Bath & North East Somerset Council

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Date: 27th February 2017
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To: All Members of the Planning, Housing and Economic Development Policy Development and Scrutiny Panel

Councillor Will Sandry
Councillor Barry Macrae
Councillor Colin Blackburn
Councillor Lisa O'Brien
Councillor Fiona Darey
Councillor Cherry Beath
Councillor David Veale

Chief Executive and other appropriate officers
Press and Public

Dear Member

Planning, Housing and Economic Development Policy Development and Scrutiny Panel: Tuesday, 7th March, 2017

You are invited to attend a meeting of the **Planning, Housing and Economic Development Policy Development and Scrutiny Panel**, to be held on **Tuesday, 7th March, 2017** at **2.00 pm** in the **Council Chamber - Guildhall, Bath.**

The agenda is set out overleaf.

Yours sincerely

Mark Durnford
for Chief Executive

If you need to access this agenda or any of the supporting reports in an alternative accessible format please contact Democratic Services or the relevant report author whose details are listed at the end of each report.

This Agenda and all accompanying reports are printed on recycled paper

NOTES:

1. **Inspection of Papers:** Any person wishing to inspect minutes, reports, or a list of the background papers relating to any item on this Agenda should contact Mark Durnford who is available by telephoning Bath 01225 394458 or by calling at the Guildhall Bath (during normal office hours).

2. **Public Speaking at Meetings:** The Council has a scheme to encourage the public to make their views known at meetings. They may make a statement relevant to what the meeting has power to do. They may also present a petition or a deputation on behalf of a group. Advance notice is required not less than two full working days before the meeting (this means that for meetings held on Wednesdays notice must be received in Democratic Services by 4.30pm the previous Friday)

   The public may also ask a question to which a written answer will be given. Questions must be submitted in writing to Democratic Services at least two full working days in advance of the meeting (this means that for meetings held on Wednesdays, notice must be received in Democratic Services by 4.30pm the previous Friday). If an answer cannot be prepared in time for the meeting it will be sent out within five days afterwards. Further details of the scheme can be obtained by contacting Mark Durnford as above.

3. **Details of Decisions taken at this meeting** can be found in the minutes which will be published as soon as possible after the meeting, and also circulated with the agenda for the next meeting. In the meantime details can be obtained by contacting Mark Durnford as above.

   Appendices to reports are available for inspection as follows:-

   Public Access points - Reception: Civic Centre - Keynsham, Guildhall - Bath, The Hollies - Midsomer Norton. Bath Central and Midsomer Norton public libraries.

   For Councillors and Officers papers may be inspected via Political Group Research Assistants and Group Rooms/Members' Rooms.

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5. **Attendance Register:** Members should sign the Register which will be circulated at the meeting.

6. THE APPENDED SUPPORTING DOCUMENTS ARE IDENTIFIED BY AGENDA ITEM NUMBER.

7. Emergency Evacuation Procedure

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Planning, Housing and Economic Development Policy Development and Scrutiny Panel - Tuesday, 7th March, 2017

at 2.00 pm in the Council Chamber - Guildhall, Bath

A G E N D A

1. WELCOME AND INTRODUCTIONS

2. EMERGENCY EVACUATION PROCEDURE

   The Chairman will draw attention to the emergency evacuation procedure as set out under Note 6.

3. APOLOGIES FOR ABSENCE AND SUBSTITUTIONS

4. DECLARATIONS OF INTEREST

   At this point in the meeting declarations of interest are received from Members in any of the agenda items under consideration at the meeting. Members are asked to indicate:

   (a) The agenda item number in which they have an interest to declare.

   (b) The nature of their interest.

   (c) Whether their interest is **a disclosable pecuniary interest** *or* an **other interest**, (as defined in Part 2, A and B of the Code of Conduct and Rules for Registration of Interests)

   Any Member who needs to clarify any matters relating to the declaration of interests is recommended to seek advice from the Council's Monitoring Officer or a member of his staff before the meeting to expedite dealing with the item during the meeting.

5. TO ANNOUNCE ANY URGENT BUSINESS AGREED BY THE CHAIRMAN

6. ITEMS FROM THE PUBLIC OR COUNCILLORS - TO RECEIVE DEPUTATIONS, STATEMENTS, PETITIONS OR QUESTIONS RELATING TO THE BUSINESS OF THIS MEETING

   At the time of publication, one member of the public has registered to speak.

7. MINUTES - 10TH JANUARY 2017 (Pages 7 - 18)

8. CABINET MEMBER UPDATE

The Cabinet Member(s) will update the Panel on any relevant issues. Panel members may ask questions on the update(s) provided.

9. FLOOD RISK MANAGEMENT (Pages 19 - 44)

As part of a Scrutiny Panel update on Flood Risk Management, the Chairman, Councillor Will Sandry submitted a number of specific questions in relation to flood risk management. This report has been written as a reply to those questions.

10. WATER SPACE STUDY (Pages 45 - 172)

This report covers two issues, the first is the draft WaterSpace Study which is currently being finalised for public consultation which the Panel are asked to comment on. The second is an update on the Strategic Flood Management project in Bath, specifically the proposal to focus efforts to secure investment to replace/refurbish Bath's city water level control gates at Twerton & Pulteney.

11. PANEL WORKPLAN (Pages 173 - 176)

This report presents the latest workplan for the Panel. Any suggestions for further items or amendments to the current programme will be logged and scheduled in consultation with the Panel's Chairman and supporting officers.

The Committee Administrator for this meeting is Mark Durnford who can be contacted on 01225 394458.

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BATH AND NORTH EAST SOMERSET

PLANNING, HOUSING AND ECONOMIC DEVELOPMENT POLICY DEVELOPMENT AND SCRUTINY PANEL

Tuesday, 10th January, 2017

Present:- Councillors Will Sandry (Chairman), Barry Macrae (Vice-Chair), Colin Blackburn, Lisa O'Brien, Fiona Darey, Cherry Beath and David Veale

Also in attendance: Louise Fradd (Strategic Director - Place), Graham Sabourn (Head of Housing), John Wilkinson (Divisional Director for Community Regeneration) and Lisa Bartlett (Divisional Director, Development)

36 WELCOME AND INTRODUCTIONS

The Chairman welcomed everyone to the meeting.

37 EMERGENCY EVACUATION PROCEDURE

The Chairman drew attention to the emergency evacuation procedure.

38 APOLOGIES FOR ABSENCE AND SUBSTITUTIONS

Councillor Liz Richardson, Cabinet Member for Homes & Planning had sent her apologies to the Panel.

39 DECLARATIONS OF INTEREST

There were none.

40 TO ANNOUNCE ANY URGENT BUSINESS AGREED BY THE CHAIRMAN

There was none.

41 ITEMS FROM THE PUBLIC OR COUNCILLORS - TO RECEIVE DEPUTATIONS, STATEMENTS, PETITIONS OR QUESTIONS RELATING TO THE BUSINESS OF THIS MEETING

There were none.

42 MINUTES - 1ST NOVEMBER 2016

The Chairman stated that Councillor Liz Richardson had contacted him to suggest a small amendment to the minutes as follows.

‘She informed the Panel that the Englishcombe Neighbourhood Development Plan would be debated at the Cabinet meeting on 14th November.’

The word "debated" ought to read "made"

The Panel confirmed the minutes of the previous meeting as a true record with this amendment and they were duly signed by the Chairman.

43 CABINET MEMBER UPDATE

The Cabinet Member for Economic Development, Councillor Patrick Anketell-Jones addressed the Panel, a summary is set out below.

He spoke of the significant progress that had been made by the Economic Development team over the past ten years and said that it was a credit to the Council. He added that it had taken part and completed a number of impressive projects.

He thanked the dedicated team of officers for making plans come to fruition and looked forward to the completion of Bath Quays North & South.

Councillor Cherry Beath asked if there had been any increase in empty commercial properties.

Councillor Patrick Anketell-Jones replied that there had been no change in the number of properties and that B&NES was below the national average. He said that some landlords should do more with regard to the appearance of premises when they are empty.

Councillor Cherry Beath asked if there were any elements within the budget that particularly concerned him.

Councillor Patrick Anketell-Jones replied that his portfolio did not have a large social content within it that would have an impact on residents.

Councillor Lisa O'Brien asked if Bath Tourism Plus had a robust set of Key Performance Indicators and if any were subject to penalty if not achieved.

Councillor Patrick Anketell-Jones replied that he was not able to answer that question. He said that a review was ongoing with regard to efficiency.

Councillor Colin Blackburn asked if there was a policy in place that encouraged engagement with local registered business relating to vacant premises.

Councillor Patrick Anketell-Jones replied that he believed a policy does exist and that there are Business Support Officers available to discuss such issues.

Councillor Colin Blackburn said that he would welcome a further conversation with him on this matter.

Councillor Patrick Anketell-Jones agreed with that proposal.

The Divisional Director for Community Regeneration added that there may be scope to do more work on this matter and that recently Economic Development has restructured to create two new positions that will enable a greater focus on business engagement and skills development.

The Chairman thanked Councillor Patrick Anketell-Jones for his update on behalf of the Panel. He then asked the Divisional Director for Development to briefly update the Panel on the Placemaking Plan.

She explained that following the Placemaking Plan Examination in September 2016 that the final report had not been received. She added that modifications had been received from the Inspector and that they would be subject to six weeks consultation that had just commenced. Any comments on the modifications would then be sent to the Inspector. She said that they hoped to receive the final report in early Spring.

The Head of Housing addressed the Panel and highlighted some key points from his circulated update.

Additional HMO Licensing Area Compliance Monitoring

230 HMOs in the additional licensing area were subject to a re-inspection and 33 (14%) of these were found not to comply with one or more of their HMO licence conditions (compared to 87% during initial inspection). Most of the HMOs in breach of their licence are now compliant and actions under the Housing Services Enforcement Policy are being applied to those which remain non-compliant.

Rough Sleeper Count

On a night in November we walked the streets looking for rough sleepers and used intelligence information complied by our Outreach Team to find out the level of rough sleeping. We estimated twenty-five rough sleepers in our district which is an increase of 3 on last year. Manvers Street Hostel has 29 beds and was fully occupied on the night of the count.

Our count has been verified by Homeless Link and is a reliable estimate of the level of rough sleeping in Bath and North East Somerset.

Twenty five is an increase of 3 people since the 2015 count, but only three people identified as rough sleeping the previous year were still on the streets and all of these had been offered assistance.

He added that contact with rough sleepers is maintained on almost a daily basis.

B&NES Affordable Homes Show

50 members of staff and over 100 members of the public visited the Affordable Homes Show held in the Community Space at Keynsham on 26 October 2016. Visitors spoke with providers of low cost home ownership opportunities, took independent mortgage and legal advice and were able to join the National Help to Buy register.

On exit, we asked visitors to complete a simple feedback survey and we also sought feedback from the exhibitors. The results of these surveys were incredibly positive and gave us an insight into potential low cost home owners visiting the event:

The enthusiasm and momentum we have created with our provider partners from the event is being used to develop plans for wide scale promotion on eligibility for low cost home ownership and emerging opportunities for purchase, both within the Council and across the wider B&NES community. A second event is planned for later in 2017 and a plan for low cost home ownership promotion will be developed in the early part of 2017. We will update the Panel in due course on this.

Councillor Lisa O'Brien asked if the Council were informing HMO residents what standards they should expect.

The Head of Housing replied that the Council has worked hard to engage with tenants. He said that there is information available on the website, officers have attended Fresher's Week for the universities and articles have been put in the local press.

The Chairman asked if he knew how many HMO's were currently in Radstock, Midsomer Norton & Keynsham.

The Head of Housing replied that he did not have that information to hand.

Councillor Fiona Darey commented that she recalled that one Christmas in London a venue was set aside to provide not only hot food but also some support services.

The Head of Housing replied that Julian House provides this service to members of the public that attend their premises. He said that they can receive a hot meal and have their medical needs assessed. He encouraged people in need to attend there and register with them.

Councillor Colin Blackburn said that with regard to Affordable Housing he would like to see developers encouraged to system build.

The Team Manager for Enabling & Development commented that they were exploring options with Curo on this matter.

Councillor Barry Macrae asked what could be done to eradicate the number of rough sleepers and how do the figures compare nationally.

The Head of Housing replied that B&NES has a relatively high rate of homelessness, around twice the national average and would be in the top 15% nationally. He informed the Panel that Bristol has the second highest concentration of rough sleepers in the UK. He added that B&NES has a Direct Access Hostel (Julian House), despite there not being a statutory requirement for the Council to have one. Councillor Lisa O'Brien commented on the successful work of Julian House and asked if their resources should be expanded.

The Head of Housing replied that investment would always be welcome for their work. He added that the Department of Communities and Local Government had recently announced a £40m funding opportunity to address homelessness and rough sleeping. He said that Housing Services, working with other local housing agencies and in partnership with neighbouring Local Authorities, supported two bids for funding. One of the bids, for £250,000, led by Swindon in partnership with Wiltshire Council and B&NES, has been successful. He stated that a new scheme is to be set up to help those new to the streets, or at imminent risk of sleeping rough, to get the rapid support they need. The three Local Authorities will meet in early 2017 to commence the new service.

The Chairman asked if any records were kept for people who are 'sofa surfers' and asked about people who were homeless in the rural areas of B&NES.

The Head of Housing replied that officers visit known locations across the area and said that Ward Members were helpful in notifying in some instances. He added that the recent count does not include 'sofa surfers' however 'sofa surfers' are recorded as such when presenting to the Council as homeless.

The Inclusive Communities Manager commented that the Director of Public Health had recently highlighted a number of issues that he would like to discuss with the Responsible Authorities Group (RAG), one of which was Homelessness.

The Chairman thanked everyone for their contributions to this item.

44 DIRECTORATE PLANS

The Strategic Director for Place introduced this item to the Panel. She explained that year one of the Directorate Plans was coming to a close and the budget to reflect year 2 is due to be set in February. She said that the report presents a refreshed version of the Place Directorate Plan for initial consideration and feedback as part of the 2017/18 budget setting process.

She highlighted some of the main work areas from within the Plan.

We will:

- Continue to deliver the Core Strategy Target for jobs and infrastructure for Bath and North East Somerset, including the delivery of around 3,900 new homes between 2016/17 & 2019/20 through the Placemaking Plan

- Produce a draft Destination Management Plan by summer 2017 and gain approval of this and an Events Management Framework by Autumn 2017.

- Deliver the Heritage Services Business Plan 2016-2021. Establish the project management team from the Archway Centre by April 2017 and hit key milestones towards being on site during 2018 and 2019.

- Agree Community Infrastructure Levy (CIL) Spend Priorities based on income estimated at £1.5m by 2018/19. Review B&NES Infrastructure Delivery Plan as part of the CIL spend process by summer 2017.

- Continue to work with partners to develop and support sustainable and affordable housing solutions for those who are homeless or in need. Deliver 465 new affordable homes over a 3 year period 2015 -2017 comprising: intermediate housing; Starter Homes; and affordable homes for rent.

- Work with Parish Councils, communities and key partners to deliver and adopt around two Neighbourhood Plans per year.

- Continue to progress the local plan documents in the Council's local development framework including a Review of Houses of Multiple Occupation supplementary guidance.

She explained further some of the key risks associated with the Place Directorate.

Difficulty in achieving the affordable housing provision – This relates to Council funded schemes where appropriate and the use of sec 106 and CIL funding and effective partnership working with the Housing & Communities Agency and housing associations to secure new provision.

Devolution timescales – This is with regard to the capacity of our officers working in Transport, Planning and Skills to ensure that we are able to react effectively for our 'business as usual' and the work required for Devolution.

Delivery of capital projects and capitalised fees - There is a risk with all capital projects where fees have been capitalised against them for potential reversion to revenue if the project is not implemented.

Councillor Barry Macrae asked how our plans fit in with other Local Authorities and urged a focus for B&NES to not be lost.

The Strategic Director for Place replied that they are always looking at ways in which the directorate can improve which is why Councillors will see reviews of plans and policies. She stated that the Joint Spatial Plan dovetails into our own Core Strategy.

The Chairman asked if she was satisfied that the Cabinet and Senior Management Team (SMT) recognise the risks that she had outlined within the plan.

The Strategic Director for Place replied that she was. She said that a formal risk register is considered in making all Cabinet / Council decisions and that she had been in detailed discussion with SMT colleagues while producing the plan.

Councillor Cherry Beath asked what she saw as her most immediate challenge.

The Strategic Director for Place replied that the directorate had become quite income driven and that a recent away day the issue of business skills was raised. She said that with that in mind she was looking to see how that skills base can be enhanced.

Councillor Barry Macrae said that he was pleased with the growing business element of the directorate but wanted to be assured that we were still acting as a democratic authority.

The Strategic Director for Place replied that the directorate is a customer focussed business and is using those principles to deliver services. She added that no restructuring had occurred without Member involvement, especially that of the Cabinet Member(s).

Councillor Barry Macrae said that he would like the directorate to be community and customer focussed.

The Chairman commented whether the Parks team could be given the same level of control as Heritage Services had been with regard to property maintenance.

The Strategic Director for Place explained that there is a large Capital Programme to deliver, including;

- Somer Valley Enterprise Zone
- Midsomer Norton Town Hall
- Roman Baths
- River Avon Park
- Keynsham High Street
- Archway Project
- Disabled Facilities Grant

The Divisional Director for Community Regeneration addressed the Panel on budget proposals from within his department.

Commissioning of Destination Management – He said that governance arrangements were currently being discussed.

Film Office – Expand the service to increase income generated.

Investigate expansion of HMO licensing scheme &/or selective licensing.

Increase Homesearch Marketing Fees – Increase the recharges for this service.

B&NES Enterprise Agency / SME (Small and Medium Enterprises) Workspace Management – Enhance provision of managed workspace across B&NES.

Disabled Facility Grants – Retained at current level and refinanced from grant.

Arts Development – Phase out Art grants from the Council moving to a strategic support role.

Councillor Cherry Beath asked if an Arts Board was to be created.

The Divisional director for Community Regeneration said that this had been established and the next meeting would soon take place. He said that the Cultural

Strategy would be used as a base for future work and that it hoped to achieve a high impact by working together.

Councillor Lisa O'Brien asked what the unmet level of need for work space is.

The Divisional Director for Community Regeneration replied that existing business centres at The Guild and Wansdyke Centre were full. He added that The Guild is looking to expand and that the work space at the former Frys site was to be marketed.

Councillor Barry Macrae praised the good work in helping to start businesses and said the Council should do as much as it can to keep them as they look to expand.

The Divisional Director for Community Regeneration replied that success builds the confidence levels within the area and cited the rental level achieved at 20 Manvers Street.

Councillor Fiona Darey asked if the increased Homesearch fee would affect residents.

The Head of Housing replied that it was to be a small increase and anticipated there being no impact to residents.

Councillor Cherry Beath commented that there was to be a significant increase in the savings related to Arts Development in 2019/20.

The Divisional Director for Community Regeneration said that the Council will at this stage be providing support following any funding being achieved. He added that its role will be to direct and guide groups to other sources of funding.

Councillor Colin Blackburn spoke regarding available work space. He said that the former Herman Miller site could have provided a substantial amount of space, but the site was no longer available.

The Divisional Director for Community Regeneration replied that the Council did have discussions with the agent regarding the site. He added they are trying to be more proactive with available office space and said that the sites of Bath Quays North / South will be game changers. He said they also recognise the need to be collaborative and share ideas with the private sector.

The Chairman spoke of the importance of taking equalities issues into account during the budget setting process and that decisions should be made as to how we can benefit the people of B&NES.

The Divisional Director for Development addressed the Panel on budget proposals from within her department.

Spring Water – Income through the supply of spring water to third parties.

Supporting the adoption of Neighbourhood Plans from Parish and Town Councils – Enabling further grants to be achieved over 2 years.

Development Management additional income streams – Increasing charges for householder enquiries and charging for reviewing Neighbourhood Plans, from a Development Management perspective, produced by Town and Parish Councils.

Councillor Barry Macrae asked if information relating to available sites for development is shared between the Divisional Director for Development and the Divisional Director for Community Regeneration.

The Divisional Director for Development replied that it is and that the process really is a two way conversation.

The Strategic Director for Place added that she meets with her Divisional Directors on a weekly basis to discuss such matters.

The Chairman asked for further explanation on the entry relating to Spring Water.

The Divisional Director for Development replied that the Council are responsible for the Springs which are also protected by the County of Avon Act. She gave the example of the Gainsborough Hotel as one recent third party which has a spa facility within its complex.

The Chairman thanked the Panel for their comments and the officers for their contributions during the debate.

45 ALLOCATIONS OF COMMUNITY INFRASTRUCTURE LEVY FUNDS FOR 2017/18

The Divisional Director for Development introduced this report to the Panel. She explained that the Community Infrastructure Levy (CIL) came into effect in B&NES on 6 April 2015 following adoption of the CIL Charging Schedule by Council on 17 February 2015. She said that CIL largely replaces Section 106 contributions as developer-provided funding for infrastructure projects. She informed them that only Affordable Housing and site-specific infrastructure is now covered by Section 106 obligations and that education, highways and other strategic infrastructure is funded by CIL.

She stated that CIL becomes payable when development commences on site and is calculated by multiplying the net internal area of development by the appropriate rate in the Charging Schedule. She said that developers could not be double charged via CIL and Section 106 contributions.

She explained that as there are no Parishes within Bath the Council established the Bath City Forum as an “advisory and consultative body” without delegated funding or decision-making powers. She added that it did however specifically included within its Terms of Reference “assisting and advising the Council on issues specific to the City, such as how best to spend that portion of CIL receipts which are used to address local priorities”.

She said that officers were about to commence work on reviewing the Infrastructure Delivery Plan.

Councillor Lisa O'Brien commented that the projection for CIL income for 2016/17 was around £1m and asked who decides how this will be allocated after the 15% is given to Town and Parish Councils where the income has arisen.

The Divisional Director for Development replied that the decision on how CIL is spent is made using the Council's Infrastructure Delivery Plan. She added that the Plan identifies the essential infrastructure needed to support the Council's growth proposals and relates to infrastructure proved both by B&NES and other providers. She said that it also enables a co-ordinated approach to be taken having regard to the Council's Capital Programme and through the budget making process.

Councillor Lisa O'Brien asked if there was an assumed pot within CIL for education provision.

The Divisional Director for Development replied that she would expect provision relating to education to be within the proposed allocations each year.

Councillor Barry Macrae asked if the CIL from within B&NES could be expected to be used within Bristol.

The Divisional Director for Development replied that it would not.

Councillor Lisa O'Brien asked if Town and Parish Councils had sole authority on how to spend their allocation.

The Divisional Director for Development replied that they must assure themselves that they are spending within the prescribed regulations. She added that they are also eligible to pool it with the overall allocation.

Councillor Barry Macrae asked what effect devolution would have on CIL and would it lead to a metrocity being created.

The Chairman asked if Ward Councillors, and if appropriate adjoining Ward Councillors for development sites should also be consulted as to how the Bath CIL allocation should be spent as they would know where infrastructure improvements could be usefully made in their wards. He gave the examples of 43 Upper Oldfield Park and the Casino development where resident's groups had either opposed or commented on the application and asked whether they should also be consulted on infrastructure proposals.

Councillor Fiona Darey commented that she felt that any problems should be addressed through the planning process.

Councillor Lisa O'Brien said that there was work to be done on issues within Bath and that the City Forum needs a proper protocol.

The Divisional Director for Development said that applications are agreed on their own merits and reiterated that CIL is calculated using the agreed Charging Schedule and becomes payable when development commences on site. She stated that this is the point where planning considerations end and the process moves to the agreed spend mechanism.

She explained that a process was agreed by the Bath City Forum at its meeting of 26 April 2016 and that one of its stages is as follows;

- Bath City Forum CIL Standing Panel to be convened, comprising Forum members those local elected members appropriate to the neighbourhood portion of CIL under discussion

Councillor Fiona Darey said that she was a member of the Bath City Forum and that it was clear that this is a move away from Section 106 agreements. She added that community involvement is encouraged through the Forum.

The Panel **RESOLVED** to note the proposals for the allocations of Community Infrastructure Levy Funds for 2017/18 as set out in paragraph 5 of the report.

46 PANEL WORKPLAN

The Chairman introduced this item to the Panel. He asked them to feedback on his proposals relating to the Flood Risk Management Review.

Councillor Fiona Darey said that she would welcome a detailed discussion on the flow of the river.

Councillor Lisa O'Brien commented that she would like the Chew Valley area to be included within the review.

The Chairman said that he had previously discussed the matter with Councillor Liz Richardson, Cabinet Member for Homes & Planning and would now discuss further with her and officers who should attend the meeting and what information would be covered in the report.

The meeting ended at 5.05 pm

Chair(person) .....

Date Confirmed and Signed .....

Prepared by Democratic Services

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Bath & North East Somerset Council		
MEETING/ DECISION MAKER:	**Planning Housing and Economic Development Scrutiny Panel**	
MEETING/ DECISION DATE:	**07 March 2017**	EXECUTIVE FORWARD PLAN REFERENCE: N/A
TITLE:	**Flood Risk Management Update**	
WARD:	All	
AN OPEN PUBLIC ITEM		
List of attachments to this report: Appendix A: Bath & North East Somerset Council's Local Flood Risk Management Strategy: Summary Appendix B: 'How to report flooding' poster Appendix C: Strategic Flood Board's Terms of Reference		

1 THE ISSUE

1.1 As part of a Scrutiny Panel update on Flood Risk Management, the Chairman, Councillor Will Sandry submitted a number of specific questions in relation to flood risk management. This report has been written as a reply to those questions.

2 RECOMMENDATION

2.1 No recommendations are sought but comments are welcome.

3 RESOURCE IMPLICATIONS (FINANCE, PROPERTY, PEOPLE)

3.1 No resource implications required.

4 STATUTORY CONSIDERATIONS AND BASIS FOR PROPOSAL

4.1 No recommendations or approvals are required.

5 THE REPORT

5.1 Answers to the specific questions raised by Councillor Will Sandry on 3 February 2017 are set out below, however, by way of introduction, we believe it would be useful to give an overview of flood risk management in Bath and North East Somerset.

5.2 An introduction to Flood Risk Management in Bath and North East Somerset

5.3 No single organisation has responsibility to manage flood risk from all sources. Flood Risk Management is shared between a number of different organisations with individuals and communities having an important part to play.

5.4 Under the Flood and Water Management Act (2010), Bath & North East Somerset Council has been designated as a Lead Local Flood Authority. This means Bath & North East Somerset Council has a coordinating role for flood risk management across the region, and has an operational role for managing flooding from surface water, Ordinary Watercourses[1] and groundwater. These roles are in addition to the responsibilities Bath & North East Somerset Council already has for managing flooding and drainage from the highway network, and planning for emergencies.

5.5 Certain organisations were defined in the Flood and Water Management Act (2010) as Risk Management Authorities and given specific responsibilities around flooding. This includes both new responsibilities from the Flood and Water Management Act (2010), and longstanding ones from previous legislation such as the Highways Act (1980), and the Land Drainage Act (1991).

5.6 Within the Bath and North East Somerset region, Risk Management Authorities include:

Bath & North East Somerset Council;
the Environment Agency;
Highways England;
Bristol Water; and
Wessex Water.

5.7 Table 5.1 below lists the Risk Management Authorities and their responsibilities in terms of flood risk management. For more details see Bath & North East Somerset Council's Local Flood Risk Management Strategy.

[1] An ordinary watercourse is any watercourse, ditch, or stream not classified as a Main River.

Table 5.1: Risk Management Authorities in the Bath and North East Somerset area

	Responsible Risk Management Authority				
Flood Source	**Environment Agency**	**Bath & North East Somerset Council**	**Bristol Water**	**Wessex Water**	**Highways England**
Main River[2]	✓				
Surface Water		✓ (as the Lead Local Flood Authority)			
Surface Water (on or coming from the highway)		✓ (as the Local Highways Authority)			✓ (for A4 and A36)
Sewer Flooding				✓	
Ordinary Watercourse		✓ (as the Lead Local Flood Authority)			
Ground Water		✓ (as the Lead Local Flood Authority)			
Reservoirs	✓		✓		

5.8 In terms of partnership working and co-ordination, Bath & North East Somerset Council administers a **Strategic Flood Board** that includes the above Risk Management Authorities as well as the emergency services.

5.9 The purpose of the Strategic Flood Board is set out in a statement agreed by the Risk Management Authorities that on the board. It is as follows:

The Strategic Flood Board is made up of members from the following Risk Management Authorities:

Bath and North East Somerset Council (as the Lead Local Flood Authority)
The Environment Agency
Wessex Water
Bristol Water

And also includes the following organisations:

Avon Fire and Rescue
The Canal and Rivers Trust
Avon and Somerset Police.

[2] Main Rivers are defined on the Environment Agency's flooding maps on their website and in BANES include, amongst others, the Avon, the Chew, the Cam Brook, Wellow Brook.

The overall aim of the Strategic Flood Board is to incrementally reduce the risk of, and improve the response to, flooding in the Bath and North East Somerset area.

Working in cooperation, the Board member organisations will manage areas at risk of flooding across the authority. This work will help to prioritise future flood risk management objectives and measures.

Good communication and cooperation between partners and members of the public to help improve understanding of flood risk and best practice on how to respond to and mitigate flooding is the key to successfully fulfilling the aim of the Strategic Flood Board.

5.10 Details of the Strategic Flood Board's objectives can be found in the Strategic Flood Board's Terms of Reference **(Appendix C)**.

5.11 Officers from Bath & North East Somerset Council, Wessex Water and the Environment Agency also meet quarterly to discuss operational matters as part of an **Operational Flood Working Group**.

5.12 In terms of liaison with the public, Bath & North East Somerset Council now has 30 **Local Flood Representatives** in Parishes and City of Bath Wards. Local Flood Representatives are individuals nominated by their local community to act as a direct point of contact between the community and Bath and North East Somerset Council. They provide first-hand information on drainage and flooding issues that affect the community and relate these to the Council's Drainage and Flooding Team who can then escalate information to the Operational Flood Working Group.

5.13 There are more details below about Local Flood Representatives (within the Community resilience section).

5.14 **The Lead Local Flood Authority has a duty to record and investigate significant flooding events** (regardless of source) under Section 19 of the Flood and Water Management Act (2010). Any of the following reports of flooding will trigger an investigation and be classified as significant:

- five or more dwellings at an urban location experience internal property flooding;
- two or more dwellings at a rural location experience internal property flooding;
- where the event resulted in a loss of life, or;
- where critical infrastructure (e.g. power station, pump station, electricity supply, critical transport route) was affected by flooding for a significant period of time.

5.15 The investigations will identify which Risk Management Authority is responsible for the flood incident. The relevant Risk Management Authority will then be required to prepare a report detailing the cause of flooding, the consequences of the flood event and the actions taken to deal with the event during and after the flooding.

5.16 Since 2010, significant flooding has taken place, and formal flood investigations have been produced for Chew Magna and Chew Stoke (2012), Broadmead Lane Industrial Estate, Keynsham (2014), Farmborough and Timsbury (2016), and Farrington Gurney (2016). These reports can be found at:

http://www.bathnes.gov.uk/services/environment/lead-local-flood-authority/flood-risk-management-bath-north-east-somerset/what

5.17 It is important to note that all instances of internal property flooding are investigated even if they do not constitute a formal Section 19 report. The Lead Local Flood Authority scrutinises flood reports from as many sources as possible including Council Connect enquiries, highway enquiries and directly from members of the public.

5.18 Flooding incidents are scored on an impact and health and safety basis and schemes of work are prioritised accordingly.

5.19 Answers to specific questions raised by Councillor Will Sandry

5.20 Question 01: Clarification of future schemes for Pulteney Weir / Radial Gate

5.21 See complementary Scrutiny Panel Report *Update Report: WaterSpace Study and Strategic Flood Project (Twerton & Pulteney Flood Gates project)* paragraphs 5.8 to 5.14.

5.22 Question 02: Clarification of Cabinet member responsibilities and accountabilities.

5.23 Cllr Liz Richardson performs a number of roles in relation to Flood Risk Management:

Cllr Liz Richardson is Chair of the Strategic Flood Board (see previous).

Cllr Liz Richardson attends the Wessex Regional Flood and Coastal Committee on behalf of Bath & North East Somerset Council.

The Regional Flood and Coastal Committee (RFCC) is a committee established by the Environment Agency under the Flood and Water Management Act 2010 that brings together members appointed by Lead Local Flood Authorities (LLFAs) and independent members with relevant experience for 3 purposes:

1. to ensure there are coherent plans for identifying, communicating and managing flood and coastal erosion risks across catchments and shorelines

2. to encourage efficient, targeted and risk-based investment in flood and coastal erosion risk management that represents value for money and benefits local communities

3. to provide a link between the Environment Agency, LLFAs, other risk management authorities, and other relevant bodies to build understanding of flood and coastal erosion risks in its area

5.24 Cllr Anthony Clarke, Cabinet Member for Transport, whose portfolio includes Highway Maintenance and Drainage from which the Lead Local Flood Authority operates. Cllr Anthony Clarke attends the Communities, Transport and Environment Policy Development and Scrutiny Panel.

5.25 Question 03: Role of Strategic Rivers Board.

5.26 We believe there may be some confusion between the Strategic Flood Board and the Strategic River Group.

5.27 The *Strategic Flood Board* has been established as a direct response to requirements in the Flood and Water Management Act to enable partnership working between the (flood) Risk Management Authorities. Details about the Strategic Flood Board can be found above.

5.28 The *Strategic River Group* has been set up with Senior Officers from Bath & North East Somerset Council and senior representatives from Environment Agency, Wessex Water, Canal & Rivers Trust and The River Regeneration Trust who are empowered to make strategic decisions. It is a multi-agency advisory group.

5.29 The aims of the Strategic River Group are:

- To bring together decision makers into a single forum to tackle common water issues concerning the River Avon between Dundas Aqueduct and Hanham Lock. This area is Phase I.

- To explore options to develop synergy across policies, plans and produce an overarching Action Plan for delivery

- To identify the relevant delivery partners, roles and timescales required to deliver improvements

- To monitor and evaluate projects as they progress

- To advise on future strategic direction.

5.30 Question 04: Future risks of flooding upstream from Pulteney Bridge

5.31 See complementary Scrutiny Panel Report *Update Report: WaterSpace Study and Strategic Flood Project (Twerton & Pulteney Flood Gates project)* paragraphs 5.9 and 5.10

5.32 **Question 05: Future Risks of flooding between Pulteney Bridge and Windsor Bridge. Can data be provided on a number of people basis rather than per property basis?**

5.33 No, this data is not held. The Environment Agency only has number of properties.

5.34 Question 06: Criteria for assessing effectiveness of Flood mitigation schemes after completion (e.g. those at Victoria Bridge and those currently underway at Bath Quays) – and any existing reports resulting from an assessment.

5.35 The Environment Agency carries out compliance checking of Flood Risk Activity Permits and the Local Planning Authority enforce planning conditions. Where appropriate, as-built information is added to Environment Agency data sets, including flood models, which are calibrated against real flood events to check their accuracy. The EA also carry out flood reconnaissance when flood warnings are issued and data is used to improve our understanding of flood events. We also carry out asset inspections and have enforcement powers.

5.36 Question 07: Current risk mitigation measures to ensure the Twerton Radial Gate does not fail in the closed position.

5.37 See complementary Scrutiny Panel Report *Update Report: WaterSpace Study and Strategic Flood Project (Twerton & Pulteney Flood Gates project)* paragraphs 5.8 to 5.14.

5.38 Question 08: Somer Valley flooding issues (Is the 1970's re-routing still effective with respect to climate change)?

5.39 A hydraulic model is currently being undertaken. Results are expected later this year.

5.40 Question 09: Chew Valley flooding issues of note

5.41 Following extensive flooding in the Chew Valley in 2012, a formal Flood and Water Management Act Section 19 investigation was carried out for Chew Magna and Chew Stoke (published September 2013). The investigations set out a number of recommendations. Please see Chew Stoke and Chew Magna Flood Investigation Reports available from: http://www.bathnes.gov.uk/services/environment/lead-local-flood-authority/flood-risk-management-bath-north-east-somerset/what

5.42 The majority of the recommendations have been progressed.

5.43 Particular achievements include:

- A Bath & North East Somerset Council funded Property Level Protection scheme was completed to provide an improved level of resilience for 69 homes in Chew Magna.

- Chew Magna Parish Council, with support from the Chew Valley Flood Forum and many others have produced a comprehensive community flood plan (see below).

- In Chew Stoke a number of surface water issues were highlighted and investigations and schemes have been carried out. High-strength bollards have been installed at Chew Stoke Ford to stop vehicles being swept away.

5.44 Significant surface water drainage improvements have also been made in West Harptree since 2012.

5.45 Question 10: Emergency Planning Team evacuation plan for worst case flood including when last tested.

5.46 Bath & North East Somerset Council's Emergency Planning Team and the Environment Agency are in consultation to organise an emergency flood scenario workshop/ simulation.

5.47 Question 11: Community Resilience – What is the best "flood organised" local community in B&NES and what could other communities learn from this?

5.48 Local Flood Representatives

5.49 Over the last two years BANES has established a network of 30 Local Flood Reps in Parishes throughout the area. Local Flood Reps are the eyes-and-ears on the ground in terms of reporting long standing flooding and drainage issues. There have been some great examples of Local Flood Reps coming up with simple and smart ways to manage flood risk in their community and many Local Flood Reps have provided detailed reports that can be used by the Lead Local Flood Authority to investigate further and take action. Local Flood Reps are now sharing these ideas with each other and each autumn we get together to share ideas and suggestions about how to prepare for the winter and report flooding.

5.50 Chew Magna – an exemplar flood resilient community

5.51 Chew Magna Parish Council, with support from Bath & North East Somerset Council, the Environment Agency, Groundwork and Avon Fire and Rescue has established a robust and tested Community Flood Plan. This is a comprehensive piece of work that includes the establishment and training of 'Flood Wardens' and a structured protocol based around the flood mechanisms in the town and the different neighbourhood zones and vulnerable users.

5.52 The Flood Plan is managed by the Flood Wardens who have built in monitoring and improvement measures that include Practice Days and continued training. The Plan was put into practice on 21 November when parts of the town were flooded. Whilst areas of the town flooded, the impact was relatively small and the town was able to quickly recover.

5.53 An important point to note. Chew Magna Parish Council has not received any direct funding (grants or otherwise) for their flood planning. Instead BANES the Environment Agency, Groundwork and Avon Fire and Rescue (and others) have each contributed time and expertise to help train and support Flood Wardens. For example BANES has purchased PPE equipment for Flood Wardens and Avon Fire and Rescue have provided water safety training and general support. The learning point here is that if a community can show the desire and impetus to form a plan, then (Flood) Risk Management Authorities will support their work, but ultimately the drive must come from the community themselves otherwise the Plan will not be sustainable.

5.54 Lynne Easton, is the Lead Flood Warden in Chew Magna, and is also a Local Flood Representative. She has attended Local Flood Rep meetings organised by BANES to tell her story and encourage other communities to think about managing their risk. She has also spoken at the Chew Valley Connecting Communities Forums.

5.55 The work in Chew Magna is exemplar and has recently been acknowledged with a nomination in the 'Building Resilience' category for the national Flood and Coast Awards 2017.

5.56 We would strongly encourage any community (even if only a few houses) that feels that they need to get themselves organised in order to manage local flood risks to engage with Chew Magna Parish Council and see what they can learn.

5.57 Chew Stoke and Broadmead Lane Industrial Estate

5.58 With support from the Environment Agency and BANES, the charity Groundwork is now working with people living in Chew Stoke, and working at Broadmead Lane Industrial Estate in Keynsham, to provide Flood Warden training and assist in creating Flood Plans.

6 RATIONALE

No recommendations are sought but comments welcome.

7 OTHER OPTIONS CONSIDERED

7.1 N/A no other options considered

8 CONSULTATION

8.1 Consultation has taken place between Bath and North East Somerset Council's Drainage and Flooding team, the Environment Agency, relevant Councillors, and the River Avon Project Coordinator.

9 RISK MANAGEMENT

9.1 A risk assessment related to the issue and recommendations has been undertaken, in compliance with the Council's decision making risk management guidance.

Contact person	*Jim Collings* *Flood Authority Manager*
Background papers	*A ten year plan for the management of flooding from local sources: Bath & North East Somerset's Local Flood Risk Management Strategy 2015 – 2025.* Available from: http://www.bathnes.gov.uk/services/environment/lead-local-flood-authority/flood-risk-management-bath-north-east-somerset/what Chew Stoke Flood Investigation Final Report (2013) And Chew Magna Flood Investigation Final Report (2013) Both available from: http://www.bathnes.gov.uk/services/environment/lead-local-flood-

	authority/flood-risk-management-bath-north-east-somerset/what
Please contact the report author if you need to access this report in an alternative format	

Summary of the Bath & North East Somerset Local Flood Risk Management Strategy

2015-2025

Bath & North East Somerset Council

Introduction

The management of flooding is an important issue across Bath & North East Somerset. Flooding can affect communities, businesses, areas with significant heritage value, the environment, and the economy. However, until recently there has been limited understanding about who is responsible for different types of flooding.

Under the Flood and Water Management Act (2010)[1], Bath & North East Somerset Council has been designated as a Lead Local Flood Authority. This means Bath & North East Somerset Council has a coordinating role for flood risk management across the region, and has an operational role for managing flooding from surface water, Ordinary Watercourses[2] and groundwater. These roles are in addition to the responsibilities Bath & North East Somerset Council already has for managing flooding and drainage from the highway network, and planning for emergencies.

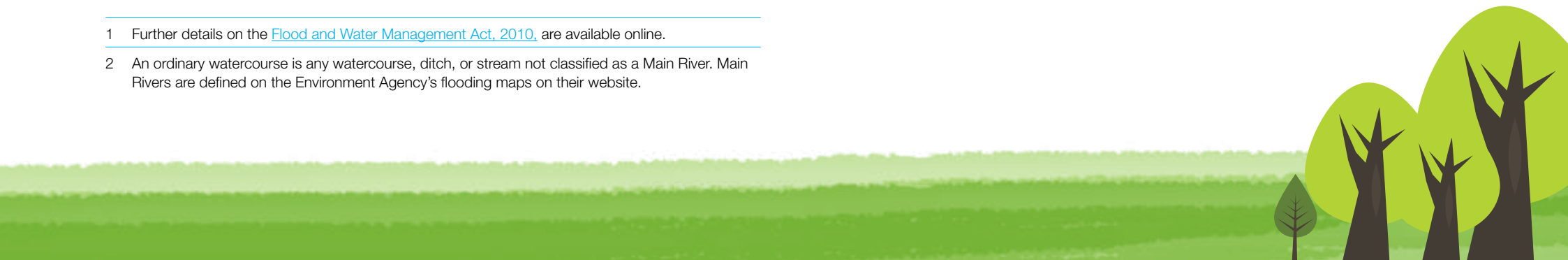
In Bath and North East Somerset Council's coordination role we will take ownership of flood risk management. This does not mean that Bath & North East Somerset Council will act as the lead organisation on all types of flooding. Rather, Bath & North East Somerset Council will work within the legislative framework to identify the appropriate organisation to take a lead in any given location, working in partnership with other organisations as necessary. This will increase accountability to the public.

In our operational role we will take responsibility for working with communities and implementing measures on the ground to reduce flood risk from surface water, Ordinary Watercourses and groundwater. This will be done in partnership with organisations who have a responsibility for managing flooding and local communities. We will undertake this on a prioritised basis, with areas at greatest flood risk from surface water, Ordinary Watercourses and groundwater remaining our highest priority.

The majority of the functions of the Lead Local Flood Authority role are to be carried out by the Council's Drainage and Flooding Team who will act as the single point of contact on all local flood risk matters.

1 Further details on the Flood and Water Management Act, 2010, are available online.

2 An ordinary watercourse is any watercourse, ditch, or stream not classified as a Main River. Main Rivers are defined on the Environment Agency's flooding maps on their website.



One of the primary responsibilities for the Lead Local Flood Authority under the Flood and Water Management Act is to produce a Local Flood Risk Management Strategy. The Local Flood Risk Management Strategy seeks to clarify roles and responsibilities for flood risk management, help inform all relevant authorities and communities about local flood risk, outline how it can be managed, and identify who is responsible for doing so. The Local Flood Risk Management Strategy also sets out the objectives for managing local flood risk, and identifies the key actions the Council will take to manage local flood risk. Flooding cannot be completely prevented, though its impacts can be reduced and managed through investment and good planning. Therefore, expectations about what can be done to manage local flood risk should be managed to ensure communities are aware of what actions can be undertaken, and the timeframe for doing so.

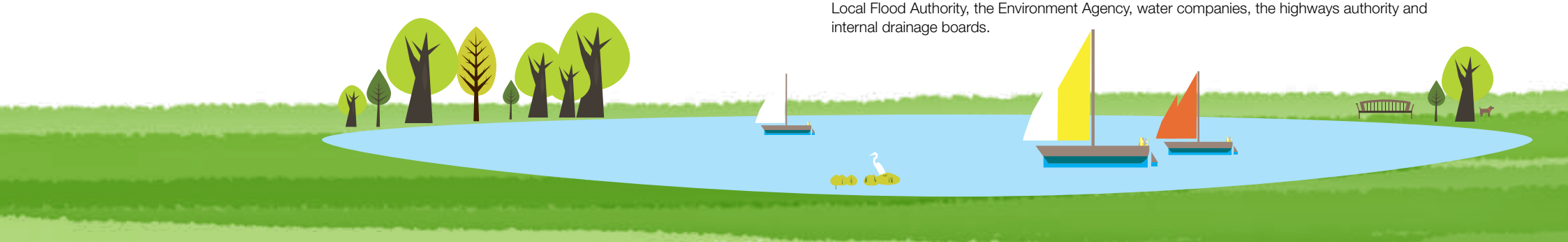
Given Bath & North East Somerset Council's legislative responsibilities, the Local Flood Risk Management Strategy focuses on local flood risk. The Local Flood Risk Management Strategy does however also consider flood risk in line with our coordinating responsibility. As part of this, it outlines the roles of other Risk Management Authorities[3] including the Environment Agency, Wessex Water, Highways England (formerly the Highways Agency) and Bristol Water. The Local Flood Risk Management Strategy identifies how the Council will work in partnership with these Risk Management Authorities. The responsibilities of Risk Management Authorities are summarised in Figure 1.

Figure 1 Organisations with responsibilities for flood risk management

	Responsible Risk Management Authority				
Flood Source	**Environment Agency**	**Bath & North East Somerset Council**	**Bristol Water**	**Wessex Water**	**Highways England**
Main River	✓				
The Sea	✓				
Surface Water		✓			
Surface Water (on or coming from the highway)		✓			✓
Sewer Flooding				✓	
Ordinary Watercourse		✓			
Ground Water		✓			
Reservoirs	✓		✓		

The Bath & North East Somerset area includes a number of Main Rivers including the River Avon, Cam Brook, and the River Chew. The operational management of flood risk from Main Rivers is undertaken by the Environment Agency who have developed plans and projects in partnership with other organisations. In particular, the Environment Agency has created a Bristol Avon Flood Management Plan that includes details about flood risk in Bath and other locations within Bath & North East Somerset. Wherever the Environment Agency develops plans or projects to manage flood risk on Main Rivers, Bath & North East Somerset Council will work with them as appropriate.

3 Risk Management Authorities are defined in the Flood and Water Management Act as the Lead Local Flood Authority, the Environment Agency, water companies, the highways authority and internal drainage boards.



Objectives of the Local Flood Risk Management Strategy

The purpose of the Bath & North East Somerset Local Flood Risk Management Strategy is to ensure:

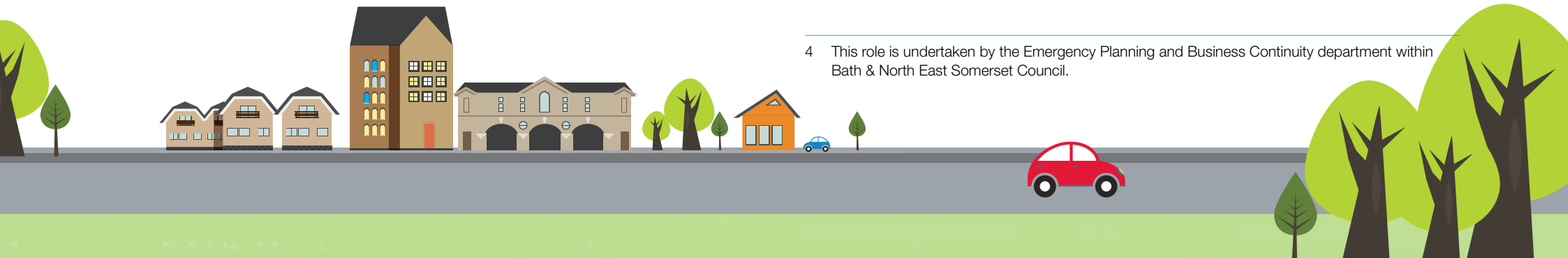
- local flood risk is managed through a coordinated approach, and;
- that communities, businesses and individuals are more aware of the risks of flooding, understand who is responsible for dealing with flooding, and are clear about the actions they can take to manage the risk of flooding.

It is helpful to describe local flood risk management in Bath & North East Somerset in three phases, which are illustrated in Figure 2. The majority of actions arising from the Local Flood Risk Management Strategy are related to managing the risks of local flooding, although there are some actions to support the planning for, warning of, and response to, flooding. The warning and responding to flooding incidents is primarily undertaken by the emergency planning authority[4] with the support of the emergency services, including Bristol & Avon Fire and Rescue and the Police.

A series of objectives have been defined to help structure and govern the implementation of the Local Flood Risk Management Strategy. These objectives are to:

1. **improve understanding of local flood risk;**
2. **promote community awareness and build capability for appropriate action;**
3. **manage local flood risk through capital and maintenance investment;**
4. **prevent inappropriate development that creates or increases flood risk, and;**
5. **improve flood preparedness, warning and ability to recover.**

Figure 2 identifies how each of these objectives are linked to the three phases of flood risk management. Objective 2 is an over-arching objective which needs to be promoted during all phases of local flood risk management. It is vital that local communities are aware of local flood risks, know how to prepare and respond to flooding, are empowered to take ownership of local flood risk issues, and understand the roles and responsibilities of Risk Management Authorities.



4 This role is undertaken by the Emergency Planning and Business Continuity department within Bath & North East Somerset Council.

Figure 2 Three phases of flood risk management in Bath & North East Somerset

Emergency response undertaken by the emergency planning authority and emergency service (Note: this is outside of the remit of the LFRMS)

Warn and respond to flooding

- Promote community awareness and build capability for appropriate action (Objective 2)
- Improve flood preparedness, warning and ability to recover (Objective 5)

Manage the risks

- Improve understanding of local flood risk (Objective 1)
- Promote community awareness and build capability for appropriate action (Objective 2)
- Manage local flood risk through capital and maintenance investment (Objective 3)
- Prevent inappropriate development that creates or increases flood risk (Objective 4)

Plan for flooding

- Promote community awareness and build capability for appropriate action (Objective 2)
- Improve flood preparedness, warning and ability to recover (Objective 5)

Partnership Working

A number of partnership groups have been established to help co-ordinate flood risk management in Bath & North East Somerset. These include the West of England Partnership Flood Risk Working Group, the South West Flood Risk Managers Group, the Strategic Flood Board and Operational Flood Working Group. These groups hold regular meetings, and have established lines of communication to facilitate partnership working.

It is critical to work with local communities through Local Flood Representatives. The Local Flood Representatives act as a point of contact between local communities and the Council's Drainage & Flooding Team. They provide an important communication link between residents, the Council, and other Risk Management Authorities.

All residents of Bath & North East Somerset have a role to play in helping to manage flooding. These roles include reporting flood incidents to the relevant Risk Management Authority, understanding the risks they face, ensuring property at risk has been adequately prepared for a flood incident, and helping to reduce the causes of flooding where possible (for example, through clearance of watercourses).

Flood risk in Bath & North East Somerset

The Bath & North East Somerset regional Surface Water Management Plan has been used to inform the Local Flood Risk Management Strategy. Over 990 reports of recent and relevant flooding from 2009 to 2014 were collated and analysed. The reason historic events were not included was to prevent misrepresentation of recorded flood incidents which may now have been actioned. The recent and relevant flooding data were used to develop a Recorded Flood Incident Register and Interactive Maps of Local Flood Incidents to visualise the data. As demonstrated in Figure 3, recent and relevant flooding is widespread across the region. There are notable clusters of flooding in Bath, Keynsham, Whitchurch, Chew Magna, Chew Stoke, West Harptree, Midsomer Norton and Radstock.

The Local Flood Risk Management Strategy also considers potential flood risk from a range of sources including surface runoff, ordinary watercourses, main rivers, highway drainage, reservoirs, sewers, and canals[5]. The Bath & North East Somerset regional Surface Water Management Plan identified nearly 750 residential properties estimated to be at risk of surface water flooding during a very severe rainfall event[6], with 22 critical infrastructure[7] also being at risk. The Local Flood Risk Management Strategy has also identified how local flood risk may change across Bath & North East Somerset in the future. These include climate change, new development, and deterioration or blockage of assets which help to manage flood risk. For example, due to the impact of climate change the number of residential properties at risk of surface water flooding could increase by up to 90%, by 2085[8] .

The areas most at risk of local flooding have been identified in the Bath & North East Somerset regional Surface Water Management Plan, and included within the Local Flood Risk Management Strategy. These are known as 'wet-spots'.

These were derived from analysis of historical flood incident data. In total 53 individual wet-spots were identified. Please refer to the Bath & North East Somerset regional Surface Water Management Plan for further details.

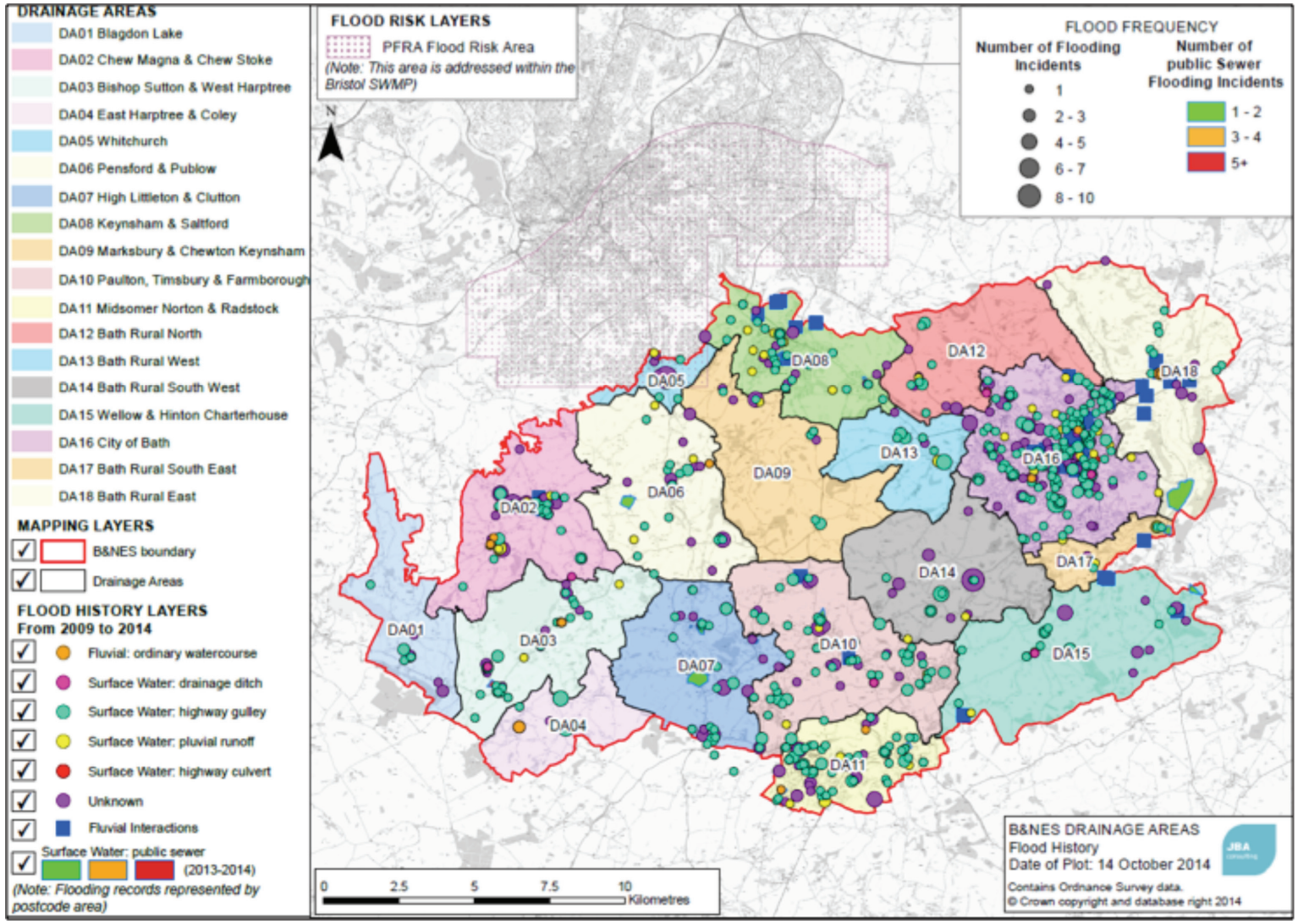
5 It should be noted that it is not the Council's legal duty to investigate or assess flooding from main rivers, reservoirs, sewers or canals, but the interaction between local flood risk and these has been considered.

6 In this case this is defined as a rainfall event with a 1% chance of happening in any given year.

7 Critical infrastructure could include an educational building, health centre/ building, power station, sewerage or water facility, or building where vulnerable people are located, such as a shelters and nursing home.

8 Based on evidence in the Bath & North East Somerset regional Surface Water Management Plan

Figure 3 Interactive Map of Local Flood Incidents in Bath & North East Somerset mapped as part of the Bath & North East Somerset regional Surface Water Management Plan and used to inform the Local Flood Risk Management Strategy



Actions to manage local flood risk

As part of the Local Flood Risk Management Strategy an over-arching action plan (the 'Strategy Action Plan') has been developed which sets out the measures the Council will take, in partnership with others, to manage local flood risk and achieve the objectives of the Local Flood Risk Management Strategy. The actions proposed as part of this Strategy Action Plan are outlined in Table 1. It should be noted that actions identified in grey have already been completed and those assigned with an asterisk are a statutory duty under the Flood and Water Management Act.

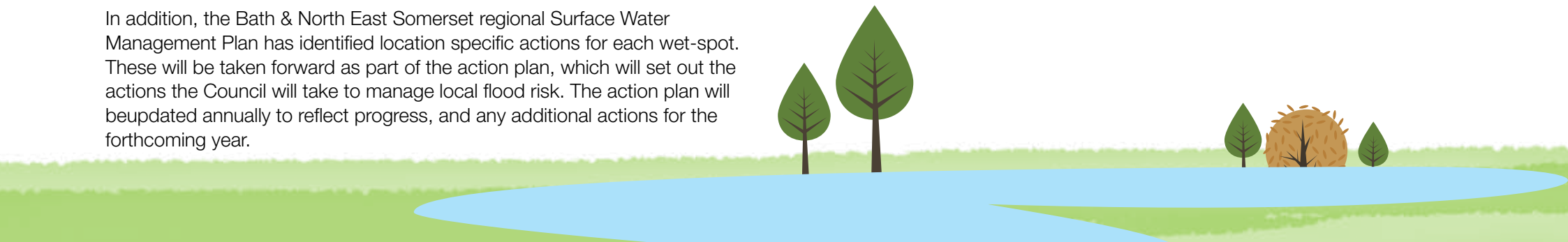
Table 1 Strategy Action Plan

Phase of Local Flood Risk Management (See Figure 2)	Link to Objective	Action Title (including reference no.)
All phases	**Objective 2** Promote community awareness and build capability for appropriate action	**2a** Establish clearer routes for communicating with communities and businesses about the roles and responsibilities for flood risk **2b** Help communities understand their own flood risk and their responsibilities for managing flooding **2c** Raise awareness of land drainage and riparian responsibilities **2d** Develop a network of Local Flood Representatives to act as a point of contact in the community on flooding issues **2e** Ensure communities know what to do in the event of a flood
Manage the risks of local flooding	**Objective 1** Improve understanding of local flood risk	**1a** Complete a regional Surface Water Management Plan **1b** Continue to develop an updated flood reporting system **1c** Improve the use of visual tools (e.g. GIS) to record and analyse flooding incidents **1d** Continue to complete investigations of flood incidents, where the appropriate criteria is met **1e** Ensure that appropriate data on flooding is shared between organisations, and between organisations and communities
	Objective 3 Manage local flood risk through capital and maintenance investment	**3a** Continue to work with partners, including adjacent authorities, to develop long term approaches to manage flood risk **3b** Deliver the actions in the the Bath & North East Somerset regional Surface Water Management Plan **3c** Continue to develop a register of assets which significantly affect local flood risk **3d** Designate structures that effect local flood risk, to protect them from alteration or removal **3e** Continue to assess applications for works on ordinary watercourses, through the land drainage consent process **3f** Identify catchments where improved land management could reduce flood risk and/or improve the wider environment

Table 1 Strategy Action Plan

Phase of Local Flood Risk Management (See Figure 2)	Link to Objective	Action Title (including reference no.)
	Objective 3 Manage local flood risk through capital and maintenance investment	**3g** Identify critical highway drainage assets, in order to undertake targeted maintenance and respond to issues as the Local Highways Authority **3h** Prioritise maintenance and clearance works to culverts and watercourses **3i** Evaluate flood reports to identify where drainage improvements or other mitigation works are possible
	Objective 4 Prevent inappropriate development that creates or increases flood risk	**4a** Continue to review planning applications to make recommendations for surface water drainage and managing flood risk **4b** Publish the West of England Sustainable Drainage Systems Guidance for developers, and work across the West of England to co-ordinate sustainable drainage system implementation **4c** Include SuDS planning policy within the Council's Placemaking Plan/ Core Strategy **4d** Continue to provide guidance at the pre-application stage on flooding issues **4e** Consider the need for additional planning guidance on flooding specific to Bath & North East Somerset **4f** Identify areas that are sensitive to surface water flood risk and develop appropriate surface water drainage and flood risk requirements for any proposed development in these areas
Plan for flooding / Warn & respond to flooding	**Objective 5** Improve flood preparedness, warning and ability to recover	**5a** Help develop a multi-agency flood plan for high risk areas in Bath & North East Somerset **5b** Communicate information to communities, businesses and individuals on flood preparedness and recovery **5c** Promote uptake of the Environment Agency's Floodline Warnings Direct service **5d** Improve warnings and proactive mitigation in response to predicted rainfall

In addition, the Bath & North East Somerset regional Surface Water Management Plan has identified location specific actions for each wet-spot. These will be taken forward as part of the action plan, which will set out the actions the Council will take to manage local flood risk. The action plan will beupdated annually to reflect progress, and any additional actions for the forthcoming year.



How will the Council fund measures in the action plan

Flood risk related projects are determined on an annual basis. Where the risks are associated with property flooding and/or health and safety issues these will be scored more highly and prioritised accordingly. In most cases small drainage works can be funded from the Council's revenue and capital funding streams. However, the Council may also seek to secure other dedicated flood risk management funding from Government[9] where a project is of sufficient magnitude to justify additional funding or it is likely to qualify for funding.

Even with these funding sources in place there may still be a funding gap for some flood risk management projects. Where this is the case, other funding sources may need to be considered depending on the direct beneficiaries of investment, or the wider economic growth opportunities a flood risk management project could bring. Relevant funding sources could include, for example:

- West of England Local Enterprise Partnership where a scheme can directly contribute towards economic growth;
- Section 106 agreements can be used to support provision of infrastructure where they are directly related to development, necessary to make the development acceptable, and relevant to planning;
- Bath & North East Somerset Community Infrastructure Levy, and;
- Beneficiaries of the scheme (e.g. homeowners, businesses or utility providers).

The Council will engage with relevant organisations early to identify potential funding based on the benefits of flood risk management investment.

Wider, non-flood risk management funding sources may also need to be considered to contribute towards a project. To access these will require thinking about the wider benefits such as biodiversity, amenity, health/ wellbeing, recreation, and education. Sources could include Lottery funding, money raised by the community, and from potential European Union funding sources.

9 This could include Flood and Coastal Erosion Risk Management Grant in Aid funding from Central Government, or funding from the Regional Flood and Coastal Committee

Monitoring the Local Flood Risk Management Strategy

The Local Flood Risk Management Strategy will remain live for a 10 year period to 2025, after which it will be reviewed and updated where necessary. A mid-term update of the Local Flood Risk Management Strategy will take place after five years, in 2020, to check progress against the strategy objectives and update the document where required. The update of the Local Flood Risk Management Strategy in 2020 will be reviewed by the Flood Risk Scrutiny Panel.

In the interim Bath & North East Somerset Council will monitor the progress of the Local Flood Risk Management Strategy on an annual basis through preparation of the annual action plan, which will be presented to, and agreed by, the Strategic Flood Board. The annual action plan will identify:

- progress against strategy objectives;
- whether actions have been delivered and can therefore be removed from the action plan;
- any changes to legislation or understanding of flood risk, and the implications of this, and;
- set the actions for the forthcoming year.

Prior to 2020, the Local Flood Risk Management Strategy will only be updated if the objectives are not being met, significant flooding occurs, there are significant updates to available data, there are regulatory changes which affect the roles and responsibilities, or there are changes to the funding landscape.

Contact

For further information on how we are managing flood risk in Bath & North East Somerset please visit our website at: http://www.bathnes.gov.uk/services/environment/land-drainage.

How to report flooding

Did you know
Anyone that has a river, stream or drainage ditch running through, or adjacent to their land is known as a 'riparian owner', and is responsible for maintaining the bed and banks to ensure that water can flow normally.

Reduce the impact of flooding
The National Flood Forum can advise on things like finding flood insurance, or ways you can make your home more flood resilient. **www.nationalfloodforum.org.uk**

Did you know
The maintenance of roadside ditches generally rests with the adjoining landowner.

Is your home at risk of flooding?
Find out your flood risk by looking at the Environment Agency's flood maps for rivers and surface water.
www.environment-agency.gov.uk

Did you know
A third of flood-related deaths in the UK involve drivers taking unnecessary risks. **Do not drive through flood water!**

If your home or business has flooded it's important to let the Council know so that we can investigate.

You can report flooding in a variety of ways:

- Complete an online form at **www.bathnes.gov.uk/reportit**
- Email **councilconnect@bathnes.gov.uk**
- Tweet **@ccbathnes**
- Call **01225 39 40 41**
- Text **07797 806545**

If you know the precise cause of flooding please also contact the relevant organisation.

Watercourse flooding

Watercourse flooding, also referred to as fluvial flooding, occurs when water overtops the banks of a river, stream or drainage ditch.

This can occur because there is more water draining into the channel than it can hold, or because it is blocked.

Report watercourse flooding

Watercourses are split into two categories: Ordinary Watercourses and Main Rivers. Main Rivers tend to be the larger rivers or systems and in Bath and North East Somerset these include the Avon, the Chew, the Cam Brook and Wellow Brook.

To report Main River flooding contact the Environment Agency on **0800 80 70 60**.

Any watercourse that is not a Main River is known as an Ordinary Watercourse and include drainage ditches, small streams and pipes.

To report Ordinary Watercourse flooding contact the Council via Council Connect.

Surface water flooding

Surface water flooding is caused by rainwater, which runs across the surface of the ground and pools in low lying areas.

Surface water flooding commonly affects roads and can occur quickly during intense rain storms.

Report surface water flooding

To report surface water flooding including highway flooding and blocked road gullies contact the Council via Council Connect.

Please note the Council does not provide sandbags.

Sewer flooding and burst water mains

Sewer flooding happens either when the pipes in the network are blocked or when there is heavy rainfall and the sewers cannot cope with the amount of water. You can help prevent blockages by only flushing the three Ps – paper, poo and pee, and avoid pouring fats, oils and grease down the sink.

The danger of this type of flooding is that water can become contaminated with raw sewage and enter land, property, or the river system.

Report sewer flooding and burst water mains

To report sewer flooding contact Wessex Water on **0345 600 4 600**.

To report a burst water main in the Bath area contact Wessex Water on **0345 600 4 600**.

To report a burst water main outside of the Bath area contact Bristol Water on **0800 801 011.**

Flood Risk Management is shared between a number of different organisations with individuals and communities having an important part to play.
To find out if your home or business is at risk of flooding and what you can do to manage your risks visit: **www.bathnes.gov.uk/flood**

Bath & North East Somerset Council
BRISTOL WATER
Environment Agency
Wessex Water a YTL company

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Strategic Flood Board

The Strategic Flood Board covers all of Bath and North East Somerset.

The Strategic Flood Board will be chaired by elected Councillors. Secretariat to the groups is provided by the Drainage & Flooding Team and reports back to them on programmes of schemes and budget expenditure. Stakeholder membership includes the Environment Agency, Wessex Water and Canal Trust are also members of the group.

The terms of reference are:

- Bring together all professional partners to consider issues relating to flooding and drainage within their respective river catchment areas.

- Identify lead authorities for each issue to better co-ordinate response and to target resources most effectively.

- Make recommendations and submit bids for funding for major schemes.

- Consider proposals for prioritising funding and programming of schemes.

- Influence the development of Bath and North East Somerset Council policy on drainage and flood management.

- Implement government legislation on drainage and flood management.

- Respond to community in respect of flooding issues.

- Encourage town and parish councils to adopt an “initial self-help” strategy by developing flood plans and flood wardens.

- To publicise the work of the group to the wider general public and encourage homeowners to adopt a self-help strategy by installing property flood defences and draft up individual flood plans.

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Bath & North East Somerset Council		
MEETING/ DECISION MAKER:	**Planning, Housing & Economic Development Policy Development & Scrutiny Panel**	
MEETING/ DECISION DATE:	**7th March 2017**	EXECUTIVE FORWARD PLAN REFERENCE: n/a
TITLE:	**Update Report: WaterSpace Study and Strategic Flood Project (Twerton & Pulteney Flood Gates project).**	
WARD:	All [in particular Bath Wards and Wards in close proximity to the River Avon including Saltford and Keynsham]	
AN OPEN PUBLIC ITEM		

List of attachments to this report:

Appendix A: Emerging Pre-Consultation Draft WaterSpace Study (Feb 2017)

Appendix B: Managing Flood Risk in Bath Information Note Feb 2017

Appendix C: Q & A: Response to queries from the Abbey Ward Flood Group and the Federation of Bath Residents Association and local residents (February 2017)

1 THE ISSUE

1.1 This report covers two issues, the first is the draft WaterSpace Study which is currently being finalised for public consultation (this is a joint study undertaken by B&NES Council, Wessex Water, the Environment Agency and the Canal & River Trust) which the Panel are asked to comment on. This follows an introductory paper on this study presented to the Scrutiny Panel in May 2016. The second is an update on Strategic Flood Management project in Bath, specifically the proposal to focus efforts to secure investment to replace/refurbish Bath's city water level control gates at Twerton & Pulteney - comments are sought on this joint Environment Agency and B&NES Council project.

2 RECOMMENDATION

The Panel is asked to;

2.1 Proposal 1 – Provide comments on the Draft WaterSpace Study prior to public consultation.

2.2 Proposal 2 – Provide comments on the Council's joint project to prioritise funding bids and develop a detailed Business Case to replace/refurbish Bath's water level control gates at Twerton and Pulteney.

3 RESOURCE IMPLICATIONS (FINANCE, PROPERTY, PEOPLE)

3.1 The WaterSpace Study is a partnership project, jointly funded by B&NES Council, the Canal and Rivers Trust, the Environment Agency and Wessex Water. Resources have been secured to deliver the study, for completion in Spring 2017 and this work is within these budget allocations.

3.2 The Strategic Flood Project has secured £50,000 B&NES Council Capital funding to produce a joint Business Case with the Environment Agency (see Single Member Decision report in background papers). The Environment Agency has allocated £100,000 to the project. It is proposed that the joint project would lead to a funding bid for approx. £5million from DEFRA funding to undertake the works. An additional local contribution of up to £1million will also need to be secured, subject to the detailed scope of works.

4 STATUTORY CONSIDERATIONS AND BASIS FOR PROPOSAL

4.1 No decision is requested on either item. While the Council does not have a legal duty to prepare a WaterSpace study, it is envisaged that the study will provide a vital evidence base for future decision making in various service areas including Planning and Regeneration. Similarly it will enable the study partners to identify potential collaborative projects and funding.

4.2 In relation to the Strategic Flood project, it is hoped that this item will provide an opportunity for scrutiny of the approach being pursued by the Environment Agency and B&NES Council.

5 THE REPORT

WATERSPACE STUDY

5.1 The WaterSpace Study was officially launched by the partners on 14th March 2016. The key aim of the study is to identify projects which can transform and revitalise the use of Bath's waterways.

5.2 Bath & North East Somerset Council, the Canal and River Trust, the Environment Agency and Wessex Water are working together in partnership, with the ongoing support of the Strategic River Group and key partners such as the River Regeneration Trust.

5.3 The WaterSpace Study has gathered existing and new evidence to better understand how the waterways are currently being used. There is increasing pressure on the waterways for sports, leisure and recreation, while the River corridor within the Bath Enterprise Zone is also a major area of development and change.

5.4 Engaging with local communities and key stakeholders, the Study will look at the diverse range of opportunities along the River and Canal between Bath and Keynsham, and along the Canal between Deep Lock and Dundas.

5.5 Strategic flood risk proposals are outside the scope of the WaterSpace Study. The Study will be informed by the continuing work of the Council and the Environment Agency. The WaterSpace Study itself includes:

- A Review of the key strategies and evidence as it relates to the waterways;
- A comprehensive Character Assessment for the River and Canal corridors, which can be used to inform new development;
- An overview of the baseline position for the 5 Study themes: assets and management; mooring and navigation; development & regeneration; environmental enhancement and recreation and leisure.
- A summary of the public consultation undertaken to support the study including the results of the Boater Survey, 1:1 interviews and a focus group;
- A set of maps which outlines all of the partners land holdings and assets relating to the waterways;
- An outline of the available funding to support waterways related projects; and
- A range of 36 themes and projects ideas, including initial design work for the new River Avon Park. Delivery of these projects will of course be subject to approval by B&NES and partners including detailed feasibility work, the ability to secure funding, and the level of support from Members, stakeholders and the community.

5.6 Further work is currently ongoing in relation to re-opening Pulteney Moorings on a sustainable basis, this work is due to report later this year.

Appendix A includes the emerging draft WaterSpace study for comment.

STRATEGIC FLOOD PROJECT

5.7 To quantify the flood risk benefits and costs of various options and therefore identify where further work is best directed, hydraulic modelling and high level cost estimates were undertaken between 2013 and 2015. The work was jointly funded between the EA and B&NES.

5.8 The current estimated cost of implementing all of the potential improvements would be approximately £50 million, with the possibility of attracting around £10 million from central government funding. Progression of all improvements would therefore only be possible with additional funding of around £40 million.

5.9 At the present time, neither the Environment Agency or Bath and North East Somerset Council have the funding available to progress all potential schemes; nor are there other sources of funding currently able to cover this large amount. We will therefore focus work on securing funding to refurbish or replace the gates as the priority.

5.11 A detailed condition assessment of Pulteney and Twerton gates has been completed and we are expecting the results from testing by the end of March

2017. This will enable us to get an estimate of the remaining life of the gates, and a more detailed understanding of the state of the materials and component parts. We then plan to develop a business case to deliver the works to Twerton and Pulteney gates. This investment will maintain the current standard of protection (not allowing for climate change) and manage the risk of gate failure.

5.12 Draft brief key outcomes:

a) Maintain (or improve) current level of service of flood protection through Bath

b) Improve fish passage

c) Improve reliability of gate operation (reduce risk of failure)

d) Maintain or improve safety of gates

e) Maintain or improve flow capacity of gates

5.13 The consultant shall carry out the following tasks:

a) Detailed feasibility of shortlisted options or any other options found to be suitable. Further refine the cost estimates, hydraulic modelling if necessary, environmental assessment and benefits analysis for all shortlisted gate options to be agreed with EA and B&NES (from Options Appraisal reports).

b) Identify the preferred option to maintain the current standard of flood protection and maintain river levels, by refurbishing or replacing gates.

c) Consider how the preferred option impacts on future improvements.

d) Work up the outline business case for the preferred option including detailed cost benefit analysis.

5.14 **Appendix B** includes a Managing Flood Risk in Bath Information Note (Feb 2017) and **Appendix C** includes Q&A responses to queries from the Abbey Ward Flood Group and the Federation of Bath Residents Association and Local Residents (Feb 2017).

6 RATIONALE

6.1 The Scrutiny Panel was previously involved in the *Boat Dwellers and River Travellers: Task and Finish Group Review by the Housing and Major Projects Scrutiny Panel (July 2013).* The Water Space Study has updated some of this evidence, through the Boater Survey 2016 and related focus groups and interviews. This report offers the opportunity for the Scrutiny Panel to comment on the draft study prior to public consultation.

6.2 The Scrutiny Panel has not received a recent update item in relation to Strategic Flood Risk projects in Bath, however, this report together with the updates from the LLFA will address this. In relation to this report, it is hoped that the Panel can scrutinise and comment on the approach to the Twerton and Pulteney gates before the next stage of work is commenced. The comments of the Panel will influence the development of the joint Business Case and funding bids which will follow.

7 OTHER OPTIONS CONSIDERED

7.1 For the WaterSpace Study no alternative options were considered, the coverage and scope of the study has been determined by the Study partners.

7.2 For the Strategic Flood Risk Project to replace/refurbish the water level control gates at Twerton and Pulteney and to pursue a funding bid, alternative options were considered and assessed – see the River Avon Options Appraisal Report (in background papers), the option for further flood walls (including upstream of Pulteney) was appraised and scoped, however, a £40million funding shortfall was identified which led to this option not being pursued at the current time. Instead efforts are focused on the required gate refurbishment/replacement option (to maintain the current standard of flood risk management, which does not allow for the impacts of climate change). The current project still requires a Business Case and associated funding bids.

8 CONSULTATION

8.1 Public consultation and stakeholder engagement is a key element of the WaterSpace Study – a public consultation on the draft study will follow in March 2017 for six weeks. The focus for public engagement on the study took part during Bristol to Bath Festival of Nature 2016, between 10th and 25th June where 20 events were held attracting approx. 3000 people. In addition a Boater Survey, focus groups and 1:1 interviews were held. A call for ideas was held in September 2016 to ask groups and individuals to put forward ideas to include within the study. A full consultation report will be published alongside the draft study in March 2017.

8.2 A commitment to the Strategic Flood Risk project to seek funding to replace or refurbish Pulteney and Twerton gates was made via a Single Member Decision in September 2016, alongside this the technical papers which scoped the options for possible flood risk interventions were published on the Council's website and made publicly available. Press releases and newsletter items were undertaken and 1:1 meetings have been held with key stakeholders including FoBRA and the Abbey Ward Flood Group. The stakeholder meetings have been attended by the Cabinet Members for Planning and Housing, Community Services and Economic Development

8.3 Prior to this, addressing flood risk is a key action within the Infrastructure Delivery Plan (IDP) which is adopted by the Council as part of the Draft Placemaking Plan. An introductory workshop with stakeholders was held on 15 October 2014 to seek initial views and merits of each option which then contributed to a report identifying preferred options. A follow up drop in surgery was held on 11 June 2015 to update local organisations and interest groups on progress so far and to invite comments on these more detailed preferred options. The project team also briefed the Planning, Housing & Development Scrutiny panel on 20 July 2015. The feedback from these events informed the final Options Appraisal.

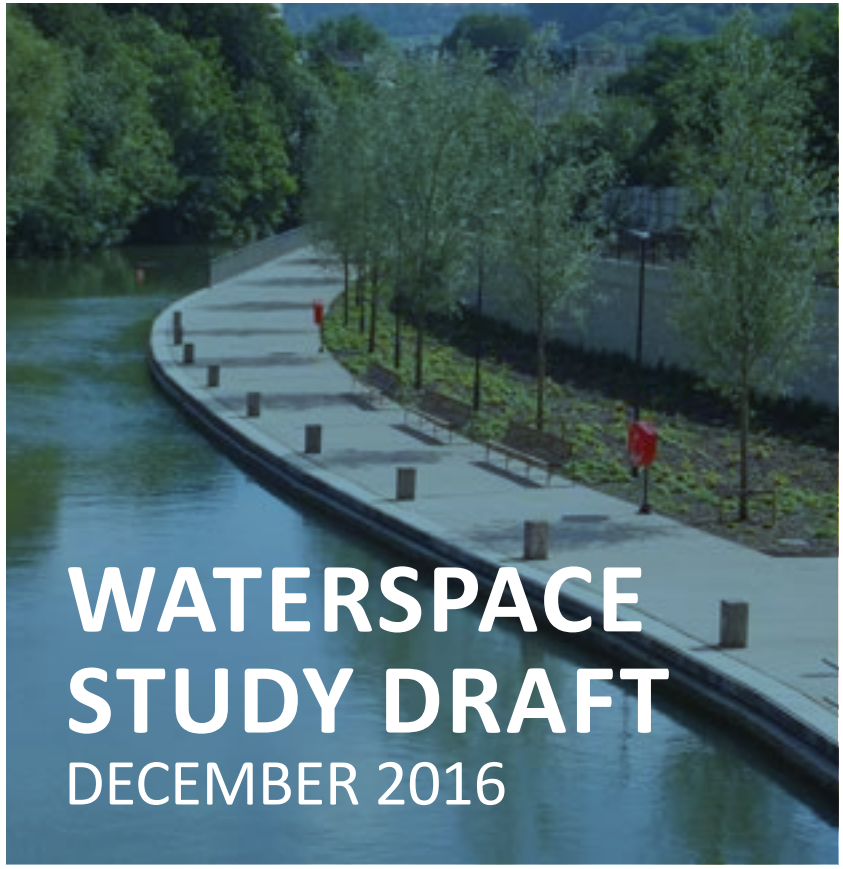
8.4 The s151 officer has been consulted and had opportunity to input into this report.

9 RISK MANAGEMENT

9.1 A risk assessment related to the issue and recommendations has been undertaken, in compliance with the Council's decision making risk management guidance.

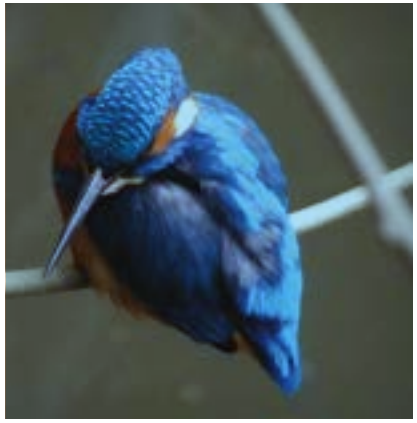
Contact person	*Tim Hewitt, Group Manager Regeneration and Cleo Newcombe-Jones, River Avon Project Coordinator.*
Background papers	*May 2016 Water Space Study Scrutiny Panel Report https://democracy.bathnes.gov.uk/ieListDocuments.aspx?CId=553&MeetingId=4590* *Single Member Decision – River Corridor Fund 2016 which included £50k funding to support the joint EA and B&NES Twerton and Pulteney gate replacement or refurbishment* *https://democracy.bathnes.gov.uk/documents/s43778/E2892%20River%20Corridor%20Fund%20Capital%20Budget%202016-17%20Funding%20Allocation.pdf* *River Avon Options Appraisal Report (Sept 2016) http://www.bathnes.gov.uk/services/environment/river-and-canal/river-corridor-capital-funding* *Boat Dwellers and River Travellers: Task and Finish Group Review by the Housing and Major Projects Scrutiny Panel (July 2013) – available online.*
Please contact the report author if you need to access this report in an alternative format	

WaterSpace



WATERSPACE STUDY DRAFT

DECEMBER 2016



Bath & North East Somerset Council

Wessex Water a YTL company

Environment Agency

Canal & River Trust

For more information on the *Water Space Study* please contact the Environment & Design team at environment&design@bathnes.gov.uk

This document can also be viewed on our website www.waterspacebath.org.uk. *Water Space Study* can be made available in a range of languages, large print, Braile, on tape, electronic and accessible formats by contacting Planning Policy on:

Telephone: 01225 477548
Fax: 01225 394199

Design by SteersMcgillanEves
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BATH & NORTH EAST SOMERSET COUNCIL

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Canal & River Trust

FOREWORD FROM THE PARTNERS

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QUICK GUIDE TO THE WATER SPACE STUDY

KEY WORDS

- Vision to revitalise our waterways
- Practical projects
- Priorities
- Funding
- Design Ideas
- Partnership

CHARACTER

16 miles of waterway

2 Waterways – River Avon and Kennet & Avon Canal

15 character areas

1 Bath City Enterprise Area

12 of 18 UK bat species

5 weirs

13 locks

3 marina

2 Linear Sites of Nature Conservation Interest that follow the waterways

710 boats in 2016

1/3 of boaters regularly cruise on the River Avon

80% of boaters surveyed the waterways is their permanent home

EVIDENCE

102 responses to the Boater Survey

20 1:1 interviews

1 focus group

1 facilities audit

7 months ecology surveys

GEOGRAPHY

DUNDAS — CLAVERTON — BATHAMPTON — BATH — SALTFORD — KEYNSHAM — HANHAM

QUICK GUIDE TO THE WATER SPACE STUDY

ISSUES

- Management
- Water Quality
- Flood Risk
- Complex ownerships
- Rich wildlife
- Diverse stakeholders
- Major Development & Change
- Under-used River
- Shift from Industrial to Leisure use

ENGAGEMENT

20
Events at the River Avon Festival

River Avon users

Strategic river group

4 project partners

Bath & North East Somerset Council

Canal & River Trust

Environment Agency

PROJECTS

13
themes

Commercial projects

20
Projects including River Avon Park, New bridges, Public Realm

Arts and sports projects and increased moorings

FINANCE

£4m
Over £4million developer contributions identified from existing development, including £0.5m for River Avon Park

£900K
£900k capital investment in the river corridor

20
costed projects

£ £ £ £ £ £ £ £ £
£ £ £ £ £ £ £ £ £

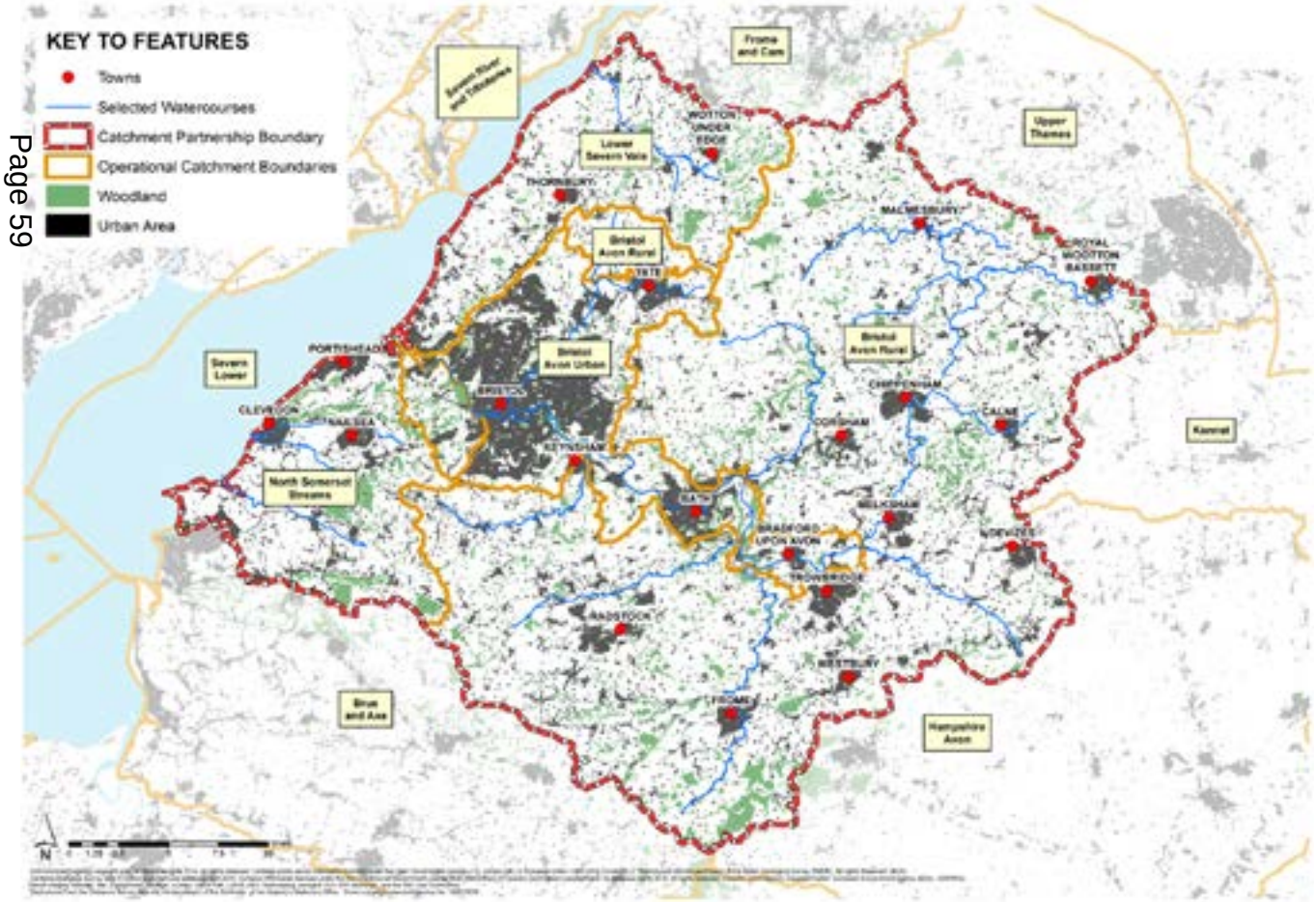
CONTEXT

BRISTOL AVON CATCHMENT

The Water Space Study is one of a number of active projects in the Bristol Avon Catchment Area, and is supported by the Bristol Avon Catchment Partnership.

The Bristol Avon Catchment comprises and area of 2810km^2 and drains parts of Gloucestershire, Wiltshire, Somerset and the West of England.

The upper reaches are rural, with significant arable agricultural activity on the higher ground and livestock on the lowland pasture. As the Avon flows towards the Severn Estuary, the river meets urbanised land (Bath and Bristol).



The six major issues at the Bristol Avon at a catchment scale are identified as:

Issue	Problem associated with…
High Phosphate levels	• Treated sewage discharges and sewage overflows • Urban diffuse pollution including misconnections • Agricultural/sediment run-off
High sediment loading	• Rapid run off from agricultural land
Flooding	• Rapid run-off from compacted rural land • Rapid run-off from urban hard surfaces
Low river flows	• Abstraction for water supply • Poor upstream water retention and aquifer recharge
Reduced natural habitat	• Poor riparian habitat • Highly modified channels • In-stream barriers preventing fish migration • Increase of invasive non-native species
Climate change	• Overarching pressure – more extreme weather resulting in flooding and droughts within the catchment

The Bristol Avon Catchment Partnership comprises a range of organisations, groups, authorities and individuals dedicated to working together to improve the water environment and provide wider benefits for people and nature at the catchment scale.

The partnership's vision for the Bristol Avon Catchment is that:

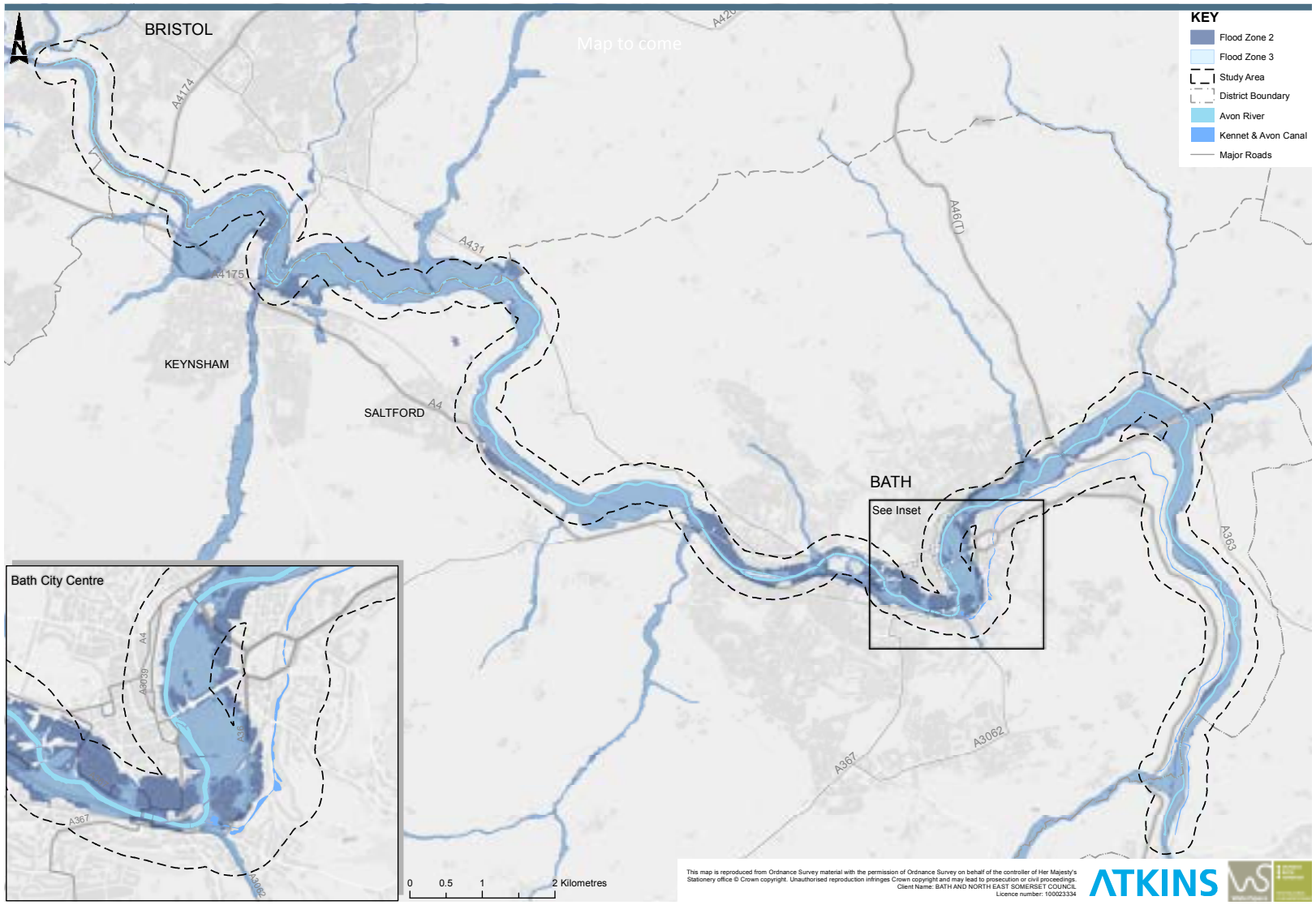
"The Bristol Avon Catchment is in good health, has Good Ecological Status and is recognised as a valuable asset to society and the local economy."

FLOOD RISK

The Strategy for management fluvial flood risk in B&NES is the responsibility of the Environment Agency, who work in partnership with B&NES Council. B&NES Council is the Lead Local Flood Authority for matters relating to surface water flooding and drainage.

Strategic flood management is outside of the scope of the Water Space Study, and there are separate projects looking at flood defences and flood risk management. The Strategic Flood Risk Assessment shows areas at risk of flood risk, and defines flood zones 1-3, with climate change flood risk will increase.

All water space study projects will need to consider the impact of flood risk, and should increase resilience to flood through their design.



FLOOD RISK

MANAGING FLOOD RISK

In addition to site specific flood remediation works, being undertaken on development sites), two strategic flood defence projects are currently underway in Bath:

PULTENEY & TWERTON FLOOD GATES

Following a full options appraisal looking at different flood management solutions and their feasibility and cost, the Environment Agency, together with B&NES Council are funding the development of a Business Case to take forward a project which will maintain and repair Bath's two flood gates at Pulteney and Twerton. This will enable the flood defences to maintain their current performance, protecting 200 Bath properties from flood risk. The detailed Business Case aims to unlock up to £6 million funding to deliver the capital works needed.

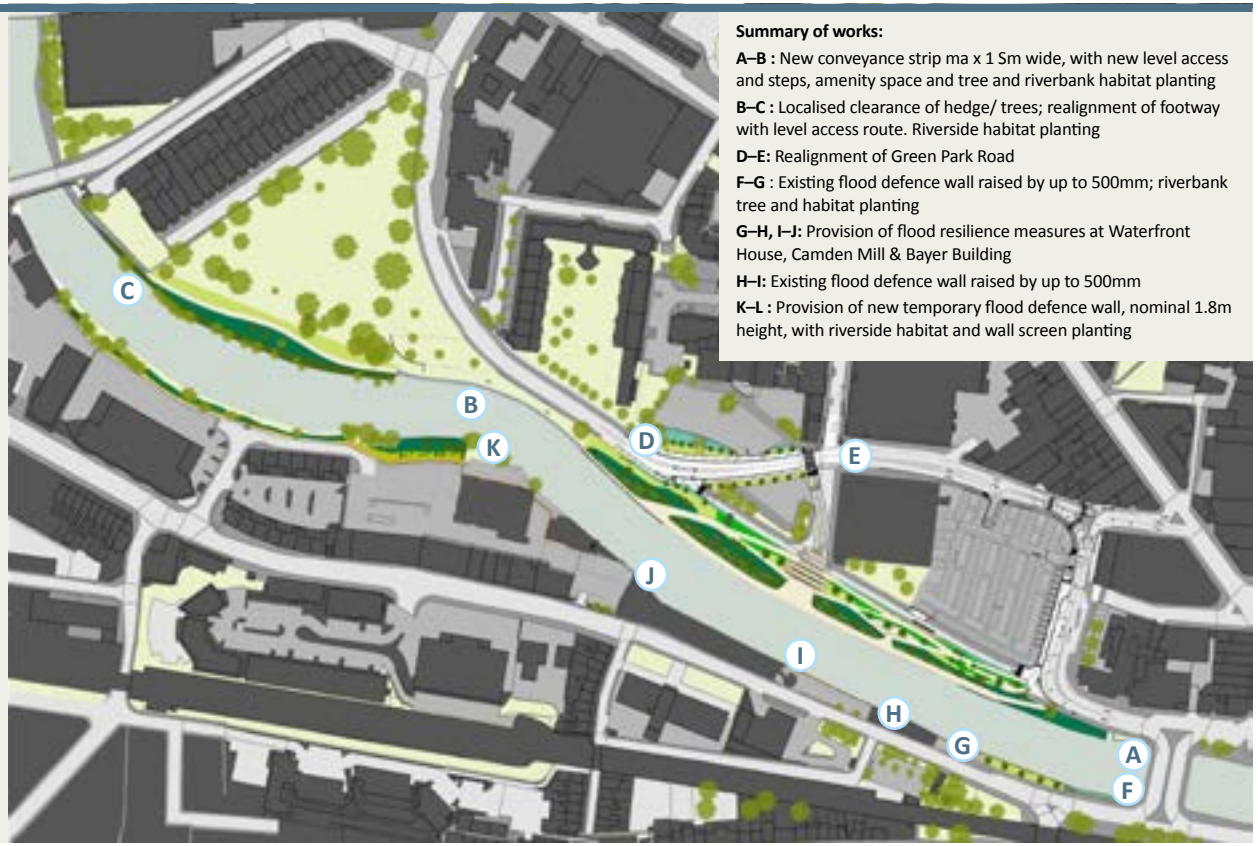
Pulteney Flood Gate

Twerton Flood Gate

BATH QUAYS WATERSIDE

Flood mitigation and defence works to the north and south banks of the River Avon between Churchill Bridge and Midland Bridge. These interventions will reduce existing and future flood risk to the Lower Bristol road and over 100 residential and commercial properties on the south side of the river. The scheme also provides the flood mitigation to enable the redevelopment of Bath Quays and Manvers Street sites in order to realise these key regeneration projects.

The scheme is being delivered by B&NES Council in partnership with the Environment Agency. The design includes upper and lower level promenades, natural landscaping and a large riverside public space.



Summary of works:

A–B : New conveyance strip ma x 1 Sm wide, with new level access and steps, amenity space and tree and riverbank habitat planting

B–C : Localised clearance of hedge/ trees; realignment of footway with level access route. Riverside habitat planting

D–E: Realignment of Green Park Road

F–G : Existing flood defence wall raised by up to 500mm; riverbank tree and habitat planting

G–H, I–J: Provision of flood resilience measures at Waterfront House, Camden Mill & Bayer Building

H–I: Existing flood defence wall raised by up to 500mm

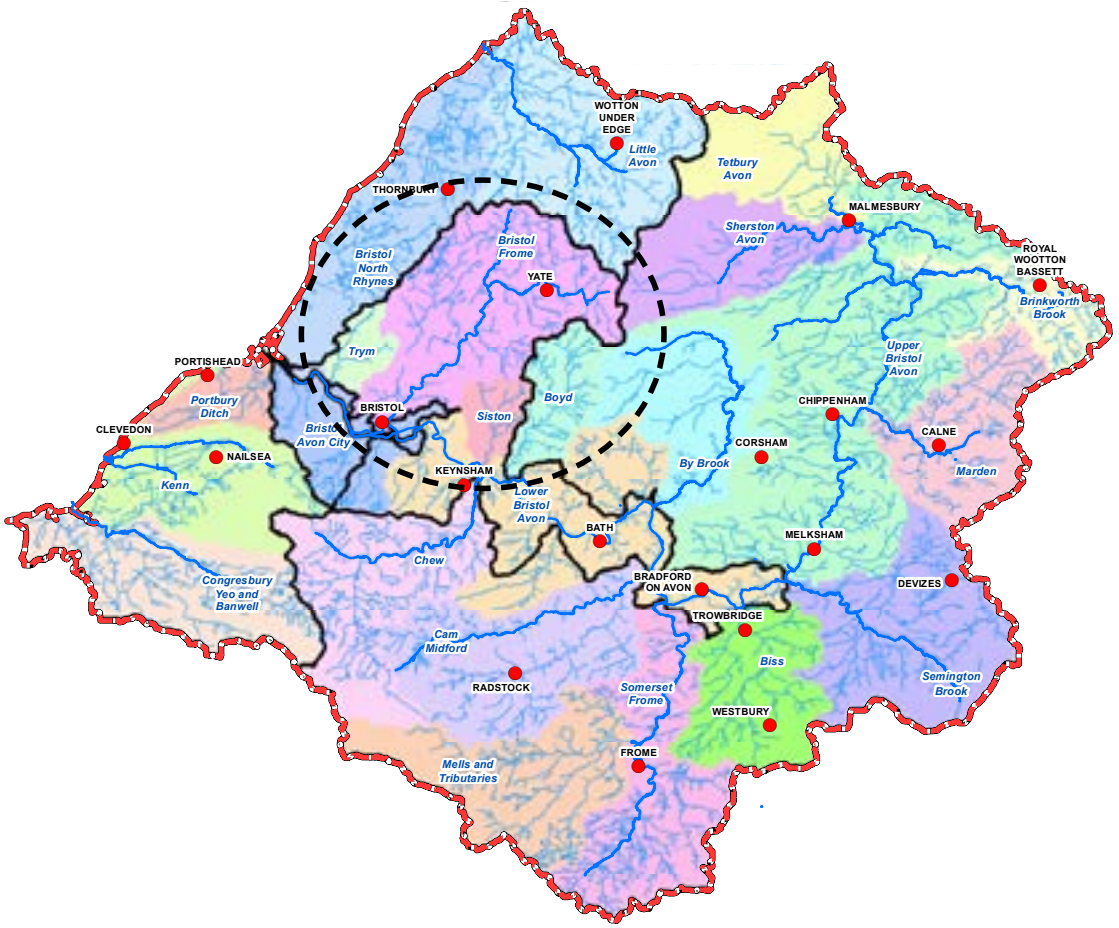
K–L : Provision of new temporary flood defence wall, nominal 1.8m height, with riverside habitat and wall screen planting

BRISTOL AVON CATCHMENT ADAPTATION AND RESILIENCE FRAMEWORK

The aim of this project is to work collaboratively to develop a Catchment Adaptation & Resilience Plan for the Bristol Avon Hydrological Catchment.

The Plan will identify investment and spatial planning actions that create both risks and opportunities for adaptation and resilience, including those created by flood risk to key infrastructure. The approach is being piloted in South Gloucestershire and Bristol in the first instance. The plan will assist in the delivery of development which will enable greater integration between sectors, adaptation measures, the avoidance of increased costs and risks (e.g. flood risk impacts) and will suggest transformative interventions at a regional scale

BRISTOL FROME SUB CATCHMENT



Adaptation & Resilience Framework for the Bristol Avon Catchment

KEY TO FEATURES

- Towns
- Selected Watercourses
- Catchment Partnership Boundary
- Detailed River Network
- EA Operational Catchments

Bristol Avon Sub Catchments

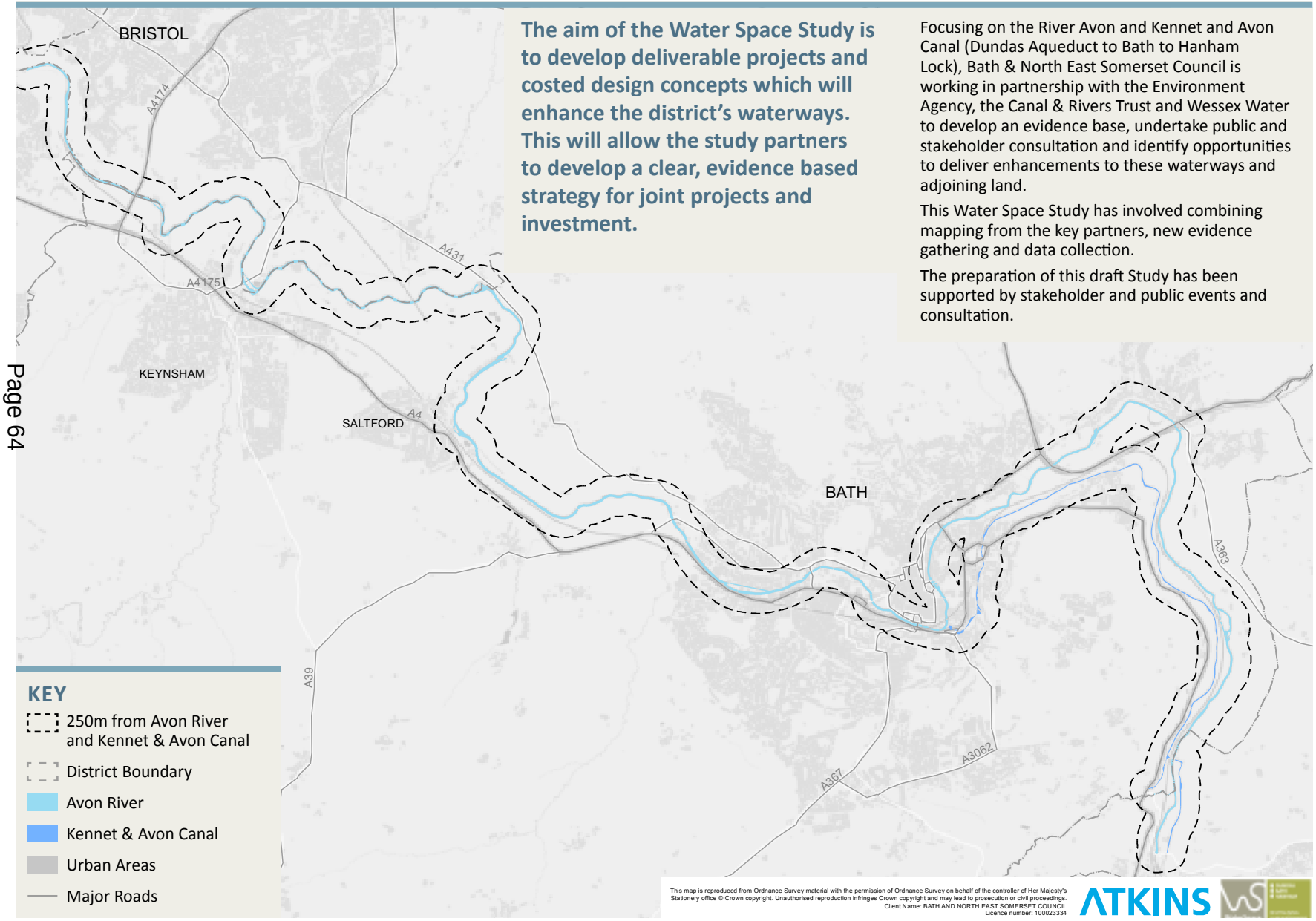
Name

- Biss
- Boyd
- Brinkworth Brook
- Bristol Avon City
- Bristol Frome
- Bristol North Rhynes
- By Brook
- Cam Midford
- Chew
- Congresbury Yeo and Banwell
- Kenn
- Little Avon
- Lower Bristol Avon
- Marden
- Mells and Tributaries
- Portbury Ditch
- Semington Brook
- Sherston Avon
- Siston
- Somerset Frome
- Tetbury Avon
- Trym
- Upper Bristol Avon

0 1 2 4 6 8 Miles

INTRODUCTION

AIMS & OBJECTIVES



The aim of the Water Space Study is to develop deliverable projects and costed design concepts which will enhance the district's waterways. This will allow the study partners to develop a clear, evidence based strategy for joint projects and investment.

Focusing on the River Avon and Kennet and Avon Canal (Dundas Aqueduct to Bath to Hanham Lock), Bath & North East Somerset Council is working in partnership with the Environment Agency, the Canal & Rivers Trust and Wessex Water to develop an evidence base, undertake public and stakeholder consultation and identify opportunities to deliver enhancements to these waterways and adjoining land.

This Water Space Study has involved combining mapping from the key partners, new evidence gathering and data collection.

The preparation of this draft Study has been supported by stakeholder and public events and consultation.

The Water Space Study focuses on five themes:

ASSETS & ASSET MANAGEMENT

MOORINGS & NAVIGATION

WATER QUALITY & ENVIRONMENT

DEVELOPMENT & REGENERAYION

LEISURE & RECREATION

HISTORY

"Bath's River and Canal have historically shaped the City's growth. There is now a real opportunity make the River Avon a significant part of City life once more."[1]

KENNET AND AVON CANAL

The Kennet and Avon Canal is a 140 km long waterway that links the Bristol Channel with London, via the River Avon, River Kennet and River Thames.

The Kennet and Avon Canal was built as a safer solution to transporting goods across the breadth of the country. A combination of Atlantic storms along rugged coastlines and naval conflict with France meant that the sea route from London to Bristol was hazardous during the 18th and early 19th centuries. Bath's distinct Georgian architecture was reflected in many aspects of the canal design.

RIVER AVON

Avon is a cognate of the Welsh word for river, *afon*.

The River Avon is 121 km long overall, stretching from its source in South Gloucestershire to the Severn Estuary. The stretch of the River Avon between Bath and Bristol had been navigable since the early 13th century. However, due to the development of watermills it had been forced to close. It was reopened again in 1727 after the introduction of a Parliamentary Bill in 1712.

The River Avon has always been seen as an integral part of the city's character. As well as being a strategic trade route, the river provides areas for relaxation and leisure activities. In the past, the river was the setting for regattas and other entertainments. Downstream, a legacy of distinctive waterside warehouses have been left post-industrial development. Despite previous uses, the riverside environment is currently an underused asset, especially within the city centre. It has great potential to significantly contribute to the Bath's future.

1600s

Saltford Mill: It is thought that the site of Saltford Mill has been used since the time of the Domesday record when two watermills were listed in Saltford. Due to bankruptcy, the mill ceased working in the late 1600s.

1712

A Parliamentary Bill enabled the Bristol to Bath section of the Avon to be made navigable.

1718

Construction of the Kennet and Avon Canal began.

1720s

Avon Street & Milk Street: In the 1720's the first buildings were developed in Kingsmead when Avon Street was laid out as a fine row of houses. However, it quickly declined and the slip at the end became a place for watering horses.

1721

Saltford Mill: The brass company is known to be in occupation from 1721 and from then many additions and alterations have taken place.

1723

Kennet Navigation from Newbury to Reading opened.

1727

Avon Navigation from Bristol to Bath reopened.

1729

Bath's Town Quay was built.

1766

New Quay (known as 'Narrow Quay') was created but was little more than a line of warehouses built along the towing path.

1790

Green Park: At the western end of Kingsmead Meadow, Green Park was created to take advantage of the river views.

1794

The Kennet and Avon Canal Act received Royal Assent – Construction began.

END OF THE 18TH CENTURY

Avon Street & Milk Street: end of the 18th century Kingsmead became absorbed into the hinterland of the rougher Quay areas.

[1] http://www.bathintime.co.uk/category/7240/bridges-mills-and-the-river/the-river

HISTORY

1800

South Quay – The Lower Road to Bristol, below the Old Bridge (now replaced by Churchill Bridge) was an ancient route, but nothing was built alongside the south riverside until the early 19th century. In 1800 a group of houses stood at the foot of the bridge and further along there was a rope walk.

1801

Trading along the canal commenced.

1804

Canal section from Bath to Foxhangers completed.

1805

The quays provided premises for a diverse range of businesses.

1805

Dundas Aqueduct completed.

1810

Canal section from Bath to Newbury opened.

1818

Coal and stone were the main goods being transported along the canal and by 1818 seventy 60-tonne barges were carrying freight on the canal.

1826

Cleveland House was the Headquarters for the canal company, built by the Duke of Cleveland.

1830

South Quay – Towards Sydenham Mead a series of fine villas were built opposite Green Park in the 1830's.

1830s

Leisure and Recreation: Daily passenger steam boats travelled to Bristol.

1841

Despite offering competitive tariffs, the use of the canal started to decline from 1841 as a result of the opening of the Great Western Railway.

1857

In 1857 the first large scale building to be built next to the river was the Stothert & Pitt crane works, known as Newark Works. Many of Newark Works buildings have been retained including Fuller's 1857 Machine shop.

1870s

Further along is the Camden Flour Mill built in the 1870's and know later as the Recommissioned Mill. Both buildings have been converted into offices and residences.

1890

Beyond Stothert's Works the villas opposite Green Park were progressively replaced after the 1890's by extensive stone and timber yards known as Sydenham Wharf which grew up next to Midland Bridge. The timber stores of a builder's merchant still occupy this site overlooking the river today.

1892

Demolition of buildings: View of the long demolished buildings along the river.

1900

Industrial buildings towards the Churchill Bridge, such as the Bath City Wagon Works and the Camden Bridge Works were cleared away in the early 20th century.

1905

Leisure and Recreation: Warleigh Ferry

c.1910

Leisure and Recreation: Children fishing on the Kennet and Avon Canal.

HISTORY

1913

Caroden Malthouse concrete silos were added in 1913. The silos were considered a model for grain storage at the time.

1918

North Quay – Trade declined after WWI and although many businesses continued to operate after WWII the quay side was no longer used.

C. 1920

Leisure and Recreation: Pleasure boat on the Kennet and Avon Canal near Avoncliff.

1930s

Avon Street & Milk Street: By the Efforts were made to deal with this notorious slum in the 19th century and the whole district was eventually cleared in the 1930's.

1960s

North Quay served as a carpark until it was demolished in the 1960's.

1960s

Green Park East: The eastern terrace was damaged during WWII and was eventually removed for the construction of the ring road in the early 1960's. During this process the bend in the river was removed and the spoil produced a high bank overlooking the tow path.

1962

Kennet and Avon Canal Trust formed.

1962

Gondola at Pulteney Bridge.

1993

Leisure and Recreation: Swimming at Pulteney Weir as part of the Bath triathlon.

1970s

Development and Regeneration: Construction of Churchill Bridge and the ring road.

1972

Leisure and Recreation: Having been used to fishing standing directly on the old weir, children sample the fishing from the banks opposite Grand Parade, following the completion of the flood defence scheme. The Hilton Hotel (Beaufort) can be seen being built in the background.

Pre-1973

Leisure and Recreation: Fishing on the Kennet and Avon Canal.

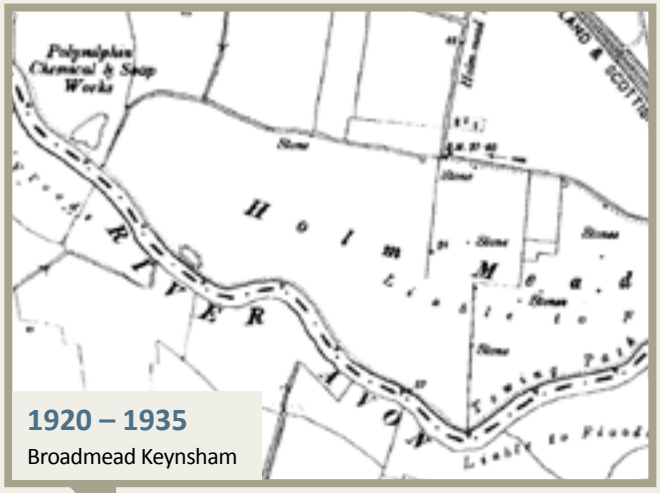
c. 1970s

Leisure and Recreation: Swimmers in Pulteney Weir.

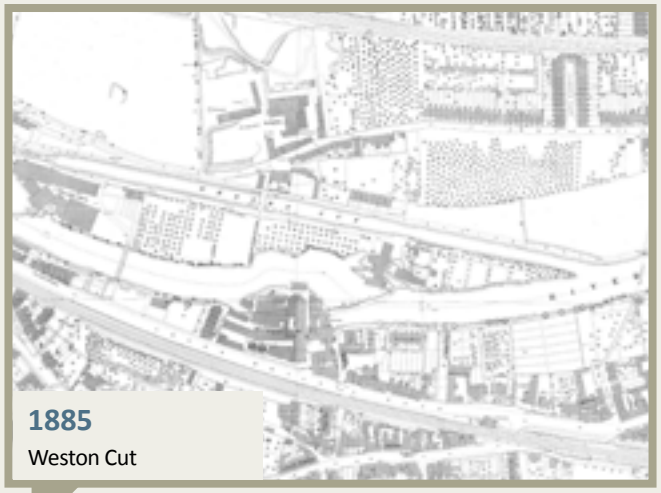
HISTORY

River Avon

Kennet & Avon Canal



1920 – 1935
Broadmead Keynsham



1885
Weston Cut

1935 – 1939
Saltford

1885
Cleveland Pools, Bath

KEY PARTNER STRATEGIES AND PROJECTS

There are a number of key projects and strategies that the Water Space Study relates to, the key ones are summarised below. These have been split in accordance with the Water Space Study themes, although a number are cross-cutting in nature.

CROSS CUTTING

- Adaptation & Resilience Framework for Bristol Avon Catchment (Wessex Water led partnership) Identifying risks and opportunities associated with infrastructure disruption
- Joint Health & Well-Being Strategy (B&NES Council)

ASSETS & ASSET MANAGEMENT

Capital Programme for B&NES Council – includes River Corridor Fund capital programme which has been running since 2013.

Infrastructure Delivery Programme (B&NES Council) – lists essential and desirable infrastructure items and informs Community Infrastructure Levy and Capital bids.

Planning Obligations funding – site specific funding from new development contained within s106 agreements (B&NES Council).

Bath Flood Gate Conditions Survey (Environment Agency – Forthcoming 2017)

Bath River Avon Flood Defence Options Appraisal (Environment Agency & B&NES, 2016)

Community Infrastructure Levy – Regulation 123 List (B&NES Council) – lists items eligible for funding, which incorporates waterways related projects.

Asset Management Framework (Wessex Water)

+ Additional data on assets and asset management gathered as part of this study, includes a map of all of the study partners assets and land ownerships, see p24-25 of this study and full asset maps in Appendix 1.

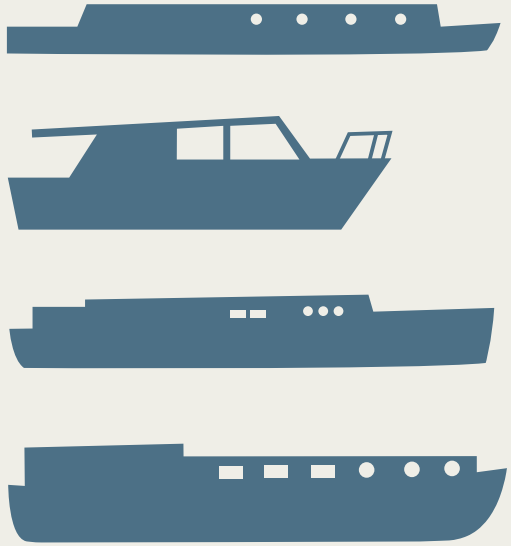
MOORINGS & NAVIGATION

Review of mooring standards on the River Avon between Pulteney Weir and North Parade Bridge (ROSPA for B&NES Council, 2013)

Image needed

Legal report on becoming a navigation authority (B&NES Council, 2013)

Annual Boat Counts (Canal & River Trust, 2013-2016)



Boat Dwellers & River Travellers: Task & Finish Group Review (B&NES Council, 2013)

Guidance & Advice for Business Boating (Canal & River Trust, 2016)

Guidance for the Development of New Residential Mooring Sites (Canal & River Trust, 2011)

Towpath Design Guidance (Canal & River Trust, 2013)

Residential Use of Waterways (AINA, 2016)

+ Additional information gathered as part of this study includes results of a boater survey, focus group and 20 one to one interviews with commercial and voluntary sector representatives of the business boating community, see p26-28 of this study and Appendices 2, 3 and 4.

KEY PARTNER STRATEGIES & PROJECTS

ENVIRONMENTAL ENHANCEMENT & WATER QUALITY

Ecosystems Services Mapping (West of England Nature Partnership) Highlights existing and future ecological networks and land which contributes to water storage and quality

Health & Well Being and Water Quality Research (Wessex Water) Reducing the impact of pharmaceutical drugs on our water systems.

Environmental Investigations Projects (Wessex Water)

Bristol Avon Rivers Trust a community led organisation delivering education, river management and practical river restoration.

Maximising the Ecosystem Value of the River Avon in Bath & North East Somerset (River Restoration Centre for B&NES Council, 2011)

River Avon Corridor Bat Monitoring Study (B&NES, 2016) and previous data collection.

Image needed

Environment Evidence Base for the Bath Enterprise Area Masterplan (Biodiversity by Design for B&NES, 2015)

Green Infrastructure Strategy (B&NES Council) Identifies the River Avon and Canal Corridor as a key priority for Green Infrastructure enhancements

Bristol Avon Catchment Plan (BACP) including technical evidence review and mapping

Advice note on the Water Framework Directive for the West of England Authorities (Environment Agency, 2013).

+ Summary information gathered as part of this study can be found on p31-33 and in Appendix 7.

LEISURE & RECREATION

Water Event Safety Review (ROSPA for B&NES Council, 2011), with recommendations for water based events such as dragon boat racing.

Avon Towpath Improvements Hanham – Somerdale (B&NES, South Gloucestershire Councils, 2012) which looks at linking towpath improvements on the River Avon Trail.

Bath Transport Strategy (B&NES Council, 2014) which identifies the river and canal corridors as key leisure and commuting routes.

River Avon Trail (Avon From Partnership, 2016)

Riverside Footpath Feasibility Study (B&NES Council, 2007) which looks at the feasibility of a riverside path north of Pulteney Bridge.

Sustrans Review (B&NES Council, underway) which will consider improvements to the river and canal as sustainable transport routes.

Image needed

Green Infrastructure Strategy (B&NES Council, 2013) which identify the River Avon and Canal Corridor as a key Green Infrastructure project.

+ Summary information gathered as part of this can be found on p34-35 and additional information from sports and leisure users was also submitted as part of the one to one interview process (see Appendix 4).

KEY PARTNER STRATEGIES & PROJECTS

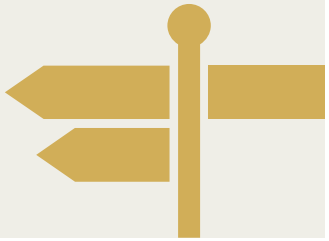
REGENERATION & DEVELOPMENT

Core Strategy (B&NES Council) Strategic planning policies including the identification of the riverside Bath Enterprise Area.

Placemaking Plan (B&NES Council) Planning policies include a new policy on moorings, site allocations for a number of riverside sites, lighting and environmental policies are also relevant

Bath Pattern Book (B&NES Council) Includes a city lighting strategy and design spec for the river path and an urban design proposal for the Pulteney Bridge area. You can view them here, here and here.

Bath Wayfinding Review (B&NES Council) Forthcoming



Public Realm & Movement Strategy (B&NES Council) City Centre Public Realm Strategy

Bath Western Riverside SPD (B&NES Council) Masterplan Strategy for major riverside site which included river edge treatment and new riverside park

Enterprise Area Masterplan (B&NES Council) Regeneration Vision for the Bath Enterprise Area which has informed site allocations

Infrastructure Delivery Programme (B&NES Council) Identifies a number of key infrastructure projects including the Bath River Park, new bridge proposals and Strategic Flood Defence Schemes

River Avon Economy Report (River Corridor Group for B&NES Council, 2011)

Getting Around Bath Transport Strategy and Implementation Plan (B&NES Council) Supports river taxis, use of the river for leisure and segregated cycle routes to protect the river for leisure use and walking.

World Heritage Site Management Plan Identifies the river corridor as an area for enhancement and historic interpretation

+ Summary information gathered as part of this study can be found on p29-30 and in the Funding and Delivery section of this report.

CONSULTATION

During the production of the Water Space Study, consultation and engagement has underpinned the development of the evidence base and identification of possible projects.

Input has included strategic overview by key partner agencies, technical input from study partners to detailed input from key stakeholders, as well as wider public involvement as part of the Bristol to Bath River Avon Festival of Nature 2016.

+ The consultation process is summarised on pages 16-22 of this study and in Appendices 2-6.

STRATEGIC RIVER GROUP

The Strategic River Group was established in 2014 it is a round table group with top level decision makers from key agencies including the Environment Agency, Canal & River Trust, Wessex Water, the River Regeneration Trust, Natural England and B&NES Council. This group seeks to coordinate efforts and funding and is interested in all issues relating to the River Avon and K&A Canal. The SRG has overseen the production of the Water Space Study and has been actively engaged in its development.

WATER SPACE STUDY PARTNERSHIP

The Water Space Partnership was formed in January 2016.

Throughout the study a steering group with senior representatives from each of the partner organisations met monthly to provide steer to the project.

This was supplemented by workshops and meetings with each of the partner organisations.

The Water Space Study Partnership members:

Bath & North East Somerset Council

Canal & River Trust

Environment Agency

Wessex Water

CONSULTATION TIMELINE

JANUARY
Project starts

FEBRUARY
Partner discussions and scoping

MARCH
Press launch

APRIL – MAY
Informal Stakeholder engagement

MAY – JULY
Boater Survey

JUNE
Festival of Nature Events – River Avon Theme

JULY – SEPT
Formal Call for Ideas

SEPT
1:1 meetings with commercial boating interests
Focus Groups waterway users x2

NOVEMBER
Informal Stakeholder engagement on projects

DECEMBER
Consultation on draft Study

CONSULTATION

RIVER AVON USERS CONSULTATIVE COMMITTEE (RAUCC)

RAUCC is made up of groups representing river users and meets quarterly.

Members include angling groups, private Marinas, canoeing groups, rowing clubs, Kennet & Avon Canal Trust, Parish Councils, Inland Waterways Association, Avon Frome Partnership.

Throughout 2016 the group has been involved in the development of the Water Space Study.

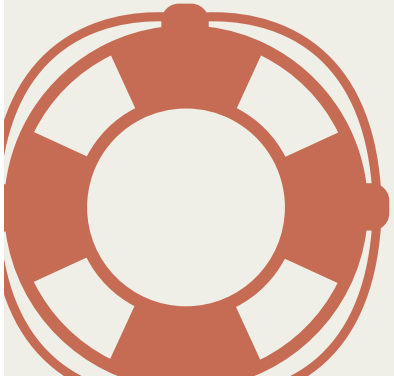
BOATER OUTREACH

The project team has been working with Julian House outreach workers who work with liveaboard boaters, and other representative groups to publicise the boater survey and focus groups.

RIVER SAFETY GROUP

A multi-agency group made up of representatives from Avon and Somerset Constabulary, Avon Fire and Rescue, Bath & North East Somerset Council, the Environment Agency and the Canal and Rivers Trust. The group is the first point of contact for river safety matters, and recent actions have included:

- Installing 14 new river rescue cabinets along the stretch of river in central Bath with public access from Windsor Bridge to Pulteney Bridge
- Undertaking safety audits which had led to the installation of grablines, ladders, and river railings
- Educating students about the risks presented by the river through the "Got Ya Back" Campaign at Bath College, Bath Spa University and the University of Bath and attending fresher's fairs
- Producing an online river safety film which has had almost 2,000 views on YouTube
- Providing portable grablines for police cars to ensure equipment is on hand to assist with emergency river rescue



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CONSULTATION

THEMED WALKS

WALKING TRAIL MAPS

SOCIAL MEDIA

BBC NEWS

FESTIVAL OF NATURE 2016

The Bristol to Bath Festival of Nature 2016 had a River Avon theme. 20 events and activities were held by the Water Space Partnership as part of the programme of events in Bath, Keynsham and Saltford. The events were supported by the Water Space Partnership and
35 volunteers.

Around 3000 people attended the Festival of Nature events within the Bath & North East Somerset area.

CRAFT ACTIVIES

WATERBLITZ WATER QUALITY TESTING

LOCAL NEWS AND RADIO

CITIZEN SCIENCE

OPEN STUDIO

LAUNCH EVENT

OPEN DAYS

KEYNSHAM EVENT

POETRY BOARDS

BATH EVENT

BATH CITY CONFERENCE

MONTHLY NEWSLETTER

The consultation report in Appendix X outlines all of the consultation events and activities undertaken as part of this project.

CONSULTATION

BOATERS SURVEY 2016

Between May and July 2016 those who live on-board boats in the Bath & North East Somerset area were asked how they use the River Avon and Kennet & Avon Canal, and how their need for basic services can be better met. The survey followed a previous '*Bath and North East Somerset Gypsy, Traveller, Boater, Showman and Roma Health Survey*' in 2013 which examined boater demographics.

The Boaters Survey 2016 ran for six weeks from Tuesday 24th May to Monday 4th July 2016. It looked at how far boaters travel, the type and size of crafts used, and the range of facilities they need whilst on the canal and river in the B&NES area. The aim of the survey was to enable facilities such as water points, sewage disposal and mooring areas to be planned and provided. The survey will help the partners better understand what the needs are for live-aboard boaters and how they can be better provided for.

With assistance from Julian House boater outreach team, the survey was publicised widely in local networks with information distributed via social media (including Facebook), through online forums and websites, via posters, and at local meetings and social events.

102 survey responses were received, which a statistically significant response representing between 16 and 50% of the liveaboard boater community.

+ The findings of the Boater Survey 2016 are summarised on pages 22-26 of this study. A full report of the Boater Survey including dissemination methods, further analysis and full responses to the survey is included as Appendix 2.

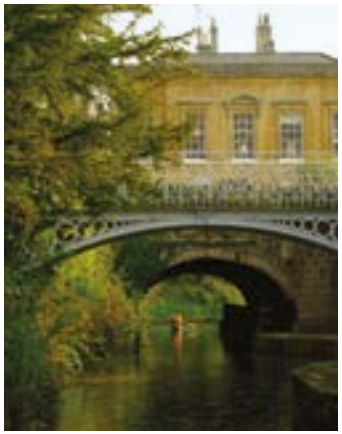
Those who live on-board boats in the Bath & North East Somerset area are being asked how they use the River Avon and Kennet and Avon Canal and how their need for basic services can be better met as part of the Waterspace Study.

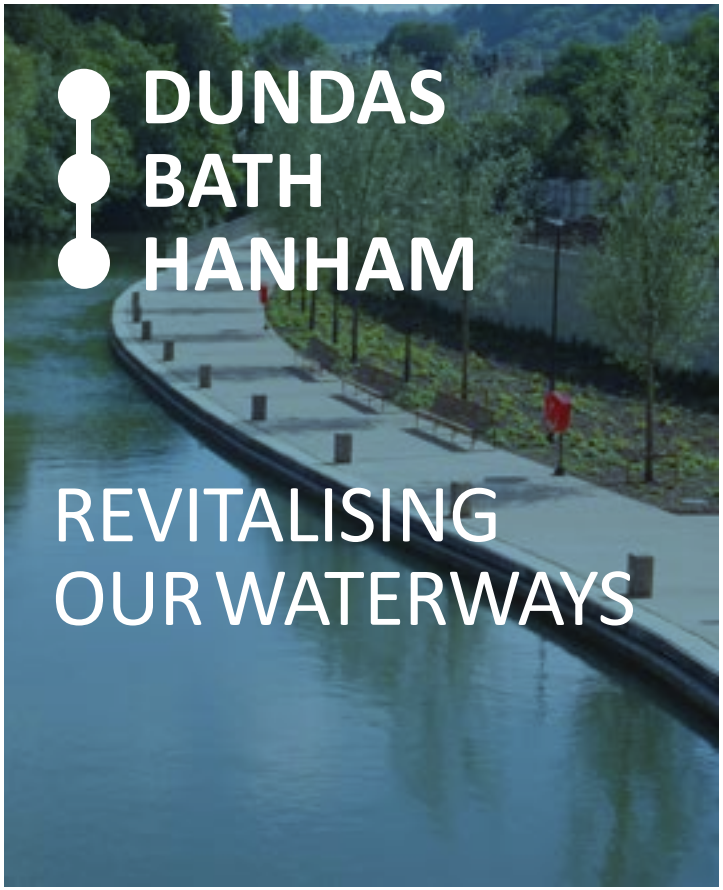
ONLINE SURVEY
www.waterspace.org.uk

Hard copies are available on request from Rachel Lambert at Atkins on tel. 01454662840

Closing date:
4th July 2016

Results of the survey will be made available in **September 2016** on the website above.





This is an independent survey commissioned by the Water Space Partnership:

www.waterspace.org.uk

Poster to Advertise the Boater Survey 2016

CONSULTATION

WHAT DO YOU LIKE ABOUT LIVING ON A BOAT?

- 83.3% Peace and tranquility
- 77.5% Waterway community
- 77.5% Being able to move to new places
- 76.5% Scenery along the canal/river
- 14.7% Artistic inspiration
- 23.5% Other

RESIDENTS PER BOAT

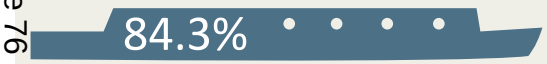
- 33.3% live on their boat alone
- 53.9% live with one other person
- 9.8% have three people living on board
- 2.9% share their boat between four people

HOME MOORINGS

25.5% of those surveyed have a home mooring

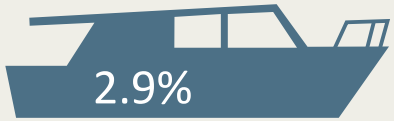
22.2% of which are residential moorings

TYPES OF BOAT



84.3% Narrowboat

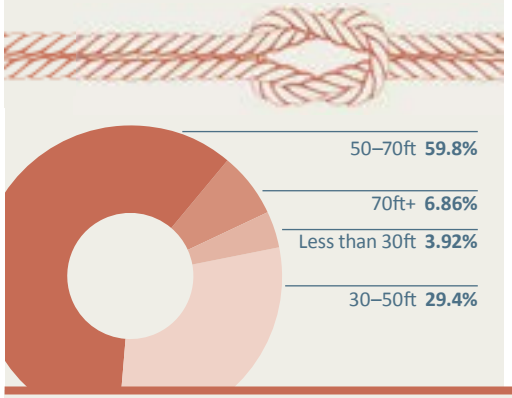
8.8% Wide beam canal boat



2.9% River cruiser

3.9% Dutch barge

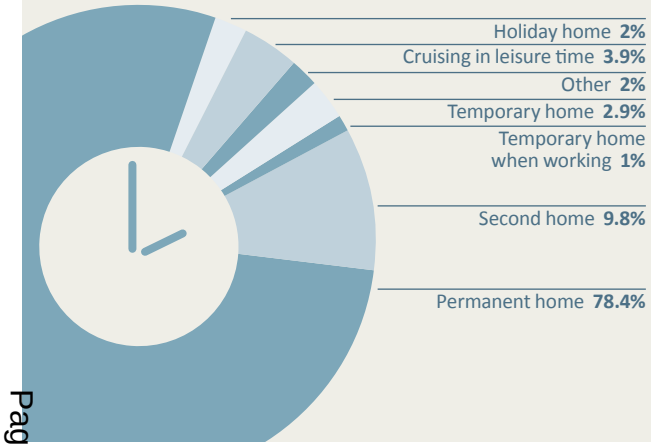
SIZE OF BOATS (LENGTH)



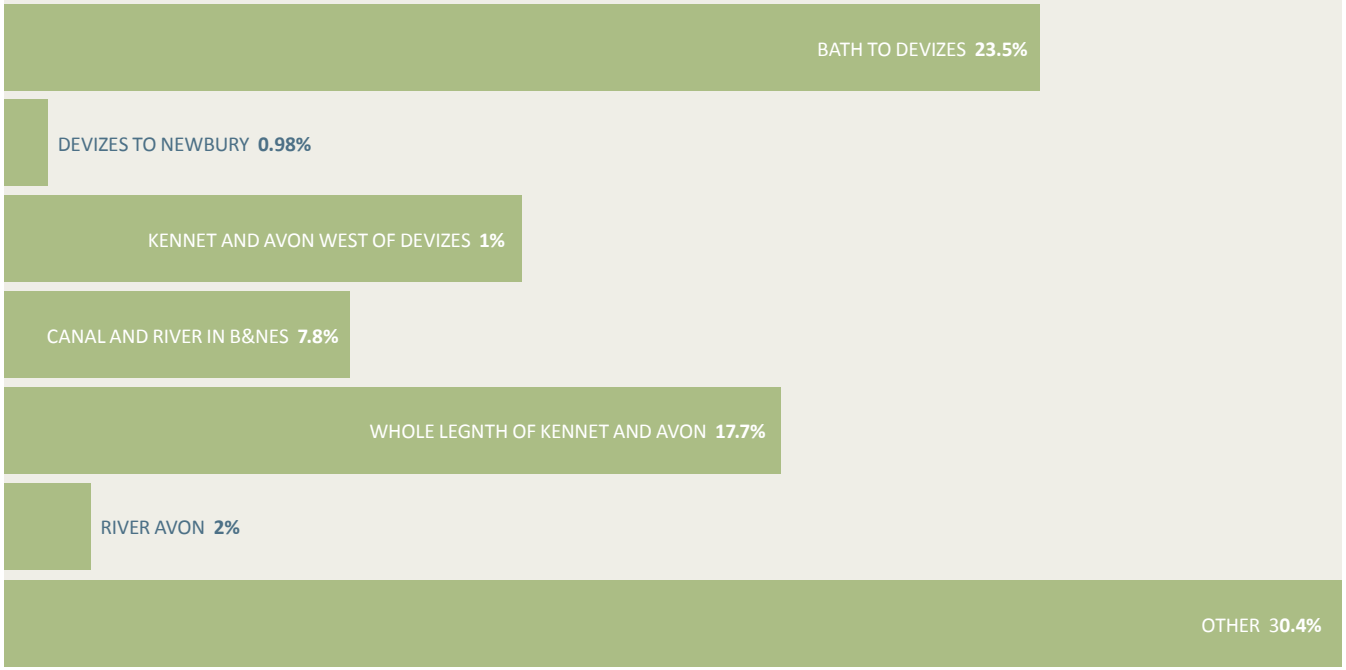
SIZE OF BOATS (BEAM)

CONSULTATION

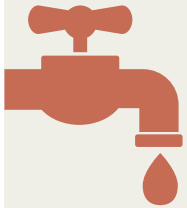
TIME SPENT ON BOARD



CRUISING AREAS



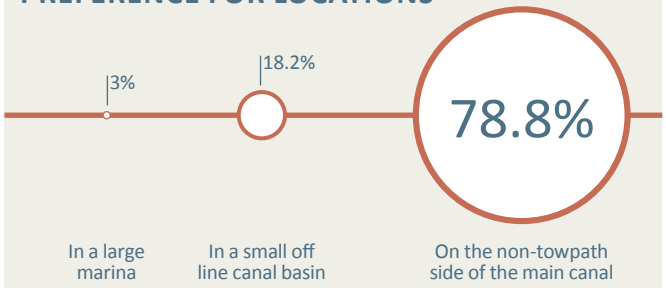
PERMANENT SERVICED MOORINGS



58.8%

of those surveyed would consider taking a permanent serviced mooring if available

PERMANENT SERVICED MOORINGS, PREFERENCE FOR LOCATIONS



USE OF THE RIVER AVON

36.3%

of those surveyed regularly cruise on the River Avon

SHORT TERM SERVICES FOR CRUISING

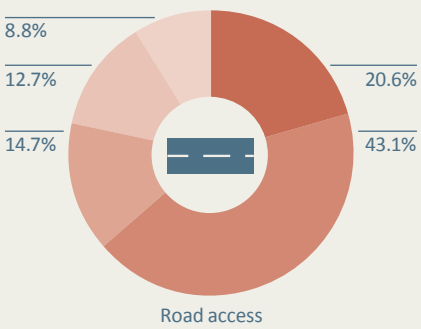
63.7%

of those surveyed would consider paying for short term serviced moorings while cruising

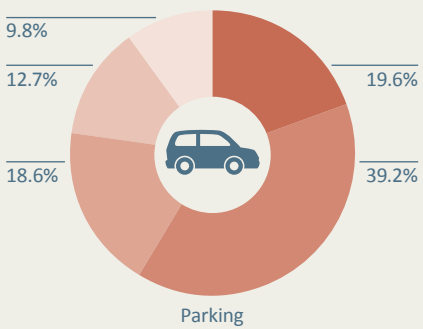
23.5%

would not consider short term services

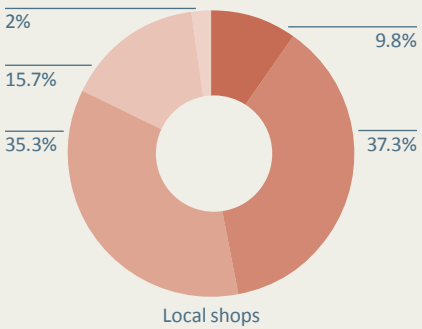
IMPORTANT FACTORS FOR MOORING LOCATIONS



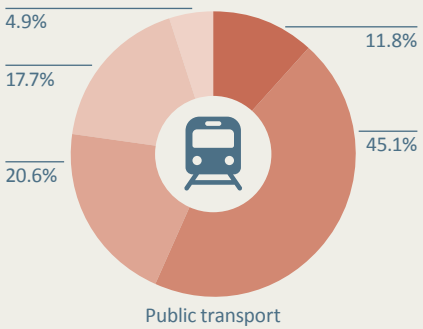
Road access



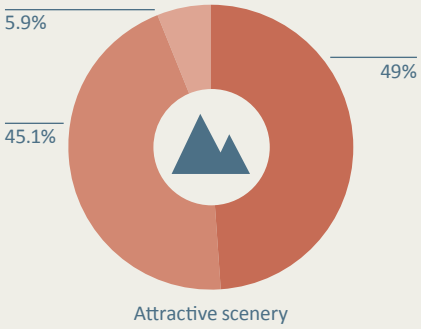
Parking



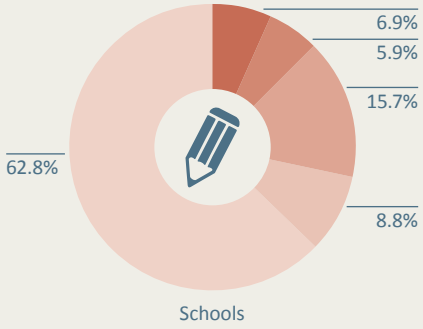
Local shops



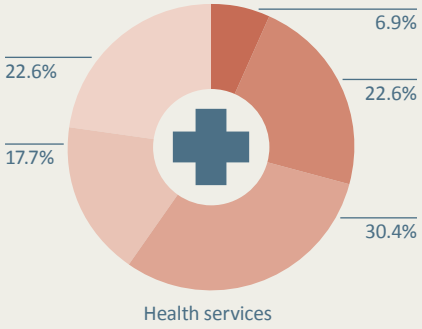
Public transport



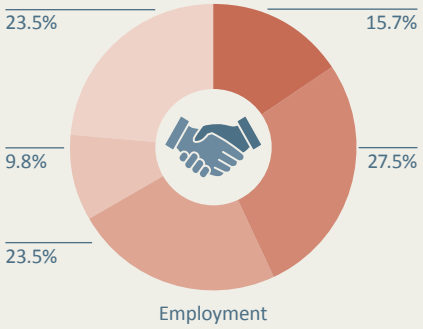
Attractive scenery



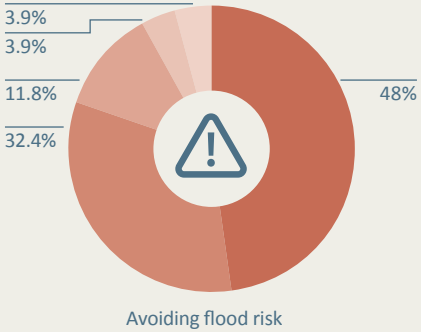
Schools



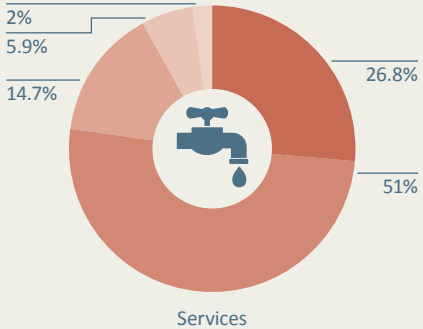
Health services



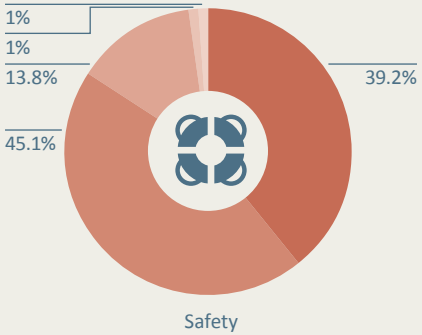
Employment



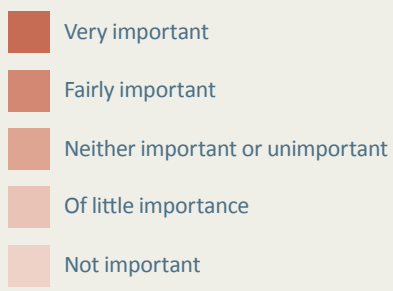
Avoiding flood risk



Services



Safety



CONSULTATION

Design to be finalised

Some of the survey questions were open questions, allowing respondents to respond in free text, a range of key words and responses are shown here. The full responses to all questions can be found in Appendix 2.

WHAT DO YOU LIKE ABOUT LIVING ON A BOAT?

- Live sustainably
- Low cost housing
- Close to nature and wildlife
- Boat handling
- Working locks
- Travelling
- Living on water
- Canal history and heritage

WHAT WOULD YOU CONSIDER A REASONABLE PRICE PER MONTH FOR PERMANENT, SERVICED MOORINGS?

- Figures ranged between £50- £5000
- Just under 50% of respondents said they would pay £200 or more month
- 20% of respondents said they would pay £300 or more per month
- 10% said they would pay £50 or less per month

WHAT WOULD ENCOURAGE YOU TO CRUISE THE RIVER AVON MORE REGULARLY?

- Accessible moorings
- 48 hr Visitor moorings
- Safety measures
- Boat handing experience
- Pontoons available for safety at times of spate
- More services
- Facilities
- Pump outs
- Water & Elsan points

WHAT ARE YOUR TOP 3 IMPROVEMENTS TO THE RIVER AND CANAL NETWORK?

- More moorings
- Better moorings
- Disabled moorings
- Towpath improvement
- More facilities – Elsan points, rubbish, water and showers
- More dredging and vegetation maintenance
- Better understanding between different users
- Fewer hire boats
- Looking after heritage
- Enforcement of moorings to comply with law
- Basic rights of boaters to be respected

"More water points that actually work (often taps are broken, water leaks, pressure is very low takes hours to fill up by which time it's dark). More sanitary points that actually work. Proper recycling (all types of recyclables) and collection to happen more regularly – often they are bursting, smelly and unsightly and this reflects badly"

"Maintenance including vegetation control entire network."

"Good hard standing and mooring loops where necessary"

"More residential moorings, they don't need to be serviced, but so many people are forced to live on legal grey areas, either because their mooring isn't really residential or because they are forced to try and CC [continuously cruise]"

"The number of hire boats and hire boat companies has increased from around 40 to around 200 in the stretch from Bath to Devizes"

BOATER SURVEY CONCLUSIONS

In summary, the survey findings suggested the following:

- Living on board is seen to offer a distinct, high quality lifestyle
- Most boats are narrow beam and long (over 50 feet) but provisions is needed for shorter and wider craft as well
- A significant minority of boaters with no home mooring would consider one if an appealing options were offered – offside on the canal is favoured rather than marina berths
- For most liveaboard boaters cost is a factor but it is not the defining reason for their choice, and correspondingly other low cost options have limited appeal
- Access to roads, parking, public transport and services is very significant in choice of short term mooring location
- Nearly all boats are owned outright by their occupants
- There is demand for improved facilities and services including additional moorings
- There are real barriers to the use of the River Avon by liveaboard boaters, notably the lack of accessible moorings

FIELDTRIP

The Study Partners have been in contact with a number of other areas in the UK who have undertaken similar waterways projects.

In May 2016, the study partners visited projects in London including the Olympic Park, Hackney Wick, Kings Cross and the Paddington Basin, and met with members of the Canal & River Trust's Enterprise team.

POINTS OF INTEREST

Linked boating commerce to complementary operations

Focused on catalyst projects

The importance of a good maintenance regime and demarcation of space for different users

Playful and fun public realm

Boats bring activity and natural surveillance to the river and canal

Electricity points to improve moorings and minimise the impact of generators and wood smoke

STUDY THEMES

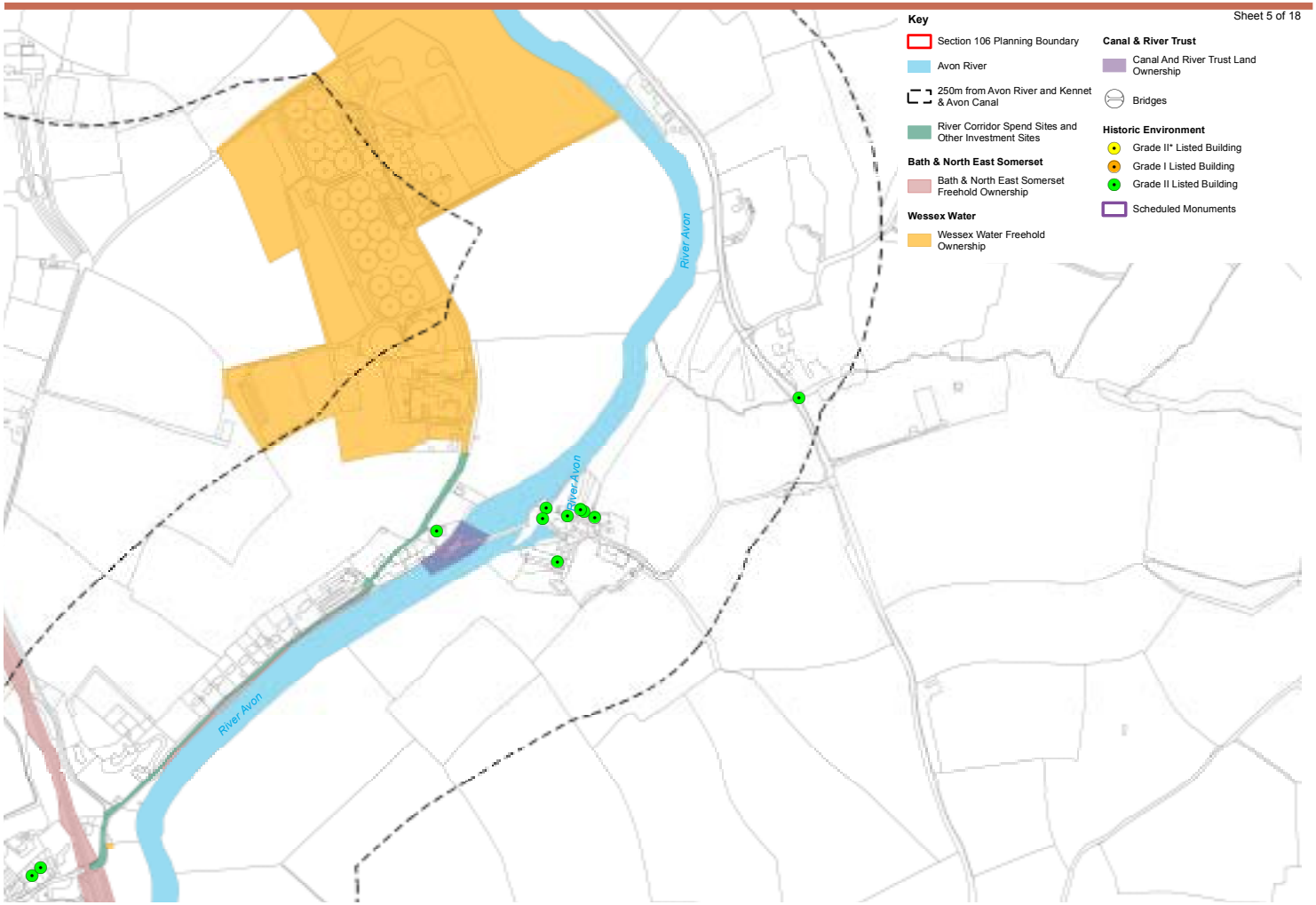
ASSETS & ASSET MANAGEMENT

The partner assets have provided a focus for the location of projects explored in the Water Space Study.

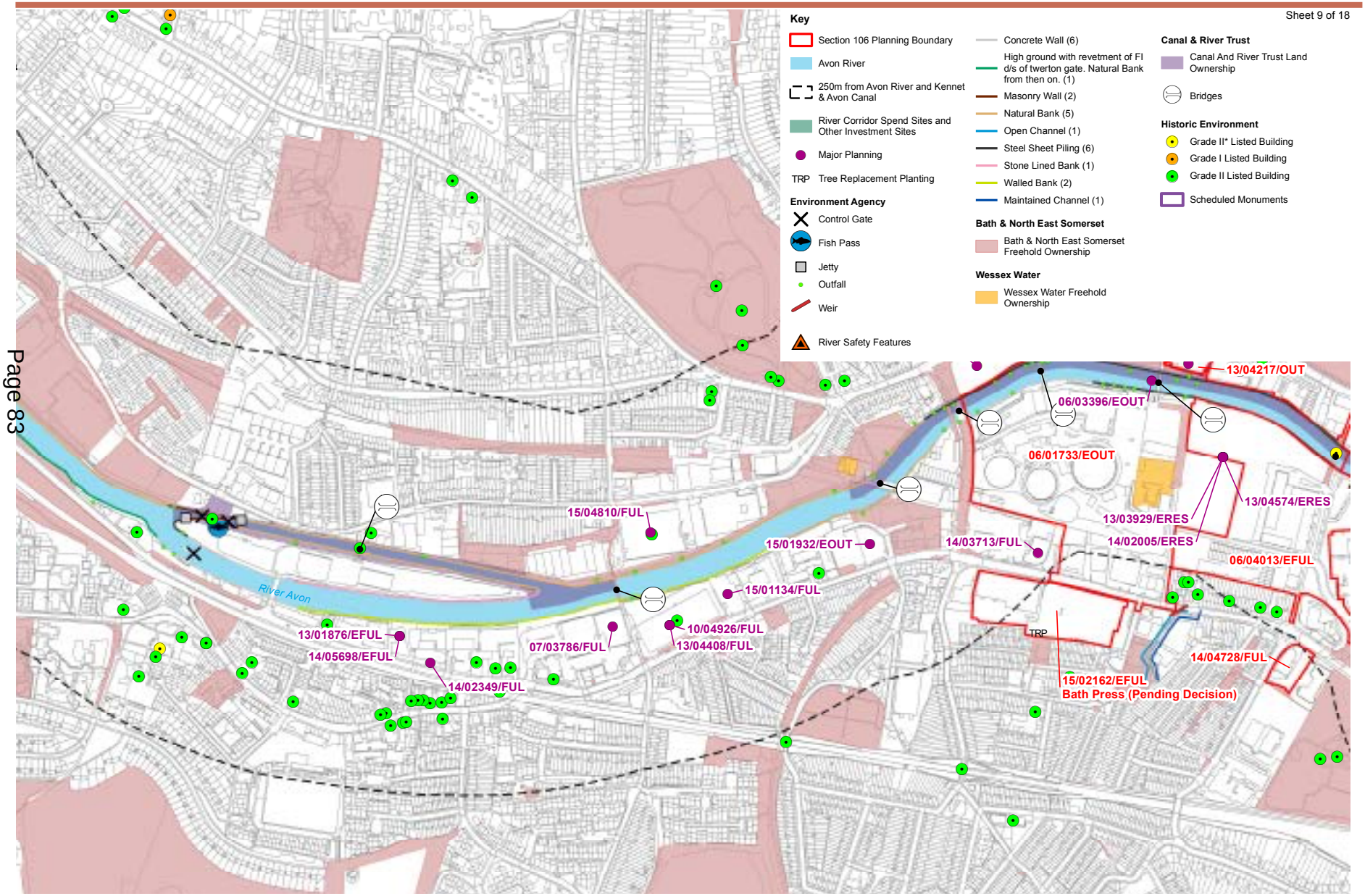
As part of this Study, the four partners have collated and combined their asset maps for the first time. Assets include freehold land ownership (buildings, green spaces and towpaths), features such as locks, weirs and fish passes, as well as information on river edge treatment (e.g. natural bank, stone lined bank, steel sheet piling etc.) as well as river safety features and historic assets (the latter also includes private ownerships).

Where landownership is on the river edge the land is often owned to the centre of the River (known as riparian ownership). In many cases the partners are riparian owners. In some stretches of the river, for example between Bathampton Weir and Pulteney Bridge there is limited public ownership and there are a large number of private landowners. Private landownership has not been mapped, due to the number of landowners involved. In addition not all riparian land ownerships are declared on the land registry.

+ The full maps are included as **Appendix 1** to this report.



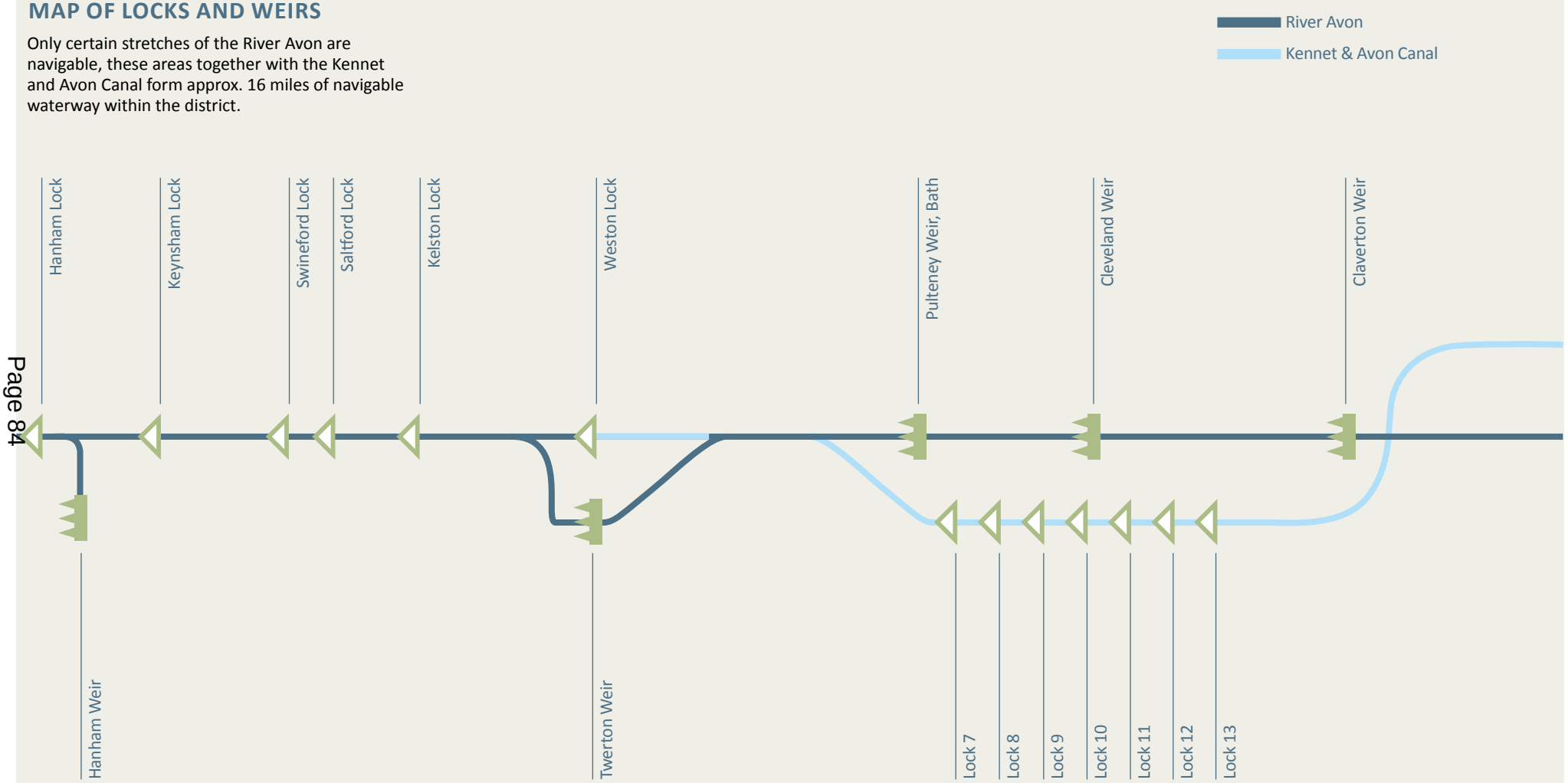
ASSETS & ASSET MANAGEMENT



MOORING & NAVIGATION

MAP OF LOCKS AND WEIRS

Only certain stretches of the River Avon are navigable, these areas together with the Kennet and Avon Canal form approx. 16 miles of navigable waterway within the district.



MOORING & NAVIGATION

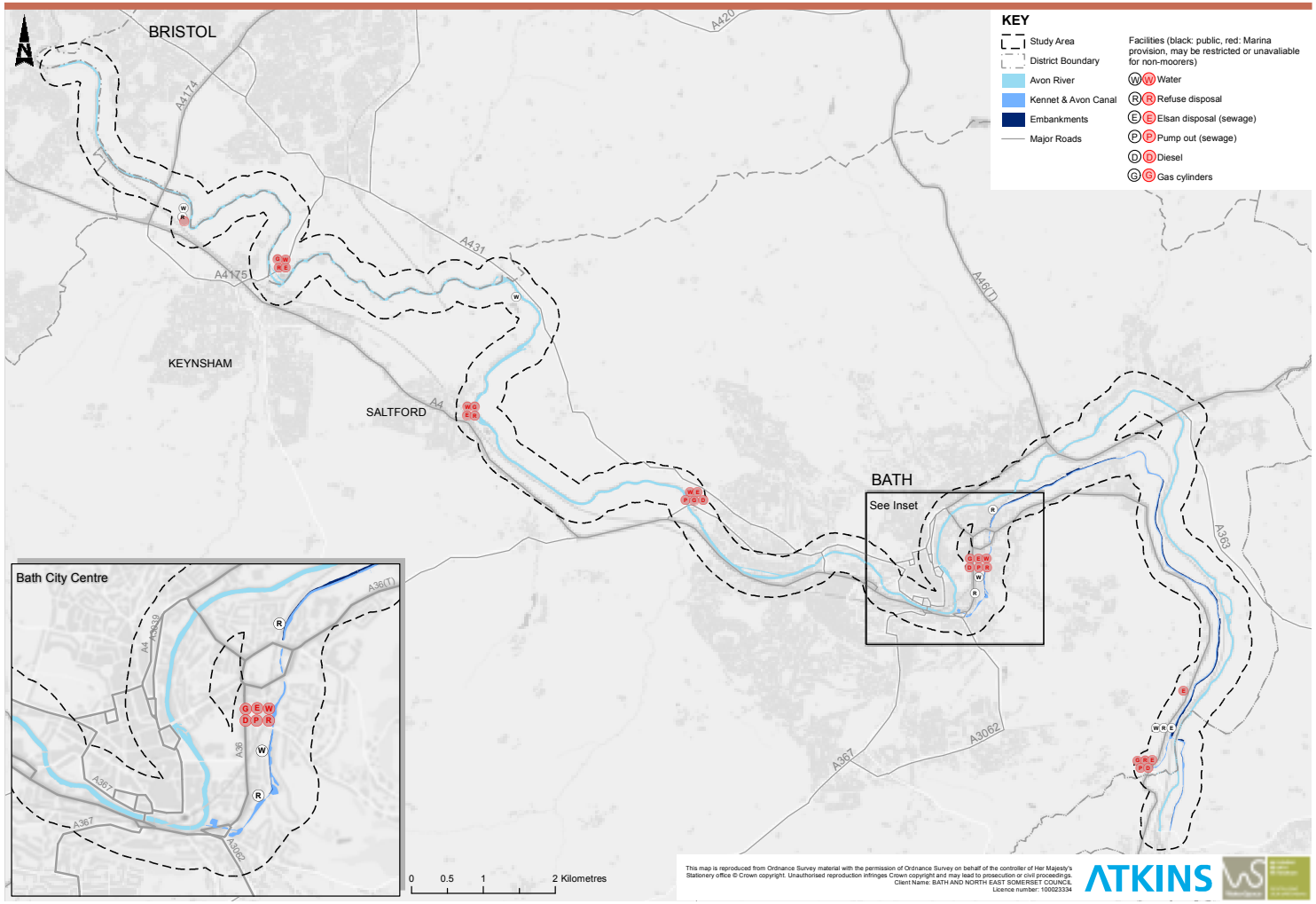
Data in relation to moorings and boat numbers has been collated to better understand the existing provision for moorings in the Bath & North East Somerset area.

Marinas within the district are relatively small in nature (all under 100 berths). Although large marinas are located nearby at Caen Hill (Bradford upon Avon) and Hilperton and in South Gloucestershire (Portavon) and Bristol (Bristol Marina), which have a major impact on the waterways in Bath & North East Somerset.

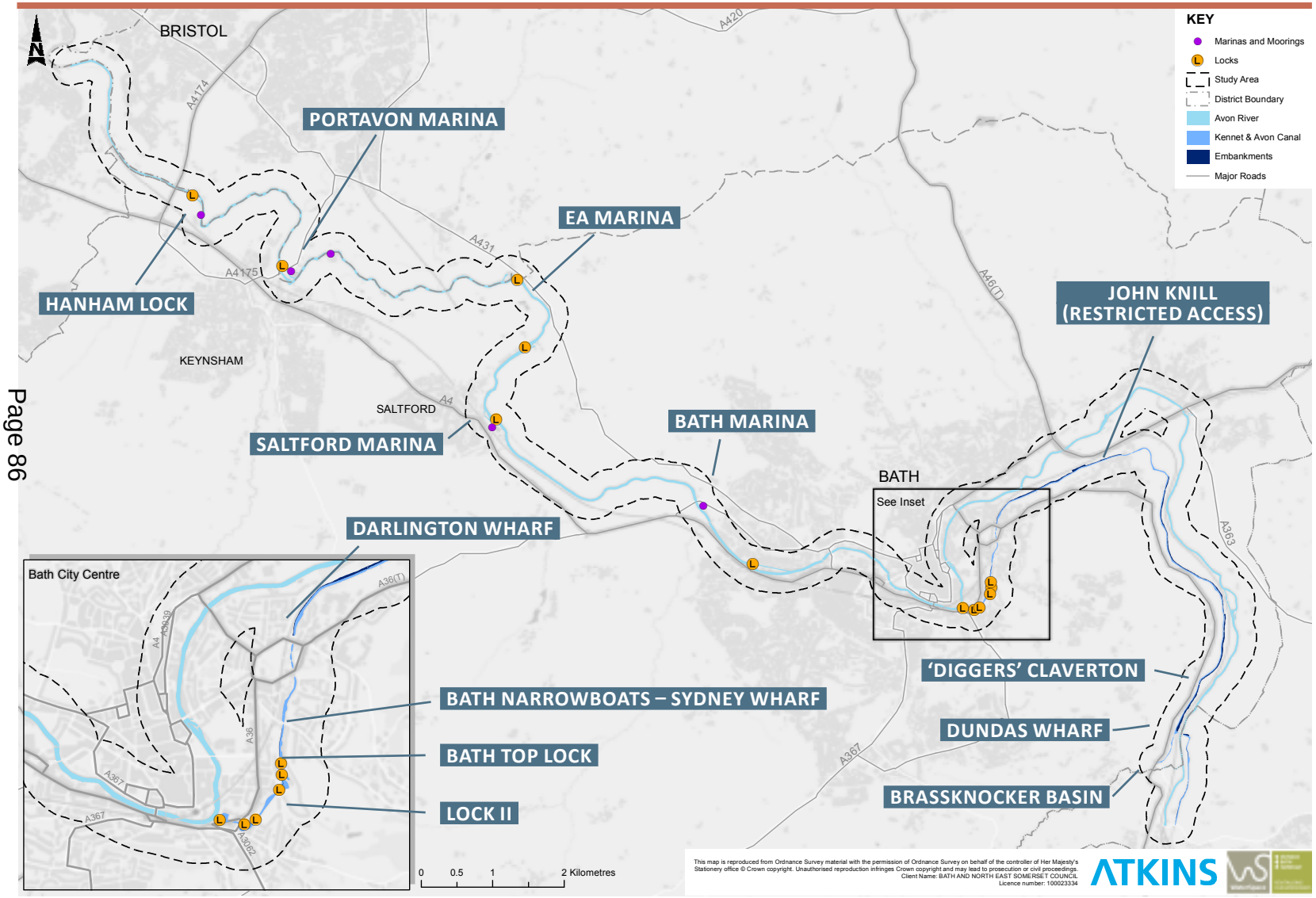
Whilst most of marina have a leisure focus, they also provide some residential moorings. Berths are in demand and there is very little if no under-occupancy, this results in some boats rarely leaving the marinas and for some facilities such as slipways being blocked from active use. Limited availability of visitor moorings on the waterways are also contributing to this inactivity.

While online moorings predominate on the Kennet & Avon Canal lining the towpaths and in places the off-side, there are very few online moorings on the River. There appears to be is increasing demand for moorings for larger vessels, which can only be readily accommodated on the River and there is commercial demand for increased pontoon moorings on the River (which are safe at times when the river is in spate).

The balance of 24/48 hr visitor moorings, 14 day moorings (used mainly by continuous cruisers) and commercial mooring spaces for business boating is also an issue commonly raised by stakeholders.



MOORING & NAVIGATION



MARINA & MOORING CAPACITY SUMMARY

Bristol Marina
100 pontoon moorings

Portavon Marina (South Glos/B&NES border)
78 berths

Chandos Marina
35 residential berths

Phoenix Marina
25 residential berths

Saltford Marina
85 berths, some residential

Bath Marina
8 berths, some residential

West of Bath Circa
80 moorings in private ownership

Caen Hill Marina (Bradford Upon Avon)
250 berths

Hilperton Marina
65 berths

4x CRT online mooring sites – K&A Canal
35 berths

CRT Estimated additional moorings (private ownership)
150 berths

MOORING & NAVIGATION

Annual boat count figures for Bath & North East Somerset show that the number of boats on the waterways has remained relatively static over the last 5 years. However, the influx of hire boats in the summer months is not captured in the annual boat count, which takes place each March. The hire boats typically remain on the canal or within Bath, due to both inexperience and lack of River moorings and facilities between Bath and Bristol.

The Water Space Study has not undertaken a separate summer boat count, partners are awaiting the regulations associated with the new duties in the Housing & Planning Act 2016 in relation to houseboats, which are thought will outline the requirement for future boat counts. The publication of the guidance has been delayed; however, discussions are ongoing with adjoining authorities in particular Wiltshire and Bristol on this matter.

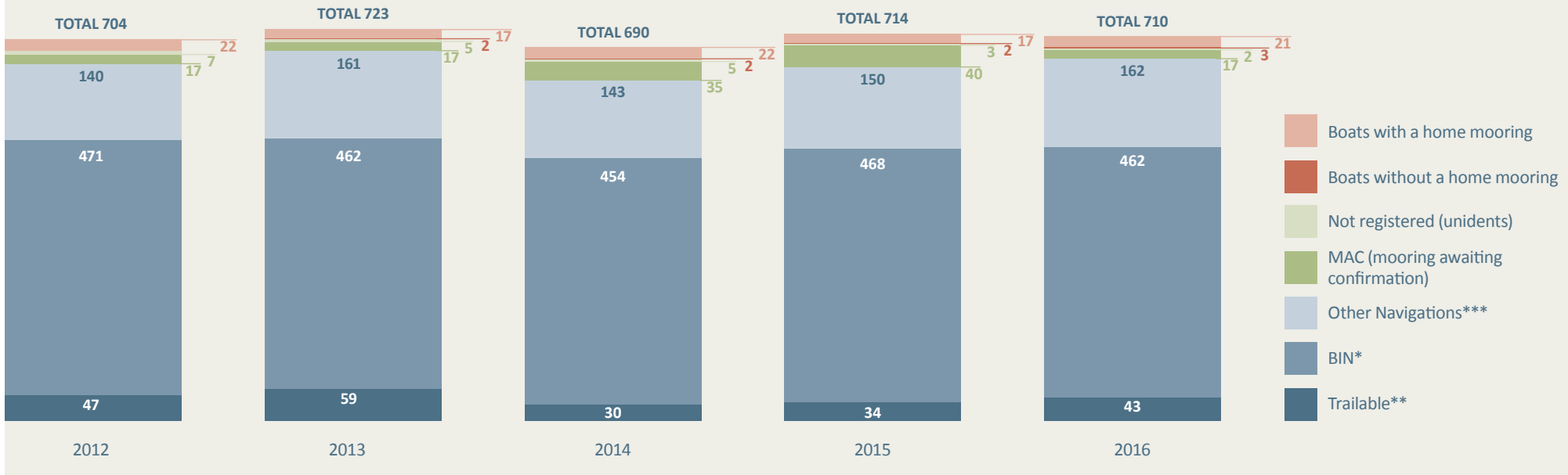
Data supplied by the Canal & River Trust (2016)

**BIN refers to boats we have been unable to identify – they are normally boats that are from other waterways.*

*** Trailable is boats that are taken out of the water after they have been used*

**** Other navigations means the boats have a home mooring on another navigation (not Canal and River Trust)*

BATH & NORTH EAST SOMERSET AREA NATIONAL BOAT COUNT FIGURES



BOATER FACILITIES

Map X identifies key facilities in Bath and North East Somerset area used by boaters, a length of approximately 16 miles of waterway. It is noted that outside of the study area there are no more facilities heading east before Bradford Wharf, which is four miles outside the study area and above Bradford Lock. Heading west there are no further facilities until Bristol Floating Harbour which is six miles outside the study area, and requires a separate boat licence.

Estimates of the number of vessels on the waterway in B&NES/between Bradford Lock and Bath vary and are not readily comparable, however it is reasonable to assume that the facilities identified are the main services to between 300 and 500 boats, excluding marina based boats and hire boats, which may also need to use these services when away from their moorings

The following have been identified on the map

8 water points, of which 1 is seasonal and 5 are on business premises for business customers

8 refuse disposal points, of which five are on business premises

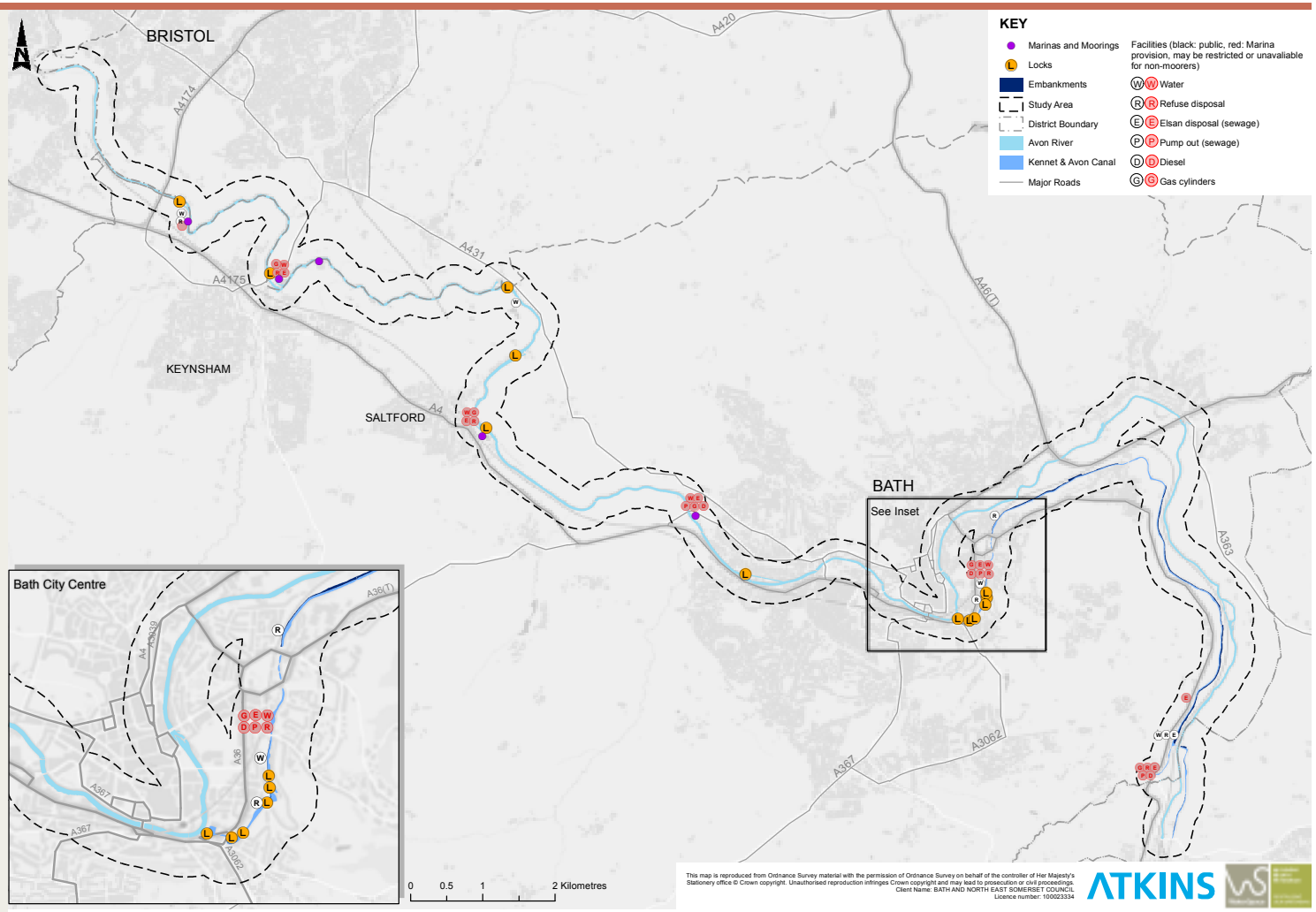
6 Elsan points, of which 5 are business related

5 pump out points, of which 4 are business related

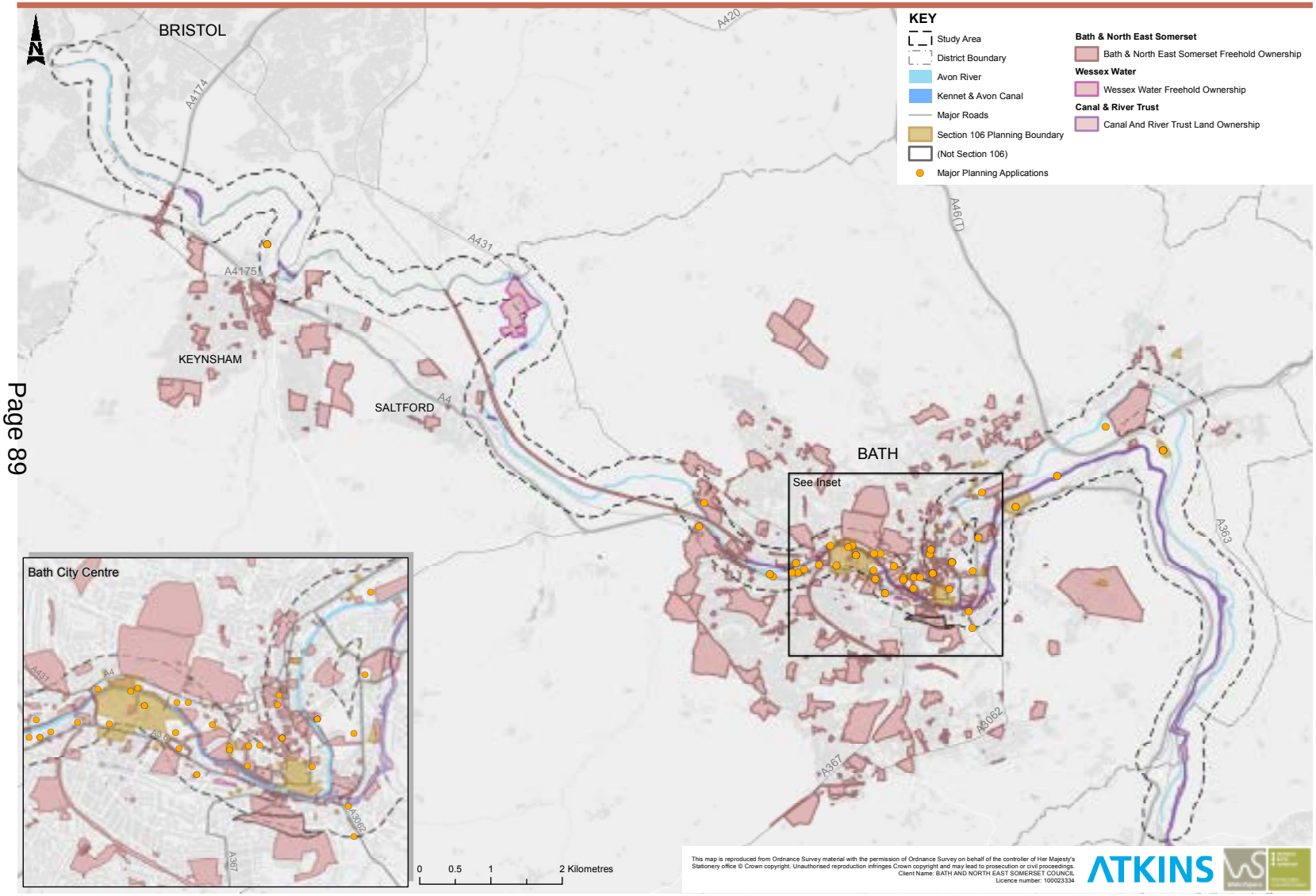
With regards to year round availability of public facilities, there is 1 water point and 1 refuse disposal point on the river, even though this forms 11 miles of the 16 miles of waterways within Bath & North East Somerset.

In effect, the length from Bradford to Hanham is served by three permanent public water points, three public refuse disposal points and one permanent public elsan point – there are between 300 and 500 boats seeking to use the facilities.

Pump out facilities are also very limited, however, but those with pump-outs are more likely to be willing to use marinas and can go much longer between disposal opportunities – typically weeks rather than days.



REGENERATION & DEVELOPMENT



The River Avon corridor within Bath is the focus for significant regeneration and development.

The current levels of major development within the River Avon corridor are significant, as illustrated in map X which illustrates both the location of major planning applications made in the last three years, and the sites which have facilitated planning obligations (also known as s106) where contributions have been made towards waterways related items – including funding for new bridges, towpath improvements, contributions towards the River Avon Park, and sustainable transport contributions.

REGENERATION & DEVELOPMENT

The Bath Enterprise Area follows the river corridor, where former derelict land and land in industrial use is being transformed with mixed use development, new flood defences and the creation of riverside public spaces and parks.

The Bath Enterprise Area includes 98 hectares of land that follows the line of the River Avon through the city. It has been recognised as a key zone for growth in the city by the West of England Local Enterprise Partnership, and the area will provide accommodation for high value business sectors as well as providing significant levels of housing development and associated public open spaces and mixed use development.

An Enterprise Area Masterplan Vision was produced in 2014, which sets out the aspirations for the Enterprise Area and outlines the key development sites.

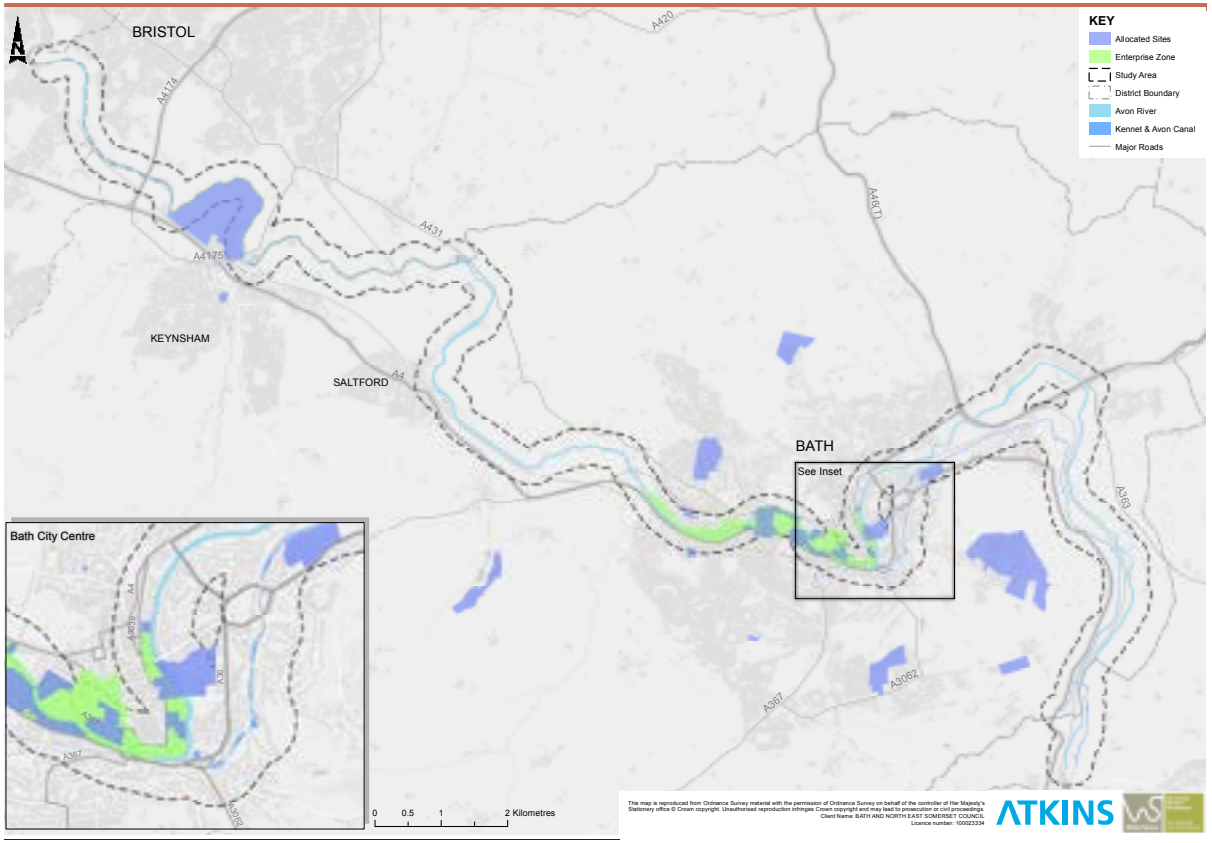
Many of the key sites are in the process of being allocated, with development parameters in the Council's Placemaking Plan (Local Plan part 2).

One of the overarching aims of the regeneration and development strategy is to reveal the river and improve public spaces, as well as retaining a dark corridor to support the significant wildlife functions of the River Avon.

The Council has set out standards and parameters for public realm design, within central Bath both Bath Public Realm and Movement Strategy and the Bath Pattern Book (parts 1 and 2). The associated Lighting Strategy also has an influence bearing on future plans for public realm design in the river corridor. In respect of the River Corridor, the public realm design parameters are simply:

- City centre river railings should be painted black
- River Safety Cabinets should follow the bespoke design and siting guidelines

Many of the Water Space Study projects relate to development and public realm improvements and investment presented through development and regeneration projects.



ENVIRONMENTAL ENHANCEMENT & WATER QUALITY

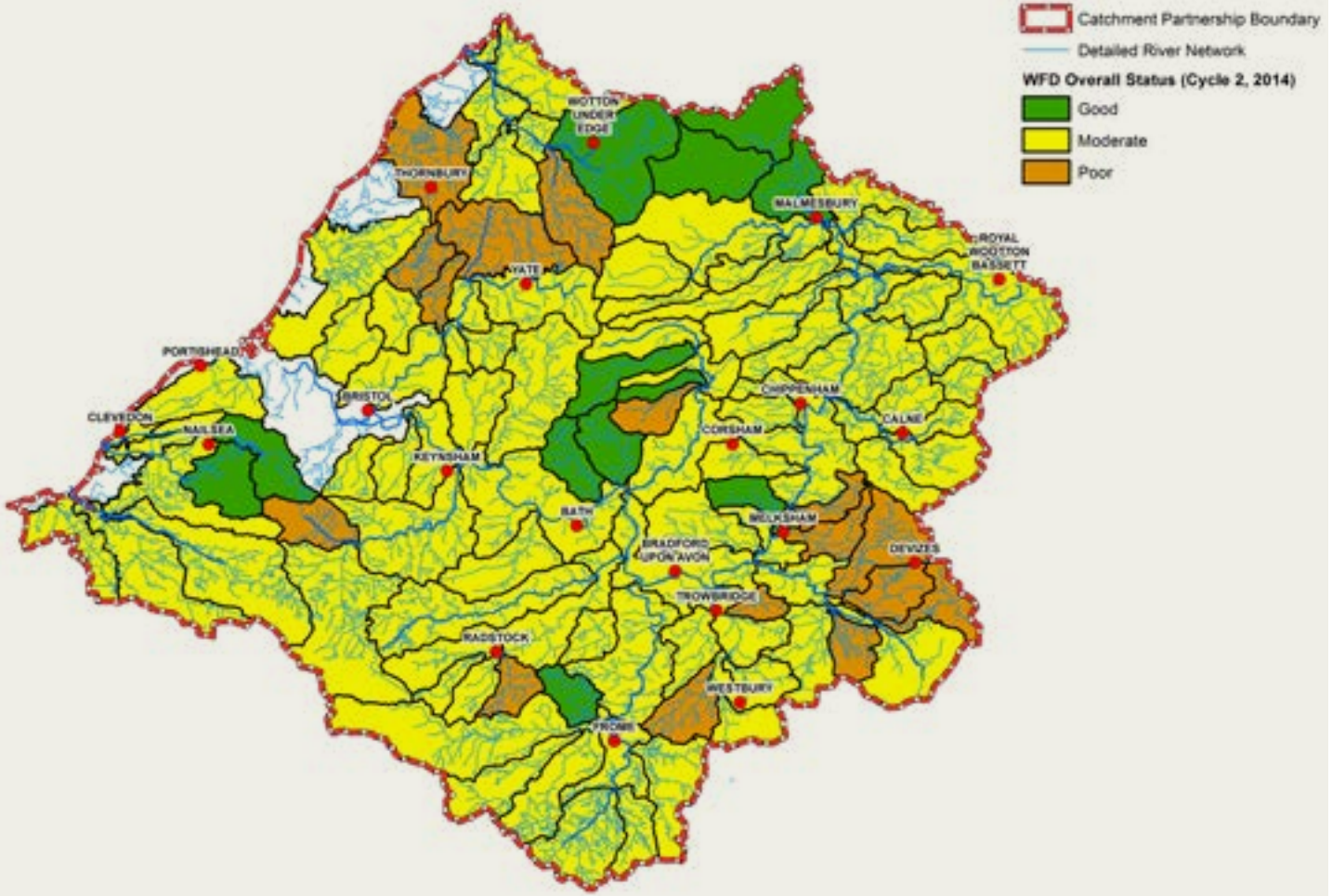
WATER FRAMEWORK DIRECTIVE

The government aims to ensure all waterbodies in England meet Good Ecological Status by 2027. Any waterbody that does not meet good ecological status is classified as failing under the European Union's Water Framework Directive.

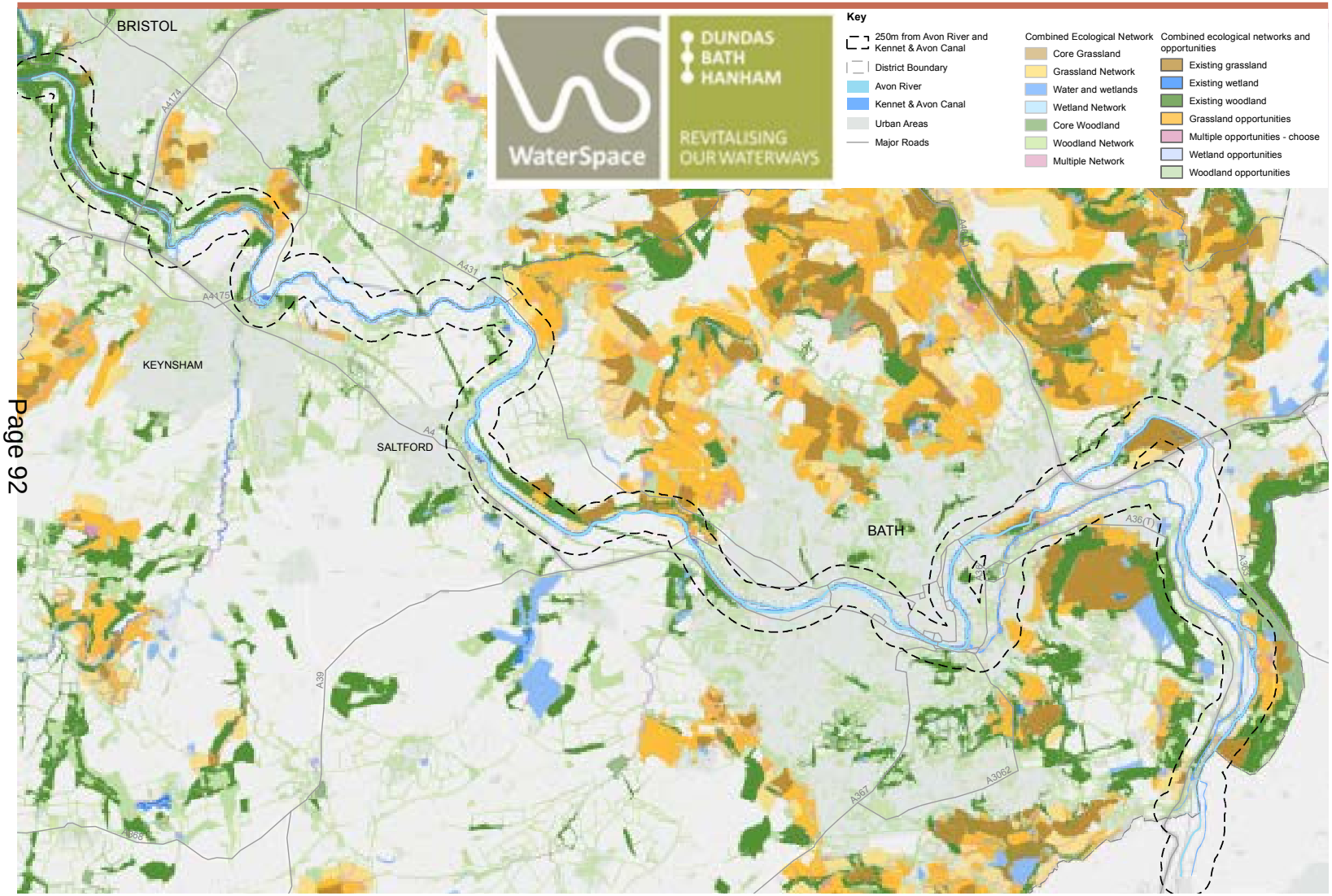
In the Bristol Avon Catchment:

- only 24% of the catchment is classified as having 'good ecological status'. Although this is typical of other catchments in the UK, it demonstrates the scale of the challenge to meet the Water Framework Directive targets
- 76% fail to meet the targets due to factors including physical modification, phosphate levels, sediment load and low fish populations
- some landowners are losing valuable topsoil, nutrients and pesticides due to erosion, run-off or leaching; sometimes linked to poor soil structure and compaction
- heavy rainfall running off rural and urban areas causes surface water and river flooding in specific locations. Tidal flooding continues to be a threat in the lower reaches of the catchment.

MAP X: THE OVERALL WATER FRAMEWORK DIRECTIVE STATUS OF THE WATERBODIES WITHIN THE BRISTOL AVON CATCHMENT.



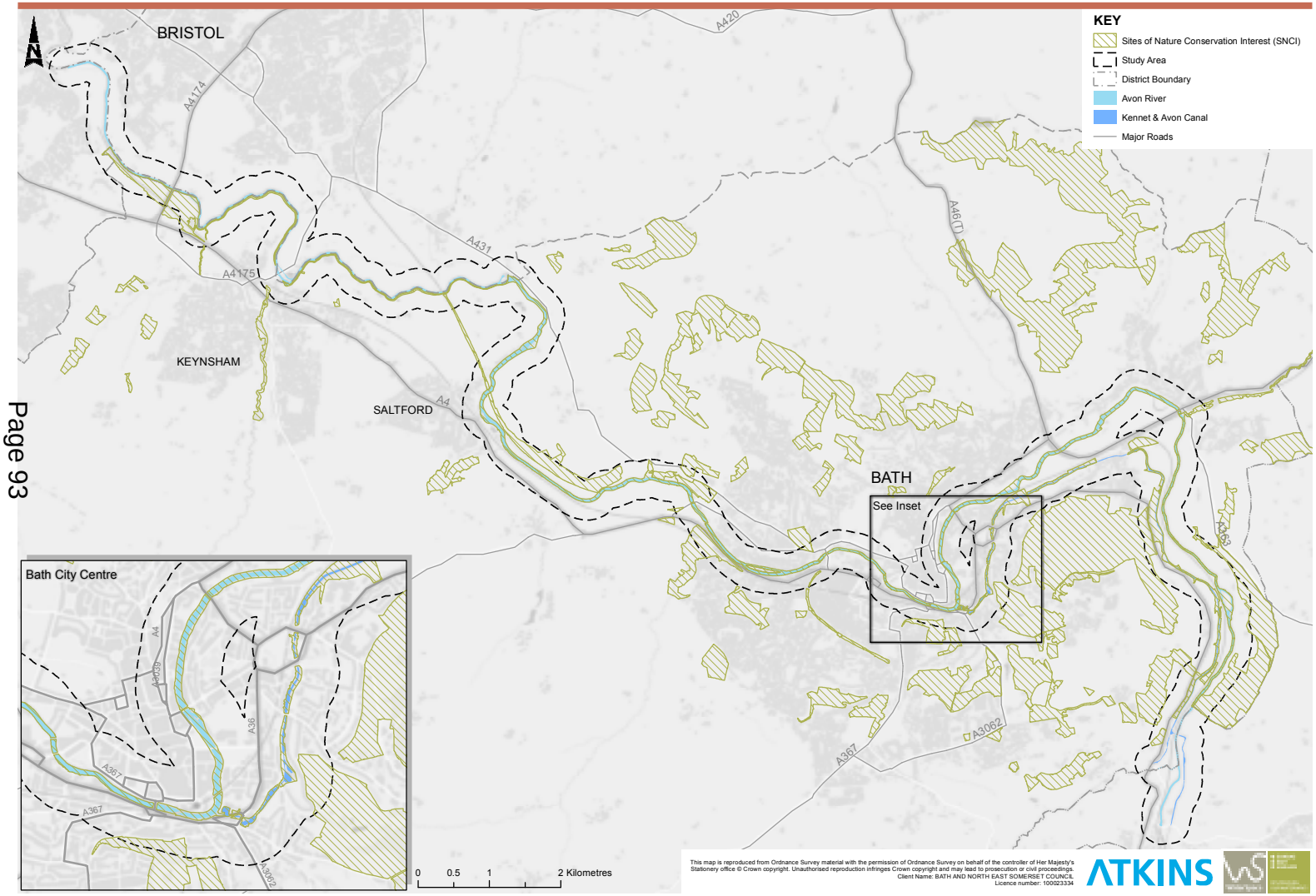
ENVIRONMENTAL ENHANCEMENT & WATER QUALITY



Ecosystems Services mapping produced by the West of England Nature Partnership to inform strategic decision making highlights the importance of the River and Canal corridors in providing valuable ecosystems including woodlands, grasslands and wetlands.

Significantly both the River Avon and Canal provide natural linkages between ecosystems enabling them to function as an interconnected network. Opportunities for ecosystem enhancement and protection can be realised by a natural capital approach, which should be embedded in decision making at a strategic level. At a local scale there are a number of ecosystems enhancements that can be made, project ideas to deliver this outcome are explored in this Study.

ENVIRONMENTAL ENHANCEMENT & WATER QUALITY



Both the River Avon and the Kennet and Avon Canal corridors are designated as Sites of Nature Conservation Interest (SNCI), in the B&NES Local Plan and have protection for their ecological value.

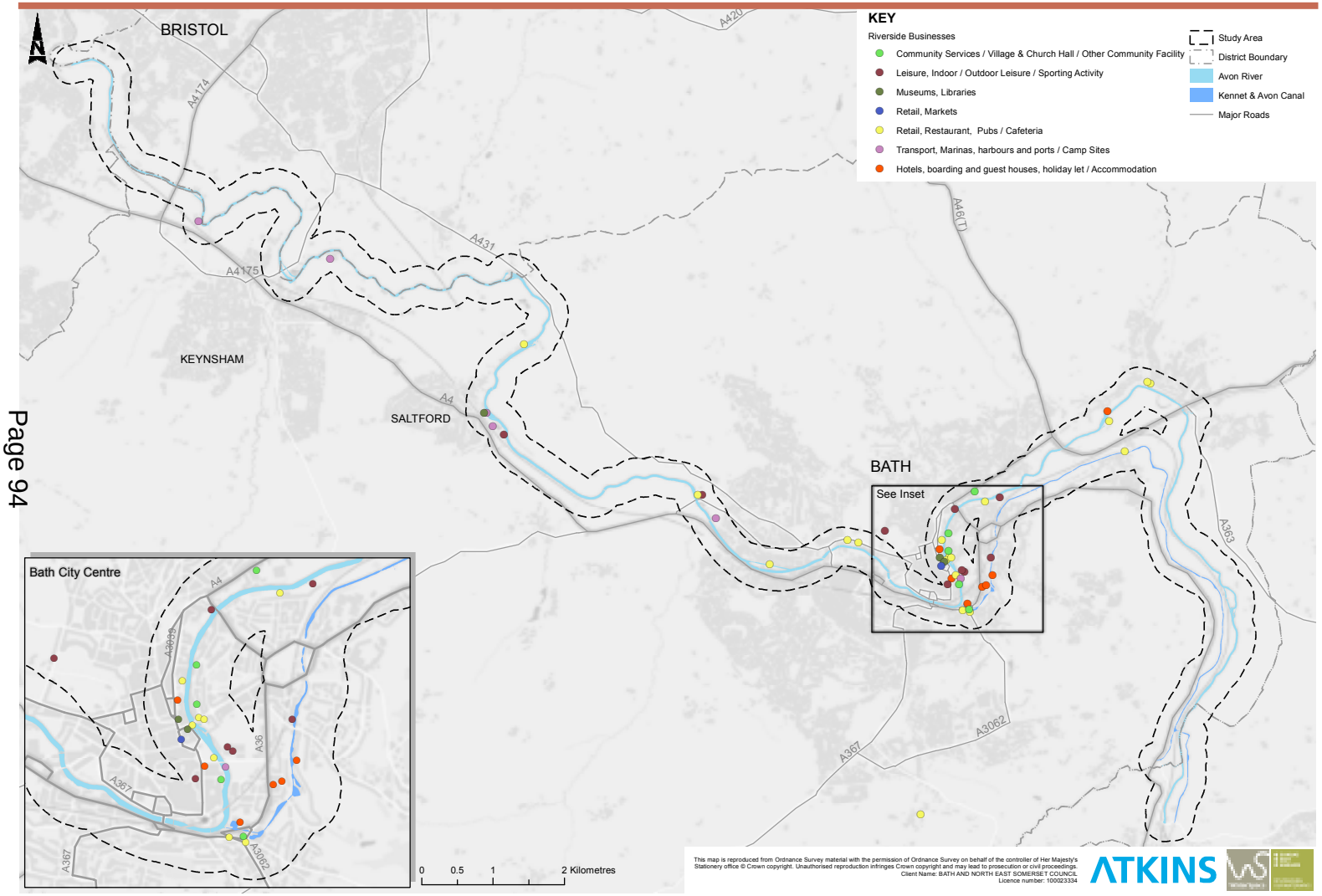
The Kennet & Avon Canal SNCI (area 29 hectares) is designated on the basis of its standing water and associated marginal habitats, semi-natural broadleaved woodland, semi-improved neutral grassland and tall ruderal communities (water vole population.

The River Avon SNCI (area 127 hectares) is designated on the basis of its running water and associated marginal habitats. Species include otters, greater dodder, loddon pondweed, common clubrush, arrowhead, small teasel, re-eyed damselfly and brown hawker.

Both waterways have a critical role for bat species, including the rare Horseshoe bats (greater and lesser). The dark and well vegetated and natural banksides and green tunnelling on towpaths in particular provide good foraging habitats and movement corridors from roosts out to the wider countryside and key foraging habitats.

The River Avon corridor through Bath is identified as a Strategic Green Infrastructure Corridor through the urban area in both the Green Infrastructure Strategy and the Local Plan. A number of other SNCI link into the linear River corridor spine.

RECREATION & LEISURE



Both waterways host a variety of recreation and leisure activities, including angling, sports such as rowing, canoeing and kayaking. In addition, the towpaths are popular car free running, cycling and walking routes. A series of public parks and green spaces adjoin the River Avon.

While the canal towpath and parts of the River Avon path are well used, other sections of the River path are less attractive or are poorly connected, have limited natural surveillance and are under-utilised. Management of vegetation is a common issue for the River Avon, for both waterways and towpath users.

Green spaces adjoin the River are not always well linked to the River path and there is often limited visual connection to the water.

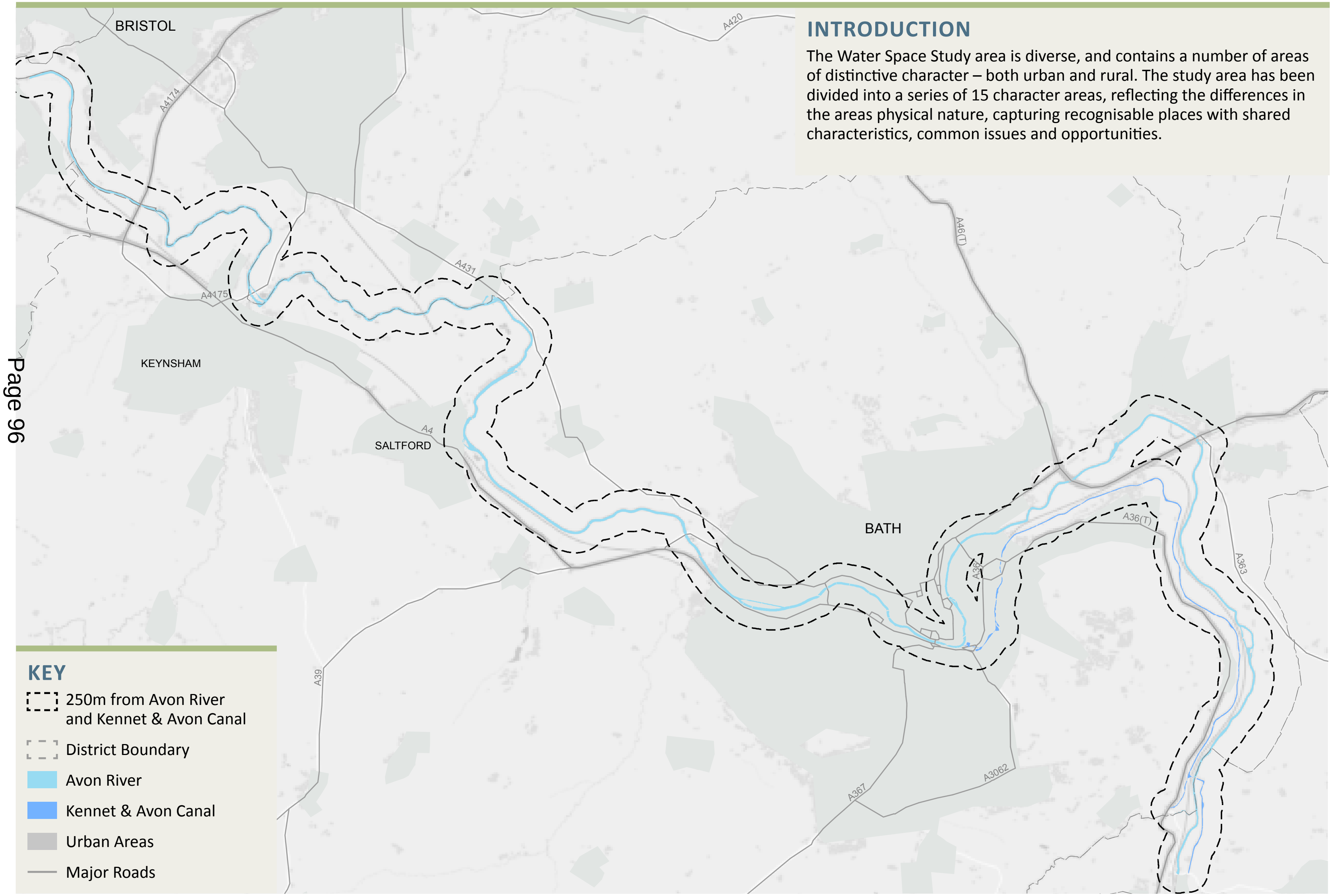
There are opportunities to further develop and support the use of the River Avon for angling, rowing and other water based sports, including events.

A wide range of businesses are located on the River and Canal, both business boating and land based commercial enterprises, including pubs and restaurants, sports clubs, marina as well as shops and industrial units. Many of the industrial premises in the River corridor are being replaced by mixed use residential led development; however, there are still significant industrial land uses particularly in western Bath and Keynsham.

CHARACTER AREAS

OVERVIEW

WaterSpace
DUNDAS BATH HANHAM
REVITALISING OUR WATERWAYS



INTRODUCTION

The Water Space Study area is diverse, and contains a number of areas of distinctive character – both urban and rural. The study area has been divided into a series of 15 character areas, reflecting the differences in the areas physical nature, capturing recognisable places with shared characteristics, common issues and opportunities.

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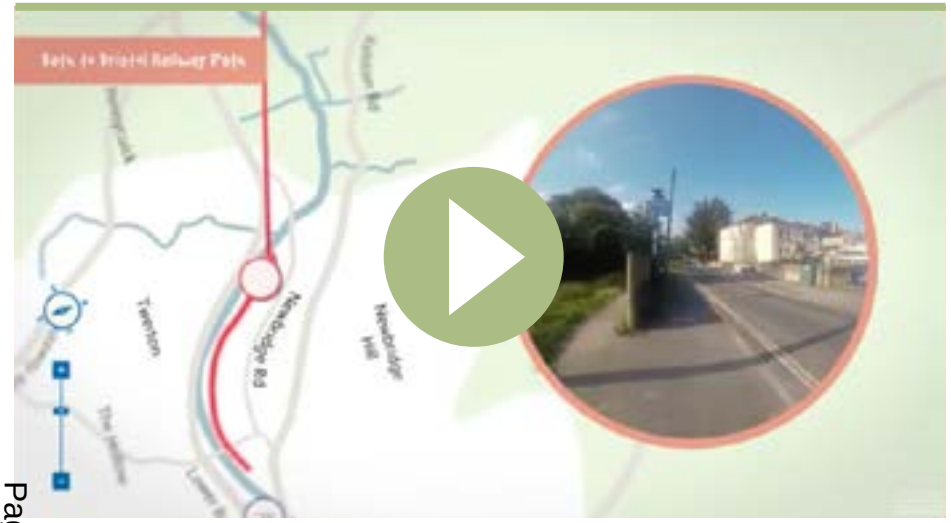
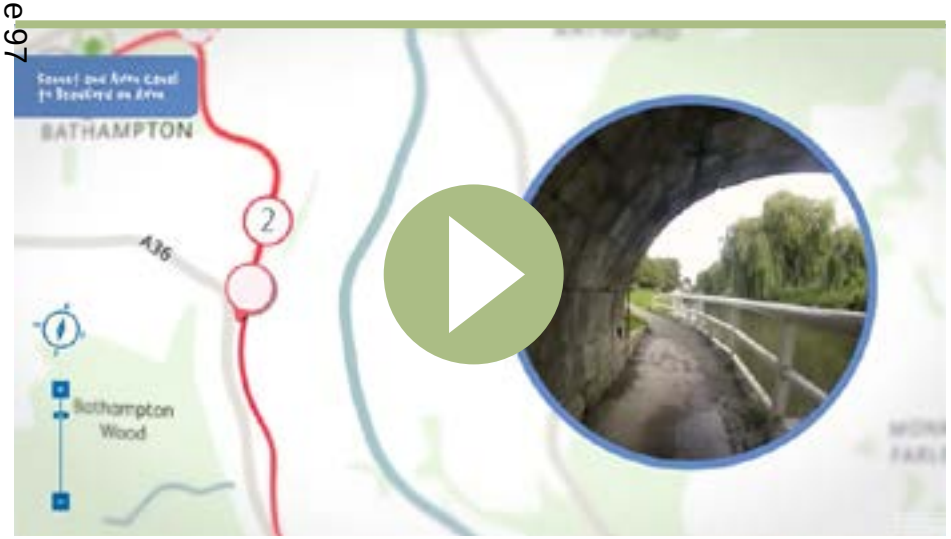
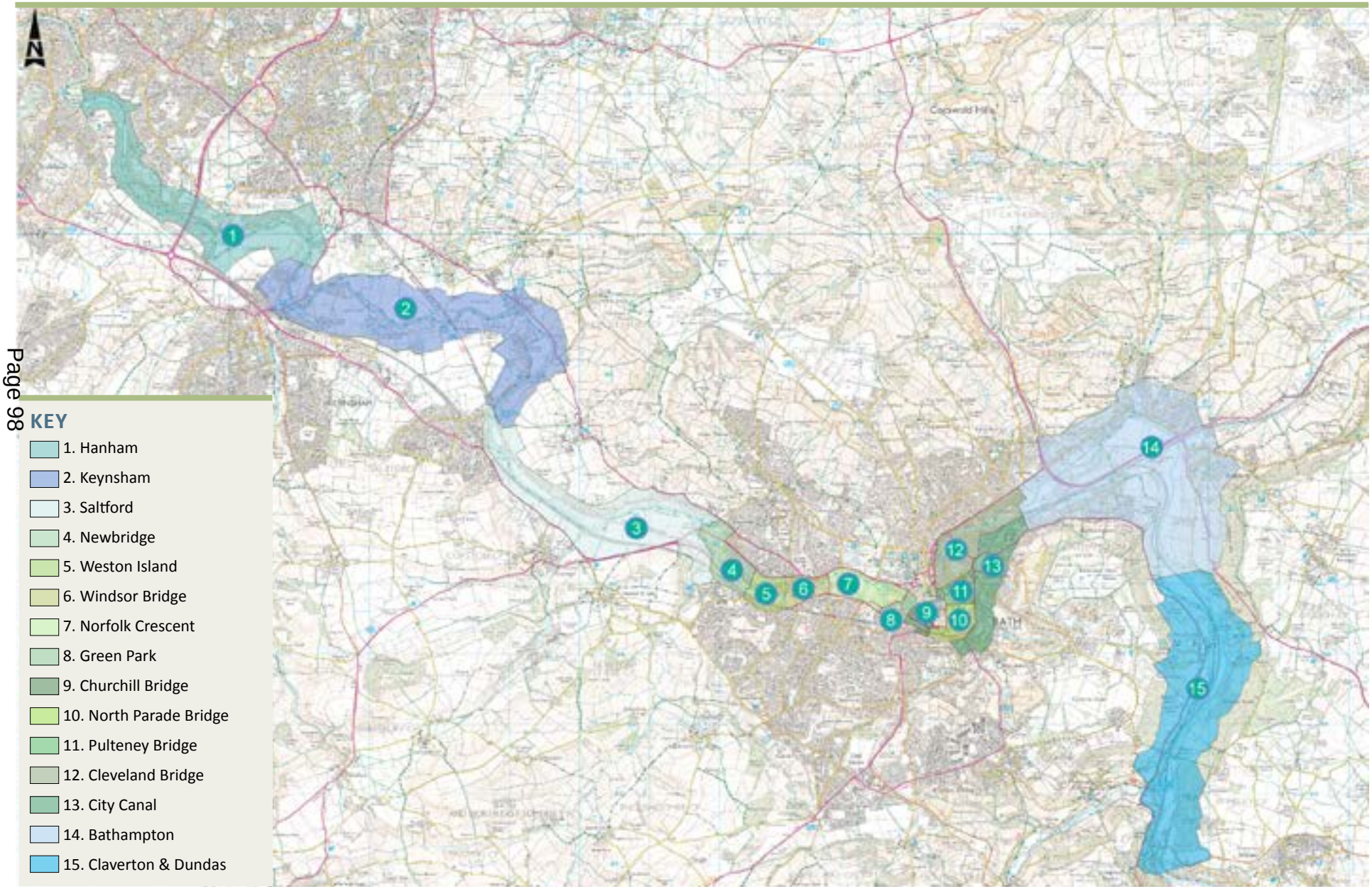
OVERVIEW

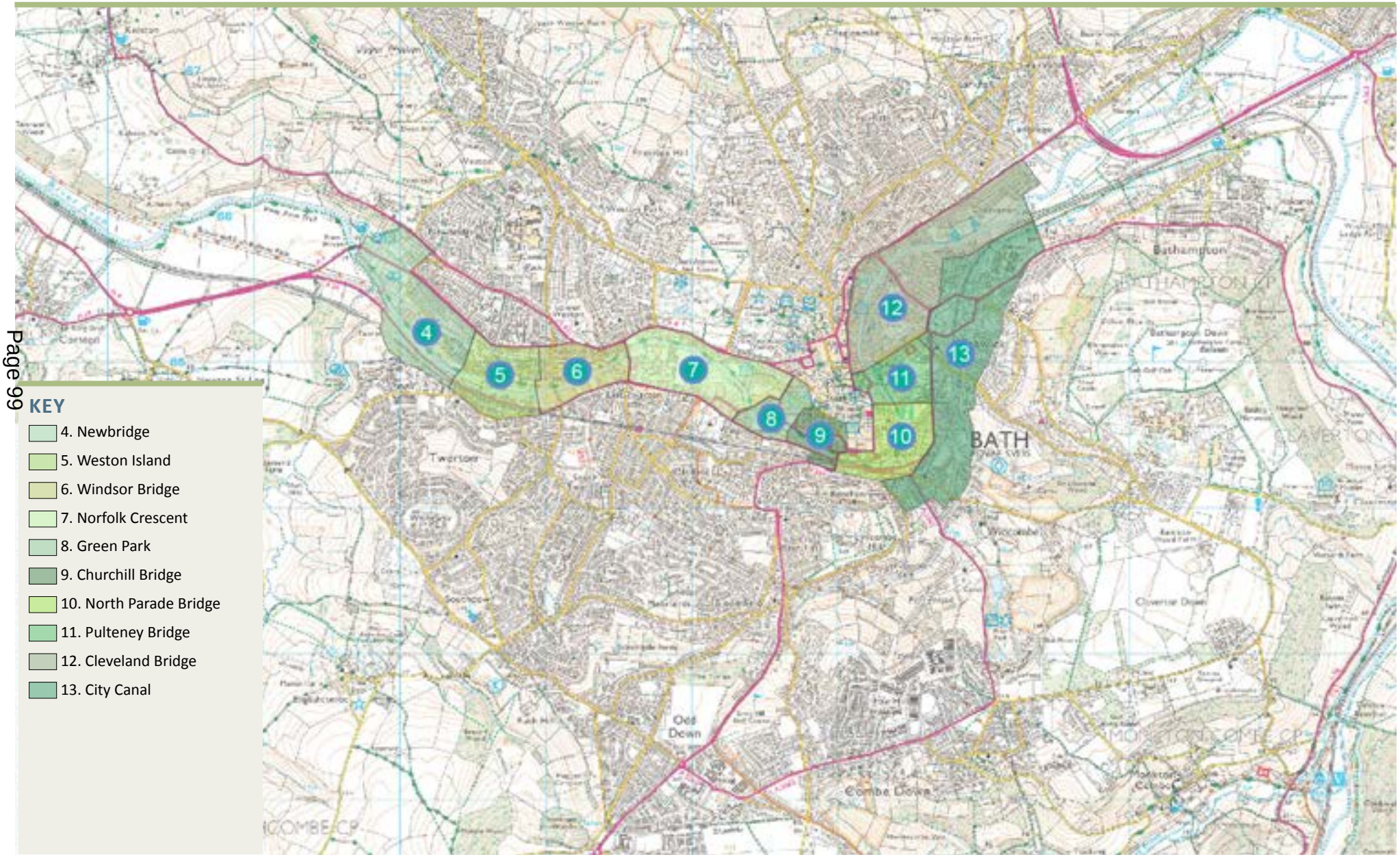




OVERVIEW


KEY
1. Hanham
2. Keynsham
3. Saltford
4. Newbridge
5. Weston Island
6. Windsor Bridge
7. Norfolk Crescent
8. Green Park
9. Churchill Bridge
10. North Parade Bridge
11. Pulteney Bridge
12. Cleveland Bridge
13. City Canal
14. Bathampton
15. Claverton & Dundas

CHARACTER AREAS, BATH



CHARACTER AREAS

AREA 1: HANHAM

Characteristics:

- Meandering tree lined river edge
- Small clusters of residential areas
- Gently sloping topography
- Intimate riverside walkways with dense tree cover
- Steep vegetated riverside banks with naturalised woodland along the water's edge

Issues & Opportunities:

- Lack of pathways
- Need for more clear/extensive access

AREA 2: KEYNSHAM

Characteristics:

- Undulating, steep banks with varying degrees of exposure and enclosure
- Small scattered urban settlements and light industrial
- Cadbury's Somerdale Factory re-development is a prominent feature
- Generally small to medium sized fields enclosed by fencing and hedging
- Patchwork of arable and grassland (Keynsham Hams)
- Water habitat areas (Otters)
- Scattered woodland areas
- Wide open valley with a generally flat valley floor

Issues & Opportunities:

- Informal moorings – boats tied to trees
- Lack of pathways – need for extended access along river corridor
- Meeting points of Bristol-Bath Cycle route and the River have the potential to be recreation hubs

CHARACTER AREAS

AREA 3: SALTFORD

Characteristics:

- Patches of arable fields with bordering hedgerows
- A mixture of informal and formal mooring areas
- Light industrial/businesses
- Steeply sloping banks towards the river, with low-lying shrub vegetation and mature riverside trees
- Views open into large areas of grassland with bordering hedgerows
- Riverside recreation & leisure (Saltford Marina, Boat & rowing club, fishing, pubs/ restaurants)
- Small pockets of riverside residential areas

Issues & Opportunities:

- Overgrown areas limiting access and views for local residents to the river corridor
- Steep valley sides limit accessibility
- Lack of pathways and pedestrian access along much of the riverside

AREA 4: NEWBRIDGE

Characteristics:

- Natural river edge with varying slopes down to water level
- Wooded feel – contained and intimate corridors
- Tree-lined banks with wooded slopes
- Semi-rural with glimpses of countryside
- Firm river path with natural woodland appearance
- Leisure activities include: Informal fishing, cycling, walking, rowing

Issues & Opportunities:

- Trading estate buildings, plots & boundary fences baring no relating to the river
- Exposed waste, fencing and parking areas degrade the natural setting
- Engineered, angular river embankments which detract from the surrounding landform
- Surface conditions of path & width

AREA 5: WESTON ISLAND

Characteristics:

- Enclosed and intimate Weston Cut Canal
- Well-treed, with trees lining much of the Weston Island
- Naturalised river banks with the exception of the lock weir and island
- Narrow river pathway characterful of the natural area
- Sheet-piling at Weston Island with overhanging vegetation
- Areas of residential mixed with trading estate & impermeable boundaries
- Significant presence of wildlife (birds, fish)
- Leisure activities include: Informal fishing, cycling, walking, riverboats

Issues & Opportunities:

- Deterioration of tree cover
- Trading estates relate poorly to surrounding areas
- Graffiti/ signs of antisocial behaviour
- Narrow paths make cycling and walking difficult
- Surfaces are varied progressing westwards

AREA 6: WINDSOR BRIDGE

Characteristics:

- Open character with views of the countryside and Cotswolds
- More open river valley with relatively well treed feel
- Trees and shrubs line much of the river banks
- Deterioration in tree cover – lacking benefits for wildlife
- Buildings meet closely to the bankside
- Soft and sloping vegetated river banks
- Tarmac path surfacing
- Small-scale residential open spaces (Windsor Villas) with open grassed areas framed with park trees

Issues & Opportunities:

- Little access to right Bank
- Lack of quality spaces for wildlife
- Trading estate poor relationship with river edge
- Access via steep steps adjacent to bridge only

AREA 7: NORFOLK CRESCENT

Characteristics:

- Open area lacking in trees/vegetation cover
- Influenced by redevelopment on both sides of the river
- Overall hard and engineered/urban feel, dominated by the built environment, 3–5 storeys
- Sheet piling on river banks with limited softening vegetation
- Railing and fencing along river edge for safety

Issues & Opportunities:

- Exposed fencing/ walls have strong negative visual impacts
- Lack of habitat provision
- Poor tarmac surfacing of pathways
- Lack of signage
- Safety and waterside isolation in some places
- Lack of views to/from river corridor from surrouding areas

AREA 8: GREEN PARK

Characteristics:

- Enclosed area with wooded feel
- Trees lining river boundary form a wooded entrance and exit to the area
- Attractive Georgian buildings set amongst the trees
- Sheet piling on much of the banks with overhanging vegetation
- Riverside path on both sides of the river

Issues & Opportunities:

- Poor signage
- Poor linkage to surrounding residential areas
- Generally mixed river banks with stone, concrete, sheet piling
- Lack of views to/from river corridor

AREA 9: CHURCHILL BRIDGE

Characteristics:

- Canalised feeling with imposing warehouse buildings, many recently redeveloped
- Sparse tree cover with grassed embankments
- Strong sense of industrial history with quality natural green space
- Gradient from natural to urban leading to the city centre

Issues & Opportunities:

- Decreased ecological presence with increased urban development
- Lack of tree cover and ecological connectivity
- Stepped access/steep ramps
- Opportunity to increase urban riverside activities
- River boats and canal interface could be celebrated
- Some central vacant sites and opportunities which could connect Bath centre and the river corridor

AREA 10: NORTH PARADE BRIDGE

Characteristics:

- Soft edged left banks with a steep well-treed slope rising to the city centre
- Eastern bank is hard with stone cladding and a significant level change
- Wide river path promenade, narrower continuing upstream towards Skew Bridge
- Spots of grass/treed banks between the canal and road
- Banks transition into sheet piling and well vegetated
- Backdrop of classical architecture characteristic of Bath
- Tree-lined river corridor with views to the west bank, weeping willows overhang into the river

Issues & Opportunities:

- Lack of ecological connectivity
- Poor entrance/access to the canal
- Dark, overshadowed pathways
- Insensitive fencing and building materials, graffiti and littering
- Unclear sense of direction: Residential areas intrude on public pedestrian experience

AREA 11: PULTENEY BRIDGE

Characteristics:

- Iconic views of Pulteney Bridge and the Pulteney Weir
- From an elevated position the area engages with its backdrop of containing wooded hillsides
- From down the river a greater sense of intimacy and containment formed by riverside trees set back behind paths
- Left bank opens up into Parade gardens, a large well maintained public open space

Issues & Opportunities:

- Poor/ cheap 1970s materials uncharacteristic of the historic views in the west
- Unclear sense of public access: Path interrupted by buildings and fencing
- Limited opportunity for engagement with the river edge: paths raised and offset from water edge with barriers
- Unused waterside areas / under-utilised public realm areas around Pulteney Bridge

AREA 12: CLEVELAND BRIDGE

Characteristics:

- Commonly experienced through tourist boats due to limited access
- Wooded and contained corridor of increasing rural character
- Strong sense of history and privacy/secrecy
- No public access on right bank, however a small area open to the public on St. John's Road – however visually disconnected
- Bat roost under Cattle Market
- Wooded, soft-edged river banks with overhanging trees provide ideal habitats

Issues & Opportunities:

- Erosion of banks due to increased boat use – habitat damage and reduced tranquillity
- Limited/no public access
- Opportunity to increase visual connectivity to and from the river where the riverside is physically inaccessible

AREA 13: CITY CANAL

Characteristics:

- Contained, intimate pathways: Narrow but adds character, but difficult for some users
- Strong sense of privacy and secrecy
- Strong presence of history
- Tall stone walls create a strong sense of direction
- Bold, imposing buildings and bridges on steep, artificial banksides
- Southern portion has a strong residential character with private plots meeting up to the canal edge
- Many canal boats, cyclists and walkers

Issues & Opportunities:

- Poor pavement surfacing in southern portions
- Limited access to surrounding areas
- Poor access points from the roads
- Opportunity to improve Canal and River Trust signage and include nearby destinations in Bath City Centre e.g. Sydney Gardens

AREA 14: BATHAMPTON

Characteristics:

- The valley opens up into large open fields, exposing distant views of the Costwolds and woodland
- Mix of suburban and rural character entering Bath
- Farming fields on valley sides enclosed by often untrimmed hedges and trees
- East bank predominantly flat grasslands with steeper, more undulating topography on the west bank
- Recreational fields (King Edward's pavilion and playing fields)
- Wetland/Oxbow lake and woodland nature reserve

Issues & Opportunities:

- Enhance signage – no directions to surrounding settlements, distances etc
- Limited access to riverside and weird due to private land
- Somerset canal moorings

AREA 15: CLAVERTON & DUNDAS

Characteristics:

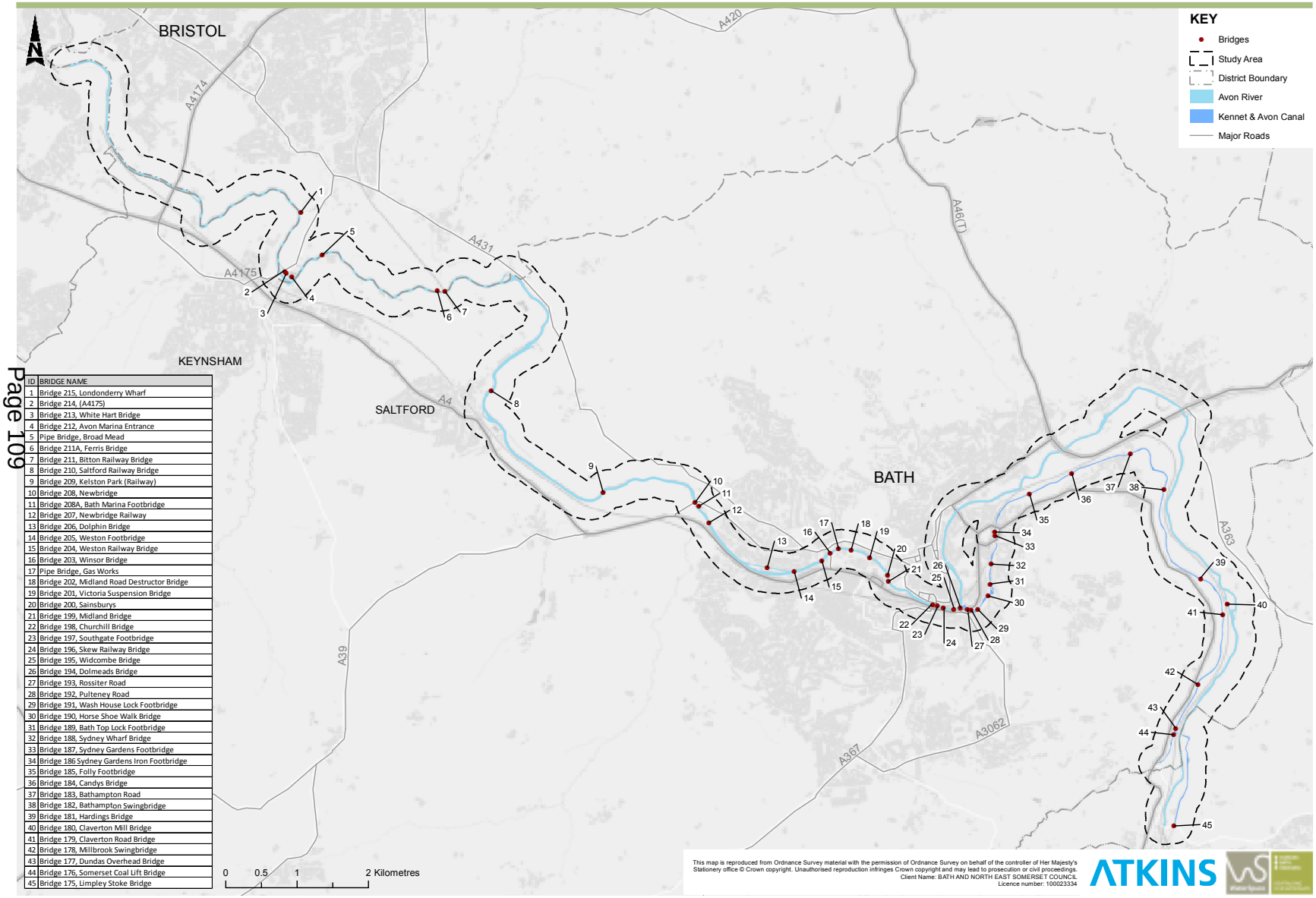
- Large, dense ancient/semi-natural woodland conceal pathways and canal, blocking views down to the river
- Enclosed and intimate woodland areas
- Many formal and informal mooring sights
- Distinctive canal architecture (Dundas Aqueduct & bridges)
- Steep valley sides with large patches of ancient/semi-natural woodland leading down from the canal to the river
- Small residential and farm settlements on valley sides

Issues & Opportunities:

- Damage at Dundas Aqueduct: Crumbling stone edges, weathered furniture
- Poor waste disposal from moorings
- Inconsistent signage
- Informal moorings with no provisions dominate place with associated bankside clutter
- Opportunity to wayfind to connect to Bath and Bathampton

MAP OF BRIDGE NAMES

MAP



ID	BRIDGE NAME
1	Bridge 215, Londonderry Wharf
2	Bridge 214, (A4175)
3	Bridge 213, White Hart Bridge
4	Bridge 212, Avon Marina Entrance
5	Pipe Bridge, Broad Mead
6	Bridge 211A, Ferris Bridge
7	Bridge 211, Bitton Railway Bridge
8	Bridge 210, Saltford Railway Bridge
9	Bridge 209, Kelston Park (Railway)
10	Bridge 208, Newbridge
11	Bridge 208A, Bath Marina Footbridge
12	Bridge 207, Newbridge Railway
13	Bridge 206, Dolphin Bridge
14	Bridge 205, Weston Footbridge
15	Bridge 204, Weston Railway Bridge
16	Bridge 203, Winsor Bridge
17	Pipe Bridge, Gas Works
18	Bridge 202, Midland Road Destructor Bridge
19	Bridge 201, Victoria Suspension Bridge
20	Bridge 200, Sainsburys
21	Bridge 199, Midland Bridge
22	Bridge 198, Churchill Bridge
23	Bridge 197, Southgate Footbridge
24	Bridge 196, Skew Railway Bridge
25	Bridge 195, Widcombe Bridge
26	Bridge 194, Dolmeads Bridge
27	Bridge 193, Rossiter Road
28	Bridge 192, Pulteney Road
29	Bridge 191, Wash House Lock Footbridge
30	Bridge 190, Horse Shoe Walk Bridge
31	Bridge 189, Bath Top Lock Footbridge
32	Bridge 188, Sydney Wharf Bridge
33	Bridge 187, Sydney Gardens Footbridge
34	Bridge 186 Sydney Gardens Iron Footbridge
35	Bridge 185, Folly Footbridge
36	Bridge 184, Candys Bridge
37	Bridge 183, Bathampton Road
38	Bridge 182, Bathampton Swingbridge
39	Bridge 181, Hardings Bridge
40	Bridge 180, Claverton Mill Bridge
41	Bridge 179, Claverton Road Bridge
42	Bridge 178, Millbrook Swingbridge
43	Bridge 177, Dundas Overhead Bridge
44	Bridge 176, Somerset Coal Lift Bridge
45	Bridge 175, Limpley Stoke Bridge

PROJECTS

QUICK GUIDE TO THE PROJECT PAGES

The following pages include a summary of 13 themes and 23 specific project ideas that have been derived through consultation and dialogue with project partners, key stakeholders and the general public during 2016.

We have also drawn on previous studies and evidence gathered by the Water Space Partnership, and by each of the partner organisations to provide an evidence based approach.

The Boater Surveys, Focus Groups and 1:1 interviews with commercial enterprises and volunteer bodies have also informed the projects, as the projects seek to address demand and commercial interest. In addition low cost projects that can be delivered by volunteers are included as well as big ticket items.

Key references to background evidence and further technical information is summarised in the References section of this Study. Further technical detail submitted as part of the "call for ideas" can also be found in Appendix 6.

Costings for the projects have also been derived, with input from a Quantity Surveyor, or with reference to existing costings. These costs are summarised here but are also detailed in an associated technical document.

A list of all of the themes and specific projects, together with summary of how each theme or projects meets the following factors:

OWNERSHIP

Projects which relate to land owned by the project Partners (Environment Agency, B&NES Council, Canal & Rivers Trust and Wessex Water) is flagged. Additionally where there is third party land involved this is noted. In many cases projects involved more than one landownership. Most projects relate to assets in the control of the partners, at least in part.

\+ Detailed asset maps are included in Appendix 1.

STUDY THEME

The Water Space Study theme which the project idea relates to is summarised here – multi-beneficial projects are sought wherever possible.

QUICK GUIDE TO THE PROJECT PAGES

PROJECT FACTORS

Project Development Status

How far have proposals progressed in terms of design development, from Inception or concept through to Implementation on site, the following broad stages have been devised and it is noted that there may be more than one stage of design to achieve within each category, such as options appraisal or consideration of detailed aspects which may be wrapped up within a given stage below:

● **One Dot =** Concept/ Outline Design which would follow on from Inception and form the basis of a feasibility report which also rely upon high level/ desk study to support technical considerations such as flooding or ground conditions;

●● **Two Dots =** Detailed Design (pre-planning) to enable informed review of any options;

●●● **Three Dots =** Full design, ready to implement

Funding Status

This may be clearly defined or a contribution may exist via Section 106 funding, as part of a nearby development and will fall into one of the following categories, further detail on this aspect is included in the Funding & Delivery Chapter.

Fully funded;

Part funded (with for example a proportion of S106 funds allocated);

No funding

Cost Score

The capital cost of projects has been estimated for a number of the scheme for which a design can be clearly determined, however there will be assumption relating aspects of the scheme which cannot be defined at the time of design such as services, professional fees and exclusions such as VAT. These have categorised as follows:

Low – Projects less than £100,000

Medium – £100,000 to £500,000

High – £500,000 +

Environmental Score

The benefit to wildlife and biodiversity can be captured to some degree, however in most instance a desk study can reveal potential constraint and opportunities for each project. In some instances there will be requirements for Habitat Stage 1 Survey work which will in turn highlight the need for species specific survey to inform the assessment or planning processes.

Low – Little opportunity to provide environmental enhancement, site has little or no biodiversity.

Medium – Some site constraints to be managed as part of the planning process with species specific surveys as required.

High – Sensitive site requiring specialist advice and opportunities for environmental enhancement.

Community Score

This determines the degree to which the project has support or awareness.

Low – Limited consultation to date or stakeholders unknown.

Medium – Stakeholders are known and a programme of consultation.

High – Project is actively promoted has community support.

APPROVALS AND CONSENTS

There are a series of approvals or factors that may affect a given project, these are as follows:

Planning Permission – outline and detailed consents/reserved matters submissions and discharge of conditions.

Listed Buildings – a site factor that may require Listed building consent.

Environment Agency – approval or consents, often for works within 8 metres of a main river.

Canal and River Trust consents, for example in relation to moorings and riverside uses.

Wessex Water – Approvals for abstraction or licencing.

Where these items are ticked approvals or consents are required.

OVERVIEW

THEMES

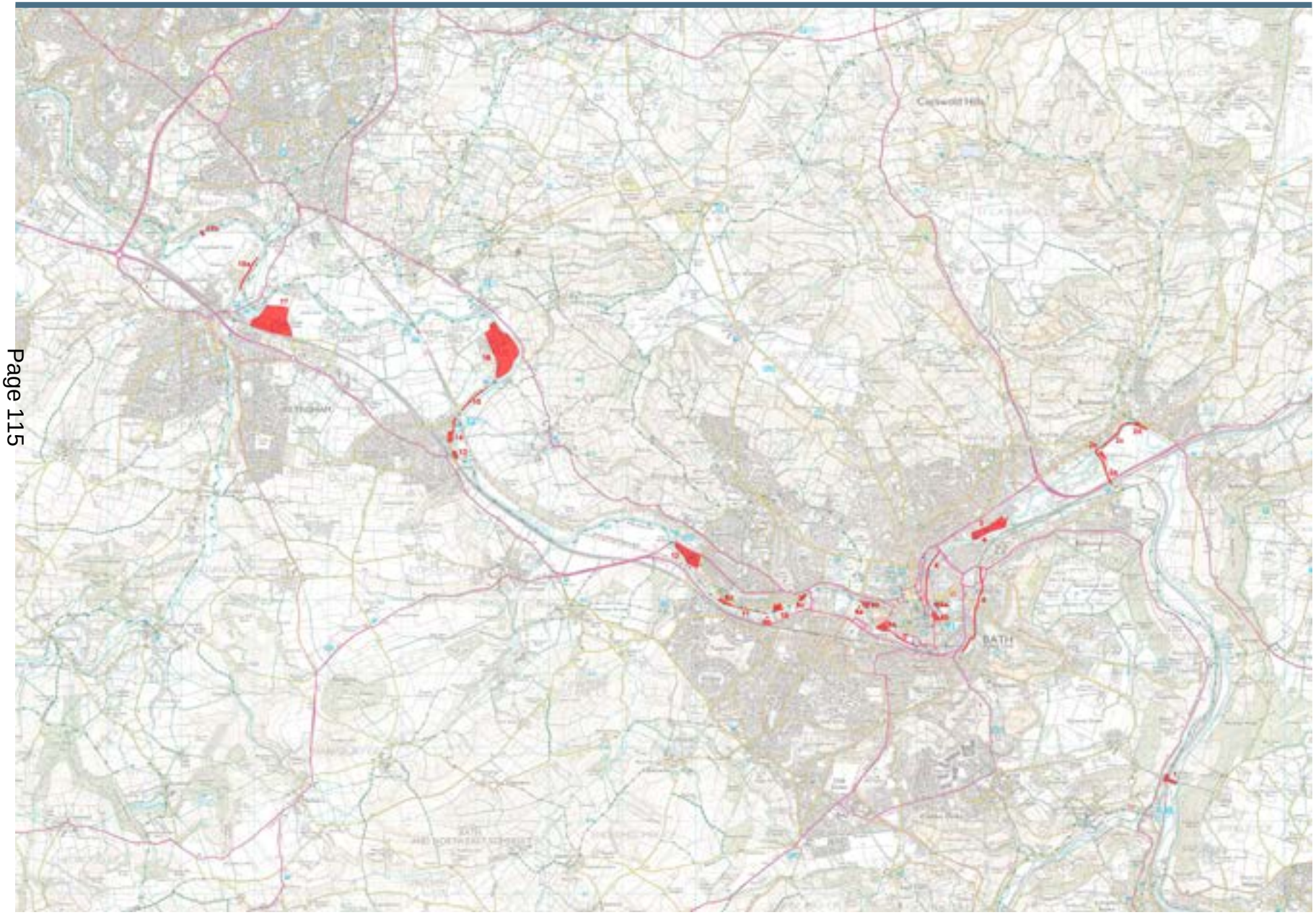
		Ownership		Themes					Project Factors					Approvals				
Project No.	Project Name	Project Partners (CRT, EA, Wessex Water)	Third Party	Asset and Asset Management	Moorings and Navigation	Leisure and Recreation	Environmental Enhancement and Water Quality	Development and Regeneration	Development Status	Funding	Cost Score	Environmental Score	Community Score	Planning approval	Listed Buildings	Environment Agency	Canal and River Trust	Wessex Water
T1	Wilding the River								•	Part funded	Low	High	Low		✓	✓	✓	✓
T2	Standard Mooring Details & Advice								•	Part funded	Low	Low	Low	✓			✓	
T3	River Avon Bat Habitats & Mitigation								••	Part funded	Medium	High	Medium	✓			✓	✓
T4	River Safety								•••	Part funded	Medium	Low	High			✓	✓	
T5	Friends of the River Park & Maintenance Opportunities								•	No funding	Low	High	High			✓	✓	✓
T6	River Events, Walking & Arts Projects								••	Part funded	Low	Medium	High				✓	✓
T7	Himalayan Balsam Control								•	No funding	Low	High	Medium			✓	✓	✓
T8	River Movement Network								•	No funding	Medium	Low	Medium		✓	✓	✓	
T9	Mooring Provision								•	No funding	Medium	Low	High	✓		✓	✓	
T10	Boater Facilities								•	No funding	Low	Medium	High		✓	✓	✓	✓
T11	Wayfinding & Signage								•	Part funded	Low	Low	Medium				✓	
T12	Floating Markets								•	Part funded	Low	Low	High				✓	
T13	Byelaw for Moorings								•	No funding	Low	Low	Low				✓	

OVERVIEW

PROJECTS

		Ownership		Themes						Project Factors					Approvals				
Project No.	Project Name	Project Partners (CRT, EA, Wessex Water)	Third Party	Asset and Asset Management	Moorings and Navigation	Leisure and Recreation	Environmental Enhancement and Water Quality	Development and Regeneration	Development Status	Funding	Cost Score	Environmental Score	Community Score	Planning approval	Listed Buildings	Environment Agency	Canal and River Trust	Wessex Water
1	Dundas Public Realm Project								•	No funding	Medium	Low	High		✓		✓	
2	Somerset Coal Canal								••	No funding	High	High	High		✓	✓	✓	
3	Batheaston/Bathampton Riverside Environmental Projects								•	Part funded	Low	High	High		✓	✓	✓	
4	Kensington Meadows								•	Part funded	High	Medium	High			✓	✓	
5	Riverside Path Access North of Pulteney Bridge								•	No funding	Medium	Medium	Medium	✓	✓	✓	✓	
6	Canal Towpath & Connectivity								•	No funding	High	Medium	Medium			✓	✓	
7	Pulteney Bridge & Parade Gardens								••	Part funded	High	Medium	High	✓	✓	✓	✓	
8	Widcombe Social Club								•	No funding	Medium	Medium	High	✓			✓	
9	Bath Quays: North, South & Bridge								••	Funded	High	Medium	High	✓		✓	✓	✓
10	Upgraded Moorings at Bath Quays Waterside								•••	Funded	Medium	Medium	High	✓		✓	✓	✓
11	Bath Western Riverside								••	Funded	High	Medium	High	✓		✓	✓	✓
12	River Avon Park								••	Part funded	High	High	High	✓		✓	✓	✓
12A	Green Park								••	Part funded	High	High	High			✓	✓	
12B	Norfolk Crescent								••	Part funded	Low	High	High			✓	✓	
12C	Kelson Fields								••	Part funded	Low	High	High			✓	✓	
12D	Brassmill Green								••	Part funded	Medium	Low	High		✓	✓	✓	
13	Environment Agency Access Locations								•	No funding	Medium	Low	High	✓		✓	✓	
14	Bath Spa Arts University Development								••	No funding	Medium	Medium	Medium	✓	✓	✓	✓	
15	Weston Cut Canal								••	No funding	Medium	Medium	Medium		✓		✓	
16	Bath Marina								••	Part funded	Medium	High	High				✓	
17	Saltford Brass Mill								•	No funding	Low	High	High		✓	✓		
18	The Shallows Saltford								•	No funding	High	Medium	Medium			✓	✓	
19	Mead Lane Moorings								••	Part funded	Medium	Medium	High	✓		✓	✓	✓
21	Wessex Water Bridge								•	No funding	High	Medium	Low	✓	✓	✓	✓	✓
22	Broadmead Peninsula								•	No funding	High	Medium	Medium	✓	✓	✓	✓	✓
23	Somerdale Development								••	Part funded	High	High	Medium	✓		✓	✓	

OVERVIEW



THEMES

T1. WILDING THE RIVER (1/4)

DUNDAS — CLAVERTON — BATHAMPTON — BATH — SALTFORD — KEYNSHAM — HANHAM

PROJECT CONCEPT

The river corridor provides a series of rich wildlife habitats on the valley floor which enriches the life of the city. The River Avon is inhabited by kingfishers and otters, as well many species of birds, bats and freshwater fish. Its increasing ecological diversity and natural beauty provides an integral component of Bath's future riverside character and through introducing sensitive design interventions will safeguarding the river's wildlife.

Five nodes of valued habitats /species hot-spots have been identified along the River Avon running through Bath:

1. Newbridge
2. Weston Island
3. Norfolk Crescent
4. The Railway Station
5. Pulteney Weir

OUTLINE PROPOSALS

- Establish biodiverse pond species along river banks
- Establish species -rich woodland groundflora
- Terracing of walls with natural slope, planted with natural emergent species
- Underwater planters with egg laying strips for fish, with fenders to protect from boats
- Inset vertical planters on sheet piling to vegetate and naturalise river banks
- Railing planters along river wall – year-round value for pollinating insects, birds and bats

KEY

Environmental Nodes

Naturalistic River Banks

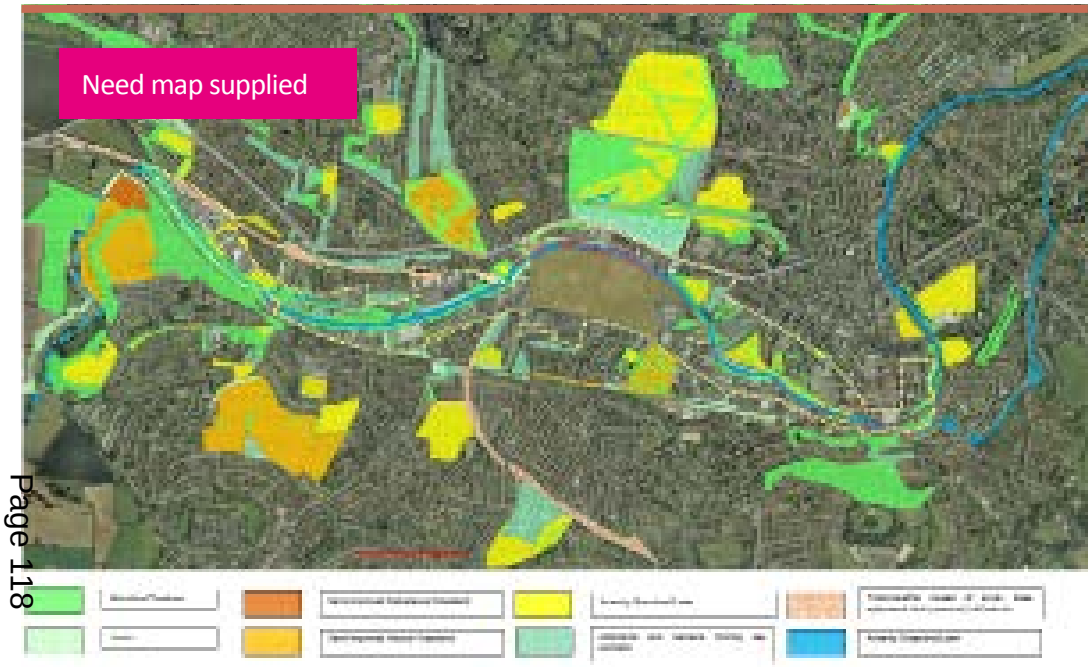
Artificial River Banks

Wildlife Corridors from wider area

Significant woodland habitats

T1. WILDING THE RIVER (2/4)

DUNDAS — CLAVERTON — BATHAMPTON — BATH — SALTFORD — KEYNSHAM — HANHAM



SPECIES FOUND IN BATH'S ECOLOGICAL NODES


Otters


Kingfishers


Horsehoe Bats


Yellow Water Lily


Lodden Pondweed


Cormorants

OVERALL ISSUES & OPPORTUNITIES

Due to past and present development along the river corridor the habitats that the river provides are under threat. Strategic interventions in the nodes identified could alleviate the issues that are currently present and protect from future development.

In areas of lesser wildlife activity there is opportunity to establish greater ecological value, whilst introducing measures to enhance and protect existing wildlife hotspots.

1. NEWBRIDGE

- Confluence with Newton Brook & River Avon
- Naturalistic river banks
- Key site for Otter and Kingfisher population
- Issues relating to Himalayan Balsam invasion

KEY PROPOSALS


Removal of Himalayan Balsam to restore native plant diversity


Establish biodiverse pond species along river banks

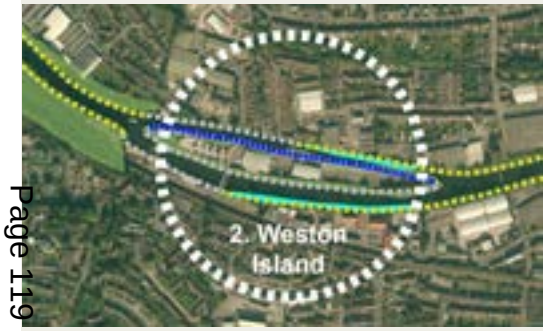

An Otter ledge will be provided to reduce the likelihood of otter road mortalities and increase the permeability of the river for this species.

T1. WILDING THE RIVER (3/4)

DUNDAS — CLAVERTON — BATHAMPTON — BATH — SALTFORD — KEYNSHAM — HANHAM

2. WESTON ISLAND

- Mix of naturalistic and sheet piling banks
- Site for Kingfishers, with some sightings of Otters attracted by fish
- Key site for Cormorants
- Presence of rare Lodden pondweed
- Woodland with overhanging branches providing feeding spots for birds



KEY PROPOSALS

Underwater planters with egg laying strips for fish, with fenders to protect from boats

Terracing of walls with natural slope, planted with natural emergent species

3. NORFOLK CRESCENT

- Riffle feature opposite Norfolk Crescent at low flows
- Silt banks support rare Lodden pondweed and Yellow Water Lily
- Frequent Otter sightings
- Overgrown woodland groundcover with Hedera helix, reducing biodiversity

KEY PROPOSALS

Establish biodiverse pond species along river banks

Thinning of dense undergrowth and establish species-rich woodland groundflora

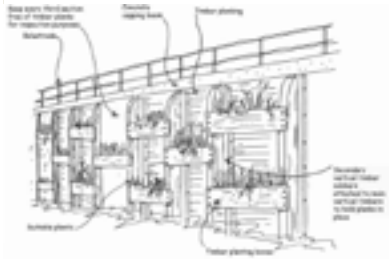
T1. WILDING THE RIVER 4/4)

DUNDAS — CLAVERTON — BATHAMPTON — BATH — SALTFORD — KEYNSHAM — HANHAM

4. RAILWAY STATION

- Confluence with Kennet and Avon canal
- Artificial banks with sheet piling
- Quiet wooded refuge area behind the Railway station
- Hotspot for Otters and Kingfishers

KEY PROPOSALS



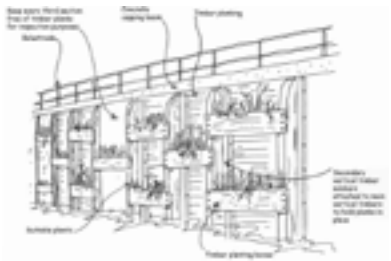
Inset vertical planters on sheet piling to vegetate and naturalise river banks

Railing planters along river wall provide year-round value for pollinating insects and food for birds and bats

5. PULTENEY BRIDGE

- Constantly aerated water and calm adjacent backwater
- Frequent sightings of Otters and Kingfishers
- Presence of Yellow Water Lily
- Horsehoe Bat roost and forage here upstream and into Camden

KEY PROPOSALS



Inset vertical planters on sheet piling to vegetate and naturalise river banks

Railing planters along river wall provide year-round value for pollinating insects and food for birds and bats

T3. STANDARD MOORING DETAILS & ADVICE (1/2)

DUNDAS | CLAVERTON | BATHAMPTON | BATH | SALTFORD | KEYNSHAM | HANHAM

Moorings and boating activity create a vibrant river and canal environment.

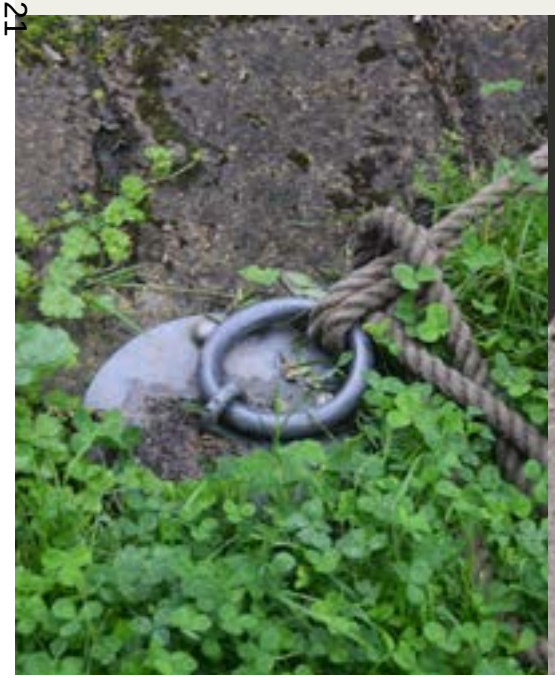
The project aims to create new opportunities and manage existing moorings for residential and some business uses. Moorings fall into a number of categories:

- Long term moorings for a vessel, not necessarily an implied residential use;
- Residential moorings, used as a person's sole residence;
- Visitor and short stay moorings whilst cruising and occupied by a succession of vessels; and
- Casual Mooring where boats tie up anywhere along the towpath or riverbank (except in prohibited areas).

This project aims to outline the opportunities to consider moorings of all types:

Some of the issues relevant to the Kennet and Avon waterways include provision of new and improved moorings which consider the following in their design and implementation:

- Well managed and clearly defined moorings;
- Are well located to encourage different potential uses with access for tourism, leisure and recreation, sporting and residential uses;
- Support, enhance and restore both the built and natural heritage of the waterways, including ecologically sensitive habitats and species;
- Encourage public transport, passenger boats and transportation of waterbourne freight
- Can provide access, wayfinding and interpretative educational resources to the local community and visitors
- Promote the waterways and diversity of use as a catalyst for urban regeneration and a focus of activity and commerce for emerging riverside projects



RESIDENTIAL MOORINGS

Residential use of riverboats as a main residence has increasingly become a vital aspects to securing multi-function and sustainable use of our waterways.

Residential moorings are a recognised household group and are recognised by local authorities in terms of their planning needs and the requirements for moorings and associated facilities. It should be noted that this category of householders is one of the 'hard to reach groups' and as such it is essential that all proposals consider their communications strategies to ensure an inclusive approach. A residential presence along the waterways, if well managed can provide activity and natural surveillance to the riverside environment.

New and existing residential moorings require accessible boat related services, including electricity, water, sewage, refuse, access and parking and guidance on the requirements for these can be sought from the Canal and River Trust. LINK

To determine whether a residential mooring requires planning permission, refer to AINA's Advisory Document, Residential Use of Waterways.

CREATING THE OPPORTUNITY FOR BUSINESS MOORINGS

The Canal and River Trust aim to increase visitors to the waterways by looking at opportunities to expand watebourne businesses which add richness and diversity to the river environment.

A dedicated Business boating Team assist entrants to boating businesses. New projects to set up businesses on the towpath or other Canal & River Trust land can be made to: customer.services@canalrivertrust.org.uk https://canalrivertrust.org.uk/business-and-trade/boating-business

Business boating uses include:

- Statutory safety boats, maintenance and club boats;
- Boatyards providing services to boaters that include boat building, repairs, servicing, brokerage, fuel sales, sewage and refuse disposal, chandlery, dry dock hire, trade plates;
- Cargo carrying in accordance with freight regulations, this may apply to a roving trader;
- Non-navigational exhibit boats are boats that are owned by or formally on loan or associated with a recognised canal museum, society or visitor attraction.
- Boats operated by charities and community groups, used primarily for community or educational uses;
- Fixed location trading boat, statically moored boat selling goods or services and could be a cafe, restaurant, office, hairdressers, gallery or shop.
- Maintenance workboat, these are for workboats that are used exclusively for qualifying waterway maintenance work.
- Recreational and tourism related boats such as skippered hotel boats, skippered passenger self drive hire, boats, private charters, water taxi/ bus services.

T3. STANDARD MOORING DETAILS & ADVICE (2/2)

DUNDAS | CLAVERTON | BATHAMPTON | BATH | SALTFORD | KEYNSHAM | HANHAM

TBC

TBC

Bath Marina – an example of a development with potential to extend its riverside business activities

Canalside cafe at Bathampton

Riverside mooring at floating pontoons in central Bath

T4. RIVER AVON BAT HABITATS & MITIGATION (1/2)

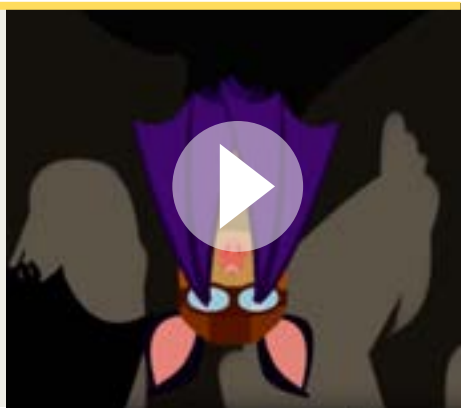
Design to be finalised

DUNDAS | CLAVERTON | BATHAMPTON | BATH | SALTFORD | KEYNSHAM | HANHAM

RIVER AVON BAT PROJECT

PROJECT CONCEPT

During 2016, 7 months of intensive Bat Survey have taken place within the Bath Enterprise Area. This has provided new data to help us understand how bats use the River Avon, and their patterns of behaviour and prevalence. There is an opportunity to use this data to create design guidance to inform new development within the Bath Enterprise Area and to look more strategically at opportunities to enhance their habitat and provide necessary mitigation.



BAT SPECIES ACTIVE IN BATH'S RIVER CORRIDOR

Bath has a unique mix of old buildings with underground cavities, leafy parks, and is connected by the river Avon corridor, promoting easy access to the countryside beyond. There is also a network of mines in the surrounding hills which support their habitat. Surveys carried out by conservaton groups like the Avon Bat Group and records sent in by the public tell us that we have colonies of 12 species of bats in Bath including:

- Common pipistrelle –Our smallest and most common species
- Soprano pipistrelle –Pipistrelle bats roost commonly in houses
- Nathusius' pipistrelle –These bats can migrate long distances in autumn
- Noctule–Our biggest bat –see them flying high over fields
- Leisler's bat –A rare species, similar to the noctule and which roost in trees
- Serotine –Another big bat with a wingspan up to 30cm!
- Daubenton's bat –The 'water bat' which can hunt for insects just above the water's surface
- Naterer's bat –Can scoop insects up with their tail!
- Whiskered –DNA studies have found that this may actually be a group of several species
- Brown long-eared –Its ears are almost as long as its body! Good for sneaking up on moths. Bath is also lucky enough to be home to important colonies of the rare and endangered greater horseshoe bat and lesser horseshoe bat. These bats are only found in SW Britain and depend on cattle-grazed pasture fields with, dung beetles as a staple foraging food source. This species tends to form linear features such as the river corridor.

ISSUES & OPPORTUNITIES

Bath City Enterprise Area is a key zone of riverside redevelopment and change. The river corridor is a key habitat and a linear route navigable by the bats and as such designs and river side intervention should seek to achieve the following:

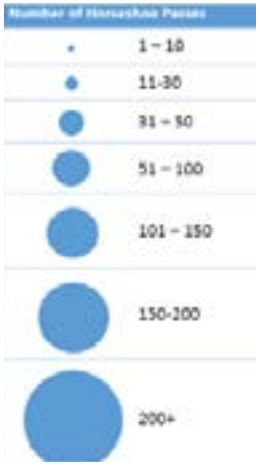
- Early understanding of bat habitats can inform the development process
- Appoint an ecologist to guide the design process early on
- Achieve a bat friendly corridor along the river by avoiding unneccessary light spill and designing dark corridors and connections
- Implement landscape, lighting and design proposals that can assist bats, such as appropriate insect attracting native plant species, long grass areas with flowering species and reduced mowing regimes
- Careful design of lighting with full cut off to avoid unnecessary light splay

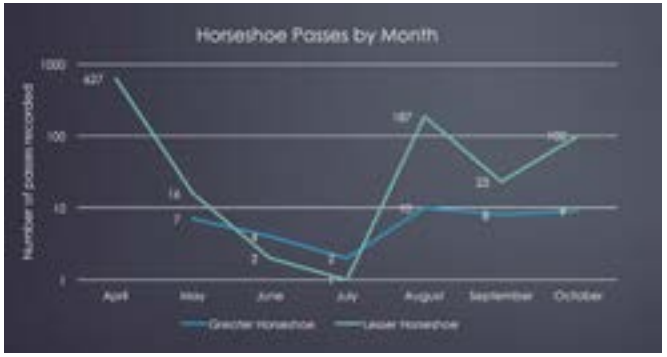
T4. RIVER AVON BATH HABITATS & MITIGATION (2/2)

Design to be finalised

DUNDAS | CLAVERTON | BATHAMPTON | BATH | SALTFORD | KEYNSHAM | HANHAM

There is an opportunity to create Bath Specific design guidance which looks at design options for sensitive transition zones





T6. FRIENDS OF THE RIVER PARK & MAINTENANCE OPPORTUNITIES

DUNDAS · CLAVERTON · BATHAMPTON · BATH · SALTFORD · KEYNSHAM · HANHAM

PROJECT CONCEPT

Along the entire corridor there are many small improvements which can improve access to and enjoyment of the river corridor. It is the intention of B&NES to create a 'Friends of the River Park' Action group which will coordinate the ideas for projects from local interest groups throughout the river and canal corridor.

These projects can be considered where community volunteer groups can provide time to implement proposals, funding will be considered under the following categories:

1. Small scale works that could be tackled as primarily volunteer projects but supported by B&NES with a commitment funding materials and where appropriate plant hire.
2. Scale to moderate scale works that may be undertaken by riparian owners by agreement, potentially with volunteer support but again supported by funding of materials and plant hire costs.
3. Larger scale works undertaken by third party/ developers/contractors, with allocated funding such as Section 106 agreements, the level of funding being beyond that which is currently available.

A Weeds in derelict areas to be cleared

B Dense evergreen growth disrupting access and reducing biodiversity

C Extensive invasive growth reducing access & biodiversity

D Himalayan Balsam invasion reducing biodiversity

E Overgrown hedgerows blocking pathways

F Dense riverside growth preventing access to the river edge

G Dense tree canopies creating dense shade

H Overgrown riverside trees in need of thinning

T6. FRIENDS OF THE RIVER PARK & MAINTENANCE OPPORTUNITIES

DUNDAS | CLAVERTON | BATHAMPTON | BATH | SALTFORD | KEYNSHAM | HANHAM

OBJECTIVES

Projects fall into two categories:

- Implementation Projects which can range in scale
- Maintenance and Management projects which should encompass
  - Long term commitment to maintenance of Implementation projects and
  - Opportunities to manage the river corridor

The following summarises the emerging themes or examples of potential implementation projects along the river corridor:

- Provision for litter and dog bins with an agreed means of emptying these.
- Wayfinding proposals linked to identifying and enhancing connections between the surrounding areas/connecting footpaths and highways with the riverside path
- Increasing activity with watersports, by providing ne slipways so that trail boat and other small craft can be safely launched which will also facilitate sporting events on the river itself which are currently confined to the river downstream of Newbridge.
- Establishing additional sites for moorings and managing existing moorings for visiting boats in locations such as by the Dolphin Public House above Weston Lock and on the "Green" at the eastern end of Locksbrook Road. This would increase boat movements and generate more revenue for local shops;
- Maintenance and upgrading riverside barriers, especially in relation to riverside safety, smaller scale projects could include localised maintenance for simple task, such as repainting railings, an enhancement which can hugely improve the perception of the riverside.

Examples of Maintenance and Management projects could include:

- Surface repairs to the Riverside Path so as to eliminate puddling and provide a safe inclusive route for all users with a means to establish an ongoing maintenance regime.
- Vegetation management to both land and waterside of the Riverside path, particularly overhanging vegetation which constricts the channel and removal of vegetation within constricted bridge locations;
- Some of the typical forms of maintenance are illustrated in the plan opposite as typical maintenance projects and could contribute to enhancing projects which aim to increase and manage biodiversity.
- Aspirations for open space management e.g. the riverside space adjoining the former Herman Miller Factory Building which will soon become part of the Bath University Arts campus (see Project 2D)

Publicity and Corporate Sponsorship

There may be opportunities to involve businesses within the commercial centre of Bath to form a 'River Improvement District', in the same way as Business Improvement Districts have secured improvements within our urban areas throughout the UK. There are sections of the river with businesses that could benefit from a riverside frontage and who could gain from the associated publicity in sponsoring improvements. Ways to commicate the benefits of could include:

- A periodic online Newsletter which could be developed to convey activities on projects and events and include businesses who are active in the river management.
- A volunteer team could coordinate activities and liaise on matters relating to funding and approvals.
- Available volunteer hours from the current team, whilst considering ongoing existing commitments

A series of projects have been identified as a first tranche and the future Friends of the River Park could review these as a first series of initial improvements.

IMAGE

T6. RIVER EVENTS, WALKS & ARTS PROJECTS

DUNDAS — CLAVERTON — BATHAMPTON — BATH — SALTFORD — KEYNSHAM — HANHAM

THE RIVERSIDE POETRY TRAIL

The Riverside Poetry trail is part of the Festival of Nature, an annual event held in Bath to engage people with the natural environment. The trail is a journey along the River Avon with display boards of poems from some of Bath's most respected poets, located in the scenic spots in which they were inspired. Poets include Holly Corfield Carr, Carrie Etter, Andrew F Giles, Tania Hershman and Jack Thacker.

These sites lead from Bath City Centre starting at Victoria Park and heading westwards Towards Saltford and Bristol, with many set along existing walking routes such as the 6 Bridges Walk and the Two Brass Mills Circular Walk.

SWEET WATERS

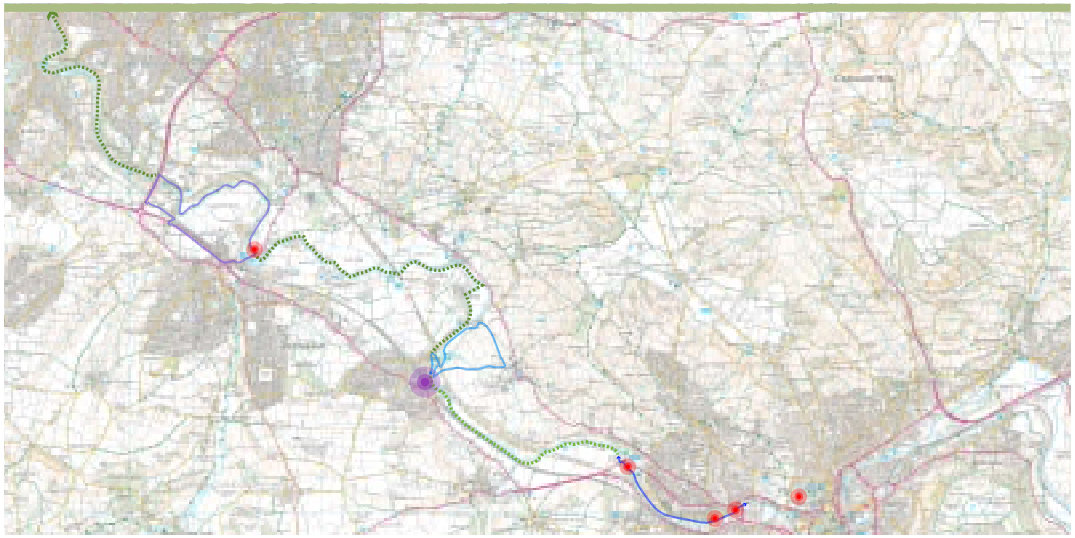
This project is linked with the industrial heritage of the river and its historic connections with the slave trade. The Sweet Waters concept will be a cycle of participatory performative walks that bear witness to the heritage of the river and the surrounding landscape, exploring the history of slave labour. Saltford Brass Mill will act as the hub for the project, where images and sounds will be gathered to give a voice to the river to share its stories.

EVENT ROUTES

There is potential for the River Avon corridor from Bath to Hanham to provide an ideal route for walking and running charity events, with scenic views and abundant services such as car parks and refreshment stops along the course. Whilst most of the river corridor is accessible some areas currently aren't in a suitable condition for use, including between Newbridge and Saltford where the route becomes narrow and rough. Resurfacing of these areas combined with clearer signage and participation of local services could be a key route for local charity events.

- **Pathway Improvements** – consisting of mown grass and mud paths. Resurfacing will improve experience for cyclists & pedestrians

- **Retained Pathways** – Create links between existing walking trails, attracting users to a wider area along the river



WALKING ROUTE MAPS

A series of Riverside Heritage Walks have been produced in collaboration with local groups and businesses, with potential for sponsorship and development. The 3 walks include:

Bath Six Bridges Walk – A popular 18th century walk exploring the heritage and wildlife. The route begins at Newbridge and passing beneath the Midland Railway Bridge, the 'Dolphin Bridge', Weston Footbridge to the remains of Twerton Suspension Bridge and ending at Windsor Bridge. Along the route are opportunities to spot local wildlife such as Kingfishers, Otters and Horseshoe Bats; as well as local pubs, restaurants and parks.

Two Brass Mills Circular Walk – Kelston Round Hill is an iconic landmark that provides the backdrop for the route at Saltford. The walk is rich with the heritage of brass-making by the river Avon, beginning at Saltford Brass Mill through the Shallows and towards Kelston Brass Mill. Along the route are opportunities to spot local wildlife such as Herons, as well as local pubs and restaurants.

River Avon, Road & Rail Walk – A riverside walk rich with history and wildlife, beginning at Hanham pubs to Keynsham Lock. Along the route are opportunities to spot local wildlife such as Cormorants, as well as local pubs and restaurants. Sites include the Cadbury's Somerdale factory, the remains of Londonderry Wharf and Keynsham Abbey.

Bath Six Bridges Walk

Two Brass Mills Circular Walk

River Avon, Road & Rail Walk

T7. HIMALAYAN BALSAM CONTROL

DUNDAS | CLAVERTON | BATHAMPTON | BATH | SALTFORD | KEYNSHAM | HANHAM

PROJECT CONCEPT

This project aims to contain and eradicate the alien invasive Himalayan Balsam plant from the banks of the River Avon thus helping to protect the riverbank from erosion and protecting the natural ecology of this important wildlife corridor.

The species has been found in a number of locations along the river including the Keynsham area, Saltford and close to Warley Weir which is accessible via Dundas Aqueduct.

Introduced to the UK in 1839, Himalayan balsam is now a naturalised plant, found especially on riverbanks and in waste places where it has become a problem weed.

Himalayan balsam tolerates low light levels and also shades out other vegetation, so gradually impoverishing habitats by

killing off other plants. It is sometimes seen in gardens, either uninvited or grown deliberately, but care must be taken to ensure that it does not escape into the wild.

The uncontrolled presence of Himalayan Balsam can lead to river bank erosion as it undermines the stability of riverbanks, especially when it dies down in the winter leaving the riverbanks bare and exposed.

OPPORTUNITY

Throughout the river and canal network Himalayan Balsam is a serious threat to the riverside habitat. It is particularly an issue around Saltford. This would be a joint Environment Agency, Canal & River Trust, Wessex Water and B&NES Council project as stakeholders with interest in the river eco-system.

According to the Government's Non Native Species Secretariat (NNSS) Himalayan Balsam is listed under Schedule 9 of the Wildlife and Countryside Act 1981; as such it is an offence to plant or otherwise allow this species to grow in the wild.

Removal should ideally be before it produces ripened fruit capsules – annually each plant ejects hundreds of seeds a distance of up to 6 or 7 metres.

The project could also be a public education project to explain to the wider general public the dangers of introducing or

allowing to run wild alien invasive plants like Himalayan Balsam (also Japanese Knotweed and Giant Hogweed).

Resources to identify this species are included on Saltford's Environment group website and Himalayan_Balsam ID sheet from NNSS.pdf. http://www.saltfordenvironmentgroup.org.uk/wildlife.html

Criteria for Managing and Controlling Himalayan Balsam include the following:

- Mapping the presence of the species where known along the river corridor
- Raise awareness of the prevalence and threat of deliberately planting or spreading this species through public awareness
- Facilitate removal of this species as an early task in any riverside works or implementation of new infrastructure and nearby development for which the River Avon is a key amenity;
- Consider voluntary assistance with guidance working in groups to treat accessible areas for eradication

PROJECT COSTS AND MANANGEMENT

Cost not known but much of this could involve voluntary assistance. The main cost would be administration in coordinating the delivery and outcomes of the project as well as using existing agency/authority budgets for maintaining the health of the river system.

Revenue could be raised via S106 negotiations for eradication programmes and should form part of management plans, associated with riverside developments.

KEY ID FEATURES

T8. RIVER MOVEMENT NETWORK

DUNDAS | CLAVERTON | BATHAMPTON | BATH | SALTFORD | KEYNSHAM | HANHAM

PROJECT CONCEPT

Surrounding the city of Bath is a wide catchment area of daily commuters and visitors from nearby settlements.

This in turn increases congestion within the city which causes travel disruption as well as negative environmental effects. In addition the centre of Bath is a significant visitor destination, with the river providing a setting and connection to many of the city's attractions.

This project aims to increase the usability of the river for travel purposes for both daily commutes and tourism, reducing road congestion and promoting a healthier lifestyle and engagement with the river. This requires increased transport provision covering a wider area with convenient and direct links between key sites around Bath and the city centre.

OBJECTIVES

- Encourage greater use of the river corridor: Improved access and facilities both on and along the river
- Improve links between Bath Centre and surrounding settlements
- Reduce road congestion within the city centre: through promoting alternative transport options

Commercial River Boats

Commercial river boats operating seasonally or all year could provide some opportunities for alternatives to the current public transport network. There may be potential to incorporate new leisure boat stops in key locations, with a regular ferry or localised shuttle boats

Commerical tourist services could offer trips from the centre of Bath to surrounding settlements and attractions.

There is potential for a season ticket system for frequent users, as well as alternative options for tourists.

Benefits include:

- Reduced car use – more environmentally friendly
- Encourage more visitors to areas around Bath e.g Saltford Brass Mill
- Generate revenue and creates employment opportunities The system has been successfully implemented in many cities, including Brisbane which has 25 terminals and a regular 15 minute service.

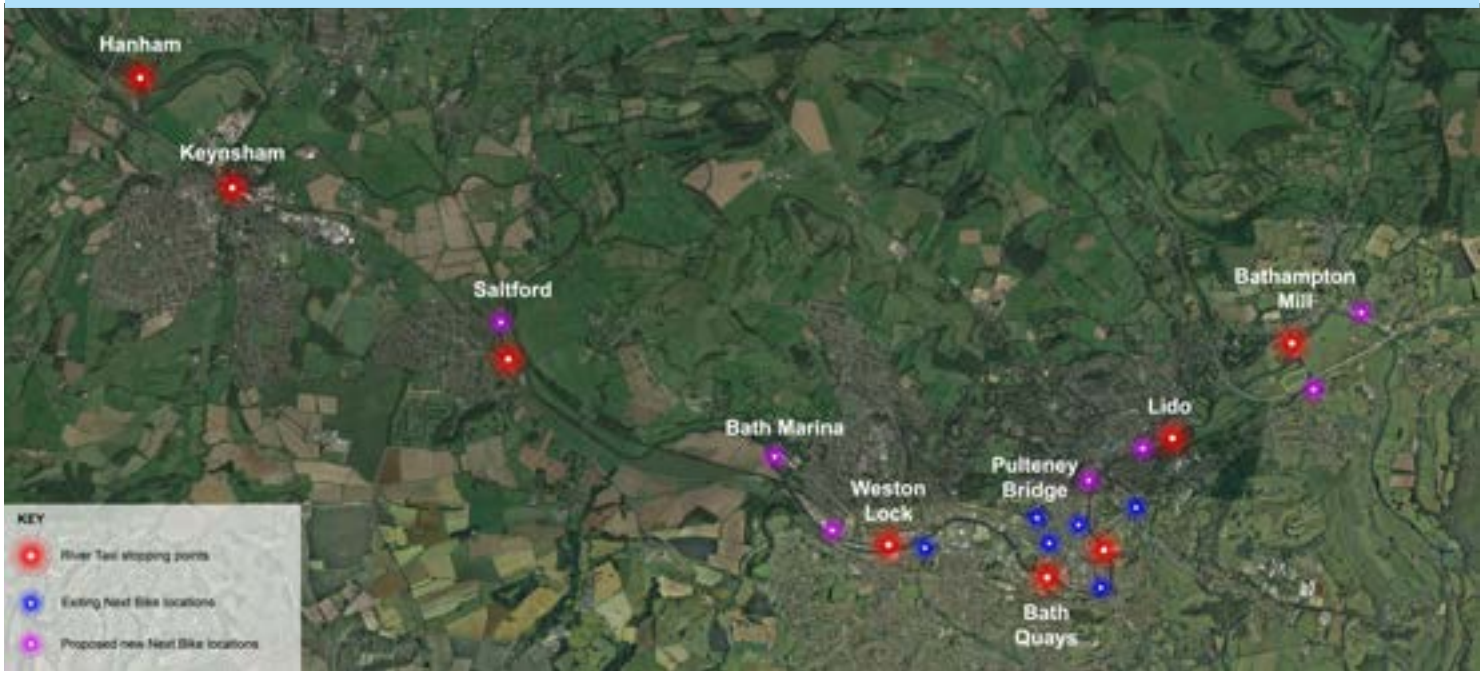
Next Bike

A bike rental system implemented in Bath which has been extended in places.

At present bike terminals are situated throughout Bath city centre, however there is potential for more locations along the river corridor including nearby riverside settlements for enhanced links and convenient travel for daily users and visitors.

Benefits include:

- Increases engagement with the river corridor
- Promotes healthy lifestyle and wellbeing
- Encourages more visitors to areas around Bath e.g Saltford Brass Mill and Bathampton
- Generate revenue and creates employment opportunities



T9. MOORING PROVISION (1/2)

DUNDAS | CLAVERTON | BATHAMPTON | BATH | SALTFORD | KEYNSHAM | HANHAM

PROJECT CONCEPT

The project partners have undertaken a review of existing moorings and have identified the need to increase the mooring opportunities. There is a ways this can be achieved.

CURRENT MOORING OPERATIONS ISSUES AND OPPORTUNITIES

The issues surrounding the lack of moorings is very much to do with being able to secure moorings for the next leg of a journey and potentially finding certain areas near attractions are very popular and there is little opportunity to secure a place to berth.

During winter, there needs to be a secure place to moor in times of high water levels, this is especially important for commercial craft which need to be moved at short notice, prior to increased river flows.

Riverside and channel management could increase the opportunity to create more defined areas for mooring use and could be addressed as part of management projects for the Water Space Study. There are a number of design considerations relating to locating new moorings:

- The distance between moorings
- Enforcement of mooring durations
- Vehicular access at intervals along the water course.

PROJECT OBJECTIVES

This project aims to provide new moorings and rationalise existing moorings along stretches of rivers adjoining emerging riverside developments, this is the approach which has been achieved successfully at Bath Western Riverside development delivered by Crest Nicholson.

Further potential for moorings are set out within emerging or future projects detailed in the subsequent sections of this report there are additional moorings proposed at:

- Bath Quays;
- Pulteney Weir and Moorings
- Bath Marina
- Mead Lane
- Lidl Footbridge/Bath University proposed Arts Campus (at the former Herman Miller site); and
- Riverside pocket park projects, the intention will be to create activity and moorings will be explored where appropriate.

MANAGEMENT OF MOORINGS

B&NES are presently reviewing the location and distribution of temporary moorings and durations at present and will advertise changes to locations. Additionally B&NEs are seeking to increase boater moorings and will be seeking add moorings at known project areas, some of which are noted above, sites which are anticipated as likely to be coming forward through the planning process.

With increased mooring numbers generating revenue for 'day to day management' of occupancy this will increase the turnover of moorings to allow boaters to be more mobile and to plan journeys more effectively.

POTENTIAL NEW RIVERSIDE MOORINGS

Potential new mooring locations could be created at:

1 Rationalise moorings in the vicinity of the proposed Somerdale Bridge location, considering other requirements such as bank stabilisation;

2 Wessex Water, future access, options include a potential new bridge crossing, could provide potential to review riverside moorings;

3 Mead Lane, planned review of mooring locations and durations combined with new facilities;

4 Bath Marina are seeking to review and increase their riverside moorings

5 The redevelopment at the former Herman Miller building as part of Bath University Arts Campus;

6 Locations associated with improvements to the riverside pocket parks;

7 Bath Quays redevelopment which will be delivering new and reviewed mooring arrangements, including an accessible mooring; and

8 Pulteney Moorings for which there is S106 funding set aside for improvements.

ON THE RIVER

Riverside moorings are more restricted especially within the urban section of the waterway. There are opportunities to increase the mooring provision at a number of sites which are illustrated on the plan opposite. For some developments, noted above, such as Bath Marina, there is potential to rationalise and increase mooring numbers whilst creating improved access arrangements that enhance the appearance of the waterside edge and riverside aquatic and terrestrial ecology.

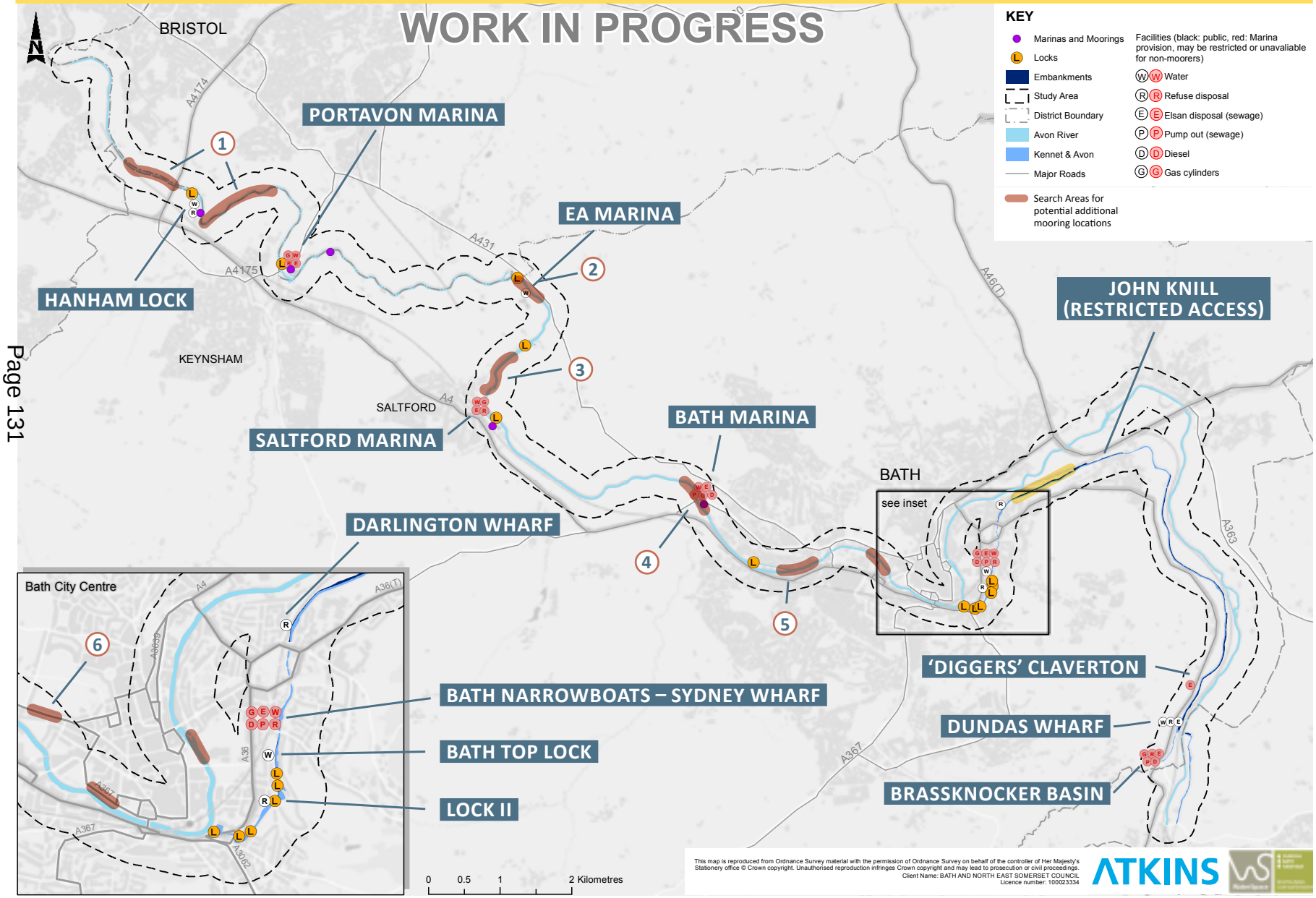
ON THE CANAL

Along the Kennet and Avon Canal waterside edge the period of mooring is up to 14 days, assuming it's on the towpath side. In some places mooring becomes impractical due to the ease of passing. Along the canal there are no restrictions in terms of mooring.

In places where mooring is not practical, the absence of canal boats does offer a different character to the canalside and a closer relationship to the water for using the towpath.

T9. MOORING PROVISION (2/2)

DUNDAS | CLAVERTON | BATHAMPTON | BATH | SALTFORD | KEYNSHAM | HANHAM



T10. BOATER FACILITIES (1/2)

DUNDAS | CLAVERTON | BATHAMPTON | BATH | SALTFORD | KEYNSHAM | HANHAM

ADDITIONAL BOATER FACILITIES

Existing facilities for boaters include services and access such as:

- Power and fuel refilling;
- Water points; and
- Waste disposal.

The Boaters Survey 2016 ran for six weeks, from Tuesday 24th May to Monday 4th July 2016. It looked at how far boaters travel, the type and size of crafts used, and the range of facilities they need whilst on the canal and river in the B&NES area. Results were made available to the Bath Water Space project to enable facilities such as water points, sewage disposal and mooring areas to be planned and provided. The boater survey included feedback for potential improvements as

- More/better moorings;
- Towpath improvement;
- More elsan/rubbish/water/shower facilities;
- Less towpath you can't moor to (much is overgrown/eroded);
- More dredging/maintenance;
- Better understanding between different users;
- Fewer boats/hire boats/"booze boats";
- "looking after heritage";
- Enforcement of moorings to comply with law/basic rights of boaters to be respected/ established; and
- Disabled/accessible moorings

At present the provision is at certain locations, and these are historic and were installed as part of former uses or are under different ownerships. Locations do not necessarily relate to stretches of river with highest demand. Many of the facilities are located within Marinas or in 'hard to reach' locations for the non-marina users, as the individual site may not rely upon a riverside location eg at marinas. Therefore, many boaters do experience awkward transportation issues in relation to dealing with waste or topping up water needs, which can be heavy or require driving to empty tanks or waste bins.

Often the facilities are not easily used by the residential boater and commercial boater whose needs are generally all year round.

Additional Provision

The study examines the river/canal corridors to define a search area for new facilities has been undertaken at a high level and considers the following issues and opportunities:

- Opportunities to combine new facilities with new development via S106 provisions for riverside sites;
- Creating new facilities on land in council ownership;
- Look at ways in which infrastructure projects could provide access to riverside sites to create new locations for facilities, such as new bridging points.
- Services need to be 'Winter' proof to avoid taps being closed in freezing weather conditions;
- Service provision needs to be monitored and maintained to ensure it is in working order given the travel requirements of potential user and the impact of non-serviceable equipment; and
- Numbers of taps and outfalls needs to be matched with demand and may not necessarily be determined wholly by distance between facilities;

Ideally locations for riverside service provision need to be at appropriate cruising distances apart, allowing the boaters to plan a journey and allow time to service their boats.

For sections of the canal there may be opportunity to provide non-towpath side locations on the canal as well as river locations. These may need to combine vehicle accesses to facilitate servicing. More sustainable solutions could include solar power and either sceptic tank or composting sewerage, however mains water will rely upon conventional connections.

From a review of the Boater Survey, 2016, and based in the lack of facilities, an initial target for provision will be set by B&NES and CRT and reviewed once completed. Predicting demand is not precise and this target will seek to provide:

Phase 1 – Ten water points and five sewage disposal points as a minimum at five new locations (with 'elsan' disposal at each). It may be these are combined with the potential locations set out in Theme 11 Additional Moorings but may be more readily facilitated to coincide with service provision as part of nearby infrastructural projects. Co-locating the servicing with mooring may need to be carefully considered to ensure it does not impact on nearby residents or boaters and also in terms of the spatial/navigational requirements and general activity that would be attracted to service hubs at busier times. For those known project areas the designs for new facilities are being developed to an outline stage and one such example is Mead Lane.

Phase 2 – Explore potential to located additional short stay moorings with electricity points.

Search Areas – These have been identified and include the following stretches of river and canal:

1 – Keynsham to Hanham (near the proposed new footbridge at Somerdale);

2 – Swineford to Keynsham;

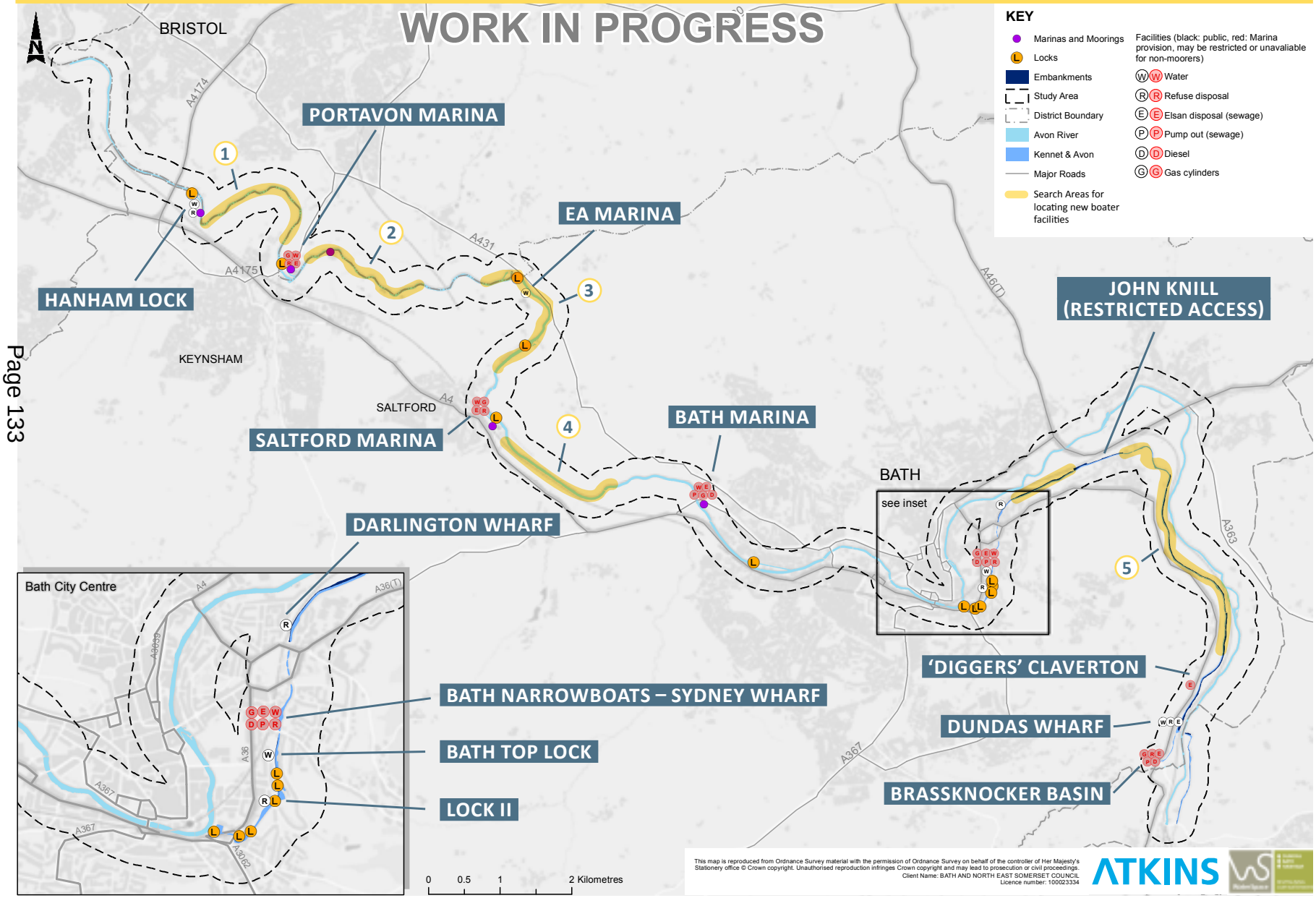
3 – Saltford to Swineford (near Wessex Water Site); and

4 – Weston to Kelton locks (located towards Saltford).

5 – Bathampton to Dundas Wharf (canal)

T10. BOATER FACILITIES (2/2)

DUNDAS | CLAVERTON | BATHAMPTON | BATH | SALTFORD | KEYNSHAM | HANHAM



T12. FLOATING MARKETS

DUNDAS | CLAVERTON | BATHAMPTON | BATH | SALTFORD | KEYNSHAM | HANHAM

PROJECT CONCEPT

A floating market offers the potential for goods and services to be sold from riverboats/riverside mooring areas. Services could include souvenir/ arts based businesses combined with cafes, restaurants or food produce. This type of market was commonplace in the past when water transport played a more important role, but now mainly serves as tourist attraction within cities with a major river. There is scope to create an events based market with associated Christmas Fares in places where space allows, this could be combined with activities in nearby parks perhaps providing a source of income, for example at Christmas in the same way as the riverside Kew Gardens has an annual event, a Christmas Trail.

With their appeal to tourists and local residents, a floating market in the right location, with good footfall and riverside connectivity can increase visitors to the waterways, and encourage the use of the river as a destination bringing both valuable activity and generating revenue.

Bath Weston Riverside
A newly renovated waterside development with a high quality public realm which could accommodate a floating market and the associated activity due the the presence of moorings and adjoining public open space.

DESIGN CONSIDERATIONS

- Riverside markets need adequate vehicular service access to provide for emergencies, deliveries and waste removal;
- Power and water points will be essential to some operators, especially to avoid reliance upon wood burning stoves;
- Consider potential to provide seasonal lighting or banners on structures;
- Riverside Safety and Access will be a consideration if onboard access to riverside boats is required
- Mooring arrangements need to agreed and managed in similar fashion to street markets;
- Consider requirements for on-site management or temporary infrastructure for events.

Brass Mill
An easily-accessible river edge within a picturesque setting. A potential location for locals in the village as well as visitors to the Saltford Brass Mill and the Shallows. Could include include a waterside restaurant/cafe.

Bath Spa Art University Campus
An accessible river edge near the centre of Bath. A potential location to provide students at the university arts campus with an accessible riverside space, with facilities such as a cafe. A riverside market could be an opportunity to display graduating art exhibitions or sell artwork.

Bath Quays
An accessible river edge in the centre of Bath, within a historic industrial setting. A potential hotspot for attracting tourists as well as locals visiting the city centre. Potential for a wide variety of services. Wayfinding from the station could include Bath Quays as a destination.

Parade Gardens
A highly picturesque and visible area within the centre of Bath. Proximity to nearby tourist attractions and the train station makes it a potential hotspot for a variety of floating market stalls which could be highlighted as part of the city's wayfinding.

PROJECTS

1. DUNDAS PUBLIC REALM PROJECT

DUNDAS — CLAVERTON — BATHAMPTON — BATH — SALTFORD — KEYNSHAM — HANHAM

PROJECT CONCEPT

The initial proposals centred on the historic Toll House and Crane have been developed by K&A Canal Trust. These proposals include the rationalisation of drainage to reduce surface run-off and erosion of pathways. Within the wider Dundas Wharf area is opportunity to repair stonework, make adjustments & updates to the interpretative material and boards around the site to convey the significance of the historic structure and connections which persist today.

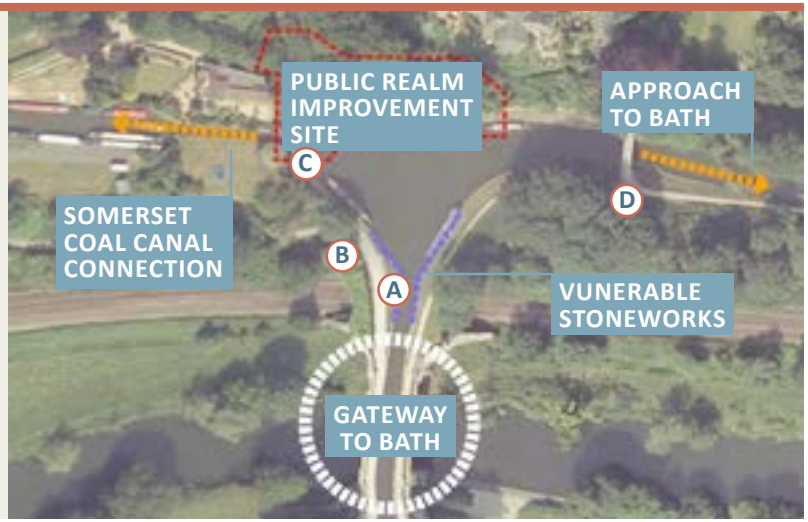
OVERALL ISSUES & OPPORTUNITIES

A Structural Damage
Vunerable stonework/damage to canal edge

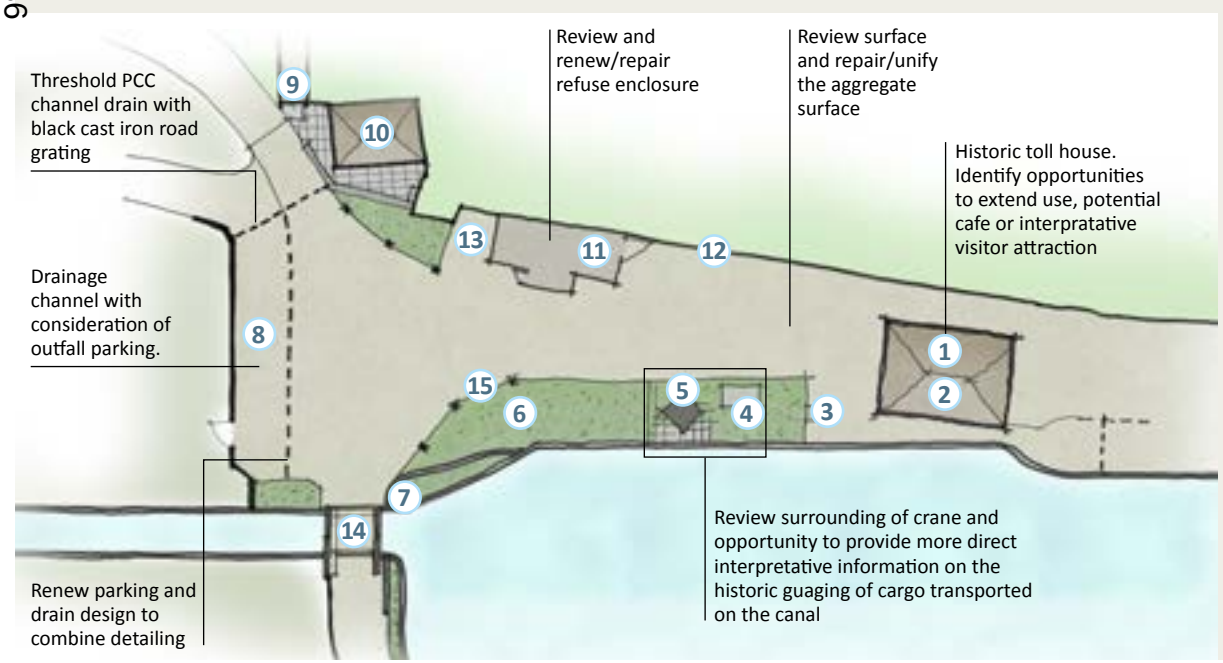
C Disconnection
Reconnection to Somerset Coal Canal

B Renewal
Update site furniture, provide additional seating

D Approach to Bath
Rationalise signage onto a single post and design style where applicable



OUTLINE PROPOSALS



KEY TO PROPOSALS & SITE FEATURES

1. Wharf Building
2. Elsan Disposal Facility
3. Water point
4. Commemorative plaque/plinth
5. Historic crane
6. Grassed area between posts & wharf edge
7. Low level grass areas
8. Parking bays for Dundas lock cottage
9. Public Right of Way to A36
10. Historic Georgian Toll house
11. Existing refuse enclosure
12. Wall supporting bank to adjoining property
13. Parking space let to boater
14. Lift bridge
15. New drainage channel

FUNDING & DELIVERY

TBC

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T13. SOMERSETSHIRE COAL CANAL

DUNDAS — CLAVERTON — BATHAMPTON — BATH — SALTFORD — KEYNSHAM — HANHAM

The Somersetshire Coal Canal society estimate the total cost of restoration of the northern branch (entire canal length) would be £60. However, the canal can be restored in sections as and when funding is available.

PROJECT CONCEPT

Restoration of the Northern Branch of the Somersetshire Coal Canal from Dundas to Paulton in an historically and environmentally sensitive way. Newly created navigation and moorings along the restored canal would provide leisure, recreation, business and mooring opportunities. It could also provide a green infrastructure route. This project relates to a ten-mile former canal corridor.

Waterways restoration of the Southern Branch to Radstock is not proposed, however, a heritage trail could be developed on this arm to Radstock.

In the short to medium term, there are a series of projects to restore historic features and provide opportunities for recreation pending full navigation.

OVERALL ISSUES & OPPORTUNITIES

A restored Somersetshire Coal Canal would give walking and boating access to the heart of the historic Somerset coalfield, along a green corridor. Although it runs entirely through countryside, it passes near many villages.

Other examples of recently-restored canals demonstrate that these projects invariably unlock considerable economic benefits to be had from waterway restoration. The centre of Stroud has recently been completely regenerated by restoration of a short length of the Stroudwater Canal, and Stroud District Council, in partnership with the Heritage Lottery Fund, is currently financing restoration of further major sections of that canal in the area.

Similar projects have been facilitated by the appointment of Project Officers and associated funding bids.

The restoration of the 750m section at Monkton Combe between the A36 and Mill is adjacent to the section which is already in water at Brassknocker Basin, is suggested as the initial priority area.

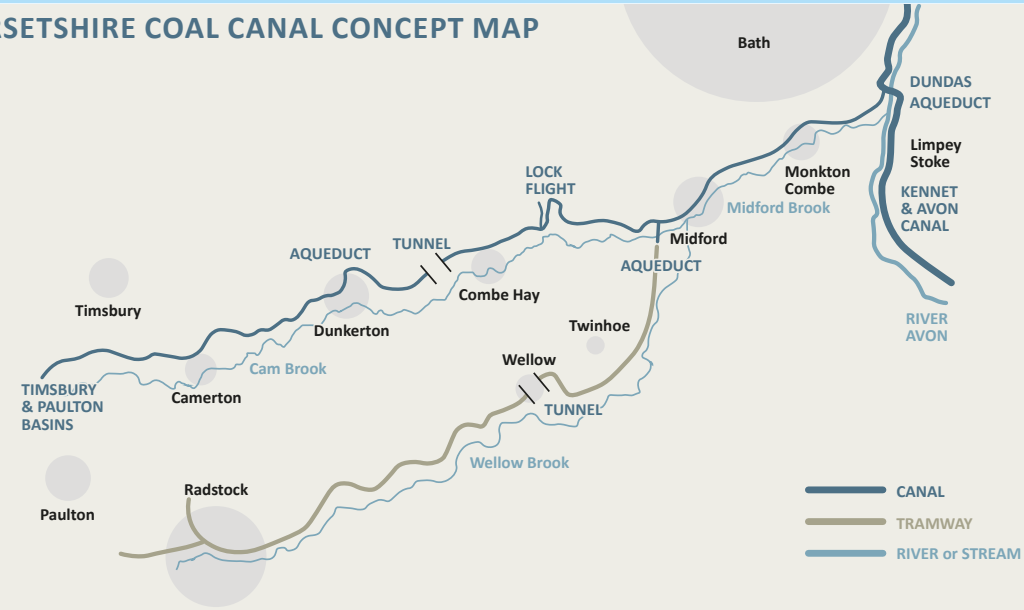
The Somersetshire Coal Canal is currently in private ownership, divided between approximately 80 different landowners. Monkton Combe School is the major landowner of the section at Monkton Combe.

The Somersetshire Coal Canal Society estimate the total cost of restoration of the entire length of the northern branch to be £60 million. However, the Canal can be restored in sections as and when the funding is available. The Monkton Combe section is estimated to cost £2 million to restore, restoration is more expensive than many other stretches of open canal as it poses specific engineering challenges.

TITLE




SOMERSETSHIRE COAL CANAL CONCEPT MAP



3. KENSINGTON MEADOWS

PROJECT CONCEPT

Kensington Meadows is situated in the outer suburbs of eastern Bath and adjoins the River Avon. It is comprised of a park bordered by a residential housing estates. The area alongside the river is designated as a Local Nature Reserve including areas of Fen and rare wet woodland habitats, with the upper meadow area managed as a local amenity space.

The park has limited access points to the space from the surrounding area. At present there is only one formal point of access on the eastern side, with a less noticeable entrance hidden below the Morrisons car park on the western side. The surrounding residential development that meets up the northern edge of the river the park has no access. Furthermore there is minimal maintenance of the vegetation beside the river which discourages access to the water edge.

There is scope to extend access to the site along the river edge and from the suburban area, integrating the park with its surroundings and the linear park whilst retaining and enhancing the park's biodiversity with careful management.

ISSUES & OPPORTUNITIES

(A) Limited/no access from adjacent residential areas – opportunity for greater permeability by extending access to the river

(B) Extensive areas of overgrown riverside vegetation limiting access – opportunity for managing to enhance biodiversity potential

(C) Continuity of riverside walkway not possible due to private residential riverside plots to the west – opportunity to extend river walkway and connect to the meadows with city centre

(D) Lido site disconnected from park and surroundings – opportunity for direct link/ access from the park

5. CANAL TOWPATH & CONNECTIVITY

DUNDAS — CLAVERTON — BATHAMPTON — **BATH** — SALTFORD — KEYNSHAM — HANHAM

PROJECT CONCEPT

The canal towpath leading into Bath City Centre is a picturesque and varied corridor, leading users through a series of landmark bridges, distinctive listed waterside frontages, and along banks with characterful residential gardens that back onto the canal.

There is opportunity to enhance and transform this scenic route with more defined links and wayfinding between the eastern suburbs of bath and the city centre, for both pedestrians and cyclists.

DESIGN OBJECTIVES

- Improved Access and Wayfinding: Clearer signage and wayfinding along the route, with better connections to surrounding areas and adjacent. There is potential to extend the City Information System and design mapping to guide visitors to attractions along the riverside. Further information here.
- Upgrading of river pathways: Enhance user experience and safety, by resurfacing, repairing and widening the pathway where appropriate. Continue the pathway with consistent material surface finishes and coordinated signage.

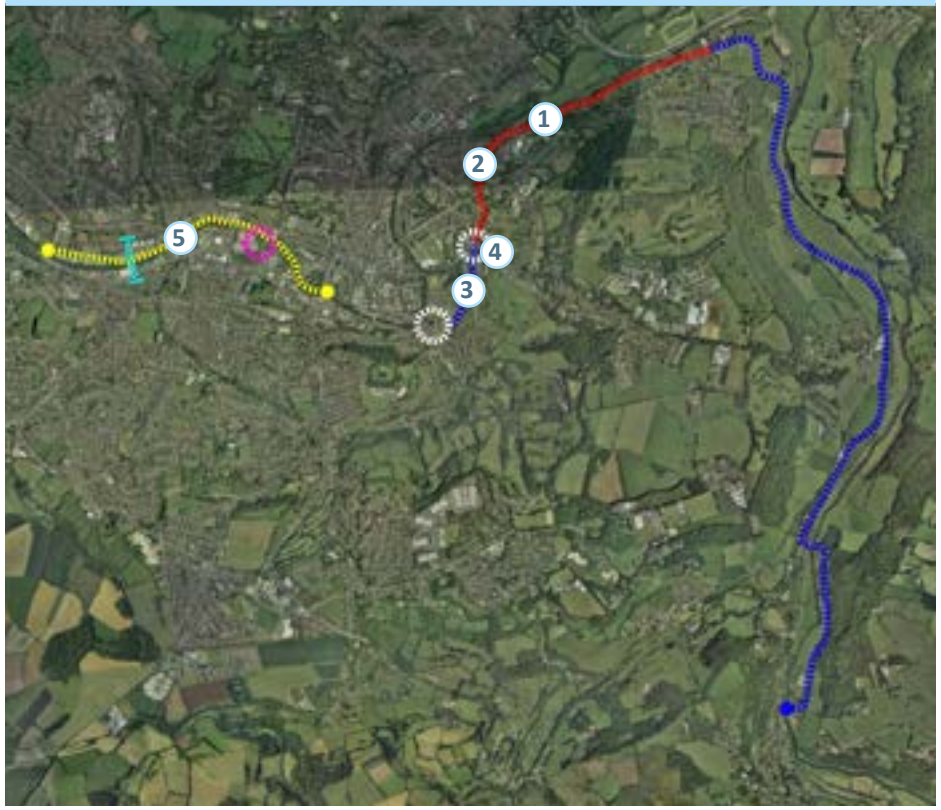
1 Unclear direction/ way-finding and connectivity with nearby attractions (Sydney Garden)

3 Degrading paving surfaces, potential trip hazard for pedestrians and cyclists

2 Inadequate bridge access – need for improved accessibility from riverside path

4 Disruption of pathway at bridge crossing – connection/direction unclear to lower level

5 Narrow pathways create conflict with passing pedestrians and cyclists



Repair/resurfacing of pathway along the southern portion – continuing materiality of east canal route

River path widening and upgrade surfacing appropriate to the location

Clear signage posts directing users to the city centre and areas beside the river and canal towpaths.

Upgrade footbridge with more accessible connections to the riverside

Re-grading of historic ramp to Victoria Bridge to achieve a more accessible gradient

Improved links with clear signage at bridge crossing directing to river pathway continuation

6. PULTENEY BRIDGE & PARADE GARDENS (1/4)

PROJECT CONCEPT

This project aims to provide a strategy for a series of related project areas which adjoin the riverside between Pulteney Bridge and the connecting riverside walkway leading south towards the station and include the North Parade Bridge and rail bridge.

The proposals relate to the following:

Design Objectives

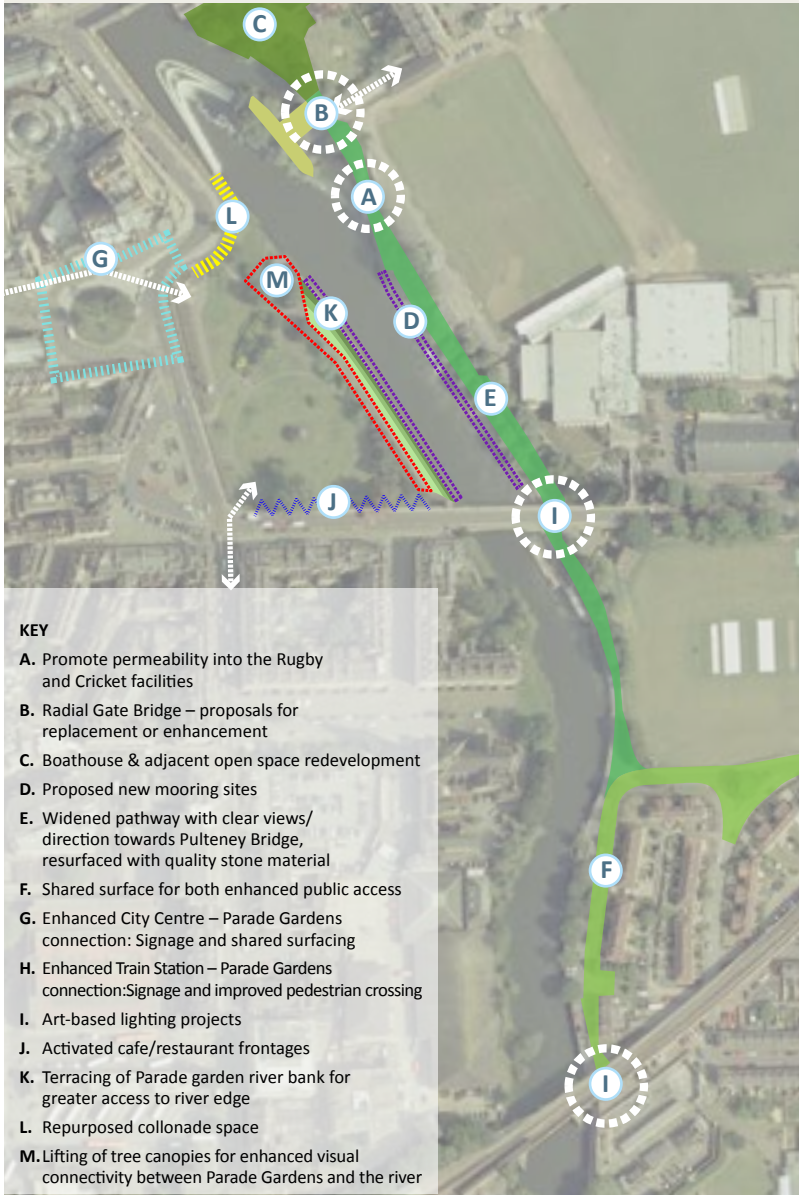
The scope for a series of related project areas includes the following:

- Parade Gardens, its relationship with the riverside, Pulteney Weir and its opportunities for access and new carefully considered development opportunities to enhance its offer, notably there are proposals for a Museum and Restaurant within the colonnades which overlook the Pulteney Bridge and Weir;
- Radial Gate and its opportunities for enhancement in the shorter and longer term exploring visual benefits to riverside view corridors and the public areas surrounding this structure;
- Opportunities to create and renovate riverside moorings, potentially to attract a riverside commercial use such as a floating market. It may be possible to create a stepped riverside edge to create a closer visual association with the waterside;
- Define public realm design projects including the Pulteney Weir and riverside area, developing proposals which have been developed as part of Bath's public realm framework (Section 7, Testing the public realm framework, Guidance);
- Bespoke lighting installations within archways connecting the riverside route and potentially extending this to include low level tree lighting, noting the need to create a bat friendly corridor;
- Creation of a rationalised walkway, employing devices such as shared use to achieve continuity along this section and permeability into the recreational zone to the east, with the rugby and cricket grounds;






OUTLINE PROPOSALS



KEY

- **A.** Promote permeability into the Rugby and Cricket facilities
- **B.** Radial Gate Bridge – proposals for replacement or enhancement
- **C.** Boathouse & adjacent open space redevelopment
- **D.** Proposed new mooring sites
- **E.** Widened pathway with clear views/ direction towards Pulteney Bridge, resurfaced with quality stone material
- **F.** Shared surface for both enhanced public access
- **G.** Enhanced City Centre – Parade Gardens connection: Signage and shared surfacing
- **H.** Enhanced Train Station – Parade Gardens connection:Signage and improved pedestrian crossing
- **I.** Art-based lighting projects
- **J.** Activated cafe/restaurant frontages
- **K.** Terracing of Parade garden river bank for greater access to river edge
- **L.** Repurposed collonade space
- **M.** Lifting of tree canopies for enhanced visual connectivity between Parade Gardens and the river

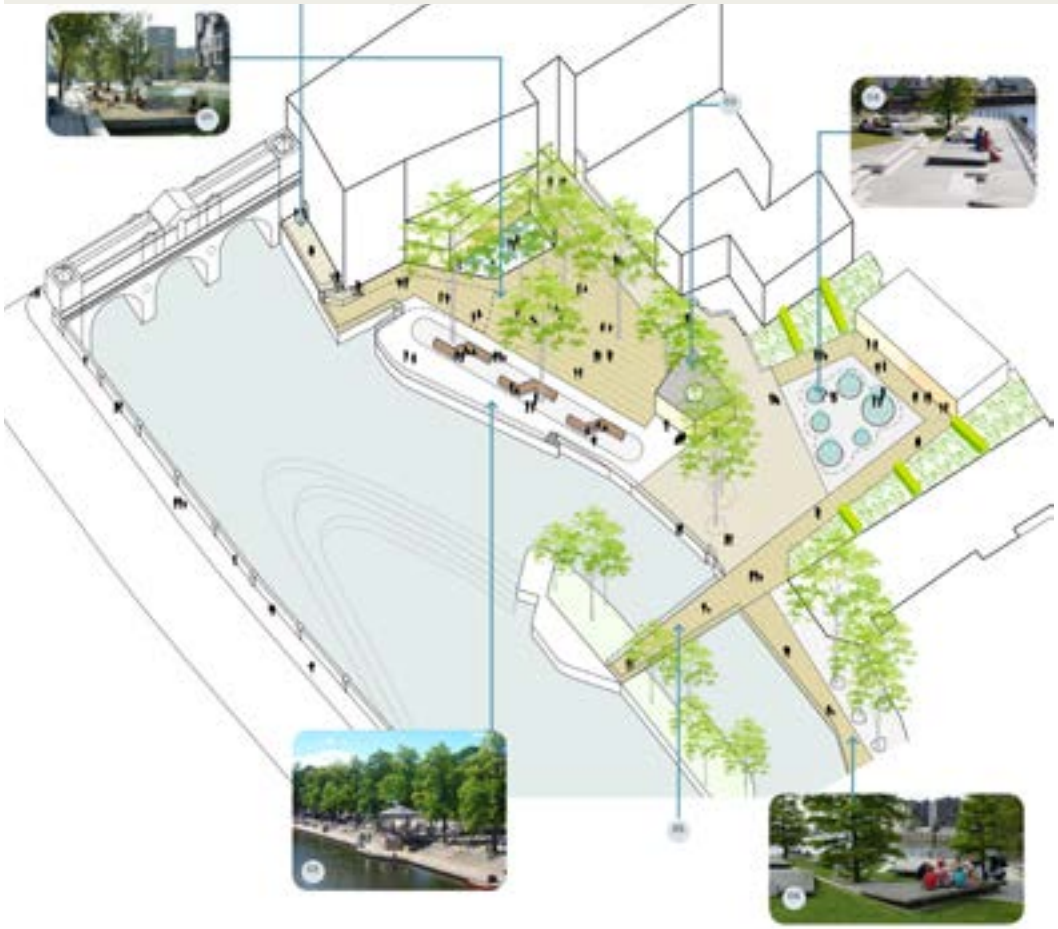
6. PULTENEY BRIDGE & PARADE GARDENS (2/4)

The Radial Gate was constructed in 1972 to control river levels in times of flood and to maintain upstream levels in summer. The structure remains in operation and this project aims to look at the visual benefits in reducing the prominence of the structure or removing it, assuming its function is met by other means.

Views to Pulteney Bridge are obscured by tree canopies along the accessible eastern or 'left' bank. The Radial Weir is also currently under review and is a 1970s functional structure with a redundant viewing deck above. The Radial gate is quite a discordant element within the river view corridor and detracts from the Pulteney Bridge public realm area and weir setting. The area adjacent to the Weir is a pleasant but underutilised riverside public realm area.

Other related projects which could provide better links to the Parade Garden includes the Orange Grove, a proposal for a new public square which connect through to Bath Abbey and the Pump Rooms.

OUTLINE PROPOSALS



6. PULTENEY BRIDGE & PARADE GARDENS (3/4)

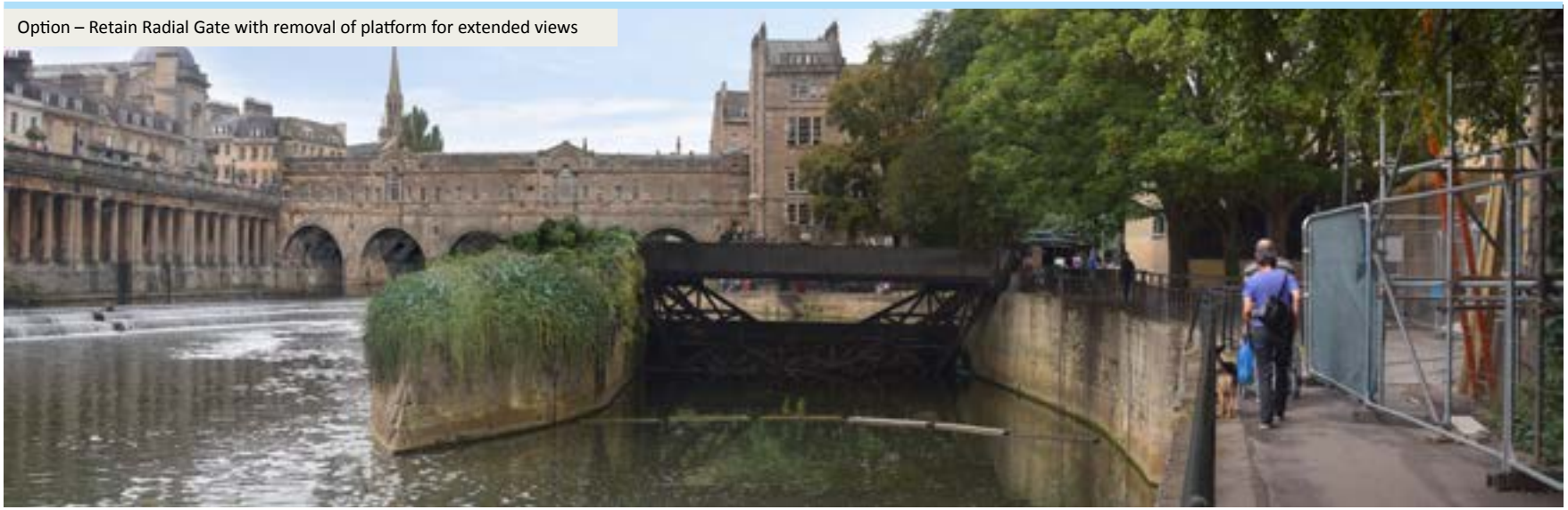
The Radial Gate currently obstructs views from the south bank pathway towards Pulteney Weir. When constructed in the 1970s the gate intended to act as a flood defence, with plans for a restaurant or cafe on the above platform. This never materialised and the platform remains.

Option

Assessments of the gate structure suggest it has 70+ years of usability, meaning there is potential to retain the gate but modify the platform to recapture views through to the park space overlooking Pulteney Weir. This would be a more cost-effective option with similar effects, but may limit the full potential for the space.

Existing View

Option – Retain Radial Gate with removal of platform for extended views

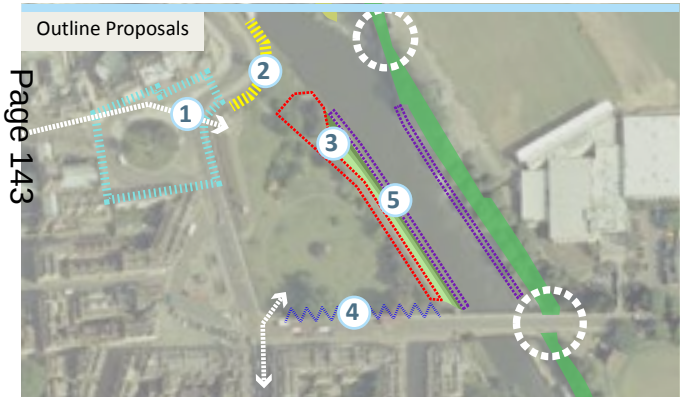


6. PULTENEY BRIDGE & PARADE GARDENS (4/4)

Parade Gardens is a highly managed park which has a very high end design for all aspects of its planting In 2013, Bath was a Gold award winner in the RHS Britain in Bloom competition with Parade Gardens also winning the RHS Britain in Bloom Edible Britain award.

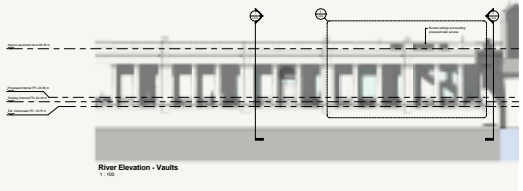
The riverside space is set low and access is via steps and ramps to centrally located pleasure grounds with traditional and more recent planting innovations. The garden raise revenue with an entrance fee and through a café located within the gardens and as a venue, with the band stand, as an attraction for a programme of summer events. The location is close to the Pulteney Weir and the grounds have views of the riverside albeit in places access to the waterside is limited and there is scope to increase the visibility between river and gardens. A key feature includes the undercroft spaces which bound the grounds and the potential to explore the colonnades, adjacent to the spectacular weir, which support The Grand Parade above and visually connect to the grandeur of the Empire Hotel building, now redeveloped as a number of uses.

The riverside public walkway is continuous but in places lacks width or definition as a public route. With the Bath Pattern book the public realm is defined as in need of renewal. There are specific location along this route could be combined with nearby residential roads such as Spring Garden Road.



1 Improve linkage of city centre and train station with Parade Gardens – Signage and shared surfacing for enhanced pedestrian experience

2 Repurposed collonade spaces – with restaurants, cafes and museums which interact with the adjacent green space. Provision of a staircase, lighting installations and resurfacing



2 Collonades currently unoccupied with signs of antisocial activities – potential space for cafes, restaurants, museum and interaction with the adjacent park

3 River bank currently inaccessible, combined with dense tree canopies results in a disconnection of the park from the river

3 Terracing of river bank – for easier access to the river edge and provide a scenic spot for leisure Lifting and thinning of tree canopies along the river edge for improved visibility from the park towards the river

4 Restaurants with active frontages within the park space, providing richer functionality for the open space with a more lively setting

5 Provision of new moorings – potential for a mix of residential moorings as well as floating markets. £80k capital grant subject to final approval. Provision of handrails, mooring rings & provision of power and water

5 Back of restaurants on the southern border of Parade Gardens do not relate to the park space – potential for outdoor seating and inward facing active frontages

5 Currently there is no function for the river along Parade Gardens – potential for private and commercial moorings

6B. BATH QUAYS: NORTH, SOUTH & BRIDGE (1/2)

PROJECT CONCEPT

Bath Quays comprises the old Newark works site and surrounding areas south of the river and the current location of Avon St car park and coach park North of the river. The two riverside sites will be linked by the new Bath Quays Bridge and represent the largest development opportunity within the city since the Southgate shopping centre and the largest office scheme ever within Bath.

On the North side of the river, shops and restaurants facing the Avon will make the most of the location and create a busy and appealing streetscene. Bath Quays North will also provide up to 100 new homes and new office space.

6B. BATH QUAYS: NORTH, SOUTH & BRIDGE (2/2)

PROJECT CONCEPT

Bath Quays Bridge will provide a new crossing point over the River Avon for pedestrians and cyclists; an alternative crossing point to Midland Bridge and Churchill Bridge to the west and east respectively. Ultimately the bridge will connect the proposed development sites of Bath Quays North and South and enhance the improved connectivity between the riverside and Bath city centre.

The bridge design was selected via an international design competition, commissioned by B&NES Council in 2015. 49 design teams were reduced to a shortlist of six by a panel of Council representatives and respected experts in the fields of bridge engineering and architecture.Paris based engineering and architectural consultancy Marc Mimram's 'Between History and Modernity' as the winning design. The winning design was also the public's favourite.

7. UPGRADED MOORINGS AT BATH QUAYS WATERSIDE

PROJECT CONCEPT

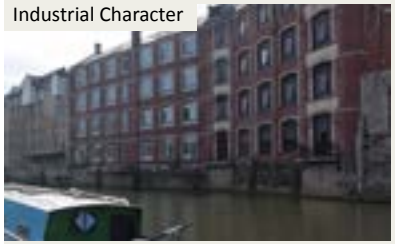
The public realm proposals associated with the Bath Quays development. These extend between Green Park and the A367. The Plan includes public realm proposals including:

- A series of riverside walkways with ramp and steps which overcome the changes in level;
- Demountable railings to allow for Boat Access and mooring rings;
- A new riverside railing with boat access gates along the entire riverside stretch
- A variety of carefully designed landscape typologies which create a series of linear landscape experiences along the riverside edge;

OUTLINE PLAN

HISTORIC SITE CONDITIONS

Industrial Character



Riverboat Moorings

Narrow Footway

Changes in Level & Access Issues

PROPOSALS & IDEAS

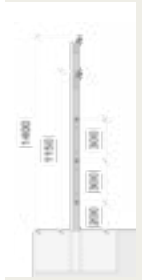
Consider the potential to create seasonal events space as part of the riverside experience. A removable section of the site fence may be retrofitted to facilitate the holding of these events.

Potential 320m stretch of moorings – Create Waterside Business opportunities for holiday hire, river taxi services, roving and fixed boat businesses, floating seasonal markets and cafes for year-round attractions. This will require the provision of power generators and water facilities which may be retrofitted

Detailing can combine uses for example creating steps with a combined seating function, Littlehampton Riverside, West Sussex

Consider the potential to descend to the water's edge with steps for an alternative experience, this example is located at Kingston Riverside, London.

RAILING DETAILS



Railing Type 1
1400mm railing with posts at 2200mm centres. Vertical reinforcement made from 15mm steel bar, welded to tubes. Posts to be fixed into capping beam by drilling circular hole and filled with epoxy grout. Fixing design to be determined by contractor.

Railing Type 2
1150mm railing with posts at 2200mm centres. Vertical reinforcement made from 15mm steel bar, welded to tubes. Posts to be fixed into capping beam by drilling circular hole and filled with epoxy grout. Fixing design to be determined by contractor.

7A. BATH WESTERN RIVERSIDE

The Western Riverside (BWR) area of Bath is the location for one of the most exciting and challenging regeneration projects set within a city which is a World Heritage Site.

The key site specific requirement for BWR is that it has to be a comprehensive mixed use scheme, with an optimum uses and density given the close proximity of the site to the City centre. It is also a site which is large in scale, 35 Ha, and the whole site will ultimately deliver 3000 homes, part of which has already been delivered on site by Crest Nicholson.

Western Riverside, waterside frontage is an exemplar of this type of development and it has achieved outstanding improvements to the river's character, as well as the public realm. The development includes high quality contemporary design, public open sapces including a pocket park which creates a well-used link to the river.

The Spatial Masterplan seeks to deliver the following design principles to the wider area; these are of direct relevance to the Water Space Study:

- The development focuses on the River Avon and its importance as a strong natural asset with visual connections to the riverside;
- The masterplan retains and integrates the heritage assets with some Georgian terraces considered as a good sustainable urban from;
- There are new north-south links across the river, with Victoria Bridge Road, a key connection and new connecting public realm along the riverside, together creating a better connected city;
- Design quality is at the heart of the development with consideration of the material choice to reflect the wider city, roofscape design considering views across the valley, creation of a clear spatial hierarchy and ensuring a sustainable community which is integrated into the wider neighbourhoods; and
- Scale Height and massing are carefully considered to respect human scale and avoid tall buildings in the context of the wider city.

The Spatial Masterplan and the design, as implemented so far, demonstrates a well-considered public realm hierarchy and the following aspects are of particular relevance to the riverside areas:

- Development of well-connected spaces inviting the user to explore the riverside environment;
- Public Realm will be of the highest quality and will be consistent throughout the site, secured through the design coding;
- The development has a simple, high quality palette of hard landscape materials balancing costs and durability.

The River Design Principles include the following considerations which are relevant to The Water Space Study:

- The River is a uniting element with experiences across the river that are balanced, albeit the northern and southern banks differ in terms of spatial qualities such as enclosure;
- The River Park should have active frontage development addressing the river;
- It creates a strong landscape infrastructure that defines the river in long distance views;
- There are views and vistas along the river corridor;
- Development along the river frontage must accommodate and encourage river traffic;
- Opportunity exists to maximise opportunities for public access to, and interaction, removing sheet piling in places with, the river can create a more direct relationship;
- Create a linear route with a variety of events and interesting spaces along its length that inks into the wider city network of popular walking routes;
- Incorporate opportunities, within the waterside environment, to host exhibits of art, more temporary pieces of installation, performance art, permanent fine art works and sculpture;
- There are opportunities for education and enhanced interpretation of the life along the river;
- There are opportunities to play with levels within the public realm at the water's edge should be exploited wherever possible;
- Every opportunity should be taken to improve the current river corridor edges; in particular, proposals should be put forward to improve biodiversity.

8. THE RIVER PARK (1/5)

DUNDAS | CLAVERTON | BATHAMPTON | **BATH** | SALTFORD | KEYNSHAM | HANHAM

PROJECT CONCEPT

A high level concept with improved integration of pocket parks along the riverside, creating a single linear park. This is essentially Bath's combined green and blue infrastructure plan with existing and proposed or enhanced connections which can form the basis of a riverside cycling and walking route.

This river park includes sites such as BWR SPD new riverside park; Bath Quays Waterside and Enterprise Area Masterplan; Green Park Cycle path now implemented; Kelson Fields. More detailed proposals are provided for individual park areas located adjacent to the River Avon are included on subsequent pages.

Specific proposals could include improved connections, intervisibility to/from the river corridor, direct access to/from riverside and pocket parks and enhancement to riverside spaces within the town centre, providing distinct functions for spaces which can be new attractions for visitors and residents alike.

OPPORTUNITY

Improved/ Enhanced Pathways
Create clear and direct access from surrounding areas to the river.

Extend Access
Create new pathways along currently unaccessible portions of the linear route & entrances from the surrounding urban area.

Visual/ Intervisibility
Create clear views of the river from surrounding areas to encourage movement.

Direction
Provide signage to nearest park spaces & riverside.

Enhance Functionality
Create spaces with distinct functions catering for recreational and commercial activities.

Environmental Enhancements
Provide potential habitats for birds, pollinating insects and river species.

A Sense of Place
Create a distinct character and retain/enhance existing assets.

Improve Maintenance
Provide more management of overgrown areas that have become neglected, discourage negative use and increase value of public spaces.

REGENERATION

CONNECTIVITY/ ACCESSIBILITY

ACTIVITIES/FUNCTIONALITY

ENVIRONMENTAL BENEFITS

8. THE RIVER PARK (2/5)

PROJECT CONCEPT

A Kelson Fields lies to the rear of residential properties which front onto nearby Locksbrook Road and Upper Bristol Road. This space is quite well vegetated with established tree cover along both sides of the park. Views to/from the park and residences are possible but the visibility is reduced by intervening vegetation. Similarly the approaches along the river corridor and views between the park and river could be opened up to improve the visibility and amenity of the space.

ISSUES & OPPORTUNITIES

Enhanced Functionality – There is opportunity to create active river frontage space and potentially encourage use of an area for riverside activities/ watersport access/riverside festival venue.

Environmental Enhancement – This could be achieved will carefully de-cluttering of signs and site equipment, improvements to the play area and diversifying the planting to include more marginal species and meadow grassland areas to break up the close mown appearance of the park.

Visual Intervisibility – Improve the natural surveillance of this space with tree works to lift and thin tree canopies and selectively remove understorey planting as well as replace any tree planting which is in poor condition.

A Sense of Place – Consider ways to extend the waterside art works into the space. New works should include a coordinated material palette and site equipment should be coordinated with the wider linear park.

1 Unclear connectivity with surroundings/ poorly defined entrances

2 Dense tree canopies reducing light in spaces

3 Open mown space with minimal function or biodiversity

4 Narrow river pathway

OUTLINE PROPOSALS

- A Visible entrance seating space and lifting canopy to increase visibility
- B Widened river pathway & events space – material toco-ordinate with wider linear park. Seating provided along path
- C Upgraded play area and boundary
- D Increased grass area to create a more gradual slope to river edge to improve safety and access
- E Potential shared surface leading to proposed entrance with wayfinding signage

8. THE RIVER PARK (3/5)

DUNDAS | CLAVERTON | BATHAMPTON | **BATH** | SALTFORD | KEYNSHAM | HANHAM

PROJECT CONCEPT

Norfolk Crescent is an elevated space which is formal in character with town house fronting and overlooking the space. The space is accessible from the west at the end of Nelson Place West and it is not possible to access the riverside from the elevated level of Norfolk Crescent. There is a further access point which appear informal but has litterbins and a kissing gate arrangement.

The project concept would promote access and intervisibility between the public open space and the river corridor.

Proposals could include a path across the space and wayfinding at strategic locations. There is additionally the opportunity to manage the riverside vegetation and to introduce areas of species rich meadow grassland to increase the sites biodiversity.

ISSUES & OPPORTUNITIES

Enhanced Functionality – There is opportunity to increase access to/from the riverside activities/water sport access/use the space as a seasonal riverside festival venue.

Environmental Enhancement – This could be achieved will carefully de-cluttering of signs and site equipment, possibly introducing play space or to the play area and diversifying the planting to include more marginal species and meadow grassland areas to break up the close mown appearance of the park.

Visual Intervisibility – Improve the visibility to the river in places – selectively lift and thin tree canopies and thin understorey planting.

A Sense of Place – Consider ways to extend waterside art works into the space. New works should include a coordinated material palette and site equipment should be consistent in choice with the wider linear park.

1. Dense Vegetated barrier reduces visibility to river corridor
2. Lack of wayfinding entering the site from the city centre
3. Open mown space with minimal environmental or functional value
4. Limited and poor access points to/from river corridor

A. Way finding with direction information – adopt City centre design precedent
B. Stepped Ramp access to riverside edge and create visibility
C. Hard self-binding gravel path access
D. Mown grass pathway for walking use

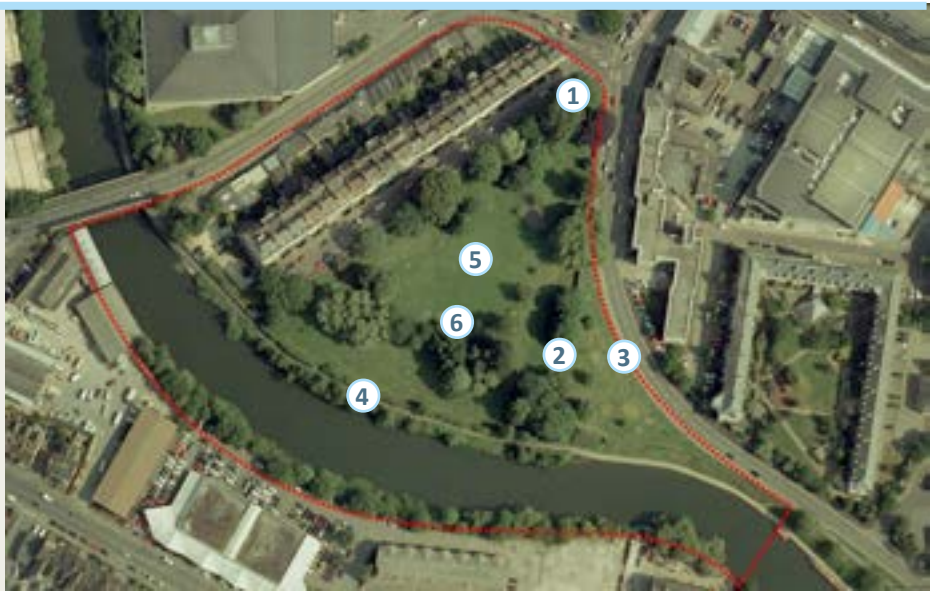
8. THE RIVER PARK (4/5)

PROJECT CONCEPT

Green Park adjoins the River Avon and is comprised of a park with historic boundaries and it relates strongly to the terraced Georgian townhouses. The present day layout of this space also includes an elevated triangular section of land which is separate from the park but could be integrated. Design concepts consider the change in level and the separation of these spaces from the river frontage. There is scope to change the riverside profile and create more space closer to the riverside, widen the tow path and integrate the waterside public realm with the park itself.

OVERALL ISSUES & OPPORTUNITIES

1. Separation from the river corridor due to limited access from the city centre and steep level change of the river bank
2. Barrier to moement – boundary wall and level change dividing south-east corner from adjacent park
3. Exposure to A367 road negatively affects the quality of space and increases the vunerability of the raised corner
4. Narrow riverside pathway and boundary fence segragating park from river corridor
5. Large open mown grass with minimal function, opportunity to review and increase meadow grass, improving biodiversity
6. Lack of spatial definition: seating and play features spread out



PROJECT OBJECTIVES

Enhance Functionality
Define use of spaces with distinct functions catering for recreational, play and introduce new facilities such as a cafe to provide an attraction and generate revenue

Environmental Enhancements
Provide for potential habitats for birds, pollinating insects and river species

Visual/ intervisibility
Create clear views of the river from surrounding areas to encourage movement

A sense of place
Create spaces with a distinct character and retain/enhance existing assets

OUTLINE PROPOSALS

A Bespoke designed cafe/ restaurant with adjacent active space

B Waterside marginal Reedbed habitat creation

C Terraced accessible topography with paths accessing river edge

D Play space with distinct choice of play and bespoke detailing based on a theme

8. THE RIVER PARK (5/5)

DUNDAS | CLAVERTON | BATHAMPTON | **BATH** | SALTFORD | KEYNSHAM | HANHAM

PROJECT CONCEPT

Brassmill Green is situated to the north of Weston Island and the Canal beside Weston Lock, on the south side of Brassmill Lane. The site consists of 3 open spaces divided by fencing and a private residence, with no clear entrance from the road. With the exception of playground furniture the space lacks clear uses for residents and visitors that pass through the site. There is no defined entrance to the site from Brassmill Lane, with no pedestrian footpath which limits the accessibility of nearby residents into the space.

The river corridor is densely vegetation which partially obstruct views along the river. The footpath becomes increasingly narrow downstream heading west making cycling and walking difficult.

The historic nature of the area combined with the ecological richness of Weston Island makes the site an opportune spot for a multi-functional leisure space for both local residents and visitors.

ISSUES AND OPPORTUNITIES

- **Enhanced Functionality** – There is opportunity to create active river frontage space and potentially encourage use of an area for riverside activities/watersport access/riverside festival venue.
- **Environmental Enhancement** – Improvements to the play area provision, perhaps with some natural play and diversifying the planting to include more marginal species and meadow grassland areas to break up the close mown appearance of the park.
- **Visual Intervisibility** – Create clear views of the river from surrounding areas to encourage movement with selective tree works
- **A Sense of Place** – Create spaces with a distinct character and retain/enhance existing assets

Outline Proposals

1 Unclear connectivity with surroundings/ poorly defined entrances.

2 Poorly defined park area with low quality play equipment. Fencing creates unneccessary division between spaces

A Tree canopies thinned to enhance visibility. Seating areas in spots with desirable views towards the river.

B Widened river pathway – material to co-ordinate with wider linear park.

C Upgraded play area for visitors and local residents, with flexible open green space for sports and recreational activities

3 Trees blocking river views. Grass with low biodiversity and functional value. Narrow footways difficult for users

4 Private residence splits the site into two halves with little connection linking the spaces

D Integrated and clear entrance points with Way finding/direction information

E Meadow grassland provide more value to pollinating insects and wildlife, a more naturalistic character

FUNDING & DELIVERY

TBC

9. ENVIRONMENTAL AGENCY ACCESS LOCATIONS

PROJECT CONCEPT

The purpose of these proposals are to create and maintain access routes within the urban areas of Bath.

ISSUES & OPPORTUNITIES

Access to the riverside for works to river walls and related structures as part of the Bath Flood Defence Scheme (BFDS) is limited. There is a need to safeguard routes which are used infrequently to allow appropriate plant and vehicles and small boats to access the river for routine maintenance.

Each year routine maintenance along BFDS is undertaken in early spring and autumn.

Operations include vegetation clearance, removal of fallen trees, clearance of outfalls and the inspection of sheet piled sections of river walls and structures – these are checked for signs of deterioration.

Increasingly, access to remove fallen trees and debris has become more difficult as riverside development constrains access to the river bank edge. All debris has to be dragged back upstream to the point of access for removal.

Currently the Environment Agency has a single launch point at Spring Gardens (downstream of Pulteney Weir) where a boat can safely be launched.

OUTLINE PROPOSALS

Two possible sites have been investiagted.

1. PC WORLD CAR PARK

(ST 72971 64782)

At PC World it is possible to open the yellow gates, close to the entrance of the premises. From this point there is potential to either launch a small boat or use a winch sited on a 4x4 vehicle to pull trees from the river. Restrictions would have to be made to customer parking at PC World.

2. HOMEBASE CAR PARK

(ST 72971 64782)

At this site, it would be necessary to widen the access by digging into the bank by approx. 0.5m to give enough width for a winch tractor and 4x4 vehicle. For this site, an access agreement would not be sufficient. To secure this site and preserve it from future development, a land purchase would be more suitable. Land is owned by Crest Nicholson.

ALTERNATIVE SITES

Alternative sites for consideration by the Environmental Agency include:

- **Morrisons car park**

Potential access from the car park to the riverside, London Road, BA1 6AE

- **Kensington Meadows**

beside morrisons car park, a potentially easily accessible river bank around Ringswell Gardens, BA1 6BN

- **Kelson Fields**

An open green space, potential for access to the river from the end of Nelson Place West. BA1

10. BATH SPA ARTS UNIVERSITY DEVLEOPMENT

PROJECT CONCEPT

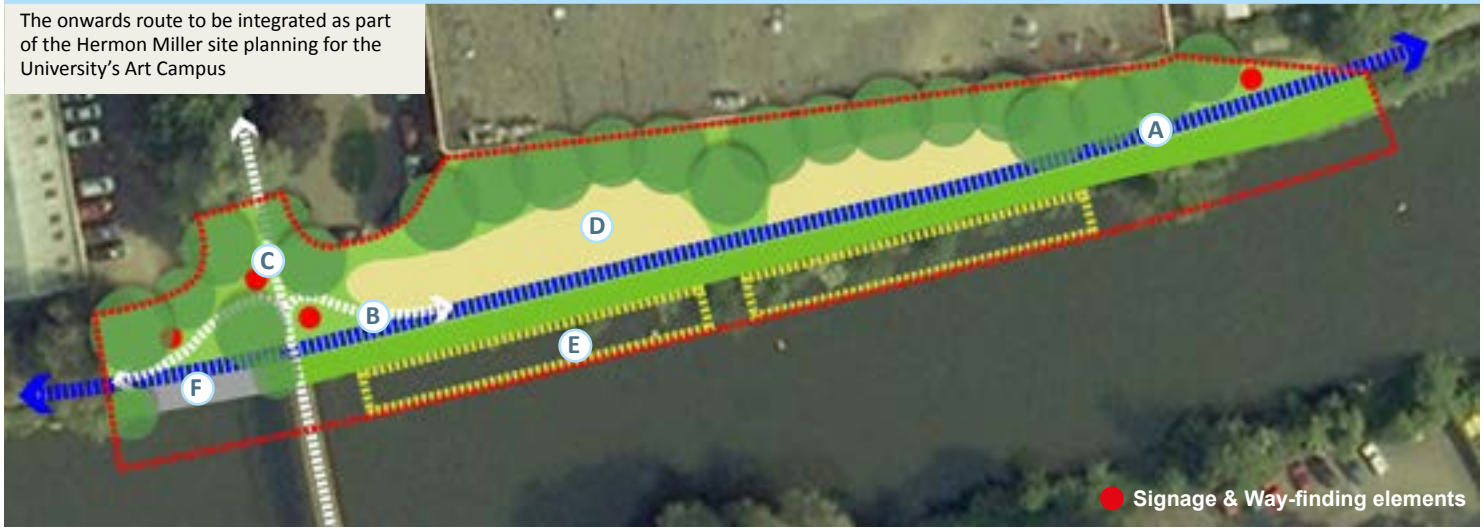
The site of Herman Miller is the proposed site for the new Bath Spa Art University campus, a riverside development.

This in turn bring many opportunities to make use of the open space beside the river to cater for this new activity whilst better serving cyclists and pedestrians who currently use the riverside route or Lidl bridge.

ISSUES AND OPPORTUNITIES

- Lidl Footbridge – Potential key route and approach for students to the site. Currently lacks aesthetic appeal and with indirect access to the site/river pathway from the
- Lack of way-finding – unclear links and direction to surrounding areas
- Narrow and uneven river towpath – causes conflict between cyclists and pedestrians.
- Lack of river-based activities – potential to improve access to the river edge for water sports and commerical moorings, associated with activities such as a floating market (see T20). Increased users of the site provides potential for generating revenue.
- Site safety – currently no easy way back onto the river bank and no safety equipment. Need for River Safety Cabinets with grablines

The onwards route to be integrated as part of the Hermon Miller site planning for the University's Art Campus



A Potential to upgrade surfacing and widen the river path, for safer use by cyclists and pedestrians

B Potential to create more direct access from the footbridge to the river pathway – gentle gradient leading to the riverside

C Information and directional signage leading users from this key junction point to the surrounding areas

D Flexible riverside leisure space with seating/benches and lawn for use by university students and visitors

E Potential to create more direct access from the footbridge to the river pathway – gentle gradient leading to the riverside

F Pontoon/slipway access to the river's edge, encouraging more river-based recreation, water sports

11. WESTON CUT CANAL (1/3)

DUNDAS | CLAVERTON | BATHAMPTON | **BATH** | SALTFORD | KEYNSHAM | HANHAM

PROJECT CONCEPT

The Weston Cut Canal is a man-made structure built between 1724 and 1727, located towards the western suburbs of Bath. Due to its location the canal acts as a transitional point from the city of Bath to the rural settlement edge. Combined with its historical setting the area is a key environmental node rich in wildlife, including Otters and Kingfishers.

Despite the areas strengths there are currently issues relating to accessibility, due to the degrading narrow riverside pathway which proves difficult for passing pedestrians and cyclists. Development in the last century has had little regard for the riverside, with construction of buildings with little or no frontage relating to the river edge that detract from the historic and naturalistic setting of the area.

DESIGN OBJECTIVES

Enhance Functionality – There is opportunity to create a more active river frontage to potentially encourage greater use of the area for riverside activities, through careful future and site planning or points of access to the river.

Improve Access – Widen and resurfacing of the existing riverside path to encourage movement into and through the area

Environmental Enhancement – Mitigate the negative influence of the surrounding developments and restore the area as a historic and naturalistic hotspot.

OUTLINE PROPOSALS

1 Buildings relate poorly to the river edge, forming irregular and unused spaces with signs of antisocial activities

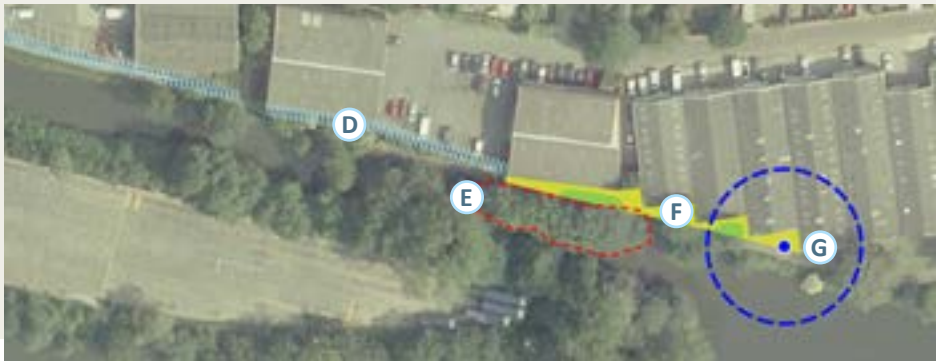
2 Unsightly barbed wire on property boundaries detract from the naturalistic setting

3 Path pinchpoint towards west causes conflict between cyclists and pedestrians

4 Overgrown tree canopies cause excessive shading of pathway

11. WESTON CUT CANAL (2/3)

OUTLINE PROPOSALS (CONTINUED)



A Widened pathway to allow for better flow of pedestrians and cyclists whilst improving safety

B Capitalise on views over river from the Locksbrook Inn Pub and activate the frontage, allow for greater interaction between the outdoor seating and the river edge

D Improve image of property boundaries, removing barbed wire and establishing climbing vegetation. Potential for art installations

E Thin tree canopies to allow more light to penetrate through to the pathway below

C Seating space beside the bridge to make use of the tranquil setting and encourage people to stay longer in the area

F Buildings relate poorly to the river edge, forming irregular and unused spaces with signs of antisocial activities

G Information board combined with transitional/visual element for education and acting as an entrace point to the canal

11. WESTON CUT CANAL (3/3)

DUNDAS | CLAVERTON | BATHAMPTON | **BATH** | SALTFORD | KEYNSHAM | HANHAM

12. BATH MARINA (1/2)

DUNDAS | CLAVERTON | BATHAMPTON | **BATH** | SALTFORD | KEYNSHAM | HANHAM

PROJECT CONCEPT

The caravan and marina site is long and linear, being accessed of Brassmill Lane to the east. The site is extremely successful with 10% increase in demand since 2014 and there are proposals to enhance the offer and visitor experience of the site. The current office & reception are close to the marina in the north east corner of the site, not ideal as a welcome point for the many visiting caravans and campers. The site is close to the

Brassmill residential area to the east of the site and a park and ride site to the north which allows rapid access to Bath Town Centre.

This project aims to consider the applications made to date for this strategic site. The site comprises an attractive marina which is visible from the riverside, riverside moorings. The Vision developed by The River Regeneration Trust (RRT) comprises a phased series of parcels for camping, caravans and cabins. Site infrastructure will include communal facilities, shop/café a new chandlery and new parking for the marina.

The overall aim is to create stronger connectivity of the site with the river by:

- Enhancing connectivity to the site from the adjacent old railway cycle path, allowing access and use of the Bistro / Café as a designated visitor rest stop.
- Create a local hub and active uses which is accessible from the river to include:

- The small retail unit as onsite provision as well as a neighbourhood retail service.
- Provision of lower cost workshop facilities to be used by local small business operators, perhaps supporting the cycle use of the riverside and accessible from the hub.

- The new office / reception could provide Tourist Information due to the site being open 7 days a week.

The project has the potential to reconfigure green spaces, connections, locate activity to capitalise on the riverside users, local residents and the Park and Ride site.

ECOLOGICAL CONSIDERATIONS

- The river corridor is likely to be used by some of Britain's rarest bat species. Enhancement of bat foraging and commuting habitat through providing unbroken hedgerows and native tree lines along the river corridor should be encouraged. The provision of additional bat roosting features including bat boxes in trees and bat bricks and bat tiles within new buildings would also be beneficial to local bat populations.
- Many bats are affected by night-time lighting. It is recommended that dark corridors are maintained and lighting is directed away from the River Avon and boundary habitats including hedgerows.
- The recommendations to retain native riverside habitat and reduce lighting impacts on the River Avon will also greatly benefit otters, which are known to be active along the River Avon.
- It is recommended that additional bird nesting features are provided within the site which can include bird boxes on buildings and trees and the installation of an artificial nesting bank for kingfisher on the River Avon.
- The biodiversity of the site can be enhanced via the creation of new habitats including areas of wildflower meadow, a green roof on new buildings and the incorporation of a variety of native tree and shrub species in the development planting schedule. This can create valuable habitat for invertebrates and the provision of log/brash piles within suitable areas around the site would provide refuges for wildlife including reptiles and hedgehogs.

12. BATH MARINA (2/2)

OPPORTUNITIES

Masterplanning opportunities to integrate proposals into wider area include:

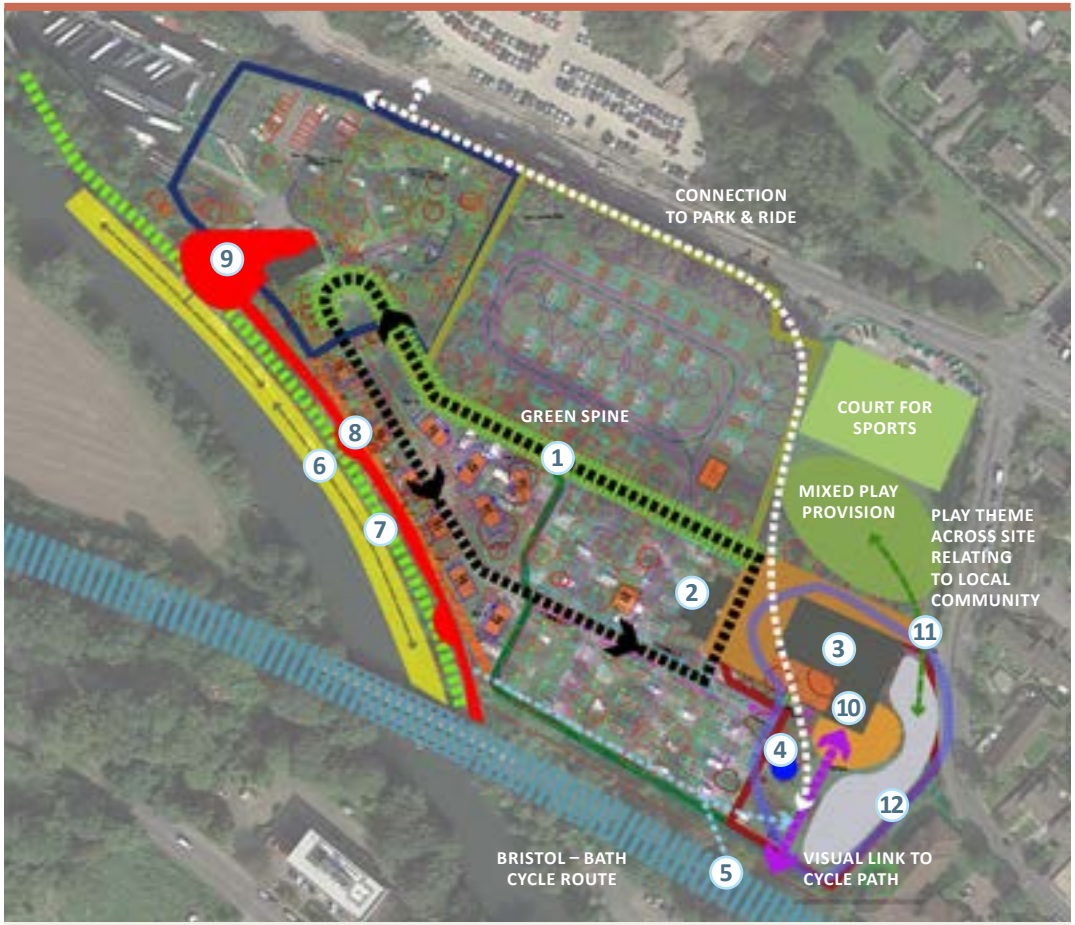
- Creating publicly accessible hubs centred on the New Chandlery, with riverside café/workshops/offices which address the riverside and a neighbourhood hub that can offer a shop, bistro/café and play amenities that also relate well to the nearby residential areas. Both hubs can offer a potential attraction to riverside users, perhaps with the addition of a permanent water-boat café as part of the proposals.
- Create a central green spine as a new PROW connecting from Brass Mill Lane to several points of the Bristol Bath riverside route and the two hubs noted above.
- The movement through should be promoted between the Park and Ride and riverside towpath for cyclists using the Nextbike cycle terminus and pedestrians and site visitors to gain access to the city via the park and ride, perhaps also to provide a potential future river shuttle service;
- Connections required to play areas/soft landscape areas with shared surfaces to avoid conflict with vehicles accessing the site.
- The site should allow access for site users at designed and managed play/amenity locations along the sites southern riverside edge, perhaps BBQ areas with carefully designed and controlled zones which face onto the river.
- The proposals need to demonstrate the redistribution of green space, which addresses neighbourhood play shortfalls and adventure play (perhaps within bund area) and also consider a MUGA or 5-aside sports pitch as part of the site's play/recreational provision (within remainder of Newbridge Open Space).
- Create and highlight a number of dog walking circuits, of differing lengths, around (and partially within) the site.

Although there would be a loss of green space through this Masterplan proposal, there is a case that can be made, to show how this is being mitigated by redistributing open space to the riverside edge with defined and managed functions. There may be some merit in using site won material to create a vegetated bund along sections of the sites northern boundary to provide visual/sound screening to the site from Bristol Road.

This proposal will need to be explored further by a professional planner and landscape architect to demonstrate how the proposals can be developed to meet the objectives set out by the RTT.

Early consultation with the Newbridge ward councillors and the B&NES Parks Team and the Environment &

Design Team to consider their view and to convey the potential benefits of the proposal.



1. One-way vehicle route
2. Facilities building with planning permission
3. Facilities building with sport shop
4. New Next Bike station
5. New pedestrian link to Bristol-Bath cycle route
6. Reconfigured moorings with reduced number of access points
7. Ecological enhancement and management of river banks, with removal of invasive species
8. Towpath with access to moorings
9. Potential Riverside Hub with future active uses e.g. workshops, cafes
10. Landmark feature to building
11. Shared surface entrance and facilities area
12. Car-free Hub / cycle repair / cafe connected to the cycle route

13. SALTFORD BRASS MILL (1/2)

DUNDAS — CLAVERTON — BATHAMPTON — BATH — **SALTFORD** — KEYNSHAM — HANHAM

PROJECT CONCEPT

The site of Saltford Mill has been in use since the time of the Domesday record when two watermills were listed in Saltford. At that time they would have been corn mills housed in simple wooden structures of which nothing is known. In later centuries fulling, the thickening process of hand-woven woollen cloth was carried out in buildings which would have been far more substantial. Fulling ceased in the late 1600s with the bankruptcy of the owner, but the present building may well contain fragments of that earlier structure. The brass company is known to be in occupation from 1721 and from then many additions and alterations must have taken place.

In its current form, Saltford Brass Mill is situated on the banks of the River Avon in the village of Saltford, it was one of a series of mills in the Avon valley in operation during the 18th century. The river was used to transport and deliver brass and coal to the mill where the brass was shaped to make hollow-ware such as pans, bowls and vats. The Saltford Brass Mill complex has been restored and renovated in 1995 and 2014.

The Brass Mill building is of significant importance, being the only surviving building still with a furnace and working water wheel remaining in the Avon Valley. The Mill is maintained through volunteer work with The Saltford Brass Mill Project.

The building today hosts a series of historic exhibits aimed at educating visitors about the craft. It has charming gardens and associated facilities, provide group visits, lectures and a venue of talks. Opening times are limited, the Brass Mill is open to visitors on the Second and Fourth Saturdays of the month from May to October.

OBJECTIVES AND PROPOSALS

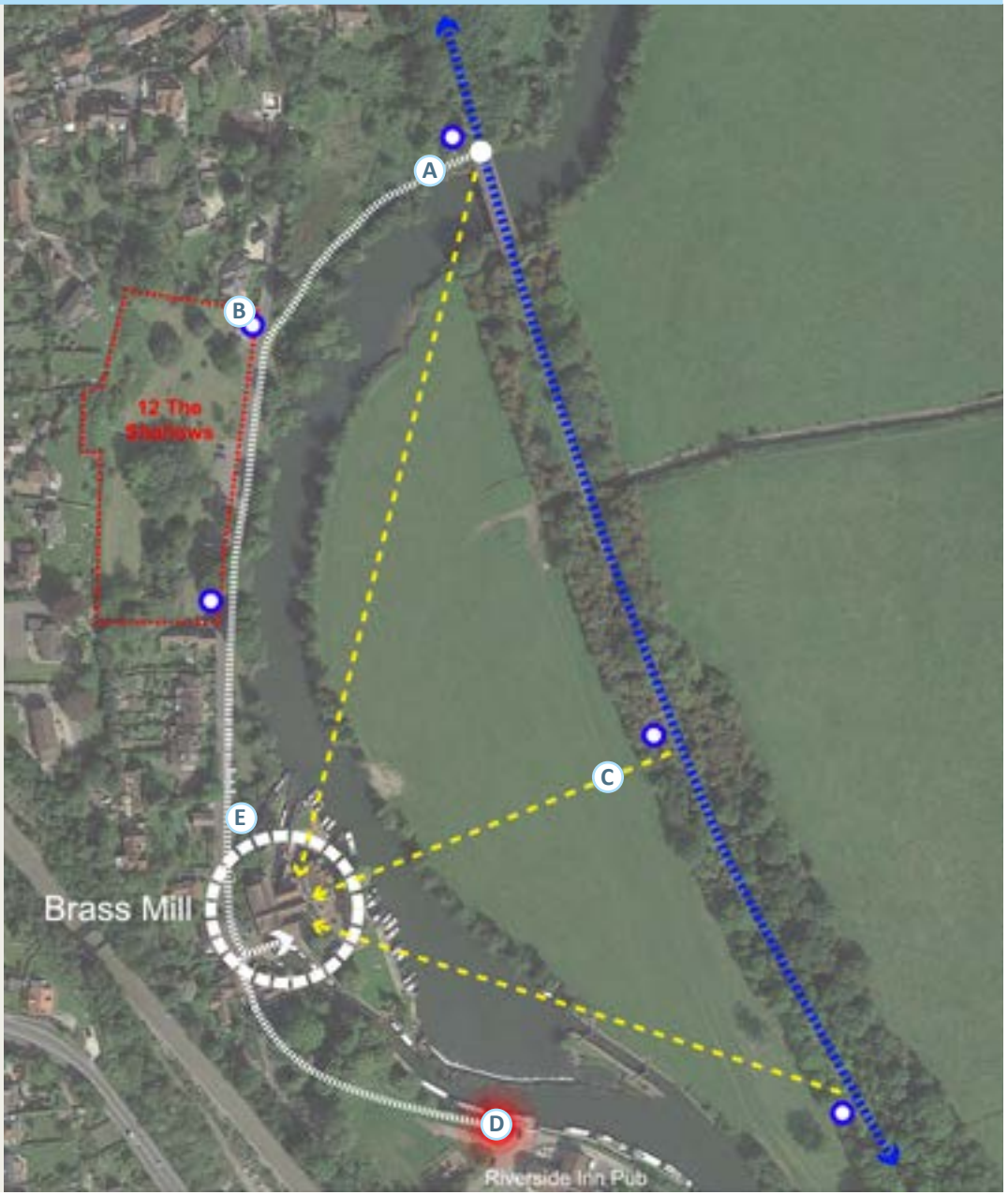
A **Improve connectivity with the cycle trail**
A direct pathway linking the cycle way with the Brass Mill site, with signage directing users to the site.

B **Enhance interconnectivity with the local area & services**
Cycle route linking the cycle route with the proposed Shallows project (12) café for visitors. Signage directing users from the Shallows towards the Brass Mill. Potential to generate revenue.

C **Improved site visibility from a wider area**
Create views towards the mill along the cycle route through canopy lifting.

D **Create more direct links with a wider catchment area**
River taxi services from Bath City Centre and Keynsham, with a stopping point located outside the Riverside Inn Pub for increased potential use of local services and potentially increased annual visitors.

E **Visitor education**
Information/interpretation boards to inform visitors to the Mill of the significance of the site and its history. Potential for mill-themed riverside sculptural elements for enhanced character and engagement.



14. THE SHALLOWS SALTFORD (1/3)

PROJECT CONCEPT

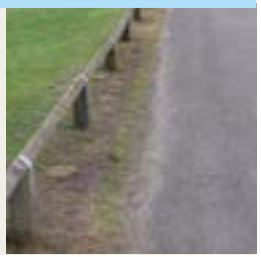
A site wide approach which considers measures to improve the Shallows and the adjoin parking

café and open space for visitors and residents. There are also detailed proposals for the Shallows

Slipway which for a discreet element within the wider project area.

- (A) Dense unmanaged vegetation blocking desirable views across the river valley from park space & surrounding areas
- (B) Steep pathway gradient and steps making accessibility and usability more difficult

- (C) Steep, inaccessible river edge difficult for kayak and other water sport access
- (D) Timber knee rail which discourages access and connectivity/engagement with the river



- (G) Road access segragates parkland space from the river corridor
- (H) Overgrown pathways with non-native species reducing riverside views

- (E) Car Park is not incorporated into parkland space, detracting views from the river
- (F) Open Space primarily mown grass areas with provide minimal function and lack biodiversity

14. THE SHALLOWS SALTFORD (2/3)

DUNDAS | CLAVERTON | BATHAMPTON | BATH | **SALTFORD** | KEYNSHAM | HANHAM

A1 **Improve circulation** with gentler gradient providing easier access through the site with coordinated path surface finishes

A2 **Shared surface** to site access and car park to integrate the park setting with the river

A3 **Better connection with surrounding areas** with more direct access from the bicycle route to encourage visitors into the site/cafe

B1 **Maintain vegetation** pruning of trees and thinning of undergrowth to re-establish views through the river.

B2 **Mown seating spaces** and paths located in areas with desirable views.

B3 **Meadow grassland** provide more value to pollinating insects and wildlife, a naturalistic character

B4 **Restore the panoramic view** dating back 50+ years (see references)

C1 **Natural Play Space** for visitors and local residents to provide a playful environment for children

C2 **Open leisure space** a flexible space for sports and recreational activities

D **A new cafe/restaurant** to attract more users to the space, including visitors and residents and incorporating the pumping station and existing public conveniences

E1 **Stepped Kayak access** making it easier for kayak users to access the river (see page 3)

E2 **Consider kiosks for rental** on a weekly basis for visiting watersports enthusiasts

E3 Stabilise banks and demarcate river access

14. THE SHALLOWS SALTFORD (3/3)

DUNDAS | CLAVERTON | BATHAMPTON | BATH | **SALTFORD** | KEYNSHAM | HANHAM

PROJECT CONCEPT

The Shallows Slipway proposals form part of wider set of proposals for the Shallows open space. This area is a quiet riverside retreat which could accommodate canoe, kayak and related water sports users.

The land is primarily in B&NES ownership and there is potential to provide a waterside access for canoes and kayaks.The banks have become eroded in places and proposals need to incorporate measures to reduce or rectify erosion.

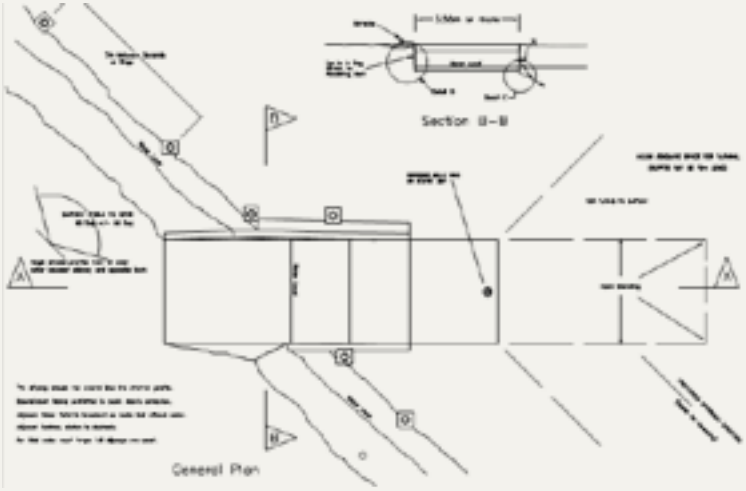
OPPORTUNITY

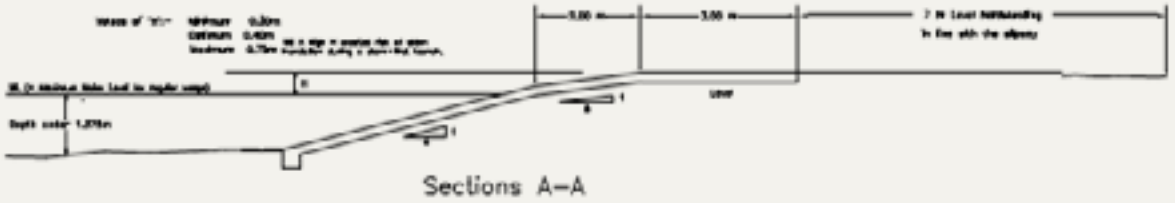
The design for the slipway is based upon a design by the Inland Waterways Association and safety equipment would also be supplied and maintained.

The management of the proposals and facilities including refurbished toilets would need an on sight presence and it is suggested that a café and pay and display parking could be a potential source of revenue for the site.

OUTLINE DESIGN

Saltford Parish Council together with local canoe associations identified the opportunity to improve the potential river use by providing a slipway in lieu of the eroded bankside which is not accessible to all.





PRECEDENT IMAGES

Examples from Medway Canoe Trail in Kent constructed 2008.

FUNDING & DELIVERY

The total Capital cost of the project is £xxxxx. and professional services have been defined.

Maintenance would need a local presence and be undertaken by agreement with the canoe associations active involvement or through revenue generated by subscriptions.

There is potential for funding application to Sport England and for top-up funding through business sponsorship and/or contributions from local clubs.

PROJECT DEVELOPMENT STATUS	●●○
FUNDING STATUS	●○○
COST SCORE	●○○
ENVIRONMENTAL SCORE	●●○

18. SOMERDALE DEVELOPMENT (1/2)

DUNDAS | CLAVERTON | BATHAMPTON | BATH | SALTFORD | **KEYNSHAM** | HANHAM

PROJECT CONCEPT

The aim of this project is to develop new connections between Hanham Mills area and the development at Somerdale, the former Somerdale Chocolate Factory site.

Currently development is being constructed in a phased approach (2012-2914) at Somerdale and comprises a mix of residential and commercial development.

In parallel the Keynsham Greenways initiative will give local people access to particularly attractive local resources – the established Bristol and Bath Railway Path, and the riverside towpath between Hanham and Conham. Central to these proposals is the proposed new Somerdale Bridge over the River Avon which is to be included in the redevelopment at Somerdale.

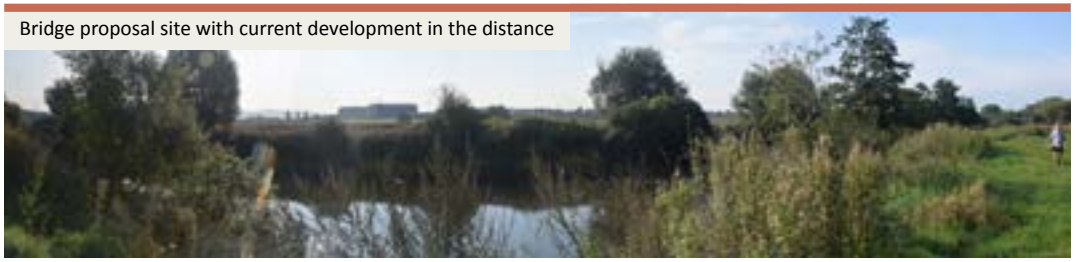
The Somerdale development includes the provision of off-site pedestrian accessibility improvements, potentially new connecting riverside paths (as part of the S106 agreement). These will contribute towards creating the long term aspirations to connect Hanham and Somerdale and facilitate wider access to Keynsham Bristol beyond.

ISSUES & OPPORTUNITIES

The design of riverside bridge and footpaths need to consider the following issues:

- The potential to create a new landmark bridge design which relates to the footpath and is well-located to achieve optimum connectivity;
- Connectivity to the Somerdale development
- River flood plain and the erosion/scour hydro-geomorphological activity needs to be considered in the design of the bridge, the position and construction of footpaths and to identify locations where vulnerable banks exist, for example at mooring locations;
- Path widths need to reconcile the existing widths which are restricted in places to achieve a combined cycle and walkway, ideally 3 metres in width
- Riverside proposals need to consider the potential to eradicate invasive species as part of the proposals, Himalayan Balsam is widespread along the riverside between Chequers Inn to the Somerdale Bridge site;
- Material choices need to consider the effects of extreme flooding to ensure a sustainable performance
- Narrow, uneven and unformalised routes, which follow public rights of way but are limited in terms of accessibility and become impassable in winter months due to waterlogging;

Bridge proposal site with current development in the distance



Somerdale Towpath & Moorings

Current Somerdale development under construction

Completed Somerdale Housing Development

Narrow track leading to Chequers Inn and recently refurbished car parking

18. SOMERDALE DEVELOPMENT (2/2)

FOOTPATH DESIGN CONSIDERATIONS

Some of the design considerations between Hanham and Conham include:

1. The Chequers car park has recently been refurbished with some works continuing to improve the visitor experience;

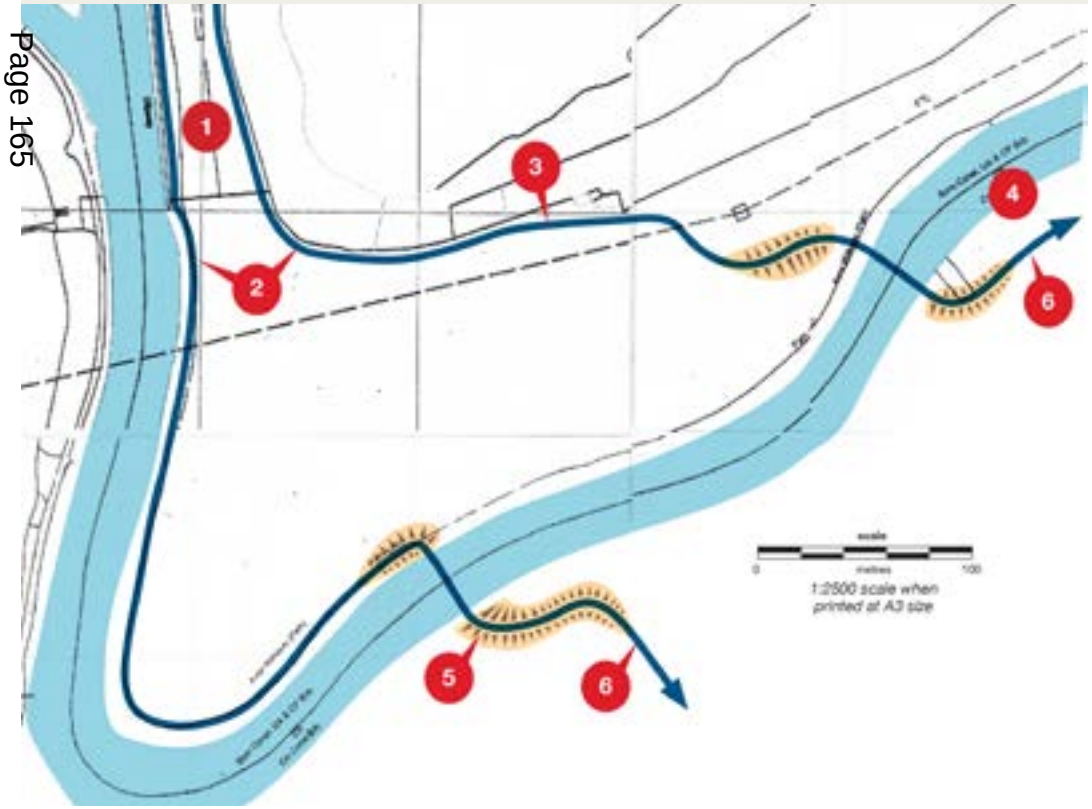
2. At present the field is gated and the type of barrier or gate required will depend upon the future activity in the field. An 'A' frame type of barrier is recommended to prevent motorcycle access;

3. A new accessible path (which can be used by agricultural vehicles) could be constructed around this field edge if the bridge were to be in the western option location;

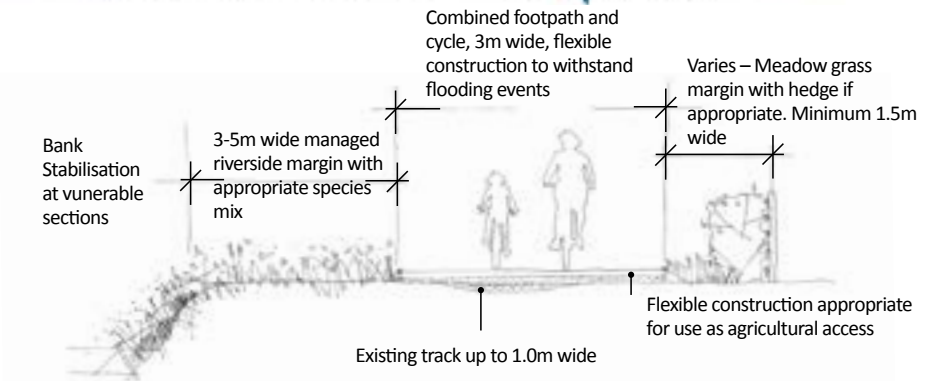
4. A possible Somerdale Bridge location to tie in with the Developer's path to Keynsham;

5. In each case the proposed bridge is about 45 meters in span onto approach earthworks embankments at 1:20 gradient aligned with the flow of flood water which may affect up to five days a year in terms of use of the footpath network. At this early stage it is anticipated that the soffit of the bridge will be approximately 2.5-3.0 meters above field level; and

6. The continuing path to Keynsham will be incorporated into the development of the Somerdale site and the exact route determined by that scheme;



Bridge Location Options and Connections to Somerdale



Towpath Section

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MANAGING FLOOD RISK IN BATH: INFORMATION NOTE

JANUARY 2017

Background

Bath is at risk from river and surface water flooding. Following significant flooding in the 1960's the Bath Flood Alleviation Scheme was completed in 1974 to reduce the risk of flooding to the city.

Twerton and Pulteney gates form part of the 1974 Bath scheme and as they are now over 40 years old, they require significant (and increasing) investment to keep them operating reliably.

The introduction of this scheme in the 1970s, significantly reduced the risk of flooding, but there are still over 500 properties with a 1% chance of flooding in any one year. With the impact of future climate change, this risk is predicted to increase to between 1500 and 2000 properties. To see areas currently at risk, follow this link to the EA website:
http://maps.environment-agency.gov.uk/wiyby

Pulteney Weir and Gate

Bath River Avon Options Appraisal

The Environment Agency and B&NES commissioned a high level study in 2016 to consider the best long term sustainable solution for managing flood risk in Bath. The River Avon Options Appraisal Report identified potential actions at a strategic level, including replacement of Twerton and Pulteney Gates and constructing new or improved flood walls.

To quantify the flood risk benefits and costs of each option and therefore identify where further work is best directed, hydraulic modelling and high level cost estimates were undertaken.

Potential options: Twerton Gate

Failure of Twerton gate in the closed position could cause flooding of around 200 additional properties in an extreme flood event.

Failure in the open position could result in the river level dropping, making the riverside look unsightly, inaccessible and impacting on wildlife habitats as well as potential damage to the foundations of historic buildings adjacent to the river.

Twerton Gates

The study has identified several options for Twerton gates. These range from simple refurbishment, to a different gate arrangement and flood relief channel. These options have varying benefits and are estimated to cost between £4 million and £16 million.

Potential Options: Pulteney Gate

The hydraulic modelling shows that failure of Pulteney gate in the closed position would have a minimal impact on flood risk.

Failure in the open position presents a risk of damage to the foundations of historic buildings due to a drop in river levels. The risk is greater here than at Twerton due to its central location

and poor access which could hinder mitigation works.

Pulteney Gate

The study identified various options to replace or refurbish the gate. Some of these options would also improve the amenity value of this key location in the centre of Bath. No decision has been made on the preferred option. Estimated construction costs range between £2 million and £5 million.

Potential Options: Additional Flood Walls

The cost of building additional flood walls through Bath, as identified in the River Avon Options Appraisal Report has been estimated at over £30 million. As the existing flood alleviation scheme mitigates significant flooding in frequent flood events, construction of walls would attract limited government funding under current spending rules. The viability of additional flood walls would also be affected by their visually intrusive nature and resulting environmental and heritage impacts.

Funding

The current estimated cost of implementing all of the potential improvements would be approximately £50 million, with the possibility of attracting around £10 million from central government funding. Progression of all improvements would therefore only be possible with additional funding of around £40 million.

Next Steps

At the present time, neither the Environment Agency or Bath and North East Somerset Council have the funding available to progress all potential schemes; nor are there other sources of funding currently able to cover this large amount. We will therefore focus work on securing funding to refurbish or replace the Flood gates as the priority.

A detailed condition assessment of Pulteney and Twerton gates has been completed and we are expecting the results from testing by the end of March 2017. This will enable us to get an estimate of the remaining life of the gates, and a more detailed understanding of the state of the materials and component parts. We then plan to develop a business case to deliver the works to Twerton and Pulteney flood gates. This investment will maintain the current standard of protection and manage the risk of gate failure.

B&NES Council and the Environment Agency have been working closely together on this project and will continue to work together to identify opportunities to reduce flood risk.

The delivery of the Bath Quays Waterside Flood Conveyancing Scheme is well underway and due to be completed in summer 2017 – see the Council's webpage for more details and regular updates: http://www.bathnes.gov.uk/services/planning-and-building-control/major-projects/bath-quays-waterside-reconnecting-bath-its

Upstream storage options continue to be explored to reduce flood risk within Bath, led by the Bristol Avon Catchment Partnership.

In addition, both the Council and the Environment Agency continue to work with developers to manage flood risk on development sites along the River Avon.

Response to queries from the Abbey Ward Flood Group and the Federation of Bath Residents Association and local residents (February 2016)

The following responses have been prepared by the Environment Agency and Bath & North East Somerset Council in February 2017:

1) **What long-term will be the effect of Climate Change on the flood risk**

There are currently around 500 properties at risk of flooding for a 1 in 100 year storm in Bath. This is expected to increase to nearly 1500 in 100 years' time due to climate change. If we stopped all investment in flood risk management in Bath, the flood defence scheme would deteriorate over time, increasing the risk of gate failure and blockages at bridges along the river. If Twerton and Pulteney gates failed shut and there were partial blockages of 4 bridges, there would be approximately 2600 properties at risk during a 1 in 100 year flood event in 100 years' time.

2) **Will these plans for Twerton and Pulteney have any significant effect on that?**

We will be continuing to invest in flood risk management in Bath to maintain the current standard of protection and manage the risk of gate failure. Under current spending rules, we cannot get funding to protect against the effects of climate change (see question 4). The flood risk will therefore increase over time with climate change, unless funding of further projects can be obtained in the future.

3) **Has the "Condition Survey" of both Radial Gates been completed? If so what were the results, particularly for Pulteney Gate. If not when will we get it?**

The detailed condition assessment of Pulteney and Twerton gates has now been completed and we are expecting the results from testing that was carried out by the end of March 2017. This will enable us to get an estimate of the remaining life of the gates.

4) **The maps and "Do Nothing" options were calculated without taking account of Climate Change. What was the reason for this and what effect will climate change have on the conclusions?**

Central government funding for flood defence is allocated based on the benefits gained by protecting against the current level of flood risk. All options and schemes across the country are therefore considered on the same basis, without an allowance for climate change.

5) **The appraisal time for the gates is taken over 50 years. Is it reasonable to take the same period for the Flood Walls? If not what effect would this have on the cost calculations?**

If we were to progress with the appraisal of the flood walls, we would consider a longer period. However, this would not make a difference to the outcome (see question 6). We will not be taking the option for flood walls further at this stage, because there is a funding shortfall of £40 million.

6) **Noting that an allowance of 10% has been included for damages to infrastructure etc. in the "Do Minimum", do you think this is adequate allowance for flooding in WHS and with historic listed buildings, care homes, schools, hotels etc.?**

There has been an allowance made for damages appropriate for this stage of work. We have also carried out a sensitivity assessment, which showed that even if we doubled the amount of damages, we would still have a funding shortfall of over £20 million.

7) **Do you think the actual costs of a flood to Bath have been calculated? (it is estimated that the 2013 floods in the Somerset Levels cost Somerset Tourism £200m)**

Because of the way government funding for flood defence is allocated to the Environment Agency, the cost of flooding doesn't make a big enough difference to the amount of grant available. The Council is currently collating available information to estimate the broader costs. See question 6.

8) **Can you estimate how detrimental it would be to ignore a combined scheme?**

The combined scheme, including improved gates and walls would protect around 350 additional properties from flooding and prevent £15 million of damages. However this scheme has a cost of £50 million and would only be eligible for £10 million of government funding. It is therefore unaffordable at the current time.

9) **Walls through town are discounted due to "visual impact". Has this been tested and what difference to the walls being constructed now along Lower Bristol Road?**

Although visual impact would be a consideration, walls have been discounted because there is no funding currently available.

10) **Have the Riparian owners been consulted in any of these plans?**

As we are not progressing with the walls, there will not be a need to consult riparian owners.

11) **Can you elaborate on the second paragraph of the Recommendations mentioning new baseline water levels being set if work at Twerton is completed alone? Will this make any future scheme in Residential areas more difficult?**

Walls would increase the river levels, but an improved gate arrangement at Twerton would reduce the river levels, helping to mitigate this issue. If we were proceeding with the full scheme, then they would have to be considered together. However, as we are not currently progressing this option, this will not be an issue.

12) **What future studies and consultations are planned and are these to the goal of a "holistic flood risk solution for Bath"? (p34)**

We will not be progressing with the wider solution including walls, unless significant funding becomes available. We are however, progressing with the options for the gates and continue to work with developers to manage flood risk at smaller sites along the river.

13) **Are B&NES supporting this "joined up approach"?**

B&NES and the EA have worked closely together to investigate the options available to improve the level of flood risk management in Bath. We will continue to work together in the future to seek a joined up approach to flood management in the city, and wider Bristol Avon catchment.

14) **Have the economic impacts (e.g. impact on tourist income, damages and loss of commercial income etc.) caused by flood events in Bath been taken into account when making the case for government funding?**

Flood Defence Grant in Aid allows the economic impacts of flooding to be factored into the business case in accordance with Government guidance. Accordingly, the joint River Avon Options Appraisal Report did take into account the impact of flooding to the value of an estimated £174 million. A sensitivity test was also carried out, where the cost of these damages were doubled, even with this sensitivity test there was a funding shortfall against eligible government funding of over £20 million. There would therefore be no difference to the affordability of the scheme. It would be difficult to justify the doubling of the cost of these damages in any event.

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Bath & North East Somerset Council

PLANNING, HOUSING AND ECONOMIC DEVELOPMENT POLICY DEVELOPMENT AND SCRUTINY PANEL

This Forward Plan lists all the items coming to the Panel over the next few months.

Inevitably, some of the published information may change; Government guidance recognises that the plan is a best assessment, at the time of publication, of anticipated decision making. The online Forward Plan is updated regularly and can be seen on the Council's website at:

http://democracy.bathnes.gov.uk/mgPlansHome.aspx?bcr=1

The Forward Plan demonstrates the Council's commitment to openness and participation in decision making. It assists the Panel in planning their input to policy formulation and development, and in reviewing the work of the Cabinet.

Should you wish to make representations, please contact the report author or Mark Durnford, Democratic Services (01225 394458). A formal agenda will be issued 5 clear working days before the meeting.

Agenda papers can be inspected on the Council's website and at the Guildhall (Bath), Hollies (Midsomer Norton), Civic Centre (Keynsham) and at Bath Central, Keynsham and Midsomer Norton public libraries.

Ref Date	Decision Maker/s	Title	Report Author Contact	Strategic Director Lead
7TH MARCH 2017				
7 Mar 2017	**PHED PDS**	**Flood Risk Management**	Jim Collings, Jim McEwen Tel: 01225 39 4366, Tel: 01225 39 4409	Strategic Director - Place
7 Mar 2017	**PHED PDS**	**Water Space Study**	Cleo Newcombe-Jones, Tim Hewitt Tel: 01225 477617, Tel: 01225 477552	Strategic Director - Place
2ND MAY 2017				
2 May 2017	**PHED PDS**	**Draft Destination Management Plan**	Benjamin Woods Tel: 01225 477597	Strategic Director - Place
2 May 2017	**PHED PDS**	**Report from the Chair of the City of Bath World Heritage Site Steering Group**	Tony Crouch. Tel: 01225 477584	
4TH JULY 2017				
4 Jul 2017	**PHED PDS**	**Housing & Planning Act**	Lisa Bartlett Tel: 01225 477281	Strategic Director - Place
4 Jul 2017	**PHED PDS**	**Article 4 Policy**	John Wilkinson Tel: 01225 396593	Strategic Director - Place

Ref Date	Decision Maker/s	Title	Report Author Contact	Strategic Director Lead
ITEMS YET TO BE SCHEDULED				
	PHED PDS	**Royal National Hospital for Rheumatic Diseases**	John Wilkinson Tel: 01225 396593	Strategic Director - Place
	PHED PDS	**South West Housing Providers Longitudinal Welfare Reform Study**	Graham Sabourn Tel: 01225 477949	Strategic Director - Place
	PHED PDS	**Review of KPIs - Housing Performance Reports**	Graham Sabourn Tel: 01225 477949	Strategic Director - Place

The Forward Plan is administered by **DEMOCRATIC SERVICES**: Mark Durnford 01225 394458 Democratic_Services@bathnes.gov.uk