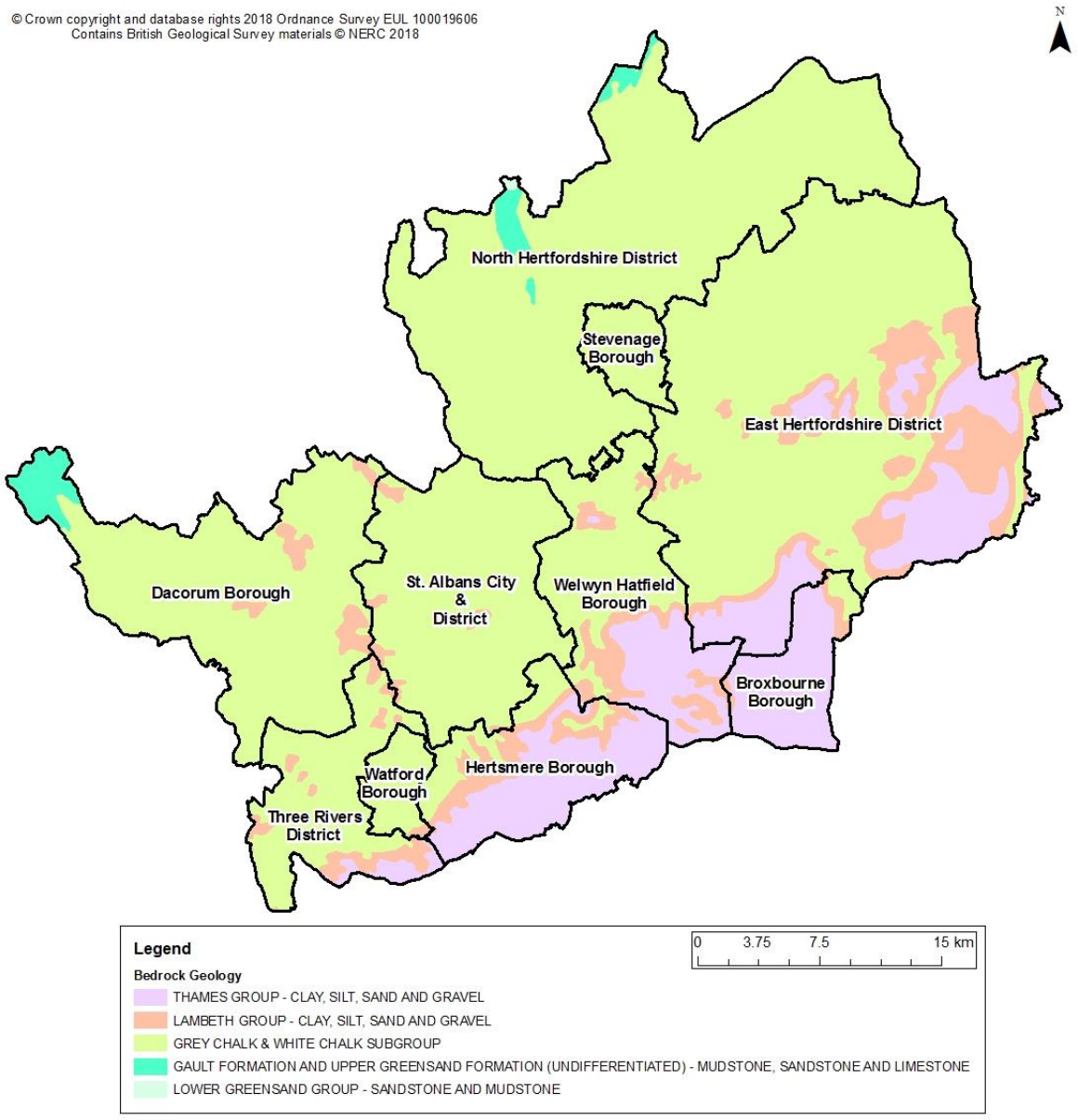
Although groundwater flood risk is only a small element of the overall flood risk in the county, where it does occur it can have a significant impact due to the duration of the flooding which can result in extended periods of disruption and significant damage to buildings. Elevated groundwater conditions can also cause issues before water

[2] Where water is pumped (abstracted) from underground sources, such as the chalk aquifer beneath Hertfordshire, the water table around the pump becomes locally lowered creating what is termed a "cone of depression". If abstraction stops the water table will locally rise which depending on location may lead to an increase in groundwater flood risk.

appears on the surface affecting basements and cellars of properties. In addition the infiltration of groundwater into sewer systems and septic tanks can interfere with the disposal of foul water and give rise to issues of sewer flooding. It may also impact on other underground infrastructure.

Groundwater flooding linked to the chalk aquifer, which underlies the county, results from rainfall over an extended period of time and is a factor of both geology and topography. Each groundwater flood event results from a unique rainfall pattern over a number of months (generally extreme as in 2000/1 and 2013/14) so modelling requires a different approach to that used for watercourse and surface water flood risk where the relevant rainfall is over days and hours rather than weeks and months. At a local level it can be influenced by factors below ground which are challenging to determine, the risk is not routinely profiled in the same way as surface water and fluvial flooding. The extent of the chalk aquifer is shown in Map 4, which shows the Bedrock Geology for Hertfordshire.

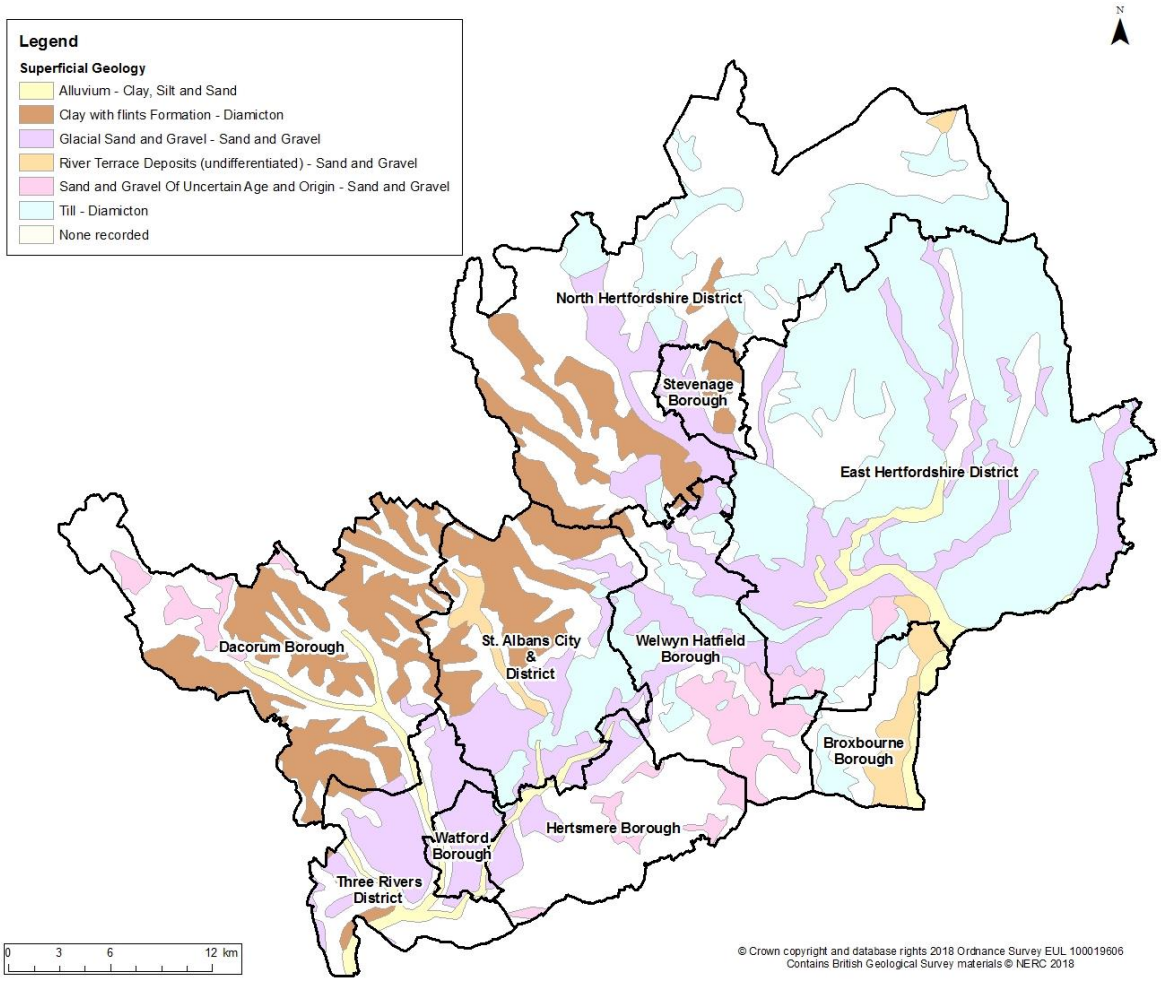
It is possible to assess the potential for groundwater flooding drawing on work related to managing and understanding water resources linked to water supply. As part of this work a network of boreholes are monitored which helps give an early indication of rising water levels and by correlating these observations with statistical weather data it is possible to calculate the probability of a range of groundwater levels looking forward a number of months. This data is published monthly as The Hydrological Outlook produced by a collaboration of a number of organisations led by the Natural Environment Research Council's Centre for Ecology & Hydrology (CEH) and involving British Geological Survey (BGS), the Environment Agency (EA) and the Met Office (MO). Accessible: http://www.hydoutuk.net/latest-outlook/



Map 4: Map shows Bedrock Geology of Hertfordshire

As well as clearwater flooding from the Chalk aquifer, more localised groundwater effects can occur across Hertfordshire due to the influence of superficial clay deposits (shown in Map 5) which can create localised (perched) water tables and associated spring lines.

Away from the areas where chalk is predominant in the valley floors groundwater flooding is also associated with bands of sand and gravel overlying impermeable areas. Generally in such area water which infiltrates into the ground will be flowing through the permeable layers, such as sand and gravel, to a point where it joins a watercourse system or an underlying permeable area. Flooding will occur when the capacity of the area to drain water away is exceeded. The onset is likely to be following heavy rain, more rapid than flooding from the chalk aquifer and also likely to be shorter in duration.



Map 5: Map shows Superficial Geology of Hertfordshire

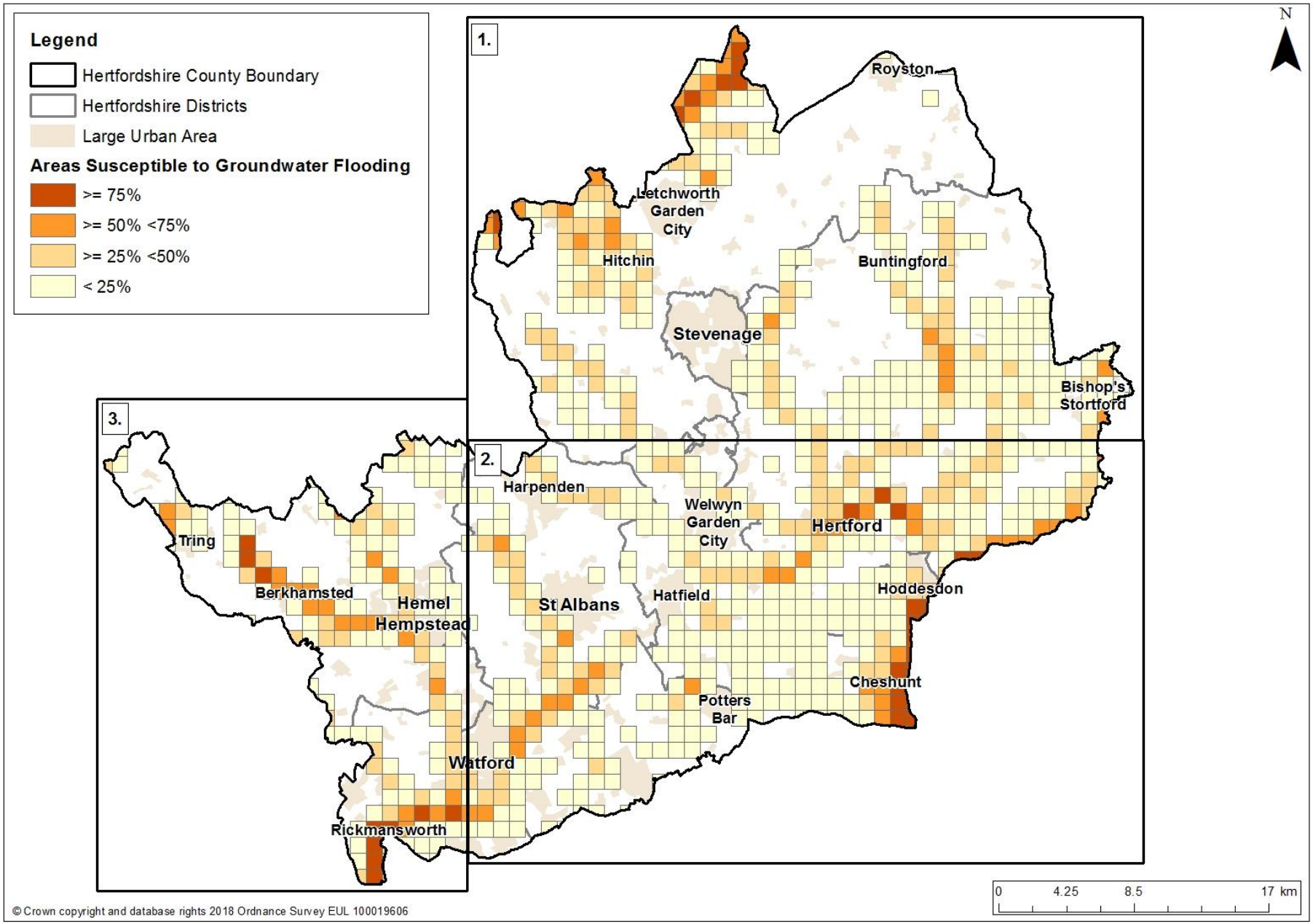
Areas with the potential for groundwater emergence are shown by the Areas Susceptible to Groundwater Flooding (AStGWF) map published by the EA; the extract for Hertfordshire is shown in Map 6. The AStGWF is based on 1 kilometre squares where the percentage of the area where there is the potential for groundwater emergence is above 25%. The majority of Hertfordshire is not shown to be at risk above this level, with very few kilometre squares with a percentage greater than 50%. This data is useful to inform a strategic overview as was done for the Preliminary Flood Risk Assessment for Hertfordshire first produced in 2011 and updated in 2017.

It is possible to identify more specifically locations where there is greatest potential for groundwater flooding based on mapping of geological features in combination with the land surface and water table data. It is low-lying areas such as river valleys and areas of land downstream of springs that are mostly impacted by groundwater flooding. The British Geological Survey publishes a groundwater flooding susceptibility data set based on a 50m grid which was used as the basis for producing the AStGWF mapping.

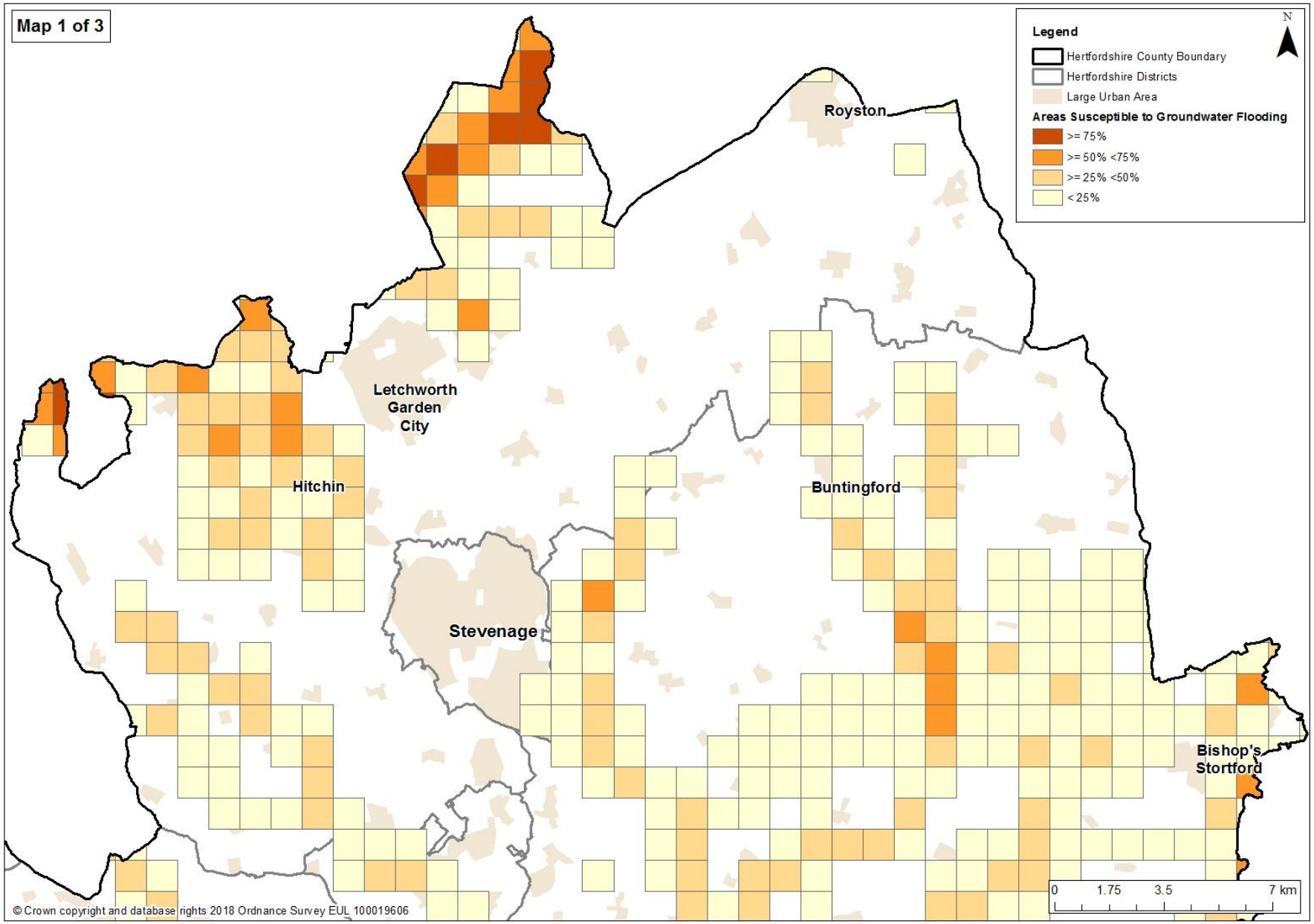
Understanding of groundwater flood risk is continuing to evolve. A report was published by the British Geological Survey in 2015 estimating the number of properties susceptible nationally to groundwater flooding. It included some suggestions of further refinements that could be made. Regionally the Thames

RFCC facilitated funding of work piloting the assessment of groundwater flood risk led by Buckinghamshire County Council.

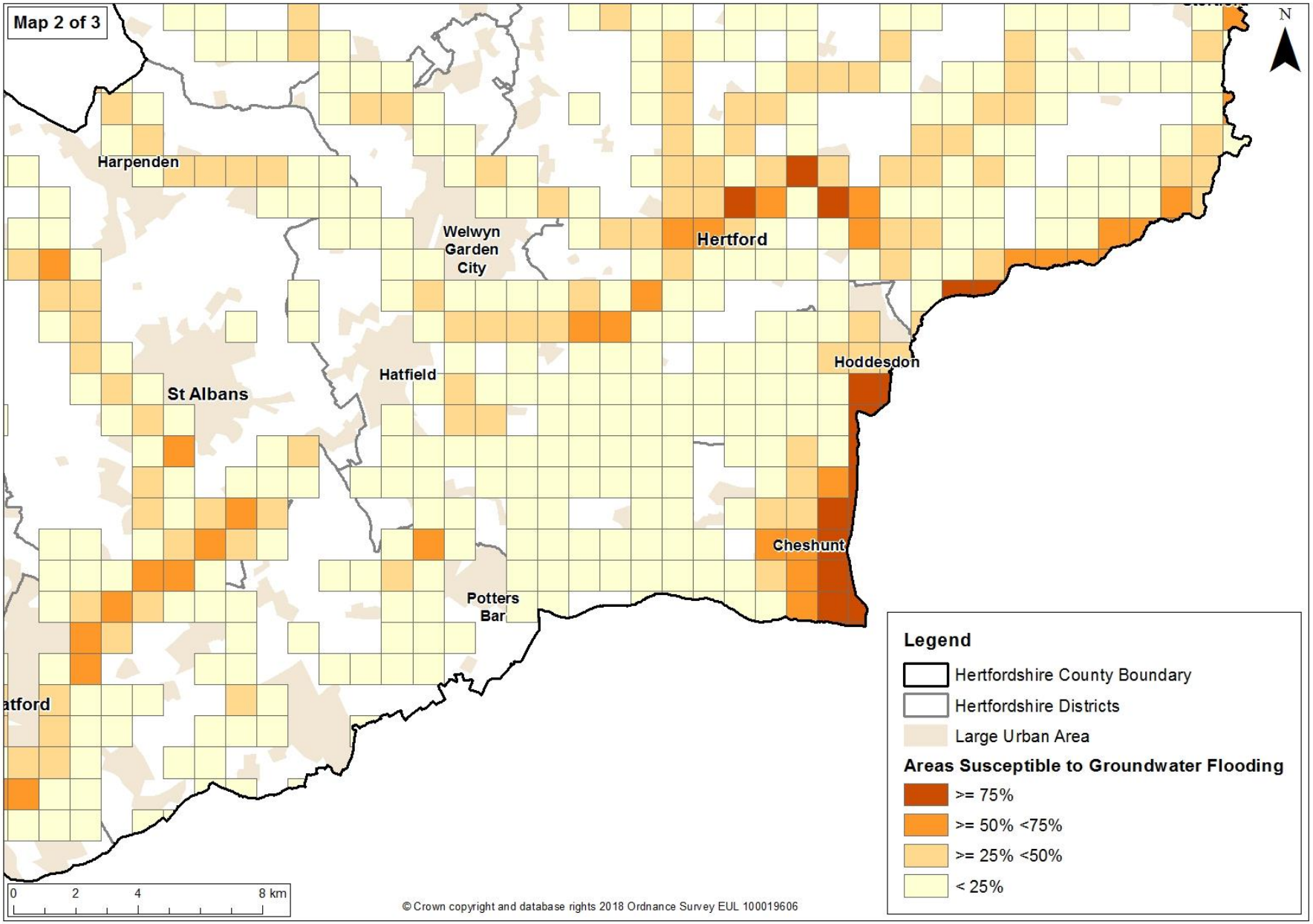
Historical records may give some insight into the impact of groundwater flooding in a location in terms of depth and duration. However they don't help to give a reliable estimate of probability which is also challenging to determine through modelling. Locally a more detailed understanding of the issues involved with this was gained through the modelling work carried out to support the assessment of the potential for managing groundwater flood risk in Kimpton.



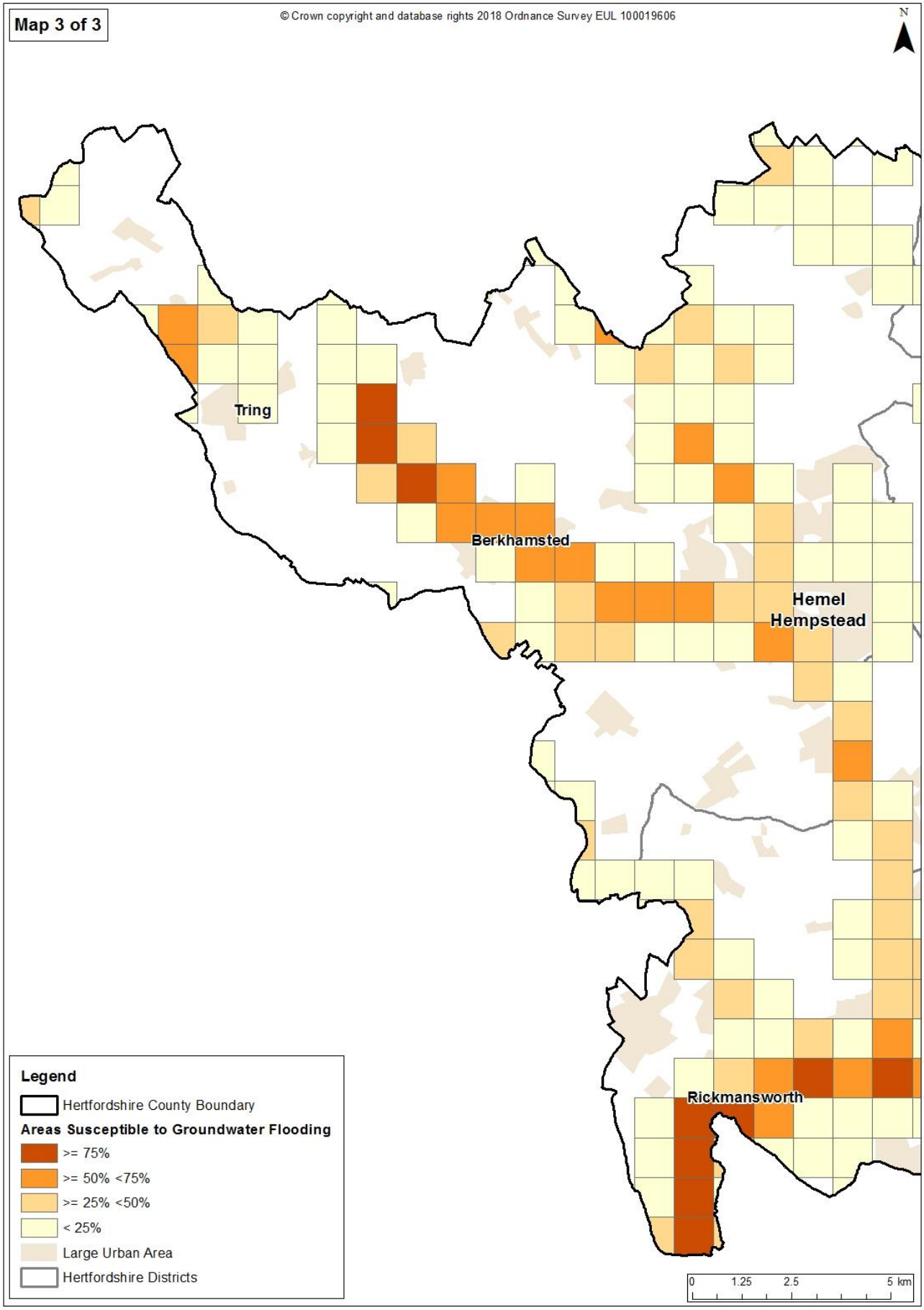
Map 6: Overview Map – Areas Susceptible to Groundwater Flooding in Hertfordshire



Map 6a: Map 1 of 3 – Areas Susceptible to Groundwater Flooding in Hertfordshire (North)



Map 6b: Map 2 of 3 – Areas Susceptible to Groundwater Flooding in Hertfordshire (South)



Map 6c: Map 3 of 3 – Areas Susceptible to Groundwater Flooding in Hertfordshire (West)

2.4. Sewer Flooding

Sewer flooding is caused when a blockage occurs or by excess surface water entering the drainage network, exceeding available capacity. This generally occurs during periods of heavy rainfall when the drainage network becomes overwhelmed.

Water Companies keep a record of property flooding called the DG5 register. Between 1997 and 2007 there were 291 records of sewer flooding within Hertfordshire, of which 77 were attributed to surface water and 25 to combined sewers. As the records are only referenced to broad areas by postcode district it is not possible to provide a spatial representation of this.

Photograph 8: A surcharged manhole (the sewer system has reached its capacity and water now escapes via manholes)

2.5. Flooding from other sources

In addition to watercourses and sewers there are some man made features for which water levels can be regulated. This includes reservoirs, canals and aqueducts. The Environment Agency has produced reservoir maps to show the largest area that might be flooded if a reservoir that holds over 25,000 cubic metres of water were to fail. Hertfordshire has 24 reservoirs which hold in excess of 25,000 cubic metres of water. The chance of reservoir failure is very unlikely as reservoirs are regularly inspected and there is an extremely good safety record in the UK with no loss of life due to reservoir flooding since 1925.

Flooding may result from overtopping or breach of the canal network. There are a number of canals within Hertfordshire including the Grand Union Canal, the Lee

Navigation and the Stort Navigation. The Canal and Rivers Trust has investigated the potential for flooding from the canal network. Current records indicate only two minor breach events on record within Hertfordshire on the Grand Union Canal. Dacorum Borough Council's Level 2 SFRA includes an assessment of potential flood risk associated with a raised section of the Grand Union Canal. It is considered that there are no significant flood risks associated expressly with the canals.

The New River which runs through Hertfordshire in the Lee valley was built to carry water for the public water supply from springs in the Amwell area into London. It is operated under an Act of Parliament by Thames Water Utilities Ltd. Its main function is as an aqueduct and the volume of water entering at the start can be regulated however it does have a secondary function of drainage in a number of areas.

Burst water mains can also cause disruptive flooding but are outside the scope of this strategy.

2.6. Climate change

As well as looking at flood risk using past events the future risk of flooding needs to be assessed. This is especially relevant because of the need to consider the potentially significant effects arising from climate change. The existing level of flood risk in Hertfordshire is predicted to increase over time. Changing weather patterns associated with predicted climatic change is likely to result in an increased probability of intense summer rainfall. A range of climate change scenarios have been developed and it seems likely that overall flood risk will increase as flooding may happen more often and/or to a greater depth, depending on the flooding source and mechanism.

Predicted climate change is already being taken into account in the planning of new development. Strategic Flood Risk Assessments produced by Local Planning Authorities to support their Local Plans do this at the strategic scale. For major planning applications the LLFA advises planning authorities on the suitability of surface water drainage arrangements and any significant issues linked to local flood risk. Assessments linked to this work are required to take account of the potential impact of predicted climate change.

Changes in climatic conditions can affect local flood risk in several ways; however, impacts will depend on local conditions and vulnerability. Wetter winters and more intense rainfall may increase river flooding in both rural and urban catchments. More intense rainfall causes greater surface runoff, increasing localised flooding and erosion. In turn, this may increase pressure on drains, sewers and have an impact on water quality. The number of intense summer storms leading to occurrences of flash flooding could increase even in summers which may have less overall rainfall. Therefore the county needs to be prepared for the potential risks.

There is a risk of flooding from water-bearing chalk aquifers across the county. Generally wetter winters would potentially increase levels of groundwater but it is difficult to predict in detail as much depends on the nature of the rainfall as, once the upper levels of the ground are saturated or the intensity of rain exceeds the rate of infiltration, water runs off and is not available for groundwater recharge.

Many drainage systems in the county have been modified to manage water levels and could help in adapting locally to some of the impacts from a future climate on flooding. However the changing intensity of weather patterns may mean that these assets will need to be managed differently. The implementation of sustainable development and the installation of sustainable drainage systems will help the county to adapt to climate change locally and should contribute to the mitigation and management of the risks that could arise from damaging floods in the future.

3. Who's Involved in Managing Flood Risk?

3.1. Risk Management Authorities

In addition to designating Lead Local Flood Authorities (LLFAs), the Flood and Water Management Act 2010 (FWMA) identifies certain organisations as 'Risk Management Authorities' (RMAs) which have specified responsibilities, duties and powers related to local flood risk management. Table 2 sets out the risk management authorities in Hertfordshire and Appendix 1 details their specific roles and responsibilities. The geographical coverage of the risk management authorities is shown in Map 7 (for clarity the local highways network has not been included). Table 3 details the risk management authorities bordering Hertfordshire.

Table 2: Risk Management Authorities in Hertfordshire

Category	Organisations in Hertfordshire
Environment Agency	• Hertfordshire and North London Area • East Anglia Area • Thames Area
Lead Local Flood Authority	• Hertfordshire County Council
District/borough councils	• Broxbourne Borough Council • Dacorum Borough Council • East Hertfordshire District Council • Hertsmere Borough Council • North Hertfordshire District Council • St Albans City & District Council • Stevenage Borough Council • Three Rivers District Council • Watford Borough Council • Welwyn Hatfield Borough Council
Internal Drainage Boards	• Bedfordshire and River Ivel Internal Drainage Board (IDB)
Water and Sewerage Companies	• Anglian Water Services Ltd • Thames Water Utilities Ltd
Highway Authorities	• Hertfordshire County Council • Highways England (motorways and some major roads)

Table 3: Risk Management Authorities bordering Hertfordshire

Type of LLFA	Risk Management Authorities
County Councils ○ **(with associated district and borough councils)**	• Buckinghamshire ○ (Aylesbury Vale, Chiltern, South Bucks) • Cambridgeshire ○ (South Cambridgeshire) • Essex ○ (Epping Forest, Harlow, Uttlesford)
Unitary Authorities	• Luton • Central Bedfordshire
London Boroughs	• Hillingdon • Harrow • Barnet • Enfield

3.2. Other Key Stakeholders

As well as the RMAs there are a number of other key stakeholders with interests in key infrastructure and service provision. Table 4 sets out those organisations that are seen to be key stakeholders in the LFRMS and a full description of their respective roles and responsibilities is set out in Appendix 2.

Table 4: Key Local Flood Risk Management Strategy Infrastructure Stakeholders in Hertfordshire

Organisation	Infrastructure
National Grid	Distribution network, sub stations, ground level transformers etc.
Transco	Gas pipelines and associated pumping stations
Network Rail	Various rail lines running through Hertfordshire which radiate from London and include the East, West and Midland mainlines.
Affinity Water (Central)	Pumping stations and treatment works throughout Hertfordshire supplying water. A large proportion of supplied water comes from groundwater sources. Anglian Water and Thames Water also supply water as well as the Cambridge Water Company
Canal and River Trust	Grand Union Canal, Stort Navigation Lee Navigation, Tring Reservoirs.
Lee Valley Regional Park Authority	Manages recreation and environmental assets associated with large water bodies in the Lee Valley.

3.2.1. Regional Flood and Coastal Committees (RFCC)

The two Regional Flood and Coastal Committees (RFCCs) covering Hertfordshire (Thames and Anglian Central) are the focus for regional programmes of flood risk management projects funded through national grant, levies raised through local authorities and other local contributions. Map 8 shows where the Thames and Anglian Central RFCCs operate in Hertfordshire.

The Environment Agency must establish and consult with them about flood and coastal risk management work in their region and take their comments into consideration. RFCCs bring together members appointed by Lead Local Flood Authorities (LLFA) and independent members with relevant experience.

3.2.2. Hertfordshire Resilience

Hertfordshire Resilience is the local resilience forum for Hertfordshire. It is a partnership of over 60 organisations including the emergency services, local councils, health services and volunteers.

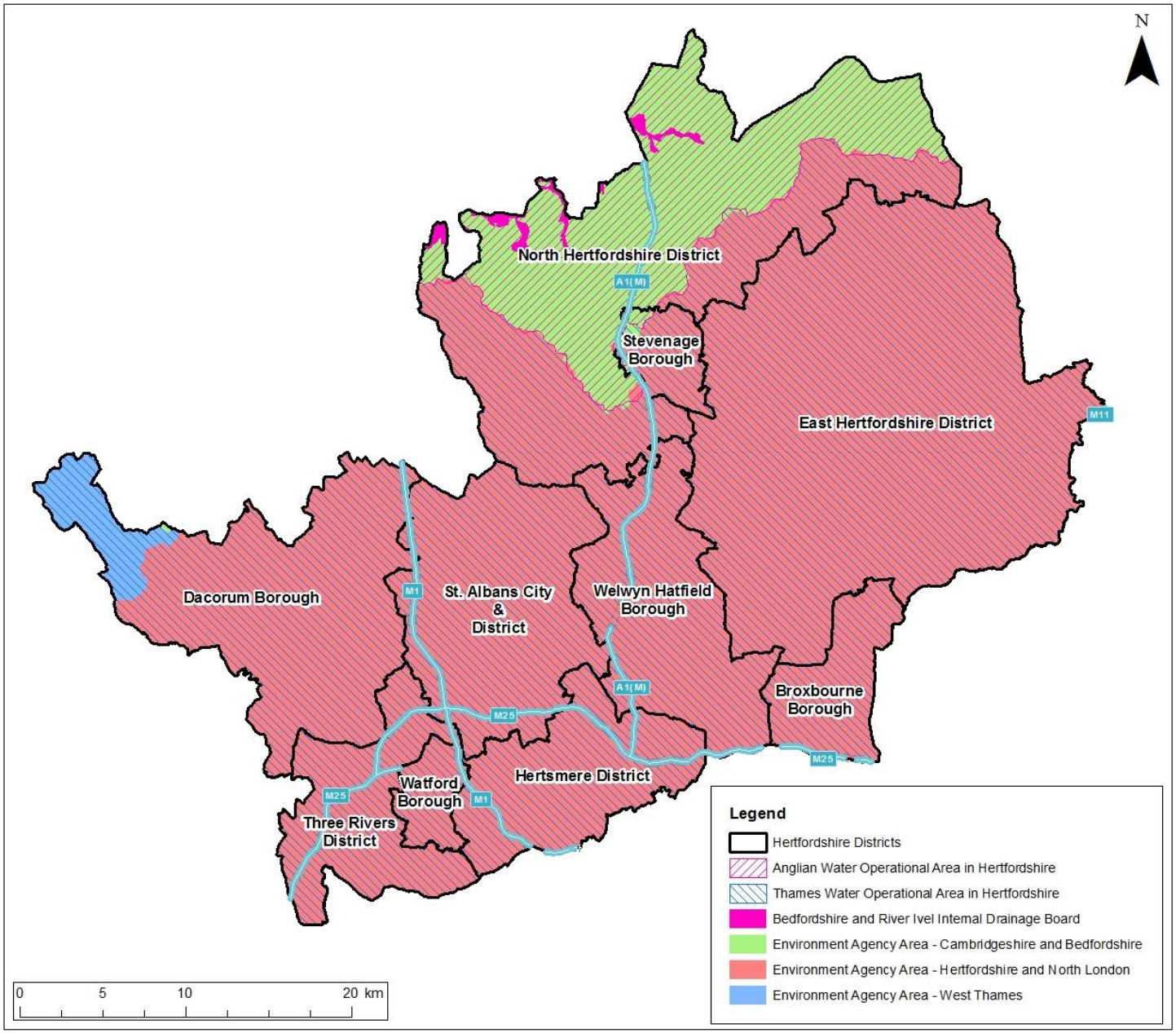
The members of the forum coordinate emergency response to incidents, which includes flooding. Planning is carried out at a number of levels which will be used to guide response depending on the scale and severity the situation.

The local authority members also support businesses and communities to develop resilience so they are better prepared to respond and recover from emergency situations.

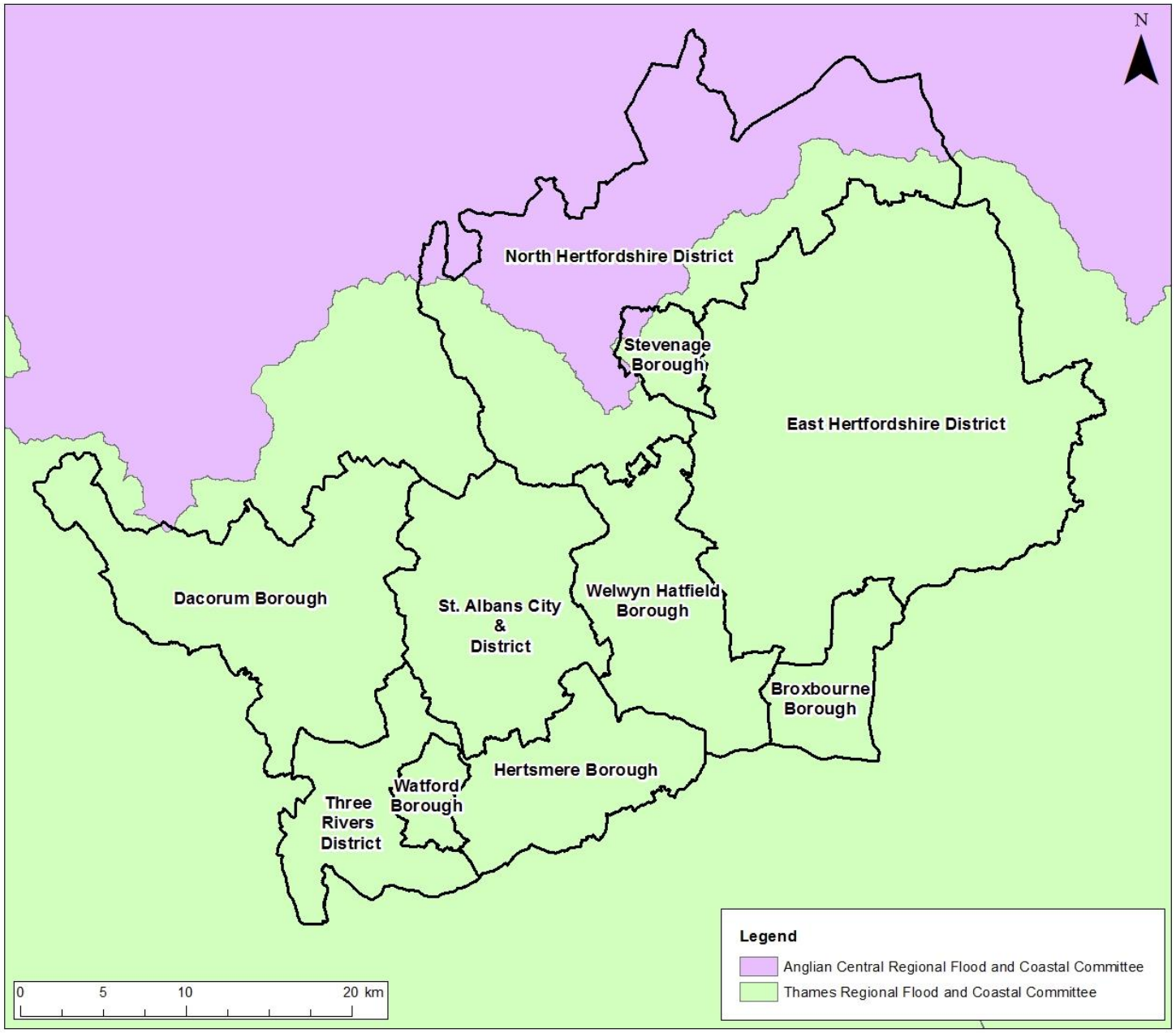
3.2.3. Hertfordshire Local Enterprise Partnership (LEP)

LEPs are partnerships between local authorities and businesses and play a central role in determining local economic priorities and undertaking activities to drive growth and the creation of local jobs. They have responsibility for bidding for central government funding and influencing local funding streams and ensuring that these deliver against the locally agreed priorities.

LEPs are non-statutory bodies. This means they can look and operate very differently from each other, in terms of size, capacity and governance. All LEPs must be chaired by a business person and at least half of the members must come from the private sector.



Map 7: Risk Management Authorities in Hertfordshire



Map 8: Regional Flood and Coastal Committees in Hertfordshire

4. Principles for Flood Risk Management in Hertfordshire

The key principles of the Hertfordshire Local Flood Risk Management Strategy and the aims underlying them are as follows:

1. Taking a risk-based approach to local flood risk management
2. Working in partnership to manage flood risk in the county
3. Improving our understanding of flood risk to better inform decision making
4. Supporting those at risk of flooding to manage that risk
5. Working to reduce the likelihood of flooding where possible
6. Ensuring that flood risk arising from new development is managed

4.1. Principle 1: Taking a risk-based approach to local flood risk management

Aim 1: Flood risk will be actively managed and we will seek to predict and manage future risk as well as reacting to flood events.

This is an overarching principle which is fundamental to anticipating and managing the potential for flooding.

4.2. Principle 2 Working in partnership to manage flood risk in the county

Aim 2a: Opportunities will be sought to work with others to better deliver management of local flood risk in Hertfordshire.

Aim 2b: Flood risk measures should be multi-beneficial as far as possible, integrating flood risk management solutions alongside sustainable development and incorporating social and environmental benefits.

4.2.1. The needs and benefits of partnership working

The range of organisations and functions identified in the Flood and Water Management Act 2010 illustrates that the management of local flood risk does not rest with any one organisation.

The F&WMA 2010 is intended to facilitate the recommendations from Sir Michael Pitt's review of the serious floods in 2007. The ideal being sought is joint action at a strategic and practical level. This is supported in the legislation with a requirement for coordination of activity through a strategy and cooperation between the relevant organisations.

Rainfall runoff can follow a number of pathways the management of which involve a different range of roles and responsibilities for both individuals and organisations. As a consequence flood risk is managed to a range of priorities and standards. As well

as being confusing it means that there can be no set standard level of flood risk for any given property. This is outlined in more detail in Table 5.

A further complication is the legacy of drainage arrangements which have evolved over time and would not potentially be constructed in the same way today largely because responsibility for aspects of drainage infrastructure has also changed over this time.

Table 5: Roles and Responsibilities in Flood Risk

	Primary Role	Others Involved
Individual properties	Property owner	Thames Water Utilities Ltd Anglian Water Management companies
Surface Water Sewers	Thames Water Utilities Ltd Anglian Water	Districts / IDB Lead Local Flood Authority Environment Agency
Highways	Hertfordshire County Council Highways England	Thames Water Utilities Ltd Anglian Water Districts / IDB
Ordinary Watercourses	Property owner	Districts / IDB Lead Local Flood Authority
Main Rivers	Environment Agency	Property owner

The ability for organisations to take action to reduce flood risk depends on demonstrating that the costs will be proportionate to the benefits. However in many cases there is rarely a single source of funding available and so contributions will need to be combined from a number of sources.

Even where there may be a relatively high level of flood risk the options for management may not be viable due to an unfavourable cost benefit assessment. However in some circumstances it may still be possible to take action to reduce flood risk by delivering flood risk benefit in conjunction with new development or projects being delivered by other organisations.

The limitations of managing flood risk close to where it may impact and concerns about the potential impacts of climate change support a move towards managing flood risk at a catchment level. There are two broad strands to such an approach. In urban areas it is described as “retrofitting SuDS” where elements of sustainable drainage are widely distributed across a catchment associated with buildings and open space in the public realm. In rural areas “Natural Flood Management” (NFM) or “Working with Natural Processes” (WWNP). This will require an integrated approach from the relevant RMAs and working in wider partnership.

4.2.2. Review of LFRMS1 Partnership Working

Within the period covered by LFRMS1 partnership working on flood risk management in Hertfordshire has been undertaken with a practical focus and has made use of the various existing networks and arrangements for coordinating activity amongst the Risk Management Authorities that operate within the county.

The rationale for developing the Surface Water Management Plans (SWMP's) on a district basis was to make the work relevant to local partners and to ensure that any actions that arose would align with the roles and responsibilities of the councils as local planning authorities and as RMA's with their powers to manage flood risk arising from ordinary watercourses.

Experience in developing the SWMPs and the consultation and research carried out for this strategy has shown that all district authorities can identify links to flood risk management activity through their development planning and resilience functions. However although all the districts hold powers to manage flood risk from ordinary watercourses their capability and capacity to carry out such work or manage local flood risk is more variable.

Opportunities for joint working on projects have been explored and used where it would be beneficial. In the current Thames RFCC capital programme the potential to work on managing flood risk jointly with the Environment Agency is being assessed in Watford, Stevenage, London Colney and Rickmansworth. The approach was extended in Watford to include opportunities for collaborative working with Thames Water. Case study 1 is a good example of where flood risk management is being facilitated by a highway authority led traffic management scheme.

Case Study 1: A120 Little Hadham By-pass and Flood Risk Management Scheme

The new road crosses a river upstream of the village and will be constructed on an embankment to carry it over the valley floor. It presented the opportunity to enhance the construction of the embankment so that it could control flood flows on the river Ash and reduce the risk of flooding.

The A120 passes through the village and a traffic light controlled junction in the centre leads to long delays for traffic at peak flows. In 2007 HCC as the highway authority consulted on a number of options to improve the situation with the Environment Agency assisting by explaining the flood management benefits of each option. A preferred option was agreed and finalised in 2008. The project was then put on hold until sufficient funding could be secured.

The Environment Agency had previously assessed the options to address the flood risk to approximately 70 properties by creating a dam and control structure on the river Ash to hold water upstream of the village under flood conditions. However the substantial construction costs were not proportionate to the benefit that would have provided through the reduction in flood risk and there would still have been a substantial shortfall in funding as the eligible grant would not have covered scheme costs.

Funding became available in 2014 and a scheme incorporating the flood management features was designed and submitted for planning permission in 2016 which was confirmed in January 2017. Funding for additional construction required the flood management elements was secured through the Thames RFCC with a combination of national grant and regional levy. In addition to funding a structure to control flows the RFCC contribution is being used to enhance the embankment to allow it to function as a dam.

The current round of projects funded by the RFCC run until 2020/21 and the current water company's business cycle (AMP6) ends in 2020. Development of the RFCCs next six-year programmes and the yearly programme refresh process together with the Water and Sewage companies preparation for their next five year business planning cycle (AMP7) has helped to give an overview of strategic partnership working to manage flood risk across the county.

Case Study 2: Pix Brook Study showing cross boundary working

A project to assess options for managing flood risk associated with the Pix Brook in the north of the county is an example of cross boundary working with an adjacent LLFA. Anglian Water, the Environment Agency, the Bedfordshire and River Ivel Internal Drainage Board and Hertfordshire County Council are partners in the project which is led by Central Bedfordshire Council. Their aim is to reduce flood risk from the brook to properties in Stotfold and the specific issue in Hertfordshire is the impact of the brook on surface water drainage in Letchworth Garden City. Tackling flood risk as close to the source as possible will bring benefits to both areas.

4.2.3. Proposals for the period covered by LFRMS2

Appropriate partnership arrangements will be developed to support individual project delivery.

Within the authority all those with an interest in managing drainage and flooding are brought together through the Highways Drainage Community. Information is being shared and collated to allow a better understanding of areas where there are issues, how they relate to any planned action and opportunities.

Work with district councils predominately relates to planning and development management and the LLFA is conscious of the need to help develop capacity in these authorities to support their role in helping to manage future flood risk. Links with the planning functions of individual district and borough councils are developing as part of the county council's role advising on the surface water drainage and local flood risk aspects of major planning applications. When a collective view or briefing is required items are taken to the relevant sub group of the Hertfordshire Planning Group which brings together officers representing the planning functions for the Local Planning Authorities.

Authorities and organisations with an emergency planning and resilience role coordinate their activity through Hertfordshire Resilience which is the county's Local Resilience Forum. In addition to work to support resilience in businesses and the community multi-agency planning is carried out to guide response to emergencies which would include major flooding incidents.

Partnerships at a community level would help individuals and communities to become more involved in managing their own flood risk. This could be with established organisations such as town and parish councils or through community based groups that form in response to a flood or as a result of concerns about flood risk. This could help support the work of the LLFA through surveys and monitoring of watercourses and other assets or could be focussed on putting a flood risk management scheme in place.

Action 1: Work with community groups

The potential to work with and support community groups is explored and a number of potential approaches developed as pilots where groups wish to participate.

In the period covered by this strategy work on practical flood risk management projects is likely to increase. The context for development and prioritisation of a programme of flood risk management schemes is set out in section 4.5.6 of this strategy. The individual projects will be supported by partnership working at a local level as is currently the case.

Also significant development is going to be implemented and planned in and around Hertfordshire. Linked to this and the countywide flood risk management programme

there will be strategic themes which will benefit from support through a strategic level partnership.

This could be facilitated through an existing group the Hertfordshire Infrastructure and Planning Partnership (HIPP) which brings together local authorities and other organisations and agencies to consider issues that are significant across Hertfordshire.

Action 2: Set up a countywide strategic flood risk partnership

That a countywide strategic flood risk partnership is set up as a sub group of the Hertfordshire Infrastructure and Planning Partnership (HIPP), this would automatically include all the local authority risk management authorities (RMAs). The Environment Agency, Thames Water, Anglian Water and other RMAs would be invited to attend. There would also be the additional benefit of links to other significant stakeholders in the county such as the Local Enterprise Partnership.

4.3. Principle 3: Improving our understanding of flood risk to better inform decision making

Aim 3a: Information on sources of flood risk in Hertfordshire will continue to be developed and improved.

Aim 3b: Flooding information will be risk based, with areas predicted to be at most significant risk analysed in more detail as part of a prioritised programme.

Aim 3c: All reports of flooding will be appropriately investigated so that the historic record of flooding helps to provide a clearer understanding of flood risk in the county.

Aim 3d: Information on flood risk will form the evidence base to help focus local resources and funding.

In order to properly manage flood risk the impacts of both past and future flooding need to be understood. Good understanding and analysis of flood events is vital to develop a sound business case where resources are being sought to reduce the probability and impact of similar events in the future. However this is a reactive approach and in order to actively manage risk, the potential for future flooding needs to be evaluated.

It is easy to be confident about the potential for flooding following a flood event, less so where flooding is predicted but there is no history of flooding. However the lack of history does not mean an absence of flood risk and this may be the case for a number of reasons. Factors influencing the understanding of historical flood risk will include; the local impact of events not being recorded, property only being built

relatively recently, records being lost, localised changes in surroundings and the influence of predicted climate change.

Analysis of future flood risk is an iterative process which helps to guide where resources will be used most productively. The detailed modelling required to support the development of a business case cannot be justified for every area of the county so areas for further investigation need to be prioritised based on the best available information at each stage of assessment. As the knowledge base of flood risk in Hertfordshire develops our understanding of the potential for flooding can also be refined.

4.3.1. Risk of Flooding from Surface Water (RoFfSW) mapping

The RoFfSW mapping is a starting point for understanding of local flood risk. It can be used to identify areas where flood risk is potentially greatest either because of the predicted frequency of flooding or the scale of any potential impact. The next stage is then to review these areas in more detail. Where they are available, historical records, incidents logs and other information from local stakeholders can be used to help refine understanding. If it is determined that it would be valuable to investigate the flood risk further, for example, to provide evidence for funding more detailed modelling and surveys, then this may be carried out either as part of a SWMP or scheme development.

The modelling data from more detailed studies can be used to refine the RoFfSW mapping which will help reduce inaccuracies due to anomalies and give more confidence in applying the map. All flood risk modelling commissioned by the LLFA is specified so the outputs can be incorporated in the national surface water modelling. So that this information is widely available it can be submitted to the Environment Agency who will amend the national surface water flood risk mapping which is published online.

Comparison of the flood incident record and the RoFfSW mapping shows good correlation between observed and predicted flood risk. The majority of the reported flooding incidents are in areas of predicted flood flow or ponding for a modelled rainfall event of a similar probability. However it cannot be an absolute comparison as there are areas of Hertfordshire which have not experienced extreme rainfall conditions in the relatively short period of time that the LLFA has been recording flood events. Similarly it has been found that flooding has not been as severe as predicted in areas that have experienced extreme rainfall. This may be due to an artefact of the modelling or the influence of local drainage conditions. The implications are that the figures in Table 3 are likely to be an overestimate of the number of properties at high risk of flooding. However the figures are an indication of the number of properties where the flood risk needs to be better understood to identify properties where flood risk reduction measures are justified.

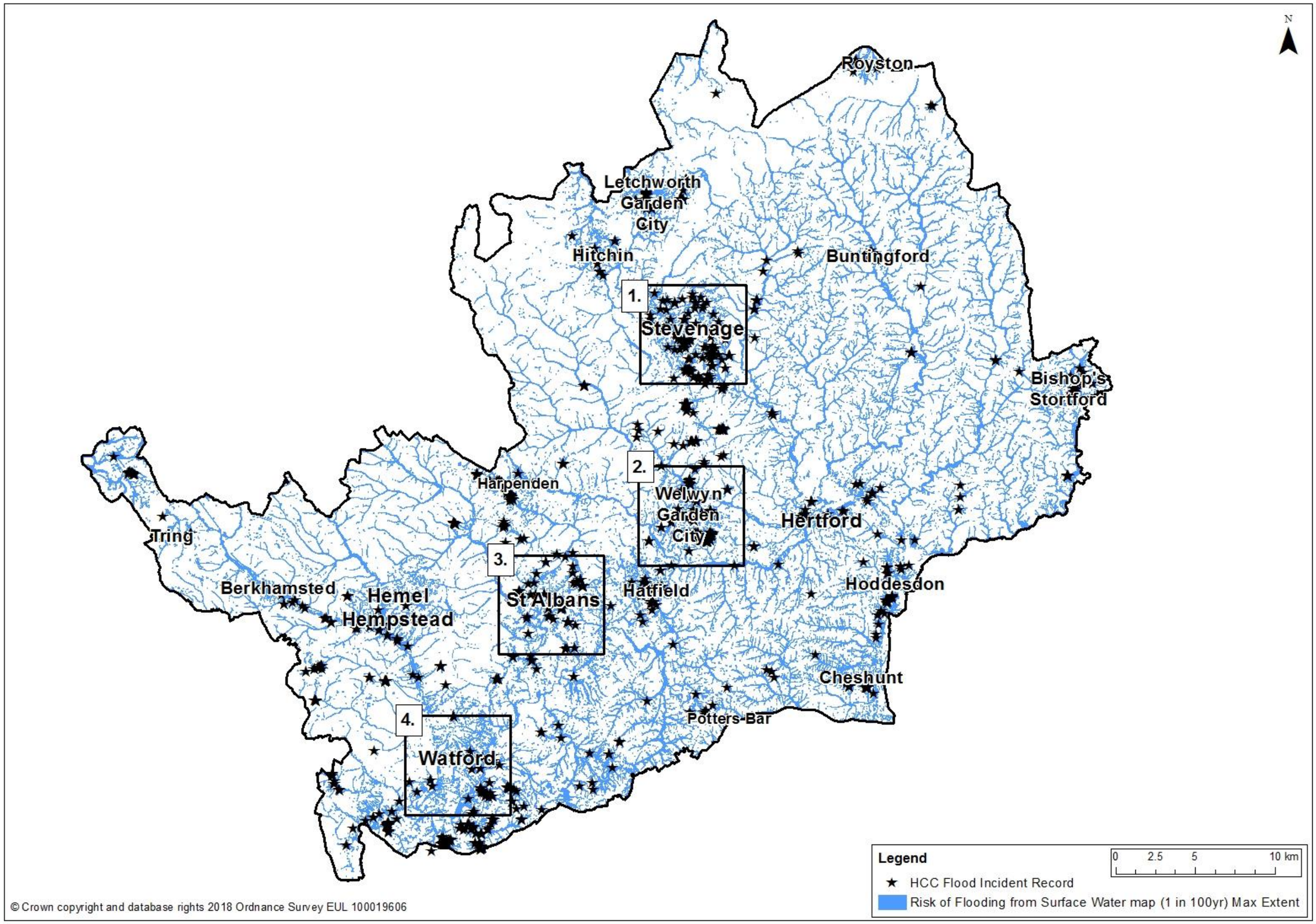
Policy 1: Using the RoFfSW

The RoFfSW map will be used as the starting point for assessing the potential for surface water flood risk.

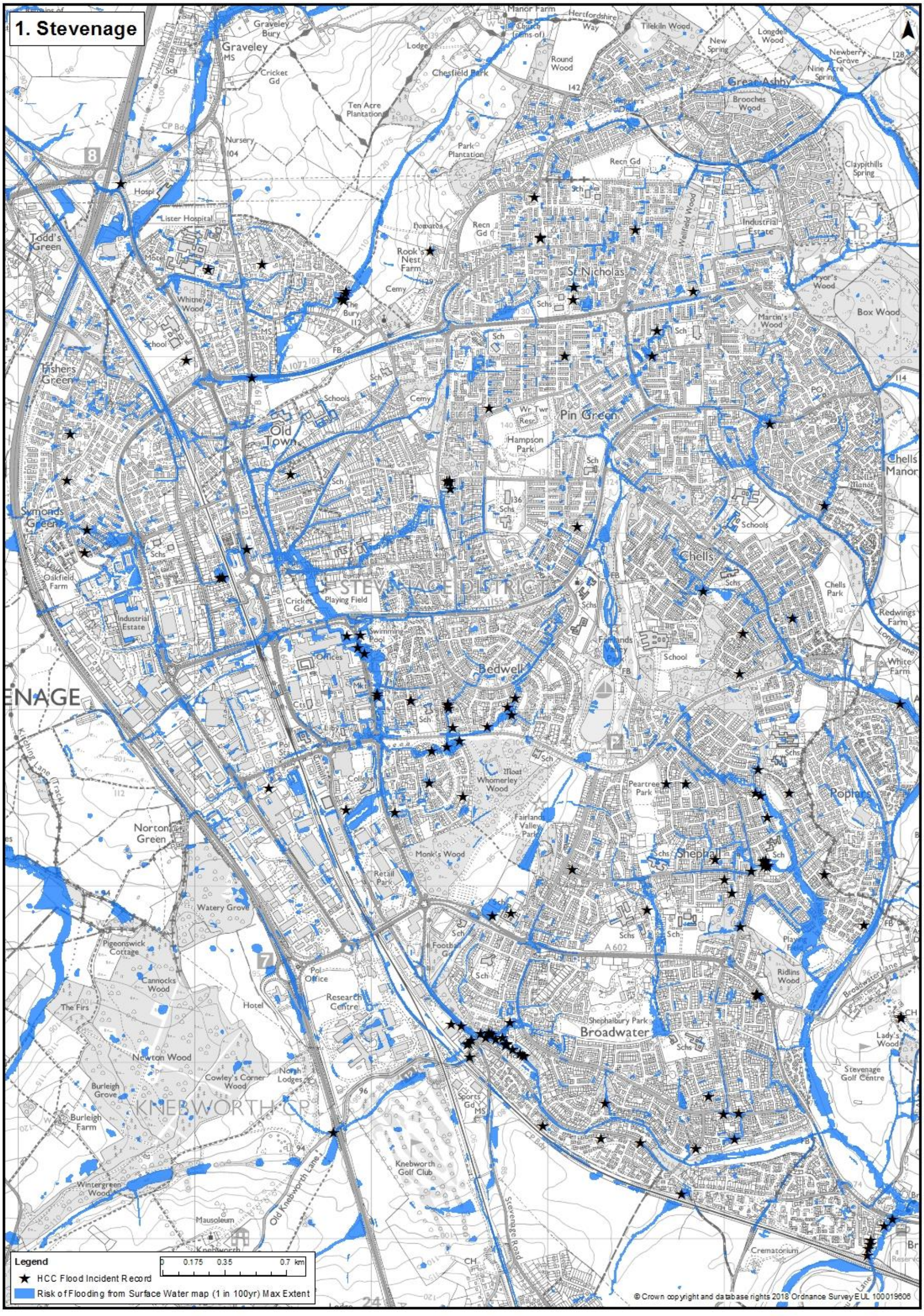
Policy 2: Update the national RoFfSW mapping

To make the best available surface water flood risk data held by the county council publically available. Locally derived surface water flood risk modelling will be submitted to the Environment Agency to be incorporated as part of the annual updating process of the RoFfSW map.

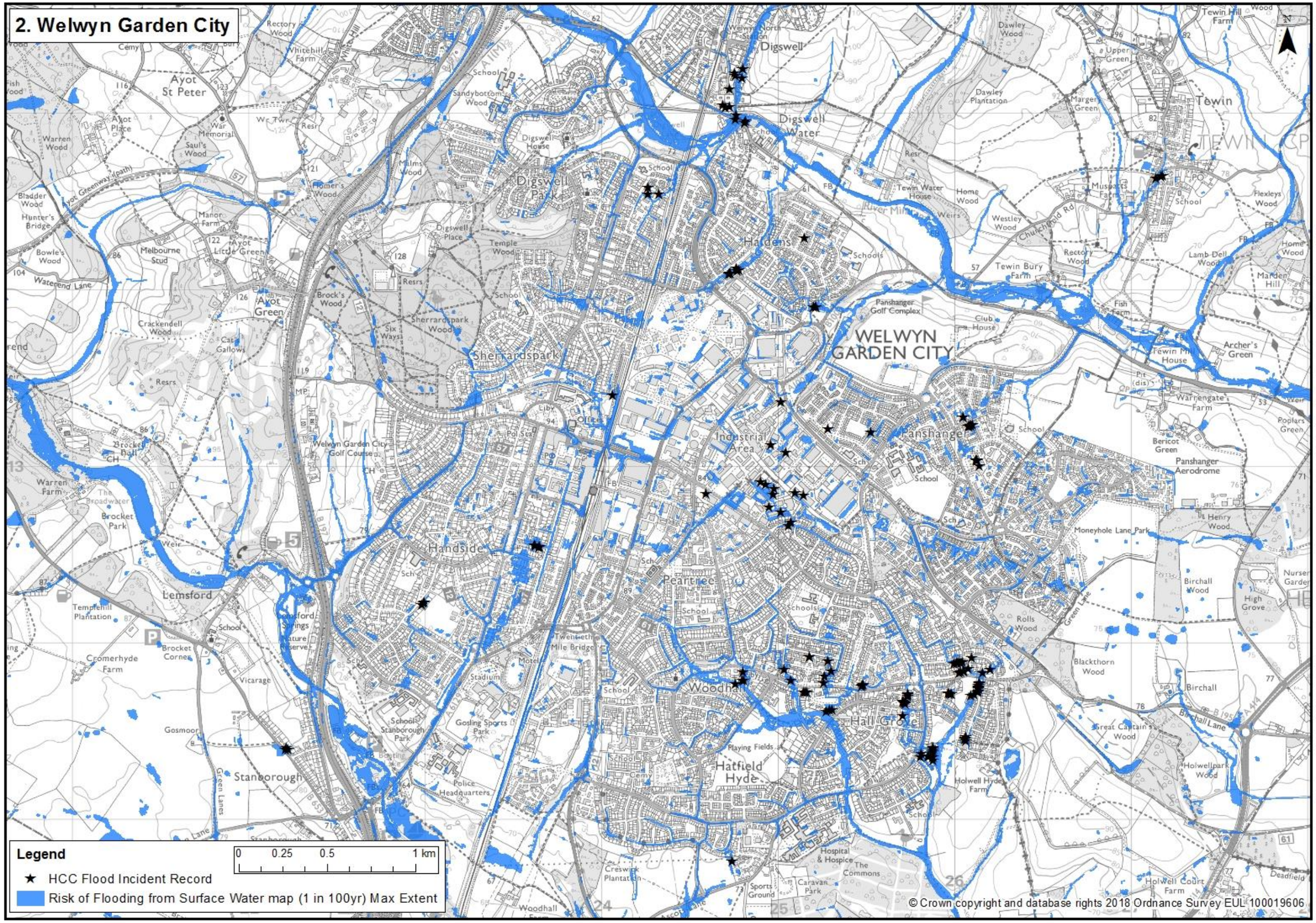
Map 9 and Map 9a to Map 9d show how records of flooding support the validation of predicted flood risk in the RoFfSW map. Map 10 and Map 10a to Map 10d show examples of the RoFfSW map being used to identify areas for further study (Surface Water Management Plan Hotspots).



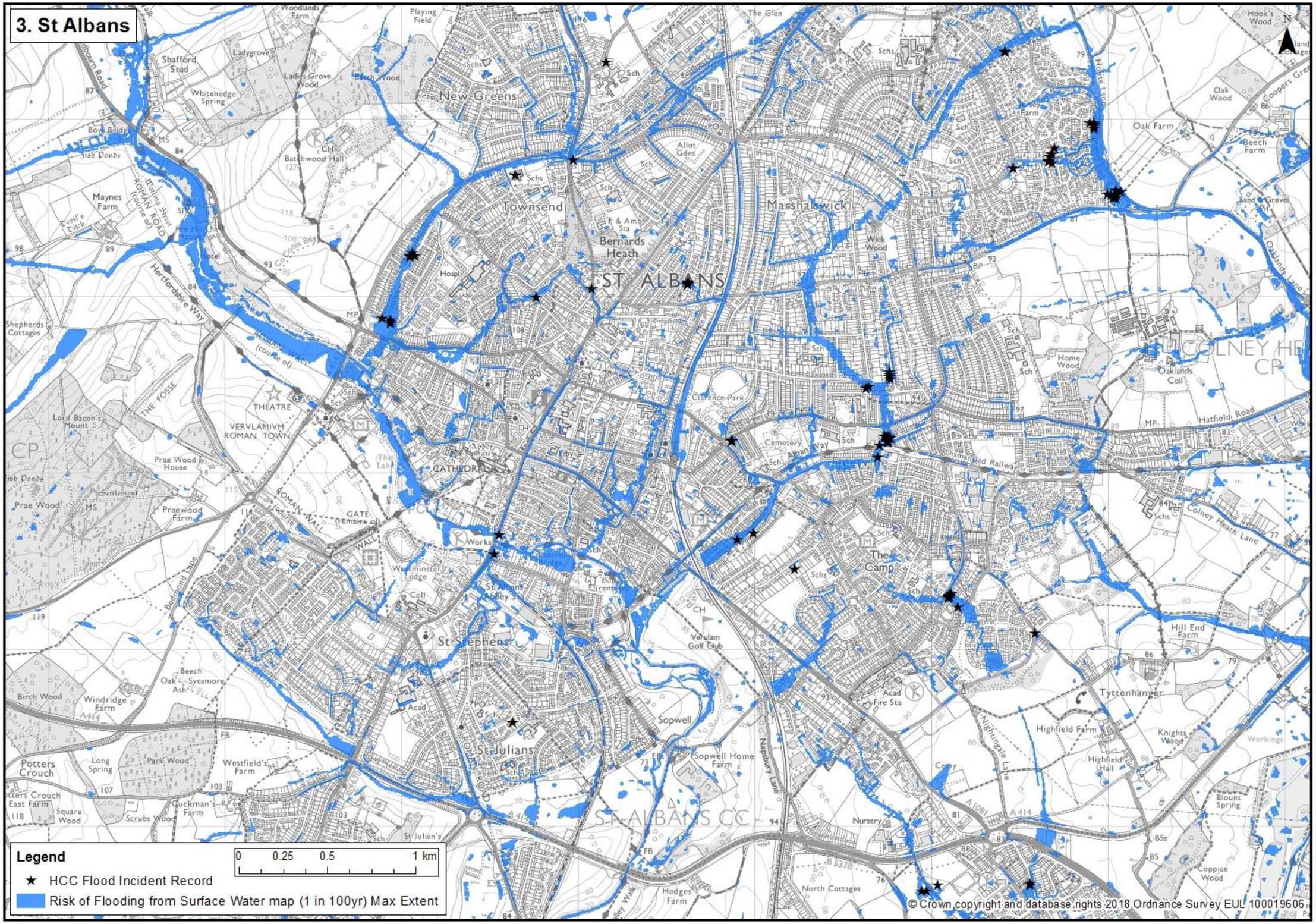
Map 9: Overview Map – Flood Incident Record and the Risk of Flooding from Surface Water map (1% AEP event) for Hertfordshire



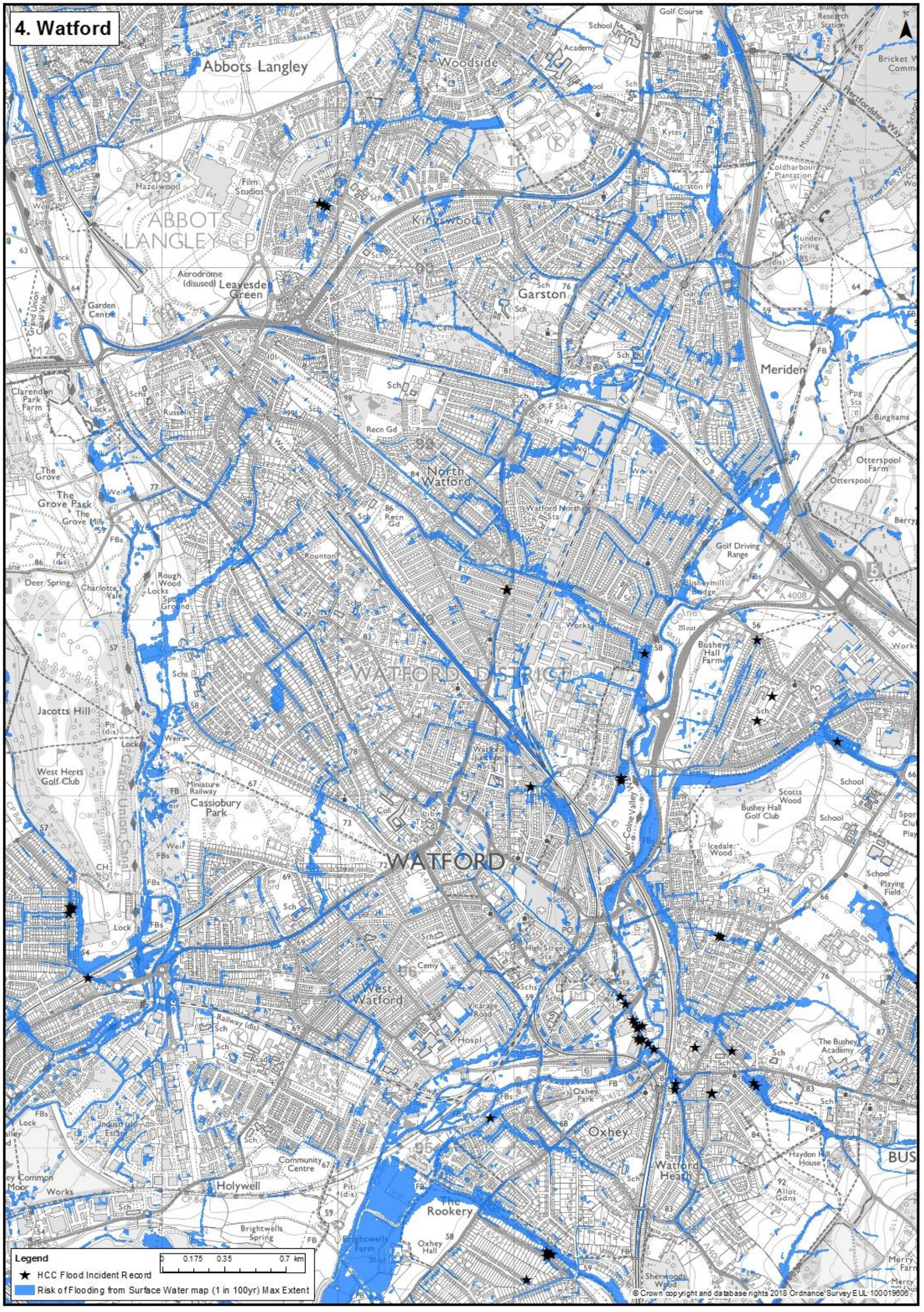
Map 9a: Map 1 of 4 – Flood Incident Record and the Risk of Flooding from Surface Water map (1% AEP event) for Stevenage



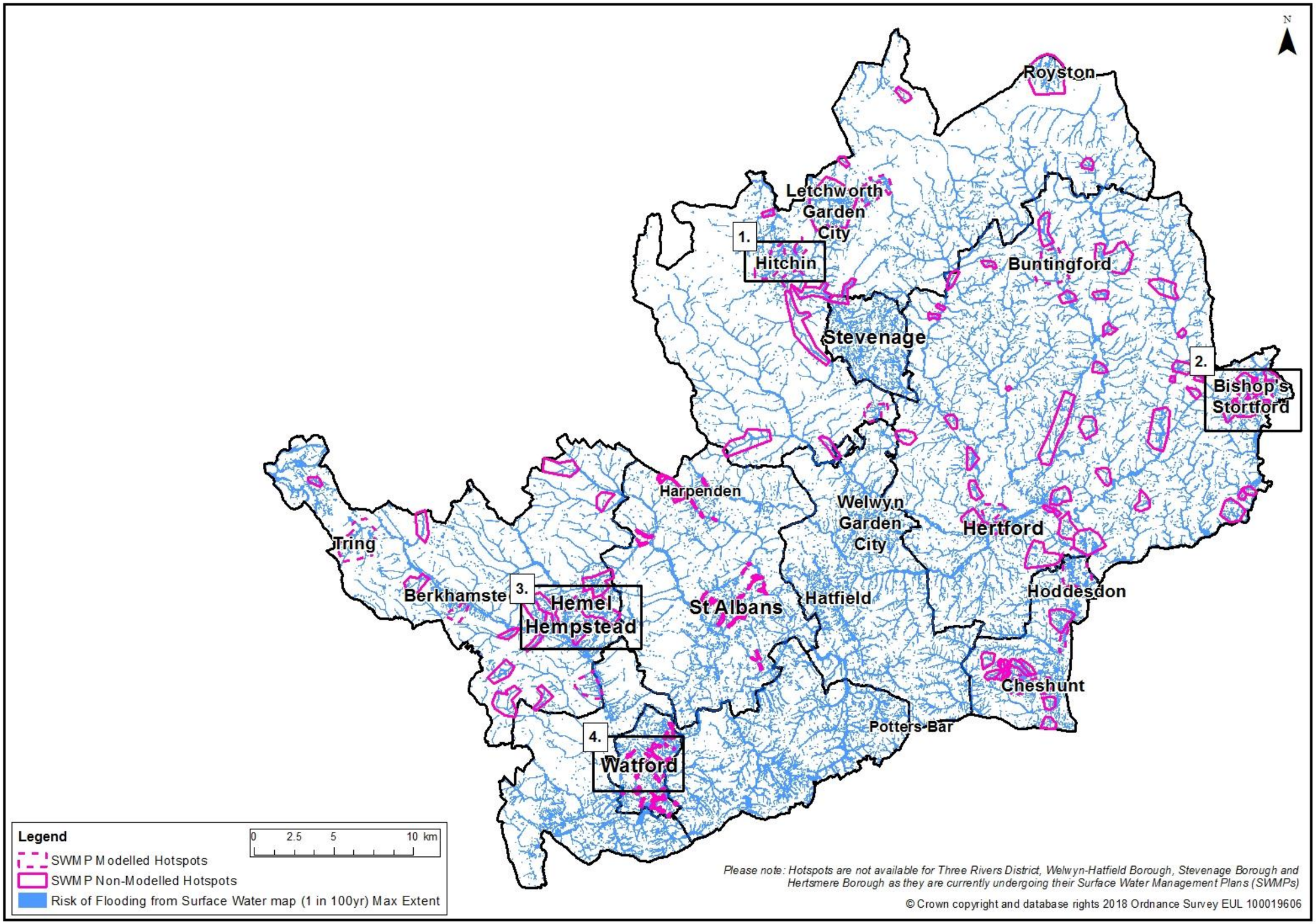
Map 9b: Map 2 of 4 – Flood Incident Record and the Risk of Flooding from Surface Water map (1% AEP event) for Welwyn Garden City



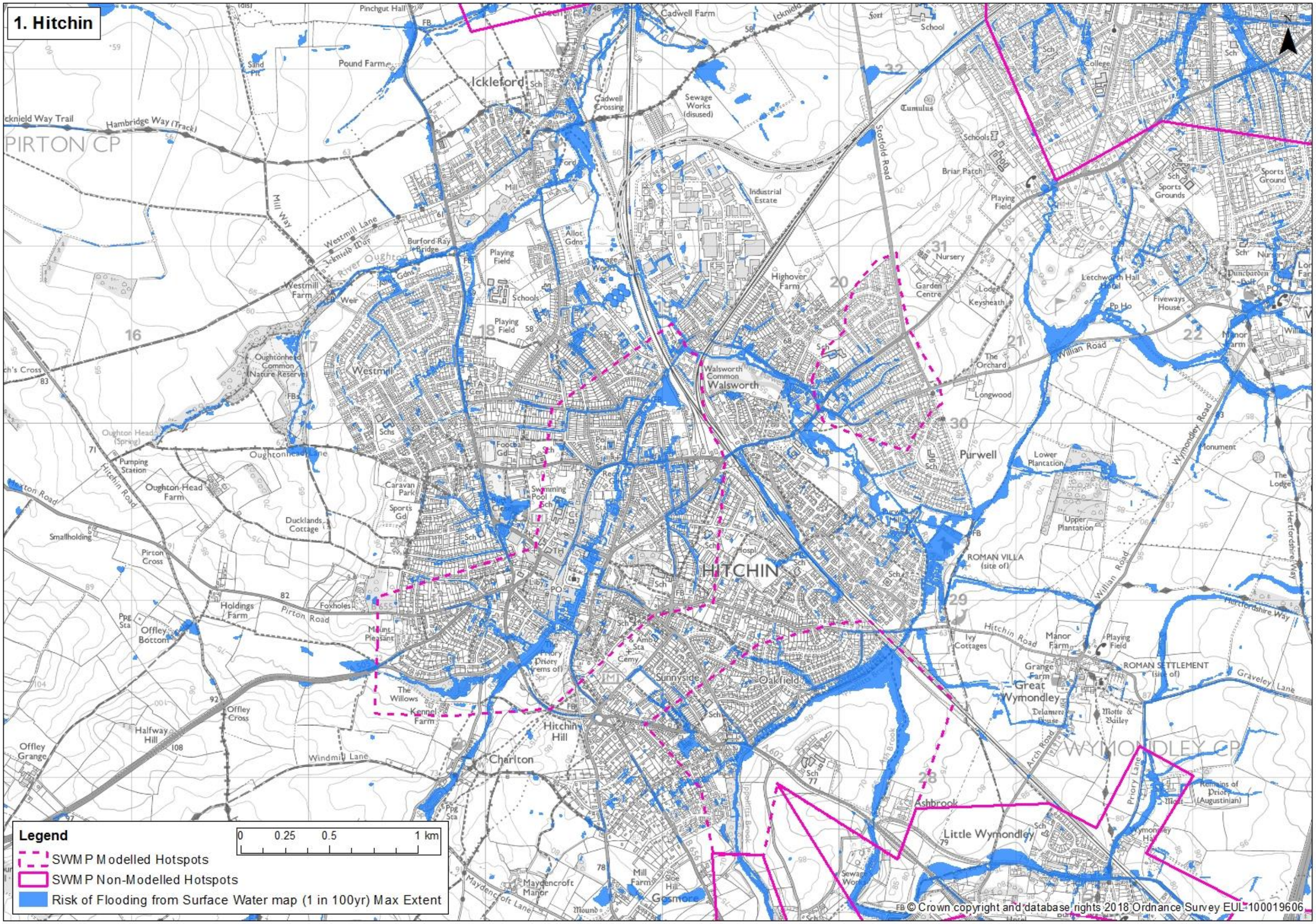
Map 9c: Map 3 of 4 – Flood Incident Record and the Risk of Flooding from Surface Water map (1% AEP event) for St Albans



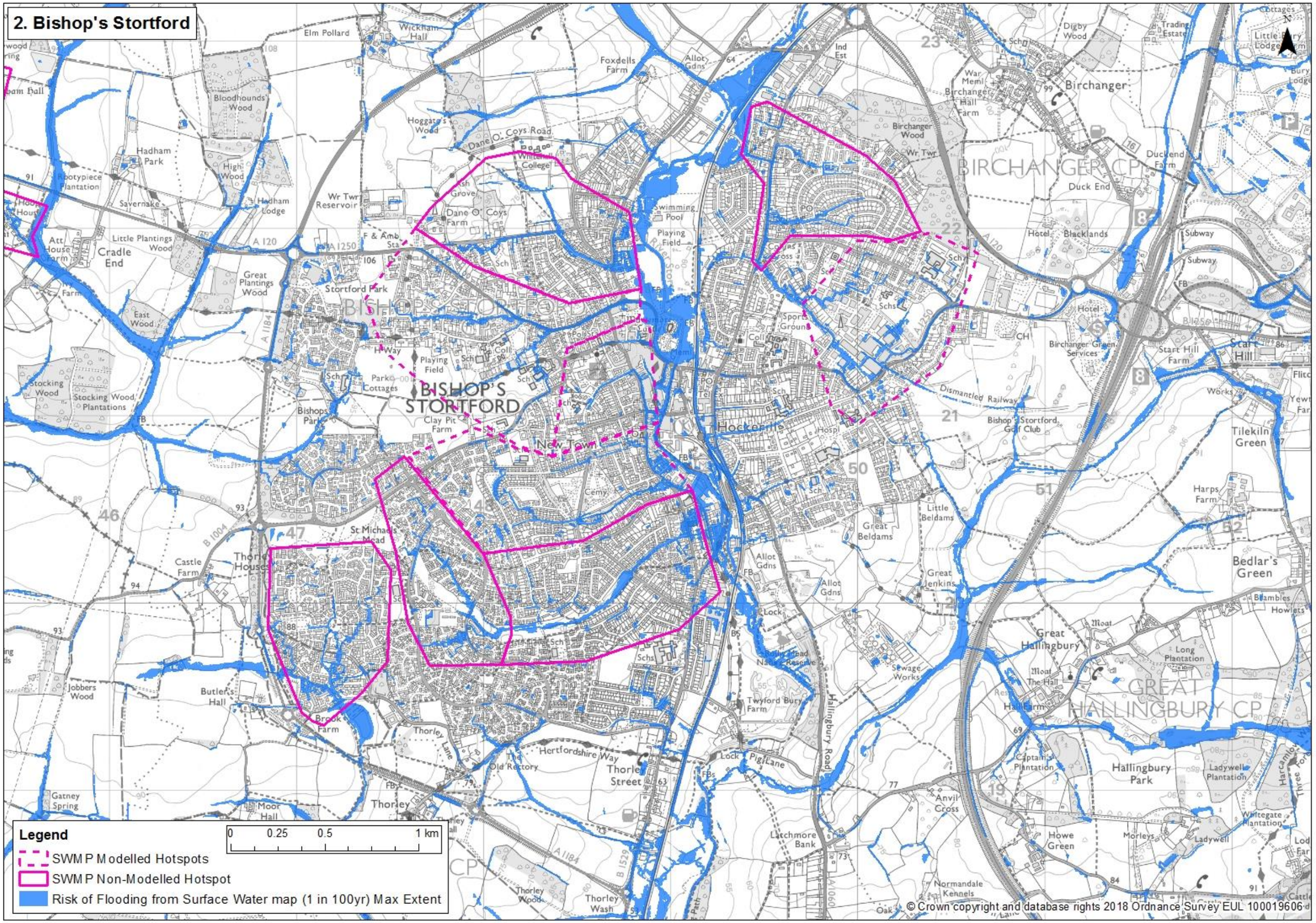
Map 9d: Map 4 of 4 – Flood Incident Record and the Risk of Flooding from Surface Water map (1% AEP event) for Watford



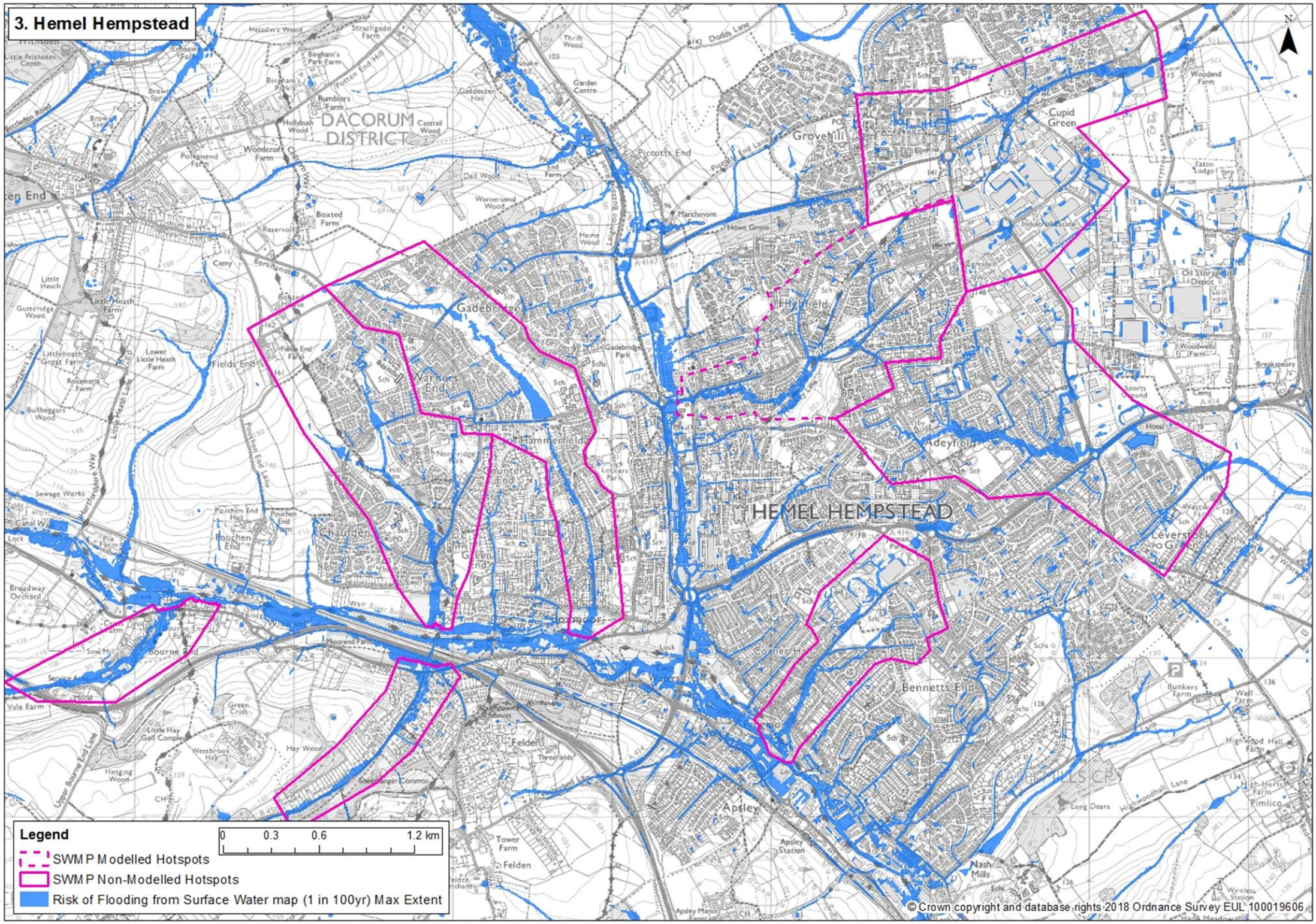
Map 10: Overview Map – SWMP Hotspots and the Risk of Flooding from Surface Water map (1% AEP event) for Hertfordshire



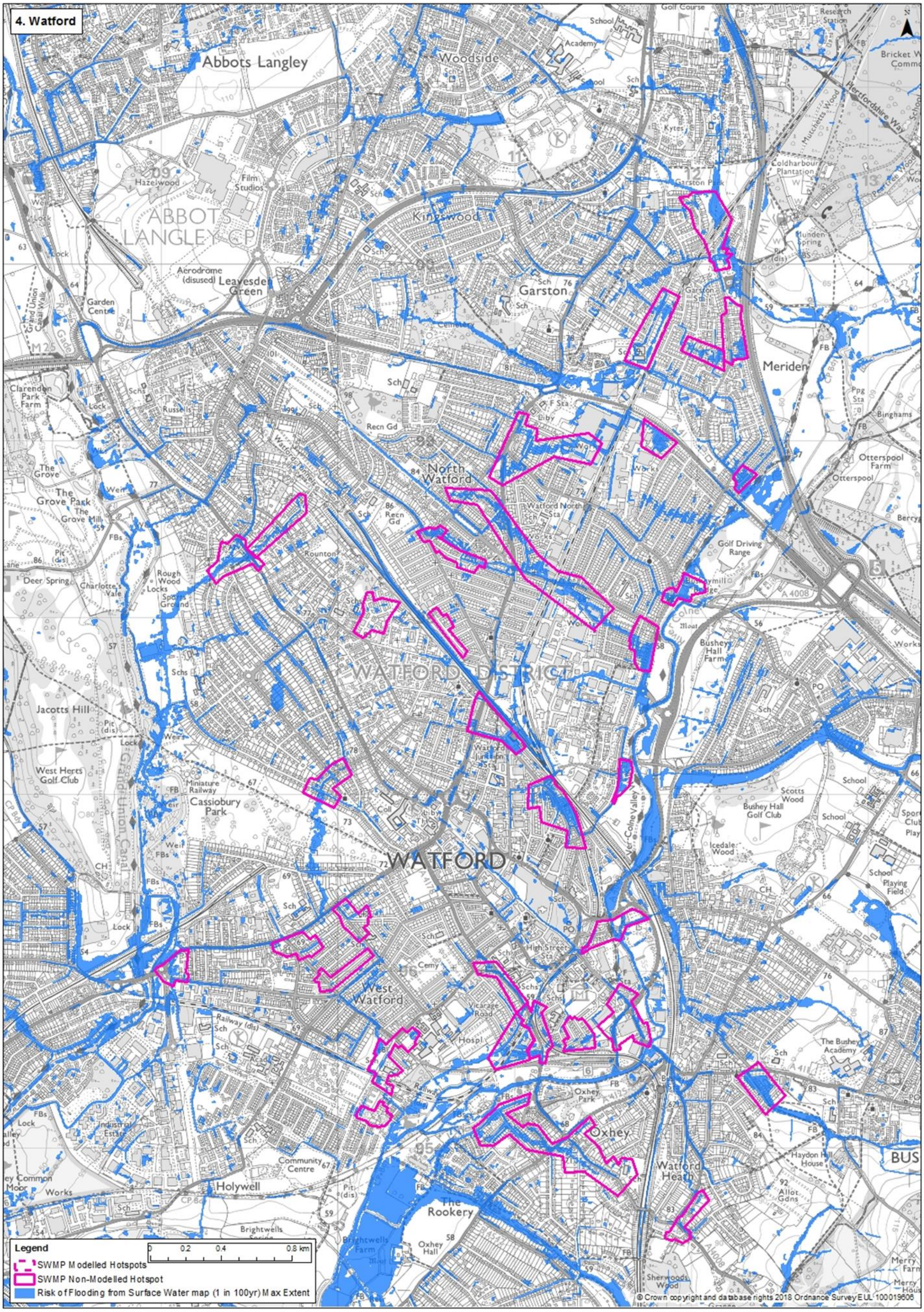
Map 10a: Map 1 of 4 – SWMP Hotspots and the Risk of Flooding from Surface Water map (1% AEP event) for Hitchin



Map 10b: Map 2 of 4 – SWMP Hotspots and the Risk of Flooding from Surface Water map (1% AEP event) for Bishop's Stortford



Map 10c: Map 3 of 4 – SWMP Hotspots and the Risk of Flooding from Surface Water map (1% AEP event) for Hemel Hempstead



Map 10d: Map 4 of 4 - SWMP Hotspots and the Risk of Flooding from Surface Water map (1% AEP event) for Watford

4.3.2. Groundwater

Where there is groundwater emergence it may be the sole cause of flooding or in some cases it may contribute to the severity of flooding from other sources.

Management of flood risk from groundwater presents different challenges to those of flood risk from surface water or watercourses.

The potential for groundwater flooding is dependent on rainfall over an extended period of time and its interaction with geology and features below ground as well as the general landform, buildings and other infrastructure. This means it is not practicable to model and define groundwater flood risk in the same way as that from watercourses and surface water.

Understanding of groundwater flood risk will continue to be refined with reports and information collated from flood investigations and planning applications.

All reports of flooding received by the LLFA are assessed to determine the likely cause of flooding. All reports are recorded even when there is no property flooding or s19 investigation, as particularly in the case of groundwater flooding a report of long term flooding in a garden gives a valuable insight into groundwater emergence.

Photograph 9: Groundwater emergence in a residential garden

The potential to actively manage groundwater flood risk is limited by the lack of available data and that in many cases it would not be possible to prevent

groundwater emergence. It is impracticable to accurately map groundwater flood risk across the county so that it could be applied confidently at a property level because of the variability in localised ground conditions across Hertfordshire.

Flood barriers may not be effective to prevent water entering properties as depending on the type of construction groundwater may be rising underneath the property as well as outside. Where the water table is rising beneath properties considerable pressures can be exerted which has structural implications for basements; can cause solid floors to lift and disrupt underground drainage such as septic tanks.

Photograph 10: Extensive groundwater flooding

Because of the volumes of water involved, pumping at an area level to lower groundwater levels is not feasible. At a property level measures to manage groundwater will be property specific and need the input of a structural engineer. Where water tables are seasonally high, measures such as tanking of basements and draining under floor voids using pumps may already have been put in place by property owners.

Management of groundwater flood risk by the LLFA will for the time being be limited to raising awareness of the potential for groundwater flooding during extended periods of rainfall and minimising the creation of new flood risk linked to development.

The potential impact of groundwater flood risk on new development will be considered as part of the LLFA statutory consultee role on planning applications for major development.

Related to this flood risk could increase where groundwater abstraction which may be linked to restoring flows in chalk rivers or where an aquifer becomes contaminated.

Action 3: Ensure the LLFA is consulted on any proposals to reduce groundwater abstraction

The LLFA will ask to be consulted by the Environment Agency and water supply companies on any proposals to reduce groundwater abstraction as this could have an impact on flood risk linked to groundwater for areas in the vicinity.

4.4. Principle 4: Supporting those at risk of flooding to manage that risk

Aim 4a: Communities should understand the information available to them on flood risk.

Aim 4b: The support available to communities should aid flood preparedness and resilience.

Aim 4c: Information on local flood risk will be made available to assist in preparing for flood events.

Aim 4d: The cause of flood events will be effectively investigated and published.

Aim 4e: The roles and responsibilities of the various organisations involved in managing flood risk before, during and after in a flood event will be clear.

4.4.1. Resilience and Response

Resilience and response is best considered in the context of the flood risk management cycle below in Figure 1. It is an intrinsic aspect of managing flood risk as there will always be some level of flood risk that cannot be removed.

Figure 1: Flood Risk Management Cycle

Investigate

It is known that there is potential for flooding in Hertfordshire. Sections 4.4.2 and 4.5.1 in this strategy describe the work that is being carried out to investigate better understand flood risk

Manage

Once there is an understanding of flood risk options to manage it can be developed appraised and implemented where they are found to be feasible. Sections 4.5.5 and 4.5.6 in this strategy set out the approach that is being taken to manage flood risk in Hertfordshire.

Prepare

There will always be a risk of flooding somewhere in Hertfordshire whatever action may be taken to put physical structures in place to manage flood risk.

Information is available which predicts the areas where there is potential for surface water flooding in Hertfordshire. Although this is not reliable in all cases simple low cost steps can be taken to appraise and reduce the risk posed from flooding.

Where there is more confidence about the potential for flooding actions to make a property more resistant or resilient to flooding can be considered.

As well as such preparation at an individual property level, authorities, agencies and other organisations will plan what action they will take in response to flooding. In the case of a few isolated reports individual services will be prioritising attendance and response.

Where there is a significant event affecting many properties, transport links, other infrastructure and properties plans for a coordinated response have been developed at a district and county level.

Respond

The Environment Agency issue flood alerts and flood warnings for areas susceptible to river and in some instances groundwater flooding.

In some cases action can be taken to reduce the potential for flooding of property or key infrastructure through the deployment of measures such as mobile barriers and pumps.

However this would not apply for the majority of flood events that occur in Hertfordshire due to a number of factors such as an inability to reliably predict surface water flooding and that flood risk is dispersed over a large number of small areas.

There is a level of expectation that the emergency services and local authorities will respond and protect every property at risk of flooding. However when there are many instances there would not be sufficient resources to be able to respond effectively to every incident. Also in the case of surface water flooding, by the time that there is a response in many cases it will be too late and the majority of damage will have happened. The response from the emergency services will be prioritised to safeguard life and vulnerable groups. So when flooding is likely to occur or is happening owners and occupiers will need to take steps themselves to protect their property.

Photograph 11: Fire & Rescue Service responding to property flooding

Even if the resources could be found, a reactive approach by authorities and other services could not be relied on as a way of managing flood risk as there is generally little warning of surface water or minor watercourse flooding. Although weather forecasts can generally indicate the potential for surface water flooding days and hours before an event, in many cases it is not possible to give a more reliable forecast for a specific location more than an hour or two in advance. Uncertainty about rainfall coupled with the limitations of the current surface water mapping mean that it is currently impracticable to forecast the potential for individual properties to flood with any degree of certainty. This is an issue when no one is available to take action which may be for large proportions of the day when people are out at work or asleep.

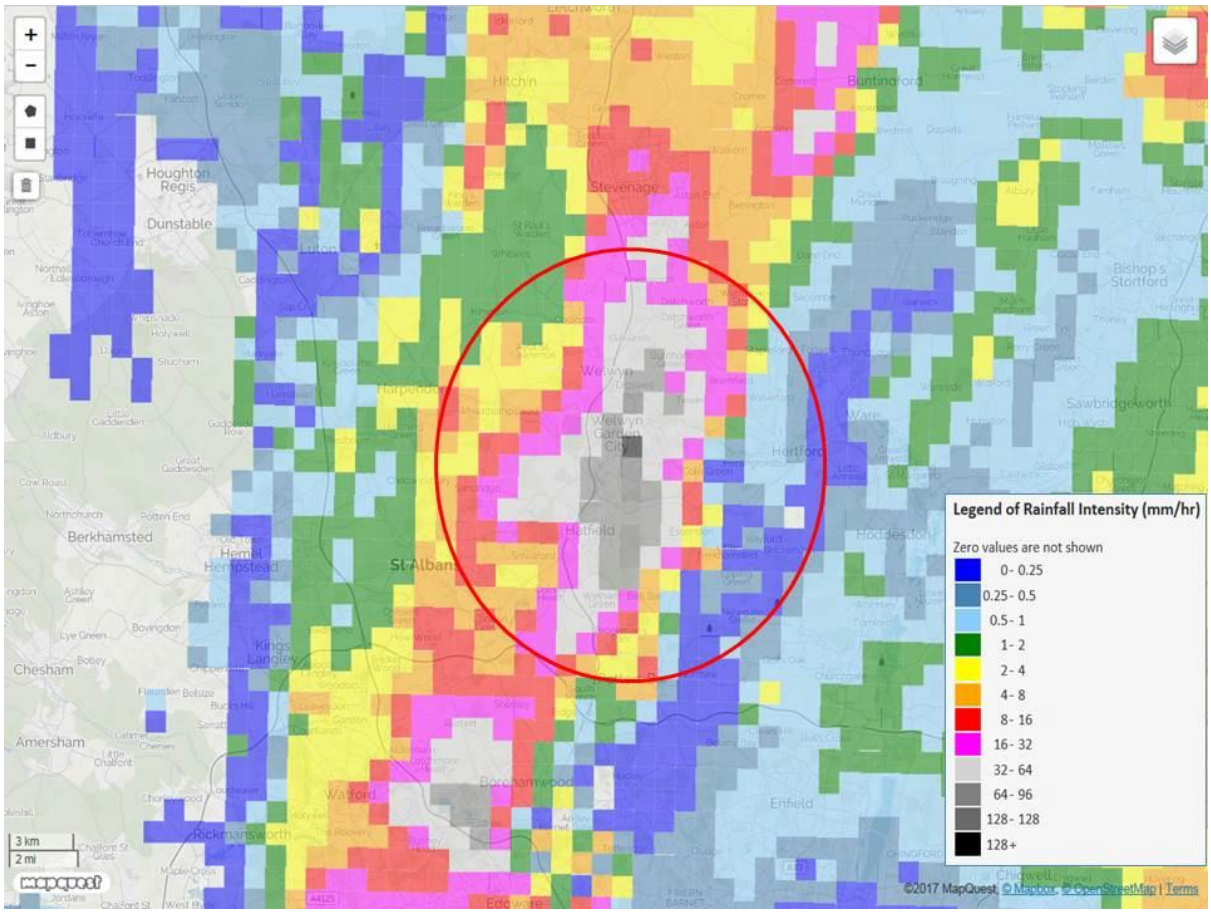


Figure 2: Rainfall Radar showing localised intense storm

Response to a major flooding incident will be coordinated through the members of Hertfordshire Resilience (the Local Resilience Forum) which includes the emergency services, local authorities, the Environment Agency, health agencies and voluntary bodies. Activities will include setting up reception centres, managing transport links, safeguarding key infrastructure, evacuation and rescue.

Recover

The time taken for recovery can range from a few hours to many months. In a resilient property where there was preparation for a flood, recovery may simply consist of washing and disinfecting walls and floors and moving furniture and other items back into place. Where properties are of a vulnerable construction and no

preparations have been made it can take many months to repair the fabric of the property and replace furniture and fittings.

Photograph 12: Clear up following internal property flooding

Recovery may be further hampered by the lack of insurance. Households which do not have insurance are also unlikely to be in a position to install property level measures.

The disproportionate impact of flooding on some households has been recognised by the government with a higher payment being calculated for contributions to flood risk schemes in areas which are ranked in the bottom 20% and 40% of the index of multiple deprivation.

The importance of being able to insure against flood risk has been considered by the government which set up FloodRe, a reinsurance scheme to ensure that even people living in high flood risk areas should be able to get insurance.

Investigate

When flooding occurs the circumstances will be investigated to varying degrees. Depending on the circumstances this may be by individual organisations, as part of an investigation carried out by the Lead Local Flood Authority or as part of the debrief and review following a major response. These findings will then feed back into the cycle to improve future management of flood risk.

Action 4: Make up-to-date information readily available for individuals and communities

Individuals and communities will be made aware of the role that they have to play in managing their flood risk and up to date information about flood risk is made available to help inform their decisions.

This will be supported with published information, campaigns and work with the members of Hertfordshire Resilience. Consideration will be given to what support needs to be given to those groups which would be most significantly impacted by flooding.

4.4.2. Investigations

The aim of flooding investigations will be to help people understand why flooding occurred and which organisation can advise on how the risk might be managed in the future.

The LLFA has a duty to carry out flood investigations under Section 19 ("s19") of the FWMA and a flood investigation is carried out to provide an overview of a flooding incident, identifying which organisations hold powers relevant to managing the associated flood risk.

As well as setting out the respective roles of the Risk Management Authorities the investigation reports are also a means to highlight the roles and responsibilities of other organisations and individuals including individual property owners.

In some cases where the cause of flooding is uncertain or the impact has been very severe a more detailed investigation of a flooding incident is required. This level of investigation also gives the opportunity to consider what actions could be taken to reduce flood risk in the future. The decision to carry out a detailed investigation has to be proportionate to the incident and may need to be further prioritised as the resource capacity to carry out such investigations is limited.

S19 investigations are only the start of the LLFA's process of flood risk management as in themselves they do not bring an increased level of protection for properties. This will come as a result of any follow up actions by the relevant risk management authorities. The investigation reports are not binding on any authority and powers to manage flood risk are discretionary.

Detailed s19 investigations help the LLFA assess the potential for managing flood risk where it has been caused by surface water and groundwater by identifying options for intervention. However experience of investigating flood events has confirmed that in most cases where the cause of flooding is easily identifiable, detailed investigations for small numbers of properties have limited value. Where less than ten properties are affected by flooding, the cost and benefit assessment for the construction of any mitigation options usually concludes that they are not viable.

Any recommendations are likely to be restricted to actions at a property level except from those cases where there may be a need to repair or maintain assets.

Photograph 13: Surface water flooding in residential gardens.

Where the flooding is due to a source other than surface water or groundwater or is affecting the highway it is important that the flooding incident is reported to the appropriate organisation by the resident / customer as other Risk Management Authorities have their own processes to evaluate their response to flooding. The Water and Sewerage companies rely on customer reports of flooding to prioritise their response, where flooding is not reported they are restricted in what action they can take. The Highway authority has a fault reporting system that is used to prioritise response and future investment.

Risk Management Authorities and major infrastructure providers all have processes for assessing and managing flood risk that are relevant to their operations and flooding investigations should complement and not duplicate this work.

Detailed flooding investigations should only be carried out where they have the potential to make a difference to future outcomes. This would include such considerations as justification for a flood risk management scheme, fostering cooperation between Risk Management Authorities or identification of a management responsibility.

When flooding is believed to have happened the LLFA will make enquiries to determine the impact of the flooding and record the findings.

Policy 3: Flood Investigation Criteria

Flood investigations under F&WMA 2010 s19 powers will be carried out in line with the criteria below.

Where property has been flooded and the cause is uncertain the LLFA will investigate sufficiently to identify the source(s) of flooding so that the relevant risk management authorities can be identified.

Where a single Risk Management Authority holds the relevant powers the investigation will conclude with a brief description of the flooding and a summary of the action that the Risk Management Authority has already taken and/or proposes to take.

A more detailed investigation will be carried out where more than one Risk Management Authority is identified as holding relevant powers and the following criteria are met:

- Internal flooding has occurred at a property on more than one occasion in a ten year period.
- Internal flooding of five or more properties has occurred during one flooding incident.
- Internal flooding of a business property.
- External flooding of land adjacent to a property has occurred more than five times in a ten year period.
- A critical service has been affected by flooding.
- Roads and railways have been impassable for over ten hours due to flooding.
- Flooding potentially posed immediate, direct and real risk to life.

A property will not be recorded to have flooded unless this is confirmed by the owners or occupiers. In some cases people are reluctant to confirm internal flooding however the advantages of reporting flooding will outweigh any perceived disadvantages. Accurate information means that investigations are more likely to determine the level of flood risk and confirmation of internal flooding helps to secure resources for management. The sensitivity around this information is understood, individual properties will not be specifically identified in investigation reports, however owners and occupiers are legally required to disclose this information to insurers and prospective purchasers.

A flow chart of the investigative process is set out at Figure 3. This shows how the s19 investigation process is used to confirm the cause of the flooding so that the relevant Risk Management Authority can be identified and have an opportunity to describe how it has used or intends to use its relevant flood risk management powers. Where the relevant Risk Management Authority is the LLFA further studies

may be commissioned to follow on from the s19 investigation if it is felt to be necessary to examine options for flood risk management in the flooded area. In some cases this further action will be limited to recording the incident or identifying assets to be considered for inclusion on the register of structures and features.

Investigations have an important role in providing a focus for individuals and communities to understand how they can manage their flood risk. This includes informing decision making

To date s19 investigations have taken between 9 and 15 months to complete and at this point, they may then be the start of further investigation or submission of a bid for funding to develop a project. In other cases the investigation confirms that there is unlikely to be potential for a scheme and any reduction in flood risk will be limited to what can be achieved at a property level. Table 6 shows the number of internally flooded properties per s19 investigation.

Table 6: Number of internally flooded properties per Section 19 Investigation

Section 19 Investigation	Number of properties flooded internally
Chorleywood	0
Robbery Bottom Lane	6
Long Marston	5
Little Wymondley	5
Redbourn	15
Knebworth	14
Whitwell	2
Stevenage	2
Hunsdon	1
Hatfield	8
St Albans	4
Harpenden	27
Stevenage	2
Ware	4
St Albans	7
Radlett	1
Hoddesdon	2
Aston	0
Welwyn Garden City	48
Northwood	14
Bovingdon	12
Bushey	9
Bishop's Stortford	4

A prolonged investigation maintains uncertainty and raised expectation and in some cases has led to unproductive studies. A change in approach is proposed in that investigations will be detailed enough to determine with reasonable certainty the flood mechanism(s) and identify the relevant Risk Management Authorities. The relevant Risk Management Authorities would then need to consider what if any action they would take to manage the risk in the area affected by flooding.

In the case of the LLFA where flooding is due to surface water (and by association ordinary watercourses) or groundwater any further analysis of the flooding and development of options would be put forward to be considered for an initial assessment. The decision to carry out this assessment would be subject to a prioritisation exercise within the scheme development programme.

The advantage of this approach would be:

- Quicker identification of the Risk Management Authority with the powers to manage the flood risk associated with an incident.
- More certainty earlier on in the process about the potential to manage the flood risk.
- In the case where the LLFA was the relevant RMA follow up work would be programmed and people would know the indicative timescales for work to be carried out.

Policy 4: Investigation scope

Investigation work will be detailed enough to identify with reasonable certainty the flood risk mechanisms and relevant RMAs. Any extended investigative work and assessment will be at the discretion of the relevant RMA(s).

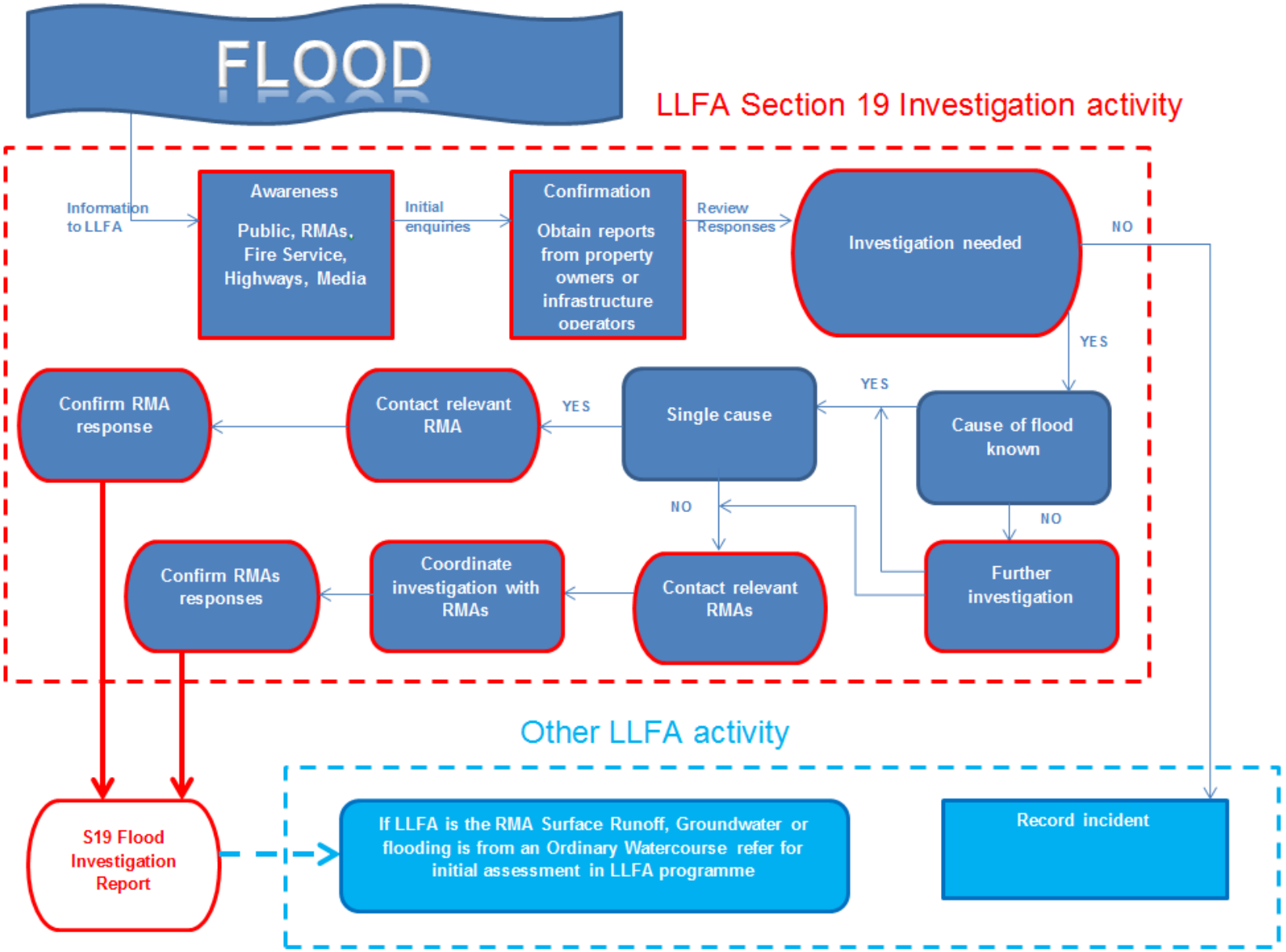


Figure 3: Section 19 Flood Investigation Flow Chart

4.5. Principle 5: Working to reduce the likelihood of flooding where possible

Aim 5a: Flood risk management funding is directed to areas most at need or where solutions will be most effective, and flood risk management will guide other funding decisions and be appropriately prioritised alongside other needs.

Aim 5b: Information on local flood risk will be used to allow informed decisions to be made on the level of funding allocated to flood risk management resources within Hertfordshire.

Aim 5c: Structures and natural features such as watercourses which have an impact on the management of local flood risk should be identified, appropriately monitored and maintained.

Aim 5d: Potential funding for flood risk management projects will be prioritised according to cost-benefit and a range of weighting factors to take into account the evidence of flooding and sustainability of the proposed solution. This will ensure that resources are dedicated in areas where it will be most effective.

This section sets out a range of activity that will help achieve the aims listed above. The potential to manage flood risk is being assessed through Surface Water Management Plans which are district level investigations and help to understand the extent of flood risk and the options for managing it. Before building new schemes it is important to ensure that function of watercourses and other existing assets that make a contribution to reducing flood risk are understood and are in suitable condition. When investment is made in new schemes it needs to be allocated to the areas where it will have best effect.

4.5.1. Surface Water Management Plans

The strategic overview of flood risk is being developed through district based plans (Surface Water Management Plans) which consider the potential for future flooding. The prediction of the potential for flooding in the future is complemented with flood event records and further studies that result from their investigation.

A Surface Water Management Plan (SWMP) is a plan that outlines the preferred long term strategy for managing surface water in a particular location. It aims to develop a better understanding of surface water flooding in a given area and further develop partnership working. Surface water flooding is described as flooding from sewers, drains, groundwater, and runoff from land, small watercourses and ditches that occurs as a result of heavy rainfall.

Outputs will include: development of a sound evidence base including a detailed risk assessment; mapping of vulnerable areas; and an action plan which explores the most cost effective way of managing surface water flood risk in the long term. SWMPs will help identify and prioritise practical actions to mitigate flood risk and will

also have other applications e.g. for planners and others involved in the development process. Individual plans are being developed on a district/borough wide basis. This is considered to be appropriate in Hertfordshire as it links to their role in local planning allocation and provides connections with any other local RMAs.

All of the SWMP's take advantage of the EA's RoFfSW maps which were published in December 2012. From observations of the surface water flooding that occurred in Hertfordshire during the winter 2013/14 and in July 2015 it is evident that the maps reasonably predict surface water flow pathways. A programme of plans covering the 10 districts in Hertfordshire are being developed using the following methodology below:

1) Identification of hotspot sites within each district/borough that are bound by common flooding mechanisms posing risk to individuals, property, the economy, roads, critical infrastructure and the environment.
2) Following identification of hotspots, discussions are held between stakeholders and other RMAs. Ranking is undertaken to identify the top five hotspots within each district/borough.
3) The top five ranked hotspots from each district/borough are taken forward for more detailed analysis. This involves computer modelling of surface water flooding. The modelling adds more detail at the street scale, such as survey information on kerb heights or property thresholds. This enables a better representation of the overland surface water flow paths and provides more detail than is available from the EA's Risk of Flooding from Surface Water maps. The flood modelling is undertaken for a range of different probability flood events in order to understand the magnitude of events affecting each hotspot location.

Photograph 14: Surveying of property threshold levels for use in flood modelling

4) Modelled results are assessed in terms of flood damages; this is the estimated damage to each property if it is impacted by flooding.
5) Options are identified for mitigating flood risk within each hotspot.

6) The understanding gained of flood damages for each hotspot means that any options identified for mitigating flood risk can be understood in terms of cost-benefit. This cost-benefit analysis provides the basis upon which the LLFA can be proportionate when looking at flood risk sites and assists in determining where to focus future funding.
7) An action plan is produced as a final output for the SWMP; this is used as a base for further studies and to focus the future work of the LLFA in flood risk areas.

Assessments have been completed for six districts: Broxbourne, Dacorum, East Herts, North Herts, St Albans and Watford

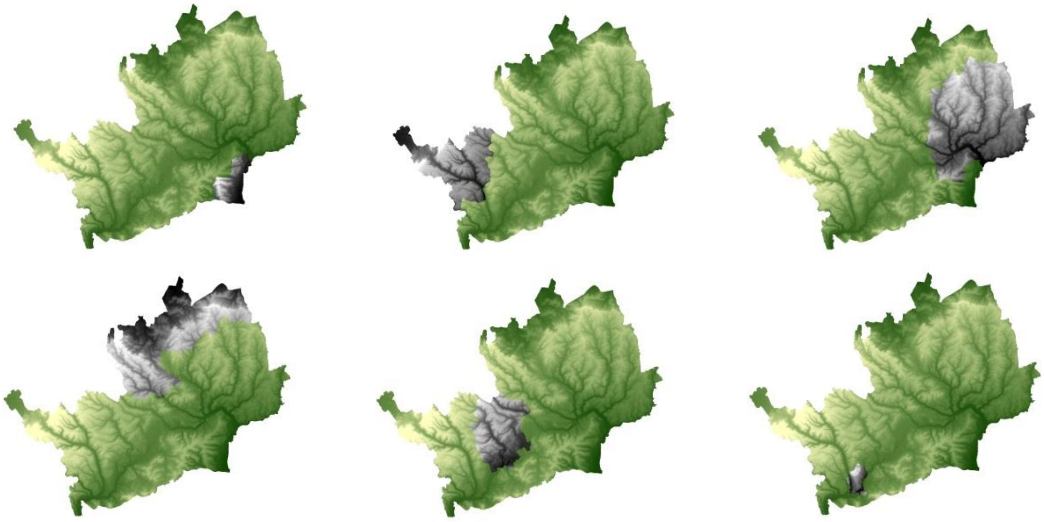


Figure 4: Illustrating completed Surface Water Management Plans in Hertfordshire

The remaining four assessments (Hertsmere, Stevenage, Three Rivers and Welwyn-Hatfield) are underway and are programmed to be completed in 2019

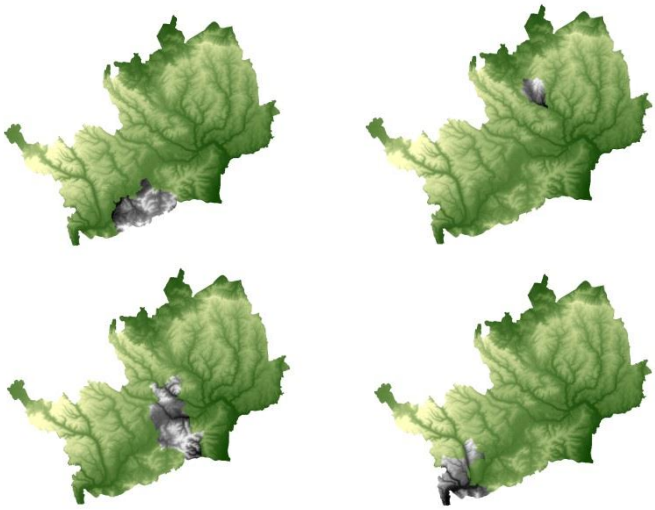
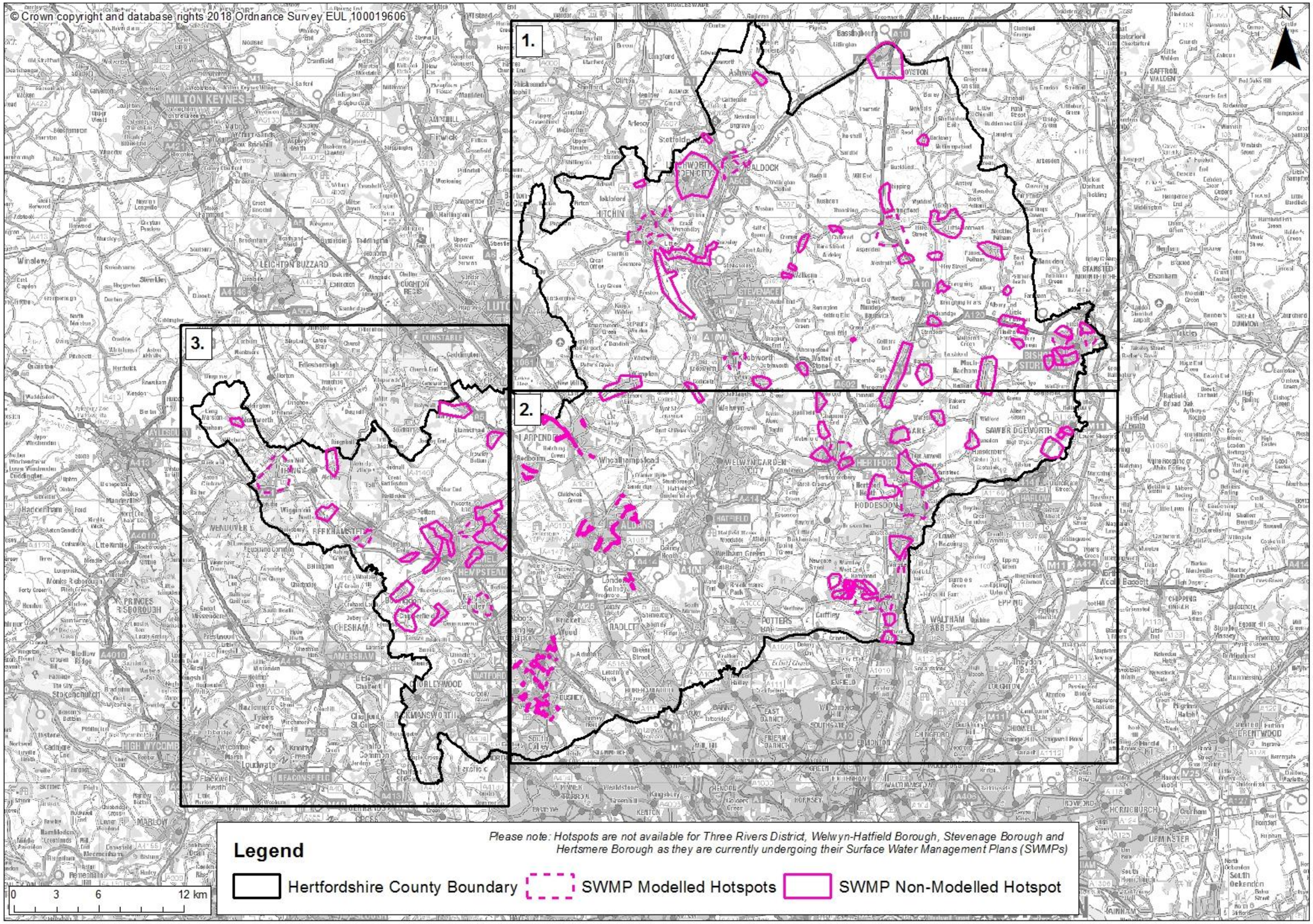
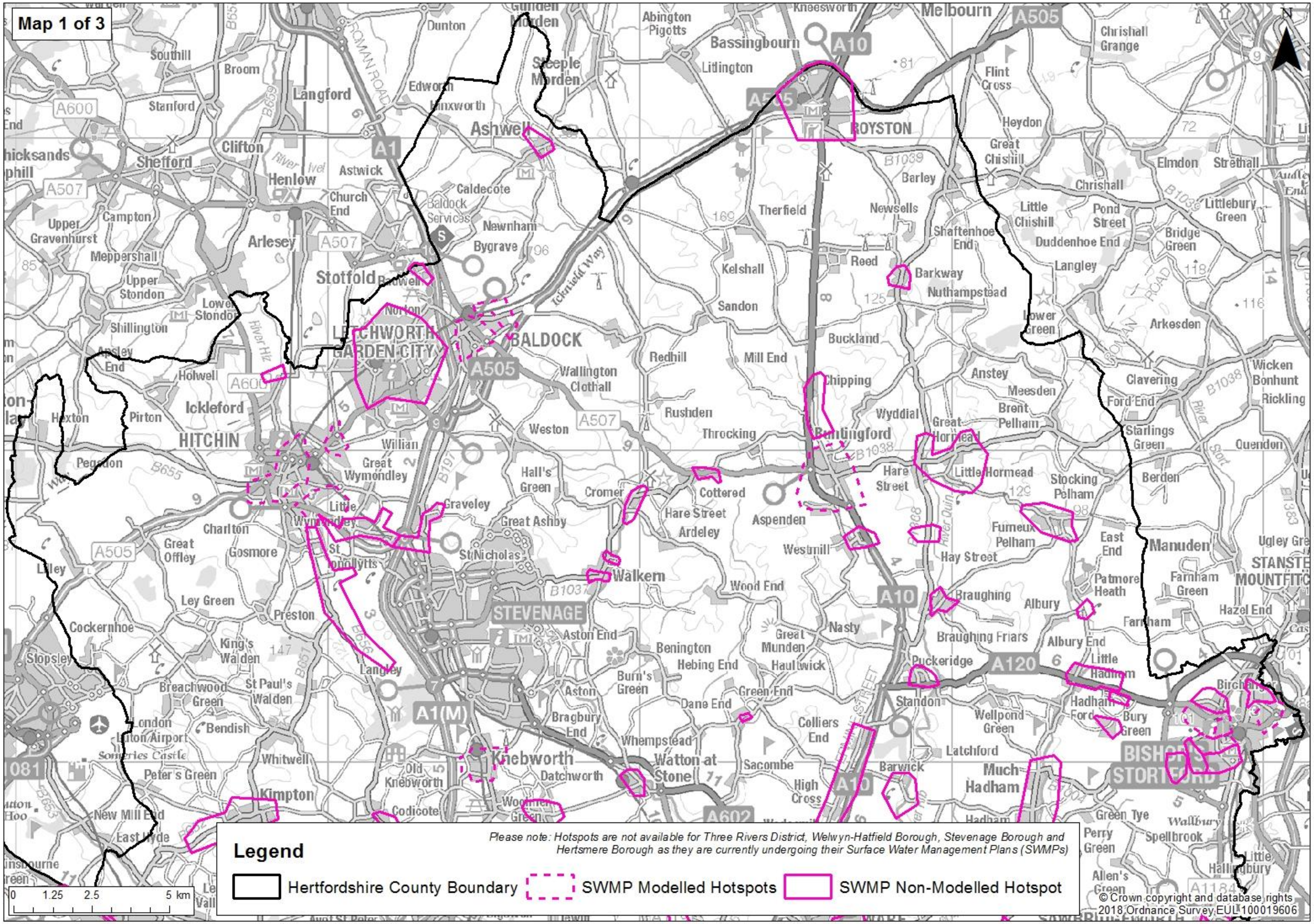


Figure 5: Remaining Surface Water Management Plans in Hertfordshire

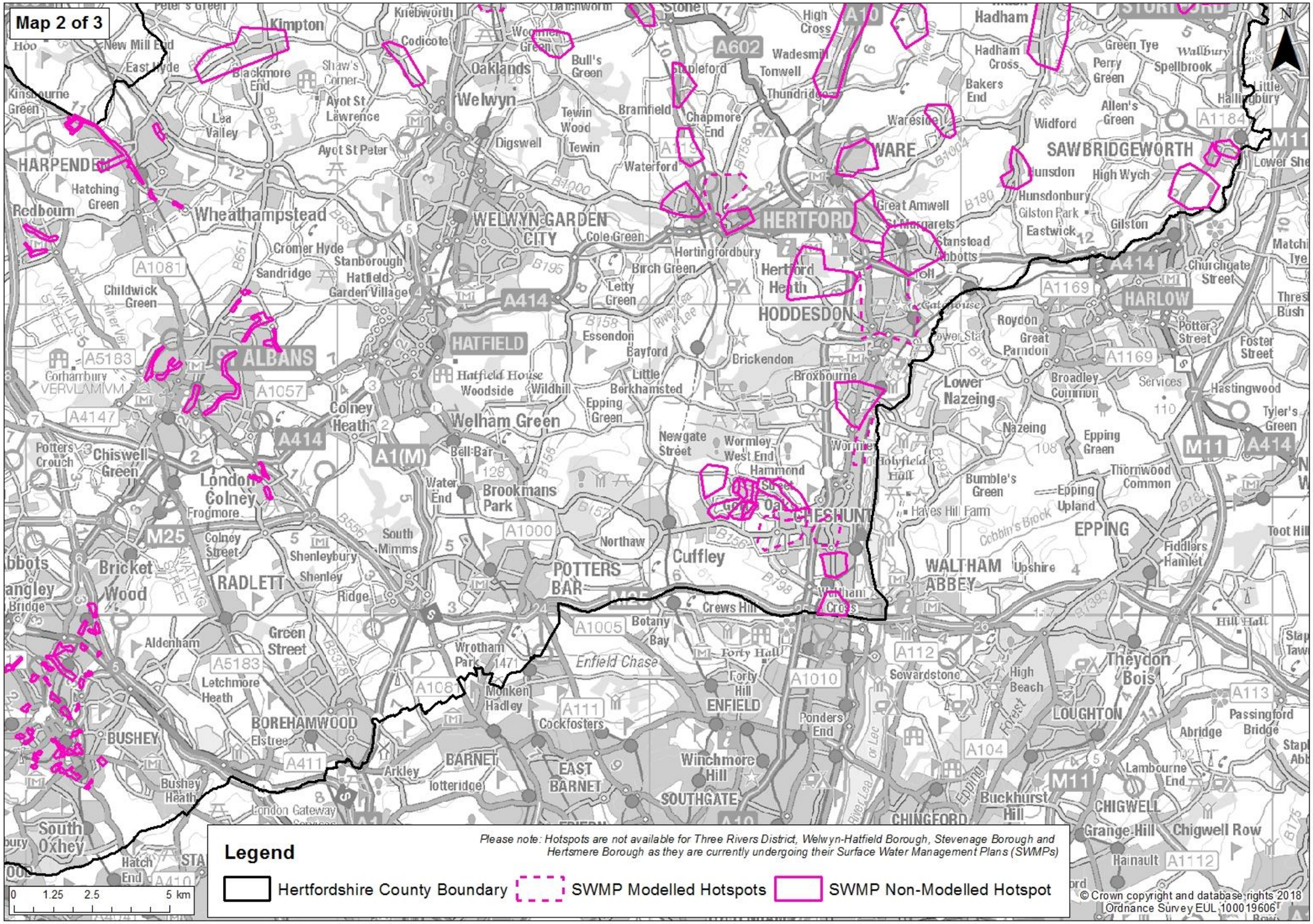
Map 11 shows the areas researched during the production of the SWMPs.



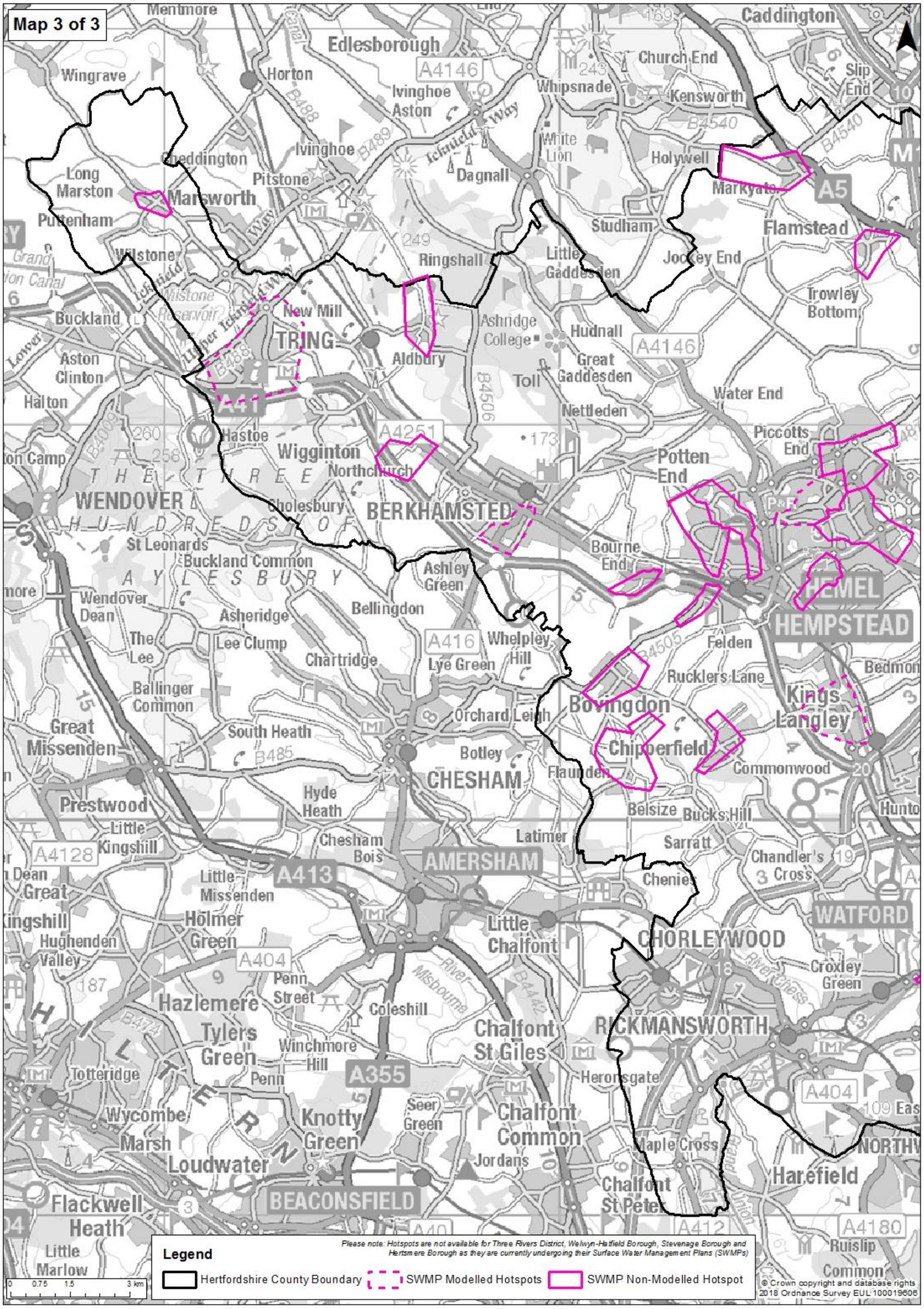
Map 11: Overview Map – Surface Water Management Plan (SWMP) Hotspots for Hertfordshire



Map 11a: Map 1 of 3 – Surface Water Management Plan (SWMP) Hotspots for Hertfordshire (North)



Map 11b: Map 2 of 3 – Surface Water Management Plan (SWMP) Hotspots for Hertfordshire (South)



Map 11c: Map 3 of 3 – Surface Water Management Plan (SWMP) Hotspots for Hertfordshire (West)

4.5.2. Ordinary Watercourses

These are generally smaller watercourses which form an important part of the overall drainage network. As well as having drainage function many watercourses also have benefits for amenity and wildlife.

The number of ordinary watercourses in Hertfordshire and their importance to the management of the surface water justify the need to monitor, inspect and manage the activities within and near ordinary watercourses.

The LLFA has been the regulatory body since April 2012, with powers relating to the management of ordinary watercourses in Hertfordshire. These cover ordinary consenting and enforcement of activity relating to ordinary watercourses, as per sections 23, 24 and 25 of the Land Drainage Act 1991 (LDA 1991).

The transferred powers now held by the LLFA cover the County apart from a small area that is covered by Bedfordshire and Ivel Internal Drainage Board (IDB).

Ordinary Watercourses Inspection

All mapped ordinary watercourses in Hertfordshire have been assessed and allocated a predicted indicative risk score. A risk score has been assigned from high, medium and low and this gives an indication of the probability and severity of flooding arising from an ordinary watercourse to properties, roads and other critical infrastructure. The length of ordinary watercourses and their risk classification are detailed in Table 7.

Table 7: Length of ordinary watercourses and their risk classification

District	Length of ordinary watercourses (km) by indicative risk score		
	High	**Medium**	**Low**
Broxbourne	6.19	21.27	53.24
Dacorum	2.04	15.26	32.80
East Hertfordshire	23.39	102.66	385.46
Hertsmere	2.01	18.12	72.47
North Hertfordshire*	7.64	67.75	200.19
St Albans	2.96	22.74	22.29
Stevenage	1.64	3.15	2.08
Three Rivers	1.85	23.97	27.94
Watford	1.56	2.41	2.92
Welwyn Hatfield	2.85	31.71	117.05
Total (km)	**52.113**	**308.50**	**916.44**
Total (%)	**4.08**	**24.16**	**71.76**

*excludes ordinary watercourses falling within the IDB area

The inspection and monitoring plan for ordinary watercourses was developed with the main purpose of validating the risk score of the watercourses and also to assist the completion of the asset register, required by the FWMA 2010.

The adjustment from predicted risk to assessed risk score allows for a realistic perception of the condition of the ordinary watercourses. It also highlights areas that may require additional or less frequent inspections.

Based on experience from the first round of inspections the OWC service standards relating to inspection frequency have been reviewed and revised. Watercourses which initially had the highest indicative risk score were programmed to be inspected every two years but this has not been found to have had any significant demonstrable benefit. However there will always be a requirement to maintain a baseline audit which can be used as evidence to demonstrate where unconsented works have been carried out. The following inspection regime will still achieve this and give flexibility for resources to be targeted where they will be most effective.

High risk – 5 years
Medium risk – 7 years
Low risk – Inspected on notification of issue (most low risk stretches needing validation will be covered by their proximity to high and medium risk stretches)

Photograph 15: Neglected and unsuitable structure in an Ordinary watercourse

OWC Regulation

Hertfordshire County Council, as the Lead Local Flood Authority, is the consenting and enforcing body for works on ordinary watercourses in the county (except in IDB areas) and will use the available powers to promote the contribution of ordinary watercourses to the management of flood risk.

Policy 5: Securing effective operation of ordinary watercourses

Any works proposed to be carried out that may affect the flow within an ordinary watercourse will require the prior written consent from the Hertfordshire County Council under Section 23 of the Land Drainage Act 1991. This includes any permanent and or temporary works regardless of any planning permission.

Enforcement against structures in watercourses constructed in contravention of, or without consent under, section 23 mentioned above can be led by Hertfordshire County Council under Section 24 of the Land Drainage Act 1991.

Hertfordshire County Council holds the powers to require works regarding the maintenance of the flow in the channel of an ordinary watercourse under Section 25 of the Land Drainage Act 1991.

The monitoring and inspection aspect of the ordinary watercourse regulation allows the Hertfordshire County Council to have an appropriate knowledge of the county network in order to properly and effectively use its regulatory role, including in consenting and enforcing procedures.

The monitoring and inspection aspect of the ordinary watercourse regulation is based on an indicative risk score for each stretch of ordinary watercourse. The risk score reflects its interaction with infrastructure and flood zones and is derived by correlating a range of datasets.

Further details on how the risk score is defined and how it guides the inspection routine are set out within the Hertfordshire County Council Ordinary Watercourse Service Standards.

Policy 6: Inspection regime of ordinary watercourses

Hertfordshire County Council will undertake an inspection regime of the OWC network, based on a proportionate and risk based approach to ensure the effectiveness and efficiency of the network in regard to its drainage function in managing flood risk.

Hertfordshire County Council, in its role as the Lead Local Flood Authority, and as a statutory consultee of the planning process, has an opportunity to improve the ordinary watercourse network to meet the Water Framework Directive targets for water quality and ecological purposes.

Conservation and enhancement of the natural environment are an important part of planning and consenting any new developments.

Each consent process represents an opportunity to restore the ordinary watercourse to its natural state and characteristics.

The applicant must seek the most natural approach, when proposing to modify an ordinary watercourse. This is also applicable for any ordinary watercourse that runs through a planning application site.

LLFA will give preference to open channel watercourses.

Further details on how to comply with the obligations of the Water Framework Directive are set out within the Hertfordshire Water Framework Directive Guidance.

Policy 7: Works to ensure betterment to ordinary watercourses

Any works carried out within an ordinary watercourse must not have a detrimental impact to the water quality and the ecological status of the watercourse with regards to the Water Framework Directive.

When there is an existing culverted ordinary watercourse section betterment of the situation should be sought, such as re-opening or diverting the channel.

If not achievable, the applicant must provide evidence as to why betterment is not viable.

Where watercourses have been culverted access needs to be retained as far as possible to allow them to be adequately maintained and refurbished or repaired in the future if required.

Policy 8: Construction near to culverts

In principle, no construction works should occur on the top of a culvert.

Any works taking place within and/or over the culvert or within 3 m of the top of the bank of the ordinary watercourse will require prior written consent from Hertfordshire County Council regardless of any planning permission.

4.5.3. Asset register

The LLFA is required to keep a register of structures and features which may significantly affect local flood risk. The structures and features are recorded on an Asset Register which is publically available on the county council website. The register identifies the location and type of asset. In addition the LLFA must also maintain a linked record which has details of ownership and condition.

Significance is determined using the same criteria as for investigations and the prioritisation of schemes. If it is known or predicted that failure or removal of assets would lead to flooding of property or infrastructure they are identified as candidates for inclusion on the register.

Some assets may be significant as part of a network rather than having obvious individual significance. In such cases a catchment may be benefiting from a number of assets. If any one were to fail the impact would not in itself be significant, but if a number were to fail the collective impact would be much greater.

In theory this could include infrastructure such as a highway drainage system or surface water sewer networks. However these structures are not routinely being included on the register as they are already subject to a risk based management regime by the respective RMAs.

When the register was first compiled all district councils were contacted to gather details for assets to be included, this was supplemented with assets that had been identified by the LLFA. It was planned that the register would then develop over time as more information became available during investigations and assessments. Currently there are 23 entries on the asset register and a further 18 entries waiting to be processed.

Photograph 16: Investigations and CCTV surveys of culverts

Recording assets helps to determine if they are in a serviceable condition and being maintained. The value of developing the register has become evident as significant

assets have been identified which have not been managed for a number of years. This may be due to a number of reasons; in some cases ownership cannot be determined as the asset is not registered and if there is an owner, they may not be taking an active interest in managing the land in their ownership. In other cases ownership can be established but the presence of the asset and its function is not recognised and therefore no maintenance is being carried out.

The EA manage and oversee a large number of assets associated with main rivers and the coast. Details are held on a national database which has been developed to help structure inspection, maintenance and associated investment. In 2016 the target for EA monitored assets in the Hertfordshire and North London area was for 99.3% of them being in a suitable condition and asset management performance was monitored against this target.

Currently there is no similar LLFA target for the condition of assets on the register or other performance measures such as there being there being a maintenance / refurbishment plan in place.

Photograph 17: Taken from CCTV survey of a cracked & failing asset

Unless the asset is on an ordinary watercourse, failure would cause a blockage and the owner is known there is no facility to require it to be maintained. In some cases it may be in the owner's interest to manage a structure to reduce flood risk and it may be possible to get them to carry out any necessary work.

The implications of an asset not being maintained need to be considered. The consequences of failure should already be understood and a suitable inspection will give an understanding of the potential for the asset to fail. This will also inform a view on how long the asset should continue to provide benefit if it is maintained. If

the asset were to fail the assumption would be that the potential to repair or replace it would then be considered in the same way as any other flood risk management project.

Investment to maintain the asset and the benefit that brings can be balanced against the consequences of no maintenance and the potential increase in flood risk. Modest investment in repair and refurbishment extending the life of an asset may offer better value for money than waiting for the asset to fail and then having to make the case for extensive refurbishment or replacement.

Where there is a willing asset owner suitable maintenance could be incentivised using contributions from a small projects fund on the understanding that responsibility for the asset remains with the owner

If an asset owner cannot be identified or is unable to manage an asset RMAs have discretionary powers available which would allow an asset to be managed. If these powers were used ongoing responsibility for managing the asset is likely to fall to the RMA.

Investment in maintaining or replacing an asset should be prioritised in the same way as for projects being put in place for the first time.

Policy 9: Using the asset register to manage failing assets

The LLFA will use the production of the asset register as a means to identify and promote management of assets that are in failing condition or which are not being adequately maintained and could significantly affect local flood risk.

Action 5: Performance indicators linked to the asset register

In support of Policy 9, the LLFA will develop suitable performance indicators linked to the asset register considering aspects such as target condition and an inspection programme.

The potential benefit of assets that are significant to local flood risk may be lost through neglect or lack of maintenance but their function could also be lost through alteration. As set out in A1. Appendix 1: Responsibilities of Risk Management Authorities, risk management authorities have protective powers to designate assets which have a significant impact on local flood risk. The effect of designation is that the asset owner cannot alter a structure or feature without first consulting the designating body. Awareness of the function of the asset is maintained as the designation is registered as a land charge and so raised each time that the ownership of the property is transferred.

To date the authority has not used these powers. However recent experience has highlighted cases where the use of designation would help to remove uncertainty in securing the function of some critical assets. These include:

- cases where new owners are unaware of the existence and/or function of assets on their land
- assets linked to new development which reduce flood risk to adjacent properties from surface water passing through the site
- enquiries about flood risk features linked to conveyancing of properties are optional and only carried out in a minority of cases

Policy 10: Designation of structures and features that have a significant impact on local flood risk

Designation will be considered where there is uncertainty about the continuing existence of structures or features which meet the criteria for inclusion on the asset register and one or more of the following criteria are met:

- Urgent intervention is needed to prevent loss of the asset;
- Change of ownership could prejudice understanding of the function of the asset; and
- A similar outcome to designation cannot be achieved through other means.

As a LLFA which is a county council Hertfordshire County Council only holds powers to designate assets which are relevant to managing flood risk from groundwater and surface runoff. The powers relating to Main Rivers are held by the Environment Agency and for ordinary watercourses rest with district and borough councils. Ordinary watercourses are offered some protection by sections 23, 24 and 25 of the Land Drainage Act 1991 however particularly in the case of watercourses in confined urban areas there can be benefit in raising awareness of a feature when ownership changes. The potential for the LLFA to use these powers will be explored as part of the work relating to Action 7: Ordinary watercourse powers.

4.5.4. Small projects fund

There are situations where it would be anticipated that the LLFA make use of their available powers. This may be taking enforcement action to require maintenance of watercourses, designation of assets to safeguard their flood risk function or developing capital schemes to reduce flood risk to properties and infrastructure.

Management of flood risk does not rest solely with authorities, organisations and agencies. Property owners have the responsibility for managing the flood risk to their property and in addition may have riparian responsibilities to manage watercourses and drainage features on their land.

There are scenarios that fall between these two sets of roles and responsibilities. The LLFA has no available powers to require the maintenance of structures and features on private land unless they are associated with watercourses. A number of cases have arisen during ordinary water course enforcement where the riparian ownership could not be determined.

If no action is taken in cases such as these the flood risk associated with the third party assets or the watercourses will increase. Without carrying out detailed modelling it would not be possible to determine what the precise local impact would be. So in such a case the LLFA would not be able to confirm the increase in flood risk for those property owners potentially affected. They in turn would not be able to take a fully informed decision to take steps at a property level to manage the flood risk to their properties.

Rather than do nothing or simply carry out modelling there is an option for the LLFA to intervene and repair, renovate or improve failing assets. Where this is small scale work it is unlikely to be eligible for national or regional flood risk management funding requiring extensive business case justification. So it would be possible for the LLFA themselves to take the decision to fund low cost low risk schemes without the need for a detailed appraisal which would likely be a disproportionate percentage of the total cost.

The value of such an approach could be recognised and formalised through the creation of a small projects fund. As well as an opportunistic response as issues are discovered through investigations, it could also be used to fund or partially fund schemes and improvements proposed by community groups which could not be achieved through another means.

Securing future maintenance of any schemes would need to be a consideration. Where this could not be assured thought would have to be given to the value of taking on a project and whether the LLFA should take on responsibility in the interim or longer term.

The LLFA powers allow it to take on the management of structures for flood risk from surface run off and groundwater. The situation relating to management of structures linked with ordinary watercourses could be reviewed as part of the work with district and borough councils to develop a consistent approach to ordinary watercourse regulation which is linked to the same powers.

Action 6: Small Projects Fund

That the LLFA establishes a projects fund to facilitate small flood risk projects which would have a positive impact on local flood risk. The criteria for eligibility would be kept as simple as possible on the basis that the projects would be low cost, low risk and not justify extensive investigation or appraisal.

Action 7: Ordinary watercourse powers

In cases where it is felt to be advantageous for the fund to be applied to manage flood risk associated with ordinary watercourses. If after consultation with the relevant district or borough council, it is felt more appropriate for the LLFA to carry out the work then it will be proposed that the district or borough council delegate the relevant powers as provided for in s13 of the Flood and Water Management Act 2010.

Policy 11: Application of a Small Projects Fund

The fund is only applied to projects where ownership and or responsibility for maintaining the asset cannot be reasonably established.

4.5.5. New flood risk management schemes

In addition to neighbourhood scale surface water management projects and structures, alternative means to manage flood risk need to be explored. The dispersed nature of flood risk in Hertfordshire has an effect on the ability to manage it through the development of schemes just as it has an impact on the ability to respond to flooding events.

Experience from flood investigations has shown that in the majority of locations although flood risk to property has been demonstrated there is no potential to develop a neighbourhood scale scheme to manage the flood risk. In some cases schemes did not meet basic cost benefit requirements in others the balance between scheme costs and eligibility for grant contributions mean that it is unlikely that all the required funding could be raised locally.

The case study below illustrates how the cost and benefits of a range of options will be evaluated to determine the potential for public funds to be invested in a flood risk management scheme. This is required when applying for funding and follows a methodology compliant with Treasury funding guidelines. Costs and benefits which will be realised over a number of years are standardised as their present value and compared against baselines of no investment and continuing maintenance.

The potential to attract grant funding can be calculated based ion the number of properties that would benefit from the scheme and the level of risk reduction. The difference between the scheme costs and potential grant can be calculated. In the Flood Defence Grant in Aid process this is then expressed as a “partnership score” showing the percentage of the total cost that grant will cover. For option 6 in the case study below 81% of the scheme costs would have to be raised locally over £260K which is equivalent to £24K per property benefiting from a reduction in flood risk.

Case Study: Example of figures needed to calculate funding for a flood risk management scheme from a site in Welwyn and Hatfield borough.

	Do Nothing	Do Minimum	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Scheme Design Life (years)	-	100	50	100	100	50	50	50
Total PV Damages (£k)	1,516	1,481	1,319	1,330	1,448	1,487	1,487	1,147
Total PV Cost (£k)	-	35	395	535	130	229	229	329
Total PV Benefits (£k)	-	35	197	186	67	29	29	368
Benefit Cost Ratio against Do Nothing	-	1.2	0.5	0.3	0.5	0.1	0.1	1.1
Number of properties moving band	-	2	6	7	3	2	2	11
Partnership funding score (%)	-	0%	10%	6%	9%	3%	3%	19%

Do Minimum: Current maintenance regime.
Option 1: Flood protection wall surrounding at risk properties.
Option 2: Increased diameter culvert with increased highway drainage capabilities.
Option 3: Modification and provision of consistent kerb.
Option 4: Realigned channel downstream of the bridleway culvert with increased floodplain volume.
Option 5: Flood storage area downstream of the bridleway culvert.
Option 6: Property Level Protection up to 0.5m on properties at risk.

Glossary of Terms:

- Scheme Design Life - The anticipated lifespan of the scheme.
- Present Value (PV) - Present value refers to the value of any cost or monetary benefit over the design life of the scheme at its equivalent cost in the present day. Total PV Damages - the sum of the anticipated damages to property over the proposed lifetime of the scheme, discounted to the present value.
- Total PV Cost - the sum of the capital investment to design and build the scheme and the anticipated maintenance costs over the scheme's design life, discounted to the present value.
- Total PV Benefits - are calculated as the reduction in PV damages over the design life of the proposed scheme when compared to the Do Nothing scenario.
- Benefit Cost Ratio (BCR) against Do Nothing - A value greater than 1 indicates that the benefits outweigh the costs.
- Number of properties moving band - the number of properties that as a result of the scheme are at a lesser risk of flooding.
- Partnership funding score - the percentage of the capital investment that is eligible for funding through the FCRM GiA programme.

- The ongoing maintenance within the catchment should be continued to ensure optimal performance of the existing drainage systems as this has been shown to be cost beneficial through the Do Minimum scenario.
- Options 1-5 do not provide sufficient benefits to outweigh their costs and are not deemed feasible to take forward to a more detailed economic assessment for the preparation of an OBC. This is due to the relatively low number of properties benefitting from them and the high anticipated implementation costs due to the space constraints within the urban catchment.
- The above conclusion indicates that a large scale flood mitigation scheme, capable of reducing the risk of flooding to all properties in the low point of the site, is unlikely to be cost beneficial and eligible for funding through the FCRM GiA program in this catchment.
- Option 6, Property Level Protection, is shown to be cost beneficial with a ratio of 1.1, this leads to a potential partnership funding of 19% of the scheme costs. For an application to be submitted, the additional 81% of the scheme costs would need to be funded from alternative sources. However, given the low cost:benefit ratio it is unlikely that the scheme proposals would be successful in attracting funding when compared to other potential schemes which are likely to offer better value for money for the available public funds. A combined Property Level Protection scheme led by the Lead Local Flood Authority (LLFA) is therefore not deemed feasible to be taken forward to further assessment and preparation of an OBC.
- Based on the positive cost:benefit ratio achieved by Option 6, it is recommended that individual property owners look at ways of protecting their properties and improving their resilience during future flood events.

The current process means that, prior to any potential scheme implementation, a better understanding of risk is needed, and this means that hydraulic modelling needs to be undertaken. For most sites, modelling work can ensure a better understanding of flood risk. However, that modelling work may not lead to scheme development. This means that the money put towards modelling could be put towards property resilience measures instead; arguably, where used appropriately and with judgement, a better use of the money. To date, no property resilience measures have been implemented by the LLFA; it has been left as a decision for individual property owners.

Because of the dispersed nature of flood risk in the county the LLFA will need to explore alternative approaches to large surface water projects and schemes. This will include:

Natural Flood Management
This is an approach based on generally small scale projects aimed to slow flows in surface water catchments and watercourses.

Catchment wide property level flood risk initiatives
Aggregating small scale flood risk across a catchment and seeking funding to support owners to reduce the flood risk to individual properties.

Photograph 18: Boundary wall and flood gates

Retrofitting SuDS

A similar approach to NFM but in more developed catchments. Again likely to be small scale projects each making a contribution to managing surface water across a catchment rather than as a single measure to reduce flood risk to specific properties.

Action 8: Implementing new flood risk management schemes

The potential for Natural Flood Risk Management to be applied in Hertfordshire will be explored by the LLFA through the project supported by Thames RFCC which is initially based on two pilot areas in Long Marston and Harpenden.

The LLFA will explore with the RFCCs the potential for funding schemes that could be used to support action by individual property owners in areas where larger engineered structures are not viable.

Working with Thames Water Utilities Ltd and Anglian Water Services the LLFA will seek to identify areas for the retrofitting of SuDS where there is insufficient capacity in surface water sewers.

4.5.6. Prioritising investment

Funding will need to be sought from a variety of sources in order to deliver projects. For larger schemes the funding will almost certainly be sought from the national grant scheme FCERM GiA. It can be used for a variety of projects from initial feasibility studies to the construction of substantial defences. Most sources of flooding are eligible other than those that are the responsibility of water and sewerage companies who have alternative means of funding projects.

The grant is based on a partnership funding approach which is outcome focussed, providing funding in a formula based manner depending on benefits to households, other whole life benefits to businesses, agricultural productivity and infrastructure and environmental outcomes. Providing cost benefit requirements are satisfied, grant is available for all schemes, however the level of funding depends on the outcomes delivered through the scheme, for example the number of properties which have reduced flood risk. Depending on the balance of costs to the grant awarded against outcomes, schemes can be eligible for funding ranging from an eligibility in excess of costs which means they will be fully funded or the grant may be a minor proportion of total cost requiring other funding to be sought.

The details can be seen at: https://www.gov.uk/guidance/flood-and-coastal-defence-funding-submit-a-project

Allocation of funding is through the 6 year investment programmes which are coordinated by the Environment Agency for approval by the relevant Regional Flood and Coastal Committee (RFCC). Hertfordshire falls in the areas covered by the Thames RFCC and Anglian Central RFCC.

In addition to providing access to the national grant the committees collect an annual local levy from the Lead Local Flood Authorities in the RFCC area to use for flood and coastal risk. The levy can be used to fund or contribute to any of the projects in the committee's area. It is considered to be a local contribution so it may be used to top up the funding for schemes which have been partially funded through the national grant.

It is likely that most schemes will receive a percentage of the required funding through the national grant, and other contributions will be needed from a regional or local source and/or cost savings found to ensure the project is fully funded and can proceed. For surface water schemes proposed for relatively small numbers of properties experience to date for viable schemes meeting cost benefit requirements has found the proportion of funding from FCERM GiA is generally between 25% and 50% of the total scheme cost.

Beyond FDGiA and local levy, funding can be sought from a variety of sources. Some of these may be directly linked to management of flood risk for example direct contributions from a Risk Management Authority. Where a scheme will deliver benefits in addition to flood risk for example for wildlife or access, funding may be available towards delivering these benefits which would support the overall scheme also delivering flood risk benefits.

Hertfordshire's flood risk partners will need to determine how to prioritise schemes put forward, whether to focus on only developing schemes that will qualify to be fully funded or whether to supplement or seek contributions for schemes that will be partially funded through national grant.

Local contributions are not mandatory and a decision can be taken by the partnership on whether to collect contributions. It will need to be decided how to raise the additional money, taking into account partners involved, those likely to benefit and the ability to pay a contribution. The process for collecting local contributions can also be lengthy. However, the use of local contributions is likely to be considered favourably by other funding sources and allows a local influence on schemes which are taken forward; where there is the will to pay or local backing for a project.

A prioritisation methodology has been developed in conjunction with RMAs and other key stakeholders. It is based on the methodology set out in the previous LFRMS and has been modified based on experience from assessing potential schemes over the period 2012 - 2017. This methodology, as well as considering property related flood risk, takes into account aspects such as the vulnerability of people affected and criticality of services and infrastructure. Figure 6 shows this as a decision tree.

Other factors such as loss of transport links and relative scale of impact on a community have also been considered. The potential of a scheme to secure national funding has also been included within the priority scoring; which has been weighted accordingly. Benefits of flood schemes which are difficult to define in financial terms such as environmental, social realm and health have also been taken into account. They cannot however, be prioritised over actual flooding.

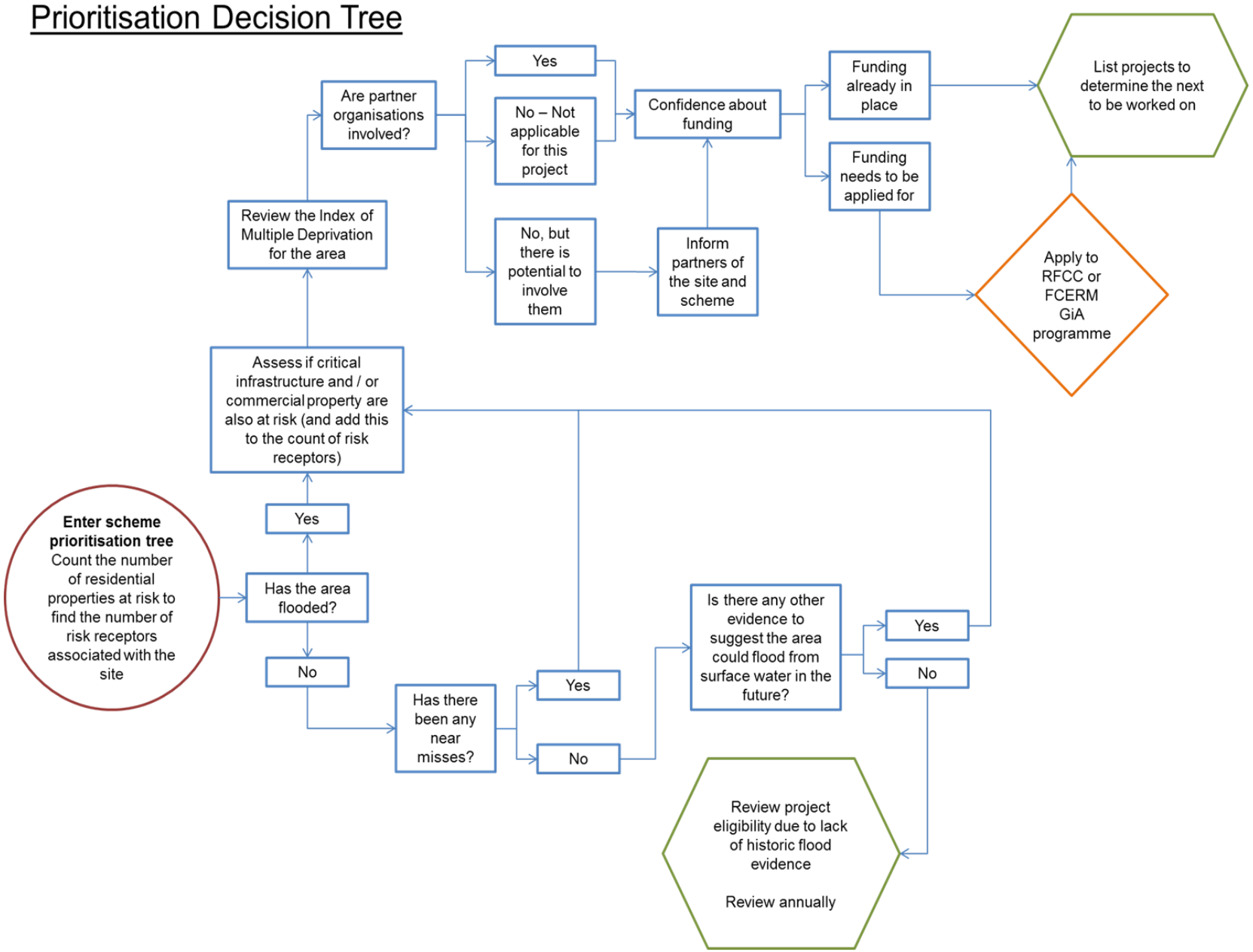


Figure 6: Prioritisation Decision Tree

The methodology must aim to provide transparent and clear reasoning for the prioritisation and justification for the feasibility and viability of the project. Prioritisation of local projects is necessary as it must be recognised that taking into account all funding sources, it will still not be possible to fund all flood risk management projects identified.

Once potential projects have been identified in areas at risk of flooding from local sources, either through the Surface Water Management Plan (SWMP) process or through another technical study, the projects will be ranked initially by using the proposed criteria in Table 8. The implementation of schemes that have been prioritised will depend on the availability of funding, which is likely to have to be drawn from a number of sources. Some funding may be restricted to a particular area of benefit or a specific community, but where there is discretion the criteria in Table 8 will be used to help determine which projects should benefit from local funding sources.

This prioritisation process will build up a picture over time of the most beneficial flood risk management projects within the highest risk areas, allowing Hertfordshire County Council and its partners to focus efforts on funding local projects. However it must be recognised that it is possible for projects to advance more quickly than the initial prioritisation if local funding becomes available which would 'unlock' a project's potential for moving forward. In this way local communities and organisations could consider investing in raising local contributions as beneficiaries of a proposed scheme in order for it to be realised.

The methodology used to prioritise investment is outlined in Figure 6. It is flexible in order to take account of opportunistic schemes, as they become available. Examples of such opportunistic schemes include partnership working with other RMAs, such as where flooding occurs from a range of sources (fluvial and pluvial). Where this is the case, a scheme would involve partnership working with the Environment Agency and/or Thames Water/Anglian Water. Partnership working could also include cross county border working with other LLFAs, where flood risk is shared.

Policy 12: Prioritising Investment

Flood risk management schemes will be prioritised based on a published methodology and criteria.

Table 8: Criteria and associated score for prioritising flood risk management schemes in Hertfordshire

	Criteria Description		Low		Moderate		Significant		Maximum Score
			Count	Score	Count	Score	Count	Score	
1	Number of people at risk of flooding. Residential buildings within the RoFfSW map (Risk of surface water flooding from a rainfall event with a 1% (or 1 in 100) chance of occurring in any one year)		0 to 25	5	26 to 84	10	> 84	15	15
2	Number of critical infrastructure at risk of flooding		0	0	1	5	> 1	10	10
3	Number of historic flooding incidents (including multiple events at one property)		0 to 10	5	10 to 50	20	> 50	35	35
4	Number of partners agreed that a site is a priority flooding location or A partnership project becomes available, which is opportunistic for the LLFA.		0	0	1 to 2	10	> 2	15	15
5a	Funding	Funding (a) Funding already in place or Local contributions realised	<50%	0	≥50%	2.5	100%	5	5
5b		Funding (b) Ability of funding to be realised	< 10	0	≥ 10	2.5	≥ 20	5	5
6	Index of Multiple Deprivation		> 40%	0	20 to 40%	5	< 20%	10	10
7	Time-bound opportunities		0	0	1	2.5	> 1	5	5
8	Urgency of delivery								
						Total			100

4.6. Principle 6: Ensuring that flood risk arising from new development is managed appropriately

Aim 5a: New development must manage its own flood risk, not contribute to flood risk in the local area and must take into account the effects of climate change.

Aim 5b: New development must make appropriate arrangements for the management and maintenance of features put in place to manage local flood risk.

Aim 5c: Where possible, new development should contribute to reducing any existing flood risk within the local area.

The statutory consultee role the LLFA has in relation to major planning applications aims to ensure that all new major[3] development does not contribute to increased flood risk from surface water and that surface water arising from the development site is managed in a sustainable way prioritising the use of sustainable drainage systems. The assessment undertaken is based on the non-statutory technical standards produced by the Department for Environment Food and Rural Affairs (DEFRA) in partnership with industry stakeholders.

The role of advising LPAs on major planning applications is a relatively new service that has only been operational since April 2015. It is new for both the LPA and the LLFA and processes are still bedding in and developing.

It should be noted that whilst the LLFA has to provide this advice to the LPAs it is only advice. There is no requirement on the LPAs to heed that advice and they could choose to disregard it. However, experience from when the provision of this new service started suggests that this is rarely the case as the objective is to work collaboratively with LPAs and developers until a satisfactory solution can be achieved. This outcome has been arrived at in the majority of applications for which the LLFA has been consulted. Solutions are usually agreed prior to the planning decision being made with final details being handled through the use of planning conditions.

During the early implementation of the new requirements for sustainable drainage there was a distinct lack of understanding from LPAs, developers and consultants as to the changes and what they meant for development proposals. These changes have brought consideration of site surface water drainage up-front during the planning process with many issues that would previously have been dealt with

[3] "major development" means development involving any one or more of the following—
(a) the winning and working of minerals or the use of land for mineral-working deposits;
(b) waste development;
(c) the provision of dwellinghouses where —
(i) the number of dwellinghouses to be provided is 10 or more; or
(ii) the development is to be carried out on a site having an area of 0.5 hectares or more and it is not known whether the development falls within sub-paragraph (c)(i);
(d) the provision of a building or buildings where the floor space to be created by the development is 1,000 square metres or more;
(e) development carried out on a site having an area of 1 hectare or more;

through planning conditions now having to be thought through earlier and resolved at the application stage. This gives more scope to accommodate any necessary changes to site design and layout for a more satisfactory outcome for surface water drainage arrangements..

Whilst the LLFA is required to provide advice about the suitability of the arrangements made for the management of surface water, the body responsible for assessing whether the maintenance and operational arrangements that are proposed are suitable for the lifetime of the development remains the LPA. There is no national guidance in relation to this issue and it remains a significant problem as to how to ensure that drainage systems will be maintained during their lifetime when operated privately either through management companies or local charitable trusts. At present any enforcement of this issue is expected to be undertaken by the LPA; however it remains unclear as to how this will happen and who will do it if and when problems are reported.

The delivery of sustainable drainage still requires a considerable amount of cooperation from the developer and for the LPA to be robust in their requirements for above ground solutions in order to minimise the risk of system failure. For an area like Hertfordshire with 11 separate LPAs delivering a consistent approach is difficult especially as there is not a single approach across all of the local plans to this area of development management. For the same purpose, the LLFA tries to work consistently with the key stakeholders as part of the assessment of the proposals. This is done through regular correspondence and meetings with the Environment Agency, the water companies and Highways authorities.

Relationships between planning officers at the LPAs and the case officers within the LLFA are developing. The need for closer working to ensure that the advice is understood and represents the needs of the LPA is critical. In addition with the day to day relationship with planning officers, training/briefing sessions will be regularly arranged in each district to better provide understanding in the sector about changes and requirements. Working together with the keys players as defined earlier (Environment Agency, the water companies and Highways authority) also participates in objective, giving more clarity and transparency on the duties and thereafter, the expectations of each of the stakeholders.

The efficiency of the pre-application advisory service has been demonstrated. This service gives the LLFA the opportunity to be proactive with developers and consultants. As part of the strategy the LLFA would promote this service as far as possible, as the results observed are encouraging and early engagement is proving effective at maintaining relationships throughout the process.

As well as calculations required to take account of climate change and changing patterns of rainfall, urban creep should be considered. The best way to apply this factor and a clear definition of when it would be required must be sought and reflected in the updated guidance. The urban creep would reflect the conversion of permeable surfaces to impermeable over the lifetime of the development.

The LLFA is a statutory consultee in relation to surface water management and flood risk arising from major new development only. As such the LLFA would not normally

be consulted on minor applications, however there may be circumstances where to secure betterment to existing flood risk issues it would be beneficial for all forms of new development to manage surface water appropriately. In these situations the LLFA will encourage the LPA to secure the management of surface water utilising SuDS for all planning applications. This will be progressed as part of the service improvements that will be required as a result of the overall strategy approach set out within LFRMS2.

Action 9: Working with LPAs on minor applications

The LLFA will explore with the LPAs how best to define areas where it would be desirable to consult the LLFA on minor applications and what information should be secured from the applicant.

4.6.1. Run-off Destination (disposal hierarchy)

The non- statutory National Standards and guidance specify a preference hierarchy for runoff destinations, and set out conditions under which a less preferred route may be allowable. Further details on the specific requirements are set out within the HCC Guidance for SuDS in Hertfordshire.

Policy 13: Discharge hierarchy for SuDS

Proposals for SuDS must follow the discharge hierarchy as set out in the non-statutory technical standards for sustainable drainage systems.

The discharge hierarchy should be appropriately assessed and the selected discharge point for proposed SuDS must be justified in accordance with the SuDS standard requirement for runoff destination using a methodology acceptable to Hertfordshire County Council and the Local Planning Authority.

To support the drainage strategy, approval for discharge should be sought from the owner/operator of the receiving system. This should include permission to cross the land adjacent to the site and/or land in third-party ownership to secure access to the proposed connection point.

4.6.2. Peak Flow and Volume Control – Greenfield Sites

The introduction of impermeable areas as a result of development will lead to an increase in rate and volume of runoff. Significant changes to greenfield runoff characteristics as a result of development will not be acceptable.

Policy 14: Runoff rates for greenfield sites

For greenfield sites, the peak runoff rate from the development for the 1 in 1 year rainfall event and the 1 in 100 year rainfall event must not exceed the peak greenfield runoff rate from the whole site for the same event.

The runoff volume from the developed site in the 1 in 100 year, 6 hour rainfall event must not exceed the greenfield runoff volume for the same event.

4.6.3. Peak Flow and Volume Control - Previously developed sites

It is accepted that that rate and volume of runoff from previously developed land will be higher than on equivalent greenfield sites, however the redevelopment process presents opportunities for redesign of drainage to restore greenfield runoff characteristics.

HCC Guidance for SuDS in Hertfordshire provides an approach for meeting peak flow rate and volume requirements on previously developed land, in particular by requiring betterment of existing runoff conditions where Greenfield runoff cannot be achieved. Flow rate and storage volume calculations should be presented in a manner that is acceptable to the LLFA. For further guidance on the calculations that should be provided; please see HCC SuDS Guidance document**.**

Policy 15: Runoff rates for previously developed sites

Previously developed sites should aim to discharge at the original pre-development greenfield rate for the whole site area where possible. If not, a significant reduction in the current rate of discharge should be achieved and evidence provided as to why greenfield rates are not viable.

The volume of attenuation storage that would be required for the site should be based on the 1 in 100 year critical storm duration with an allowance for climate change and the allowable discharge rate.

4.6.4. Flood Risk Within & Outside the Development

The design of the SuDS must demonstrate:

a) The management of water falling directly on the development site by SuDS.
b) The management of runoff produced by the site to prevent increase in flood risk downstream.

It is essential that the drainage scheme proposed protects the development site from flooding and does not increase flood risk to the development or surrounding area. Any drainage scheme must manage all sources of surface water, including exceedance flows and surface flows from offsite, provide for emergency, ingress and

egress and ensure adequate connectivity.

Policy 16: Flooding on and from development sites

Flooding must not occur on any part of the site for a 1 in 30 year rainfall event except in areas that are designed to hold and convey water.

During a 1 in 100 year plus climate change rainfall event no flooding should occur in any part of a building (including a basement); utility plant susceptible to water (e.g. pumping station or electrical sub-station) or on neighbouring sites.

If there is flooding during 1 in 100 year plus climate change rainfall event, this should be indicated on plan showing extent and depth. Flows that exceed design criteria must be managed in exceedance routes) that minimise risks to people and property both on and off the site.

4.6.5. Managing Overland Flow Routes

Where a site or its immediate surroundings have been identified to be at flood risk, all opportunities to reduce the identified risk should be explored. New development should be designed to take full account of any existing flood risk, irrespective of the source of flooding. This includes any existing or predicted flow routes entering the site.

The information should indicate areas for flood storage and/or exceedance and the volumes that need to be managed. These volumes can be accommodated within the drainage system itself or within other designated areas within the site for conveyance and storage.

Policy 17: Development sites along natural flow routes and in existing flood risk areas

Where a development alters the natural flow route and/or is located in an area with existing flooding issues or a high risk of potential flooding; proposals must demonstrate the management of any existing and predicted overland flows entering the site from adjacent areas for all rainfall events up to and including 1 in 100 year plus climate change event.

4.6.6. Maximise Resilience and Source Control

SuDS should be provided above ground where possible in line with the SuDS hierarchy. For Greenfield sites, the proposed SuDS features should be above ground. Underground attenuation in Greenfield sites are considered unacceptable and a technical justification should be provided for its usage.

Where it is necessary to provide underground drainage measures, more regular and extensive inspection and maintenance will be required.

Current figures that should be applied for climate changes and urban creep can be found in HCC SuDS Guidance document.

Policy 18: SuDS to be designed at or near the surface

Proposals must demonstrate that the SuDS have been designed at or near the surface in line with the SuDS hierarchy. Underground attenuation features will only be acceptable where it is proven that alternate surface based methods are not appropriate or feasible.

The design of the drainage system must account for the likely impacts of climate change and changes in impermeable area over the design life of the development. Appropriate allowances should be applied in each case.

4.6.7. Management of drainage during construction period

It is necessary to provide appropriate temporary infrastructure on site to deal with surface water during the construction period. This includes providing appropriate attenuation and water quality control water for surface water that would collect within the construction site.

If a proposed development is to be delivered in phases, a commitment should be made for a site-wide SuDS scheme to be delivered with the first phase of development, designed to be capable of accommodating the runoff from each of the subsequent phases. If this is not possible, the runoff from each separate phase must be controlled independently. Whichever approach is taken, the control of surface water runoff during construction should be considered.

Policy 19: During construction arrangements

There should be appropriate arrangements for surface water drainage during the construction phase of a development site. A construction management plan to address all surface water runoff and any flooding issues during the construction stage should be submitted at detailed design stage.

4.6.8. Maintenance, Structural Integrity & Construction

It is important to ensure that all SuDS features are constructed as designed so that they perform as intended and are easy to maintain. Drainage components should have a design life compatible with that development. Therefore materials used should ensure the structural stability of the features and construction should comply with appropriate standards.

Maintenance requirements should be considered at all stages including during design and construction. It is essential that suitable access is provided to be able to facilitate monitoring and works. For further guidance, please see HCC SuDS Guidance document.

Maintenance is a key issue throughout the planning process and information will need to be provided to demonstrate that SuDS are designed with easy and affordable maintenance. The LPA will need to be satisfied that arrangements are in place for the long term maintenance of SuDS.

Policy 20: SuDs to have a design life compatible with the development and to include a management and maintenance plan

Drainage components should have a design life compatible with the development. Design should be based on actual site levels, ensuring that the construction of any other infrastructure and services does not compromise the final construction of the SuDS.

Proposals for SuDS must include a management and maintenance plan for the lifetime of the development which shall include arrangements for adoption and any other arrangements to secure the operation of the scheme throughout its lifetime.

4.6.9. Sustainability and additional design criteria

In addition to the National Planning Policy Guidance and non- statutory Standards, more detailed local design guidance is set out on the HCC SuDS Guidance document**.**

The wider benefits that are appropriate will depend on the site and its particular context in terms of local plans, strategies and policies, and physical environment factors. These are likely to be similar to those that are required to be addressed as part of the development management process i.e. linked to wider landscape and biodiversity objectives. Other benefits may also be sought where appropriate to the scheme and its wider context.

Policy 21: SuDS to have wider benefits

In accordance with relevant local plan policies and guidance, proposals for SuDS must maximise wider benefits as appropriate, which include consideration of:

- Safeguarding Water Quality
- Designing for Amenity and Multi-Functionality

4.6.10. Development and Watercourses

In two tier local authority areas an artefact of the Flood and Water Management Act legislation resulted in powers relating to ordinary watercourses being divided between the LLFA and district or borough councils. The LLFA holds the powers of consenting and enforcement under sections 23, 24 and 25 of the Land Drainage Act 1991 and district or borough councils hold the powers to manage flood risk from ordinary watercourses under section 14A of the act.

Although the district councils are all subject to the same duties and have the same powers available to them they do not operate to a standardised structure. Differences in scale, geography, demographics, economy and administration mean that each have different pressures and priorities. As a result there is not a uniform level of flood risk management activity linked to ordinary watercourses across the county.

Only activity within a watercourse can be regulated under the powers available to the LLFA through sections 23, 24 and 25 of the Land Drainage Act. Works above or adjacent to a watercourse that could have a potential impact may be regulated through by-law provision or if the works required planning consent. So the LLFA does not itself have the available powers to deliver Policy 8. The powers are held by district or borough councils but in practice there are capacity limitations as matters relating to ordinary watercourses tend to be delegated to an individual as part of a much wider remit.

Only three of the ten districts in Hertfordshire have taken up the powers to develop by-laws for the operation of ordinary watercourses. The LLFA does not routinely advise on minor planning applications and there are no policies specific to operation of watercourses in district Local Plans.

To support this, the LLFA would need to work with district and borough councils to determine how they could assist using their land drainage powers and development management procedures. There would also be the option to use powers under Section 13 of the FWMA which allows a Risk Management Authority to make arrangements for a flood risk management function to be exercised on its behalf by another Risk Management Authority.

Action 10: Ordinary watercourse regulation

That the LLFA works with district and borough councils to develop a consistent framework across the county for the regulation of activity relating to ordinary watercourses.

5. List of Policies

6. List of Actions

7. Indicative Work Programme

Short term objectives 1 – 2 years
Medium term objectives 2- 5 years
Longer term objectives 5 years plus

8. Monitoring and updating the strategy

Progress will be reported annually to the relevant HCC member panel and published on the web.

It is intended that this strategy will be reviewed after 5 years.

Appendices

A1. Appendix 1: Responsibilities of Risk Management Authorities

A1.1 Hertfordshire County Council

Hertfordshire County Council as the Lead Local Flood Authority (LLFA) has an important role to play as the strategic leader for local flood risk management in Hertfordshire. This involves developing this Local Flood Risk Management Strategy document, ensuring that all organisations involved in flood risk management are aware of their responsibilities, monitoring progress and activity by all parties involved in flood risk management and co-ordinating communication with the public and between organisations.

As LLFA the county council has a range of duties which includes:

- Preparing reports and plans to meet the requirements of the Flood Risk Regulations 2009 (FRR).
- Carrying out investigations of flooding where appropriate and publishing reports (s19 F&WMA 2010).
- Keeping a public register and associated record of structures and features which have a significant effect on local flood risk (s21 F&WMA2010).
- Regulation of ordinary watercourses outside of areas covered by Internal Drainage Boards (s23, 24 and 25 of the LDA 1991).
- Statutory consultee to advise local planning authorities on surface water drainage and local flood risk for major development

In addition the authority has incidental powers under s14A of the LDA 1991 which allow it to carry out practical works to manage flood risk from surface water and groundwater.

Designation of structures and features where appropriate.

As well as being a Risk Management Authority by virtue of being the LLFA Hertfordshire County Council as the Highway Authority is also an RMA in addition there are a number of other roles that relate to flood risk management; these include:

- Highways Authority – management of the majority of roads in the county and their associated drainage.
- Planning Authority - the county council is the planning authority for minerals and waste development together with its own projects e.g. school sites. The authority produces Strategic Flood Risk Assessments (SFRA) to support the Minerals Local Plan and Waste Local Plan.
- Emergency Planning – the authority is a category one responder under the Civil Contingencies Act.
- Historical and Natural Environment - maintenance of databases which are shared with other authorities. The information is relevant to planning of practical works and assessing of potential for environmental impacts.

A1.2 Environment Agency

The Environment Agency has a role in flood risk management both as a national strategic body and also more locally operating as a Risk Management Authority (RMA) at a catchment and area level. Aspects of the strategic role that are relevant to the Local Flood Risk Management Strategy are:

- Using strategic plans like the River Basin Flood Risk Management Plans to set the direction for Flood Risk Management.
- Collation and review of the assessments, plans and maps that LLFAs produce to meet the Flood Risk Regulations 2009.
- Providing the data, information and tools to inform government policy and aid risk management authorities in delivering their responsibilities.
- Supporting collaboration, knowledge-building and sharing of good practice including provision of capacity-building schemes such as trainee schemes and officer training.
- Managing the Regional Flood and Coastal Committees (RFCCs) and supporting their decisions in allocating funding for flood defence and flood resilience schemes.
- Monitoring activity and reporting on flood and coastal erosion risk management.
- Providing grants to RMAs to support the implementation of their incidental flooding or environmental powers.

The Environment Agency's local role as an RMA is relevant in the following areas:

- Managing flooding from main rivers and reservoirs.
- Communication about flood risk warnings to the public, the media and to partner organisations.
- Supporting communities to be flood resilient through sharing best practice and provision of information.
- Advising on the planning process.
- Emergency planning, multi-agency flood plans, which are developed by local resilience forums.
- Bringing forward flood defence schemes through the RFCCs, working with LLFAs and local communities to shape schemes which respond to local priorities.

A1.3 District and Borough Councils

Have a flood risk management function relating to ordinary watercourses and in addition have a range of functions which are relevant to the Local Flood Risk Management Strategy:

- As planning authorities, the district and borough councils prepare a local plan to guide development. Flood risk is taken into account based on a SFRA which must consider flood risk from all forms of flooding.
- Under the Flood and Water Management Act 2010 (FWMA), district and borough councils have the powers to carry out works on ordinary watercourses to reduce flood risk.
- Activity relating to powers under the Land Drainage Act 1991 to make bylaws relating to ordinary watercourses.
- District and borough councils own and manage public spaces which, may already, and could potentially perform a flood risk management function.
- District and borough councils have responsibilities for emergency planning as a responder under the Civil Contingencies Act and this role is outlined in the Multi Agency Flood Plan.
- Consult the LLFA on major planning applications.

A1.4 Internal Drainage Boards

In addition to the universal responsibilities under the FWMA, Internal Drainage Boards (IDBs) have the following new responsibilities and responsibilities:

- Power to designate structures and features that affect flooding.
- Duty to act consistently with local and national strategies.
- Regulation of ordinary watercourses within the IDB district.

A1.5 Water Companies

There are two types of water companies serving Hertfordshire. Affinity Water Central is a water supply only company, while Anglian Water and Thames Water Utilities Limited provide both water supply and wastewater services.

Water Supply Companies
Water supply companies are not RMAs and do not have the same obligations to co-operate and be subject to scrutiny by LLFA committees. However, like all persons, they will be required to provide information related to flood risk to Hertfordshire County Council and the Environment Agency.

Water and Sewerage Companies
Water and sewerage companies have the following responsibilities around flood risk management:

- Respond to flooding incidents involving their assets.
- Maintenance of a register of properties at risk of flooding due to a hydraulic overload in the sewerage network (DG5 register).
- Undertake capacity improvements to alleviate sewer flooding problems on the DG5 register.
- Provide, maintain and operate systems of public sewers and works for the purpose of effectually draining an area.
- Have a duty to co-operate with other relevant authorities in the exercise of their flood and coastal erosion risk management functions.
- Must have a regard to national and local flood and coastal erosion risk management strategies.
- May be subject to scrutiny from LLFAs' democratic processes.
- Have a duty for the adoption of private sewers.

A1.6 Highways England

Highways England is a government company formed in 2015 responsible for operating, maintaining and improving the strategic road network in England on behalf of the Secretary of State for Transport. It acts as the Highways Authority for a number of major highways in Hertfordshire and is responsible for the maintenance of the following motorways and trunk roads in Hertfordshire:

- M1 - Junction 4 – Junction 10.
- M25 - Junction 16 – Herts /Essex border (managed by Connect Plus).
- A1 Herts/LB Barnet border to Junction 1 of A1(M).
- A1(M) - Junction 1 – Junction 10.
- A5 - M1 Junction 9 – Herts / Beds border.
- A414 from the M1 Junction 8 to A405 at St. Albans.

The M25 is in the DBFO Area 5 the other roads are in Area 8.

As a Highways Authority, Highways England has the same obligation to co-operate on flood risk issues as the other RMAs. It also has the following responsibilities under other legislation:

- Responsibility to maintain the highways which includes highway drainage systems.
- Powers to deliver works considered necessary to protect the highway from flooding.
- Highway Authorities may divert parts of a watercourse or carry out any other works on any form of watercourse if it is necessary for the construction, improvement or alteration of the highway or provides a new means of access to any premises from a highway.

A2. Appendix 2: Responsibilities of Other LFRMS Stakeholders

A2.1 Property owners and businesses

Residents and Businesses

It is the responsibility of property owners and businesses to maintain and safeguard their property which includes protecting it from flooding. While in some circumstances other organisations or property owners may be liable due to neglect of their own responsibilities, there will be many occasions when flooding occurs despite all parties meeting their responsibilities. Consequently it is important that householders, whose homes are at risk of flooding, take steps to understand the flood risk and take appropriate steps.

Riparian Owners

Householders or businesses whose property is adjacent to a river or stream or ditch are likely to be riparian owners with responsibilities.

Riparian owners have a right to protect their property from flooding and erosion but in most cases will need to discuss the method of doing this with the Environment Agency or Lead Local Flood Authority. They also have responsibility for maintaining the bed and banks of the watercourse and ensuring there is no obstruction, diversion or pollution to the flow of the watercourse. Full details can be found at the link below.

https://www.gov.uk/government/publications/riverside-ownership-rights-and-responsibilities

A2.2 Utility and Infrastructure Providers

Utility and infrastructure providers such as Network Rail, TfL, The Canal and River Trust, energy companies and telecommunication companies are not risk management authorities (RMAs). However they have a crucial role to play in flood risk management as their assets can be important consideration in planning for flooding.

They already maintain plans for the future development and maintenance of the services they provide and it is important that they factor in flood risk management issues into this planning process. This will ensure that their assets and systems are resilient to flood risks and that the required level of service can be maintained in the event of an incident.

A2.3 Parish Councils and Communities

Communities have vital knowledge about the history of flooding in their areas and can make important contributions to helping manage the levels of flood risk and also by helping residents to be aware of and manage the risk to their household.

Parish Councils and community groups in areas which suffer from local flooding should record and report flooding incidents when they occur.

Most flood defence and flood resilience projects, particularly in small communities, will require some local funding to supplement that provided by national government if the project is to go ahead.

Parish Councils can raise funds through council tax precept or through other local commitments to raise the funds. They can also coordinate activity in communities facilitating practical contributions from residents.

A3. Appendix 3: Links to resilience information

Hertfordshire Local Resilience Forum
https://www.hertfordshire.gov.uk/services/business/business-advice/business-continuity-and-fire-safety.aspx

https://www.hertfordshire.gov.uk/services/fire-and-rescue/are-you-ready-for-anything.aspx

District councils

Dacorum
http://www.dacorum.gov.uk/home/business/business-continuity-management

http://www.dacorum.gov.uk/home/community-living/community-safety-asb/severe-weather-advice

Broxbourne
https://www.broxbourne.gov.uk/resident-environment-climate-change/flooding

https://www.broxbourne.gov.uk/business-support-businesses/business-continuity

East Herts
https://www.eastherts.gov.uk/article/34874/Emergencies

https://www.eastherts.gov.uk/article/35112/Flooding

Hertsmere
https://www.hertsmere.gov.uk/Environment-Refuse--Recycling/Drainage/Flooding.aspx

https://www.hertsmere.gov.uk/Community/Preparing-for-Emergencies/Emergency-planning/Flooding.aspx

https://www.hertsmere.gov.uk/Community/Preparing-for-Emergencies/Emergency-planning/Emergency-plans.aspx

https://www.hertsmere.gov.uk/Community/Preparing-for-Emergencies/Business-continuity.aspx

North Herts
https://north-herts.gov.uk/home/emergency-planning/warning-and-informing-pages/severe-storms-flooding

https://www.north-herts.gov.uk/home/emergency-planning/business-continuity-planning

St Albans
http://www.stalbans.gov.uk/contact-us/emergencies/floods.aspx

http://www.stalbans.gov.uk/contact-us/emergencies/emergency-planning.aspx

http://www.stalbans.gov.uk/business/continuity/

Stevenage
http://www.stevenage.gov.uk/about-the-council/156034/41316/

Three Rivers
http://www.threerivers.gov.uk/egcl-page/floods

http://www.threerivers.gov.uk/service/flooding

http://www.threerivers.gov.uk/egcl-page/business-continuity

http://www.threerivers.gov.uk/service/business-continuity

Watford
https://www.watford.gov.uk/info/20016/the_council/133/out_of_hours_emergencies

Welwyn Hatfield
http://www.welhat.gov.uk/flooding

http://www.welhat.gov.uk/article/627/Emergency-Plans

http://www.welhat.gov.uk/businesscontinuity

References

Environment Agency Strategic Plans
National Flood and Coastal Erosion Risk Management Strategy (currently under review)
https://www.gov.uk/government/publications/national-flood-and-coastal-erosion-risk-management-strategy-for-england

Thames River Basin Flood Risk Management Plan (Flood Risk Regulations)
https://www.gov.uk/government/publications/thames-river-basin-district-flood-risk-management-plan

Anglian River Basin Flood Risk Management Plan (Flood Risk Regulations)
https://www.gov.uk/government/publications/anglian-river-basin-district-flood-risk-management-plan

Thames River Basin Management Plan (Water Framework Directive)
https://www.gov.uk/government/publications/thames-river-basin-district-river-basin-management-plan

Anglian River Basin Management Plan (Water Framework Directive)
https://www.gov.uk/government/collections/river-basin-management-plans-2015#anglian-river-basin-district-rbmp:-2015

Internal Drainage Boards (IDBs)
http://www.idbs.org.uk/

Water and Sewerage Companies (WaSCs)
http://www.anglianwater.co.uk/about-us/our-plan-2015-to-2020.aspx

https://corporate.thameswater.co.uk/About-us/Our-strategies-and-plans/Our-5-year-plan--2015-to-2020

Road investment strategy for the 2015 to 2020 road period
https://www.gov.uk/government/publications/road-investment-strategy-for-the-2015-to-2020-road-period

Investigations

Department for Environment, Food & Rural Affairs (DEFRA) 2015 Final report FD2692: Evidence review of factors contributing to surface water flooding from Section 19 LLFA reports. http://sciencesearch.defra.gov.uk/Document.aspx?Document=13024_FD2692_Finalreport_Evidencereviewoffactorscotnributingtosurfacewaterflooding.pdf

British Standards Institution (BSI) 2017 BS85600: 2017 Post-event flood assessments. Guidance on investigating flooding incidents

Planning

Department for Communities and Local Government (DCLG). 2012. National Planning Policy Framework. London, Crown Copyright. https://www.gov.uk/government/publications/national-planning-policy-framework--2

Department for Communities and Local Government (DCLG). 2012. Planning Practice Guidance. London, Crown Copyright. https://www.gov.uk/guidance/national-planning-policy-framework

Department for Environment, Food & Rural Affairs (DEFRA). 2015. Sustainable drainage systems: non-statutory technical standards. London, Crown Copyright. https://www.gov.uk/government/publications/sustainable-drainage-systems-non-statutory-technical-standards

Environment Agency. 2016. Flood risk assessments: climate change allowances. London, Crown Copyright. https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances

Woods-Ballard, b., Wilson, S., Udale-Clarke, H., Illman, S., Scott, T., Ashley, R. & Kellagher, R. 2015. The SuDS Manual (C753). London. Ciria. http://www.ciria.org/Memberships/The_SuDs_Manual_C753_Chapters.aspx

Susdrain, 2017. http://www.susdrain.org/

LASOO, 2016. Non-Statutory Technical Standards for Sustainable Drainage: Practice Guidance. http://www.susdrain.org/delivering-suds/using-suds/legislation-and-regulation/national-standards-for-sustainable-drainage.html

Kent County Council, 2015. Drainage and Planning Policy Statement. https://www.kent.gov.uk/about-the-council/strategies-and-policies/environment-waste-and-planning-policies/flooding-and-drainage-policies/drainage-and-planning-policy-statement

Milton Keynes Council. Surface Water Drainage and SUDS: Update to Planning Policy and Statutory Consultee Arrangements. https://www.milton-keynes.gov.uk/planning-and-building/urban-design-and-landscape-architecture-udla/flood-and-water-management-drainage?chapter=2

Hertfordshire Local Flood Risk Management Strategy 2 (LFRMS2) Executive Summary

Context and History

The first Local Flood Risk Management Strategy (LFRMS) for Hertfordshire was approved by the county council in February 2013 following the establishment of the Lead Local Flood Authority (LLFA) in May 2010. When the LLFA came into being, there was no consistent approach to the management of flood risk at a local level across the county. The LLFA has now been in place for seven years and the understanding of local flood risk across Hertfordshire has improved considerably.

Why is a strategy needed?

Flooding due to intense or prolonged rainfall is an environmental risk that needs to be understood.

Internal property flooding

Whether it involves residential or commercial property; infrastructure such as roads and substations; or other local amenities; flooding can cause substantial physical, financial and emotional damage; adversely affecting communities, the local economy and quality of life.

Flooding affecting the highway, Welwyn Garden City

The impacts of climate change will affect the level of flood risk across the county and is predicted to increase the frequency and severity of flooding.

Our understanding of flood risk needs to be applied to guide new development so that it can be located and designed to minimise flood risk and where possible reduce any existing risk for properties and residents.

Strategy Aim

Not only is the LFRMS a statutory responsibility of the LLFA under the Flood and Water Management Act (FWMA) 2010, but it provides the LLFA with a tool, through which it can provide an understanding of local flood risk in Hertfordshire and the actions that will be taken to manage it most appropriately within available resources.

Summary of revisions for LFRMS2

As a result of the LLFAs experience to date, there are a number of new additions and changes to the second LFRMS that include:

- The updating of background information.
- Proposals for strategic partnership working on flood risk.
- Proposals for working with community based groups.
- A commitment to publish the best available surface water flood risk data.
- Supporting the role of individuals in managing flood risk.
- Clarifying the circumstances under which the LLFA will investigate flooding.
- Updated policies to regulate ordinary watercourses.
- Clarification on the function of the register of structures and features.
- The establishment of a small projects fund.
- A new methodology for guiding investment in flood risk management schemes.
- Updated LLFA policies relating to Sustainable Drainage.

Understanding local flood risk

In Hertfordshire the main sources of flood risk are surface water, rivers and other watercourses (fluvial) and, less frequently, groundwater. The LLFA published the second Preliminary Flood Risk Assessment for Hertfordshire in 2017, this confirmed that local flood risk in Hertfordshire (mainly surface water) is not concentrated in a few locations but is distributed across the county. This assessment also considered flood risk from ordinary watercourses and groundwater which was found to represent only a small proportion of reported flooding.

Flooding in Robbery Bottom Lane, Welwyn

Types of flooding

Surface water flooding

Surface water flooding is caused when the local

drainage capacity is unable to cope with the volume of water experienced during periods of sustained or heavy rainfall. Flooding then results from overland flows causing ponding of water where it becomes obstructed or collects in low lying areas.

Surface water flooding in residential gardens, Puckeridge

Surface water flooding can be better understood through modelling the potential impact of storm events; this also gives an insight into the risk of future flooding. The national Risk of Flooding from Surface Water (RoFfSW) map is the best available indication of predicted surface water flood risk across Hertfordshire.

Number of properties at risk in the RoFfSW map

District / Borough	High Risk 1 in 30 (3.33% chance in any year)	Medium Risk 1 in 100 (1% chance in any year)
Broxbourne	1,242	4,227
Dacorum	4,188	8,213
East Herts	4,272	8,615
Hertsmere	3,347	6,665
North Herts	3,945	7,772
St Albans	3,667	7,661
Stevenage	1,911	3,944
Three Rivers	2,452	4,868
Watford	2,167	4,886
Welwyn-Hatfield	2,478	6,027
Total	**29,669**	**62,878**

Property is counted to be at risk, where any part of its boundary is touching the modelled flood outline in the RoFfSW map with a predicted flood depth of 150mm or greater

Fluvial Flooding

Fluvial flooding occurs when the capacity of a watercourse (river) is reached, causing water to spill out of the channel onto adjoining areas, known as the floodplain. In some locations, the floodplain of the river may be undeveloped or have more flood compatible uses such as farming, elsewhere development can have occurred within area designated as floodplain.

Larger watercourses are designated as Main River and the Environment Agency (EA) hold the necessary legal powers and responsibilities to manage the associated flood risk. The remaining watercourses are known as ordinary watercourses and in a shire county such as Hertfordshire the relevant district or borough council hold the legal powers.

The link below provides access to the following flood risks maps online:

- Flood risk from rivers or the sea
- Flood risk from surface water
- Flood risk from reservoirs

https://flood-warning-information.service.gov.uk/long-term-flood-risk

Groundwater Flooding

Groundwater flooding occurs when the water held underground rises to a level where it breaks the surface in areas away from the usual channels and drainage pathways. It is generally a result of extended periods of heavy rain, but can also occur as a result of reduced abstraction, underground leaks or the displacement of underground water flows. Once groundwater flooding occurs, the water can remain at the surface for an extended period of time.

Groundwater emergence and extensive ponding, Cow Roast, Dacorum

Sewer Flooding

Sewer flooding is caused when a blockage occurs in a sewer or by excess surface water entering the underground sewer network and the volume exceeding the available capacity. This can occur during periods of heavy rainfall when the drainage network becomes overwhelmed.

Surcharged manhole (the sewer system has reached its capacity and water escapes), Harpenden

Flooding from other sources

In addition to watercourses and sewers, there are some man-made features for which water levels can be regulated; these include reservoirs, canals and aqueducts. The EA has produced reservoir maps to show the largest area that might be flooded if a reservoir that holds over 25,000m^3 of water were to fail.

Flooding may also result from overtopping or breach of the canal network. Canals in Hertfordshire include the

Grand Union Canal, the Lee Navigation and the Stort Navigation. It is considered that there are no significant flood risks associated expressly with the canals.

Tring's Startops Reservoir Outflow Sluice

Who's involved in managing flood risk?

A range of legislation gives powers and duties to agencies and authorities to manage aspects of flood risk, with each organisation having a remit which covers one or more specific sources of flooding. The major pieces of legislation are included on page 15 of the LFRMS2 strategy consultation document.

The FWMA identifies certain organisations as 'Risk Management Authorities' (RMAs) which have specified responsibilities, duties and powers related to local flood risk management.

RMAs in Hertfordshire

Category	Organisations in Hertfordshire
Environment Agency	• Hertfordshire and North London Area • East Anglia Area • Thames Area
Lead Local Flood Authority	Hertfordshire County Council
District/borough councils	• Broxbourne Borough Council • Dacorum Borough Council • East Hertfordshire District Council • Hertsmere Borough Council • North Hertfordshire District Council • St Albans City & District Council • Stevenage Borough Council • Three Rivers District Council • Watford Borough Council • Welwyn-Hatfield Borough Council
Internal Drainage Boards	• Bedfordshire and River Ivel Internal Drainage Board (IDB)
Water and Sewerage Companies	• Anglian Water Services Ltd • Thames Water Utilities Ltd
Highway Authorities	• Hertfordshire County Council • Highways England

Regional Flood and Coastal Committees

There are two Regional Flood and Coastal Committees (RFCCs) covering Hertfordshire (Thames and Anglian Central). These are the focus for regional programmes of flood risk management projects funded through national grant-in-aid, local levies raised from local authorities and other local contributions.

LFRMS2 Principles for Flood Risk Management in Hertfordshire

The key principles of the Hertfordshire Local Flood Risk Management Strategy 2 are:

1. Taking a risk-based approach to local flood risk management
2. Working in partnership to manage flood risk in the county
3. Improving the LLFAs understanding of flood risk to better inform decision making
4. Supporting those at risk of flooding to manage that risk
5. Working to reduce the likelihood of flooding where possible
6. Ensuring that flood risk arising from new development is managed

Each principle has one or more aims associated with them and are complimented by policies and actions to focus, target and manage future work.

Principle 1: Taking a risk-based approach to local flood risk management

Aim 1: Flood risk will be actively managed and we will seek to predict and manage future risk as well as reacting to flood events.

This overarching principle is fundamental to anticipating and managing the potential for flooding.

Principle 2: Working in partnership to manage flood risk in the county

Aim 2a: Opportunities will be sought to work with others to better deliver management of local flood risk in Hertfordshire.

Aim 2b: Flood risk measures should be multi-beneficial as far as possible, integrating flood risk management solutions alongside sustainable development and incorporating social and environmental benefits.

The Flood and Water Management Act 2010 identifies that the management of local flood risk does not lie with any single organisation. This means that the LLFA has to work with other bodies to best manage local flood risk in Hertfordshire.

For organisations to take action to reduce flood risk they must demonstrate that the costs will be proportionate to the benefits. There is rarely a single source of funding available for a scheme and contributions will be needed from a variety of sources. Even in areas of relatively high flood risk, options for the management of any risk may not be viable due to an unfavourable cost benefit assessment.

Roles and Responsibilities in Flood Risk

	Primary Role	Others involved
Individual properties	Property owner	Thames Water Anglian Water Property management companies
Surface Water Sewers	Thames Water Anglian Water	Districts & Borough Councils / IDB Lead Local Flood Authority Environment Agency
Highways	Hertfordshire County Council Highways England	Thames Water Anglian Water Districts & Borough Councils / IDB
Ordinary Watercourses	Property owner	Districts & Borough Councils / IDB Lead Local Flood Authority
Main Rivers	Environment Agency	Property owner

Working in partnership with other risk management authorities and communities is therefore essential. This is addressed in Action 1 and 2 in LFRMS2.

Action 1: Work with community groups

The potential to work with and support community groups will be explored and a number of potential approaches developed as pilots where groups wish to participate.

Action 2: To set up a countywide strategic flood risk partnership

That a countywide strategic flood risk partnership is set up as a sub group of the Hertfordshire Infrastructure and Planning Partnership (HIPP), this would automatically include all the local authority risk management authorities (RMAs). The Environment Agency, Thames Water, Anglian Water and other RMAs would be invited to attend. There would also be the additional benefit of links to other significant stakeholders in the county such as the Local Enterprise Partnership.

Principle 3: Improving our understanding of flood risk to better inform decision making

Aim 3a: Information on sources of flood risk in Hertfordshire will continue to be developed and improved.

Aim 3b: Flooding information will be risk based, with areas predicted to be at most significant risk analysed in more detail as part of a prioritised programme.

Aim 3c: All reports of flooding will be appropriately investigated so that the historic record of flooding helps to provide a clearer understanding of flood risk in the county.

Aim 3d: Information on flood risk will form the evidence base to help focus local resources and funding.

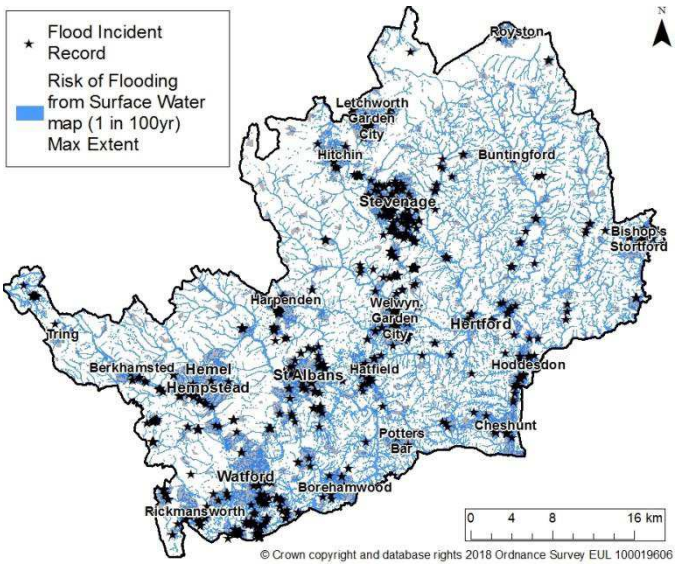
To properly manage flood risk, the impacts of both past and future flooding needs to be understood. The LLFA will take a proactive approach to flood risk, and to do this, the potential for future flooding needs to be evaluated. This has led to the introduction of Policy 1 and 2 in LFRMS2.

Policy 1: Using the Risk of Flooding from Surface Water (RoFfSW) map

The RoFfSW map will be used as the starting point for assessing the potential for surface water flood risk.

Policy 2: Update the national RoFfSW mapping

To make the best available surface water flood risk data held by the county council publically available. Locally derived surface water flood risk modelling will be submitted to the Environment Agency to be incorporated as part of the annual updating process of the RoFfSW map.



Flood Incident Record and the RoFfSW map

The above map shows how records of historical flooding support the validation of predicted flood risk in the RoFfSW map.

Principle 4: Supporting those at risk of flooding to manage that risk

Aim 4a: Communities should understand the information available to them on flood risk.

Aim 4b: The support available to communities should aid flood preparedness and resilience.

Aim 4c: Information on local flood risk will be made available to assist in preparing for flood events.

Aim 4d: The cause of flood events will be effectively investigated and published.

Aim 4e: The roles and responsibilities of the various organisations involved in managing flood risk before, during and after in a flood event will be clear.

Resilience and response

Resilience and response is best considered in the context of the flood risk management cycle. They are an intrinsic aspect of managing flood risk as there will

always be some level of flood risk that cannot be removed.

Flood Risk Management Cycle

The LLFA is not an emergency responder and residents of Hertfordshire should be prepared to protect their property if it is at risk. It is important to understand the limitations of the responders that do attend flooding such as the fire and rescue service will prioritise their attendance to flooded sites if there is a risk to life, e.g. if electrics are likely to be flooded.

Fire & Rescue Service responding to property flooding, Puckeridge

In order to support communities, the LLFA has introduced Action 4 in LFRMS2.

Action 4: Make up-to-date information readily available for individuals and communities
Individuals and communities will be made aware of the role that they have to play in managing their flood risk and up to date information about flood risk is made available to help inform their decisions.

This will be supported with published information, campaigns and work with the members of Hertfordshire Resilience. Consideration will be given to what support needs to be given to those groups which would be most significantly impacted by flooding.

This will ensure that up-to-date information on property protection is available and that individuals and communities are aware of the role that they can play in managing their flood risk with the information provided helping to inform their decisions.

This will be supported with published information, campaigns and work with the members of Hertfordshire Resilience. Consideration will be given to what support needs to be provided to groups which will be most significantly impacted by flooding.

Section 19 Flood Investigations

The LLFA has a duty to carry out flood investigations under Section 19 of the Flood and Water Management Act 2010. Flood investigations aim to help those affected by flooding to understand why flooding occurred and which RMA can best advise on how the risk might be managed in the future. The investigation also highlights any roles and responsibilities of other organisations and individuals, including individual property owners.

The criteria used by the LLFA to determine if a site needs an Investigation is set out in in Policy 3 of LFRMS2.

Policy 3: Flood Investigation Criteria

Where property has been flooded and the cause is uncertain the LLFA will investigate sufficiently to identify the source(s) of flooding so that the relevant RMAs can be identified.

Where a single RMA holds the relevant powers the investigation will conclude with a brief description of the flooding and a summary of the action that the RMA has already taken and/or proposes to take.

A more detailed investigation will be carried out where more than one RMA is identified as holding relevant powers and the following criteria are met:

- Internal flooding has occurred at a property on more than one occasion in a ten year period.
- Internal flooding of five or more properties has occurred during one flooding incident.
- Internal flooding of a business property.
- External flooding of land adjacent to a property has occurred more than five times in a ten year period.
- A critical service has been affected by flooding.
- Roads and railways have been impassable for over ten hours due to flooding.
- Flooding potentially posed immediate, direct and real risk to life.

Principle 5: Working to reduce the likelihood of flooding where possible

Aim 5a: Flood risk management funding is directed to areas most at need or where solutions will be most effective, and flood risk management will guide other funding decisions and be appropriately prioritised alongside other needs.

Aim 5b: Information on local flood risk will be used to allow informed decisions to be made on the level of funding allocated to flood risk management resources within Hertfordshire.

Aim 5c: Structures and natural features such as watercourses which have an impact on the management of local flood risk should be identified, appropriately monitored and maintained.

Aim 5d: Potential funding for flood risk management projects will be prioritised according to cost-benefit and a range of weighting factors to take into account the evidence of flooding and sustainability of the proposed solution. This will ensure that resources are dedicated in areas where it will be most effective.

This principle and associated aims will be implemented through a range of activities including, Surface Water Management Plans (SWMPs) and options studies as well as assessments of the functioning of ordinary watercourses and existing flood risk assets.

Surface Water Management Plans (SWMPs)

The LLFA is improving its understand surface water flooding, through strategic level studies, known as SWMPs; these are undertaken at the district authority scale. This is to reflect the district's role in local planning and to reflect their status as risk management authorities. The SWMPs help to understand the extent of flood risk and any options for managing it. They outline the preferred long term strategy for managing surface water in a particular location as well as further developing partnership working.

Outputs from each SWMP include: a detailed risk assessment; flood modelling and mapping of vulnerable areas; and an action plan which explores the most cost effective way of managing surface water flood risk in the long term. SWMPs will identify and prioritise practical actions to mitigate flood risk and will have other applications e.g. for planners and others involved in the development process.

Surveying of property threshold levels for use in flood modelling

Ordinary Watercourses: Inspection, regulation and betterment

Ordinary watercourses are generally smaller watercourses which form an important part of the overall drainage network across the county. As well as having a drainage function, many watercourses also have benefits for amenity and wildlife.

Before building any new flood risk management scheme it is important to ensure the satisfactory function and condition of watercourses and other existing assets that will make a contribution to reducing flood risk.

Inspection

The LLFA has an inspection and monitoring plan for ordinary watercourses; this inspection regime is based upon an indicative risk score (high, medium or low) applied to a reach (100m length) of ordinary watercourse. This risk score provides an indication of the probability and severity of flooding arising from that ordinary watercourse to properties, roads and other critical infrastructure. The risk score determines the inspection priority and frequency: LFRMS 2 is proposing that High risk watercourses will be inspected every 5 years, Medium risk watercourses, every 7 years and Low risk watercourses being inspected on notification of an issue.

Watercourse flowing out of bank, Robbery Bottom Lane

Ordinary watercourses risk classification

District / Borough	Length of ordinary watercourses (km) by risk score		
	High	Medium	Low
Broxbourne	6.19	21.27	53.24
Dacorum	2.04	15.26	32.80
East Herts	23.39	102.66	385.46
Hertsmere	2.01	18.12	72.47
North Herts*	7.64	67.75	200.19
St Albans	2.96	22.74	22.29
Stevenage	1.64	3.15	2.08
Three Rivers	1.85	23.97	27.94
Watford	1.56	2.41	2.92
Welwyn Hatfield	2.85	31.71	117.05
Total (km)	**52.11**	**308.50**	**916.44**

** excludes IDB area*

Details on how the ordinary watercourse risk score is defined and how it guides the inspection routine are set out within the Ordinary Watercourse Service Standards: https://www.hertfordshire.gov.uk/services/recycling-waste-and-environment/water/ordinary-watercourses/ordinary-watercourses.aspx

Structure with culvert across an ordinary watercourse, Oxhey Woods

Regulation

Since 2012, Hertfordshire County Council, as the Lead Local Flood Authority, has been the consenting and enforcing body for works on ordinary watercourses in the county (except in the Internal Drainage Board (IDB) area at the very north of the county). The County Council will

use the available powers to ensure that the contribution of ordinary watercourses to the management of flood risk is achieved.

Policy 5 within LFRMS2 sets out the powers available to the LLFA to manage consenting and enforcement of works in ordinary watercourses. This policy requires that any proposed works, either permanent or temporary, which may affect the flow within an ordinary watercourse will require the prior written consent from Hertfordshire County Council under Section 23 of the Land Drainage Act 1991. This is regardless of any planning permission that may exist on the site.

Betterment

As a statutory consultee in the planning process, the LLFA has an opportunity to improve the ordinary watercourse network to meet Water Framework Directive targets for water quality and ecological purposes. Conservation and enhancement of the natural environment are important parts of planning and consenting for any new development. Each consent process represents an opportunity to restore the ordinary watercourse to its natural state and characteristics. Policy's 7 and 8 in LFRMS2 aim to ensure that the LLFA is able to deliver betterment to the ordinary watercourses network in Hertfordshire, and will also make sure construction does not occur on or near to existing culverts.

A map of the ordinary watercourses in Hertfordshire can be viewed under "Water Management Map" at: https://gisinfo.hertfordshire.gov.uk/

Neglected and unsuitable structure in an Ordinary Watercourse

Asset Register

The LLFA is required to keep a register of structures and features which may significantly affect local flood risk. The Asset Register is publically available on the county council website and identifies the location and type of asset. The LLFA must also maintain a linked record which has details of ownership and condition.

The current register of Structures and Features can be viewed here: https://www.hertfordshire.gov.uk/services/recycling-waste-and-environment/water/managing-flood-risks.aspx

Recording assets helps to determine their condition and if they have been maintained. A significant number of assets which have not been managed for a number of years have already been identified across Hertfordshire by the LLFA. Investment in maintaining or replacing an asset should be prioritised in the same way as flood risk management schemes being put in place for the first time. Policy 9 and Action 5 in LFRMS2 set out how the LLFA will use the asset register to manage failing assets.

Policy 49: Using the asset register to manage failing assets

The LLFA will use the production of the asset register as a means to identify and promote management of assets that are in failing condition or which are not being adequately maintained and could significantly affect local flood risk.

Action 5: Performance indicators linked to the asset register

In support of 9, the LLFA will develop suitable performance indicators linked to the asset register considering aspects such as target condition and an inspection programme.

Image taken from a CCTV survey of a cracked and failing asset

An asset will be considered as a candidate for inclusion on the asset register if failure or removal of the asset would lead to flooding. Policy 10 in LFRMS2 sets out the criteria the LLFA will use to determine the designation of structures and features that have a significant impact on local flood risk.

Policy 10: Designation of structures and features that have a significant impact on local flood risk

Designation will be considered where there is uncertainty about the continuing existence of structures or features which meet the criteria for inclusion on the asset register and one or more of the following criteria are met:

- Urgent intervention is needed to prevent loss of the asset;
- Change of ownership could prejudice understanding of the function of the asset; and
- A similar outcome to designation cannot be achieved through other means.

Small projects fund

Within LFRMS2 the LLFA is proposing to establish a small projects fund to undertake small scale works where it is not possible to identify those responsible for the required action. This could include maintenance on ordinary watercourses where the riparian owner cannot be identified or works on a critical flood risk asset where the responsible body cannot be determined. It is

intended that this fund will only be used where responsibility cannot be assigned or when alternative sources of funding cannot be obtained.

Ordinary watercourse bordering back gardens, Bushey

Action 6 and Policy 11 within LFRMS2 propose that the LLFA themselves fund low cost, low risk schemes without the need for a detailed appraisal, which would likely be a disproportionate amount of the total cost.

Action 6: Small Projects Fund

That the LLFA establishes a projects fund to facilitate small flood risk projects which would have a positive impact on local flood risk. The criteria for eligibility would be kept as simple as possible on the basis that the projects would be low cost, low risk and not justify extensive investigation or appraisal.

Policy 11: Application of a Small Projects Fund

The fund is only applied to projects where ownership and or responsibility for maintaining the asset cannot be reasonably established.

Action 7 within LFRMS2 deals with how this fund will be applied to works to an ordinary watercourse.

Action 7: Ordinary watercourse powers

In cases where it is felt to be advantageous for the fund to be applied to manage flood risk associated with ordinary watercourses. If after consultation with the relevant district or borough council, it is felt more appropriate for the LLFA to carry out the work then it will be proposed that the district or borough council delegate the relevant powers as provided for in section 13 of the Flood and Water Management Act 2010.

New flood risk management schemes

The dispersed nature of flood risk in Hertfordshire has an effect on the ability to manage it through the development of schemes, just as it has an impact on the ability to respond to flooding events.

Findings from Section 19 Flood Investigations has shown that in the majority of locations, although flood risk to property has been demonstrated, there is no potential to develop a neighbourhood scale scheme to manage the risk. This is due to schemes not meeting the basic cost-benefit requirements or the balance between scheme costs and the eligibility for grant contributions means that it is unlikely that funding can be raised.

The costs of scheme development are high and often serve to prove that a scheme cannot be implemented. This scheme development funding could be directed towards property resilience measures where appropriate and may be a better use of the money.

To date, no property resilience measures have been implemented by the LLFA as it has been left as a decision for individual property owners.

In the future, the LLFA will need to explore alternative approaches to large surface water projects and schemes, such as:

- **Natural Flood Management (NFM)** — This is an approach based on generally small scale projects aimed to slow flows in surface water catchments and watercourses.

Potential for Natural Flood Management, Long Marston

- **Catchment wide property level flood risk initiatives** — Aggregating small scale flood risk across a catchment and seeking funding to support owners to reduce the flood risk to individual properties.

Boundary wall and flood gates, Bishops Stortford

- **Retrofitting Sustainable Drainage Systems** — A similar approach to NFM but in more developed catchments. Again likely to be small scale projects each making a contribution to managing

(SuDS)	surface water across a catchment rather than as a single measure to reduce flood risk to specific properties.

Action 8 within LFRMS2 sets out how the LLFA will explore the potential for such alternative approaches.

Action 8: Implementing new flood risk management schemes

The potential for Natural Flood Risk Management to be applied in Hertfordshire will be explored by the LLFA through the project supported by Thames RFCC which is initially based on two pilot areas; Long Marston and Harpenden.

The LLFA will explore with the RFCCs the potential for funding schemes that could be used to support action by individual property owners in areas where larger engineered structures are not viable.

Working with Thames Water Utilities Ltd and Anglian Water Services the LLFA will seek to identify areas for the retrofitting of SuDS where there is insufficient capacity in surface water sewers.

Natural Flood Management Scheme, Stroud

Prioritising investment

Some areas of Hertfordshire will still be able to compete for national funding for flood risk management schemes. Where investment in new schemes is to be made, it needs to be allocated to the areas where it will have best effect. Funding for neighbourhood scale schemes (the protection of multiple properties) will need to be sought from a variety of sources in order for them to be delivered. For larger schemes the funding will almost certainly be sought from the national Flood and Coastal Erosion Risk Management Grant in Aid (FCERM GiA) scheme, administered by the Environment Agency. These grants can be used for a variety of projects from initial studies to the construction of substantial defences.

The national grant scheme is based on a formula which requires costs and benefits to be satisfied in order for a grant to be available. The level of funding is dependent on the value of benefits delivered by the scheme, e.g. the number of properties which will have reduced flood risk. Schemes can be fully or partially funded meaning additional funding will often need to be sought.

Due to resource and funding limitations, a methodology is needed for the LLFA to determine the order in which areas are worked on. This is stated in Policy 12 of LFRMS2 (Prioritising Investment). This methodology follows the prioritisation decision tree set out in the strategy and includes the following criteria:

- The number of properties affected by flooding and the level of flood risk.
- The availability of funding and the likelihood of that funding being realised.
- The opportunities for realising multiple benefits from a scheme.

The guidance and process by which the LLFA submits flood risk management projects can be seen at: https://www.gov.uk/guidance/flood-and-coastal-defence-funding-submit-a-project

Principle 6: Ensuring that flood risk arising from new development is managed

Aim 6a: New development must manage its own flood risk, not contribute to flood risk in the local area and must take into account the effects of climate change.

Aim 6b: New development must make appropriate arrangements for the management and maintenance of features put in place to manage local flood risk.

Aim 6c: Where possible, new development should contribute to reducing any existing flood risk within the local area.

Hertfordshire County Council as the LLFA for Hertfordshire is a statutory consultee on surface water drainage in relation to major planning applications. This role is to ensure that new major development does not contribute to increased flood risk from surface water and that surface water arising from the development is managed in a sustainable way; prioritising the use of sustainable drainage systems (SuDS).

Retention basin, Hoddesdon

The role of advising Local Planning Authorities (LPAs) on major planning applications is a new service that commenced in April 2015.

Information on the LLFA's Sustainable Drainage Systems (SuDS) guidance, including the SuDS Policy Statement, Guidance for Developers, Climate Change allowance and SuDS Design Guidance for Hertfordshire, can be seen at: https://www.hertfordshire.gov.uk/services/recycling-waste-and-environment/water/surface-water-drainage/surface-water-drainage.aspx

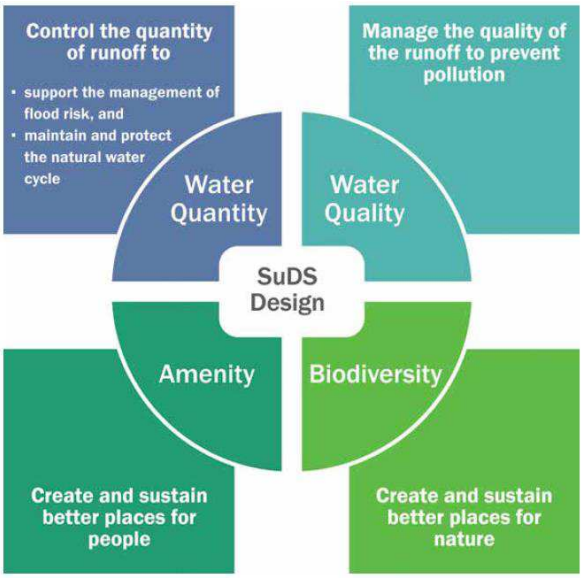
The LLFA's statutory consultee role only relates to major applications however Action 9 of LFRMS2 sets out the intention to work with LPAs on where it would be desirable to consult the LLFA on minor applications.

Action 9: Working with LPAs on minor applications

The LLFA will explore with the LPAs how best to define areas where it would be desirable to consult the LLFA on minor applications and what information should be secured from the applicant.

To assist developers and LPAs, the LLFA has developed a set of policies within LFRMS2. The 9 policies, available within the LLFA's SuDS Policy Statement, cover:

SuDS 1 Run-off Destination (disposal hierarchy)
SuDS 2 Peak Flow and Volume Control – Greenfield Sites
SuDS 3 Peak Flow and Volume Control – Previously developed sites
SuDS 4 Flood Risk Within & Outside the Development
SuDS 5 Managing Overland Flow Routes
SuDS 6 Maximise Resilience and Source Control
SuDS 7 Management of drainage during construction period
SuDS 8 Maintenance, Structural Integrity & Construction
SuDS 9 Sustainability and additional design criteria



The four pillars of SuDS Design (The SuDS Manual C753, Ciria)


SuDS attenuation basin, Bourne End, Dacorum

Development and Watercourses

In two tier local authority areas, the Flood and Water Management Act 2010 resulted in powers relating to ordinary watercourses being divided between the LLFA and district or borough councils. The LLFA holds the powers of consenting and enforcement under Sections 23, 24 and 25 of the Land Drainage Act 1991 and district or borough councils hold the powers to manage flood risk from ordinary watercourses under Section 14A. Although the district and borough councils are all subject to the same duties and have the same powers available to them, they do not operate to a standardised approach to flood risk management activity linked to Ordinary Watercourses across the county.


Unconsented works in an Ordinary Watercourse, Bishops Stortford

Only three of the ten districts or borough councils in Hertfordshire have taken up the powers to develop by-laws for the operation of ordinary watercourses. The LLFA does not routinely advise on minor planning applications and there are no policies specific to the operation of watercourses in district Local Plans.

Action 10 in LFRMS2 is seeking to deliver a consistent approach to Ordinary Watercourse Regulation across the county.

Action 10: Ordinary Watercourse regulation

That the LLFA works with district and borough councils to develop a consistent framework across the county for the regulation of activity relating to ordinary watercourses.

Where a district or borough council is not using the relevant powers available to them there is an option for under Section 13 of the Flood and Water Management Act 2010 for a RMA to make arrangements for a flood risk function to be exercised on its behalf by another RMA. Therefore, where appropriate, the LLFA will request the transfer of the relevant powers within Section 14a of the Act from the district or borough council.

Monitoring and updating the strategy

The proposal within the consultation draft of LFRMS2 is that progress will be reported annually to the relevant Hertfordshire County Council member panel and published online as an annual report.

A partial review and refresh of the strategy will take place after 5 years in 2024.

Appendix B Indicative Timetable for completing review of the Local Flood Risk Management Strategy for Hertfordshire (revised)

Date	Activities	Panel
May 2018	• Draft LFRMS for Hertfordshire	Aim for **ENVIRONMENT, PLANNING & TRANSPORT CABINET PANEL** on 11 May 2018
Mid May, June to end July 2018	• LFRMS out to consultation (including SEA)	
August to Mid-September 2018	• Analyse and review findings from consultation of the LFRMS	
Mid to end September 2018	• Finalise draft LFRMS based upon consultation responses and SEA/HRA	
October & November 2018	• Approval of revised LFRMS 2018-2028 for adoption.	**ENVIRONMENT, PLANNING & TRANSPORT CABINET PANEL** tbc *Approval of final LFRMS for adoption/ presentation to Cabinet for adoption* **CABINET** tbc *Adoption of final LFRMS*

Appendix C Proposed questions to be used on the second LFRMS consultation response form.

The questions set out below may be useful in structuring your response to the section of the draft of the second LFRMS which contains the proposed actions and policies. Comments on other sections of the document are also being sought especially where accuracy or clarity could be improved. A non-technical summary document will be published alongside the final second LFRMS and it would be helpful to receive comments on what this could usefully contain.

Principles for Flood Risk Management in Hertfordshire

1. Taking a risk-based approach to local flood risk management

- Flood risk will be actively managed and we will seek to predict and manage future risk as well as reacting to flood events.

  Q1. If you do not agree with this approach, please state any reasons.
  Q2. Are there any specific actions not described in the strategy that the county council as the LLFA or other Risk Management Authorities (RMAs) should be taking to address this? RMAs are the district and borough councils, the Environment Agency, highway authorities Internal Drainage Boards together with Water and Sewerage companies
  Q3. Any other views and comments on this section?

2. Working in partnership to manage flood risk in the county

- Opportunities will be sought to work with others to better deliver management of local flood risk in Hertfordshire.

  Q4. Should a different approach to partnership working be taken to that which is outlined and proposed?
  Q5. Are there any other partners who would be appropriate to involve in a strategic partnership?
  Q6. Any other views and comments on this section?

- Flood risk measures should be multi-beneficial as far as possible, integrating flood risk management solutions alongside sustainable development and incorporating social and environmental benefits.

  Q7. Are there any circumstances where this would not be appropriate?
  Q8. Any other views and comments on this section?

3. Improving our understanding of flood risk to better inform decision making

- Information on sources of flood risk in Hertfordshire will continue to be developed and improved.

  Q9. Other than recording and investigating flooding and updating the Risk of Flooding from Surface Water (RoFfSW) mapping is there any other information that would be of benefit?

- All reports of flooding will be appropriately investigated so that the historic record of flooding helps to provide a clearer understanding of flood risk in the county.

  Q10. Is the level of investigation described appropriate?

- Flooding information will be risk based, with areas predicted to be at most significant risk analysed in more detail as part of a prioritised programme.

  Q11. Is the approach based on prioritising areas in SWMPs for further investigation appropriate? If not what would be better?

- Information on flood risk will form the evidence base to help focus local resources and funding.

  Q12. What information should the LLFA publish?
  Q13. Any other views and comments on this section?

4. Supporting those at risk of flooding to manage that risk

- Communities should understand the information available to them on flood risk.

  Q14. What information do communities and residents need?

- The support available to communities should aid flood preparedness and resilience.

  Q15. What might this look like?

- Information on local flood risk will be made available to assist in preparing for flood events.

  Q16. What kinds of information would be most useful and effective?

- The roles and responsibilities of the various organisations involved in managing flood risk before, during and after a flood event will be clear.

- The cause of flood events will be effectively investigated and published.

  Q17. Do you agree with the approach that investigations only need to identify the relevant RMA.
  Q18. Any other views and comments on this section?

5. Working to reduce the likelihood of flooding where possible

- Flood risk management funding is directed to areas most at need or where solutions will be most effective, and flood risk management will guide other funding decisions and be appropriately prioritised alongside other needs.

  Q19. Do you think that support through the proposal for a small projects fund would be beneficial?

- Information on local flood risk will be used to allow informed decisions to be made on the level of funding allocated to flood risk management resources within Hertfordshire.

  Q20. What information would be most useful to facilitate this?

- Potential funding for flood risk management projects will be prioritised according to cost-benefit and a range of weighting factors to take into account the evidence of flooding and sustainability of the proposed solution. This will ensure that resources are dedicated in areas where it will be most effective.

  Q21. Is the scheme and funding prioritisation methodology that is described in the strategy appropriate?
  Q22. Any other views and comments on this section?

6. Ensuring that flood risk arising from new development is managed appropriately

- New development must manage its own flood risk, not contribute to flood risk in the local area and must take into account the effects of climate change.

  Q23. Are the requirements for Sustainable Drainage Systems SuDS and ordinary watercourses linked to new development appropriate?
  Q24. Should the LLFA work with district councils to ensure that bylaws are in place across the county allowing development near or over watercourses to be regulated? Should the LLFA seek to do this if necessary through a transfer of powers from district council RMAs?

- New development must make appropriate arrangements for the management and maintenance of features put in place to manage local flood risk.

  Q25. Should the LLFA consider formal designation of all new SuDS features to maintain awareness of functions and responsibilities?

- Where possible, new development should contribute to reducing any existing flood risk within the immediate local area.

  Q26. Is this a reasonable requirement?
  Q27. Any other views and comments on this section?

HERTFORDSHIRE COUNTY COUNCIL

Agenda Item No.

7

ENVIRONMENT, PLANNING & TRANSPORT CABINET PANEL
FRIDAY, 11 MAY 2018 AT 10AM

UPDATE REPORT ON TREE HEALTH ISSUES AND THE POTENTIAL IMPACT ON HERTFORDSHIRE COUNTY COUNCIL

Report of the Chief Executive

Author: Gemma Worswick, Tree Health Network Officer (Tel: 01992 555710)

Executive Member: Derrick Ashley, Environment, Planning & Transport

1. Purpose of report

1.1 To update and inform the Panel of progress in understanding how current and emerging tree health issues are likely to impact Hertfordshire, and actions taken in response to recommendations of the Resources and Performance Panel for managing tree health risk.

2. Summary

2.1 In general, the risk associated with trees is low and is far outweighed by the benefits of trees to the wider environment, the economy, and to people's health and well-being. However, an increasing tree pest and disease threat has resulted in greater risks being associated with trees, in particular where they are situated in high use areas (i.e. roadsides).

2.2 In recent years, two tree health concerns have had particular implications for the assessment and management of tree risk in Hertfordshire. Chalara (ash dieback) and Oak Processionary Moth (OPM) have the potential to impact on a significant proportion of Hertfordshire's trees due to the common occurrence of ash and oak (respective hosts) and natural routes for disease spread. Both diseases have the potential to increase the risk (and potential liability) associated with trees and therefore to increase pressures on tree management systems. An internal audit of the county council's tree management in 2016 found a moderate level of assurance.

2.3 The County Council has a legal duty to take reasonable actions to manage tree risk on its land and has the power to require neighbouring landowners to manage overhanging trees which are a danger to the users of roads and footpaths. Departments with responsibility for trees in the County Council are primarily Environment and Infrastructure

(Countryside & Rights of Way and Highways) and Property (Rural Estates team, Building Management Team, and Estates Team).

2.4 In April 2016, tree health was registered as a County Council Corporate Risk in recognition of the high certainty of occurrence and the significant impact on public safety, service delivery, and financial loss which is expected if mitigation measures are not considered. Initially the risk level was set as Severe; on review in December 2016 the risk level was downgraded to Significant to reflect the likely impact over any one year.

2.5 Recommendations for mitigating tree health risk were identified by the Council's Resources and Performance Cabinet Panel (R&PCP) in 2015. This current report provides updates on the progress of recommended actions from the R&PCP, and the progress of Corporate Risk controls. The report will also provide an update on the status of current and emerging tree health risks in the UK, and implications for Hertfordshire.

3. Recommendation

3.1 That the Cabinet Panel note the report.

4. Background

4.1 The rate at which new pests and diseases are introduced to the UK has increased three fold in the last decade. The warming climate and the international plant trade are key factors influencing this trend. Trees are under increasing stress from other factors (such as soil compaction or inappropriate management) which can increase disease susceptibility.

4.2 It is difficult to predict how new and emerging tree health issues will affect tree risk. Influential factors include number and location of trees affected, severity of disease symptoms, and the effectiveness of control measures. New tree pests and diseases may also have a wider cost in terms of the negative impact on benefits of trees to people and the environment.

Chalara (ash dieback)

4.3 Chalara is a fungal disease of ash resulting in progressive dieback (necrosis) of leaf, branch and main stem tissue. Disease susceptibility varies between trees dependent on age, environmental stress, and genetic factors. The disease has spread rapidly though Europe over the last two decades, although the local impact has been variable. Countries such as Denmark, Lithuania and Sweden have reported between 1-5% of trees showing high levels of natural resistance. Chalara can be a direct or indirect cause of tree death, e.g. weakening

the tree's defences against other diseases, notably the root infection *Armillaria* (honey fungus).

4.4 Chalara was first recorded in the UK in 2012. In Hertfordshire, Chalara has been confirmed in just over half of 10x10km map squares; although this is likely to under-represent the true extent of the disease as not all infection will have been reported. Defra reports that in the UK we should expect that most of our ash trees will become infected with Chalara, although not all will die. Chalara is in the late stage of progression (mortality of mature trees) at one known site in Hertfordshire, Weston Hills near Baldock (Appendix 1).

4.5 Ash is a common tree species in many situations, including woodland, hedgerows, gardens, roadsides, railway embankments, trackways (in particular disused railway lines) and open spaces. Due to the progressive nature of Chalara the risk carried by infected ash trees will become greater over time (as increasingly larger branches and stems die-off). The greatest public risk from Chalara is likely to be found in high usage areas such as highways and trackways. Ash trees on these sites are also subject to significant stress factors, such as high salt content in soils due to winter salting, which can increase disease susceptibility.

4.6 In areas such as Suffolk and Norfolk, where systematic ash monitoring is in place, ash trees have been recorded as becoming hazardous (large dead branches) within two years of the first Chalara symptoms being recorded, with mature trees typically dying within ten years. Managing risk associated with trees, in particular in areas of high public use such as highways, schools and some rights of way, is likely to require more frequent inspections and a greater volume of tree works as the impact of Chalara become more evident over the next decade.

Oak Processionary Moth (OPM)

4.7 Oak processionary moth (OPM) is a recent introduction to the UK, first recorded in 2006 on imported oak trees planted in London. OPM caterpillars are gregarious, feeding collectively on oak and forming communal silken nests on branches and trunks of host trees. If OPM population density is high, oak trees can be stripped of their leaves by caterpillar feeding activity. However, oaks generally recover later in the year and the long term health of host trees is not significantly affected.

4.8 There is a public health risk associated with OPM as caterpillars carry microscopic irritating hairs which can cause allergic reactions in people and domestic animals (cows, horses and dogs are affected). The most likely means of exposure to OPM hairs is contact with nests (especially if nests are low on the tree or have fallen to the ground). The hairs are also carried on the wind. Reactions following initial exposure to OPM are generally mild (do not require medication), and in people are most often confined to localised skin irritation (animals may react differently).

However, repeat exposure can result in increased sensitivity to OPM, resulting in symptoms such as eye irritation and breathing difficulties.

4.9 In 2017, the Forestry Commission received 21 reports of people reacting to OPM in the UK, and two reports for dogs. It is likely that the majority of reactions are unreported due to OPM not being recognised as the cause and most reactions not requiring medical intervention. In 2017, one case of a severe reaction to OPM (resembling anaphylaxis) was reported by a professional gardener in Southwark who sought medical advice after four years of worsening symptoms. Anecdotal reports from Europe (in countries where OPM is widely established) suggest that recreational use of woodlands has been affected by OPM.

4.10 In the last decade, OPM has become established in west and south-west London, in an area known as the core zone. Outside the core zone, OPM outbreaks are monitored and controlled by the Forestry Commission (FC). Control methods include pesticide application and nest removal. The control programme allows the UK to retain EU Protected Zone status, which requires oak trees supplied to the UK to be OPM free (70% of oak trees sold in the UK are imported). The cost of the OPM control programme currently falls to the FC on private land and to Local Authorities on public land. The FC control programme does not operate in the core zone (which includes locations such as Richmond Park with large populations of oak) as eradication is not a realistic outcome.

4.11 Hertfordshire is located on the edge of the known extent of OPM breeding population and is included in the FC's OPM monitoring and control programme. In 2016, four OPM nests were discovered in Hertfordshire, near Watford. After two years of control and monitoring by the FC, the outbreak is considered eradicated. In 2017, pheromone traps recorded male OPM moths in several locations in Hertfordshire including Oxhey Woods (which has a large oak population) and at other sites in Bushey, Rickmansworth, Watford Rural, Hoddesdon, Northaw, Berkhamsted and St Albans. Male moths travel further than females and therefore presence of males does not confirm an OPM breeding population in Hertfordshire.

4.12 In the long term, it is expected that the UK's OPM population will continue to expand. It should be considered that in the future a risk based control strategy may be adopted in the UK (as across other European countries) where it becomes the case that maintenance of the Protected Zone is unachievable or incurs unjustifiable costs (to the environment and /or public finances). In this scenario, the costs and resources for OPM control (where a threat is identified for public or tree health) are likely to fall to the landowner (public and private).

Oriental Chestnut Gall Wasp (OCGW)

4.13 OCGW is a native of parts of Asia which has been accidentally introduced in international trade to Europe and North America. In 2015, the County Council was issued with a Statutory Plant Health Notice (SPHN) which enforced control of an OCGW outbreak in St Albans. Control measures were carried out at a cost of £50,000 to the Local Authority, with the majority of cost accounted for by the three day road closure required to undertake felling works safely. OCGW is a quarantine pest, giving national plant health authorities powers to take measures to contain or eradicate it. Following further findings of OCGW in South-East England and London, SPHNs are not currently issued for OCGW outbreaks as eradication is not realistic.

4.14 OCGW is a low-impact pest of sweet chestnut trees, although the damage caused by OCGW can increase vulnerability to other pathogens (such as Sweet Chestnut Blight). The wasp does not bite, sting or pose any other threat to people, pets or livestock. The Forestry Commission continues to survey for OCGW to monitor its distribution, and work with owners to minimise its impacts.

Emerging Tree Pest and Disease Threats

4.15 Sweet chestnut blight is a fungal disease which has caused epidemics of death and dieback in sweet chestnut trees in North America and Europe. Isolated disease outbreaks have been recorded in the UK since 2011, with the majority occurring in commercial plantations. Control measures for these outbreaks involved sanitation felling, sweet chestnut material movement bans, and monitoring for signs of disease spread. In 2017, sweet chestnut blight was confirmed at a number of sites in East London, Reading, Derbyshire and Berkshire, indicating that the risk of further findings in the South East is increasing. Sweet chestnut is a naturalised non-native species in some Hertfordshire woodlands. However, it is not planted in large scale plantations as in other south-east counties (such as Sussex).

4.16 *Xylella fastidiosa* (Xylella) is a bacterial plant disease which has been recorded in Europe since 2013. *Xylella fastidiosa* is a highly adaptable pathogen with a wide host range (including 100s of herbaceous and woody species). Disease symptoms include leaf wilt, branch dieback and plant death. Common trees in the UK susceptible to the disease include elm, oak, maple and plane. The disease has been recorded in the wider environment in several areas of Europe (including parts of Spain, Corsica, Italy and the Balearic Islands). Defra have recently produced a list of plant species identified as ‘high risk’ imports (most likely to introduce Xylella to the UK). These plants include cherry, rosemary, and lavender (all have a high UK import demand). From 2018, the Royal Horticultural Society (RHS) have banned the inclusion of high risk Xylella host plants from RHS shows, with the exception of UK grown. The UK is an EU Protected Zone for Xylella, meaning that a

disease outbreak would be subject to strict control measures such as destruction of host plants in the immediate vicinity (i.e. nursery stock), and a movement ban (trade ban) for host plants within 5 km of the outbreak (if destruction of nursery stock does not contain the disease).

Legal Obligations for Management of Tree Risk (Potential Liability)

4.17 As a landowner, the County Council has a duty of care to people accessing its land (Occupiers Liability Act, 1984). This duty of care extends to managing the risk associated with trees. The Council also has a duty to ensure that employees and members of the public are not put at risk by its undertakings, including tree and land management (Health and Safety at Work Act, 1974). In addition, the Council has the power to enforce the management of trees on private land. This may be used at the authority's discretion where those trees are a risk to safe operation of the highway (s154 Highways Act, 1980).

4.18 In 2011, The National Tree Safety Group (NTSG) produced the 'Common Sense Risk Management of Trees' document. This is recognised as the national guidance for determining a proportionate and reasonable approach to tree risk management. In 2015, the NTSG produced a 'Pest and Disease Update' addendum in response to the increase in tree risk associated with new tree pest and disease threats (notably Chalara). The addendum recommends reviewing existing tree management systems in response to the arrival of a new disease threat, adapting survey, inspection and management regimes as appropriate.

Tree Health Management Action

4.19 In July 2015 the Resources and Performance Cabinet Panel (R&PCP) produced eleven (11) recommendations for managing the impact to the County Council of the increasing tree pest and disease threat. An update on tree health issues, and how they affect Hertfordshire, was reported to the December 2016 Environment, Planning and Transport Cabinet Panel.

4.20 Key tree health actions in 2016, following recommendations of the R&PCP, were aimed at raising the profile of the increasing tree health threat. Information related to tree pests and disease was disseminated through the Tree Health communication network to county council Departments with responsibility for trees and to Local District Council Tree Officers. The Chairman of the R&PCP wrote to the Secretary for Environment, Food and Rural Affairs to raise awareness of the likely cost to Local Authorities of managing the increasing tree pest and disease threat.

4.21 Tree Health was registered as a Corporate Risk in 2016, listing 14 control measures which are reported quarterly. An Internal Audit of the County Council's Departmental Tree Policies and Practices conducted

in 2016 produced seven (7) recommendations for increasing resilience and efficiency of its tree management systems. The actions identified by the Corporate Risk and the Shared Internal Audit Service complement the recommendations of the R&PCP to manage the impact of the increasing tree health threat.

4.22 In January 2017 the Countryside Management Service (CMS) recruited a Tree Health Network Officer (THNO) to progress the recommendations of the R&PCP. A key objective of the THNO role is to share up to date information on tree pests and diseases, and promote best practice for assessing and managing tree health threats. The Hertfordshire Tree Health Network is the key tool for disseminating this information. The THNO role also includes reporting control measure updates for the Corporate Risk register, and following up the recommendations of the Tree Policies and Practices Audit.

4.23 The THNO has been working with Property colleagues to produce an Action Plan for a documented Tree Strategy. The standards identified for the tree strategy are: a three year detailed (formal) rolling inspection of high risk zones; annual (informal) inspection of damaged and diseased trees in high risk areas (prioritising ash tree locations); and, provision for reactive survey of high risk zones following extreme weather events. These standards incorporate guidance detailed in 'Common Sense Risk Management of Trees' (NTSG 2011), and the NTSG (2015) Pest and Disease Update. In 2016, Property completed tree works identified in the 2016/2017 inspection of the Hertsmere Rural Estate.

4.24 The THNO has attended training, workshop, and conference events on the subject of tree health and management of tree risk, disseminating key information through the Tree Health Network. These events have included a workshop on OPM awareness and survey methods, attended by THNO and members of Rural Estates. Following the OPM workshop, and production of a newsletter for the Tree Health Network, public information leaflets for OPM were distributed around Rural Estate tenants and to GPs and pharmacies in areas of Hertfordshire most at risk from OPM (with support from Public Health).

4.25 In 2017, with the cooperation of other Local Authorities, the THNO has also been able to arrange tailored training and workshop events on monitoring and management issues related to Chalara. These events included on-site training in a 'drive-by' survey protocol, developed by Norfolk County Council, which allows rapid assessment of roadside ash trees (using categories of % dieback as a proxy for tree health). In September, Suffolk County Council hosted a Chalara workshop which was attended by representatives of Highways, Rural Estates, Risk Management and CMS. This event has informed drafting of the Property Tree Strategy (4.23), re-evaluation of the Corporate Risk focus, and has provided a clearer understanding of how we can expect

ash health, and associated risk, to develop over the next few years (4.8).

4.26 The THNO represents the Council's interests on the national Ash Health and Safety Task Force. This advises Defra in the development of national guidance and policy which can mitigate some of the challenges faced by LAs (and other landowners) in managing risk associated with Chalara. Discussed at the most recent meeting were potential changes to felling licence conditions for ash, plans to review the NTSG national guidance for minimum inspection intervals for highway trees, and development of a protocol for managing ash tree decline in high risk zones.

4.27 CMS developed a simple biosecurity and procurement protocol, in line with national guidance, which has been circulated around the Tree Health Network for all involved in these areas within the Hertfordshire Local Authority family to adopt. CMS has also set up a biosecurity kit, including sanitising spray, for regular cleaning of tools used on sensitive sites by volunteers.

4.28 The THNO has also been raising awareness of the wider community through guided walks in East Herts, North Herts, and Hertsmere. The updated CMS web page includes a tree health page with links to regularly updated tree pest and disease resources. An article on current and future tree health threats was included in CMS news which has a circulation of approximately 1,000.

5. Future Actions

5.1 In 2018 the THNO will work with District Council Tree Officers to agree a consistent good practice approach to tree risk management and reporting. Highway tree inspection and management intervals will be a particular focus. This review has been triggered by a recent court ruling in which Witley Parish Council was found liable for personal injury caused by a fallen tree due to their failure to increase tree inspection frequency (from three years to two years or 18 months) despite precedent from a neighbouring local authority and expert advice provided by their arboriculturist. This ruling suggests that an 18 month minimum inspection interval is reasonable in certain high risk zone locations where tree failure can be expected to result in a high probability of injury or death (Cavanagh v Witley Parish Council 2017).

5.2 A review of the County Council's Highway tree inspection regimes is planned for 2017/2018, potentially incorporating best practice and emerging legal precedents set since the previous review. The former will include alternative approaches to ash monitoring and management from other Local Authorities. The aim will be to ensure tree inspection data informs efficient and effective management of tree risk under the increasing tree health threat. For example, analysis of the age and height distribution of roadside ash would allow a more accurate

quantification of the potential liability of Highway's ash tree asset. This analysis could inform a risk based approach to planning tree inspection and work programmes.

5.3 In 2018, the THNO will continue to attend conferences, workshops, and the Defra Ash Tree Health and Safety Task Force, to remain up to date on tree health issues, policy, national guidance development, and common use methodologies for efficient monitoring and management of tree health risks (i.e. remote sensing, etc.). The THNO will also provide further opportunities for workshops and training, for Property and Highway staff with responsibilities for identifying tree pests and diseases, and assessing tree risk. The THNO will continue to disseminate information through the Tree Health Network.

5.4 A selection of proposed trees for planting in Hertfordshire will be developed and shared with local authority colleagues to provide a range of tree and shrub species appropriate to local conditions and landscape character in different areas of Hertfordshire. This "palate" will provide suitable alternatives for ash in hedgerows, shelterbelts, and other naturalised tree planting situations. It will also be designed to encourage diversification in species and age structure of new and replacement tree planting options in order to increase resilience to the increasing pest and disease threat.

5.5 Tree Policies and Practices in the County Council are Departmental, meaning there is no overarching Tree Strategy. The possibility of developing a tree strategy could be an appropriate focus for a tree health conference for Hertfordshire in 2018/2019. A corporate tree strategy would be informed by Defra's 25-year Environment Plan (published January 2018) and the Government's forthcoming Tree Health Resilience Plan (planned for late 2018). The Highway Tree Strategy is under a five-year review in 2018. The review process will consult with Countryside & Rights of Way and the Hertfordshire Landscape and Green Infrastructure Group. It will be compliant with the new code of practice 'Well Managed Highway Infrastructure' and developing national guidance and policy relating to management of tree risk.

5.6 In 2017, a number of the Corporate Risk Controls moved to a status of 'in place' or 'taking effect'. Over the next year, it would be appropriate to move the focus of the control measures from assessment of liability, to developing strategic approaches to mitigating tree health threats. For example, it would accord with Defra's 25-year Environment Plan (2018) and be responsible to review how biosecurity is considered within the Council's procurement protocol, and assess the feasibility of excluding high risk Xylella plants from procurement (unless guaranteed UK grown). It will also act to influence species choice in landscape planting secured through development.

5.7 As of March 2018, the Corporate Risk Register will recognise two categories of risk, Strategic and Corporate. Both categories will continue to be subject to current criteria for the Corporate Risk Register, i.e. potential to impact on key resources and services and the potential threat to service users and reputation of the organisation. Tree Health (ENV0142) will be registered as a Strategic Risk which means that its impact is likely to be more targeted (i.e. to particular areas of the organisation) and take place over a shorter time-frame than Corporate Risks. Strategic risks are also affected by factors which are difficult to predict, such as environmental change and new/amended legislation, and therefore risk levels may be changeable.

6. Financial Implications

6.1 In 2016 it was reported that the anticipated potential liability to the County Council from tree health threats (predominately Chalara) was £10m, based on an assumption of 15,000 ash trees in the Highway asset. In 2017, Highways identified 15,492 ash trees along urban road networks (high public risk zone). The £10m anticipated liability for the County Council is broadly in agreement with work undertaken elsewhere (Kent and Suffolk) which estimates a potential liability in the order of £7m to £16m. In Devon (second longest road network in the UK), it has been calculated that to manage all privately owned ash trees along highways would cost the Local Authority £26m (assuming half the costs are reclaimed).

6.2 Maintaining a reasonable approach to tree risk management in Hertfordshire may incur increasing costs in the next few years. It is likely that trees (in particular ash) will need to be inspected more frequently, with a greater amount of remedial works required. It is intended that this will be balanced by a less frequent regime for other stock. In the long term, replanting costs may also need to be considered. The Council currently has a potential pressure of £250k identified as an uncertainty within the Integrated Plan for Highways which highlights an increasing risk that this will be required over the next 5 years.

6.3 Costings for annual ash tree monitoring and management are available from some Local Authorities (where Chalara is well established). Norfolk County Council spent £78,000 in 2016 to conduct a drive-by assessment of ash tree health (using canopy cover category as a proxy for tree health) along the A and B road network (717km). Devon County Council estimates the cost of a similar survey to be £195,000 (£12.50/km). Kent County Council spent an additional £21,000 in 2016 managing roadside ash trees.

6.4 In 2017, the Forestry Commission spent £584,000 controlling OPM nationally. Cost breakdown; in £7.81/surveyed tree, £8.35/sprayed tree and £795/nest removal. In Hertfordshire OPM pheromone trapping (with positive results) and spraying (of 2016 OPM outbreak area in

Watford) took place in 2017. Further OPM outbreaks in Hertfordshire are likely in the next few years. The cost of OPM control on Local Authority owned land is borne by the landowner.

7. Equalities Implications

7.1 When considering proposals placed before Members it is important that they are fully aware of, and have themselves rigorously considered the equalities implications of the decision that they are taking.

7.2 Rigorous consideration will ensure that proper appreciation of any potential impact of that decision on the County Council's statutory obligations under the Public Sector Equality Duty. As a minimum, this requires decision makers to read and carefully consider the content of any Equalities Impact Assessment (EqIA) produced by officers.

7.3 The Equality Act 2010 requires the Council when exercising its functions to have due regard to the need to (a) eliminate discrimination, harassment, victimisation and other conduct prohibited under the Act; (b) advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it and (c) foster good relations between persons who share a relevant protected characteristic and persons who do not share it. The protected characteristics under the Equality Act 2010 are age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion and belief, sex and sexual orientation.

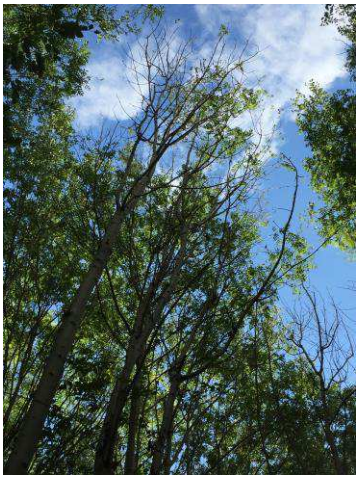
7.4 There are no equalities issues associated with this report.

Background Information

National Tree Safety Group - publications

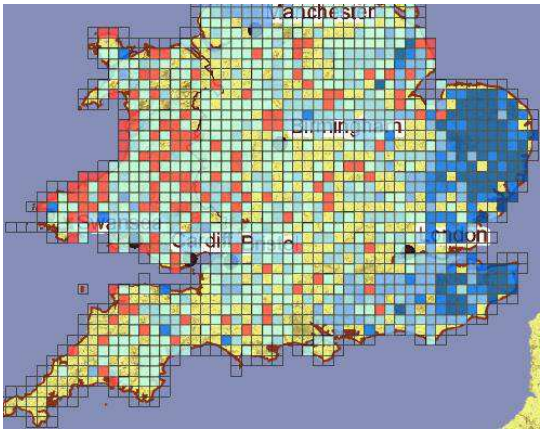
Appendix 1

Chalara (ash dieback) images



Chalara in young tree - stem lesion and wilting leaves. **Chalara in mature trees – stem lesion on main stem (photo 1) and extensive dieback (50-75%) in ash tree crowns (photo 2) .**

Gemma Worswick, Weston Hills Local Nature Reserve nr Baldock, North Hertfordshire, 14 Sept 2017



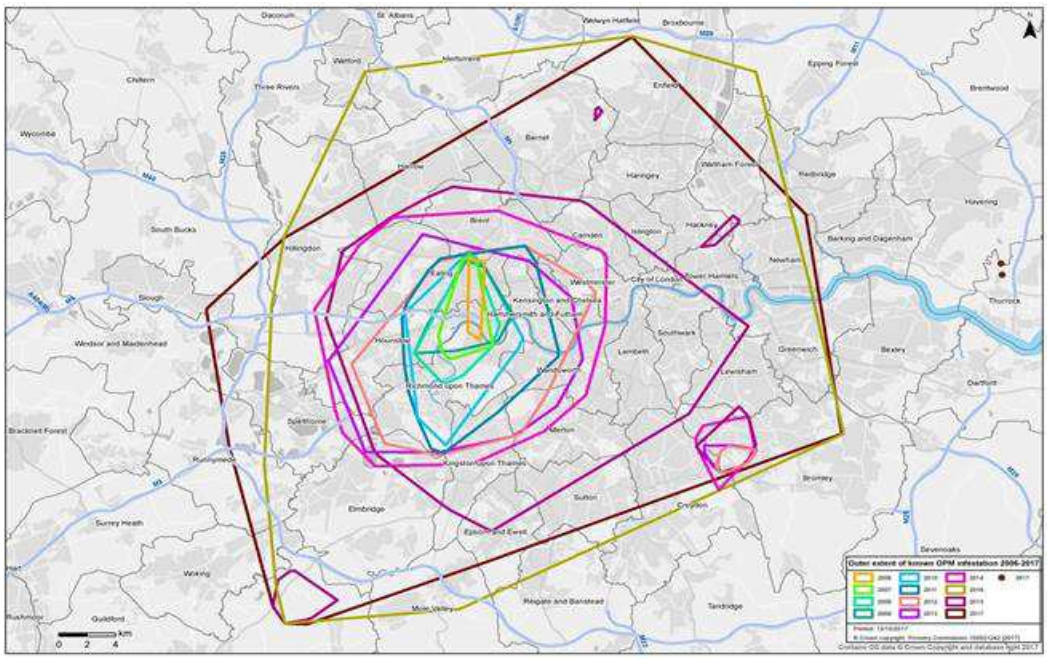
Confirmed wider environment ash dieback infections (blue and red squares) in central and southern England and Wales, 1 Dec 2017. **Confirmed wider environment ash dieback infections in Hertfordshire, 1 Dec 2017**

(http://www.forestry.gov.uk/chalara), Open Government Licence.

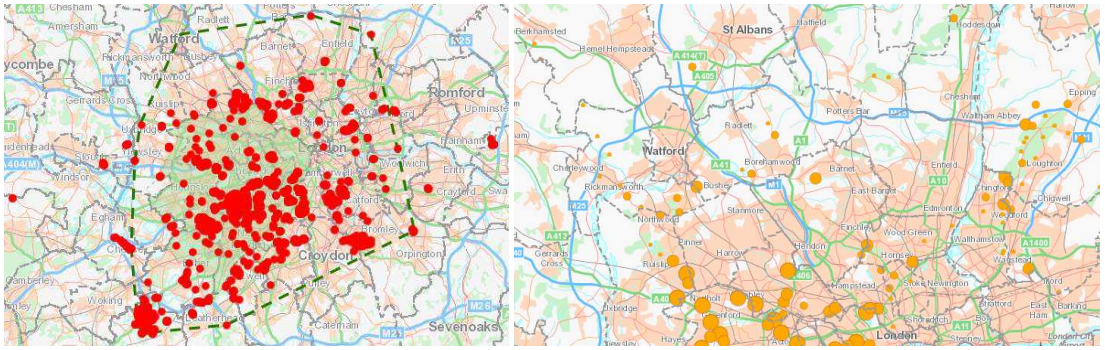
Oak Processionary Moth (OPM) images

Cross-section of UK ash trees infected with Chalara – demonstrates the growth stress experienced by infected trees (photo 1) and impact of concurrent Chalara and root fungal infections on timber integrity. Images provided by Garry Battell, Woodland Advisor, Suffolk County Council

Public warning notice for OPM in Richmond Park, London. Gemma Worswick, 25 May 2017 **OPM nest on oak in Alexandra Palace Park - tree has been cordoned off for public safety.** Photo provided by Andrew Hoppit, OPM Project, Manager, Forestry Commission



Spread of OPM breeding population from 2006 to 2016. Crown copyright, courtesy Forestry Commission, Open Government Licence



OPM nests recorded in 2017 (dots) and 2016 (dotted line shows extent of nest distribution). OPM pheromone trap results for 2017 (male moths only) – size of circle relates to number of moths caught).

Crown Copyright, courtesy of Forestry Commission, Open Government Licence

HERTFORDSHIRE COUNTY COUNCIL

Agenda Item No.

8

ENVIRONMENT, PLANNING & TRANSPORT CABINET PANEL
FRIDAY, 11 MAY 2018, AT 10.00AM

LONDON STANSTED AIRPORT - PLANNING APPLICATION FOR PLANNING PERMISSION FOR AIRFIELD INFRASTRUCTURE (TWO NEW TAXIWAY LINKS TO THE RUNWAY, SIX ADDITIONAL REMOTE AIRCRAFT STANDS AND THREE ADDITIONAL REMOTE AIRCRAFT STANDS) TO SUPPORT GROWTH AT STANSTED WITH THE CAP ON THE NUMBER OF PASSENGERS RAISED FROM 35MPPA TO 43MPPA. (UTT/18/0460/FUL)

Report of the Chief Executive

Author: Paul Donovan, Team Leader Strategic Land Use
Telephone (01992 556289)

Executive Member: Derrick Ashley - Environment, Planning and Transport

1. Purpose of report

1.1 To inform Panel of an application by Stansted Airport Limited (STAL) to Uttlesford District Council (UDC) for planning permission for airfield works to enable combined operations of 274,000 aircraft movements and a throughput of 43 million terminal passengers, in a 12-month calendar period and seek Panel views on the emerging County Council position.

2. Summary

2.1 Planning permission already exists at London Stansted for a throughput of 35 million passengers per annum (mppa). STAL is of the view that that limit is likely to be reached at or around 2023. This current planning application seeks planning permission for airfield infrastructure (two new taxiway links to the runway, six additional remote aircraft stands and three additional remote aircraft stands) to support growth at Stansted with the cap on the number of passengers raised from 35 mppa to 43 mppa.

2.2 The planning application concludes that there are no significant environmental or surface access impacts associated with the proposed development and that it would generate significant economic and social benefits. A package of mitigation measures have been offered by the applicant relating to skills and economy, noise, surface access and community.

2.3 The County Council is engaged in processes (predominantly related to surface access, air quality, noise and health) designed to test the validity of the conclusions of the planning application and adequacy of the mitigation measures proposed.

2.4 UDC has entered into a Planning Performance Agreement in which it commits to making a decision on the application on 18 July. Responses to the consultation on the application were required by 30 April. The County Council has submitted an interim response reflecting the current state of play in relation to technical discussions taking place with the applicant. A further response will be made in advance, as necessary, to reflect the outcome of ongoing technical work/negotiation.

3. Recommendation

3.1 The Panel is asked to note and comment on, as necessary, the County Council's interim position on the planning application as set out in Section 7 of this report and authorise the Chief Executive to respond further as necessary, in consultation with the Executive Member Environment, Planning and Transport, to reflect ongoing technical work and negotiations.

4. Background

4.1 Manchester Airports Group (MAG) acquired Stansted Airport from (the then) British Airports Authority (BAA), now Heathrow Airport Holdings Limited, in 2013. Since that time, Stansted Airport Limited (STAL) has been working with a number of airlines to increase the number and destinations of its services. This greater choice has resulted in a rapid increase in Stansted's passenger numbers from 17.8 mppa in 2013 to 25.9 mppa in 2017. As at the end of February 2018, Stansted Airport was operating at 26 mppa and is forecast to reach 29 mppa by the early part of 2019.

4.2 Planning permission currently exists for a throughput of 35 mppa. STAL is of the view that the limit is likely to be reached at or around 2023.

4.3 In 2015, a 'Sustainable Development Plan' (SDP) was published by the applicant for the Airport demonstrating how to make the best use of the existing single runway – estimated at that time to be *'between 40 and 45 million passengers a year'*.

4.4 Planning permission was recently granted by UDC for a new arrivals building, which is anticipated to open in 2020. This facility is required for passengers expected under existing permitted levels, but would also be sufficient to accommodate those numbers planned for under the current planning application.

5. The Application

5.1 This planning application seeks full planning permission for airfield infrastructure (two new taxiway links to the runway, six additional remote aircraft stands and three additional remote aircraft stands) to support growth at Stansted Airport, with the cap on the number of passengers raised from 35 mppa to 43 mppa. The existing limit on the total number of aircraft movements [passenger and cargo air transport movements (ATMs), plus 'other' air movements] of 274,000 ATMs a year is to remain unchanged. This limit would be a singular limit rather than being sub-divided as per the operational limits contained within the current permission (243,500 passenger ATMs, 20,500 cargo ATMs and 10,000 other ATMs). The application is accompanied by an Environment Impact Assessment.

Key Messages

5.2 Some key messages from the planning application:

- the new airfield infrastructure will enable the airport to make ***the best and most efficient use of the existing single runway*** and enable an increase in passengers to 43 mppa.
- the proposal is consistent with the ***Government's support for airports seeking to make the best use of existing capacity*** – Stansted is the only major airport capable of making a significant contribution to meeting demand locally and across the London system over the next 10 years. It is also consistent with the Development Plan in operation in the area.
- the infrastructure proposed would lie within the current airfield, replacing airfield grass and some existing hard surface.
- it will create socio-economic benefits to users of the airport and across the region and beyond. It would ***create a further 5,400 jobs*** at the airport.
- a key feature of the application is that the ***main noise controls*** that are imposed (aircraft movement limit and noise contour area limit) ***remain in place as the airport grows beyond 35 mppa to 43 mppa***.
- ***significant adverse noise impacts do not arise for any properties*** as a result of the development. A change of 3dB is necessary in order to be discernible to the human ear. Any change in noise levels is small at less than 1dB.
- the application does ***not seek any changes to night flight restrictions*** imposed by the Secretary of State.
- at 43 mppa, average daytime noise exposure within the 57dB L_{Aeq}, 16hr noise contour extends to an area of 28.7 sqkm - ***which is 5.2sqkm within the existing limit imposed on the airport of 33.9sqkm***. The main reason a reduction is achieved is because the noise footprint of typical aircraft in the future is roughly half that of today – because new generation aircraft are generally between 3db and 5db quieter on departure – and it is not proposed to increase the number of aircraft movements.
- the proposed development would result in ***only marginal increases for all NO_2, PM_{10} and $PM_{2.5}$ emissions at some isolated receptors***. There are no exceedances of legal limits and are well below air quality standards for human receptors and below those for ecological receptors. The application

concludes that the proposed development ***will not have any unacceptable impact on health, the natural environment or general amenity***.

- there are ***not considered to be any unmanageable climate change resilience implications***. In terms of carbon emissions, the rise from 35 mppa to 43 mppa ***generates additional cumulative 2016-2028 carbon emissions of 1.8 $MtCO_{2e}$*** (49.2 $MtCO_{2e}$ compared to 47.4 $MtCO_{2e}$).
- Stansted Airport has the highest pubic transport mode share for passengers of any major airport in the UK, with around ***52% of passengers travelling by public transport***.
- current surface access peaks at the airport are 04:00-05:00hrs for arrival, 00:00-01:00hrs for departure and a combined peak at 17:00-18:00hrs.
- as the airport grows the pattern of flights will change and become more evenly spread across the day and less well-defined peaks and troughs. ***As the airport grows there will be limited growth in peak demand but greater demand occurs throughout the day***.
- ***modelling of the highway network has incorporated background growth*** (which incorporates housing and economic growth) and airport traffic growth (passengers and staff) and taken account of planned highway improvements.
- ***the average annual daily traffic growth associated with the uplift in demand is limited to an impact of less than 3% on local roads and no more than 5% on trunk roads, which the application considers to be minimal***. Levels of growth exceeding 10% are seen only on Thremhall Avenue, the A120 between the airport and the M11 and the short link between Thremhall Avenue to the A120 east bound. In addition a minor impact is expected on the operation of Junction 8 of the M11. ***In totality, the traffic impacts associated with the proposed development are localised to the airport site and immediate road network***.
- the impact of the proposed development to 43 mppa compared to the approved 35 mppa scenario ***is not anticipated to cause any significant change in operational conditions***.
- the additional traffic associated with the development ***contributes to forecast congestion issues at M11 Junction 8*** associated with background growth for which a scheme is being developed by the highway authorities.
- it is acknowledged that ***small scale traffic increases will occur and that localised improvements may be required over time as the airport grows***. The application proposes the ***creation of a Local Road Fund*** to contribute towards local infrastructure schemes, the allocation of which would be determined by the Highways Working Group of the Airport Transport Forum.
- the effect of rail services is considered to be ***negligible on the Stansted Express*** – there will be spare seating capacity in both directions. On the ***Greater Anglia services to Cambridge*** there will be an additional 177 passengers each way per day which is within the capacity of the service and ***of a negligible scale***.
- Given that existing and planned services will have sufficient capacity to meet airport demand ***no infrastructure mitigation is required to address***

the impacts on rail capacity. ***In terms of bus and coach***, the application states that the ***additional demand is likely to stimulate new services and therefore be a positive impact***.

- the proposed development is assessed as having ***no detrimental impact on water resources, is capable of being adequately drained and will not give rise to any pollution risk***.
- community well-being and health impacts – ***the impacts of the development on air quality are negligible*** and judged ***highly unlikely that any consequential impacts on respiratory disease will occur***. The ***noise resulting from the proposed development is assessed as being negligible*** and the ***health impacts (i.e. ischemic heart disease, stroke of dementia) are barely measurable***. ***Hypertension, depression or anxiety caused by sleep disturbance is predicted to be a very small impact***. There are some issues at some community and care receptors – Howe school, St Giles Church in Great Hallingbury and Falcon House residential home in Little Hallingbury – ***which might give rise to increased disruption to learning, to the care environment and worshippers***. ***Overflights may impact upon the enjoyment of visitors to Hatfield Forest***. ***The scale of these impacts is judged to be minor or negligible and can be mitigated***.
- there will be increased opportunities for employment and stabilisation of employment which provide direct links to healthier lifestyles. Increases in GVA can lead indirectly to ***increased personal wealth and facilitate healthier lifestyles***. Increased opportunities for leisure trips would facilitate maintenance of social and family connections, as well as enabling cultural, recreational or educational experiences – ***increasing life satisfaction, happiness, self-reported general health and mental health, contributing to quality of life***.
- the applicant concludes that ***the planning application is in overall accordance with the Development Plan and represents a form of sustainable development that will bring significant economic and social benefits without causing unacceptable environmental harm***.

Proposed Mitigation

5.3 The applicant has developed a package of mitigation measures which it considers are relevant and related to the proposed development. These can be summarised as follows:

Skills and Economy

5.4 Proposed measures include:

- Airport Employment Academy - funding and support for an on-site skills and employment centre to enable more jobseekers to choose to work at Stansted.
- Aerozone – funding and operation of an on-site education centre for local children to raise standards and attainment.
- Stansted Airport College – funding and support on an on-site Further Education College to ensure a supply of suitably skilled labour.

- Local Supply Chain Support – including 'Meet the Buyers' events to increase the number of contracts awarded to local businesses.

Noise

5.5 The applicant has undertaken a review of compensation schemes at other UK and international airports to establish current and best practice and have developed a new and enhanced scheme for the mitigation package, the main features of which are:

- a larger geographic area of coverage, increasing the number of eligible properties.
- a scheme based on meeting one of three qualifying noise metrics.
- a higher rate of grant, which would not require any match funding by the home-owner.
- a tiered system which provides the highest funding for the noisiest areas.
- the additional of roof insulation to the schemes.
- a free home insulation survey and report to establish the most suitable measures.

Surface Access

5.6 Proposed measures include:

- off-airport highway improvements – focussed intervention on capacity solutions for J8, M11.
- walking and cycling Improvements – including the extension of footways and cycleways linking the key areas of the airport with the public transport interchange and off-airport networks.
- a Local Roads Fund – set up to deliver localised improvements, traffic management and enforcement measures in conjunction with the local Highway Authorities.
- Local Bus Network Development Fund – further funding towards supporting new services in the local area.

Community

5.7 Proposed measures include:

- Community and Well-being Fund – a new Trust Fund set up with greater breadth and funding ambitions to provide financial sponsorship towards local community projects that improve cultural and social well-being and healthy lifestyles.
- Airport Community Volunteer Network – provision of volunteering, mentoring and coaching of local young people and practical support for community projects.
- Express Drop-Off Discount – improved discount scheme for use of the airport forecourt by local residents, modified to benefit residents affected by aircraft noise.

- Rail Commuter Parking Scheme – reduced costs and updated to reflect and respond to modern commuting patterns.

6. The County Council's position on London Stansted

6.1 The County Council's position on aviation and London Stansted is set out within its Corporate Plan 'Hertfordshire County of Opportunity Corporate Plan 2017-2021' and Local Transport Plan, as follows:

Hertfordshire County of Opportunity Corporate Plan 2017-2021

*'Opportunity to thrive - a*cross Hertfordshire, we want to see:
……..

- *Our natural environment and diverse habitats protected from excessive or inappropriate growth, including the negative effects of airport expansion.'*

Local Transport Plan

6.2 The existing Local Transport Plan (LTP3) states:

'3.2 Airports

The Air Transport White Paper published in December 2003 set out the government's then policy for airport development. The intention was that full use would be made of the capacity of existing runways and in addition a second widespaced runway was proposed at Stansted and a full-length runway at Luton. The county council's position remains strongly against these proposals. A new National Policy Statement on Airports due to be published in 2011 will set out a different policy to that of the White Paper.'

A The county council is opposed to new runway development at Luton and Stansted Airports.

B Should any future development and growth in passenger numbers at either Stansted and Luton Airports be promoted, the county council will seek the provision in Hertfordshire of adequate supporting surface access infrastructure and services to meet the needs of airport users while minimising the impact on local and other travellers. The county council will seek assurance that the funding of such improvements will be in place before growth occurs.

C The county council will promote and where possible facilitate a modal shift of both airport passengers and employees towards sustainable modes.'

6.3 The emerging new Local Transport Plan (LTP4) is expected to become County Council policy this year. With regard to airports, draft LTP4 states the following:

*'**Policy 11: Airports***

The County Council, working in partnership with neighbouring local authorities and airport operators, will seek improvements to surface access to Luton and Stansted Airports, and promote and where possible facilitate a modal shift of both airport passengers and employees towards sustainable modes of transport. The county council is opposed to new runway development at Luton and Stansted Airports.

Application

The County Council will seek to implement this policy through working closely with the airports and the relevant neighbouring local authorities to ensure access to and from Hertfordshire for the region's airports, particularly London Luton and London Stansted, is improved and focussed primarily on sustainable modes of travel. The Council will seek to ensure it exerts its influence on the aims, objectives, proposals and targets contained within the Luton Surface Access Strategy and the Stansted Sustainable Development Strategy and closely link these to the relevant Growth and Transport Plans (see page 91).

The County Council will be working with relevant stakeholders to improve rail access to Stansted, without causing a detriment to other existing services on the West Anglia Mainline. The county council will also lobby train operating companies for improved facilities on these trains. It will work in partnership in seeking to tackle traffic congestion on the key radial routes to the airport and reduce the amount of vehicle trips, with an emphasis on promoting more sustainable modes of travel.

The County Council, local authority partners, bus operators and the airport operators will look for opportunities to maximise the levels of passenger transport (bus and coach), especially from areas without direct rail access to Stansted and Luton Airports.

The County Council will also seek to work with the relevant authorities to help minimise any environmental impacts, such as noise, arising from aviation (see Environment Policy 21).

Outcomes

Overall the policy seeks the delivery of sustainable airport growth at both Luton and Stansted with negative impacts on the local road network, environment and quality of life minimised. According an increase in sustainable mode share by airport passengers and employees at both airports should be sought.

Policy 21: Environment

The County Council will seek to:

e) Minimise noise issues arising from transport where practical to do so.

Application

Traffic, air travel and passenger transport can all cause noise disturbances, which can impact upon quality of life and tranquillity. The Council will seek to minimise the impacts of traffic and transport noise in Hertfordshire, both when maintaining the existing transport infrastructure and when new infrastructure is installed. This will be achieved by working with key partners and stakeholders and through use of appropriate materials. The county council will also work with the local airports to seek to reduce disturbances from aircraft noise in Hertfordshire.'

6.4 The County Council's position on growth at London Stansted Airport is broadly to seek to ensure that surface access arrangements are properly catered for (and opportunities for modal shift from the private car facilitated) and environmental impacts minimised. This provides the context for the County Council's engagement with the planning application.

7. Responding to the planning application

7.1 Upon receipt of the application UDC convened a number of workshops on what it considered to be the main issues relating to the proposal - surface access, noise, health and air quality. These workshops represented an opportunity for the applicant and its specialist consultancies in these issues to present their evidence and conclusions to UDC and other local authorities (East Hertfordshire District Council, Essex County Council and Hertfordshire County Council) and Highways England.

7.2 UDC has commissioned specialist expert consultancy advice on matters relating to air quality and noise. Those experts were in attendance at the workshops. Surface access workshops were attended by the three transport/highway authorities (Essex County Council, Hertfordshire County Council and Highways England) and their specialist advisors.

7.3 The deadline for responding to the consultation was 30 April 2018, in advance of this Panel meeting. UDC has entered into a Planning Performance Agreement in which it commits to making a decision on the application on 18 July. At the time of writing an interim response was being prepared to meet the 30 April deadline, drafted to reflect ongoing discussions between the local authorities, Highways England and the applicant. The main issues identified are as follows:

Air quality, noise, health - on air quality, noise and health the experts commissioned by UDC appear to be reasonably content with the evidence

supporting the application and conclusions reached. This is, however, subject to further clarification and information sharing and potentially some additional work being undertaken by the applicant. Whilst the dialogue is ongoing, initial indications suggest there are unlikely to be any significant adverse impacts arising from the proposal. The County Council's interim response welcomes this, subject to confirmation through ongoing analysis.

Surface access - at this stage the three highway authorities are liaising with the applicant to ensure that the approach adopted to highways modelling in relation to the forecast impacts of the proposed development on the network are satisfactory and can be considered to be robust. Further technical work and sensitivity testing is in progress by the applicant and the position is to be reviewed in a series of meetings over coming weeks.

7.4 A copy of the County Council's interim response will be available at Panel. The local authorities and Highways England continue to liaise technically on the above matters and will continue to do so as the planning application progresses. That process will include seeking to secure appropriate mitigation measures proposed by the applicant and any additional ones considered necessary to accompany any planning permission, were one to be granted. The County Council's interim response reserves the right to make further formal response to reflect that ongoing technical work/negotiation.

8. Financial Implications

8.1 There are no direct financial implications arising from this report.

9. Equality Implications

9.1 When considering proposals placed before Members it is important that they are fully aware of, and have themselves rigorously considered the equality implications of the decision that they are making.

9.2 Rigorous consideration will ensure proper appreciation of any potential impact of that decision on the County Council's statutory obligations under the Public Sector Equality Duty.

9.3 The Equality Act 2010 requires the County Council when exercising its functions to have due regard to the need to (a) eliminate discrimination, harassment, victimisation and other conduct prohibited under the Act; (b) advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it and (c) foster good relations between persons who share a relevant protected characteristic and persons who do not share it. The protected characteristics under the Equality Act 2010 are age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion and belief, sex and sexual orientation.

9.4 There is no EQiA as no decisions are being made by the County Council. UDC is the decision-maker on this planning application.

Background Information

Application for Planning Permission. Town and Country Planning Act 1990. Airfield works comprising two new taxiway links to the existing runway (a Rapid Access Taxiway and a Rapid Exit Taxiway), six additional remote aircraft stands adjacent Yankee taxiway); and three additional aircraft stands (extension of the Echo Apron) to enable combined airfield operations of 274,000 aircraft movements and a throughput of 43 million terminal passengers, in a 12-month calendar period. (UTT/18/0460/FUL). Stansted Airport Limited (STAL).

HERTFORDSHIRE COUNTY COUNCIL

Agenda Item No.

9

ENVIRONMENT, PLANNING & TRANSPORT CABINET PANEL
FRIDAY, 11 MAY 2018 AT 10.00AM

GOVERNMENT CONSULTATIONS ON CHANGES TO THE NATIONAL PLANNING POLICY FRAMEWORK AND SUPPORTING DEVELOPMENT THROUGH DEVELOPER CONTRIBUTIONS

Report of the Chief Executive

Author: Paul Donovan, Team Leader Strategic Land Use
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Environment and Infrastructure
Telephone (01992) 588110

Executive Member: Derrick Ashley - Environment, Planning and Transport

1. Purpose of report

1.1 To inform Panel of the contents of, and the County Council's response to, consultations by Government in relation to revisions to the National Planning Policy Framework (NNPPF) and proposals to support development through developer contributions and to seek Panel's views on the potential implications for Hertfordshire and the County Council.

2. Summary

2.1 The Government's housing White Paper *Fixing our broken housing market* set out a comprehensive strategy to tackle all aspects of the housing market, planning for the right homes in the right places, building homes faster, diversifying the market and so on. The Government has recently consulted on further proposals to implement its housing strategy comprising:

- a draft new National Planning Policy Framework (the Framework) and draft updates to national planning guidance; and
- proposals for reforming developer contributions.

2.2 The consultation runs until 10 May 2018. Copies of the County Council's responses by the Chief Executive in consultation with the Executive Member for Environment, Planning and Transport will be available at Panel. At the time of writing, the broad approach to drafting these responses is summarised in paragraphs 5.23, 5.24 and 6.11. The potential implications of the proposals for Hertfordshire and the County Council are rehearsed in sections 7 and 8.

3. Recommendation

3.1 That the Panel notes the content of the consultations and the County Council's approach to responding to these and comments on the potential implications for Hertfordshire and the County Council.

4. Background

4.1 The Government's housing White Paper *Fixing our broken housing market* set out a comprehensive strategy to tackle all aspects of the housing market - planning for the right homes in the right places, building homes faster, diversifying the market and so on. Further detail on a number of these reforms was set out in *Planning for the right homes in the right places* in September 2017. The Community Infrastructure Levy (CIL) Review, published February 2017, also assessed the current s106 and CIL mechanisms and offered options for improvements to the developer contributions system.

4.2 Budget 2017 included additional proposals to change planning policy and legislation to bring forward more land in the right places, invest in infrastructure (including investment from the Housing Infrastructure Fund) and a more active Homes England to diversify the market, commitment to capture increases in land value and reinvest that in local infrastructure, essential services and further housing.

4.3 The Government is consulting on further proposals to implement its housing strategy comprising:

- a draft new National Planning Policy Framework (the Framework) and draft updates to national planning guidance; and
- proposals for reforming developer contributions.

5. National Planning Policy Framework (and accompanying Planning Practice Guidance)

The Proposed Changes

5.1 The proposed changes to the NPPF having greatest significance are as follows.

Objectively Assessed Needs/standard methodology for assessing housing need

5.2 Amendments are proposed to strengthen the Government's commitment that *'objectively assessed housing needs'* will be met *'unless there are strong reasons not to' and 'including any unmet needs from neighbouring areas'*.

The quantum and distribution of development needing to be accommodated would be established through a new requirement to produce statements of common ground between local authorities.

5.3 A standard methodology for assessing housing need is set nationally to determine the minimum number of homes needed in strategic plans *'unless there are exceptional circumstances that justify an alternative approach which also reflects current and future demographic trends and market signals'*.

Statements of Common Ground

5.4 In order to demonstrate effective and on-going joint working, strategic plan-making authorities should prepare and maintain one or more statements of common ground, documenting the cross boundary matters being addressed and progress in cooperating to address these. Statements document where effective co-operation is and is not happening, and is a way of demonstrating at examination that plans are deliverable over the plan period, and based on effective joint working across local authority boundaries. Amongst other matters they set out the key strategic matters being addressed (including the local housing need for the area); Governance arrangements for the cooperation process, including how the statement will be maintained and kept up to date; If applicable, the housing requirements in any adopted and (if known) emerging development plan documents within the area covered by the statement; Distribution of housing need in the area as agreed through the plan-making process and/or the process for agreeing the distribution of housing need (including unmet need) across the area; a record of where agreements have (or have not) been reached on key strategic matters.

Policies for restricting development

5.5 Policies providing a specific reason for restricting development, such as Green Belt and National Parks, are set out as a defined list rather than as examples, as in the present framework. The new list includes ancient woodland and aged or veteran trees as well as Green Belt, local green spaces and Areas of Outstanding Natural Beauty.

Presumption in favour of sustainable development

5.6 The presumption would be triggered where a council cannot demonstrate a five-year housing supply *'or where the housing delivery test indicates that delivery of housing has been substantially below the housing requirement over the previous three years'*.

Local Plan soundness

5.7 Local plans will be considered sound if, as a minimum, they meet as much as possible of an area's objectively assessed needs, particularly for housing. To meet the test, the local plan strategy will need to be *'informed by agreements with other authorities, so that unmet need from neighbouring areas is accommodated where it is practical to do so and is consistent with achieving*

sustainable development'. Plans will need to show that they propose *'an appropriate strategy'*, compared with the current requirement for them to constitute *'the most appropriate strategy'* for the area. Plan reviews will be required every five years. The previous expectation that each local authority will be covered by a single local plan is to be dropped. Councils should considering reallocating land where there is no reasonable prospect of an application coming forward for the allocated use and set out how alternative uses should be considered ahead of a plan review.

A housing delivery test

5.8 Sanctions will be imposed on councils failing to meet housebuilding targets in their local plans. From 2020, the presumption in favour of sustainable development will apply where delivery is below 75 per cent of the authority's housing requirement. Councils may consider imposing planning conditions requiring development to be brought forward within two years, unless this could hinder viability or deliverability. Local planning authorities are encouraged to consider why major sites have not been built out when considering subsequent planning applications.

Green Belt

5.9 Planning authorities must fully examine *'all other reasonable options'* for meeting their identified development needs before releasing Green Belt. To justify green belt boundary changes in their strategies, strategic plan-making authorities will need to show that they have made *'as much use as possible'* of suitable brownfield sites and underutilised land and have *'optimised'* the density of development, *'including whether policies promote a significant uplift in minimum density standards in town and city centres and other locations well served by public transport'*. Proposals for Green Belt releases would also need to be *'informed by discussions with neighbouring authorities'* about whether they could accommodate some of the identified need for development. Councils are also advised to set out ways in which the impact of removing land from the green belt can be offset through compensatory improvements to the environmental quality and accessibility of remaining green belt land.

Housing requirements for designated neighbourhood areas

5.10 Strategic plans should set out a housing requirement figure for designated neighbourhood areas and this should not need retesting at neighbourhood plan examinations.

5.11 Where a neighbourhood plan contains policies and allocations to meet its identified housing requirement, *'the adverse impact of allowing development that conflicts with it is likely to significantly and demonstrably outweigh the benefits'* in cases where the local planning authority has at least a three-year supply of deliverable housing sites *'and its housing delivery is at least 45 per cent of that required over the previous three years'*.

Ensuring the vitality of town centres

5.12 The sequential approach to town centre uses is amended to make clear that out-of-centre sites should be considered only if suitable town centre or edge-of-centre sites are unavailable or not expected to become available within a reasonable period – i.e. town or edge sites do not have to be available immediately. Such sites do not have to be available immediately, in order to avoid prejudicing town centre or edge of centre sites that are in the pipeline. It removes the expectation that office developments over a certain floorspace threshold outside town centres are subject to an impact assessment.

Well-designed places

5.13 Enhancement of expectations in relation to improving the design of development - plans must set out a clear design vision and expectations, supported by visual tools such as design guides and codes, the use of widely accepted assessment frameworks and the importance of pre-application discussions.

Making effective use of land

5.14 Plans must have a clear strategy for using land, make more intensive use of existing land and buildings, avoid building homes at low densities in areas of high demand and pursue higher density housing in accessible locations, take a flexible approach to policies or guidance that might inhibit making effective use of a site. Specific reference is made to making more effective use of empty space above shops, reallocating land where there is no reasonable prospect of an application coming forward, making it easier to convert retail and employment land to housing, expecting minimum density standards to be used in town and city centres and around transport hubs.

5.15 A future consultation is promised to seek views on a possible permitted development right for upwards extensions to create new homes.

Testing viability at plan-making stage

5.16 Where policy requirements have been tested for viability at the plan-making stage, such issues should not usually need to be visited again at the planning application stage. The proposed new policy expects all viability assessments to reflect a recommended approach to be set in revised national planning guidance and says all viability assessments should be made publicly available. Plans can set out when and how review mechanisms may be used to amend developer contributions to help account for significant changes in costs and values, and how any significant increase in overall value should be apportioned between the local authority and the developer.

Small sites

5.17 Government has said that it remains *'open to views'* over its proposals to require councils to ensure that one-fifth of their housing supply pipeline involved small sites of under half a hectare.

Meeting the challenge of climate change, flooding and coastal change

5.18 Changes which clarify that plans should have regard to the cumulative impacts of flood risk rather than individual development sites, clarification on the exception tests that may need to be applied when considering development in locations at risk of flooding, reference to the risk of overheating from rising temperatures and that policies should support measures to ensure resilience of communities and infrastructure to climate change.

Promoting sustainable transport

5.19 Revisions which make it clear the variety of ways in which transport should be considered as part of the planning process, so that transport issues are recognised and addressed as fully as possible.

5.20 Authorities are expected to identify additional development opportunities arising from strategic infrastructure investment.

5.21 Changes are made to amend the assessment of transport impact of proposals to refer to highway safety as well as capacity and congestion.

New settlements/large scale development

5.22 The draft NPPF reconfirms the potentially significant role that large scale development, such as new settlements or large scale extensions, can make to significantly increasing housing supply. The NPPF adds to this by highlighting the opportunities for such development presented by existing or planned infrastructure investment.

The County Council's response

5.23 The County Council's response to the consultation is broadly supportive of the changes to the NPPF. Some key themes of the response include welcoming:

- strengthening of a sub-regional approach to planning.
- requirements to produce Statements of Common Ground between local authorities setting out how they are to work together on key cross-boundary strategic issues.
- further strengthening of the importance of infrastructure provision, the need to twin-track growth and infrastructure provision and front-load process so there is much more clarity on infrastructure requirements at Examination stage and to place the emphasis on demonstrating viability of development at Examination stage.

- recognition of the importance of transport issues in the planning process and further promotion of sustainable travel.
- recognition of the role that planning can play in promoting social interaction and healthy lifestyles.
- the expectation that authorities should be expected to identify additional development opportunities arising from strategic infrastructure investment (though only in appropriate circumstances).
- proposals relating to natural and historic environment.

5.24 There are a range of areas where the County Council will be making detailed comments on specific wording. These relate largely to seeking to improve or add clarity.

6. Developer Contributions

The Proposals

6.1 The proposed changes to the developer contributions system having greatest significance are as follows.

Reducing complexity and increasing certainty

6.2 For the development of a CIL, the proposals remove the two defined stages of public consultation and replace them with a requirement for an engagement *'statement'*. There are also proposals to align infrastructure evidence from the local plan with CIL.

6.3 Amendments address the long-standing ambition of most authorities, to ensure that viability is completed on an *'open-book'* basis. Viability testing is also due to be presented in a simple format with standardised definitions.

6.4 There are proposals to remove the S106 pooling restriction in certain circumstances, including where: the LPA has an adopted CIL; CIL is unfeasible; or development is being delivered on several large strategic sites.

Increasing Market responsiveness

6.5 There are amendments to allow CIL rates to be based on the existing use of land but these are only likely to be adopted in a small portion of cases. This would provide an authority with an option to charge differential CIL rates depending on the majority use of a site.

6.6 The consultation reviews how indexation for CIL is calculated, with proposals to move from the current annual Build Costs Index to the House Prices Index (issued monthly). The latter would enable an authority to adjust indexation more regularly. For non-residential development, proposals consider the use of the Consumer Price Index.

6.7 There are proposals to amend various Regulations affecting the operation of CIL by a charging authority. These include commencement notification periods and abatement provisions.

Improving transparency and increasing accountability

6.8 Amendments propose a shift from the publication of a Regulation 123 List. This is the list of infrastructure a CIL charging authority is currently required to publish which outlines those items expected to be wholly or partly funded by CIL.

6.9 To improve transparency, the review considers the more substantial publication of an annual Infrastructure Funding Statement and the consultation provides an opportunity to comment on the format and content of such a Statement.

A Strategic Infrastructure Tariff (SIT)

6.10 A key recommendation of the CIL Review was that Combined Authorities should be enabled to set up an additional Mayoral type Strategic Infrastructure Tariff (SIT). Government considers this would apply to strategic infrastructure offering multiple benefits that have a direct impact on all the local areas across which the SIT is charged. For example, this might be a major road improvement which has impacts across administrative boundaries.

The County Council's response

6.11 The County Council is broadly supportive of the proposed amendments, but there are some aspects of the consultation which could address the more comprehensive proposals put forward by the CIL Review Panel[1].

- removing defined stages of public consultation (for the implementation of a CIL) will assist authorities in adopting and revising their CIL schedules much more quickly. The proposal that consultation is intended to be *'proportionate'* to the scale of any change is a concern as there is no indication as to how that should be assessed. In the absence of guidance LPAs may feel obliged to undertake a wide-ranging consultation to reduce the risk of challenge.
- aligning evidence with Local Plans and CIL will assist authorities in reducing the burden on LPAs for the production of evidence.
- the *'open book'* assessment of viability is to be welcomed and encouraged to improve trust in the development industry.
- viability testing to be presented in a simple format with standardised definitions is also welcomed. This will make the decision making process for the LPAs easier, and much more accessible to members of the public.

[1] Community Infrastructure Review: Report to Government, February 2017 https://www.gov.uk/government/publications/community-infrastructure-levy-review-report-to-government

- the proposal to remove the pooling restriction does not go far enough.
    - Hertfordshire CIL LPAs would no longer need to be concerned with monitoring the rule of 5. However, for the non-CIL authorities this would continue to be a principal concern. High local values are unlikely to result in CIL not being feasible. Whilst none of the Hertfordshire LPAs currently have plans to rely solely on large strategic sites for housing delivery, further details on how this would be measured are required. The definition of a 'strategic site' also requires further clarification.
    - the pooling restriction is a key hindrance to the County Council being able to secure appropriate mitigation measures from all sites.
    - the County Council does not have the ability to adopt its own CIL, and is required to have a strategy for s106 funding which requires a significant amount of dedicated officer time.
- improving transparency in the system is to be welcomed. Infrastructure statements would provide developers, infrastructure providers and local communities with information on the use of CIL. This is information which, to date, is not published.
- removing the R123 list: the R123 provides an indication of how a CIL authority will use CIL. The introduction of an annual statement could negate the need for the list. However, clarity will be required for infrastructure providers as to whether s106 or CIL is the appropriate mechanism for funding. Currently, this is the key methodology to ensure that developers aren't charged twice for the same item of infrastructure.
- the ability to implement a Strategic Infrastructure Tariff should also apply to county councils.

7. Implications for Hertfordshire

7.1 The issues of probably most significance for Hertfordshire are as follows.

Scale of growth

7.2 The scale of growth entrenched within the NPPF will have significant implications for how Hertfordshire looks/appears/feels – more sustained growth, more sites, more large and very large sites, more greenfield and Green Belt releases, more service and infrastructure implications, and so on. The way in which Hertfordshire approaches this challenge will be fundamental to the future of the County – working jointly across large spatial areas, infrastructure planning, infrastructure-led growth, quality of design. There is a greater emphasis on LPAs being responsible for monitoring development progress, with tools proposed to enable an LPA to deal with non-delivery.

Infrastructure Planning and funding/development viability

7.3 The scale of the future growth, new and emerging sub-regional arrangements, the front-loading of viability assessment at plan-making stage, the preparation

of Infrastructure Funding Statements, the ability to access both local and national funding, securing appropriate contributions to infrastructure from development – these all suggest that Hertfordshire will need to be proactive in its ability to assess and robustly articulate the infrastructure implications of growth in a way that stands up to a high level of scrutiny – at both a strategic level and at individual sites.

7.4 At the development management stage, local authorities have been seen as barriers to development as developers with their allocated sites wrestle with policy and viability to reduce the infrastructure *'burden'* on each individual site. This process is often protracted. Time wasted negotiating adopted policy should not be necessary but LPAs are under pressure to deliver housing, to make timely decisions. Shifting the need for detailed viability to the plan-making stage and confirmation that viability risk is to the developer (not the local authority or infrastructure provider) is to be welcomed.

7.5 Reforms will assist authorities in adopting and revising CIL schedules more quickly. Clarity and transparency are two key components required in order for local communities to understand the (financial and non-financial) benefits of development. Easy to access information, reporting and monitoring will provide greater understanding and acceptance of development sites.

Joint/Co-ordinated Strategic Plans/Duty to Cooperate/Statements of Common Ground

7.6 The greater emphasis of, and proposals to, entrench a sub-regional approach to plan-making and growth delivery will have substantial implications for Hertfordshire. The political landscape in terms of plan-making will need to change and will bring with it issues. Political relationships will need to be forged/move forward significantly compared to historic and current practice; joint/coordination of sub-regional technical work/plan-making/service and infrastructure planning will be required; articulating sub-regional planning to communities, infrastructure and service providers and other key stakeholders will be crucial (some stakeholders, such as infrastructure providers, will welcome a more strategic spatial approach to growth – others, such as communities, may not).

Quality/Design Quality of Development

7.7 At least at the anecdotal level, the design and sustainability credentials of development coming forward across Hertfordshire and the contribution it makes to the overall built environment has been a matter of some concern. If Hertfordshire is to embrace development in a way that demonstrably has a positive impact upon the County and is to have community support, there is going to need to be a step-change in how it approaches securing development of a sufficiently high quality.

Infrastructure-led growth

7.8 Hertfordshire is a place where historically infrastructure has followed growth and where there is a perception that infrastructure has not and continues to not meet requirements. The inclusion of references within the NPPF to the growth opportunities that might exist from existing or proposed transport infrastructure is not an approach traditionally adopted in the County. Looking forward, Hertfordshire needs to reflect upon whether and how it can use infrastructure opportunities as a catalyst for growth.

8. Implications for the County Council

8.1 The main implications for the County Council are both political and technical. The County Council's recent commitment to reformulate the Environment Department into an Environment and Infrastructure Directorate was brought forward in light of the direction of travel of the Government's approach to growth and to help ensure the County Council's interests are properly reflected and accounted for. The new arrangements will be well placed to respond to the issues raised by these consultations.

Political engagement

8.2 The County Council's political relationship with local plan-making authorities' plan-making processes will need to change – there is likely to be a shift (at least in terms of perception) from the County Council being one of a number of stakeholders/consultees, to one of partner.

Role in infrastructure planning

8.3 The County Council already sees the plan-making process as a key mechanism to assess and articulate to local planning authorities (and developers) its expectations in terms of the implications of growth and individual developments on its services and on the infrastructure it is responsible for providing. The package of measures being introduced and the challenges it raises can only serve to increase the importance of the County Council's role within the service and infrastructure planning process.

Infrastructure funding

8.4 Overall, an approach which purports to be more transparent, simple and easy to understand for all must bring clarity to the planning process. Clear and concise assessment at the plan-making stage should bring forward swifter decision making.

8.5 The move towards open-book viability is welcomed. A consistent approach should bring viability assessments into the routine of planning decisions and policy making. The promotion of existing land use (plus a premium to the land owner) in valuation is a key part of the consultation. Until now, the preference for a specific methodology for determining benchmark land values has been

widely debated and can be a source of tension and debate in viability discussions. The assumption that land value should be assessed on a yet to be determined allocation or permission could inflate land values and distort viability.

8.6 Front loading more detail into the early stages of viability provides the County Council (and others) with an opportunity to outline the full requirements expected to mitigate the impact on the local infrastructure. This will provide more clarity to the County Council as a service provider regarding the sites coming forward and facilitate more effective forward planning of projects. Where there is greater clarity, County Council services can have more certainty on funding mechanisms and could, potentially, seek to forward fund.

8.7 The County Council should continue to lobby government to take CIL and s106 reforms further. The pooling restriction for s106 is retained for non-CIL authorities (affecting six authorities in Hertfordshire) and the current proposal for Strategic Infrastructure Tariffs (SIT) is currently only available to Combined Authorities. Current decision makers do not necessarily have statutory responsibility for infrastructure delivery. The ability to adopt a SIT would enable the County Council to have an element of control over future funding and prioritisation of key infrastructure projects.

Joined up growth and transport planning

8.8 The relationship between the planning and transportation planning process are significantly reinforced within the draft NPPF. Historically the relationship between the local planning authorities' plan-making processes and the County Council's transportation planning process (e.g. Local Transport Plan, Urban Transport Plans, etc) has not perhaps been as effective as they should have been. The new Local Transport Plan 4 and emerging Growth and Transport Plans are a significant step forward, but a key challenge for the future will be to make this relationship more intimate.

Availability of/promoting County Council's assets

8.9 The County Council is proactive, in appropriate circumstances and locations, in making its assets available to local planning authorities to contribute to the delivery of their growth aspirations/requirements. Whilst not a direct consequence of the changes to the NPPF, the standard methodology for assessing housing need coupled with requirements to meet that need, will elevate Hertfordshire growth requirements – probably substantially. It will be important for the County Council to continue to review its assets to establish whether they could play a role in contributing to those requirements. There is an opportunity to bring forward outstanding growth proposals, setting an example to the development industry operating within the County of the sort of development Hertfordshire should be aspiring to bring forward.

Quality of Design

8.10 The County Council was instrumental in creating, and manages on behalf of almost all Hertfordshire authorities, the Hertfordshire Building Futures Initiative – seeking to improve the overall quality of design and sustainability of development. The County Council with its partners will need to explore whether the initiative, as currently managed and resourced, is in a position to be as effective as it needs to be to respond to the growth challenges ahead.

9. Financial Implications

9.1 There are no financial implications as a direct result of this paper.

9.2 Potentially, there may be future implications for the County Council as changes to the S106/CIL mechanisms are implemented.

10. Equality Implications

10.1 When considering proposals placed before Members it is important that they are fully aware of, and have themselves rigorously considered the equality implications of the decision that they are making.

10.2 Rigorous consideration will ensure proper appreciation of any potential impact of that decision on the County Council's statutory obligations under the Public Sector Equality Duty.

10.3 The Equality Act 2010 requires the County Council when exercising its functions to have due regard to the need to (a) eliminate discrimination, harassment, victimisation and other conduct prohibited under the Act; (b) advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it and (c) foster good relations between persons who share a relevant protected characteristic and persons who do not share it. The protected characteristics under the Equality Act 2010 are age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion and belief, sex and sexual orientation.

10.4 There is no EQiA as there are no decisions being made.

Background Information

National Planning Policy Framework Consultation proposals, March 2018, Ministry of Housing, Communities and Local Government

Supporting housing delivery through developer contributions, March 2018 Ministry of Housing, Communities and Local Government

HERTFORDSHIRE COUNTY COUNCIL

Agenda Item No.

10

ENVIRONMENT, PLANNING & TRANSPORT CABINET PANEL
FRIDAY, 11 MAY 2018 at 10.00 AM

ENVIRONMENT, PLANNING & TRANSPORT PERFORMANCE INDICATORS REVIEW

Report of the Chief Executive

Author: Dunston Walker, Business Support Officer, Environment & Infrastructure (Tel: 01992 556492)

Executive Member: Derrick Ashley, Environment, Planning & Transport

1. Purpose of report

1.1 To allow the Panel to review the proposed list of performance indicators

2. Summary

2.1 In June 2017, a Task and Finish group was set up to review the Environment and Infrastructure Department's list of performance indicators, which had been reported to Extended Board and Senior Manager Board (SMB) up to and including Q4 2016/17. This included adding new and removing or rewording existing indicators, as well as revising the frequency at which they are reported.

2.2 Senior managers as well as Environment and Infrastructure Board have reviewed and approved the indicators that correspond to their service area, and, thus, some new indicators have already been incorporated into the reporting cycle.

3. Recommendation

3.1 The Cabinet Panel is invited to note the report and comment on the attached list of performance indicators (Appendix A), which services have proposed to report to Panel going forward.

4. Background

4.1 Representatives from Spatial Planning & Economy, Environmental Resource Planning and Transport, Access & Road Safety (TARS) met regularly as part of the departmental Task and Finish group to review the existing performance measures pertaining to their service area. They were charged with the task of liaising with their managers and owners of the indicators to identify, with justification, which measures should be kept, removed or added.

4.2 Below is a summary of what was concluded in each service area's review:

4.3 Environmental Resource Planning (ERP)

- New indicators developed, which will report on the "Number of consultations completed within 21 days." This will be reported for four service areas, each with their own target. The four areas are: Sustainable Drainage Systems (SuDS); Ecology; Landscape; and Historic Environment (reported quarterly but a quarter in arrears).

4.4 Spatial Planning & Economy

- 2 new indicators have been raised
- 5 indicators dropped - 4 due to inconsistencies in collecting data for them and 1 because the figures are no longer collected for them.

4.5 TARS

- 4 new Road Safety indicators proposed
- 3 new bus indicators on top of the existing ones
- 3 new indicators for Countryside & Rights of Way (CRoW) which will incorporate and add more detail to the existing ones.

5. Financial Implications

5.1 There are no financial implications arising from this report.

6. Equalities Implications

6.1 When considering proposals placed before Members it is important that they are fully aware of, and have themselves rigorously considered the equality implications of the decision that they are making.

6.2 Rigorous consideration will ensure that proper appreciation of any potential impact of that decision on the County Council's statutory obligations under the Public Sector Equality Duty. As a minimum this requires decision makers to read and carefully consider the content of any Equalities Impact Assessment (EQiA) produced by officers.

6.3 The Equality Act 2010 requires the County Council when exercising its functions to have due regard to the need to (a) eliminate discrimination, harassment, victimisation and other conduct prohibited under the Act; (b) advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it and (c) foster good relations between persons who share a relevant protected characteristic and persons who do not share it. The protected characteristics under the Equality Act 2010 are age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion and belief, sex and sexual orientation.

6.4 No equality implications have been identified in relation to this report although Panel will not make a decision in respect of its contents.

Background Information
None.

Appendices

- Appendix A – Proposed list of indicators
- Appendix B - List of indicators that have been removed

Appendix A

The table below shows a finalised list of performance indicators denoting the frequency in which they will be reported. Newly raised indicators have justifications next to them.

	Indicator	Frequency	Justification for its creation
ERP	Number of local authority investigations carried out and published under S19	A	N/A
	Number of consultations completed within 21 days (Historic Environment)	Q	Currently reported on a quarterly basis to the Hertfordshire Local Planning Authorities as part of the shared service delivery arrangements.
	Number of consultations completed within 21 days (Ecology)	Q	As above
	Number of consultations completed within 21 days (Landscape)	Q	As above
	Number of consultations completed within 21 days (SuDS)	Q	Currently reported to the Hertfordshire Local Planning Authorities as part of the shared service delivery arrangements. Information on performance against the 21 day response target for surface water drainage and flood risk has to be reported annually to government through the Ministry of Housing Communities and Local Government
Spatial Planning & Economy	% of decisions on planning applications dismissed at appeal	A	N/A
	Transport related CO_2 emissions per capita	A	N/A
	Timeliness of decisions for major County Matter planning applications	Q	N/A
	Percentage of new developments within 30 minutes by public transport of key services	A	N/A
	Net additional homes provided	A	N/A
	% of affordable housing achieved through the planning system	A	N/A
	Proportion of new homes built on previously developed land	A	N/A
	Area of greenfield land lost other than to development that accords with development plans	A	N/A
	Percentage of all trips (under 1 mile) made by walking	3Yrs	N/A
	Overall Employment Rate (working age 16-64)	Q	N/A
	Proportion of pop qualified to Level 2 or higher	A	N/A
	Based on NI 165 Proportion of pop qualified to Level 4 or higher	A	N/A
	Median earnings of employees in the area	A	N/A

	New Business Registration	A	N/A
	Percentage of all trips (under 3 miles) made by cycling	3Yrs	N/A
	Measure of particulates – PM2.5 roadside levels	A	Reduction target is quite complex to measure with an EU directive to be achieved by 2020
	Minerals land bank levels	A	There is a requirement in the Minerals Local Plan for 7 years' worth of mineral resources, so a measurement along those lines is the aim
TARS	Percentage of school children walking, cycling, scooting or using other sustainable means to travel to school	A	A more dynamic indicator that links to the LTP4 and Public Health strategies
	Children Travelling to School - Mode share of sustainable school journeys (5-10 yrs)	A	N/A
	Children Travelling to School - Mode share of sustainable school journeys (11-16 yrs)	A	N/A
	Number of young people attending a Learn 2 Live event (looking to grow)	A	17 -24 year olds significantly over represented in casualty statistics. Evidence suggests behaviour change is achieved.
	Number of individuals successfully completing Bikeability levels 1, 2, and 3 delivered by HCC	A	Links to LTP4 and public health objectives.
	Number of schools achieving Modeshift Stars bronze, silver and gold awards	A	An indicator that identifies whether schools continue to promote active travel initiatives.
	Total number of passenger journeys (in millions) made annually on local buses within Hertfordshire	A	N/A
	Percentage of Buses Leaving Terminus (Departures) Within Acceptable Timeframe	A	N/A
	% of bus stops with comprehensive and up-to-date information	Q	N/A
	Number of bus stops with Real Time Information	A	N/A
	Percentage of bus services delivering Real Time information	A	Outcome relates to improvement in customer service.
	The % of newly registered walkers identifying that they are living with 1 or more long-term conditions and the % that are inactive at signup (Herts Health Walks).	Q	N/A
	The % of CRoW volunteering activity in hours contributing to the maintenance and improvement of Rights of Way and other HCC Access Assets/Herts Health Walks/Conservation.	Q	N/A
	The number of accessible green spaces which have been improved to benefit local communities and external funding secured to deliver this improvement.	A	N/A
	The % of the total length of the rights of way network that is easy to use	A	N/A

	The number of definitive map case decisions, orders made and public inquiries held	Q	N/A

Q = Quarterly
A = Annual

List of indicators that have been removed **Appendix B**

The tables below show which indicators have been removed from each service with reasoning.

	Indicator	Justification
Spatial Planning & Economy	Access to key services	Dropped as the environment survey has been cut down.
	Air quality mean roadside nitrogen dioxide levels	Dropped as unreliable and inconsistent data across the districts
	Proportion of applications for new mineral workings on designated minerals sites	To be dropped as not really a balanced measure as it depends on the age of the local plan and so few permission really skew results.
	Proportion of applications for new waste facilities on designated waste sites	As above
	Working Age (16-64) people on Out of Work benefits	The Department for Employment no longer collects the figures.
TARS	We aim to deal with and resolve a minimum of 1,800 reports received about the rights of way network each year	Collected for internal management purposes only

HERTFORDSHIRE COUNTY COUNCIL

Agenda Item No.

11

ENVIRONMENT, PLANNING & TRANSPORT CABINET PANEL
FRIDAY, 11 MAY 2018 at 10.00 AM

ENVIRONMENT, PLANNING & TRANSPORT PERFORMANCE MONITOR

Report of the Chief Executive

Author: Simon Aries, Assistant Director Transport, Waste & Environmental Management (Tel: 01992 555255)

Jan Hayes-Griffin, Assistant Director Planning & Economy (Tel: 01992 555203)

Executive Member: Derrick Ashley, Environment, Planning & Transport

1. Purpose of report

1.1 To allow the Panel to review the performance of Environment, Planning and Transport for the fourth quarter of this year (January - March 2018) against the Environment and Infrastructure Department Service Plan 2016-2020 including key performance indicators, major projects, contracts and identified risks.

2. Summary

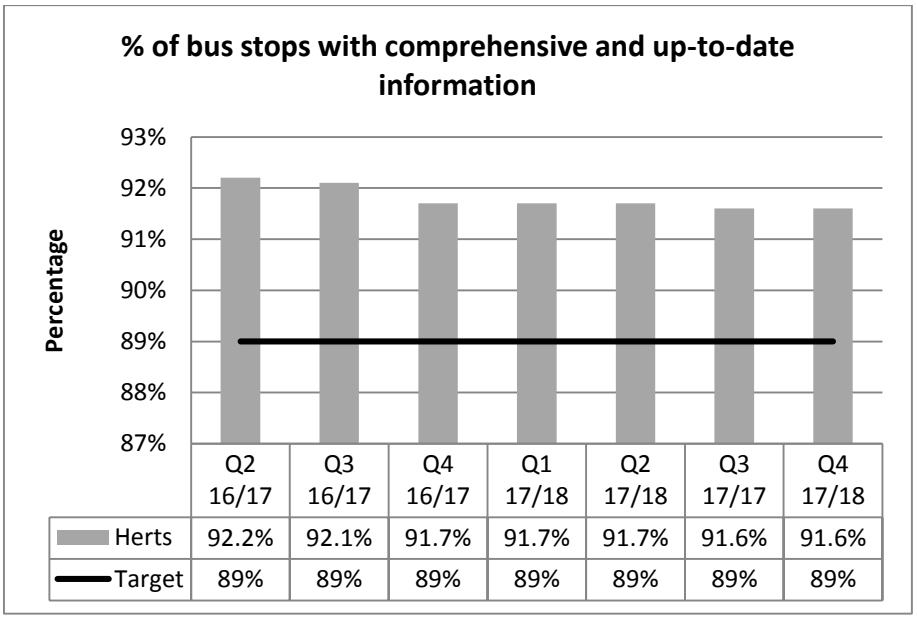
2.1 In Q4, services had a very good performance with nearly all of the indicators reported below either achieving their target or at least improving on their performance from the previous quarter.

3. Recommendation

3.1 The Cabinet Panel is invited to note the report and comment on the performance monitor for Quarter 4 2017-18.

4. Strategic Performance Indicators, Contracts and Projects

4.1 % of bus stops with comprehensive and up-to-date information



	Q2 16/17	Q3 16/17	Q4 16/17	Q1 17/18	Q2 17/18	Q3 17/17	Q4 17/18
Herts	92.2%	92.1%	91.7%	91.7%	91.7%	91.6%	91.6%
Target	89%	89%	89%	89%	89%	89%	89%

4.1.1 Total number of Marked Hertfordshire Stops – 4,308.
Total number of Marked Hertfordshire Stops with timetable frames attached to the bus stop pole or shelter containing printed timetables/departures from that stop – 3,945.

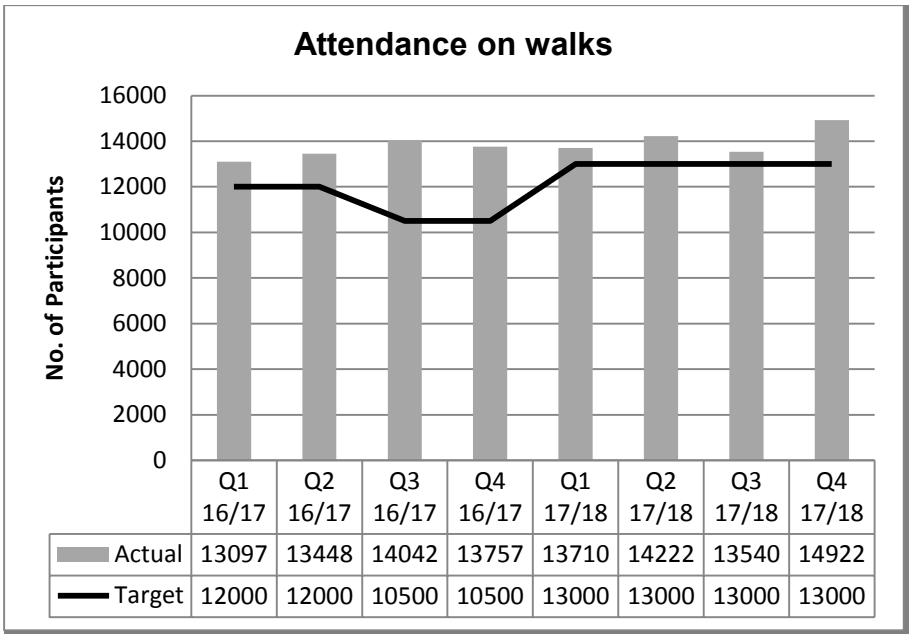
4.1.2 Performance remains high and above target while the number of stops with timetable information is the same as last quarter. In general, the aim is to display timetables at all stops, but at some stops local constraints and the design of posts/columns can prevent the installation of the infrastructure that would allow this to be achieved. For passengers with smart-phones or other devices the Intalink App and website provide an alternative method to accessing timetable information.

4.2 Hertfordshire Health Walks

4.2.1 Hertfordshire Health Walks (HHW) is a countywide initiative of free, volunteer led walks and is coordinated by Countryside & Rights of Way (CroW). It aims to help promote walking and encourage more people (all ages, backgrounds and abilities) to get outdoors, get more active and reap the benefits.

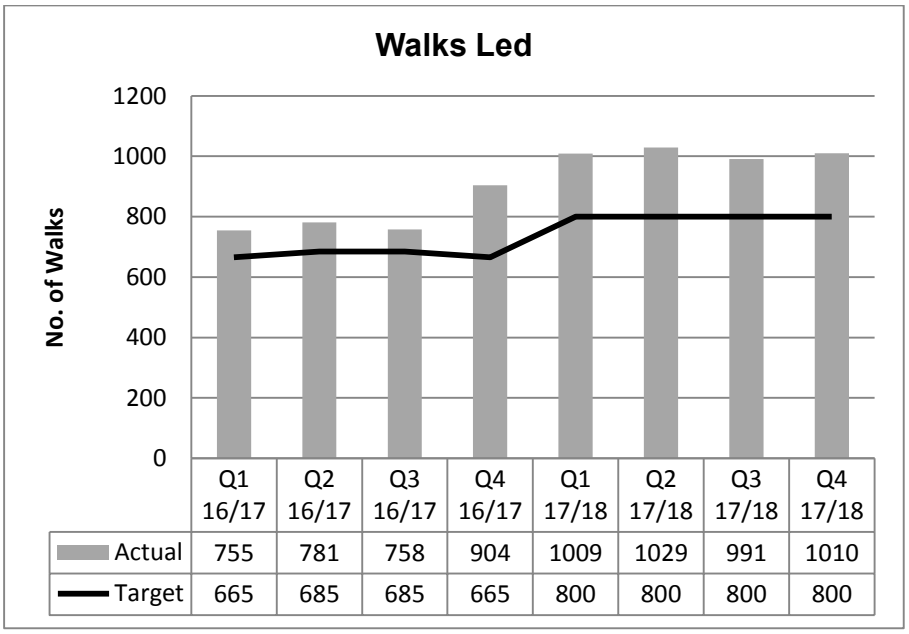
The target levels for ‘Walks Participation’ and ‘Walks Led’ have been equalised across the 4 quarters as recent experience has shown that walk leaders and the walkers’ enthusiasm to lead or participate in walks appears undiminished by seasonal changes.

4.2.2 Walks Participation



CRoW achieved a good outcome for Q4 with 14,922 attendances on the Health Walks. Overall, there were 56,394 attendances on Health Walks in 2017/18 against a target of 52,000. Focus for the year is growth in inactive people and those with 1 or more long-term ill health issues joining the HHW. Walks are, therefore, targeted to locations and participants where the potential greatest health impacts can be achieved.

4.2.3 Walks Led

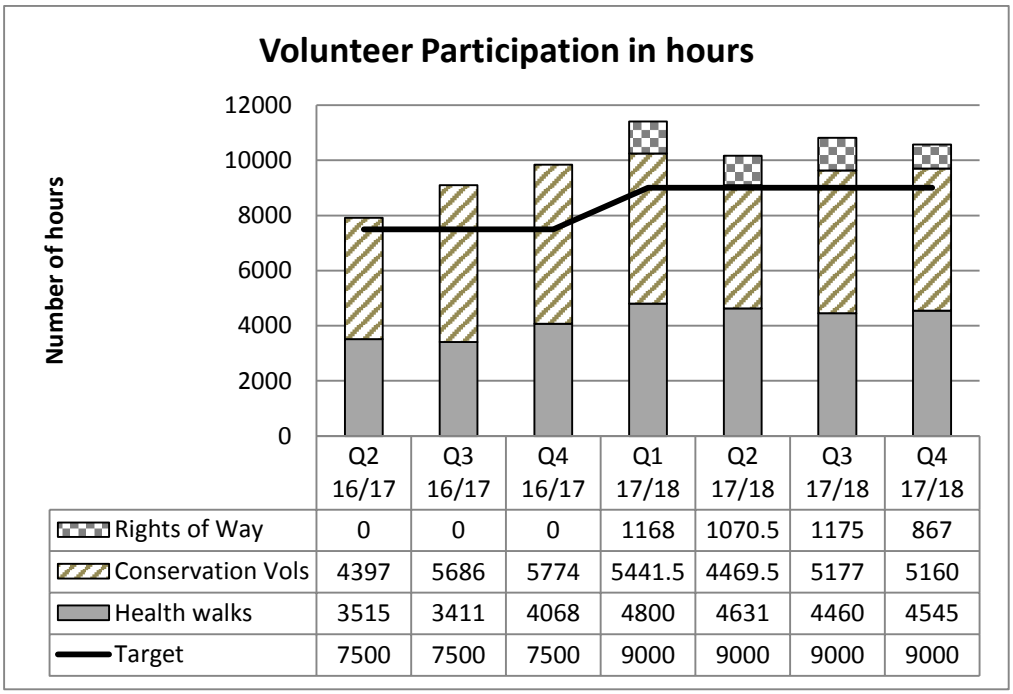


For Q4, 1,010 Health walks were delivered against a target of 800. In 2017/18, there were 4,039 Health Walks led against an annual target of 3,200.

4.3 Countryside and Rights of Way Volunteer Participation

4.3.1 The Countryside and Rights of Way engages volunteers in all aspects of its activity through a variety of opportunities. Volunteers lead Health Walks, deliver environmental improvements in and improve access through green space including Hertfordshire's Rights of Way and lead guided walks that raise awareness of the local environment. CRoW has been awarded the national Investing in Volunteers Standard for its work supporting volunteers.

4.3.2 Volunteer Participation – Volunteer Hours



	Q2 16/17	Q3 16/17	Q4 16/17	Q1 17/18	Q2 17/18	Q3 17/18	Q4 17/18
Rights of Way	0	0	0	1168	1070.5	1175	867
Conservation Vols	4397	5686	5774	5441.5	4469.5	5177	5160
Health walks	3515	3411	4068	4800	4631	4460	4545
Target	7500	7500	7500	9000	9000	9000	9000

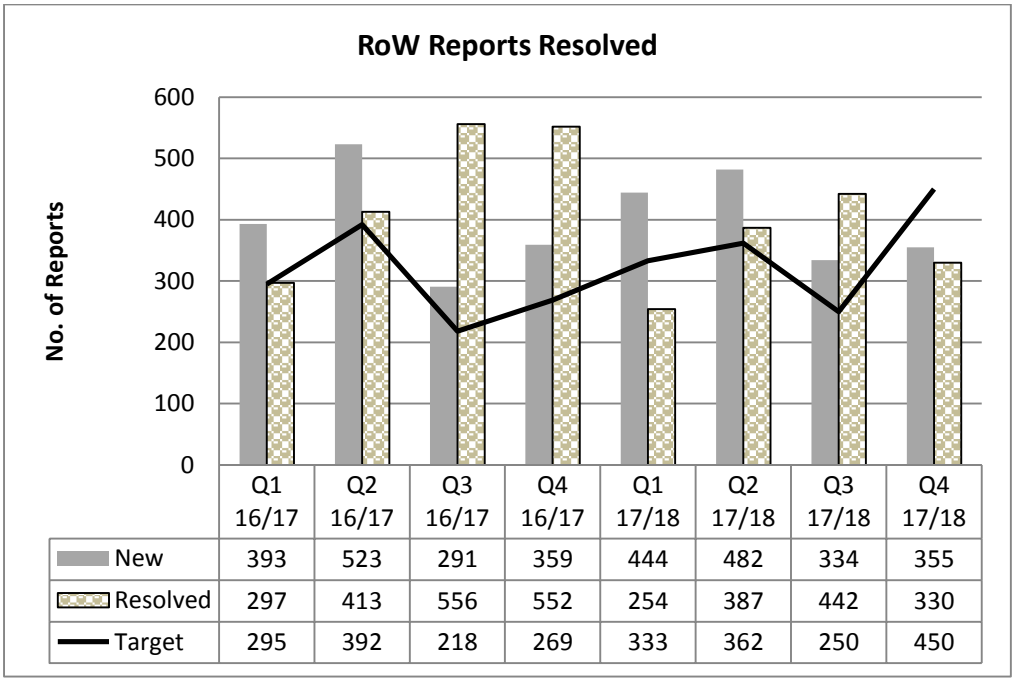
In Q4, there were 4,545 and 5,160 volunteering hours committed to the Health Walks and conservation volunteering respectively.

All CRoW volunteering activity that improves Rights of Way (RoW) is now reported separately. Volunteers in the new role of Rights of Way surveyor became active in Q1 and in conjunction with Footpath Friends, mid-week groups and the small RoW groups contributed 867 volunteering hours in this quarter. Therefore, there was a total of 10,572 volunteering hours in Q4 which surpassed the target 9,000 hours.

4.4 Project Income Secured from Sources External to CRoW

4.4.1 In 2017/18, £534,070 was secured from external sources this year to enable the delivery of land management plans and other CRoW activity. This includes £45k secured from the Lottery for a project in Hertsmere and an accumulated sum in excess of £80k secured through Section 106 contributions. All monies secured to deliver land management and community involvement projects for wildlife and people.

4.5 Resolve a minimum of 75% (approximately 1,800) of reports received about the rights of way network each year.



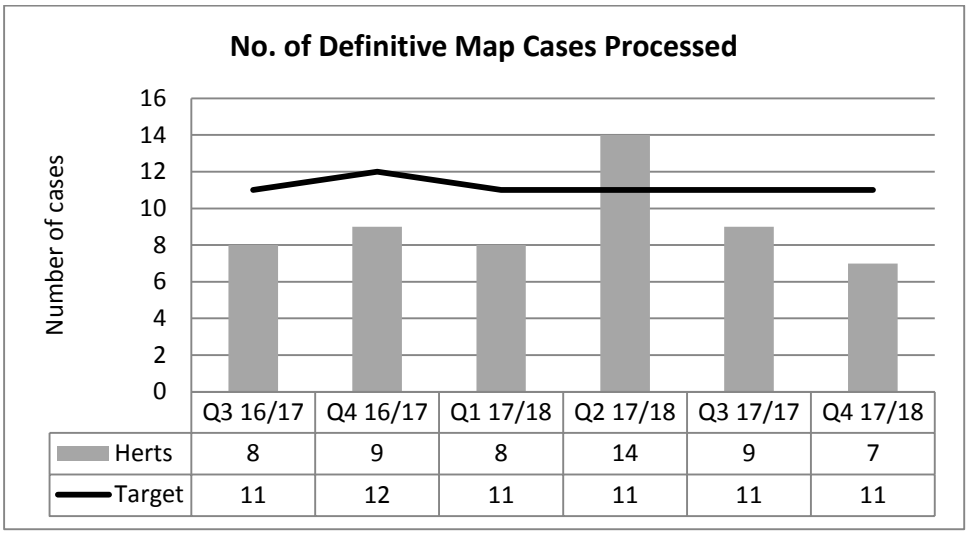
	Q1 16/17	Q2 16/17	Q3 16/17	Q4 16/17	Q1 17/18	Q2 17/18	Q3 17/18	Q4 17/18
New	393	523	291	359	444	482	334	355
Resolved	297	413	556	552	254	387	442	330
Target	295	392	218	269	333	362	250	450

4.5.1 Reports are responded to and resolved according to HCC policy & priorities, to ensure the RoW network remains in a safe and useable condition.

4.5.2 This quarter, is just slightly low at 93% due to pressures of other workloads.

4.5.3 The outcome of this indicator is that customers' reports are responded to and resolved according to HCC policy & priorities, to keep the RoW network in a safe and useable condition.

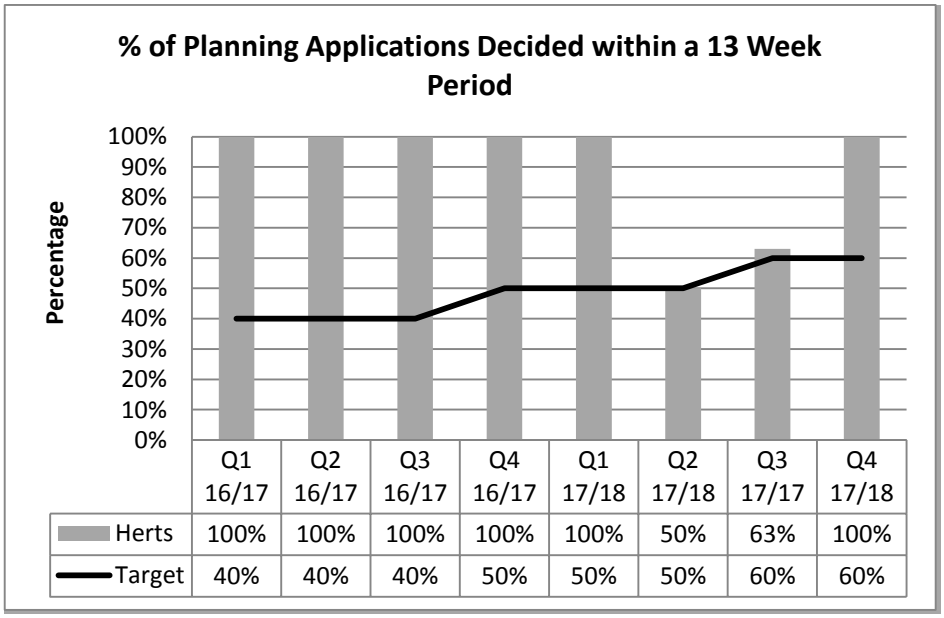
4.6 The number of definitive map case decisions & orders made, and public inquiries held each year.



	Q3 16/17	Q4 16/17	Q1 17/18	Q2 17/18	Q3 17/17	Q4 17/18
Herts	8	9	8	14	9	7
Target	11	12	11	11	11	11

4.6.1 The quarter is the lowest performance of the year due to recent staff reductions. Overall, there were 38 definitive map cases processed in 2017/18 against an annual target of 44 (86%).

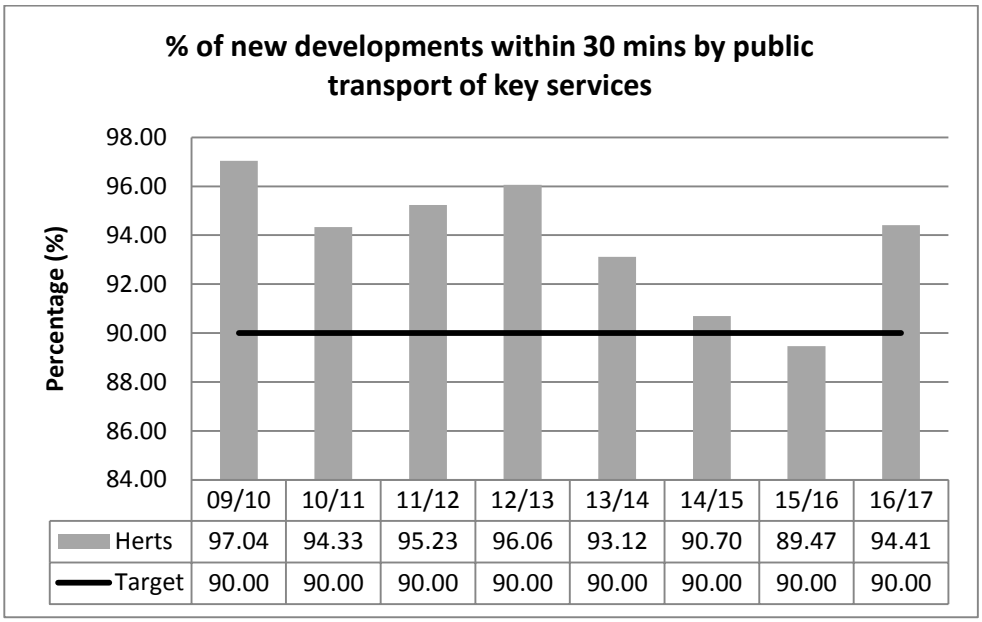
4.7 The timeliness of decisions for all County Matter planning applications



	Q1 16/17	Q2 16/17	Q3 16/17	Q4 16/17	Q1 17/18	Q2 17/18	Q3 17/17	Q4 17/18
Herts	100%	100%	100%	100%	100%	50%	63%	100%
Target	40%	40%	40%	50%	50%	50%	60%	60%

4.7.1 In Q4, the performance was 100% or 11 out of 11. Three applications were determined within the standard statutory period. Extensions of time were agreed on the remaining applications; this was to fit in with the committee cycle or to allow the applicant to submit additional supporting information.

4.8 Percentage of new developments within 30 minutes by public transport of key services



	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17
Herts	97.04	94.33	95.23	96.06	93.12	90.70	89.47	94.41
Target	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00

4.8.1 The figures for 2016/17 show that 94.41% of new developments are within 30 minutes by public transport of key services. This is a 5% improvement on the previous year and is attributed to Stevenage undergoing a lot of office to residential conversions in the middle of town.

5. Risks

5.1 Environment, Planning and Transport has 1 corporate level risk and it is as follows:

5.2 Tree Health **(Risk ENV0142)**

5.2.1 Hertfordshire is facing an increasing threat from tree pests and diseases, including ash dieback and Oak Processionary Moth. In this context, there is a risk that current systems and resources for tree management will not be fit for purpose. Failure to manage tree risk may result in significant unplanned costs (including liability claims), danger to the public and or/service users, and impact on landscape and ecosystem services.

5.2.2 To date, ENV0142 controls have focused on controlling the risk from Ash Dieback and Oak Processionary Moth. The spread of Xylella in Europe (a disease affecting common trees such as oak and plane and popular garden and landscaping plants such as lavender) and publication of Defra's 25-year Environment Plan provides an additional focus for ENV0142 controls, i.e. developing responsible procurement practices which limit the risk of introducing new diseases from Europe. The likelihood of failing to manage the tree risk remains 'possible' and attracts a 'high' impact.

6. Financial Implications

6.1 There are no financial implications arising from this report.

7. Internal Audit

7.1 There were no internal audits in Q4.

8. Equalities Implications

8.1 When considering proposals placed before Members it is important that they are fully aware of, and have themselves rigorously considered the equality implications of the decision that they are making.

8.2 Rigorous consideration will ensure that proper appreciation of any potential impact of that decision on the County Council's statutory obligations under the Public Sector Equality Duty. As a minimum this requires decision makers to read and carefully consider the content of any Equalities Impact Assessment (EQiA) produced by officers.

8.3 The Equality Act 2010 requires the County Council when exercising its functions to have due regard to the need to (a) eliminate discrimination, harassment, victimisation and other conduct prohibited under the Act; (b) advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it and (c) foster good relations between persons who share a relevant protected characteristic and persons who do not share it. The protected characteristics under the Equality Act 2010 are age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion and belief, sex and sexual orientation.

8.4 No equality implications have been identified in relation to this report although Panel will not make a decision in respect of its contents.

Background Information

EPT Q3 Performance monitor