

A meeting of the **OVERVIEW AND SCRUTINY PANEL (ECONOMY AND GROWTH)** will be held in **CIVIC SUITE 0.1A, PATHFINDER HOUSE, ST MARY'S STREET, HUNTINGDON, CAMBS, PE29 3TN** on **THURSDAY, 6TH APRIL 2017** at **7:00 PM** and you are requested to attend for the transaction of the following business:-

**Contact
(01480)**

APOLOGIES

1. MINUTES (Pages 5 - 8)

To approve as a correct record the Minutes of the meeting held on 9th March 2017.

**A Green
388008**

2. MEMBERS' INTERESTS

To receive from Members declarations as to disclosable pecuniary and other interests in relation to any Agenda item.

3. NOTICE OF KEY EXECUTIVE DECISIONS (Pages 9 - 14)

A copy of the current Notice of Key Executive Decisions is attached. Members are invited to note the Plan and to comment as appropriate on any items contained therein.

**Democratic Services
388169**

4. A428 BLACK CAT TO CAXTON GIBBET ROAD IMPROVEMENTS
(Pages 15 - 24)

Members are to receive a report on the A428 Black Cat to Caxton Gibbet Road Improvements.

**C Kerr
388430**

**5. HUNTINGDONSHIRE LOCAL PLAN TO 2036 AND
INFRASTRUCTURE PLANNING UPDATES** (Pages 25 - 34)

The Panel are to receive the Huntingdonshire Local Plan to 2036 and Infrastructure Planning Updates.

**C Kerr
388430**

**6. CAMBRIDGESHIRE FLOOD AND WATER SUPPLEMENTARY
PLANNING DOCUMENT** (Pages 35 - 300)

The Cambridgeshire Flood and Water Supplementary Planning Document is to be presented to the Panel.

**J Campbell
388432**

**7. STRATEGIC REVIEW OF CAR PARKING - PROJECT OVERVIEW
AND TASK AND FINISH GROUP SCOPING DOCUMENT** (Pages
301 - 310)

Members are to receive the Strategic Review of Car Parking Project Overview and the Task and Finish Group Scoping Document.

**N Sloper
388635**

8. WORK PLAN STUDIES (Pages 311 - 312)

To consider the work programmes of the Communities and Environment and Performance and Customers Overview and Scrutiny Panels.

**A Green
388008**

9. OVERVIEW AND SCRUTINY PROGRESS (Pages 313 - 316)

To consider a report on the Panel's activities.

**A Green
388008**

Dated this 29th day of March 2017



Head of Paid Service

Notes

1. Disclosable Pecuniary Interests

(1) *Members are required to declare any disclosable pecuniary interests and unless you have obtained dispensation, cannot discuss or vote on the matter at the meeting and must also leave the room whilst the matter is being debated or voted on.*

(2) *A Member has a disclosable pecuniary interest if it -*

- (a) relates to you, or*
- (b) is an interest of -*

- (i) your spouse or civil partner; or*
- (ii) a person with whom you are living as husband and wife; or*
- (iii) a person with whom you are living as if you were civil partners*

and you are aware that the other person has the interest.

(3) *Disclosable pecuniary interests includes -*

- (a) any employment or profession carried out for profit or gain;*
- (b) any financial benefit received by the Member in respect of expenses incurred carrying out his or her duties as a Member (except from the Council);*
- (c) any current contracts with the Council;*
- (d) any beneficial interest in land/property within the Council's area;*
- (e) any licence for a month or longer to occupy land in the Council's area;*
- (f) any tenancy where the Council is landlord and the Member (or person in (2)(b) above) has a beneficial interest; or*
- (g) a beneficial interest (above the specified level) in the shares of any body which has a place of business or land in the Council's area.*

Non-Statutory Disclosable Interests

(4) *If a Member has a non-statutory disclosable interest then you are required to declare that interest, but may remain to discuss and vote providing you do not breach the overall Nolan principles.*

(5) *A Member has a non-statutory disclosable interest where -*

- (a) a decision in relation to the business being considered might reasonably be regarded as affecting the well-being or financial standing of you or a member of your family or a*

person with whom you have a close association to a greater extent than it would affect the majority of the council tax payers, rate payers or inhabitants of the ward or electoral area for which you have been elected or otherwise of the authority's administrative area, or

- (b) it relates to or is likely to affect a disclosable pecuniary interest, but in respect of a member of your family (other than specified in (2)(b) above) or a person with whom you have a close association, or
- (c) it relates to or is likely to affect any body –

- (i) exercising functions of a public nature; or
- (ii) directed to charitable purposes; or
- (iii) one of whose principal purposes includes the influence of public opinion or policy (including any political party or trade union) of which you are a Member or in a position of control or management.

and that interest is not a disclosable pecuniary interest.

2. Filming, Photography and Recording at Council Meetings

The District Council supports the principles of openness and transparency in its decision making and permits filming, recording and the taking of photographs at its meetings that are open to the public. It also welcomes the use of social networking and micro-blogging websites (such as Twitter and Facebook) to communicate with people about what is happening at meetings. Arrangements for these activities should operate in accordance with guidelines agreed by the Council and available via the following link [filming, photography and recording at council meetings.pdf](#) or on request from the Democratic Services Team. The Council understands that some members of the public attending its meetings may not wish to be filmed. The Chairman of the meeting will facilitate this preference by ensuring that any such request not to be recorded is respected.

Please contact Mr Adam Green, Democratic Services Officer (Scrutiny), Tel No. 01480 388008/e-mail Adam.Green@huntingdonshire.gov.uk if you have a general query on any Agenda Item, wish to tender your apologies for absence from the meeting, or would like information on any decision taken by the Committee/Panel.

Specific enquiries with regard to items on the Agenda should be directed towards the Contact Officer.

Members of the public are welcome to attend this meeting as observers except during consideration of confidential or exempt items of business.

Agenda and enclosures can be viewed on the District Council's website – www.huntingdonshire.gov.uk (under Councils and Democracy).

If you would like a translation of Agenda/Minutes/Reports or would like a large text version or an audio version please contact the Elections & Democratic Services Manager and we will try to accommodate your needs.

Emergency Procedure

In the event of the fire alarm being sounded and on the instruction of the Meeting Administrator, all attendees are requested to vacate the building via the closest emergency exit.

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HUNTINGDONSHIRE DISTRICT COUNCIL

MINUTES of the meeting of the OVERVIEW AND SCRUTINY PANEL (ECONOMY AND GROWTH) held in Civic Suite 0.1A, Pathfinder House, St Mary's Street, Huntingdon, Cambs, PE29 3TN on Thursday, 9th March 2017.

PRESENT: Councillor D B Dew – Chairman.
Councillors Mrs B E Boddington,
I D Gardener, L George, B Hyland,
T D Sanderson, Mrs J Tavener,
D R Underwood and K D Wainwright.

APOLOGIES: Apologies for absence from the meeting were submitted on behalf of Councillors E R Butler, D J Mead and D Watt.

IN ATTENDANCE: Councillor R Harrison.

65. MINUTES

The Minutes of the meeting held on 2nd February 2017 were approved as a correct record and signed by the Chairman.

66. MEMBERS' INTERESTS

No declarations of interest were received.

67. NOTICE OF KEY EXECUTIVE DECISIONS

The Panel received and noted the current Notice of Key Executive Decisions (a copy of which is appended in the Minute Book) which has been prepared by the Executive Leader for the period 1st March 2017 to 30th June 2017.

68. HUNTINGDONSHIRE DESIGN GUIDE

With the aid of a report by the Planning Service Manager (a copy of which is appended in the Minute Book) the Huntingdonshire Design Guide was considered by the Panel. Accompanying the report was a PowerPoint presentation on the Design Guide.

The Panel was informed that the existing Design Guide is ten years old, however as Planning legislation and guidance has altered the Council has decided to update the guide. The document has been developed over the course of four years and sets out the reasons why development should be designed in a particular way.

A consultation on the Design Guide took place over a six week period between October 2016 and December 2016. A total of 42 comments were received from 21 consultees which has led to a number of amendments within the Design Guide. The Panel were given full details of what sections had been amended as a result of the consultation.

Members were informed that once the document has been adopted by Cabinet, the interactive version will be produced and uploaded online for use by Officers, Members, customers and the public.

A concern was raised that the only town not to be mentioned within the Design Guide was Godmanchester. In response, the Panel were assured that a reference to Godmanchester would be inserted into the Design Guide before it is presented at Cabinet on 16th March 2017.

In response to a question, how do you envisage that the documents will be used by Parish and Town Council Planning Committees, Members were informed that the Design Guide will be an interactive document intended to be used online. The document will lead the user through the proposal interactively and will take them through to the pages that are required.

Several Members raised concerns regarding perforated garage doors and in particular the security risk and the homeowner's ability to change the doors. In response the Panel was informed that the purpose of the perforated garage doors is to encourage homeowners to park their vehicle in the garage and not use it for storage, in terms of security the doors would be secure. The ability of the homeowner to alter the door would depend on permitted development rights and conditions attached to the planning applications.

A further concern was raised that when a vehicle was not parked within the garage it would be a sign that the homeowner was not at home however in response the Member was informed that this would not be any more of a sign than a vehicle not parked on the drive.

Members were informed that in regards to parking the Council has seen what has worked and what hasn't and that has been considered in the development of the Design Guide.

Following a question about the use of the Design Guide by developers and planning applicants, the Panel was informed that as soon as the Cabinet has decided to adopt the Design Guide developers and planning applicants would have to consider and use the document.

In response to a question asked in regards to the relationship of the Design Guide, Neighbourhood Plan and Local Plan with each other the Panel were informed that the idea is that all the policies are applied and work together, however in terms of any conflict the most recently adopted of either the Local Plan or a Neighbourhood Plan would take precedence.

The Panel welcomed the Design Guide but have asked the Cabinet to consider Members' comments in respect to garage doors.

(At 7.05pm, during the consideration of this item, Councillor L George entered the meeting.)

69. WORK PLAN STUDIES

The Panel received and noted a report by the Democratic Services Officer (Scrutiny) (a copy of which is appended in the Minute Book) which contained details of studies being undertaken by the Overview and Scrutiny Panels Communities and Environment and Performance and Customers.

(At 7.43pm, during the consideration of this item, Councillor R Harrison left the meeting and did not return.)

70. OVERVIEW AND SCRUTINY PROGRESS

With the aid of a report by the Democratic Services Officer (Scrutiny) (a copy of which is appended in the Minute Book), the Panel reviewed the progress of its activities since the last meeting.

The Chairman has informed the Panel that he has been in contact with the Executive Councillor for Operations regarding the issue of car parking fees and asked if the issue could be brought back to the Panel before deciding to go out to consultation. A Member raised the point that the Cabinet have not yet rescinded the decision to consult on the fees presented to the Panel at its meeting in October 2016.

Members have decided to invite the Executive Leader to a meeting of the Panel to discuss devolution after the election of the Combined Authority Mayor.

The Panel has Councillor I D Gardener appointed to the Housing Working Group. The Head of Development has stated that he and the Executive Councillor for Housing and Regulatory Services will work with Housing Working Group on the Housing Strategy before it is presented to the Panel in June 2017.

Chairman

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NOTICE OF EXECUTIVE KEY DECISIONS INCLUDING THOSE TO BE CONSIDERED IN PRIVATE

Prepared by Councillor R B Howe, Executive Leader of the Council
Date of Publication: Claire Bulman
 22 March 2017
For Period: 1 April 2017 to 30 July 2017

Membership of the Cabinet is as follows:-

Councillor R B Howe	Executive Leader of the Council	The Old Barn High Street Upwood Huntingdon PE26 2QE Tel: 01487 814393 E-mail: Robin.Howe@huntingdonshire.gov.uk
Councillor D Brown	Executive Councillor for Commercialisation and Shared Services	Haycroft Porch Farm Barns Warboys Road Old Hurst PE28 3AA Tel: 07970 462048 E-mail: Daryl.Brown@huntingdonshire.gov.uk
Councillor G J Bull	Deputy Executive Leader	2 Lancaster Close Old Hurst Huntingdon PE28 3BB Tel: 07780 511928 E-mail:- Graham.Bull@huntingdonshire.gov.uk
Councillor S Cawley	Executive Councillor for Transformation and Customers	6 Levers Water Huntingdon PE29 6TH Tel: 01480 435188 E-mail: Stephen.Cawley@huntingdonshire.gov.uk
Councillor Mrs A Dickinson	Executive Councillor for Community Resilience	Priory Holme Priory Road St Ives Cambs PE27 5BB Tel: 01480 495445 E-mail: Angie.Dickinson@huntingdonshire.gov.uk

Councillor R Fuller	Executive Councillor for Housing and Regulatory Services	8 Sarah Grace Court New Road St Ives Cambridgeshire PE27 5DS Tel: 01480 388311 E-mail: Ryan.Fuller@huntingdonshire.gov.uk
Councillor J A Gray	Executive Councillor for Strategic Resources	Vine Cottage 2 Station Road Catworth PE28 OPE Tel: 01832 710799 E-mail: Jonathan.Gray@huntingdonshire.gov.uk
Councillor R Harrison	Executive Councillor for Growth	55 Bushmead Road Eaton Socon St Neots PE19 8GC Tel: 01480 406664 E-mail: Roger.Harrison@huntingdonshire.gov.uk
Councillor J M Palmer	Executive Councillor for Leisure and Health	149 Great Whyte Ramsey Huntingdon Cambridgeshire PE26 1HP Tel: 01487 814063 E-mail: John.Palmer@huntingdonshire.gov.uk
Councillor J White	Executive Councillor for Operations	49 High Street Spaldwick Huntingdon PE28 OTD Tel: 01480 890451 E-mail: Jim.White@huntingdonshire.gov.uk

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Notice is hereby given of:

- Key decisions that will be taken by the Cabinet (or other decision maker)
- Confidential or exempt executive decisions that will be taken in a meeting from which the public will be excluded (for whole or part).

A notice/agenda together with reports and supporting documents for each meeting will be published at least five working days before the date of the meeting. In order to enquire about the availability of documents and subject to any restrictions on their disclosure, copies may be requested by contacting the Democratic Services Team on 01480 388169 or E-mail Democratic.Services@huntingdonshire.gov.uk.

Agendas may be accessed electronically at www.huntingdonshire.gov.uk.

Formal notice is hereby given under The Local Authorities (Executive Arrangements) (Meetings and Access to Information) (England) Regulations 2012 that, where indicated part of the meetings listed in this notice will be held in private because the agenda and reports for the meeting will contain confidential or exempt information under Part 1 of Schedule 12A to the Local Government (Access to Information) Act 1985 (as amended) and that the public interest in withholding the information outweighs the public interest in disclosing it. See the relevant paragraphs below.

Any person who wishes to make representations to the decision maker about a decision which is to be made or wishes to object to an item being considered in private may do so by emailing Democratic.Services@huntingdonshire.gov.uk or by contacting the Democratic Services Team. If representations are received at least eight working days before the date of the meeting, they will be published with the agenda together with a statement of the District Council's response. Any representations received after this time will be verbally reported and considered at the meeting.

Paragraphs of Part 1 of Schedule 12A to the Local Government (Access to Information) Act 1985 (as amended) (Reason for the report to be considered in private)

1. Information relating to any individual
2. Information which is likely to reveal the identity of an individual
3. Information relating to the Financial and Business Affairs of any particular person (including the Authority holding that information)
4. Information relating to any consultations or negotiations or contemplated consultations or negotiations in connection with any labour relations that are arising between the Authority or a Minister of the Crown and employees of or office holders under the Authority
5. Information in respect of which a claim to legal professional privilege could be maintained in legal proceedings
6. Information which reveals that the Authority proposes:-
 - (a) To give under any announcement a notice under or by virtue of which requirements are imposed on a person; or
 - (b) To make an Order or Direction under any enactment
7. Information relating to any action taken or to be taken in connection with the prevention, investigation or prosecution of crime.

Huntingdonshire District Council
 Pathfinder House
 St Mary's Street
 Huntingdon PE29 3TN.

- Notes:- (i) Additions changes from the previous Forward Plan are annotated ***
 (ii) Part II confidential items which will be considered in private are annotated ## and shown in italic.

Subject/Matter for Decision	Decision/ recommendation to be made by	Date decision to be taken	Documents Available	How relevant Officer can be contacted	Reasons for the report to be considered in private.	Relevant Executive Councillor	Relevant Overview & Scrutiny Panel
Findings of the CCTV Task and Finish Group***	Cabinet	20 Apr 2017		Adam Green, Democratic Services Officer (Scrutiny) Tel No. 01480 388008 / Email: Adam.Green@huntingdonshire.gov.uk		D Brown	Communities and Environment.

Subject/Matter for Decision	Decision/recommendation to be made by	Date decision to be taken	Documents Available	How relevant Officer can be contacted	Reasons for the report to be considered in private	Relevant Executive Councillor	Relevant Overview & Scrutiny Panel
Memoranda of Understanding with the Local Enterprise Partnership	Cabinet	20 Apr 2017		Andy Moffat, Head of Development Tel No. 01480 388400 or Email: Andy.Moffat@huntingdonshire.gov.uk		R Harrison	Economy and Growth
Cambridgeshire Flood and Water SPD***	Cabinet	20 Apr 2017		Head of Development Andy Moffat, Tel No. 01480 388400 or email: Andy.Moffat@huntingdonshire.gov.uk		R Harrison	Economy and Growth
A428 Caxton Gibbet Road Improvements*** 12	Cabinet	20 Apr 2017		Andy Moffat, Head of Development Tel No. 01480 388400 or Email: Andy.Moffat@huntingdonshire.gov.uk		R Harrison	Economy and Growth
Housing Strategy	Cabinet	22 Jun 2017		Andy Moffat, Head of Development Tel No. 01480 388400 or email: Andy.Moffatt@huntingdonshire.gov.uk		R Fuller	Economy and Growth
Corporate Enforcement Policy	Cabinet	22 Jun 2017		Chris Stopford, Head of Community Services Tel No. 01480 388280 or email: Chris.Stopford@huntingdonshire.gov.uk		R Fuller	Communities and Environment
Agreement for Transfer of Loan##	Cabinet	22 Jun 2017	Due Diligence Report	Clive Mason, Head of Resources Tel No. 01480 388157 or email Clive.Mason@huntingdonshire.gov.uk		J A Gray	Performance and Customers
CCTV (Full Business Case)	Cabinet	22 Jun 2017		Anthony Kemp, Interim Corporate Director (Services) Tel No. 01480 388301 or email: Anthony.Kemp@huntingdonshire.gov.uk		D Brown	Performance and Customers

Subject/Matter for Decision	Decision/ recommendation to be made by	Date decision to be taken	Documents Available	How relevant Officer can be contacted	Reasons for the report to be considered in private	Relevant Executive Councillor	Relevant Overview & Scrutiny Panel
Community Chest Grant Aid Awards 2017/18***	Grants	29 Jun 2017		Chris Stopford, Head of Community Services Tel No. 01480 388280 or email Chris.Stopford@huntingdonshire.gov.uk		J A Gray / R Fuller	Communities and Environment

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Public
Key Decision - Yes

HUNTINGDONSHIRE DISTRICT COUNCIL

Title/Subject Matter: A428 Black Cat to Caxton Gibbet Improvements

Meeting/Date: Overview & Scrutiny Panel (Economy & Growth) – 6th April 2017
Cabinet – 20th April 2017

Executive Portfolio: Planning Policy, Housing & Infrastructure

Report by: Head of Development

Ward(s) affected: All St. Neots Wards, Gransden and The Offords

Executive Summary:

The proposed upgrading of the A428 Black Cat to Caxton Gibbet is the final section of upgrading of the route to dual carriageway standard between the M1 at Milton Keynes and the M11 at Cambridge. In the longer term it will form part of the wider scheme to provide an Oxford to Cambridge Expressway and this in itself will be part of other corridor improvements relating to the provision of an East West Rail link between Oxford to Cambridge with wider links to the west of England and onwards into East Anglia.

The current public consultation by Highways England looks at three route options, together with three options for Black Cat roundabout.

Feedback from this formal stage will result in technical analysis of all options leading to a Preferred Route announcement, together with a recommended scheme for Black Cat roundabout. Subject to a Development Order Consent process being granted permission and the allocation of funding for the scheme by Central Govt. it is likely that delivery of the scheme would likely take place as part of the Govt. Road Investment Strategy Period 2 (RIS2) from April 2020

Recommendation(s):

The Overview and Scrutiny Panel (Economy and Growth) is invited to comment on the report.

The Cabinet are recommended to:

1. Support the adoption of the 'Orange' route, subject to any final alignment of a route east of St. Neots and confirmation that the existing A428 will be retained as a local road along its whole length between the A1 and Caxton Gibbet as outlined at Sec. 5.1; and
2. Support proposals for Black Cat roundabout in accordance with Option A or C that provides a free-flow route for the A421/A428 and the A1 through this

junction, as well as providing and all movements arrangements within the junction

3. To advise Highways England that any support is conditional on 'future-proofing' any A1 improvement scheme and that the current scheme would not prejudice or prevent that future route improvement
4. This route will eventually form part of the wider Oxford to Cambridge Expressway scheme and that nothing emerging in terms of the design of this scheme must prejudice the wider Expressway proposals

1. PURPOSE OF THE REPORT

- 1.1 This report provides an outline of the current consultation by Highways England (HE) relating to the proposed upgrading of the A428 between Black Cat roundabout at the A1 in the west and Caxton Gibbet at the A1198 in the east. The consultation runs until the 23rd April 2017.
- 1.2 The main purpose of the report is to:
- Outline the benefits and objectives of the scheme
 - Assess the route options between the A1 and A1198
 - Assess the options to improve the Black Cat roundabout
 - Seek a formal response of the Council as to its preferred option based on the above

2. WHY IS THIS REPORT NECESSARY/BACKGROUND

- 2.1 The Council has been an active statutory consultee on various iterations relating to the improvement of this route over many years, particularly relating to HE Route-Based strategies and the more recent Oxford to Cambridge Expressway proposals. This position has been taken in order to ensure that the best position is achieved for the people of Huntingdonshire, and St. Neots in particular.
- 2.2 In the East of England, the Government is currently investing over £2 billion to create better and safer journeys and to support economic growth across the region and the wider United Kingdom. It is therefore vital that the Council links that objective to our own Corporate Objectives and, particularly, to the growth proposals contained within the emerging Huntingdonshire Local Plan to 2036 (HLP2036).

3. OPTIONS CONSIDERED/ANALYSIS

- 3.1 The current route connects communities between St. Neots and Cambourne but it also acts as an important route to connect to the A14 in the east and onwards to international hubs such as Felixstowe and Harwich ports. It also connects Bedford, Milton Keynes and the M1 to Cambridge and the M11.
- 3.2 Improvements will support local growth, particularly around St. Neots, and reduce current congestion and delays and improve journey time reliability and increasing the overall capacity of the route. The scheme will also be 'future-proofed' to ensure that it will tie into and become part of the wider Oxford to Cambridge Expressway scheme, this being a key priority of Government giving the commitment and development funding allocated to that scheme as part of the Autumn Statement 2016.
- 3.3 Likewise, and as part of the Government commitment to improving the transport infrastructure in the region, the A1 East of England Strategic Study is also looking at improving this route between the M25 to Peterborough as well as the East-West Rail scheme, which looks to establish a railway connection East Anglia with central, southern and western England. This latter scheme has also been granted funding as part of the Autumn Statement 2016 to further develop route options between Bedford and Cambridge and in our role as Local Planning Authority (LPA), the Council is currently working on those proposals with Network Rail and other key stakeholders.

- 3.4 The A428 between St. Neots and Caxton Gibbet is the only stretch of single carriageway left between the M1 and the M11 at Cambridge. The route is currently used by both local and longer-distance traffic and users are subject to regular delays and congestion, particularly at peak hours, at Black Cat roundabout, around St. Neots and at Caxton Gibbet heading eastbound.
- 3.5 Highways England has six key benefits and objectives in developing the scheme, as follows;
- Enabling economic growth
 - A safe and serviceable network
 - A more free-flowing network
 - An improved environment
 - A more accessible and integrated network
 - Customer satisfaction

4. OPTIONS FOR CONSULTATION

4.1 HE are consulting on three route options to provide a new Dual 2-lane carriageway between Black Cat roundabout and Caxton Gibbet. All options propose grade-separated junctions at both ends. All routes are shown at Appendix A. It is important to note that at present, they are simply indicative lines on a plan in order to give an indication of approximate alignments.

4.2 Orange Route

4.2.1 The proposed route runs east of Black Cat and after crossing the River Great Ouse and East Coast Main Line (ECML), it turns northwards and runs close to the current line of the existing A428 where a new junction would be formed with this road as well as the B1428 Cambridge Road. Thereafter, the route runs north of the current A428 and both Croxton and Eltisley before re-joining the existing alignment west of Caxton Gibbet.

4.3 Purple Route

4.3.1 The proposed route runs east of Black Cat and after crossing the River Great Ouse and East Coast Main Line (ECML), it continues eastwards before turning slightly northwards and passing less than 1km north of Abbotsley, then continuing eastwards and passing 1km north of Great Gransden before turning northwards to rejoin the existing route at Caxton Gibbet.

4.4 Pink Route

4.4.1 The proposed route runs east of Black Cat and after crossing the River Great Ouse and East Coast Main Line (ECML), it continues slightly more south-eastwards and passes 1km south of Abbotsley, and 1km north of Waresley, before turning slightly northwards and joining the Purple route less than 1km north of Great Gransden.

4.5 In selecting a route that the Council may wish to support and taking into account the consultation materials and other relevant factors in Section 3 above, it is difficult to conclude other than support for the Orange route. It is considered that this alignment would best suit the growth objectives of St. Neots, that it would better link to the retention of the existing A428 as a local road for communities along the route, as well as providing greater resilience in the corridor in being able to cope with unexpected incidents and events on either the upgraded A428 or the downgraded local road.

4.6 It is also considered that by careful selection of a final route alignment within the Orange corridor, that full mitigation could be provided in terms of matters such as Noise and Air Quality in order to protect St. Neots now, and as part of planned growth.

4.6 Conversely, while the Purple and Pink routes would provide a fast route between Black Cat and Caxton Gibbet for strategic through traffic, it would do little in meeting the growth objectives of St. Neots as there would be no connection between the town and either route, other than via the existing A1 and Black Cat roundabout.

4.7 Importantly, the Purple and Pink routes also cut through some of the best landscape in this part of the County and even with full mitigation being provided, based on the consultation information available, it is considered that the overall impact on settlements such as Abbotsley, Great Gransden and Waresley, would, potentially, be far too significant and adequate mitigation unachievable.

4.8 Black Cat Roundabout (see Appendix B).

4.9 Three options are proposed at this location, as follows;

4.10 Option A

4.10.1 This option would ensure that the A421 would free-flow straight through the junction onto the upgraded A428. Likewise the A1 would also become free-flow through the junction also, as well as the A421 eastbound towards the A1 northbound. The local road network would be facilitated by two roundabouts and via these, all movements in all directions would be facilitated. To achieve this, the interchange would be at 3 height levels.

4.11 Option B

4.11.1 This option would ensure that the A421 would free-flow straight through the junction onto the upgraded A428 as per Option A. However the A1 would not be free-flow and would continue to negotiate the existing Black Cat roundabout. Likewise, not all directions can be achieved via this arrangement although the A421 eastbound towards the A1 northbound would be accommodated. The interchange would be at 2 height levels.

4.12 Option C

4.12.1 This is similar to Option A in that all traffic movements would be accommodated with free flow between the A421 to A428 as well as on the A1. In addition, the A421 eastbound towards the A1 northbound would be accommodated. The difference between Option A, compared to Option C, in relation to the local road network is that this is accommodated via a single larger roundabout arrangement, compared to two roundabouts in Option A. The interchange would be at 3 height levels.

4.13 In selecting a preferred junction arrangement at Black Cat roundabout, it is vital that the A421/A428 and the A1 are free-flow routes so this would rule-out Option B. The major difference between Option's A and C are the use and scale of roundabout arrangements. It is felt at this stage, that perhaps the larger roundabout in Option C, indicatively shown at over twice the size of the current Black Cat arrangement, could lead to future congestion and perhaps two roundabouts as in Option A might be the preferred option.

5. RECOMMENDED OPTIONS

- 5.1 In accordance with Sec. 4.5 above, it is recommended that Cabinet endorse the Orange Route as the preferred option of this Council, subject to the following;
- It is considered that the current Orange alignment, while favoured, runs too close to St. Neots and the existing A428. In order to address future growth plans for the town and to accommodate a satisfactory level of mitigation measures, that the District Council support for the Orange route is based on the alignment moving eastwards from its current line
 - Confirmation that the existing A428 will remain as a local road between the A1 and Caxton Gibbet, particularly at the latter end
- 5.2 In accordance with Sec. 4.8 above, it is recommended that Cabinet endorse the principles of either Option A or C in relation to the future arrangements for Black Cat roundabout, with particular emphasis on the overall design needs for the road network through the roundabouts but that both the A1 and the A421/A428 must be free-flow arrangements.
- 5.3 Members will also be aware of the current A1 Study as outlined in Sec. 3.3. Following the Autumn Statement 2016, while it is understood that this work is taking a longer timeframe in terms of recommendations and future delivery, the Council's response to this consultation should make clear that nothing within this proposal must prejudice the delivery of a future A1 improvement and that this scheme must 'future-proof' any emerging details from that Study.
- 5.4 Likewise, although this scheme, when delivered, will eventually form part of the wider Oxford to Cambridge Expressway proposals, again nothing emerging in terms of the design of this scheme must prejudice the wider Expressway scheme, including integration with any proposals that emerge for the improvement of the A1.

6. COMMENTS OF OVERVIEW & SCRUTINY

- 6.1 The comments of the relevant Overview and Scrutiny Panel will be included in this section prior to its consideration by the Cabinet.

7. KEY IMPACTS / RISKS

- 7.1 None at present.

8. WHAT ACTIONS WILL BE TAKEN/TIMETABLE FOR IMPLEMENTATION

- 8.1 Following the feedback from all parties to this consultation, technical analysis will be undertaken, which will determine which option is the most suitable route to take forward, together with a proposal for Black Cat roundabout. This will then result in an announcement of a 'Preferred Route' for the scheme.
- 8.2 Projects of this nature are known as Nationally Significant Infrastructure Projects and once a Preferred Route is known, a Development Consent Order (DCO) submission will be made to the Planning Inspectorate.

- 8.3 Subject to DCO consent for the scheme and funding being approved by Central Government, current indications are that delivery would likely take place as part of the Govt. Road Investment Strategy Period 2 (RIS2) from April 2020. It should be noted that the current 3-year window to complete all the statutory processes and to obtain funding is an immensely challenging timeframe but the Council should give its commitment to work closely with Department for Transport, Highways England and other stakeholders in order to meet that deadline as far as is practically possible.

9. LINK TO THE CORPORATE PLAN, STRATEGIC PRIORITIES AND / OR CORPORATE OBJECTIVES

- 9.1 This scheme fully aligns with the following objectives of the Corporate Plan;

- Enabling Communities – our objectives are to:
 - to create, protect and enhance our safe and clean built and green environment, and;
 - to support people to improve their health and well-being
- Delivering Sustainable Growth - our objectives are to:
 - Accelerate business growth and investment
 - Remove infrastructure barriers to growth
 - Improve the supply of new and affordable housing, jobs and community facilities to meet future need

10. LEGAL IMPLICATIONS

- 10.1 The District Council will remain a statutory consultee to the emerging process relating to the delivery of this scheme, particularly surrounding the DCO process. This will allow the District Council to make future representations on the scheme as the overall design emerges and as a Tier 1 Stakeholder, it is likely that the Council will participate in the Examination in Public that will consider the DCO application.

11. RESOURCE IMPLICATIONS

- 10.1 None at present, other than staff time within the Policy, Implementation & Strategic Development team, which will be met from existing resources.

12. OTHER IMPLICATIONS

- 12.1 The Council is currently undertaking a refresh of our Infrastructure Delivery Plan and it is important that current infrastructure deficiencies and proposals to address these, including this scheme, are included in that work in order that the Plan properly reflects such matters right across the District, including the strategic road network, that we may continue to work with partners to maximise delivery of infrastructure schemes.
- 12.2 The East West rail scheme, as mentioned in Section 3.3 above is being developed by Department for Transport and Network Rail. As part of current stakeholder engagement, both that project and this proposed scheme are currently in negotiations to ensure that both projects work together and share areas of commonality. One important aspect in that regard are the overall

Business cases for both projects going forward and to ensure that these are complimentary to each other, rather than competing with each other.

13. LIST OF APPENDICES INCLUDED

Appendix 1 – Route Options

Appendix 2 – Black Cat Roundabout Options

BACKGROUND PAPERS

Autumn Statement 2016

A428 Black Cat to Caxton Gibbet Improvements – Public Consultation March 2017

CONTACT OFFICER

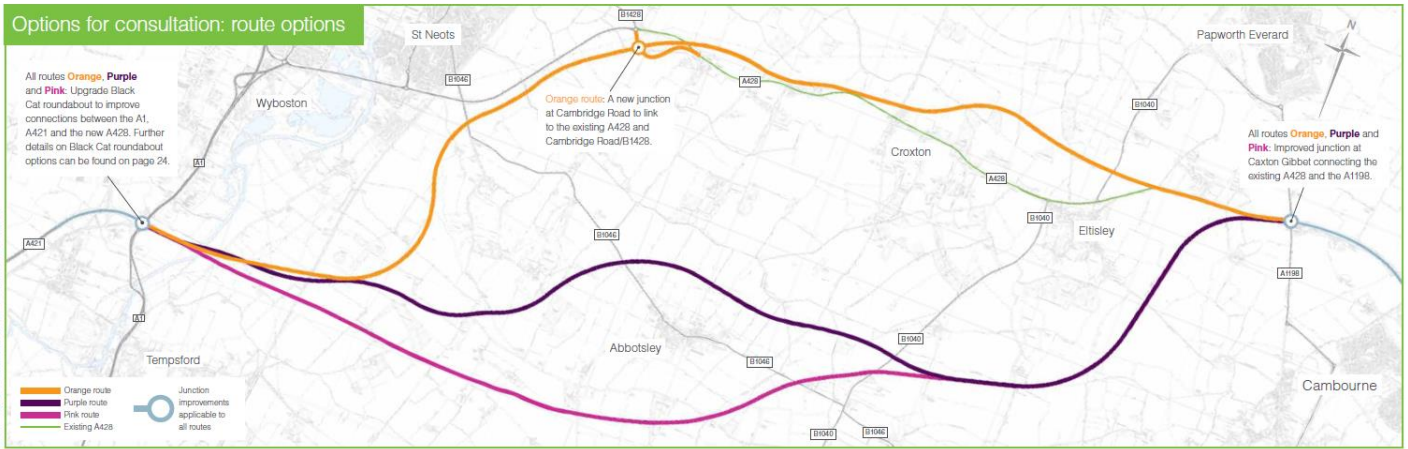
Clara Kerr - Planning Services Manager (Policy, Implementation & Strategic Development) - Tel: 01480 388430

Email: clara.kerr@huntingdonshire.gov.uk

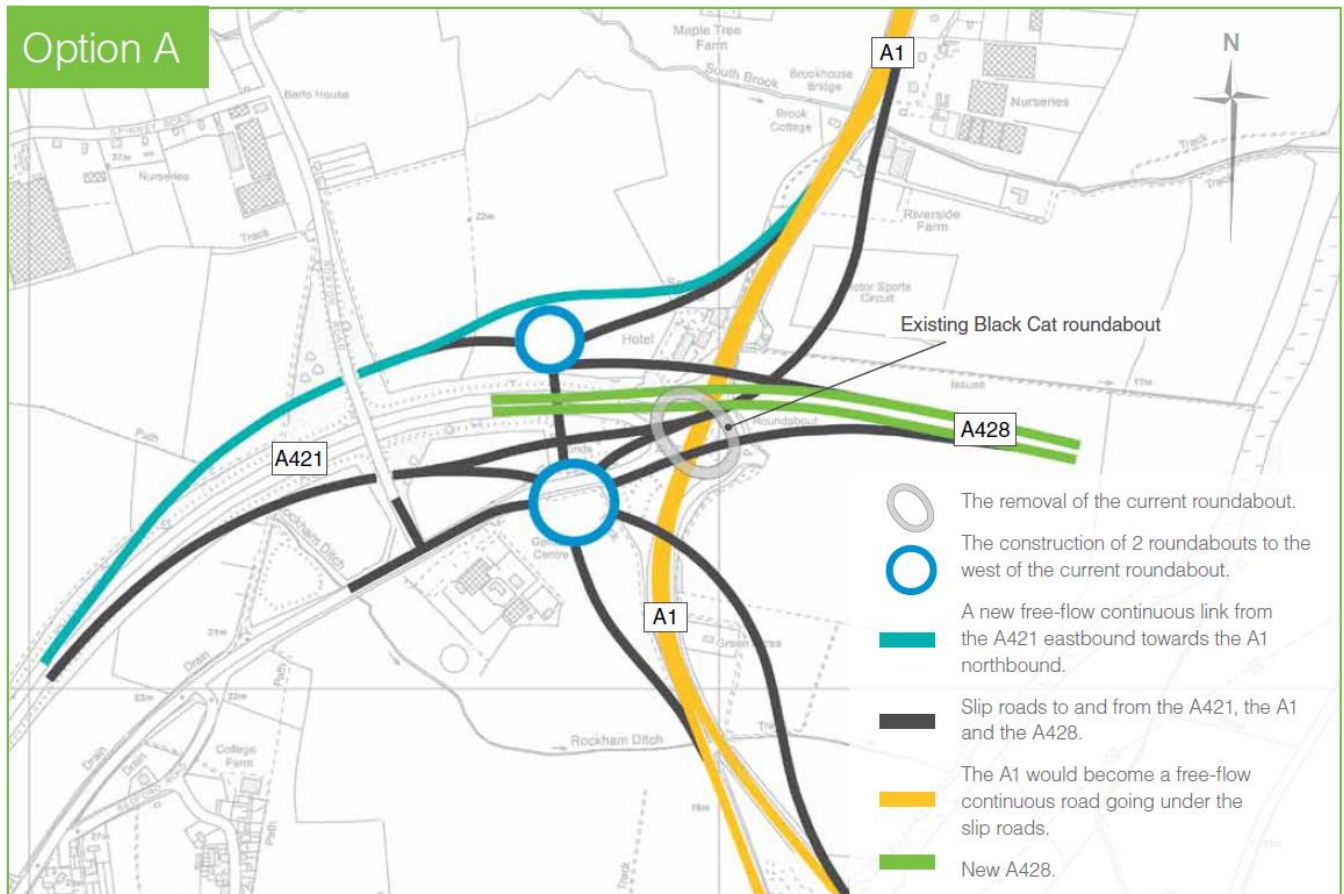
Stuart Bell – Senior Transportation Officer (Implementation Team) – Tel: 01480 388387

Email: stuart.bell@huntingdonshire.gov.uk

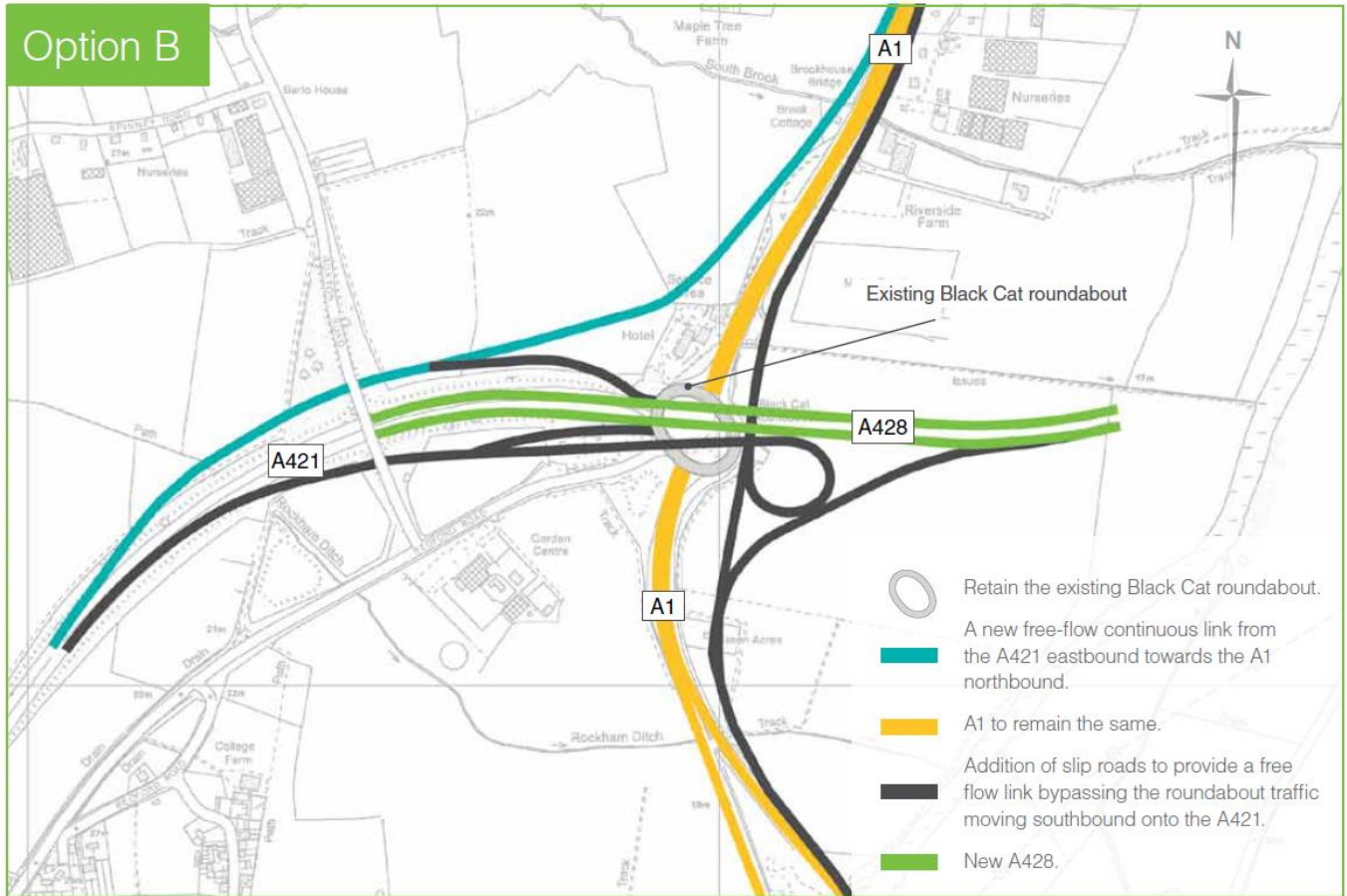
Appendix A



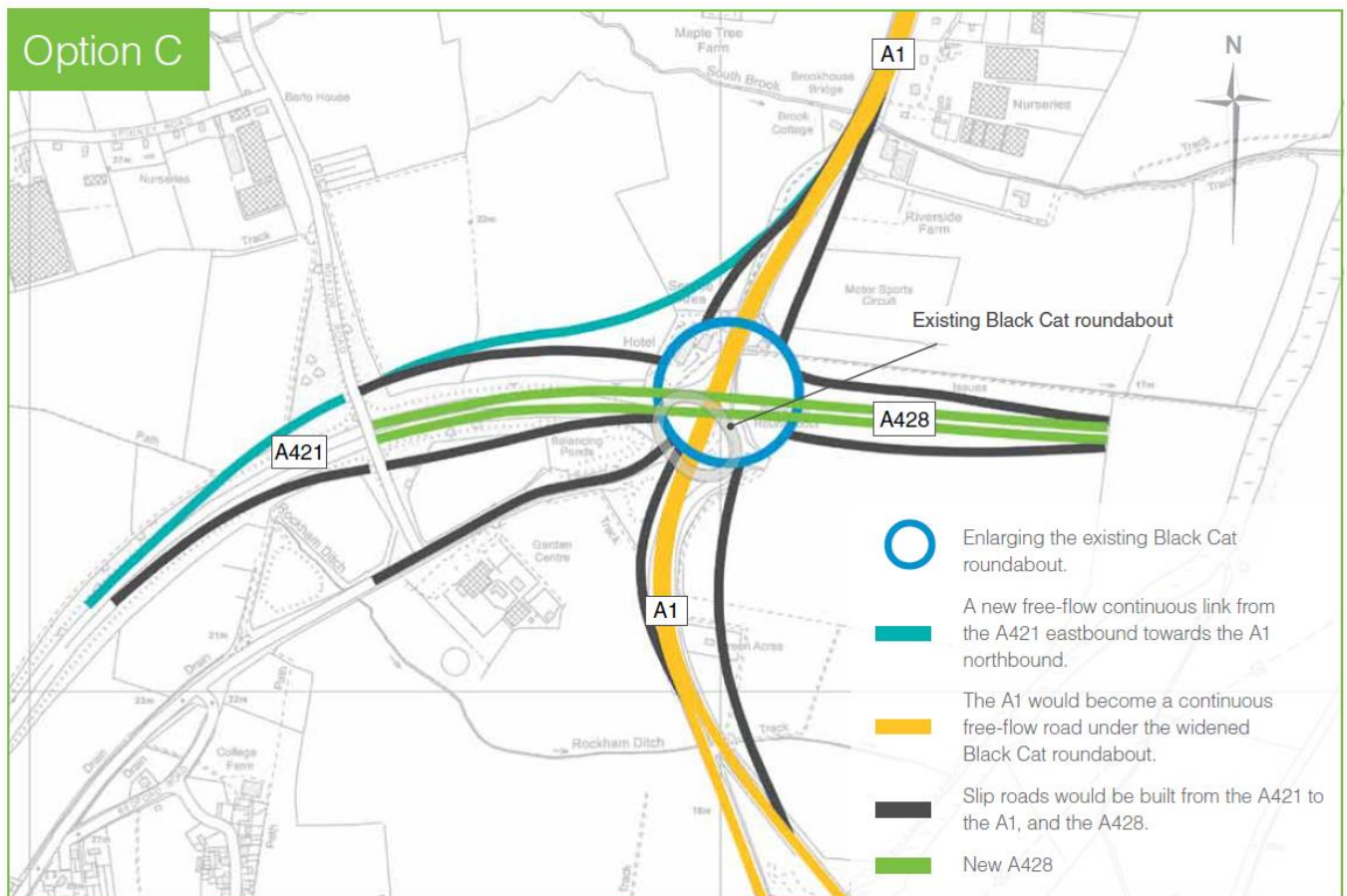
Appendix B



Option B



Option C



Public
Key Decision - No

HUNTINGDONSHIRE DISTRICT COUNCIL

Title/Subject Matter:	Huntingdonshire Local Plan to 2036 Quarterly Update and Infrastructure Planning Update
Meeting/Date:	Overview and Scrutiny Panel (Economy and Growth) – 6th April 2017 Cabinet – 20th April 2017
Executive Portfolio:	Executive Councillor for Growth
Report by:	Head of Development
Ward(s) affected:	All

Executive Summary:

This quarterly report provides updates on progress on Local Plan preparation and the main elements of the evidence base currently under preparation. It highlights the initial outcomes from the Strategic Transport Study. It also provides a further update in relation to the highways and transport infrastructure projects necessary for the local plan's delivery.

Recommendations:

That the Overview and Scrutiny Panel (Economy and Growth):

- 1) Notes progress on preparation of the Huntingdonshire Local Plan to 2036, its supporting evidence base and the highways and transport infrastructure projects necessary for its delivery; and

That the Cabinet:

- 1) Notes progress on preparation of the Huntingdonshire Local Plan to 2036, its supporting evidence base and the highways and transport infrastructure projects necessary for its delivery.

1 PURPOSE OF THE REPORT

- 1.1 This report provides an update on progress on preparation of the proposed submission Huntingdonshire Local Plan to 2036 (HLP2036), its supporting evidence base and the highways and transport infrastructure projects necessary for its delivery.
- 1.2 The main purpose of the report is to:
- Confirm the delivery programme for the evidence base necessary to deliver the HLP2036
 - Confirm expected highways and transport infrastructure improvements along with anticipated delivery timescales

2 WHY IS THIS REPORT NECESSARY/BACKGROUND

- 2.1 At the Cabinet meeting on 19 November 2015 it was resolved that quarterly reports on progress with preparation of the HLP2036 should be provided. To provide a comprehensive picture updates on infrastructure planning are integrated with this as the Local Plan cannot be successfully delivered without the necessary supporting infrastructure.

3 PROGRESS WITH PREPARATION OF THE HLP2036 AND ITS SUPPORTING EVIDENCE BASE

Strategic Transport Study

- 3.1 Headline outcomes from the Strategic Transport Study (STS) were circulated in an 'All Members Bulletin' on 27 February 2017. This highlighted that the road infrastructure required to deliver the proposed allocation of Wyton airfield is not currently deliverable, in particular the funding requirements are considered unachievable at this time. Scenarios tested included a 'without Wyton' scenario and other scenarios are being considered to enable the final proposed development strategy to be determined.
- 3.2 An initial draft STS report was received on 3 March 2017 and extensive comments have been made by officers from HDC and Cambridgeshire County Council. Mott Macdonald are currently reviewing these and preparing a revised document for further consideration. A finalised report is expected by the end of April.

Strategic Flood Risk Assessment (SFRA)

- 3.3 Some additional work has been identified as necessary and a small extension to this project commissioned to ensure a comprehensive piece of evidence is available. The final report is expected in April 2017.

Retail and Commercial Leisure Needs Assessment

- 3.4 The Assessment examines the current retailing situation in Huntingdon, St Neots, St Ives and Ramsey considering the strengths and opportunities for each town centre individually. Across the district as a whole it recommends capacity exists for 2,000-2,500 sqm convenience shopping floorspace and 18,200-28,500 sqm comparison floorspace by 2036. It does, however, caution that floorspace capacity is based on available expenditure and does not necessarily equate to demand from potential retailers for space; if additional floorspace is not provided trade may simply be concentrated within existing retail provision. The Assessment was completed before Waitrose's announcement of the

intended closure of their Huntingdon store. The successful contribution of markets, particularly in St Ives, to the local economy is quantified with 60% of residents surveyed having visited a local street market or farmers market in the preceding two months.

- 3.5 In terms of leisure facilities the Assessment did not identify any district-wide capacity for major commercial facilities (health and fitness clubs, cinema screens or tin-pin bowling lanes). In qualitative terms an increase in the provision and diversity of restaurants could be justified. St Neots' vibrant evening economy is noted along with recent improvements to provision in Huntingdon.

Objectively Assessed Need Update

- 3.6 An update of the Objectively Assessed Need figure for Huntingdonshire has been commissioned from Cambridgeshire County Council's Research Group. This has identified a marginally reduced objectively assessed need for housing of 20,100 rather than the target for 21,000 new homes included in the Targeted Consultation HLP2036.

Wind Energy Development

- 3.7 A consultation document was issued on 21 November 2016 to seek comments on four possible options for which areas of the district might be designated as potentially suitable for further wind turbine development, supplemented by an additional option allowing for wind turbines of up to 30 metres which could be implemented in combination with the other options. 131 comments were received from 54 respondents. An initial review of comments shows that there was roughly equal support for each of the four options. In relation to all options, there were quite a number of comments expressing the view that if the policy is applied robustly, including consideration of all planning impacts as required by the WMS, then applications with unacceptable impacts would be refused and this would be true wherever they were located.

Local Development Scheme

- 3.8 A revised Local Development Scheme has been prepared for the HLP2036. This is a formal requirement to set out the nature and programme for the HLP2036. The timetable is reflected in section 5 of this report. The updated document was published on HDC's website in March 2017.

Habitats Regulations Assessment

- 3.9 The Conservation of Habitats and Species Regulations 2010 require an assessment of any plan or proposal which may result in a significant effect on the integrity of any European designated site of nature conservation value. First stage of this comprises a screening report completed in January 2017. As with the initial work completed in 2013 this concluded that a full Habitats Regulations Assessment was required because likely significant effects were identified for European sites from several of the HLP2036's proposed policies. A draft final Habitats Regulations Assessment was received at the end of March identifying minor changes to six proposed policies. Of the identified sites the small allocation proposed on the former gas depot site in Huntingdon was identified as potential having a likely significant effect on Portholme SAC but adequate mitigation can be put in place to address this.

Growth and Infrastructure Investment and Delivery Plan

- 3.10 Arup were commissioned last year to undertake this study to set out the infrastructure that will be required to deliver the planned level of housing and employment put forward in the HLP2036. The Delivery Plan seeks to:
- Understand the current baseline provision in relation to physical and social infrastructure
 - Assess infrastructure need to support the growth proposed in the HLP2036
 - Estimate cost, potential funding sources and phasing of delivery
 - Support the selection of sites and drafting of policies in the emerging HLP2036 and
 - Inform further work being undertaken by the Council in relation to viability and implementation.
- 3.11 Following a range of meetings and dialogue with infrastructure providers and partners the Infrastructure Delivery Plan is now being finalised for officer consideration in readiness to support finalisation of the proposed submission HLP2036.

Local Plan Viability Testing

- 3.12 As previously reported Cushman & Wakefield are undertaking a Growth Viability Assessment of the HLP2036. This is building on previous work undertaken which followed the Harman approach and reviewing changes in direction and costs that have occurred since that time. The work looks to consider the drafting of policies, their impact and other development costs to then identify an appropriate percentage of affordable housing to be sought with the HLP2036.

4 HIGHWAYS AND TRANSPORT INFRASTRUCTURE PROJECTS UPDATE

A14 Cambridge to Huntingdon Improvement

Condition discharge continues in consultation with A14 Integrated Development Team (IDT).
Sub-groups relating to such matters as design, delivery, legacy and environment are on-going. HDC officers service these
Physical works commenced in December 2016 and the programme remains as follows: <ul style="list-style-type: none">• Phase 1 – Section 1 A1 widening between Alconbury and Brampton Hut – from December 2016 to summer 2018• Phase 1 – Section 2 Brampton Hut to ECML – from December 2016 to autumn 2019• Phase 2 – Section 3 ECML to Swavesey – from early 2017 to summer 2019• Phase 3 – Section 4 Swavesey to Girton – from early 2017 to summer 2019• Phase 4 – Section 5 Girton to Milton – from Summer 2018 to autumn 2019• Phase 5 – Section 6 Huntingdon Viaduct removal and new local road network– from January 2020 to early 2021

A428: Black Cat to Caxton Gibbet Improvement:

Highways England/Jacobs are progressing scheme to Preferred Route announcement stage.
Scheme is undergoing Public Consultation between 6 th March 2017 and 23 rd April 2017. The Overview and Scrutiny Panel (Economy & Growth) will consider the proposals on 6 th April 2017, followed by Cabinet on 20 th April 2017.
The scheme is part of the government's Road Investment Strategy April 2015 to March 2020. It remains subject to funding approval and a Development Consent Order (DCO) consent and, if granted, works on-site would commence around Spring 2020.
Scheme design will be to the government's 'Expressway' standard to tie into the current Oxford to Cambridge Expressway strategic study.
Proposed timeline is as follows: <ul style="list-style-type: none">• March/April 2017 – Public consultation on scheme options• Spring/Summer 2017 – Ministerial announcement of preferred route• Summer/Autumn 2017 – Development of Preferred Scheme• Autumn 2017 – Formal consultation on Preferred Scheme• Summer 2018 – Submission of DCO application• Winter 2019 – Secretary of State for Transport decision• Spring 2020 – Commencement of works

Oxford to Cambridge Expressway:

Route currently exists between M1 and M11 via Caxton Gibbet. Black Cat to Caxton Gibbet emerges as a separate scheme (see above). The scheme will consider integration of the route with M11/A14 at Girton and with the A1/M25 to Peterborough Study, East-West Rail and emerging ECML proposals.
Key 'missing' link between M40 and M1 and route around Oxford.
Whole scheme includes road-based options, plus rail, technology, local access, behaviour change and high-quality public transport elements.
Development funding of £27m was allocated in the Govt. Autumn Statement 2016 to further develop options for the scheme. Estimated overall costs are between £3bn to £3.5bn.

East West Rail Central Section (Bedford to Cambridge)

East West Rail (EWR) developed 20 original options and reduced to a final 2, focussed on a Bedford/Sandy/Cambridge corridor or a Bedford/Sandy/Hitchin/Cambridge corridor. Final route option is via Sandy in order to achieve a 125mph line speed
Work to date has shown that it is not possible to reinstate the old Oxford to Cambridge 'Varsity Line'. Alignment is either too slow for a modern-day railway or the previous alignment has been lost at various locations.
Bedford to Cambridge will be a 'Nationally Significant Infrastructure Project' and will be subject to a Development Consent Order (DCO). Final route option is emerging. Govt. committed a further £10m of development funding towards the scheme as part of the Autumn Statement 2016.
A route via Sandy is likely to result in growth options being explored in that area, which would be of direct relevance and impact on Huntingdonshire.
The (very indicative) timeline is as follows, subject to funding and consents: <ul style="list-style-type: none">• Initial National Infrastructure Commission report – Late 2016• Preferred Route confirmed – Late 2018• Preferred Alignment confirmed – circa 2021• DCO application – circa 2022• Start on site – circa 2026• New train services running – circa 2031

- Depending on the outcomes of the further development work, it is possible that the above timelines could be accelerated

A1/ M25 to Peterborough:

Scheme aims to bring consistency to the southern section of the route and to improve the non-motorway northern section (Baldock to Brampton) to motorway standard.

Short-list of three packages:

- Package A – section of new motorway (mostly offline) in the middle (northern) section i.e. ‘Middle bypass’
- Package B – local improvements (grade separating junctions or creating new grade separated junctions in the middle (northern) section i.e. ‘Improve existing junctions’
- Package C – upgrade the east-west connectivity of the A1 to avoid ‘hop on/hop off’ behaviour i.e. ‘Modest improvements’.

Subject to DfT approval, preferred options will be developed and the scheme will feed into the government’s Road Investment Strategy, together with another 5 strategic studies across England and, if approved, would be delivered as part of Roads Period 2 via the National Roads Fund after 2020.

As part of the Govt. Autumn Statement 2016, Govt. announced that the A1 proposals will take a slightly longer timeframe to the Oxford to Cambridge Expressway proposals but that options will continue to be developed to inform Road Investment Period 2 from 2020 onwards.

East Coast Main Line Study (London Kings Cross to Edinburgh:

The strategic approach is:

- to increase line capacity by reducing speed difference between services, removing junction conflicts and to improve performance, safety and resilience
- greater dedicated fast and slow lines
- build additional routes to separate routes where necessary
- use technology to reduce headway and manage passenger experience
- develop safer resilient infrastructure giving better performance
- ability to accommodate new InterCity Express Programme

Initial work is indicating that interventions are required throughout the whole route, that the mix of traffic with different speeds is an overriding issue and there may be conflicting movements at junctions and stations i.e. Peterborough. However, there is also potential for use of loop lines i.e. Hitchin/ Cambridge/ Ely/Peterborough.

Key constraints between Kings Cross to Peterborough:

- Kings Cross – turnaround times
- Outer Suburban (services to St. Neots, Huntingdon and Peterborough) – Stevenage turnback, standing time in Kings Cross
- Welwyn Viaduct – two-track section, speed mix, conflict with stopping and freight services
- Welwyn to Peterborough – speed mix on slow lines, including freight, 2-track section at Stilton Fen, station operations/overlaps
- Emerging demands of Thameslink services
- Lack of electrification Ely to Peterborough

Possible options may include the ‘spreading’ of stopping patterns for long-distance services to other stations i.e. possible future Lincoln and Grimsby

services to Kings Cross potentially stopping at Huntingdon and St. Neots, rather than all at Peterborough. Need also to consider interchange at Sandy via East West rail and its importance as a possible major interchange/hub.

An early intervention is Huntingdon to Woodwalton four tracking project. This scheme continues consultation to reinstate the 4th track between Huntingdon and Wood Walton Fen.

The current timeline for the East Coast Study is:	
•	Spring/Summer 2017 – Public Consultation
•	Summer/Autumn 2017 – Scheme design finalisation and application submission
•	2018 – Abbots Ripton level crossing closure
•	Summer 2018 to Autumn 2020 – Main Works
•	Winter 2020 – Opening to services

Thameslink services are still planned to arrive through Huntingdon and St. Neots circa 2019 via Kings Cross St. Pancras/Farringdon/London Bridge to south of London and the south coast

5 KEY IMPACTS / RISKS

- 5.1 Over the last quarter the major impact/risk on progressing the HLP2036 to proposed submission has come from the Strategic Transport Study. The December 2016/January 2017 report revised the table below slightly, predicated on sufficient outcomes from the study being available in January 2017 to prepare the preferred development scenario. Unfortunately, these were not received until late February; the final report is now not expected until the end of April instead of February. If the last elements of work identify any unexpected issues this may impact on the delivery of the proposed submission HLP2036.
- 5.2 The table below has been updated – using the timetable contained in the December 2016/January 2017 report as a base – to reflect the timescales set out in the Local Development Scheme (March 2017).
- 5.3 Officers continue to make considerable efforts to seek to ensure that the timescale for the statutory consultation on, and submission of, the Local Plan does not slip. Importantly, the timetable below still enables the Council to meet the expected requirement to submit a new Local Plan to the Secretary of State by the end of March 2018. The Proposed Submission Local Plan will be presented to Overview & Scrutiny Panel and Cabinet before the Statutory Consultation scheduled for this summer.

Timetable: Key stages- completed	
Sustainability appraisal scoping report	February – March 2012
Issues and options consultation	May – June 2012
Strategy and Policy consultation	August – November 2012
Full draft Local Plan (stage 3) consultation	May – July 2013
Additional sites consultation	November – December 2013
(Long Term Transport Strategy preparation led by Cambridgeshire County Council)	May – November 2014
Huntingdonshire Local Plan to 2026: Targeted Consultation 2015	January – March 2015

Timetable: key stage – to be completed/undertaken	
Finalisation of evidence base – including Housing and Employment Land Availability Assessment, Strategic Flood Risk Assessment, Growth & Investment Infrastructure Delivery Plan, Growth Viability Assessment and Gypsy and Traveller Accommodation Needs Assessment	August 2015 - January 2017 April 2017
Strategic Transport Study in collaboration with Cambridgeshire County Council	January 2016 - February 2017 April 2017
Statutory consultation on proposed submission Local Plan to 2036 (Reg. 19)	June – July 2017 June – August 2017
Submission to Secretary of State	December 2017
Estimated examination	December 2017- May 2019
Receipt of Inspector's report	June 2019
Estimated date for adoption	July 2019

6 LINK TO THE CORPORATE PLAN, STRATEGIC PRIORITIES AND / OR CORPORATE OBJECTIVES

6.1 The production of the HLP2036 and associated evidence relates to the 2016/17 strategic priority of Delivering Sustainable Growth and specifically two associated strategic objectives.

6.2 The first objective under the strategic priority is as follows:
“To improve the supply of new and affordable housing, jobs and community facilities to meet future need.”

Our work programme includes:

- *“ensuring an adequate supply of housing to meet objectively assessed needs;*
- *planning and delivering the provision of decent market and affordable housing for current and future needs;*
- *ensuring that there are the right community facilities to accommodate the housing growth.”*

6.3 The relevant key actions for 2016/18 are:

- prepare the Local Plan;
- facilitate delivery of new housing on the large strategic sites at:
 - St Neots
 - Alconbury Weald
- maintain a 5 year housing supply position

6.4 The second related objective under the strategic priority is as follows:
“To remove infrastructure barriers to growth”

Our work programme includes:

- *influencing the development of the Highways and Transport Infrastructure Strategy; and*
- *facilitating the delivery of infrastructure to support housing growth.*

7 RESOURCE IMPLICATIONS

7.1 A single Planning Policy earmarked reserve was agreed at the Cabinet meeting of 17 March 2016 enabling money to be drawn down to support production of the evidence base. It is expected that any additional funding needed can be drawn from this.

8 REASONS FOR THE RECOMMENDED DECISIONS

- 8.1 To update Members on preparation of the HLP2036 and its associated evidence base and raise awareness of the risks and implications for the timetable. To update Members in relation to highways and transport infrastructure projects.

BACKGROUND PAPERS

[Cabinet Report 19 January 2017 Item](#)

[HM Treasury July 2015 Fixing the Foundations](#)

[Written Ministerial Statement July 2015 Local Plans](#)

[Written Ministerial Statement 18 June 2015 on Wind Turbine Development](#)

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Confidential - No
Key Decision - Yes

HUNTINGDONSHIRE DISTRICT COUNCIL

Title/Subject Matter: Cambridgeshire Flood and Water Supplementary Planning Document

Meeting/Date: Overview and Scrutiny (Economy and Growth) – 6th April 2017
Cabinet – 20th April 2017

Executive Portfolio: Executive Councillor for Growth

Report by: Clara Kerr, Planning Service Manager

Wards affected: All

Executive Summary:

The Cambridgeshire Flood and Water Supplementary Planning Document (SPD) was prepared by Cambridgeshire County Council in partnership with Cambridge, East Cambridgeshire, Fenland, Huntingdonshire and South Cambridgeshire District/City Councils, the Environment Agency, Anglian Water, and the Internal Drainage Boards.

The SPD provides guidance for, and sets out expectations placed on, developers and applicants on managing flood risk and the water environment in and around new developments. The contents of the SPD expand upon the flood risk and water management policies contained within the adopted Development Plan and the emerging Local Plan.

Recommendations:

That Overview and Scrutiny Panel (Economy and Growth) makes comment on the Document; and

That Cabinet:

- adopts the proposed 'Cambridgeshire Flood and Water' as a Supplementary Planning Document.
- in making that decision, notes the comments from the Consultation Statement and the Strategic Environmental Assessment and Habitat Regulations Assessment Screening Reports.

1. PURPOSE OF THE REPORT

- 1.1 The purpose of this report is to seek Cabinet's approval for the Cambridgeshire Flood and Water Supplementary Planning Document (SPD) which was subject to a six week public consultation between 4th September and 16th October 2015.

2. BACKGROUND

- 2.1 Flood risk management is a significant issue throughout Cambridgeshire, with the market towns of Huntingdonshire being among the most seriously affected in the County. Ensuring that the drainage network and watercourses are managed appropriately, that development is located in a safe environment and that sites are designed and constructed so that surface water is managed effectively are key issues in reducing the likelihood and consequences of flooding.

- 2.2 Following the enactment of the Flood and Water Management Act 2010, which made Cambridgeshire County Council the Lead Local Flood Authority (LLFA) for Cambridgeshire and the progressing of comprehensive Local Plan preparation across the County, the Cambridgeshire Local Planning Authorities (LPAs), including Huntingdonshire, agreed to the joint preparation of a countywide Supplementary Planning Document (SPD) to ensure that a consistent, locally appropriate approach to flood risk and water management could be established and applied.

- 2.3 The Flood and Water SPD has been prepared by Cambridgeshire County Council (as the LLFA), managed by a county-wide Officer Steering Group, in partnership with:

- The District and City Councils of South Cambridgeshire, Cambridge, East Cambridgeshire, Fenland and Huntingdonshire;
- The Environment Agency;
- Anglian Water, as sewerage undertaker for Cambridgeshire; and
- The Internal Drainage Boards

- 2.4 The main purposes of the SPD are:

- To provide guidance to developers and decision makers on the approach that should be taken to manage flood risk and the water environment as part of new development proposals;
- To provide a step by step guide to address flood risk matters as part of a development proposal, including clear guidance on the use of Sustainable Drainage Systems (SuDS);
- To support existing and emerging flood risk and water management related planning policies contained within the relevant Local Planning Authorities adopted or draft Local Plans; and
- For Cambridgeshire County Council, the SPD will support the relevant policies contained within the 'Cambridgeshire and Peterborough Minerals and Waste Development Plan' Core Strategy (adopted July 2011).

- 2.5 The SPD provides detailed guidance for applicants on developing proposals that:

- Are not at risk of flooding and that do not increase the risk of flooding elsewhere, including providing guidance on the sequential and exception tests, how to produce a site specific Flood Risk Assessment, and measures that can be taken to manage flood risk;

- Include the use of sustainable drainage systems (SuDS) that effectively manage water, are well designed to conserve, accommodate and enhance biodiversity, and provide amenity for local residents; and
- Enhance the quality of the water environment and mitigate the adverse impact of development on the quality of water bodies including rivers, lakes and groundwater.

3. LINK TO CORPORATE PLAN, STRATEGIC PRIORITIES AND/ OR CORPORATE OBJECTIVES

- 3.1 The adoption of the Cambridgeshire Flood and Water SPD supports Strategic Objective 1a) 'Create, protect and enhance our safe and clean built and green environment' of the Corporate Plan.

4. MAIN ISSUES RAISED DURING CONSULTATION

- 4.1 The draft SPD was published for a six week public consultation between 4th September and 16th October 2015. During this period a total of 150 comments were received from 20 consultees. A summary of the main issues raised in comments as well as a list of the consultees that made comments are presented in the Consultation Statement, attached to this report as Appendix B. The complete comments received can be found on the Council's [Consultation Portal](#).

- 4.2 Following consultation, a number of significant amendments were made as well as numerous minor changes:

- A better understanding of the Fen areas and IDBs requirements;
- Managing conflicts between what works in Cambridge and what works in the Fens;
- Changes to ensure that the document is as user friendly as possible;
- A better quality document in terms of design and clarity of images and graphs.

- 4.3 Cambridgeshire County Council Economy and Environment Committee endorsed the SPD at its meeting on 14th July 2016, and recommended it be adopted by each district/city council.

- 4.4 East Cambridgeshire, Fenland, and South Cambridgeshire Councils have adopted the document as SPD and Cambridge City has resolved to adopt pending adoption of their emerging Local Plan. Other workload priorities for the Planning Policy team, particularly the preparation of the Local Plan and the new Design Guide, are the reasons that this Document has not been proposed for adoption by HDC until now.

5. STRATEGIC ENVIRONMENTAL ASSESSMENT

- 5.1 The aim of the Strategic Environmental Assessment Directive is 'to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development, by ensuring that, in accordance with this Directive, an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment.'

- 5.2 The Directive is implemented through the Environmental Assessment of Plans and Programmes Regulations 2004. Supplementary planning documents may in exceptional circumstances require a strategic environmental assessment

(SEA) if they are likely to have significant environmental effects that have not already been assessed during the preparation of the Local Plan.

- 5.3 In order to determine whether a SEA is necessary for the Cambridgeshire Flood and Water SPD a screening process has been undertaken. The screening report prepared by the County Council demonstrates that the draft SPD does not give rise to significant environmental effects. The Strategic Environmental Assessment Screening for the Cambridgeshire Flood and Water SPD is attached as Appendix C.

6. HABITATS REGULATION ASSESSMENT

- 6.1 The Habitats Directive requires competent authorities to decide whether or not a plan or project can proceed having undertaken the following “appropriate assessment requirements” to:

- Determine whether a plan or project may have a significant effect on a European site
- If required, undertake an appropriate assessment of the plan or project
- Decide whether there may be an adverse effect on the integrity of the European site in light of the appropriate assessment

- 6.2 In order to determine whether an appropriate assessment is necessary for the Cambridgeshire Flood and Water SPD a screening process has been undertaken and is attached as Appendix D.

- 6.3 The conclusions of the HRA screening are that the Cambridgeshire Flood and Water SPD is a guidance document that aims to improve the quality and sustainability of new development within Cambridgeshire in respect of appropriately addressing flood risk and water management matters. It does not present any policies or proposals in its own right, and serves only to provide greater clarity about the expectations in relation to existing policies within adopted or emerging Local Plans within Cambridgeshire. Those adopted or emerging Local Plans have been, or will be, subject to both Sustainability Appraisal (incorporating Strategic Environmental Assessment) and Habitats Regulations Assessment.

- 6.4 On this basis, it is considered that there will be no likely significant adverse effect on the integrity of the European sites as a result of the Cambridgeshire Flood and Water SPD.

7. EQUALITIES IMPACT ASSESSMENT

- 7.1 Cambridgeshire County Council has completed an Equality Impact Assessment of the SPD, which is attached as Appendix E. The assessment shows that the SPD will have a neutral and/ or positive impact on equality and diversity.

8. LEGAL IMPLICATIONS

- 8.1 The updating of our local policy position will give more coherent, consistent and robust support to the Council’s position with regard to ensure that flood and water issues are fully addressed in new development. The adoption of the SPD will give its contents weight at Public Inquiries and throughout the development management process.

- 8.2 The production, public participation and proposed adoption of this draft SPD have complied with relevant regulations and provisions as set out in the Town

and Country [Local Planning] [England] Regulations 2012 as amended, being the applicable regulations for the process.

9. RECOMMENDATION

- 9.1 That Cabinet adopts the proposed 'Cambridgeshire Flood and Water' as a Supplementary Planning Document; and, in making that decision, it notes the comments from the Consultation Statement and the Strategic Environmental Assessment and Habitat Regulations Assessment Screening Reports.

LIST OF APPENDICES INCLUDED

Appendix A: Cambridgeshire Flood and Water Supplementary Planning Document (SPD)

Appendix B: Consultation Statement: Cambridgeshire Flood and Water SPD

Appendix C: Strategic Environmental Assessment Screening Report

Appendix D: Habitat Regulations Assessment Screening Report

Appendix E: Equalities Impact Assessment

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Cambridgeshire Flood and Water Supplementary Planning Document



Cambridgeshire
County Council



Fenland
CAMBRIDGESHIRE
Fenland District Council



EAST CAMBRIDGESHIRE
DISTRICT COUNCIL



Huntingdonshire
DISTRICT COUNCIL



South
Cambridgeshire
District Council



CAMBRIDGE
CITY COUNCIL

Note to the reader

This document was endorsed by Cambridgeshire County Council (CCC) in its capacity as Lead Local Flood Authority on 14 July 2016.

Once adopted as a Supplementary Planning Document by local planning authorities in Cambridgeshire this document will be a material planning consideration when determining planning applications. As such It does not introduce new policy but rather it elaborates on, and is consistent with Local Plan policies.

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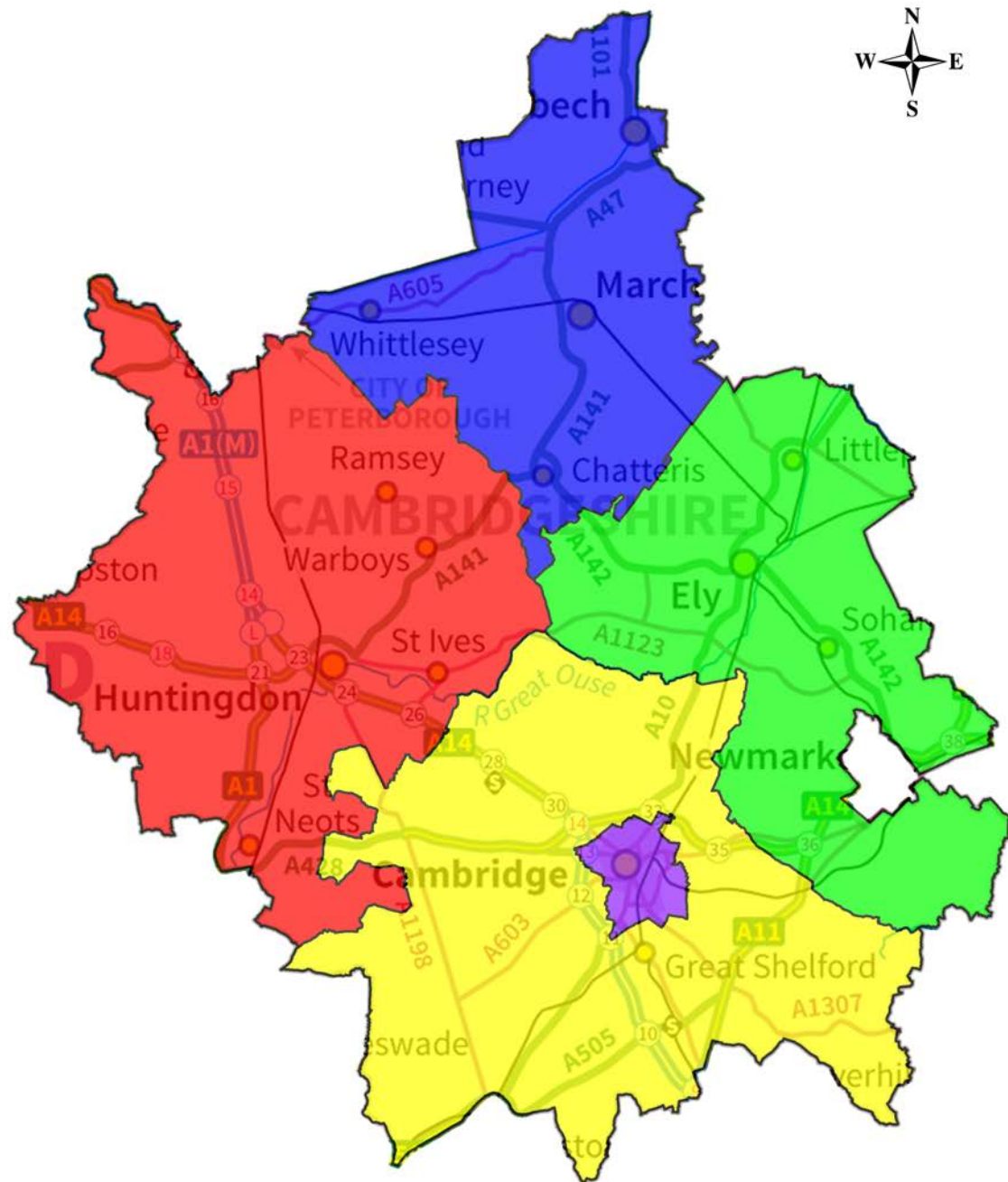


1 Introduction

1.1 Background

- 1.1.1** This [Supplementary Planning Document](#) (SPD) forms part of each of the Cambridgeshire Local Planning Authority's (LPAs) suite of planning documents. This SPD has been developed by Cambridgeshire County Council (as Lead Local Flood Authority (LLFA)) in conjunction with LPAs within Cambridgeshire, and other relevant stakeholders, to support the implementation of flood risk and water related policies in the Local Plans. It provides guidance on the implementation of flood and water related policies in each authority's respective local plan. Further details on these policies are contained within Appendix A. This section summarises the main issues addressed by the SPD. This SPD supplements policies found in:
- [The Cambridgeshire and Peterborough Minerals and Waste Development Plan](#);
 - [The Cambridge Local Plan](#);
 - [The East Cambridgeshire Local Plan](#);
 - [The Fenland Local Plan](#);
 - [The Huntingdonshire Core Strategy 2009](#) and the [emerging local plan](#); and
 - [The South Cambridgeshire Development Control Policies DPD 2007](#) and the [emerging local plan](#).
- 1.1.2** This document is a material consideration when considering planning applications. It does not introduce new policy but rather it is intended to elaborate on, and be consistent with, existing and emerging local plan policies.
- 1.1.3** As the Lead Local Flood Authority, Cambridgeshire County Council has endorsed the SPD and as part of its role as the statutory consultee for surface water management, will follow the guidance in this SPD.

Map 1.1 : City and District Councils' Areas



City and District Council Areas	
	Cambridge City Council
	East Cambridgeshire District Council
	Fenland District Council
	Huntingdonshire District Council
	South Cambridgeshire District Council

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1.2 Why guidance is needed

- 1.2.1** The aim of this SPD is to provide guidance on the approach that should be taken to manage flood risk and the water environment as part of new development proposals. The SPD will highlight the documents that will be required to accompany planning applications, including:
- Sequential Test, and where appropriate Exception Test, reports
 - Site specific Flood Risk Assessments (FRAs) and Drainage Strategies (incorporating the approach to surface water drainage)
- 1.2.2** A significant amount of new development will occur in Cambridgeshire in the next 20 years and beyond. In order to reduce the impact upon the water environment, development must be appropriately located, well designed, managed and take account of the impacts of climate change.
- 1.2.3** Each of the chapters contained within the SPD details guidance for applicants on managing flood risk and the water environment in and around new developments within Cambridgeshire. The following paragraphs provide a summary of the details of the guidance contained in each of the chapters:

Chapter 1 Introduction

This chapter provides an introduction into the background of the SPD and how it should be used by applicants, consultants, design teams, development management officers and other interested parties.

Chapter 2 Setting the Scene

This chapter provides an overview of the European and national context on flood risk and water management, as well as providing further details on the local plans and policies associated with Cambridgeshire.

Chapter 3 Working together with Water Management Authorities

Within this chapter details are given as to the key water management authorities that may need to be consulted by the applicant during the planning application, including pre-application and planning application stages.

Chapter 4 Guidance on managing flood risk

The aim of this chapter is to provide specific advice on how to address flood risk issues within the planning process, including the application of the 'sequential approach' to flood risk and producing site specific flood risk assessments.

Chapter 5 Managing and mitigating risk

An integral part of managing and mitigating risk associated with flooding is good site design. This chapter covers ways in which those risks can be appropriately addressed.

Chapter 6 Surface water and Sustainable Drainage Systems

This chapter specifically looks at a number of different design methods and how they can be incorporated into SuDS that form part of a proposed development. In addition, further guidance is given on the adoption and maintenance of SuDS.

Chapter 7 Water Environment

Under the Water Framework Directive (WFD) water environments must also be protected and improved with regards to water quality, water habitats, geomorphology and biodiversity. This chapter discusses the water environment in more detail.

1.3 How to use this Supplementary Planning Document

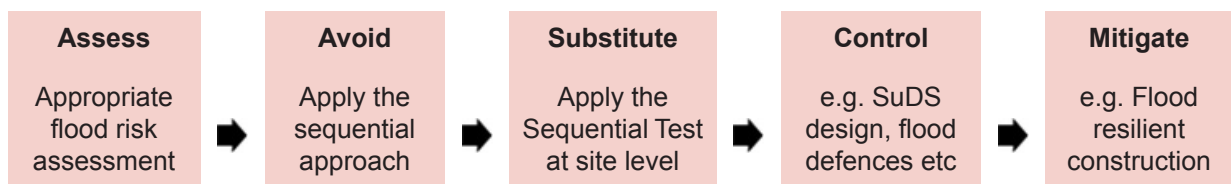
1.3.1 To ensure that Cambridgeshire has a consistent, locally appropriate approach to flood risk and water management, this SPD should be used by:

- Applicants when considering new sites for development
- Applicants when preparing the brief for their design team to ensure drainage and water management schemes are sustainably designed
- Consultants when carrying out site specific flood risk assessments
- Design teams preparing masterplans, landscape and surface water drainage schemes
- Development management officers and their specialist consultees when determining delegated planning applications, selecting appropriate planning conditions, making recommendations to committees and drawing up S106 obligations that include contributions for SuDS
- Other interested parties (e.g. Local Members) who wish to better understand the interaction between development, flooding and drainage issues

1.3.2 A checklist of information which may need to be considered in support of an application, demonstrating how it has met all the requirements set out in Chapters 2 – 7, can be found in Appendix B.

1.3.3 This SPD is set within the context of a water and flood risk management hierarchy to help developers and decision makers understand flood and water management and to embed it in decision making at all levels of the planning process.

Figure 1.1 : The Flood Risk Management Hierarchy



1.3.4 The SPD addresses all the flood and water issues associated with developments within the Cambridgeshire context. It should however be considered that the design of water features and drainage systems is dependent on a number of constraints such as existing site contamination levels, for example. This SPD does not provide detailed information on land and groundwater contamination remediation measures.

1.3.5 The SPD does not provide a comprehensive guide on all other development related issues. There is a wide range of other guidance available as part of national planning policy and from various sources for other matters.



2 Setting the scene

The aim of this chapter is to provide an overview of the European (e.g. The Water Framework Directive and The Floods Directive) and national context (e.g. Flood and Water Management Act 2010, National Planning Policy Framework, National Planning Practice Guidance and DEFRA Non-statutory Technical Standards for SuDS) on flood risk and water management, as well as providing further details on the local plans and policies associated with Cambridgeshire.

2.1 Legislation, policy and guidance

2.1.1 Flood and water management in Cambridgeshire is influenced by European and national legislation, national and local policy, technical studies and local knowledge. These themes are considered further within this chapter.

2.2 European context

The Water Framework Directive

2.2.1 The [Water Framework Directive](#) – 2000/60/EC (WFD) came into force in England in 2003 via [The Water Environment \(Water Framework Directive\) \(England and Wales\) Regulations](#). There are four main aims of the WFD:

- To improve and protect inland and coastal waters
- To promote sustainable use of water as a natural resource
- To create better habitats for wildlife that lives in and around water
- To create a better quality of life for everyone

2.2.2 To achieve the purpose of the WFD of protecting all water bodies, environmental objectives have been set. These are reported for each water body in the River Basin Management Plan (RBMP). Progress towards delivery of the objectives is reported on by the relevant authorities at the end of each six-year river basin planning cycle. Objectives vary according to the type of water body; across Cambridgeshire and the Fens there is a significant network of heavily modified and artificial watercourses.

2.2.3 Further details on the WFD can be found under Chapter 7.

The Floods Directive

2.2.4 The aim of the [EU Floods Directive](#) - 2007/60/EC is to reduce and manage the risks that floods pose to human health, the environment, cultural heritage and economic activity. The Directive came into force in the UK through the [Flood Risk Regulations 2009](#) which in turn sets the requirement for Preliminary Flood Risk Assessments (PFRA) to be produced by all unitary and county councils. The PFRA process is aimed at providing a high level overview of flood risk from local flood sources, including surface runoff, groundwater and ordinary watercourses. It is not concerned with flooding from main rivers or the sea. The [Cambridgeshire PFRA](#) report 2011 concludes (based on the evidence collected) that there are no 'Flood Risk Areas' of 'national significance' within Cambridgeshire.

2.3 National context

Flood and Water Management Act 2010

2.3.1 The [Flood and Water Management Act 2010](#) (FWMA) places the responsibility for co-ordinating 'local flood risk' management on the relevant county or unitary authority, making them a Lead Local Flood Authority (LLFA). In this context, the Act uses the term 'local flood risk' to mean flood risk from:

- Surface runoff
- Groundwater and
- Ordinary watercourses

2.3.2 Cambridgeshire County Council (CCC) is the LLFA for Cambridgeshire. The FWMA contains a range of different duties for LLFAs, including the need to prepare a Local Flood Risk Management Strategy (LFRMS) and to maintain a register of significant flood prevention assets.

2.3.3 The FWMA also seeks to encourage the uptake of Sustainable Drainage Systems (SuDS) by agreeing new approaches to the management of drainage systems.

National Planning Policy Framework and Practice Guidance

2.3.4 Section 10 of the [National Planning Policy Framework](#) (NPPF) sets out the government's aim that spatial planning should proactively help the mitigation of, and adaption to, climate change including management of water and flood risk.

2.3.5 The NPPF states that both Local Plans and planning application decisions should ensure that flood risk is not increased and where possible is reduced. Development should only be considered appropriate in flood risk areas where it can be demonstrated that:

- A site specific flood risk assessment has been undertaken which follows the Sequential Test, and if required, the Exception Test;
- Within the site, the most vulnerable uses are located in areas of lowest flood risk unless there are overriding reasons to prefer a different location;
- Development is appropriately flood resilient and resistant, including safe access and escape routes where required (Please see DEFRA/ EA publication '[Flood Risks to People](#)' for further information on what is considered 'safe');
- That any residual risk can be safely managed, including by emergency planning; and
- The site gives priority to the use of sustainable drainage systems (SuDS).

2.3.6 The Government has also produced the national [Planning Practice Guidance](#) (PPG) to support the NPPF. Relevant sections of the NPPG advise on how spatial planning can ensure water quality and the delivery of adequate water and wastewater infrastructure can take account of the risks associated with flooding and coastal change in plan-making and the planning application process.

Sustainable Drainage Systems: Written Ministerial Statement

2.3.7 On 18 December 2014, a [ministerial statement](#) was made by the Secretary of State for Communities and Local Government (Mr Eric Pickles). The statement has placed an expectation on local planning policies and decisions on planning applications relating to major development to ensure that SuDS are put in place for the management of run-off, unless demonstrated to be inappropriate. The statement made reference to revised planning guidance to support local authorities in implementing the changes and on 23 March 2015, the Department for Environment, Food and Rural Affairs (Defra) published the '[Non-Statutory Technical Standards for Sustainable Drainage Systems](#)'. Further detail on how SuDS can be delivered in the Cambridgeshire context can be found in Chapter 6.

2.4 Local context

Catchment Flood Management Plans and Flood Risk Management Plans

- 2.4.1** The Environment Agency (EA) has prepared catchment based guidance to ensure that main rivers and their respective flood risk have been considered as part of the wider river system in which they function. Catchment Flood Management Plans (CFMPs) discuss the management of flood risk for up to 100 years in the future by taking into account factors such as climate change, future development and changes in land management. As well as informing Councils' planning policy and local flood management practises, the CFMPs will be part of the mechanism for reporting into the EU Floods Directive. The relevant CFMPs that impact on Cambridgeshire are the 'Great Ouse' and the 'Nene', these can all be accessed on ['gov.uk' - Catchment Flood Management Plan](#).
- 2.4.2** In addition under the Flood Directive, the EA is responsible for preparing Flood Risk Management Plans (FRMPs) to highlight the hazards and risks of flooding from rivers, the sea, and reservoirs and set out how Risk Management Authorities (RMAs) work together with communities to manage flood risk. The Anglian FRMP is a river basin district level plan which will draw on the relevant CFMPs covering Cambridgeshire. The plan highlights flood risk across the district and identifies the types of measures which need to be undertaken. The Anglian FRMP will enable effective co-ordination across catchments and will inform investment in flood risk management.

River Basin Management Plans

- 2.4.3** In addition, the EA has developed an [Anglian District River Basin Management Plan \(ARBMP\)](#) that identifies the state of, and pressures on, the water environment.
- 2.4.4** The CFMPs, FRMPs and the RBMPs together, highlight the direction of considerable investment in Cambridgeshire and how to deliver significant benefits to society and the environment.

Cambridgeshire Local Flood Risk Management Strategy

- 2.4.5** The LFRMS has been developed with members of the Cambridgeshire Flood Risk Management Partnership (CFRMP), for the years 2015 – 2020. The partnership is made up of representatives from the county, city and district councils, the EA, Anglian Water Services Ltd, Cambridgeshire's Internal Drainage Boards (IDBs) and Cambridgeshire Constabulary. The [strategy](#) aims to coordinate, minimise and manage the impact of flood risk within Cambridgeshire by addressing the five key objectives:
- Understanding flood risk in Cambridgeshire
 - Managing the likelihood and impact of flooding
 - Helping Cambridgeshire's citizens to understand and manage their own risk
 - Ensuring appropriate development in Cambridgeshire
 - Improving flood prediction, warning and post flood recovery

Cambridgeshire Strategic Flood Risk Assessments

- 2.4.6** A Strategic Flood Risk Assessment (SFRA) provides essential information on flood risk, allowing local planning authorities (LPAs) to understand the risk across the authority area. This allows for the Sequential Test (see Chapter 4) to be properly applied. Level 1 SFRAs have been undertaken for all LPAs in Cambridgeshire. Level 2 SFRAs are sometimes also required in order to facilitate the application of the Sequential and Exception Tests in areas that are at medium or high risk of flooding and where there are no suitable areas for development after applying the Sequential Test. Level 2 SFRAs provide breach and hazard mapping information that may be useful to developers in undertaking site specific flood risk assessments (FRAs). To date, a Level 2 SFRA has been undertaken for Wisbech, in Fenland.

Cambridgeshire Surface Water Management Plans

2.4.7 The [Surface Water Management Plan](#) (SWMP) outline the preferred strategy for the management of surface water in a given location. The SWMP aims to establish a long term action plan and to influence future strategy development for maintenance, investment, planning and engagement.

Local Plans

2.4.8 Each LPA within Cambridgeshire has, or is working towards, adopted its own local plan. Local plans set out a vision for their administrative area and the planning policies necessary to deliver the vision, with relevant policies on water and flood risk issues. The relevant LPAs and their adopted and draft Local Plans are identified in Appendix A.

Landscape and flood characteristics in Cambridgeshire

2.4.9 Landscape and flood risk characteristics vary across Cambridgeshire. Notably the area known as the Fen area to the north and east varies from the rest of Cambridgeshire due to its flat and low lying landscape (close to or below sea level) with extensive parts within the fluvial and/or tidal flood zone, although many settlements are predominantly located on 'islands' of higher ground e.g. Ely. As the drainage of developments on higher ground can impact on lower areas, flood risk is an important issue that needs to be considered at a local as well as strategic level. From Cambridgeshire the watercourses eventually flow to the River Nene and River Great Ouse and subsequently discharge to The Wash and the North Sea. Changes in flood regimes in Cambridgeshire can therefore have consequences downstream within the Nene and Ouse Washes catchment, beyond Cambridgeshire.

2.4.10 The Fen area has an extensive network of artificial drainage channels which are mostly pump-drained and are predominantly under the control and management of IDBs. The area is therefore reliant on flood defence infrastructure to minimise flood risk to existing development and agricultural land. Due to the historical drainage of the area, the majority of land lies below embanked higher level drainage channels representing a residual risk of defences being breached or overtopped.

2.4.11 The southern part of the county includes some significant topographical variation. Undulating hills define much of the land to the northeast of the River Cam, while the topography to the southwest of the river is more varied. Other main rivers, which flow through Cambridgeshire, include the Nene, Kym and Great Ouse. The Great Ouse flows through market towns across Huntingdonshire and East Cambridgeshire and its floodplains are prominent features in the landscape.



3 Working together with Water Management Authorities

This chapter provides specific details in relation to the key water management authorities that may need to be consulted during the pre-application and planning application stages, when considering water management and flood risk matters that may be associated with a proposal.

3.1 Water Management Authorities

- 3.1.1** This chapter highlights the key Water Management Authorities (WMAs) that may need to be consulted during the planning application process. Applicants are advised to seek advice at the earliest opportunity (e.g. pre-application stage) in order to ensure all relevant flood and water requirements are appropriately addressed and met.
- 3.1.2** The national Planning Practice Guidance (PPG) lists the statutory consultees to the planning process. Within Cambridgeshire, although the local water and sewerage companies (Anglian Water and Cambridge Water) and the IDBs are not statutory consultees, they are consulted by LPAs as part of the planning application process. Table 3.1 lists all the key WMAs across Cambridgeshire (some of which are statutory consultees) and it is important that those proposing new developments actively engage with the relevant WMAs at the earliest possible stage.
- 3.1.3** Some of the WMAs listed in Table 3.1, are defined as Risk Management Authorities (RMAs) under the Flood and Water Management Act (FWMA). Details of the RMAs in Cambridgeshire are shown in Table 3.2. RMAs have responsibilities and powers that they can use in order to manage flood risk (refer to Section 3.2.16 for further information).

3.2 Pre-application advice

- 3.2.1** Many of Cambridgeshire's LPAs and WMAs provide a pre-application advice service. There may be a charge for this service. Further advice can be found on each LPA's or WMA's website.
- 3.2.2** The LPAs encourage all applicants to seek pre-application advice to help make sure that the proposed development is of a high quality. LPAs can provide useful guidance and advice to help ensure that applications that are submitted contain the correct information and comply with the relevant planning policies. All proposed development, regardless of size, can benefit from pre-application advice. In the case of larger development proposals, Planning Performance Agreements (PPAs) may be appropriate. The relevant LPA should be consulted for further information.
- 3.2.3** It is recommended that alongside contacting LPAs, developers directly contact relevant WMAs to receive in depth comments and feedback, to strengthen their final application. The more detailed the information provided to the authority about the site, its location and the proposed discharge points and drainage system, the better its advice can be. Some of these authorities have a specific form that needs to be completed as part of this process. It is the responsibility of developers to ensure that they engage with the appropriate WMAs at the earliest stages of the planning process in advance of an application being made to the LPA.

Table 3.1 : Key Water Management Authorities

Key Authorities	When to consult (not exhaustive)	Applicable to relevant district area/countywide					
		CCC	CCiC	ECDC	FDC	HDC	SCDC
Environment Agency (EA)	The EA should be consulted on development , other than minor or as defined in the EA's Flood Risk Standing Advice document within Flood Zone 2 or 3, or in Flood Zone 1 where critical drainage problems have been notified to the LPA. Consultation will also be required for any development projects within 20m of a Main River or flood defence, and other water management matters.	✓	✓	✓	✓	✓	✓
Historic England	Whilst Historic England are not a WMA, they should be consulted where proposals may affect heritage assets and their settings.	✓	✓	✓	✓	✓	✓
Highways England	When the quality and capacity of the Highways England (strategic) road network could be affected.	✓	✓	✓	✓	✓	✓
Lead Local Flood Authority (CCC)	Where the proposed work will either affect or use an ordinary watercourse or require consent permission, outside of an IDB's rateable area. As of the 15 th April 2015 the LLFA should be consulted on surface water drainage proposal for all major developments (as defined in Town & Country Planning DMPO 2015)	✓	✓	✓	✓	✓	✓
Local Highway Authority(CCC)	Where the proposed development will either involve a new access to the local highway network or increase or change traffic movements.	✓	✓	✓	✓	✓	✓
City and District Councils	Refer to the guidance in Chapter 4. Additionally, where an awarded watercourse runs within or adjacent to a proposed development consultation is required with the relevant section of a district council.	✓	✓	✓	✓	✓	✓
Natural England	Natural England has mapped 'risk zones' to help developers and LPAs determine whether consultation is required. This is likely where water bodies with special local or European designations (e.g. SSSI or Ramsar) exist.	✓	✓	✓	✓	✓	✓

3 Working together with Water Management Authorities

Key Authorities	When to consult (not exhaustive)	Applicable to relevant district area/countywide					
		CCC	CCiC	ECDC	FDC	HDC	SCDC
Anglian Water	Anglian Water should be consulted where connection to surface water sewers is required or where the flow to public sewerage system may be affected. They should also be consulted where either new connections to the water supply network are required or if any alterations are made to existing connections.	✓	✓	✓	✓	✓	✓
Cambridge Water	Where either an installation of water systems is required or if any alterations are made to existing connections.	✓	✓			✓	✓
North Level Drainage Board	Proposed development in or in close proximity to an IDB district (refer to Appendix C)	✓			✓		
Haddenham Level Drainage Commissioners		✓		✓			✓
Ramsey IDB		✓				✓	
Whittlesey Consortium of IDBs		✓			✓	✓	
Bedford Group of IDBs		✓				✓	
Ely Group of IDBs		✓		✓			✓
IDBs represented by Middle Level Commissioners		✓		✓	✓	✓	✓

Environment Agency

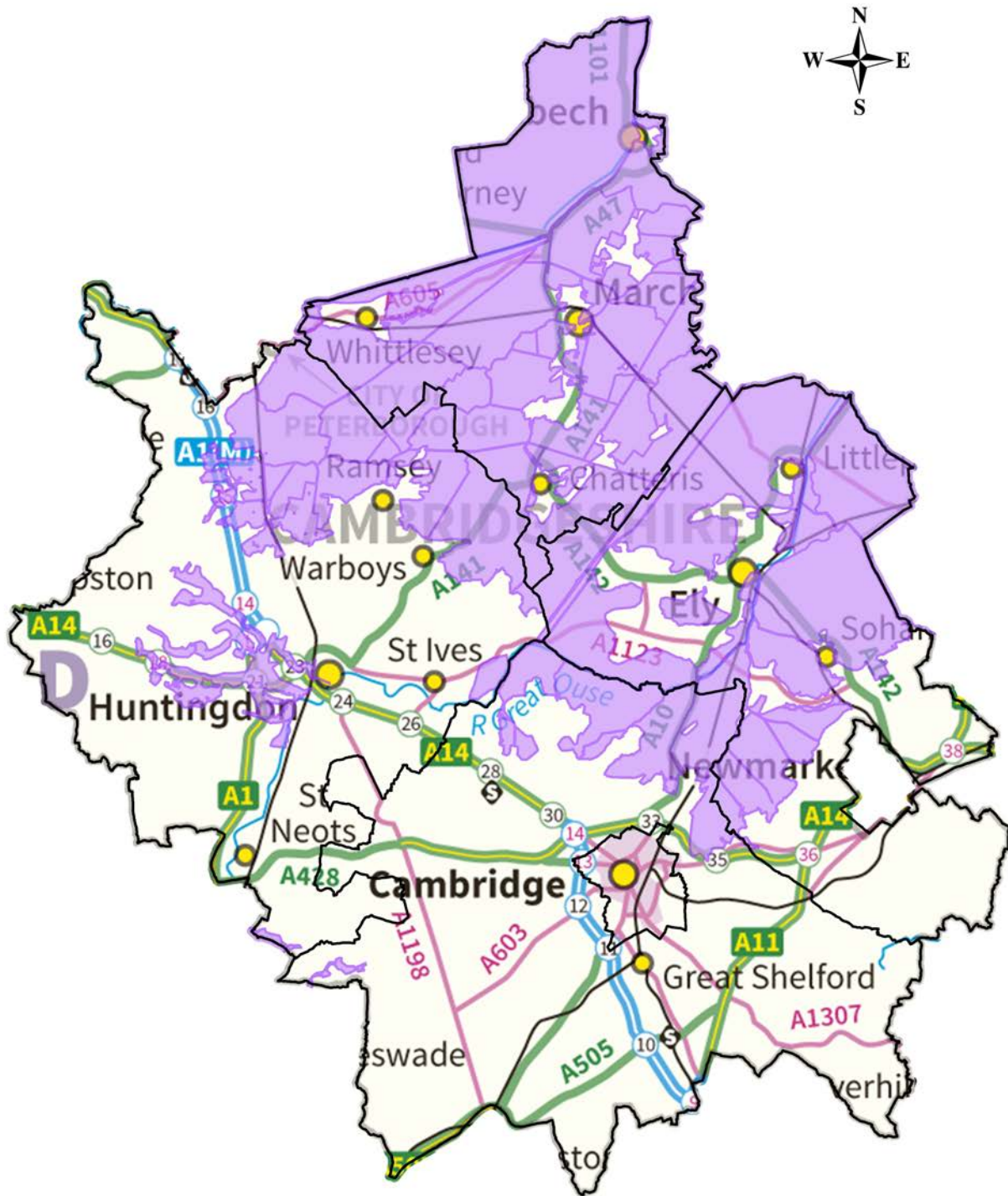
3.2.4 The EA is a non-departmental public body responsible for protecting and enhancing the environment as a whole and contributing to the government's aim of achieving sustainable development in England and Wales. The EA has powers to work on main rivers to manage flood risk. These powers are permissive, this means they are not a duty, and they allow the EA to carry out flood and coastal risk management work and to regulate the actions of other flood risk management authorities on main rivers and the coast. The EA also has powers to regulate and consent works to main rivers. Prior written consent is required from the EA for any work in, under, over or within 9 metres of a main river or between the high water line and the secondary line of defence e.g. earth embankment. This should be sought in conjunction with any pre-planning discussions as set out in section 3.2. The EA also has a strategic overview role across all types of flooding as well as other types of water management matters. Guidance on when to consult the EA can be found in Chapter 4. For further information on the [EA's roles and responsibilities see the gov.uk website](#).

Internal Drainage Boards

- 3.2.5** A large proportion of Cambridgeshire is specially managed by IDBs to ensure that the area retains its significant agricultural, industrial, leisure and residential functions. IDBs are predominantly associated with the Fen area however they do exist in other landscapes extending into The Fens, the Fen Margin and the Central Claylands.
- 3.2.6** IDBs are local public authorities that manage water levels. They are an integral part of managing flood risk and land drainage within areas of special drainage need in England and Wales. IDBs have permissive powers to undertake work to provide water level management within their Internal Drainage District. They undertake works to reduce flood risk to people and property and manage water levels for local needs. Much of their work involves the maintenance of rivers, drainage channels, outfalls and pumping stations, facilitating drainage of new developments and advising on planning applications. They also have statutory duties with regard to the environment and recreation when exercising their permissive powers.
- 3.2.7** IDBs input into the planning system by facilitating the drainage of new and existing developments within their districts and advising on planning applications; however they are not a statutory consultee to the planning process.
- 3.2.8** In some cases, a development meeting the criteria listed below may need to submit a FRA to the IDBs to inform any consent applications. This relates to the IDBs' by-laws under the Land Drainage Act 1991 (further information on the preparation of site specific FRAs can be found in Chapter 4).
- Development being either within or adjacent to a drain/ watercourse, and/ or other flood defence structure within the area of an IDB;
 - Development being within the channel of any ordinary watercourse within an IDB area;
 - Where a direct discharge of surface water or treated effluent is proposed into an IDBs catchment;
 - For any development proposal affecting more than one watercourse in an IDBs area and having possible strategic implications;
 - In an area of an IDB that is in an area of known flood risk;
 - Development being within the maintenance access strips provided under the IDBs byelaws;
 - Any other application that may have material drainage implications.
- 3.2.9** Some IDBs also have other duties, powers and responsibilities under specific legislation. For example the Middle Level Commissioners (MLC) is also a navigation authority. Although technically the MLC are not an IDB, for ease of reference within this document it has been agreed that the term IDB can be used broadly to refer to all relevant IDBs under its jurisdiction. A list of the IDBs can be found in Appendix C.
- 3.2.10** IDBs may have rateable and non-rateable areas within their catchments. It is recommended that applicants contact the relevant IDB to clarify which area proposed development falls into, and if there is an associated charge.
- 3.2.11** There are 53 IDBs within Cambridgeshire, Map 3.1 highlights the area of Cambridgeshire that is covered by IDBs. Some of the IDBs are represented or managed by Haddenham Level Drainage Commissioners, Whittlesey Consortium of IDBs, North Level District IDB, Ely Group of IDBs, Bedford Group of IDBs, Kings Lynn IDB and MLC. The names of the IDB groups covering each district are stated in Appendix C.
- 3.2.12** The maps in Appendix C show the IDB groups for the relevant City and District Councils. Detailed information on IDBs' boundaries can be found on their individual websites.

3 Working together with Water Management Authorities

Map 3.1 : IDBs within Cambridgeshire



Internal Drainage Boards

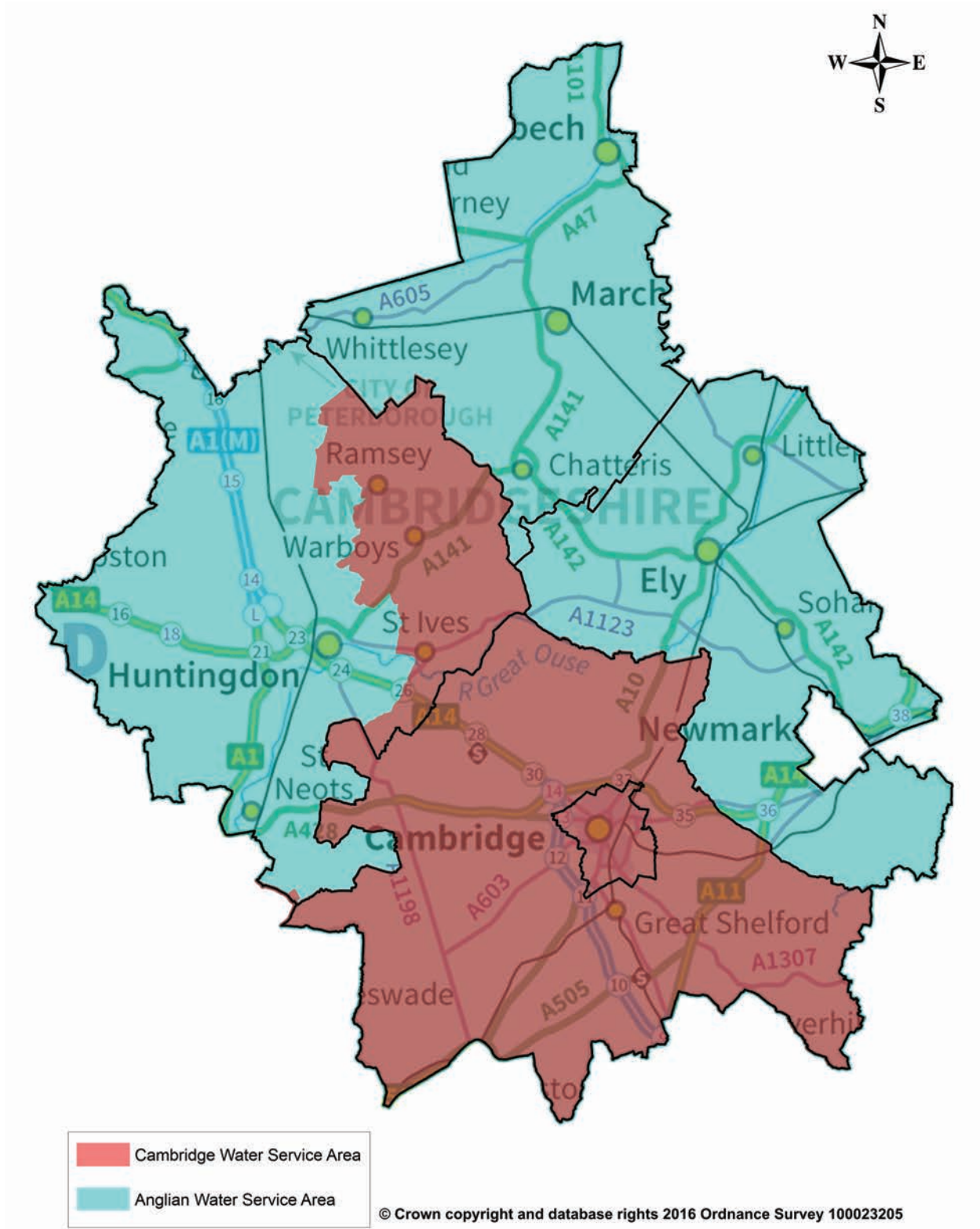
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Water and wastewater providers

- 3.2.13** Two separate water service providers in Cambridgeshire provide potable water; Cambridge Water and Anglian Water. Cambridge Water supplies potable water to areas around Cambridge, South Cambridgeshire and parts of Huntingdonshire. Anglian Water supplies potable water to areas around Fenland, East Cambridgeshire and parts of Huntingdonshire. It is a statutory requirement to gain consent from the relevant service provider if you are intending to install water systems or make an alteration to existing connections, prior to the commencement of work. Map 3.2 identifies the water service areas covered by Anglian Water and Cambridge Water.
- 3.2.14** Anglian Water is also the sewerage undertaker for the whole of Cambridgeshire and has the responsibility to maintain foul, surface and combined public sewers so that it can effectively drain the area. When flows (foul or surface water) are proposed to enter public sewers, Anglian Water will assess whether the public system has the capacity to accept these flows as part of their pre-application service. If there is not available capacity, they will provide a solution that identifies the necessary mitigation. Information about Anglian Water's development service is available on their [website](#). Anglian Water also comments on the available capacity of foul and surface water sewers as part of the planning application process.

3 Working together with Water Management Authorities

Map 3.2 : Cambridge Water and Anglian Water Coverage



Note: Anglian Water is the sewerage undertaker for the entire Cambridgeshire area

Cambridgeshire County Council

3.2.15 One of its key priorities as the LLFA is to coordinate the management of flood risk from groundwater, surface water and ordinary watercourses. This includes the development and implementation of a [Cambridgeshire Local Flood Risk Management Strategy \(LFRMS\)](#).

3.2.16 The RMAs have a duty to carry out flood risk management functions in a manner consistent with the national and local strategies. The RMAs in Cambridgeshire are highlighted below in Table 3.2.

Table 3.2 : Relevant Flood Risk Management Authorities

Flood Sources	EA	LLFA	City and District Councils	Anglian Water	Highway Authorities	IDBs
Rivers						
Main River	✓					
Ordinary Watercourse		✓				✓
Awarded Watercourse			✓			
Ground Water		✓				
Surface Runoff						
Surface water		✓				
Surface water originating on the highway					✓	
Other						
Sewer flooding				✓		
The Sea, Reservoirs	✓					

3.2.17 The LLFA has powers to require works to be undertaken to maintain the flow in ordinary watercourses that fall outside of an IDB districts.

3.2.18 The LLFA provides technical advice on surface water drainage proposals for 'major' applications to the City and District Councils.

3.2.19 Cambridgeshire County Council (CCC) is the Local Highway Authority and manages highway drainage, carrying out maintenance and improvement works on an on-going basis as necessary to maintain existing standards of flood protection for highways, making appropriate allowances for climate change. It has the responsibility to ensure that road projects do not increase flood risk. In addition, Highways England operates, maintains and improves a number of motorways and major A roads across the County.

3.2.20 In addition, CCC is the Minerals and Waste Planning Authority and has the role of planning authority for County matters such as schools and therefore has the same responsibilities as LPAs (refer to Section 3.2.21 to 3.2.23).

City and District Councils

- 3.2.21** Each of the five city and district councils within Cambridgeshire are LPAs and assess, consult on and determine whether or not development proposals are acceptable, ensuring that flooding and other similar risks are effectively managed.
- 3.2.22** The LPA will consult the relevant statutory consultees as part of the planning application assessment and they may, in some cases also contact non-statutory consultees (e.g. Anglian Water or IDBs) that have an interest in the planning application.
- 3.2.23** The City and District Councils have a responsibility to maintain 'awarded' watercourses. They also have statutory powers to modify or remove inappropriate structures within channels on ordinary watercourses, along with other flood protection responsibilities. They have the powers to take the appropriate action against those whose actions increase flood risk or make management of that risk more difficult and are therefore an important consultee for flood risk matters.



4 Site selection and managing flood risk to developments

The aim of this chapter is to give advice to applicants on how to address flood risk in the planning process. It provides specific guidance on the principles of managing flood risk and emphasises how it should be considered at all stages of planning. There is guidance on the application of the sequential approach to flooding including the Sequential and Exception Tests and the production of site specific flood risk assessments to accompany planning applications. This chapter is also particularly important for assessing proposed developments on windfall and non-allocated sites.

4.1 Introduction

4.1.1 Developments can be affected by flooding from a number of 'sources' including:

- River flooding (fluvial)
- Surface water flooding (pluvial)
- Coastal and tidal flooding
- Reservoir flooding
- Sewer flooding
- Groundwater

4.1.2 Flood risk is an expression of the combination of the flood probability (how likely the event will happen) and the magnitude of the potential consequences (the impact such as economic, social or environmental damage) of the flood event.

4.1.3 The likelihood or risk of flooding can be expressed in two ways:

- **Chance of flooding:** As a percentage chance of flooding each year. For example, for Flood Zone 3a there is a 5% annual probability of this area flooding
- **Return period:** This term is used to express the frequency of flood events. It refers to the estimated average time interval between events of a given magnitude. For example, for Flood Zone 3a the return period would be expressed as 1 in 20 year

4.1.4 There is however a move away from using return periods as an expression of flood risk as this approach does not accurately express the risk of flooding. For example it is misleading to say that a 1 in 100 year flood will only occur once in every hundred years. This suggests that if it occurs in one year then it should not be expected to reoccur again for another 100 years; however this is not the case. The percentage chance of flooding each year, often referred to as **annual probability**, is now the preferred method of expressing flood risk.

4.1.5 Fluvial flooding is divided into flood zones based on the risk of flooding:

Figure 4.1 : Fluvial Flood Risk Zones

Functional flood plain	High probability/risk	Medium probability/risk	Low probability/risk	Flood Zones
3b	3a	2	1	
1 in 1	1 in 20	1 in 100	1 in 1000	Return period
100%	5%	1%	0.1%	Annual Exceedance Probability
High risk <-----> Low Risk				

4.1.6 Maps showing Flood Zones are available on the [gov.uk website](http://gov.uk). The Flood Zones refer to the probability of river and sea flooding, ignoring the presence of defences. Table 4.1 details the Flood Zones and their definitions taken from the PPG.

Table 4.1 : Flood Zone and Flood Risk⁽¹⁾

Flood Zone	Definition
Zone 1 – Low Probability	Land having a less than 1 in 1,000 annual probability of river or sea flooding. (Shown as ‘clear’ on the Flood Map – all land outside Zones 2 and 3)
Zone 2 – Medium Probability	Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or Land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding. (Land shown in light blue on the Flood Map)
Zone 3a – High Probability	Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding. (Land shown in dark blue on the Flood Map)
Zone 3b – The Functional Floodplain	This zone comprises land where water has to flow or be stored in times of flood. LPAs should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the EA. (Not separately distinguished from Zone 3a on the Flood Map)

1. Source: [Table 1: Flood Zones, National Planning Practice Guidance](#)

4.1.7 To cope with the potential risks and forecasts of climate change (predicted 1.05m rise in sea levels in the East of England, warmer summers, wetter winters and increased river flows by 2115) and to ensure that new development is safe for its lifetime, the Government has emphasised that development in areas at risk of flooding should be avoided by directing development away from the highest risk areas. Where development is necessary it should be made safe without increasing flood risk elsewhere. Please see the DEFRA/ EA publication [‘Flood Risks to People’](#) for further information on what is considered ‘safe’.

4.1.8 All proposals should therefore follow a Sequential Approach to flood risk. This means relevant development will be directed to the areas at the lowest risk of flooding at a strategic, local and site-scale level. It will be necessary to consider flooding from all sources: the sea (tidal), rivers (fluvial), surface water (pluvial) and ground water, and a possible combination of all of these. Further detail on the Sequential Test is provided in 4.4.

4.2 Flood risk and planning

The approach to flood risk in planning

4.2.1 The general approach (i.e. [the Sequential Approach](#)) to flood risk and planning is to ensure that, where possible, development is located in the areas of lowest flood risk. This can be applied at a variety of scales, including:

- At a strategic scale, when looking at a number of sites and then choosing the site with the lowest flood risk for development;
- At an individual site scale, where the area of lowest flood risk within the site boundary is the preferred location for the proposed development;
- At a building scale, where the part of the building that is the most vulnerable is located in the area of lowest flood risk.

4.2.2 The **Sequential Approach** should apply to all sources of flood risk and is central to the Government's approach as outlined in the National Planning Policy Framework (NPPF) and the PPG. An example of this is that when considering fluvial flood risk, all [developments](#) should be located in Flood Zone 1 unless there are no reasonably available sites. Only then should Flood Zone 2 be considered. Flood Zone 3 should only be considered if there are no reasonably available sites in Flood Zones 1 and 2.

The Sequential Test and Exception Test

4.2.3 The Sequential Test is a method for determining if a site is suitable for development because it is at the lowest risk of flooding, and there are no other reasonably available sites at a lower risk (refer to section 4.4 below). If this is not the case then the Exception Test may be required which will mean some further considerations are taken into account (refer to 4.5 below). Table 4.2 (within 4.5) identifies the 'flood risk vulnerability and flood zone compatibility' table taken from the NPPG, which assists in classifying your site against the exception test. These 'classifications' are under the following headings:

- Essential Infrastructure
- Highly Vulnerable
- More Vulnerable
- Less Vulnerable
- Water-Compatible Development

Strategic Flood Risk Assessments

4.2.4 SFRA's should be used by developers to inform site selection (see section 4.3, Step 1) and provide high level information for the site specific Flood Risk Assessments (FRAs) (see section 4.3, Step 4).

4.3 Site suitability and flood risk considerations for planning applications

4.3.1 Those proposing development in areas of flood risk are responsible for:

- Demonstrating that the proposed development is consistent with national and local planning policy (Chapter 2);
- Undertaking appropriate consultation with the water management authorities (Chapter 3);
- Providing a site specific flood risk assessment (FRA), as part of the planning process, which meets the requirements of this chapter and those set by the relevant WMAs;
- Integrating into proposals designs that reduce flood risk to the development and elsewhere by incorporating appropriate flood risk management measures (Chapter 5), including the use of sustainable drainage systems (SuDS) (Chapter 6);
- Ensuring that any necessary flood risk management measures are sufficiently funded to ensure that the site can be developed and occupied safely throughout its proposed lifetime.

4.3.2 Applications for sites in Flood Zones 2 and 3 where there is no Sequential Test information submitted will be deemed to have failed the Sequential Test (See Section 4.4).

4.3.3 The following sections set out the steps (1 – 6) that should be taken when determining if a site is suitable for development when considering flood risk. All requirements are consistent with the NPPF and PPG, with local requirements explained further. Reference should also be made to the developer checklist provided in Appendix B, which should be submitted with planning applications alongside other relevant and up to date information related to flood risk and the water environment.

Note that each of these steps applies to all scales of development.

Step 1 – Allocation within Local Development Plan

4.3.4 Applicants must consider allocations within the relevant local development plan. If the site has been allocated in the relevant Local Plan/development plan for the same land use type/vulnerability classification that is now being proposed, then an assessment of flood risk, at a strategic level, has already been undertaken. This will have included assessing the site, against other alternative sites, as part of a Sequential Approach to flood risk.

4.3.5 While the situation is rare it is possible that the flood zoning of a site may change after adoption of the relevant part of the Local Plan (the EA refines Flood Zones on a regular basis to ensure the data is up to date). In this situation the Local Planning Authority (LPA) may require the developer to pass part b) of Step 1.

4.3.6 In general where a site has not been allocated in a Local Plan or the flood zone classification has changed since adoption of the Plan (i.e. it is a windfall or non-allocated site), the Sequential Test and where appropriate the Exception Test will need to be undertaken following the overarching principles of the Sequential Approach. Details of the Sequential and Exception Tests are specified in Sections 4.4 and 4.5.

4.3.7 Applicants should indicate their site boundary on a plan and if applicable the boundary of any allocated site and check to see if there is any updated flood risk information after the preparation of the relevant SFRA.

4 Site selection and managing flood risk to developments

Step 1

Consider Allocations

- a. Can it be demonstrated by the developer that the type and location of the proposed development has been allocated in the relevant Local Plan/development plan?
- b. Can it be demonstrated that the flood risk information contained within the SFRA and associated Sequential Test assessment accompanying the Local Plan/development plan (where applicable) is still appropriate for use?

If the answer to both of the above is yes, go to Step 3 (the Sequential and Exception Tests do not need to be completed). If the answer to either of the above is no, go to Step 2.

Step 2

Consider Flood Risk

Is the site:

- a. In Flood Zone 2 or 3?
- b. In Flood Zone 1 and within an area that has been identified in the relevant SFRA (or any updated available information) as having flooding issues now or in the future (for example, through the impacts of climate change)?
- c. In an area of significant flood risk from sources other than fluvial or tidal such as surface water, ground water, reservoirs, sewers, etc. (see Stage C - Developer to obtain flood risk information for all sites for details)?

If the answer to any of the above questions is yes, the Sequential Test is required to be undertaken by the developer and the results submitted to the LPA for assessment. Note: Discussions on the Exception Test should not be taking place until the Sequential Test is undertaken and passed. Further information on the Sequential and Exception Tests can be found in Sections 4.4 and 4.5 respectively.

4.3.8 Following on from Steps 1 and 2, if no pre-application consultation has already been undertaken, it is strongly recommended that such discussions are undertaken with the relevant LPA and the appropriate WMAs. Refer to Chapter 3 for more details.

4.3.9 The purpose of pre-application consultations is to identify the range of issues that may affect the site and, following on from the Sequential Test and if necessary the Exception Test, determine whether the site is suitable for its intended use. A FRA should not be undertaken until Step 1, Step 2 and Step 3 have been carried out.

Step 3

Undertake pre-application consultation

Meaningful, on-going and iterative discussions with the LPAs and relevant WMAs can resolve issues prior to the submission of a planning application and can result in a more efficient planning application process. As a starting point it is recommended to consider the following at this stage:

- a. Does the LPA confirm that the proposed development may be acceptable in principle from the perspective of other planning constraints rather than flood risk?
- b. Does the LPA confirm that the Sequential Test, and if required the Exception Test, has been undertaken appropriately and that it covers all relevant issues?
- c. Is there potential for contamination on site which could affect site design and layout and the types of SuDS components used?
- d. How can the site meet national and local SuDS standards?
- e. Is a site specific FRA required? If so, what is the scope of an appropriate site specific FRA?
- f. Are there any major opportunities or constraints to the site with regards to the management of flood risk, drainage, contamination or the quality of related water environments?
- g. Agree the discharge points for site drainage with the LPA and relevant WMA;
- h. Obtain any relevant data needed in order to prepare the site specific FRA and drainage strategy.
- i. Are any consents required from the EA/Internal Drainage Boards (IDBs)/ Lead Local Flood Authority (LLFA)/ Anglian Water?

Once all these stages have been considered please go to Step 4.

4.3.10 In areas of Cambridgeshire that are defended from flooding the residual risk of breaching of the defence can mean that some locations in Flood Zone 1 could be at risk of flooding. While the EA's recognised flood maps show the areas that would be at risk if there were no defences, the failure of such structures can produce different results. The pressure the water may be under at the time of breach and the pathway that it is forced to take may not be the same as if water were naturally overtopping the river banks. For this reason a FRA may be required for sites proposing people-based uses in defended areas that are actually within Flood Zone 1. If this situation applies, breach modelling is also likely to be required as part of the planning process since this would enable determination of the actual risk to a site (see Section 5.1.5 below). Advice should be sought from the EA if further explanation is required on this point.

4.3.11 A large part of Cambridgeshire is low lying agricultural land and prior to drainage comprised traditional fen. Since flood risk management practices in this area vary, there are some scenarios not listed by the NPPF, where a FRA could be required. FRAs that are acceptable to all parties prior to submission may avoid further amendments being required to the document during determination by the relevant LPA, as well as any post-planning permission variations.

4 Site selection and managing flood risk to developments

Step 4

Site Specific Flood Risk Assessment (FRA)

A site specific [FRA](#) is required:

- a. For proposals of 1 hectare or greater in Flood Zone 1;
- b. For all proposals for new development (including minor development and change of use) in Flood Zones 2 and 3; or
- c. In an area within Flood Zone 1 which has critical drainage problems (as notified to LPAs by the EA); or
- d. Where proposed development, or a change of use to a more vulnerable class, may be subject to other sources of flooding.

A FRA may also be required for some specific situations:

1. If the site may be at risk from the breach of a local defence (even if the site is actually in Flood Zone 1);
2. Where the site is intended to discharge to the catchment or assets of a WMA which requires a site specific FRA;
3. Where the site's drainage system may have an impact on an IDB's system;
4. Where evidence of historical or recent flood events have been passed to the LPA; or
5. In an area of significant [surface water flood risk](#).

A site specific flood risk assessment must demonstrate that the new development is safe in flood risk terms and does not increase flood risk elsewhere.

4.3.12 Flood risk, site design and emergency access and escape can affect the value of land, the cost of developing it and the cost of its future management and use. Such matters should be considered as part of the site specific FRA as early as possible in preparing the development proposal.

4.3.13 The box below sets out the requirements of a FRA, with the FRA checklist in Appendix B.2 detailing what information should be contained within it. In the preparation of FRAs, applicants are advised to consult the relevant WMAs.

FRAs should:

- a. **Be proportionate** to the risk and appropriate to the scale, nature and location of the development;
- b. Be undertaken **as early as possible** in the particular planning process, by a competent person, to avoid abortive work raising landowner expectations where land is unsuitable for development. Whilst a FRA must be considered at an early stage this is not to be undertaken until Step 1, Step 2 and Step 4 have been completed;
- c. Consider and quantify the **different types of flooding** (whether from natural or human sources and including joint and cumulative effects). The LPA will expect links to be made to the management of surface water as described in Chapter 6. Information to assist with the identification of surface water and groundwater flood risk is available from the LLFA, the EA and the LPA. Applicants should also assess the risk of foul sewage flooding as part of the FRA. Anglian Water as sewerage undertaker can provide relevant information to the applicant to inform preparation of FRAs;
- d. Consider the effects of a range of flooding events including the **impacts of extreme events** on people, property, the natural and historic environments and river processes;
- e. Consider the **vulnerability of occupiers and users** of the development, taking account of the Sequential and Exception Tests and the vulnerability classification, and include arrangements for safe access (Please see the Defra/EA publication 'Flood Risks to People' for further information on what is considered 'safe');
- f. Identify relevant **flood risk reduction measures** for all sources of flood risk not just for the site but elsewhere i.e. downstream existing flooding problems;

- g. Consider both the potential adverse and beneficial **effects of flood risk management infrastructure** including raised defences, flow channels, flood storage areas and other artificial features together with the consequences of their failure;
- h. Include assessment of the **'residual' (remaining) risk** after risk reduction measures have been taken into account and demonstrate that this risk is acceptable for the particular development or land use. Further guidance on this is given in Chapter 5;
- i. Be supported by appropriate **evidence data** and information, including historical information on previous events;
- j. Consider the risk of **flooding arising from the proposed development** in addition to the **risk of flooding to development on the site**. This includes considering how the ability of water to soak into the ground may change after development. This would mean the preparation of surface water drainage proposals. This includes all flow routes including flood flow paths or ordinary watercourses flowing onto the development site and therefore needing to be taken account of;
- k. Take a **'whole system'** approach to drainage to ensure site discharge does not cause problems further along in the drainage sub-catchment/can be safely catered for downstream and upstream of the site;
- l. Take the appropriate **impacts of climate change** into account for the lifetime of the development including the proposed vulnerability classification. Guidance is available on the [.gov.uk website](#); and
- m. The FRA must clearly demonstrate that the **Sequential Test and Exception Test** have been passed.

4.3.14 A surface water drainage strategy contains the proposals for the surface water drainage of the development. Such a strategy should include initial proposals that are sufficient to demonstrate a scheme can be delivered that will adequately drain the proposed development whilst not increasing flood risk elsewhere.

4.3.15 If an outline application is to be submitted for a [major development](#) then an outline surface water drainage strategy should be submitted outlining initial proposals and quantifying the conceptual surface water management for the site as a whole. This should detail any strategic features, including their size and location. A detailed surface water drainage strategy should subsequently be submitted with each reserved matters application that comes forward and demonstrate how it complies with the outline surface water drainage strategy.

Step 5

Surface Water Drainage Strategy

Prepare the surface water drainage strategy, ensuring consistency between the surface water flood risk and any initial drainage proposals discussed in the FRA. The surface water drainage strategy should be included within or alongside the FRA as part of your planning application submissions.

- a. Check which river catchment the site is in and its specific characteristics. Bear these in mind as site drainage is designed so that any constraints can be mitigated against and advantages can be taken of any opportunities.
- b. Work up your drainage strategy in tandem with your site layout and highway designs. This will help avoid abortive work in any one area. Use Chapter 6 to ensure that the following have been considered:
 - i. The submission requirements, including any supporting investigations
 - ii. Sustainable drainage design principles
 - iii. Interception, infiltration, flow rate runoff control, volumetric runoff control, and exceedance flow management
 - iv. Site discharge location and attenuation provision
 - v. Water quality treatment, habitat provision and biodiversity
 - vi. Health and safety, access and amenity
 - vii. Use the correct climate change allowances for the development based on its lifetime
- c. Ensure that the required management and maintenance of all site features has been clearly set out as part of the drainage strategy. Get initial agreements in place to cover management funding for the lifetime of the development.
- d. Check that the quality of the water environment and therefore the Water Framework Directive (WFD) impacts have been specifically considered as part of all of the flood and drainage measures proposed. Is development of the site likely to cause detriment to the WFD status of a water body? Have opportunities been taken to enhance the water environment? Use Chapter Water Environment to support this process.

Step 6

Submission of planning application

Once all these issues have been satisfactorily addressed then a planning application supported by where necessary, evidence of the Sequential Test, the Exception Test, a site specific FRA and a surface water drainage strategy, can be submitted. This will be formally reviewed by the LPA in consultation with the relevant WMAs as outlined in Chapter 3. All relevant authorities and consultee comments are taken into consideration in the determination of the planning application.

4.4 The Sequential Test

4.4.1 The [Sequential Test](#) was developed to steer developments to areas with the lowest probability of flooding. Generally development will not be permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower probability of flooding. This is applicable for all sources of flooding.

4.4.2 The Sequential Test does not need to be applied for:

- i. Individual developments on sites which have been allocated in development plans as the Sequential Test process has already been undertaken (unless the Flood Zones for the site have changed);
- ii. Minor development or change of use (except for a change of use to a caravan, camping or chalet site, or to a mobile home or park home site); or
- iii. Sites located wholly in Flood Zone 1

4.4.3 The definition of [minor development](#) for the purposes of the Sequential Test is:

- **Minor non-residential extensions:** industrial/commercial/leisure etc. extensions with a footprint less than 250 square metres;
- **Alterations:** development that does not increase the size of buildings e.g. alterations to external appearance;
- **Householder development:** for example sheds, garages, games rooms etc. within the curtilage of the existing dwelling, in addition to physical extensions to the existing dwelling itself. This definition excludes any proposed development that would create a separate dwelling within the curtilage of the existing dwelling e.g. subdivision of houses into flats.

4.4.4 All sources of flood risk should be considered when assessing the need for the Sequential Test as well as undertaking the test.

4.4.5 It is generally expected that in areas with extensive Flood Zone 1, the Sequential Test will be more effective at steering development away from Flood Zones 2 and 3. However, where there is extensive Flood Zone 3 in the area of search, the development's objectives are less likely to be met in Flood Zone 1. In these cases, developers may need to carry out further flood risk appraisal work to determine which sites are safest and at lowest risk to develop.

4.4.6 The following sets out how **applicants** should undertake the Sequential Test for assessment by the LPA. This would normally take the form of the submission of a report commensurate in size to the scale of development.

Stage A: Applicant to agree with the LPA the geographical area over which the test is to be applied

This is usually over the entire LPA area and may only be reduced in discussion with the LPA because of the functional requirements and objectives of the proposed development (e.g. catchment area for a school, community facilities, a shop, a public house, appropriate land use areas and regeneration zones etc.) and because there is an identified local need for that type of development.

The relevant local plan should be the starting point to understand areas of local need.

For uses that have a sub-regional, regional or national impact it may be appropriate to expand the area beyond the LPA boundary.

Developers should agree the geographical area for the search with the relevant LPA before undertaking the search and state a justification at the start of the report.

4 Site selection and managing flood risk to developments



Stage B: Developer to identify and list reasonably available sites

These sites will usually be sites that are known to the LPA and that meet the functional requirements of the application in question and are considered to be reasonably available.

Reasonably available sites will be identified from a number of sources, including:

- Local Plan allocations;
- Sites with planning permissions for the same or similar development, but not yet developed;
- Five year Land Supply and/or Annual Monitoring Reports;
- Housing and Economic Land Availability Assessments (HELAAAs);
- Local property agents' listings;
- Historic windfall rates, where appropriate.

Additionally, a site is only considered to be reasonably available if **all** of the following apply:

- The site is within the agreed area of search;
- The site is not safeguarded in the relevant Local Plan for another use;
- It does not have any issues (e.g. constraints or designations) that cannot be overcome and that would prevent development on the site.

Reasonably available sites will include a site or a combination of sites capable of accommodating the proposed development. These may be larger, similarly sized or a combination of smaller sites that fall within the agreed area of search.

Developers should list the reasonably available sites considered and where they obtained the information within the report.



Stage C: Developer to obtain flood risk information for all sites

This can be obtained from a number of organisations (see below); the starting point should be the LPAs Strategic Flood Risk Assessment (SFRA) which contains known flood risk information at the date of its publication.

However, flood risk information is updated on a regular basis and there may be more up to date information available, so the content of the SFRA should be checked against the following:

- The EA's [Flood Zone Maps for Planning](#) (River and Seas);
- The [Updated Flood Map for Surface Water](#) (Cambridgeshire County Council (CCC)/EA);
- [Areas Susceptible to Surface Water Flooding](#) (Environment Agency);
- [Areas Susceptible to Groundwater Flooding](#) (British Geological Society);
- [Surface Water Management Plans](#) (Cambridgeshire County Council);
- The [Level 2 SFRA for Wisbech](#) , which is primarily to inform the Exception Test (specific to Fenland District Council);
- Flood Asset Data:
- Any other source of local flood risk known to the WMAs; and
- Hazard Mapping and other information, where available.

Developers should note the flood risk from all sources against each reasonably available site under consideration.



Stage D: Developer to apply the Sequential Test

Compare the flood risk from **all sources** on all of the reasonably available sites to the original site.

Are there any reasonably available sites, including a combination of sites, that have a lower flood risk?

Developments should be located within areas with the lowest flood risk, and if possible in Flood Zone 1. The presence of existing defences should not be taken into consideration when undertaking the Sequential Test. The maintenance of the defences may change over time and climate change will have an impact on the level of protection that they offer, particularly in low-lying areas noted for their organic sub strata. These are generally peaty areas which are prone to desiccation and shrinkage.

The Sequential Approach is required at all stages of the planning process. Only where it is not possible to locate development in Flood Zone 1 and there is a recognised need for the development, it will be necessary to compare alternative sites within the same Flood Zone. In these circumstances the actual risks of flooding can be taken into consideration using available flood hazard information. The aim will be to locate development in the lowest risk areas of that Flood Zone taking into account the ambient probability and consequences of flooding. The Exception Test (see Section The Exception Test) may also still be required depending on the Flood Zone and the development type.

Proposed site mitigation measures should not be taken into consideration when undertaking the Sequential Test - these are assessed through the Exception Test and the site specific FRA.

Developers should list the reasonably available sites considered against the original site, state how they compare regarding flood risk and any reasons why they are unsuitable or not available within the report.



Stage E: Conclusion

If your site is not within Flood Zone 1 are there any reasonably available sites in areas with a lower probability of flooding that would be appropriate to the type of development or land use proposed?

If no, this still does not mean that the proposed development is acceptable in terms of flood risk as it may be necessary to undertake [the Exception Test](#) and a [site specific flood risk assessment](#).

4.5 The Exception Test

- 4.5.1** As explained within [paragraph 102](#) of the NPPF, the [Exception Test](#) is applied to the proposal by the developer where, following application of the Sequential Test it is not possible, consistent with wider sustainability objectives, for the development to be located in zones with a lower risk of flooding.
- 4.5.2** Development is classified, according to the PPG, depending on the impact of flooding on the development. This is known as its Flood Risk Vulnerability Classification and [Table 2](#) of the PPG is replicated in Table 4.2 below.

Table 4.2 : Flood risk vulnerability and flood zone compatibility⁽¹⁾

<p>Essential Infrastructure</p> <ul style="list-style-type: none"> • Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk. • Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including electricity generating power stations and grid and primary substations; and water treatment works that need to remain operational in times of flood. • Wind turbines.
<p>Highly Vulnerable</p> <ul style="list-style-type: none"> • Police and ambulance stations; fire stations and command centres; telecommunications installations required to be operational during flooding. • Emergency dispersal points. • Basement dwellings. • Caravans, mobile homes and park homes intended for permanent residential use. • Installations requiring hazardous substances consent. (Where there is a demonstrable need to locate such installations for bulk storage of materials with port or other similar facilities, or such installations with energy infrastructure or carbon capture and storage installations, that require coastal or water-side locations, or need to be located in other high flood risk areas, in these instances the facilities should be classified as 'Essential Infrastructure').
<p>More Vulnerable</p> <ul style="list-style-type: none"> • Hospitals • Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels. • Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels. • Non-residential uses for health services, nurseries and educational establishments. • Landfill* and sites used for waste management facilities for hazardous waste. • Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan. <p>* Landfill is as defined in Schedule 10 to the Environmental Permitting (England and Wales) Regulations 2010.</p>
<p>Less Vulnerable</p> <ul style="list-style-type: none"> • Police, ambulance and fire stations which are not required to be operational during flooding. • Buildings used for shops; financial, professional and other services; restaurants, cafes and hot food takeaways; offices; general industry, storage and distribution; non-residential institutions not included in the 'More Vulnerable' class; and assembly and leisure. • Land and buildings used for agriculture and forestry. • Waste treatment (except landfill and hazardous waste facilities).

<ul style="list-style-type: none"> Minerals working and processing (except for sand and gravel working). Water treatment works which do not need to remain operational during times of flood. Sewage treatment works, if adequate measures to control pollution and manage sewage during flooding events are in place.
<p>Water-Compatible Development</p> <ul style="list-style-type: none"> Flood control infrastructure. Water transmission infrastructure and pumping stations. Sewage transmission infrastructure and pumping stations. Sand and gravel working. Docks, marinas and wharves. Navigation facilities. Ministry of Defence (MoD), defence installations. Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location. Water-based recreation (excluding sleeping accommodation). Lifeguard and coastguard stations. Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms. Essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific warning and evacuation plan.

1. Source: Table 2: Flood Risk Vulnerability Classification, National Planning Practice Guidance

4.5.3 Using Tables 4.2 and 4.3, developers are required to check whether the vulnerability classification of the proposed land use is appropriate to the Flood Zone in which the site is located and to see if the Exception Test is required.

Table 4.3 : Flood risk vulnerability and flood zone compatibility⁽¹⁾

Flood risk vulnerability classification	Essential infrastructure	Water compatible	Highly vulnerable	More vulnerable	Less vulnerable
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	✓	Exception Test required	✓	✓
Zone 3a	Exception Test required	✓	✗	Exception Test required	✓
Zone 3b 'functional flood plain'	Exception Test required	✓	✗	✗	✗
Key:	✓ : Development may be appropriate		✗ : Development should not be permitted		

1. Source: Table 3: Flood risk vulnerability and flood zone 'compatibility, PPG

4 Site selection and managing flood risk to developments

- 4.5.4** The definition of the functional floodplain is land where water has to be stored in times of flood. It includes the land which would flood with an annual probability of 5% (1 in 20) and the associated water conveyance routes and flood storage areas. The definition of the functional floodplain may differ from 5% annual probability (1 in 20) in some locations. This will be defined in the SFRA for the area.
- 4.5.5** Table 4.3 cannot however be taken as the final answer to whether or not a development is appropriate; the Sequential Test and the Exception Test, where necessary, must be completed in full for all sources of flood risk. For example, if a 'more vulnerable' development is proposed to be located on a site in Flood Zone 2 (and hence receives a tick in Table 4.3) it will then be necessary for this site to be compared to other reasonably available similar sites within lower risk areas (i.e. for this example in Flood Zone 1). This table is not a justification for not undertaking the Sequential Test.
- 4.5.6** As shown in Table 4.3, the Exception Test should be applied in a number of instances. Application of the Exception Test ensures that new developments which are needed in medium or high flood risk areas will only occur where flood risk is clearly outweighed by other sustainability benefits and the development will be safe for its lifetime, taking climate change into account.

For the Exception Test to be passed:

- It must be demonstrated that the development provides [wider sustainability benefits](#) to the community that outweigh flood risk, informed by a SFRA where one has been prepared; **and**
- A site specific flood risk assessment (FRA) must demonstrate that the development will be [safe from all sources of flood risk](#), will not increase flood risk elsewhere, and, where possible, will reduce flood risk overall. Please see the DEFRA/ EA publication '[Flood Risks to People](#)' for further information on what is considered 'safe'

Both elements of the test will have to be passed for development to be permitted.

Source: Paragraph 102, NPPF

- 4.5.7** It is **the responsibility of the applicant** to provide evidence that the Exception Test has been carried out, with the LPA being responsible for assessing the evidence provided, in consultation with the EA, and consider whether both parts of the Exception Test have been passed.
- 4.5.8** The assessment of wider sustainability benefits should refer to the Local Plans' Sustainability Appraisals, which identify key sustainability issues and objectives for each district. All LPAs within Cambridgeshire will have considered the wider sustainability objectives in producing their Local Plans. The sustainability themes and issues are generally:
- Land and water resources
 - Biodiversity and green infrastructure
 - Landscape, townscape and historic environment
 - Climate change mitigation and renewable energy
 - Flood risk and climate change adaptation
 - Pollution
 - Healthy and inclusive and accessible communities
 - Economic activity
 - Transport

- 4.5.9** Any development undertaking the Exception Test should demonstrate the sustainability issues that the proposal is seeking to address. The general provision of housing by itself would not normally be considered as a wider sustainability benefit to the community which would outweigh flood risk; however confirmation should be sought from the LPA.
- 4.5.10** Examples of wider sustainability benefit to the community that would be considered could include the regeneration of an area, or the provision of new community facilities such as green infrastructure, woodland community centres, cycle ways/footways or other infrastructure which allow the community to function in a sustainable way.



5 Managing and mitigating risk

The aim of this chapter is to cover ways of managing risk through site design to ensure that developments will be safe from flooding. The information in this chapter is intended for use only after it has been demonstrated that developing in flood risk areas has been avoided as much as possible and the site and location are appropriate for the chosen type of development. Site specific Flood Risk Assessments must detail how a site will be made safe and this chapter will assist with this requirement.

5.1 Measures to manage flood risk

5.1.1 When undertaking a Flood Risk Assessment (FRA) applicants are strongly encouraged to work closely with Water Management Authorities (see Chapter 3). WMAs must agree that proposed developments are safe and that flood risk management partners (e.g. Emergency Services) would be able to respond quickly and appropriately to any incidents.

Modelling and mapping

5.1.2 The following flood related factors can influence the safe design of new developments and should be considered in the site's FRA (as outlined in of Chapter 4):

- Flood source;
- Flood mechanism;
- Predicted flood level;
- Flood duration;
- Frequency;
- Velocity of floodwaters;
- Debris;
- Flood depth; and
- Amount of warning time.

5.1.3 If developers need to undertake more detailed modelling for their sites to be able to accurately demonstrate the timings, velocity and depth of water inundation to their site, then it is recommended that the scope of works is discussed with the Environment Agency (EA) and the relevant Internal Drainage Board (IDB) (if applicable).

5.1.4 Breach modelling may be appropriate for certain areas of Cambridgeshire. There are two types of breach modelling (see the EA's publication – Flood Risk Assessment Guidance for New Development for further information):

- **Instantaneous breach:** the maximum extent of one or more breaches. This information is required by the EA for specific areas.
- **Progressive breach:** this involves modelling a breach over time, as the breach size increases, the impact on a development site over time can be assessed.

5.1.5 A limited amount of high level breach modelling has already been undertaken within Cambridgeshire. Fenland District Council has produced a [Strategic Flood Risk Assessment \(SFRA\) Level 2 for Wisbech](#). This focuses on residual risks, such as the rate and depth of flooding in the event that flood defences fail. It also provides some breach and hazard mapping information. For developments within the Wisbech SFRA Level 2 Study Area this should be referred to in the first instant. The EA should be contacted to find out if any more recent data is available for this or other defended locations.

5 Managing and mitigating risk

Climate change information

- 5.1.6** Climate change is predicted to exacerbate extreme weather patterns; causing more frequent and intense rainfall duration, hence it is likely to heighten the risk of flooding. By implementing sustainable practices as part of new developments, as set out in both national and local planning policies, the associated risk of climate change can be managed and reduced.
- 5.1.7** The National Planning Policy Framework (NPPF) ([Section 10](#)) conveys the Government’s plan to proactively help mitigate and adapt to climate change by taking full account of flood risk when developing strategies. Local Plans emphasise the need to take account of climate change and the associated factors e.g. flood risk, as clearly advised in the NPPF.
- 5.1.8** In making an assessment of the impacts of climate change on flooding from the land, rivers and sea as part of a FRA, the sensitivity ranges in Table 5.1 provide an appropriate precautionary response to the uncertainty about climate change impacts on rainfall intensities, and river flow.

Table 5.1 : Recommended national precautionary sensitivity ranges for peak river flows

Allowance category	Total potential change anticipated for ‘2020s’ (2015-3039)	Total potential change anticipated for ‘2050s’ (2040-2069)	Total potential change anticipated for ‘2080s’ (2070-2115)
Upper end	25%	35%	65%
Higher central	15%	20%	35%
Central	10%	15%	25%

- a. *For guidance, residential development should be considered for a minimum of 100 years, unless there is specific justification for considering a shorter period. An example of this would be if the development was controlled by a time limited planning condition.*
- b. *For proposals with exceptional vulnerability to flooding (e.g. new settlements, strategic urban extensions or hazardous installations) and/or an expected lifetime of over 100 years, consideration should be given in FRAs to the potential implications of climate change beyond 100 years. This may include an extended climate change horizon for phased developments. Hazardous installations should consider climate change scenarios beyond the upper end as part of sensitivity testing. Pre-application discussions are especially important in these cases.*
- c. *For development other than residential, its lifetime will depend on the characteristics of that development. Applicants should justify why they have adopted a given lifetime for the proposed development when they are formulating their FRA. It should be noted that it needs to be the actual lifespan of the building and not the design life; there tends to be a difference in that the actual service life tends to be greater than the design service life. It would need to be demonstrated with a degree of certainty that the building will no longer be present on the site for a lesser amount of climate change allowance to be used in the design calculations.*

- 5.1.9** Use Table 5.2 to decide which allowances apply to your development or plan. Further detail on when and how to use the climate change allowances in FRAs can be found [here](#).

Table 5.2 : Using Peak River Flow Allowances for Flood Risk Assessments

Use vulnerability	Flood Zone		
	2	3a	3b
Essential infrastructure	Higher central & upper end to assess range of allowances	Upper end	Upper end
Highly vulnerable	Higher central & upper end to assess range of allowances	Development should not be permitted	Development should not be permitted
More vulnerable	Central & higher central to assess range of allowances	Higher central & upper end to assess range of allowances	Development should not be permitted
Less vulnerable	Central	Central & higher central to assess range of allowances	Development should not be permitted
Water compatible	N/A	Central	Central

5.1.10 The EA has produced a sensitivity test for the development of flood maps by using the 20% allowance for peak flows between 2025 and 2115. It suggests that changes in the extent of inundation are negligible in well-defined floodplains, but can be dramatic in very flat areas e.g. the Fens. However, changes in the flood levels under climate change could in time reduce the return period of a given flood. This means that a site currently located within a lower risk zone (for example, for Flood Zone 2 see Table 4.3 in future could be re-classified as lying within a higher risk zone (for example, for Flood Zone 3a see Table 4.1), which could have implications for the type of development being proposed. It is therefore important that applicants refer to the current flood map, the Local Planning Authority's (LPA) SFRA and the EA's latest guidance when preparing and considering proposals.

5.1.11 The sensitivity ranges in Table 5.3 provide an appropriate precautionary response to the uncertainty about climate change impacts on peak rainfall intensity.

Table 5.3 : Peak rainfall intensity allowance in small and urban catchments (use 1961 to 1990 baseline)

	Total potential change anticipated for:		
	2010- 2039	2040- 2059	2060- 2115
Upper end	10%	20%	40%
Central	5%	10%	20%

5.1.12 The central estimate should be used for design purposes to assess the impact on surface water drainage networks. The upper end estimate should be used to assess the potential flood risk implications in the critical duration design rainfall event including whether there is any increased flood risk to third parties as a result of the development.

Site layout

5.1.13 The site layout of any proposed development should take into consideration areas of flood risk present on the site and this should influence the choice of where to locate elements of the proposed development including sustainable drainage systems (SuDS) (see Chapter 6). This is in line with the Sequential Approach to flood risk as outlined in Chapter 4. If areas of flood risk cannot be avoided then the least vulnerable

5 Managing and mitigating risk

elements of the proposed development should be located to coincide with the highest level of flood risk. For example, locating the open space element of the proposed development where the risk of flooding from surface water is higher (this would be on a case by case basis and advice should be sought from the relevant LPA in terms of its acceptability).

- 5.1.14** The inclusion of good quality green infrastructure (including trees and other vegetation) within a development master plan has the potential to significantly increase the profile and profitability of developments. Low lying ground can be designed to maximise benefits by providing flood conveyance and storage as well as recreation, amenity and environmental purposes. Where public areas are subject to flooding easy access to higher ground should be provided. Structures, such as street furniture and play equipment, provided within the low lying areas should be flood resistant in design and firmly attached to the ground.
- 5.1.15** Site layout does not only have to cater for the flood risk on the site but can also accommodate flood water that may contribute to a problem downstream. For example, where a proposal has a watercourse flowing through which contributes to flooding downstream in the existing community or further downstream within an adjacent community, the proposed development should offer flood risk betterment by holding back flood flow peaks within the site in a green corridor and by making space for this water. This is a proactive approach to flood risk management in Cambridgeshire where new developments offers enhancements to the surrounding area. All developments with watercourses identified within their site must consider this approach.
- 5.1.16** The site layout should also respond to the characteristics of the location and the nature of the risk. In some areas it is more appropriate to make space for water and allow controlled flood water onto areas of the development site. This is particularly relevant to riverside developments where extreme events can be catered for in multi-function open space areas (likely to form part of the green infrastructure provision) that would normally be used for recreation but infrequently can flood. The use of such features in these areas should be appropriate and compatible with the frequency, depth and duration of any flooding. However, signage clearly explaining the use of such areas for flood control and recreation should be fully visible so that infrequent flood inundation does not cause alarm (see section 5.2).
- 5.1.17** The following three examples are of developments that integrate flood risk management into the development master plan. These measures may not be appropriate in all locations. Further details of each development, including costing can be found in the Life Project – Long-term Initiatives for Flood-risk Environments publication EP98.

5.1.18 In Figure 5.1 the objective was to develop a medium density suburban development with high quality landscape for suburban living that would provide multi-functional open spaces which adapt for flood mitigation, sports and play, biodiversity enhancements, local food and energy.

Figure 5.1 : Upper river catchment development ©BACA Architects



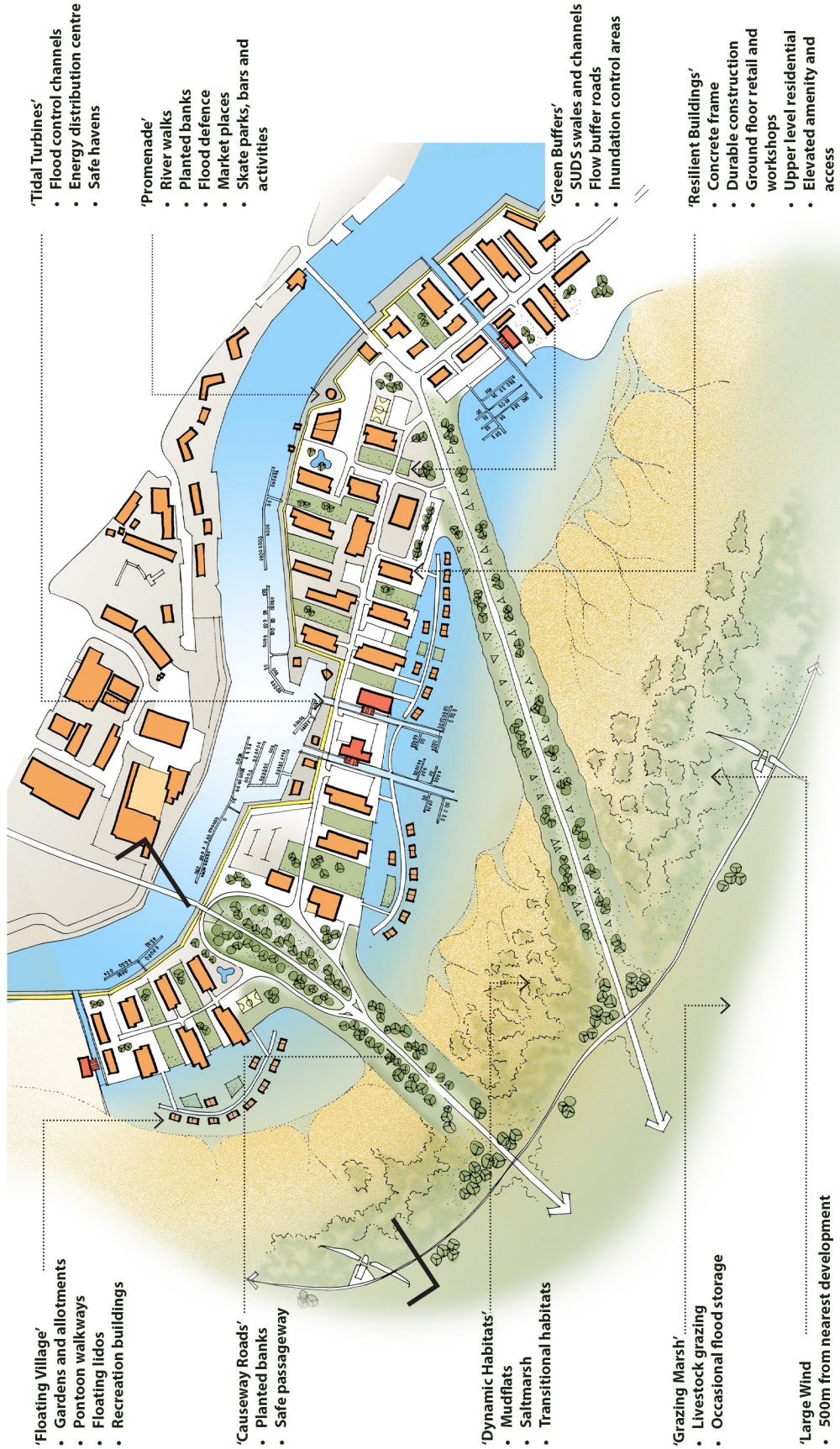
5.1.19 In Figure 5.2 the objective was to create a landscape-rich medium density development that has high density clusters to minimise development foot print and preserve land for future adaptation. Enhancement of the river corridor for waterfront and cultural activities allows integration into the existing urban green infrastructure network, provides flood and water management and opportunities for local food and energy to re-connect the town with the river.

Figure 5.2 : Middle river catchment development ©BACA Architects



5.1.20 In Figure 5.3 the main objective is to create a highly diverse landscape to provide multiple benefits to new and existing residents through flood protection, amenity and habitat generations, tourism and economic sustainability. This involved large-scale restoration of the river flood plain which would provide a number of opportunities for improvements to the landscape including improved access, tourism and recreation, provide wetland habitat and land for food and energy crops.

Figure 5.3 : Lower river catchment development ©BACA Architects



5 Managing and mitigating risk

- 5.1.21** Short-term car parking may be appropriate in areas subject to flood risk provided that flood warnings and signs are in place. It is important to consider the need that people should be able to move their cars to a recognised safe area within the warning time (hence the unacceptability of long term and residential car parking where residents may be away from the area for long periods of time). Car parks should ideally not be subject to flood depths in excess of 300mm depth since vehicles can be moved by water of this depth and may cause obstruction and/or injury. A guidance document titled '[Flood Risks to People](#)' was published by DEFRA/ EA in 2006 which developed a method for estimating risks to people, both during and immediately after a flood event. This document contains useful information on the hazards of flooding.
- 5.1.22** The use of SuDS which are designed to cater for exceedance events should not be sited within the floodplain as they are important in reducing the risk of surface water flooding on site and cannot be utilised if flooded from the river. Additionally the river will want to fully use its floodplain and these systems in the floodplain may compromise this ability. Chapter 6 provides more information on the design of drainage systems and exceedance events.

Raising floor levels

- 5.1.23** Where it is not possible to avoid flood risk or minimise it through site layout, raising floor levels above the predicted flood level (including an appropriate allowance for climate change) is a possible option in some circumstances to manage flood risk to new developments however this can increase flood risk elsewhere; it can create an 'island effect' with surrounding areas inundated during a flood, makes access and egress difficult; can affect river geomorphology; can have further potential impacts, such as erosion on site and changes to erosion and sedimentation elsewhere and can also have an impact on the landscape value and amenity of the river flood plain.
- 5.1.24** If floor levels are raised to mitigate flooding to the development, this may not prevent the roads and gardens from flooding which can affect house (flood) insurance and cause concern to the owners of the properties seeing flood water surrounding their property.
- 5.1.25** Raising floor levels can have an adverse impact on the street scene as building and feature heights will increase. In addition there may be implications for access ramps for wheelchairs which in turn can also take up flood storage leading to an overall loss of floodplain. Raising floor levels may also be significantly more difficult to achieve privacy standards with higher windows and this may also create the need for significantly higher boundary treatments or screens.
- 5.1.26** Therefore raising the floor level may not be appropriate in all situations and should not be seen as a development wide solution, but may be considered alongside other solutions if acceptable to the LPA and other Water Management Authorities (WMAs). It is important that the design will ensure that safe access and egress will always be available and this will be an essential part of the ongoing maintenance and legal agreements for the development. Please see the Defra/EA publication '[Flood Risks to People](#)' for further information on what is considered 'safe'.
- 5.1.27** An alternative could include the placing of parking or other flood compatible uses at ground level with more vulnerable uses at higher levels. This is only appropriate for areas of low frequency flood risk and must ensure safe access and escape from the development and that the development is habitable for the duration of the flood, i.e. services to the properties will continue to function. When undertaking this approach no built elements should interrupt flood flow paths or reduce floodplain storage capacity.
- 5.1.28** Single storey residential development and ground floor flats are generally more vulnerable to flood damage as occupants do not have the opportunity to retreat to higher floor levels and salvage belongings to higher ground. For this reason single storey housing and ground floor flats in flood risk areas should not be allowed unless finished floor levels are set above the appropriate flood level for the lifetime of the property (taking into account the appropriate climate change allowance), and there is safe access and escape. In

areas of extensive floodplain (e.g. Wisbech), single storey housing could be supported where a purpose built stairway is provided to the roof area and escape from this area is in the form of easily accessible and easy to open roof light windows or similar (this must be as agreed by the relevant LPA in advance).

- 5.1.29** Sleeping accommodation on the ground floor that relies on flood warnings and the implementation of flood proofing measures is hazardous. Change of use from commercial to residential that results in proposed ground floor flats in Flood Zone 3 is unlikely to be acceptable (even with the use of flood proofing measures to mitigate the flood risk) unless finished floor levels are or can be raised above the predicted flood level (with an appropriate allowance for climate change), and there is safe access to and escape from higher storeys of the building.

Flood compensation

- 5.1.30** Any proposals to modify ground levels will need to demonstrate in the FRA that there is no increase in flood risk to the development itself or to any existing property elsewhere. Where land on site is raised above the level of the floodplain to protect properties, compensatory land must be returned to the floodplain. This is to ensure that new flood risk is not created elsewhere in an unknown or unplanned for location. Land raising would generally only be applicable on smaller development sites or for a small portion of the developable site area.
- 5.1.31** For undefended sites, floodplain compensation must be both 'level for level' and 'volume for volume'. Direct (onsite or opposite bank) flood compensation is preferable since it is more appropriate, more cost effective and will ensure it functions correctly. If strategic off-site upstream flood compensation is to be considered, developers should liaise with the LPA, the EA and the relevant IDB to understand whether storage sites are available that could protect multiple developments, potentially lead to shared costs, and reduce flood risk overall. CIRIA's report C624 entitled '[Development and Flood Risk - Guidance for the Construction Industry \(2004\)](#)' provides detailed advice on floodplain compensation.
- 5.1.32** In defended areas, flood compensation need not normally be provided to the same extent. This applies, for example, in the Fens. Developers should however assess the risks to the site and surroundings and undertake mitigating action if the raising of land has the potential to create additional risk elsewhere. Consultation should be undertaken with WMAs (for example the EA, Lead Local Flood Authority (LLFA) or the relevant IDB) to determine what type of flood compensation or other mitigating actions would be appropriate.

New flood defences

- 5.1.33** The construction of new flood risk defences may enable development to take place provided that there are wider sustainability benefits associated with their construction (this could be demonstrated through a sustainability appraisal for example). Their construction needs to be very carefully considered with the LPA, the EA and the relevant IDB. New defences create new residual risks that can take significant investment to fully understand and plan. WMAs who maintain defences (such as the EA or IDBs) are not obliged to maintain defences and could potentially reprioritise or reduce expenditure in this area. Where defences are required, maintenance agreements will need to be reached through Section 106 of the [Town and Country Planning Act 1990](#) or Section 30 of the Anglian Water Authority Act 1977. The latter can be used by the EA to adopt flood defences directly. In addition, IDBs may also adopt new flood defences if appropriate agreements and funding are in place.
- 5.1.34** Under the Flood and Water Management Act 2010 (FWMA), the EA, LLFA, District Councils and IDBs have legal powers to designate structures and features that affect flood risk and are not directly maintained by these organisations. Where a defence is being built to protect a development or area, it may be designated as a 'flood asset' by the relevant body. Further information on the designation of structures can be found in Defra's Designation of Structures and Features for [Flood and Coastal Erosion Risk Management Purposes - Information Note](#).

5.2 Managing the residual risk

- 5.2.1** Residual risks are those remaining after the Sequential Approach has been applied to the layout of the different site uses and after specific measures have been taken to control the flood risk. At this stage management measures are no longer about reducing the risk, but about planning for flooding. Management of the residual risk must therefore be the very last stage of designing and planning a site, where all options for removing and reducing risk have already been addressed.
- 5.2.2** This document only provides an overview of residual risk related management measures. More detailed information is included in '[C688 - Flood resilience and resistance for critical infrastructure \(CIRIA, 2010\)](#)', - '[Improving the Flood Performance of New Buildings – Flood Resilient Construction \(CLG, 2007\)](#)' and '[Flood resilient building \(BRE DG523\)](#)'.
- 5.2.3** Where flood defence and drainage infrastructure has been put in place there will be risks associated with both its failure and with the occurrence of flood events more significant than the design level of the defence or system. These are residual risks which can be managed. The costs of managing residual risk may be low compared to the damage avoided. It should be noted that climate change is expected to increase the level of residual risk.
- 5.2.4** Different types of measures to manage residual risk include:
- Developer contributions towards publically funded flood alleviation schemes;
 - Designing sustainable drainage systems so that storm events which exceed the design standard are properly planned for and the exceedance routes are known and appropriate (this requirement is explained in sections 5.1.10 and 6.4);
 - Incorporating flood resistance and resilience measures into building design;
 - Flood warning and evacuation plans.
- 5.2.5** There are two main strategies for managing property level flood risk:
- **Water exclusion strategy** – where emphasis is placed on minimising water entry whilst maintaining structural integrity, and on using materials and construction techniques to facilitate drying and cleaning. This strategy is favoured when low flood water depths are involved (not more than 0.6m). It should be noted that even with this strategy, water is still likely to enter the property.
 - **Water entry strategy** – where emphasis is placed on allowing water into the building, facilitating draining and consequent drying. Standard masonry buildings are at significant risk of structural damage if there is a water level difference between outside and inside of about 0.6m or more. This strategy is therefore favoured when potentially high flood water depths are involved (greater than 0.6m).

Flood resistance measures

- 5.2.6** Flood resistance measures reduce the risk of flood water from entering a building and can be referred to as 'dry proofing'. Measures include exterior water retaining walls and barriers built into building facades, gates that protect basement areas, doorway flood barriers, and airbrick covers (see Figure 5.4).
- 5.2.7** The effectiveness of flood resistance measures depends upon the occupier understanding the features, utilising them correctly when required and carrying out any needed maintenance. Passive measures such as flood doors and self-closing airbricks are one way of reducing the risk. Water pressure and carried debris can also damage buildings and result in breaching of barriers. As a result these measures should be used with caution and accompanied by flood resilience measures.
- 5.2.8** Flood resistance measures cannot be used in isolation as the only form of flood mitigation, but they may be useful within a suite of measures including appropriate high finished floor levels and safe access and escape routes. Flood resistance measures can aid recovery from an extreme and rare flood event(s).

Figure 5.4 : Reinforced concrete flood resistant wall faced with local stone



© Robin Stott

Flood resilient construction

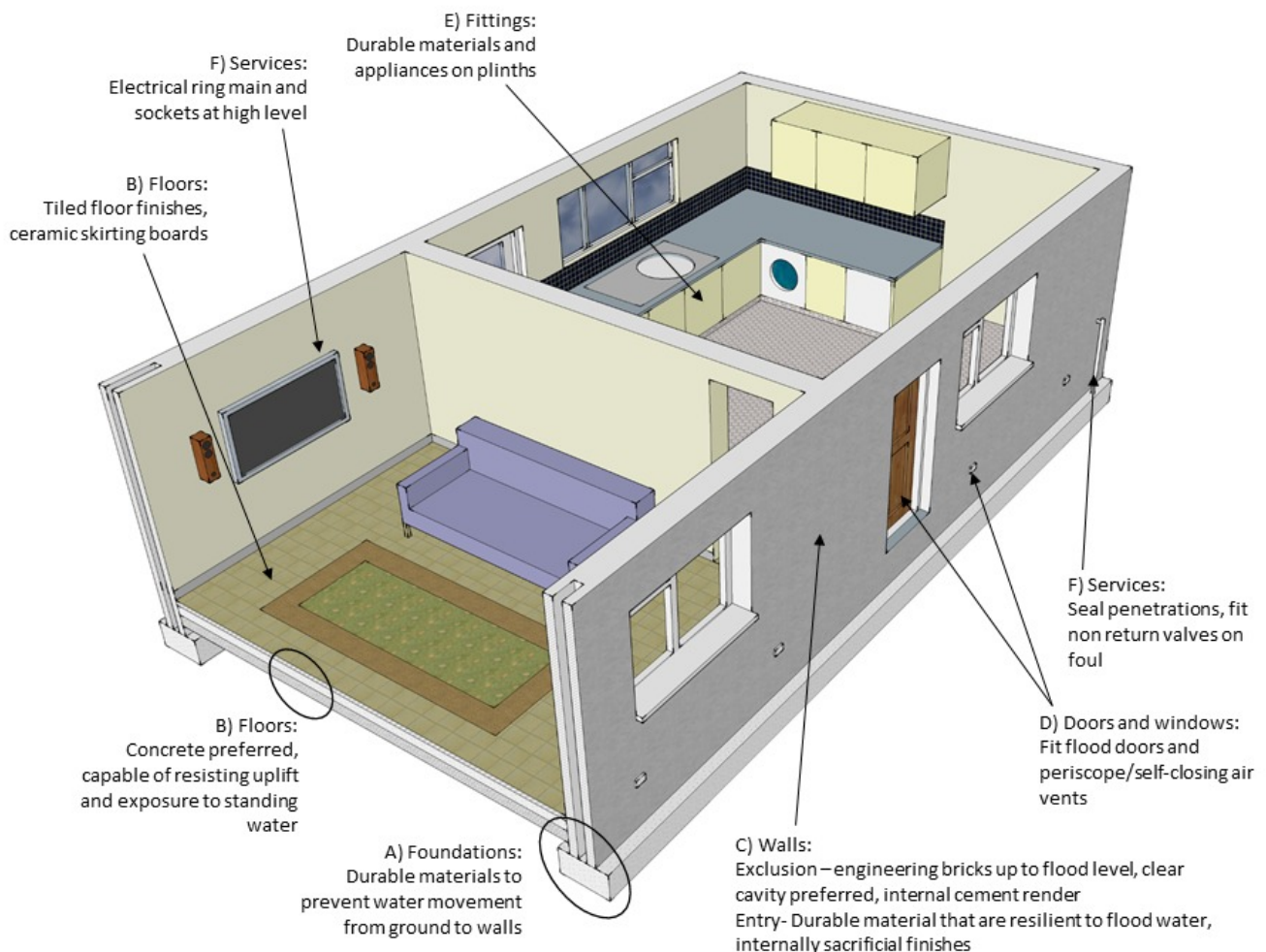
5.2.9 Flood resilient construction accepts that water will enter the building, but with careful design minimises the damage to allow the re-occupancy of the building as soon as possible. This is encouraged in water compatible developments within the functional floodplain e.g. boat club houses. Resilient construction can be achieved more consistently than resistance measures and is less likely to encourage occupiers to remain in buildings that could be inundated by rapidly rising water levels. Total prevention of water entry or 'dry proofing' to a building is very difficult to achieve and flood resilient measures are about reducing the impact caused by flooding (see Figure 5.5).

5.2.10 Further details can be found in [Improving the Flood Performance of New Buildings](#) (DCLG, 2007).

5 Managing and mitigating risk

Building components and flood resilience

Figure 5.5 : Flood resilience measures



5.2.11 Figure 5.5 provides an example of flood resilient measures that can be used within a development. Further details of each component can be found in Appendix D.

5.2.12 Flood resilience measures also include information based actions and planning such as:

- The use of clear signage within a development to explain the remaining risks or required responses from residents in the event of a flood such as displaying information on access doors and when to use them, in car parks explaining when to move cars, or on riverside walkways (i.e. when car parks are designed to flood), and defined flood conveyance routes and storage areas;
- Evacuation pathways and routes should be clearly signed, and where possible, markers (colour coded) used on bollards/lampposts to define the path and changes in depth from shallow to deep for the users. Any chamber covers should not be designed within access routes as covers can lift during floods and become hazardous to pedestrians;
- Ensuring that appropriate flood insurance is available and is in place for buildings and contents. Further information and links about flood insurance are available on the [National Flood Forum website](#);
- Businesses developing and maintaining business continuity plans. It is encouraged that business continuity planning is undertaken across all risk areas;
- Preparing and acting on flood warning and evacuation plans.

- 5.2.13** These plans are an essential part of managing the remaining risk. Particular attention should be given to communicating warnings to and the evacuation of vulnerable people.
- 5.2.14** Evacuation plans must include dry access and escape routes wherever possible. Any variation in this, particularly the consideration of on-site refuge must be agreed by emergency service partners. In this situation the LPA will seek to organise a technical meeting with their Emergency Planner that deals with Evacuation Plans for the district, Cambridgeshire's Fire and Rescue Service, and the Police Force in order to agree whether the development's strategy for access, escape and refuge is appropriate.
- 5.2.15** The areas of Cambridgeshire covered by the [EA's flood warning scheme](#) can be viewed on the EA's online map. While this scheme provides prompt telephone calls and SMS text messages to registered individuals, it is dependent on residents signing up to the scheme. Developers must also bear in mind that warning areas may not be extended to cover new development areas. The EA's scheme only covers flooding from main rivers. Flooding from rainfall, surface runoff and groundwater often occur much more quickly, making warning more difficult. No specific local or national warning system currently exists for these more localised events and developers will need to consider this in ensuring developments will be safe from all sources of flooding.



6 Surface water and sustainable drainage systems

This chapter discusses how effective SuDS can be incorporated into the overall design of a proposal in any area of Cambridgeshire. Within Cambridgeshire the aim is to achieve the design and delivery of high quality sustainable drainage that complements the urban and rural landscapes of the county whether natural or man-made and which:

- Effectively manages water (quantity and quality – see Chapter 7);
- Is aesthetically pleasing;
- Conserves, accommodates and enhances biodiversity and the historic environment; and
- Provides amenity for local residents (ensuring a safe environment).

6.1 Introduction

- 6.1.1** Sustainable Drainage Systems (SuDS) re-create the benefits of natural drainage systems by integrating water management with urban form to create and enhance the public realm, streets and open spaces that we all value. The flexibility of SuDS components means that SuDS can apply in both the urban and rural context and in both natural and man-made environments.
- 6.1.2** SuDS allow the delivery of high quality surface water drainage whilst at the same time supporting urbanised areas in coping with severe rainfall. SuDS generally replace traditional underground, piped systems that gather runoff using grates or storm water drains. They control flows to prevent deluges during times of high rainfall and reduce the risk of flooding whilst also providing benefits for amenity and biodiversity. The SuDS approach keeps water on the surface as much as possible to avoid concentration and acceleration of flows in piped systems while also taking the opportunity to provide valuable amenity assets for local residents and increase the provision of green infrastructure in urban areas. Keeping water on the surface also means that any problems with the system are quicker and easier to identify than with a conventional system and are generally cheaper and more straightforward to rectify.
- 6.1.3** SuDS offer a great opportunity to improve and connect habitat in urbanised environments, as well as playing an important role in delivering and reinforcing wider green infrastructure ambitions for Cambridgeshire. SuDS can improve quality of life as well delivering recreation and education opportunities. Additionally, developers benefit from this environmental improvement by constructing highly desirable, affordable and saleable commercial and residential properties.
- 6.1.4** Even across man-made areas such as the Fens there is the potential to make use of many different SuDS components as they can reduce the immediate impact of intense rainfall ultimately having a cumulative beneficial effect on flood risk from main rivers. Together SuDS and IDB systems can be a strong combination providing significant benefits for future development.
- 6.1.5** This chapter presents information for designing water sensitive developments providing the first stage for any SuDS designer. It also provides information on the steps a developer must take at the different stages of the development process to ensure SuDS meet their full potential. For further background information on SuDS including the different types are set out in [The SuDS Manual](#) (CIRIA, C753).
- 6.1.6** Please note that reference is made to ‘SuDS’ throughout this chapter, rather than ‘surface water drainage’ as the National Planning Policy Framework (NPPF), Planning Practice Guidance (PPG), Non-Statutory Technical Standards for Sustainable Drainage and adopted and emerging Local Planning policies require a SuDS solution to surface water management for new development. Many of the general principles within this chapter can also be applied to traditional surface water drainage and so this chapter needs to be complied with on all development sites and the provision of SuDS maximised. Even on very constrained sites SuDS can be implemented in one form or another.

6 Surface water and sustainable drainage systems

6.1.7 Organisations such as [CIRIA](#), [British Standards](#) and [Interpave](#) provide the information that should form the basis of any SuDS design. Responsibility will rest with the designers for ensuring that the scheme is designed to the requirements of the relevant Local Planning Authority (LPA) and the relevant Water Management Authorities (WMAs).

6.2 The Cambridgeshire SuDS design context

Topography and drainage patterns

6.2.1 Cambridgeshire's topography is predominantly flat, with many parts situated below sea level. However, there are some important topographical differences; the Fens area is consistently level and low-lying, while southern and western parts of Cambridgeshire include some significant variations in topography. Undulating hills define much of the land to the northeast of the River Cam, while the topography to the southwest of the river is more varied. Other main rivers, which flow through Cambridgeshire, include the River Nene, River Great Ouse and River Kym. Due to the county's low-lying geography, it is highly sensitive to sea level change; particularly near The Wash. Structured landscapes using a highly organised drainage pattern of overland flow channels are common across the county.

Rainfall and water availability

6.2.2 Cambridgeshire is one of the driest counties in the UK. On average, the county receives less than 600mm of rainfall per annum; however, this can drop below 500mm in particularly dry years. This is less than half the national average of 1,176mm. Accordingly, water management is an important issue and source control measures like rainwater harvesting that enable water use reduction locally are important along with retention of water for irrigation purposes. Equally, in some areas infiltration to re-charge local groundwater supplies is important due to the low rainfall conditions in Cambridgeshire and SuDS such as soakaways can help by encouraging infiltration wherever it is achievable and acceptable. In Fen areas where water levels are closely managed to sustain development and agriculture, the Internal Drainage Boards (IDBs) can use their systems to manage water supplies for agriculture. Equally, trees and woodland, where used appropriately can reduce the impact of drought as, under the right conditions, shelterbelts can enable crops to use water more efficiently (by reducing evapotranspiration losses) which could reduce the need for irrigation and lead to less abstraction.

Flood Risk and Surface Water Management

6.2.3 Fluvial and tidal flooding are the dominant sources of flood risk in Cambridgeshire. There is a strong reliance on pumping stations for water conveyance particularly in the low-lying Fen areas of Cambridgeshire to prevent flooding. Surface water flooding is however also considered a key issue in the county with an estimated 23,100 homes at risk from this type of flooding. New development across the county alters the natural landscape and affects the hydrological processes of the catchment in which it is situated. It often removes natural vegetation and reduces the permeability of the land through the construction of roofs, roads, car parks and other areas of hardstanding, all of which can significantly increase the rate of surface water runoff. SuDS are therefore an important component in reducing the quantity surface water runoff. It is important to note that SuDS cannot be used to mitigate for flood risk to the site from fluvial, tidal or other sources of flooding.

Geology

6.2.4 The geology in the north and central areas of Cambridgeshire is relatively impermeable, consisting mainly of soils with properties similar to clay. These soil types are not generally conducive to infiltration, and this will need to be considered in SuDS design but it does not preclude the use of non-infiltrating SuDS. Some of the LPA's water cycle strategies including that for Huntingdonshire identify where geology may affect the use of infiltration SuDS. In some areas there are sand and gravel deposits over the top of clay soils that may be suitable for infiltration. The presence of chalk and greensand in the southern part of the county

means that high infiltration rates may be achievable, and SuDS can be designed to infiltrate water to the ground. A comprehensive investigation should be carried out at the earliest stage of the planning process to establish ground conditions.

- 6.2.5** A number of factors should be considered when deciding whether to use infiltration SuDS, though where possible, they should be utilised in order to supplement groundwater recharge. The British Geological Society has produced a [tool](#) that uses Geographic Information Systems (GIS) to show suitability for infiltration. It is important to note that this information only serves as a high level indication of broad geological areas, and is not to be used as a substitute for a comprehensive site investigation and soakage testing. Infiltration potential is very localised and while suitable sites exist even in the fen areas, in some locations infiltration based systems will not be appropriate.

Biodiversity and green infrastructure

- 6.2.6** Many of Cambridgeshire's nationally and locally designated nature conservation areas are designated because of their water environment. The integration of SuDS into the landscape needs to be sensitive to the local biodiversity and equally, biodiversity needs to be designed into SuDS. At present one of the main risks to biodiversity in Cambridgeshire is the extent of fragmentation of habitats and loss of species due to historical farming practices and more recently increased pressures from development. Inclusion of SuDS networks could help to re-connect existing habitats and re-create new areas. Cambridgeshire's [Habitat Action Plans](#) and [Species Action Plans](#) provide specific information on desirable habitat design in the county. Biodiversity should be integrated into SuDS at the early design stage to avoid unnecessary conflict over maintenance and the disturbance of protected species. Additionally if protected species are likely to be attracted to SuDS features, the protection of these habitats during maintenance and operation should be considered in the design.
- 6.2.7** A UK government objective is, "connecting people with nature" (DEFRA 2011) and the use of SuDS can help deliver this objective. Through careful design, SuDS can respect, enhance and connect local habitats and support biodiversity and green infrastructure in Cambridgeshire. As recognised in the [CIRIA SuDS Manual \(C753\)](#), water within a SuDS system is essential for the growth and development of plants and animals and biodiversity value can be delivered on any scheme from small, isolated systems to large strategic developments where SuDS are planned as part of the wider green landscapes. The creation of rough grasslands, woodland, wetland meadows, aquatic planting and open water can provide shelter, food and foraging and breeding opportunities for a wide variety of wildlife.
- 6.2.8** There are several Biodiversity Action Plan (BAP) species and habitats that can be supported by well-designed SuDS. In appropriate locations, design of retention ponds and wetlands should consider the integration of well-designed sanctuary areas wherever possible, to give spaces for the more sensitive wildlife species. To make sure SuDS can provide the best benefits to wildlife, ecological expertise is strongly advised. Consultation with nature conservation groups can also help access such expertise. Further information and a list of useful contacts can be found in the RSBP and WWT publication '[Sustainable Drainage Systems: Maximising the Potential for People and Wildlife](#)'.
- 6.2.9** SuDS can also contribute to a network of functional green corridors. As part of a green infrastructure network, SuDS can be an important asset in supporting the creation of green spaces for local communities' recreational use. The vision for green infrastructure in the county is set out in the [Cambridgeshire Green Infrastructure Strategy 2011](#), which includes connecting habitats, enhancing landscapes and biodiversity and extending access to green spaces as key objectives. The strategy also emphasises the provision of multi-functional landscapes, where SuDS could be integrated with other green infrastructure uses such as recreational space (when dry), landscaping, wildlife habitats, water quality control and flood alleviation.

Character and urban design

6.2.10 Many parts of the Cambridgeshire landscape are typified by flat open landscapes and there is also a strong presence of surface water and water meadows. Water has historically helped define Cambridgeshire, including the man-made Cambridgeshire Lodes, Hobson's Conduit and extensive waterways in the Fens. River valleys play an important role in defining rural landscapes and market towns. In urban areas, undeveloped waterways provide natural relief from the built-up urban form. Above ground SuDS will positively contribute to the county's history and acceptance of water, as well as providing amenity and quality of life value. They will also complement the existing extensive network of waterways, improving the quality of water within them.

6.2.11 The county also has a diverse and distinctive built heritage within its cities, towns, villages and historic buildings. The architectural quality of many buildings within Cambridgeshire's towns and villages, both traditional and modern, is of a high national and international significance. SuDS design will need to reinforce and reflect the quality of the built and natural environment including heritage assets and their settings.

Presence of water features

6.2.12 Historically, Cambridgeshire included large areas of low lying wetlands that have been subsequently drained to allow urban areas and modern farming practices to develop. The use of wetland features in SuDS provides an opportunity to regain some of the benefits of this original landscape, particularly in terms of the varied wildlife value that these sites can bring, without losing touch with the reasons why it was drained in the 17th century.

6.2.13 A famous Cambridgeshire characteristic is its water meadows or floodplains adjacent to the River Cam and the Fens, which in some cases are bounded by residential developments. These water meadows are often grazed and are unique in as much as they extend into urban environments.

6.2.14 Cambridgeshire also has regionally, nationally and internationally important archaeological sites, and the design of SuDS and ground works will need to be sensitive to potential archaeological interests, historic assets and their settings. Where heritage assets are preserved in a waterlogged environment, the recharge of groundwater systems will be extremely important.

Designing a SuDS scheme

6.2.15 Designing SuDS effectively requires an interdisciplinary team with a range of skills such as planning, drainage engineering, landscape design and biodiversity knowledge. SuDS in Cambridgeshire should be designed by a competent design team that works together from the outset to deliver a successful scheme. In many cases, overall costs savings can be realised where multiple benefits such as improved open spaces, recreational areas and surface water drainage function in one area.

6.3 Cambridgeshire SuDS design principles

6.3.1 Principles governing SuDS design in Cambridgeshire are outlined in Table 6.1 and discussed in detail in the following sections.

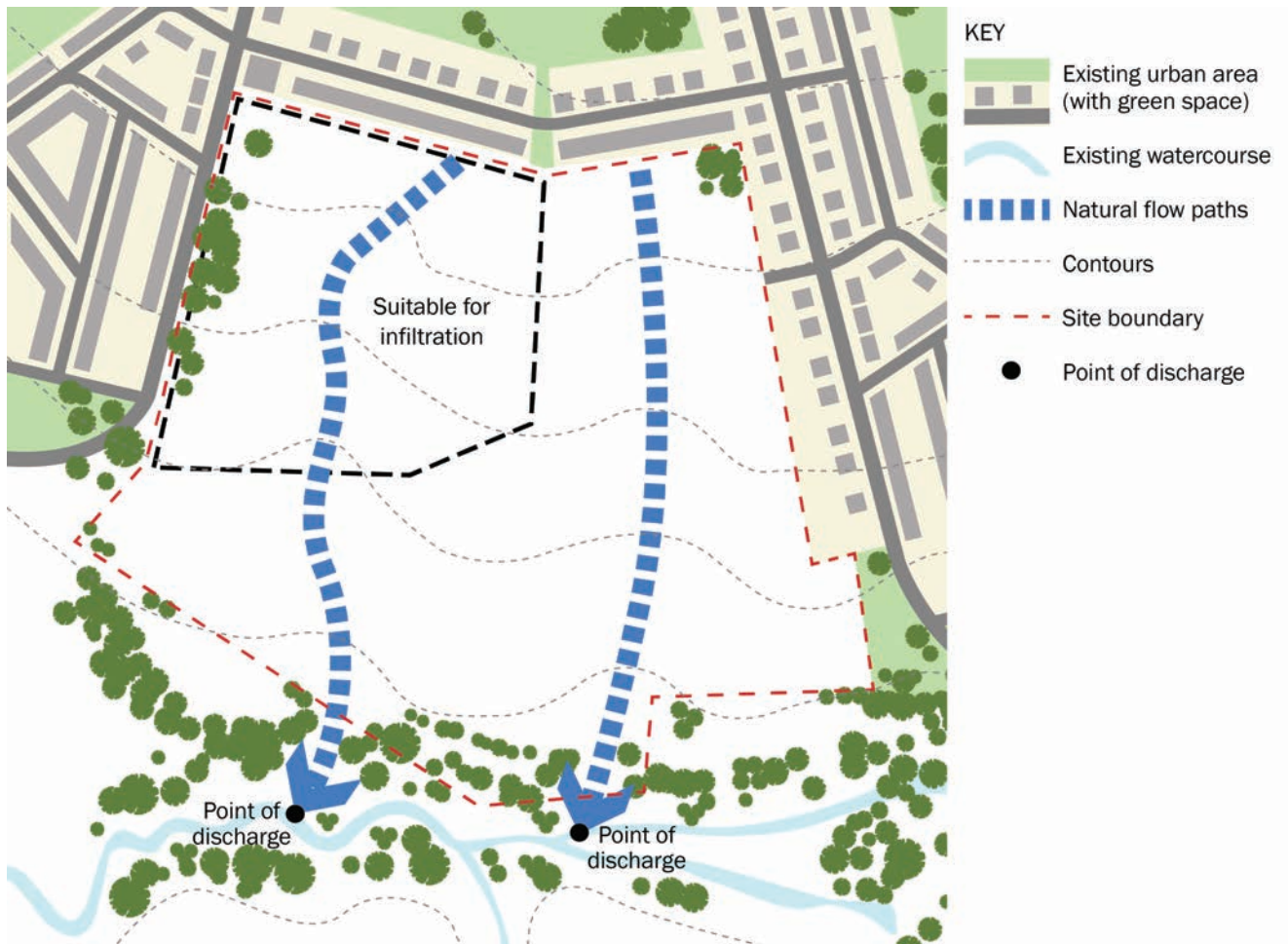
Table 6.1 : Cambridgeshire SuDS Design Principles

<ul style="list-style-type: none"> • Plan in SuDS from the start (See Page 57) • Mimic natural drainage (See Page 63) • Use the SuDS management train (See Page 67) • Water reuse first (See Page 69) • Follow the drainage Hierarchy (See Page 69) • Use infiltration where suitable (See Page 69) • Keep surface water on the surface (See Page 70) • Place-making through SuDS design (See Page 70) • Landscape-led approach (See Page 70) • Recognise and conserve the historic and archaeological environment (See Page 71) • Minimise embodied carbon in SuDS (See Page 71) • Minimise waste in SuDS (See Page 71) • Design for wildlife and biodiversity (See Page 71) • Design for easy maintenance and access (See Page 72) • Design SuDS for brownfield sites (See Page 72) • Consider flood extents in SuDS design (See Page 73) • Design open spaces to incorporate SuDS (See Page 73) • Design streets to incorporate SuDS (See Page 75) • Design SuDS to match the density of developments (See Page 76) • Design SuDS for flat sites (See Page 80) • Design industrial and agricultural sites to incorporate SuDS (See Page 82)

Plan in SuDS from the start

- 6.3.2** Considering SuDS during the preliminary stages of site design provides the opportunity to incorporate features that are appropriate to the local context and character of an area. Integrated design to achieve multi-functional benefits is inherent to the site master planning and layout process; therefore it is most efficient and cost effective to design SuDS schemes into a site as early as possible. When drainage is accounted for from the beginning of the design process, it provides opportunity for the built up areas to be designed in-line with the topography, rather than to fit the drainage around the site at a later stage which is much less effective.
- 6.3.3** Land uses that have different pollution potential can also be clustered and phased so that management trains can be designed most effectively. The result of early inclusion of SuDS is a more effective and efficient layout which will avoid the need for abortive work and changes at a later stage which can escalate costs.
- 6.3.4** The better the SuDS design the more options for adoption that might be available to a development. The stages described in Figure 6.1 to Figure 6.5 show how a design can integrate SuDS spatially through the evolution of a masterplanning exercise.

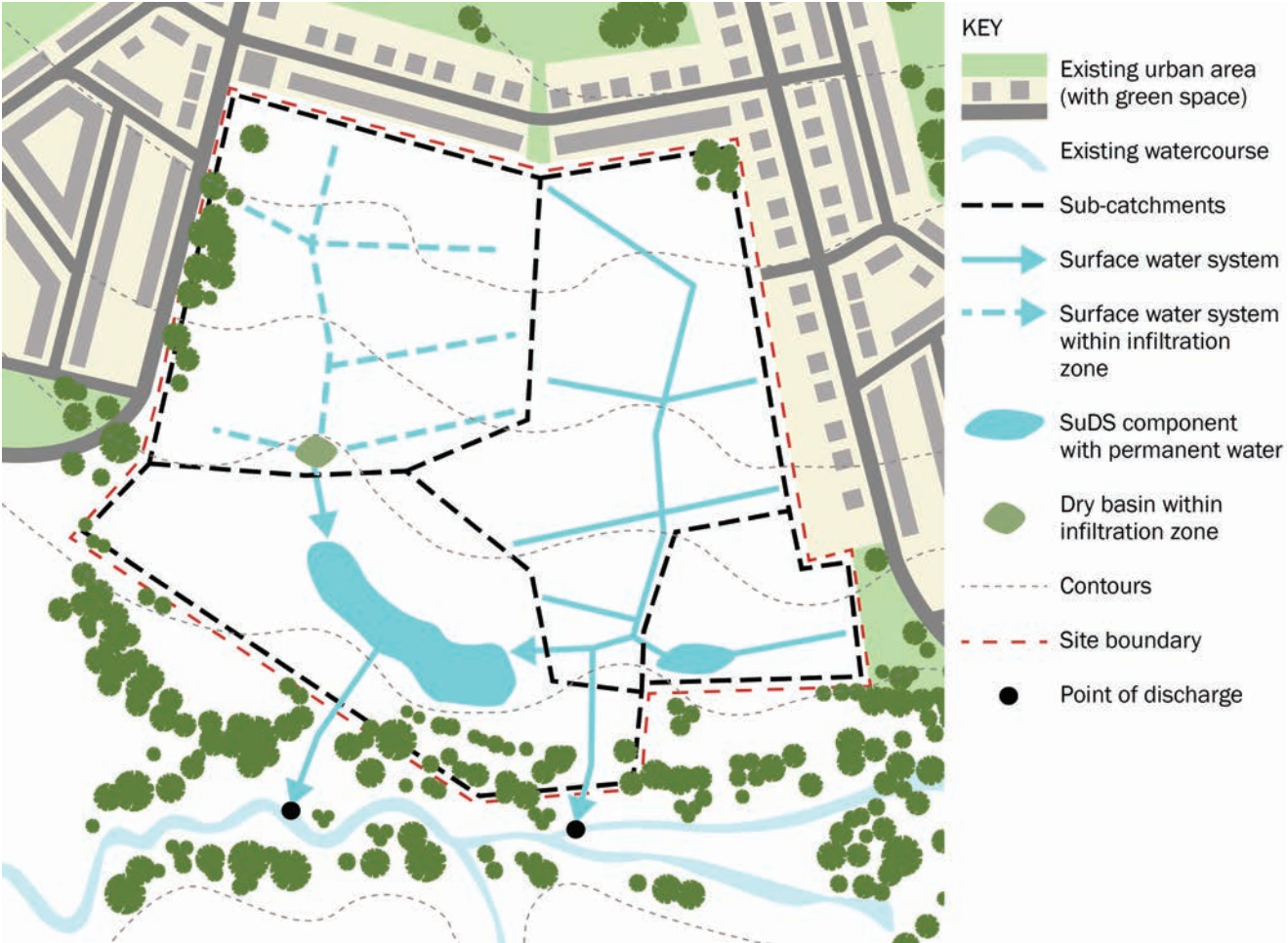
Figure 6.1 : Stage One



Source: Woods Ballard, B., et al (2015) The SuDS Manual, CIRIA, C753

Examine site topography and geology: Aim to mimic the natural drainage systems and processes as far as possible. Identify key natural flow paths, existing water bodies and potential infiltration areas to understand opportunities and constraints.

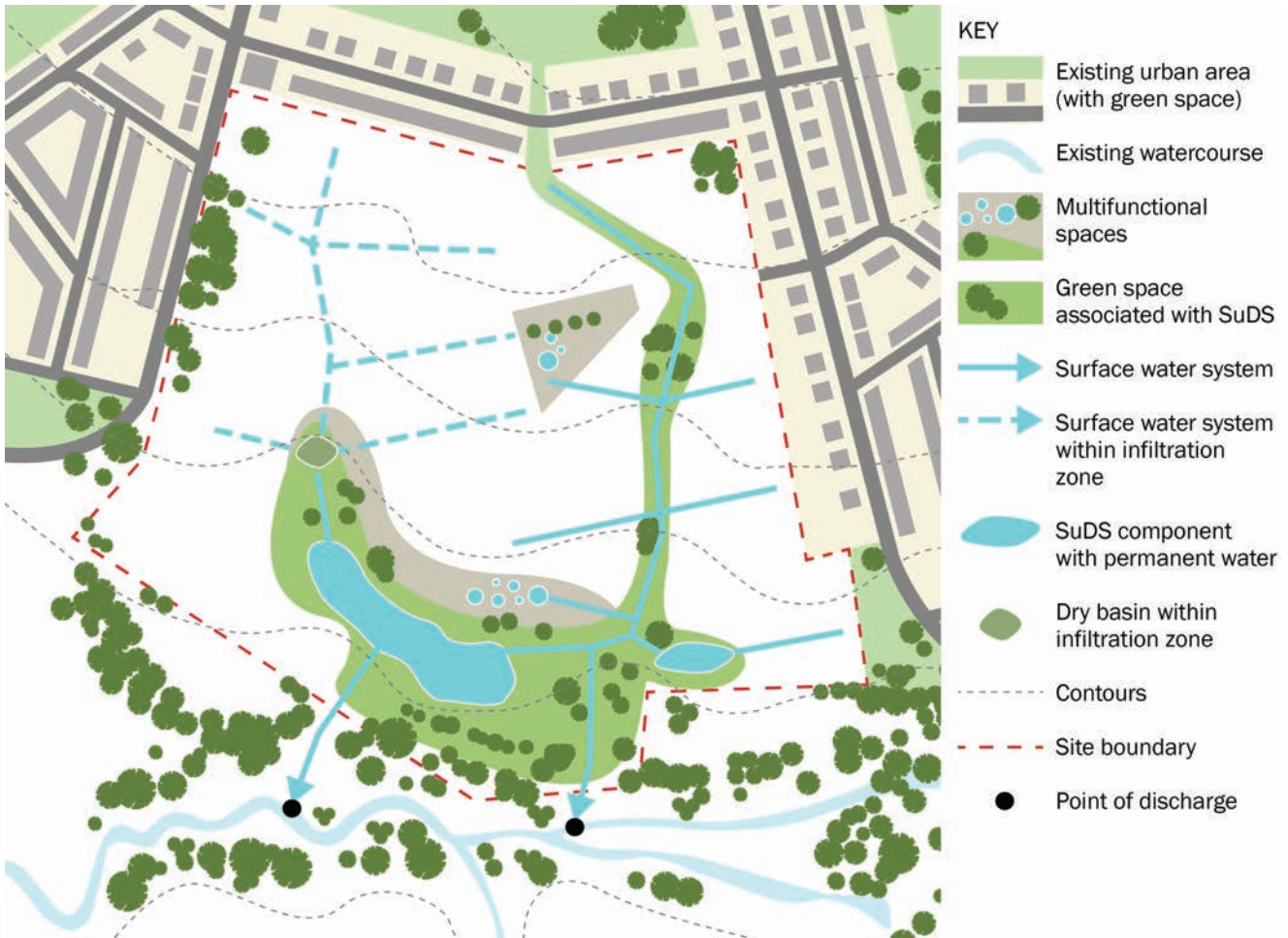
Figure 6.2 : Stage Two



Source: Woods Ballard, B., et al (2015) The SuDS Manual, CIRIA, C753

Create a spatial framework for SuDS: Minimise runoff by rationalising large paved areas and maximising permeable surfaces. Consider likely space needs for site control SuDS based on character of development and the proposed degree of source control. Use flow paths and possible infiltration or storage areas to inform development layout.

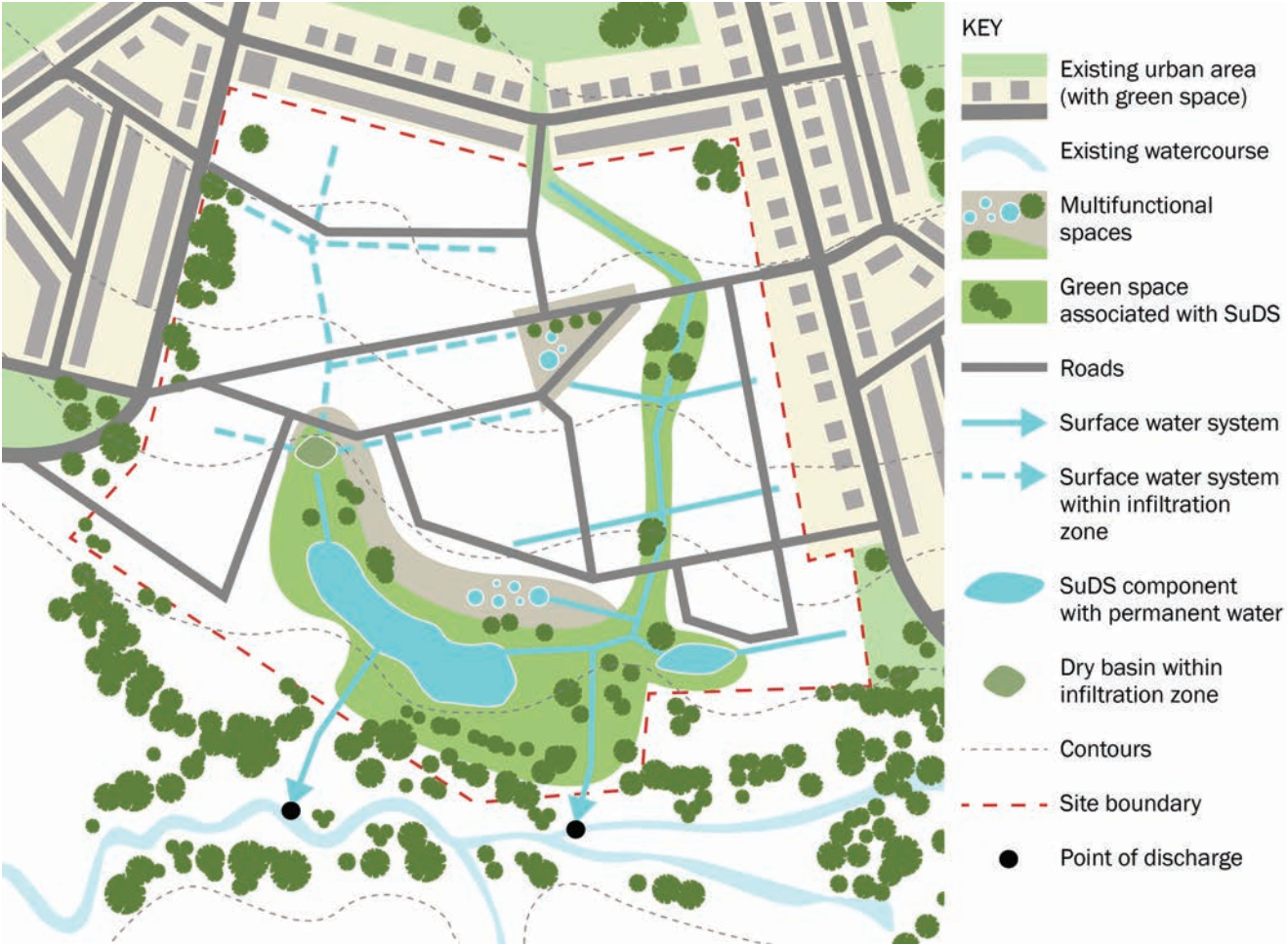
Figure 6.3 : Stage Three



Source: Woods Ballard, B., et al (2015) The SuDS Manual, CIRIA, C753

Look for multi-functional spaces: Consider how SuDS features can be co-located with green infrastructure, open space and public realm areas to create multi-functional spaces. SuDS can be designed to be valuable amenity and ecological features.

Figure 6.4 : Stage Four

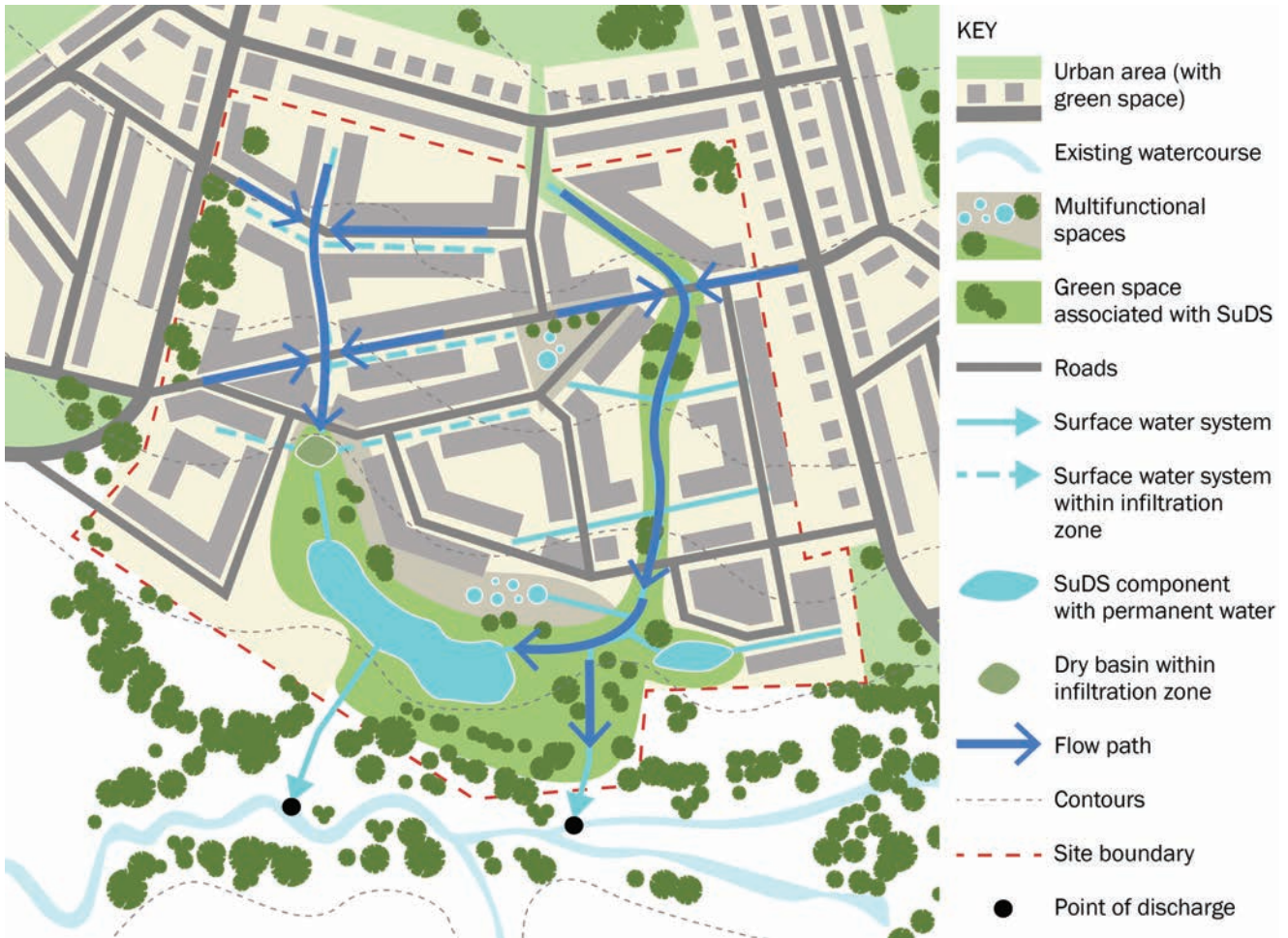


Source: Woods Ballard, B., et al (2015) The SuDS Manual, CIRIA, C753

Integrate the street network with SuDS: Structure the street network to complement and manage flow pathways. Integrate SuDS features into street cross-sections, ensuring street widths are adequate. SuDS should be used to enhance the streetscape providing amenity and multi-functionality by integrating with other street features including tree planting, traffic calming, parking bays, verges and central reservations.

6 Surface water and sustainable drainage systems

Figure 6.5 : Stage Five



Source: Woods Ballard, B., et al (2015) The SuDS Manual, CIRIA, C753

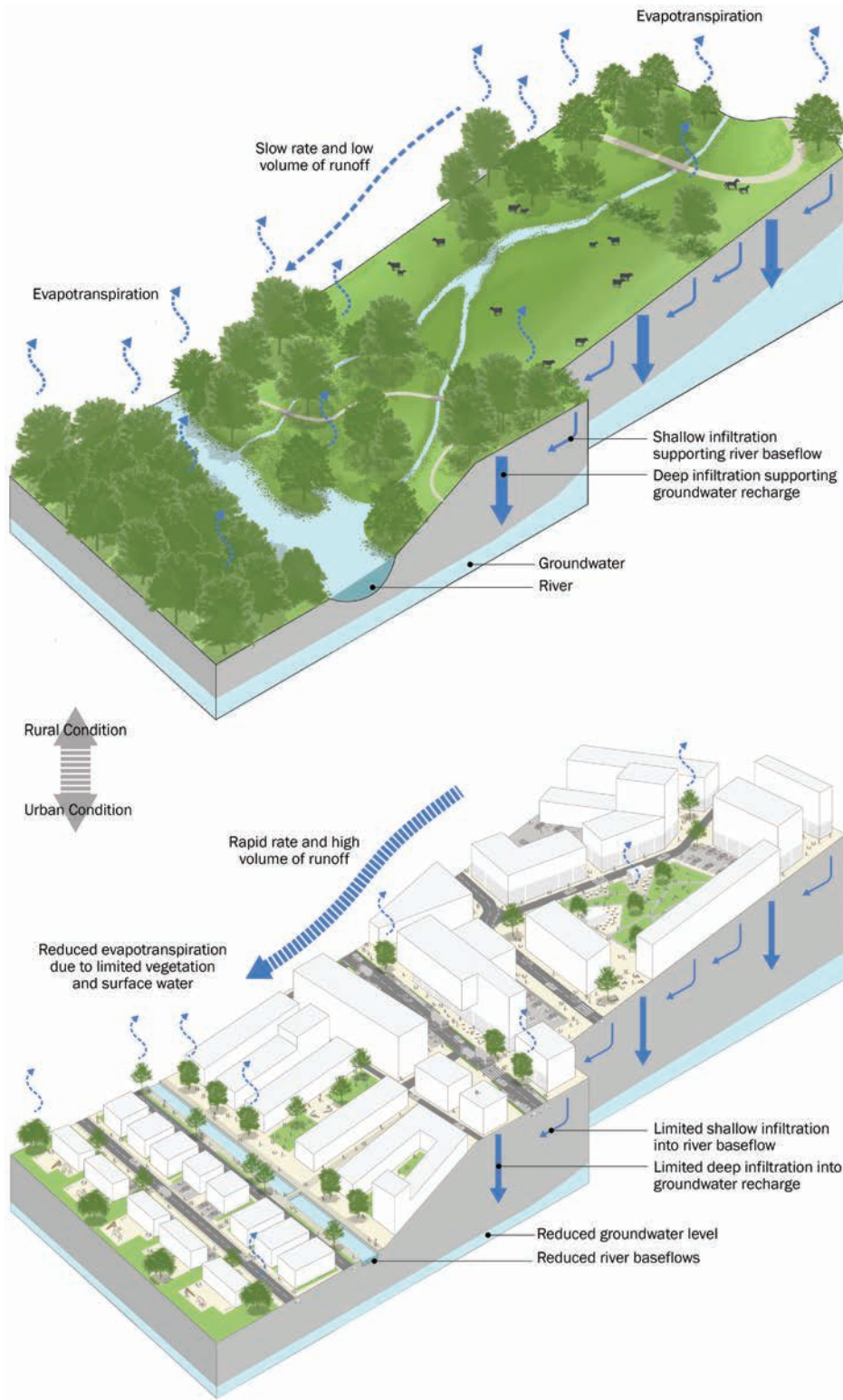
Cluster land uses to manage pollution: The number, size and type of SuDS selected will be affected by land uses and the corresponding pollution risk. Potential polluters, e.g. industrial development should have their own isolated SuDS network. Integrate a series of SuDS features that will provide water treatment throughout the networks, responding to the level of pollution risk. Clustering should be considered alongside other mixed use ambitions.

Mimic natural drainage

- 6.3.5** The topography of an undeveloped site provides a good indication of natural flow routes and can therefore assist in defining appropriate and efficient flow routes through a developed site without relying on additional infrastructure. The most effective and cost efficient designs make use of the local topography, increase landscape permeability, and reduce the amount of surface water flowing off site as much as possible. Allowing surface water runoff to follow the natural physical geography requires less soil movement and can eliminate the need for additional underground piping and pumping of water. Where the site is suitable for infiltration, opportunities to discharge water to the ground should be taken to mimic natural infiltration and recharge groundwater aquifers.
- 6.3.6** All new developments on greenfield land are required to discharge the runoff from the impermeable areas at the same greenfield runoff rate, or less than, if locally agreed with an appropriate authority or as detailed within the local planning policies of District and City Councils. For example the IDB may stipulate its rates of discharge for developments within its areas and the Lead Local Flood Authority (LLFA) or LPA may stipulate an acceptable discharge rate outside of these areas. Note that in IDB areas, consent will be required for any discharge into an IDB watercourse.
- 6.3.7** The LPA may allow a reduced level of attenuation prior to discharge to a watercourse where a strategy or study undertaken by or in partnership with an IDB or other WMA demonstrates that no increase in flood risk would occur to the site or elsewhere. It must however be demonstrated by the applicant that the site can continue to drain when receiving water bodies are in flood conditions. Irrespective of any agreed runoff rates, source control methods must be implemented across sites to provide effective pre-treatment of surface water. This must be demonstrated as part of the proposal.
- 6.3.8** Brownfield (previously developed land) sites must reduce the existing runoff from the site as part of the redevelopment. Where possible, in order to provide betterment, redevelopments should look to reinstate greenfield runoff rates. Note that in some parts of Cambridgeshire there are specific policy requirements related to acceptable runoff rates for brownfield sites set out in Local Plans.
- 6.3.9** Figure 6.6 shows the differences in drainage patterns between natural landscapes and built-up areas. Mimicking the natural landscapes in urban areas is the best strategy to mitigate flood risk and improve downstream water quality.

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Figure 6.6 : Difference between natural landscape and urban drainage



Source: Woods Ballard, B., et al (2015) The SuDS Manual, CIRIA, C753

6.3.10 In addition to natural and urban catchments, as already detailed, the Fen area of Cambridgeshire has an extensive network of artificial drainage channels that are mostly pump drained. The majority of these are under the control and management of IDBs. Map 6.1 shows those areas of Cambridgeshire where the watercourses are designated by the Environment Agency (EA) as 'Heavily Modified Water bodies'. Such designation relates to the Water Framework Directive (WFD) (see Chapter 7); however it provides a useful visualisation of those watercourse across Cambridgeshire that have been heavily modified.

6 Surface water and sustainable drainage systems

Map 6.1 : Heavily Modified Waterbodies across Cambridgeshire



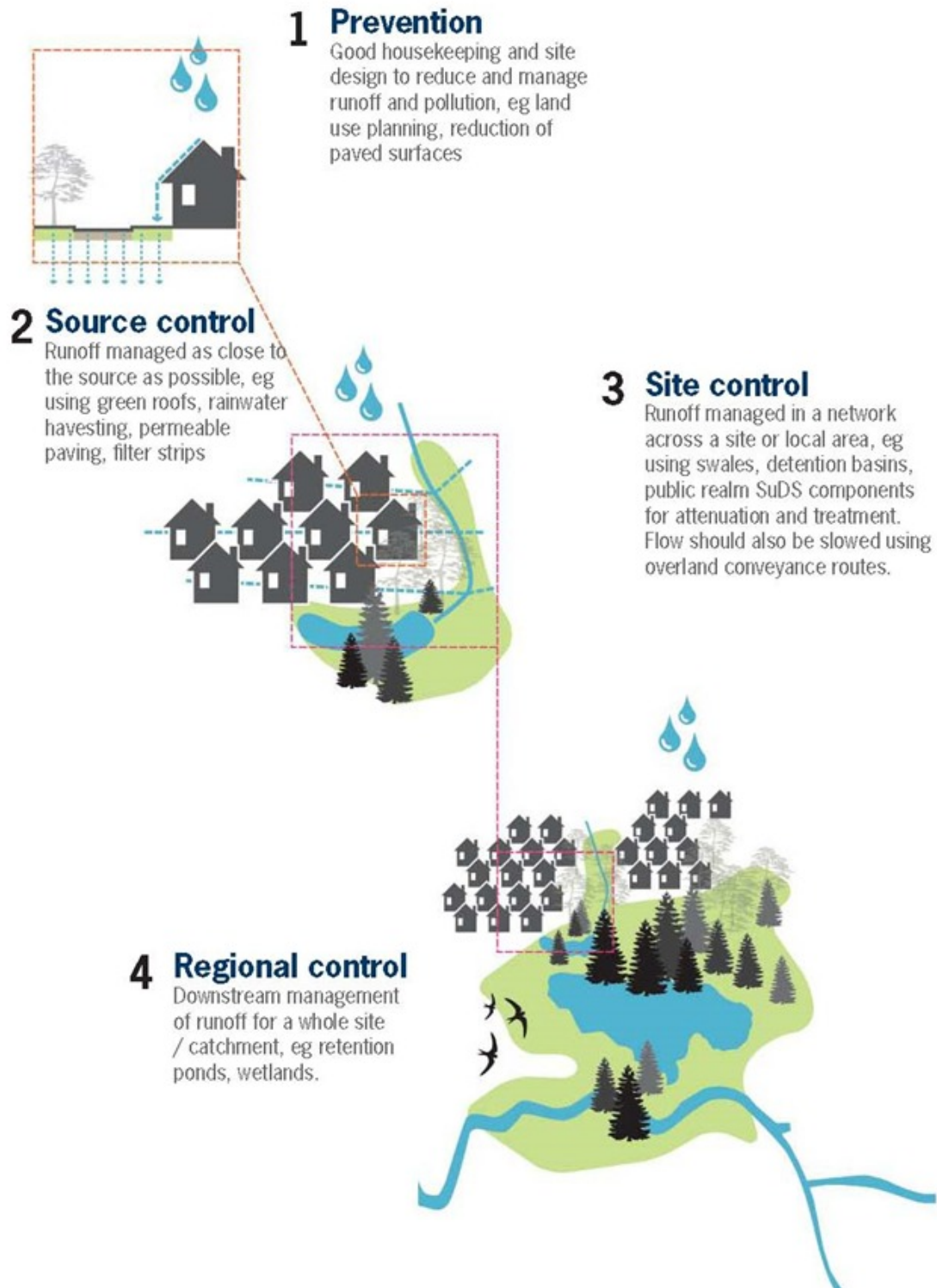
— Heavily Modified Water Bodies

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Use the SuDS management train

- 6.3.11** The SuDS management train is a central design concept for SuDS. It describes the use of a, “sequence of components that collectively provide the necessary processes to control the frequency of runoff, the flow rates and the volumes of runoff, and to reduce the concentrations of contaminants to acceptable levels” (CIRIA 2015). The management train begins with land use decisions and prevention measures, followed by interventions at the property scale and street scale (source control), through to considerations for downstream run-off controls within the overall site boundary, and wider initiatives downstream that are designed to manage the overall catchment. Source control includes features such as permeable paving, rainwater harvesting, living walls, rain gardens, filter strips, green roofs and bio retention areas. These allow water to penetrate the feature thereby reducing the proportion of surface water runoff that is conveyed into the drainage system.
- 6.3.12** Once all measures to minimise surface water runoff at source have been designed into the layout, site control initiatives which collect and treat water for larger areas of the site should be considered. Site control initiatives may include soakaways, ponds and wetlands, which work to slow the conveyance of water off the site and provide secondary stages of treatment. Appropriately planted vegetation can also help to attenuate water flow and provide a stage of treatment.
- 6.3.13** Regional controls are larger in scale and may be implemented in large sites, or by third parties as part of catchment wide initiatives. Such initiatives may include retention ponds, wetlands and infiltration basins. Figure 6.7 portrays this management train.
- 6.3.14** Above ground conveyance systems such as swales and rills should be used wherever possible to convey water between SuDS components. It is however acknowledged that for those developments where space is a limiting factor (e.g. redevelopment), the use of below ground pipework may prove more efficient.

Figure 6.7 : SuDS Management Train



Source: The SuDS Manual, CIRIA, C697

Water reuse first

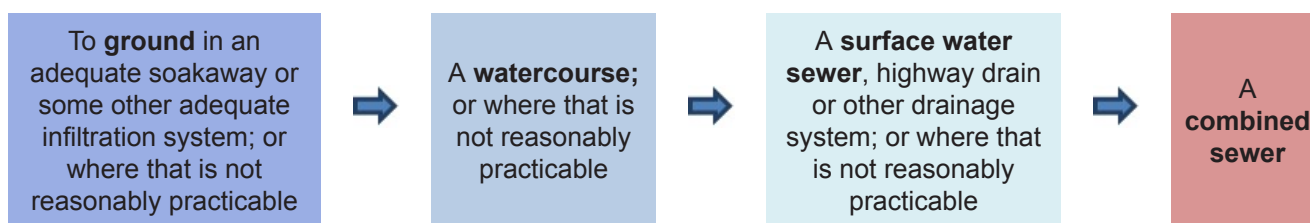
- 6.3.15** Cambridgeshire is one of the driest areas in England, therefore reusing water whenever possible is important to improving the county's water resilience, and reducing pressures on precious water supplies. Recycled rainwater and surface water runoff can be used for non-potable purposes, such as toilet flushing and irrigation. Water can be collected for reuse from both roofs and/ or paved surfaces and can be stored for reuse using a water butt or rainwater recycling system. Surface water runoff from streets or public areas can also be collected and treated using SuDS features, such as a rain garden, before storing it for surrounding buildings to reuse.
- 6.3.16** IDBs have a responsibility for overall water level management in their area, which can include the retention and reuse of water to facilitate irrigation during dry periods. Proposed development sites in IDB areas should be discussed with the relevant IDB as a development may provide the opportunity to improve water supply to the surrounding land. Existing and emerging Local Plans provide planning policies in relation to this matter.

Follow the drainage hierarchy

- 6.3.17** It is a Building Regulations and PPG requirement that the discharge hierarchy in Figure 6.8 is used when considering proposals.

Figure 6.8 : Surface water drainage hierarchy

Rainwater shall discharge to the following, listed in order of priority



Note: in all instances adequate stormwater storage will need to be provided in order to meet the relevant infiltration or discharge rates and volumes (see Section 6.4).

Use infiltration where suitable

- 6.3.18** The potential for infiltration measures on a site should be considered at the outset. Careful consideration of the acceptability of infiltration drainage should be given particularly in relation to potable water sources (e.g. drinking water) or land contamination issues.
- 6.3.19** The British Geological Survey can provide [maps and reports](#) to support decisions with regards to the suitability of the subsurface for the installation of infiltration type SuDS type systems. The suitability for infiltration across an area should be based on:
- Existing constraints prior to planning infiltration SuDS;
 - Drainage capacity and rate of infiltration into the ground;
 - Potential for ground instability when water is infiltrated;
 - Impact on groundwater quality as a result of infiltration;
 - Development on contaminated land or Source Protection Zones (SPZ) (vulnerable aquifers).
- 6.3.20** Infiltration should be assessed on-site using infiltration tests that follow the detailed SuDS design principles covered in [BRE365/CIRIA 156](#) procedure. SPZ's should be taken into account when considering infiltration and guidance provided by the EA should be consulted to determine infiltration constraints and requirements in these areas. Where infiltration drainage is proposed on previously developed land, contamination risk

6 Surface water and sustainable drainage systems

needs to be considered. This may not rule out the use of infiltrating SuDS but will require site investigations and information on remediation prospects which are outside the scope of this Supplementary Planning Document (SPD).

- 6.3.21** The maximum acceptable depth for an infiltration device is usually 2.0m below ground level, with a minimum of 1.2m clearance between the base of the feature and peak seasonal groundwater levels. In some areas of the Fens the maximum depth of infiltration (of 2.0m below ground level) is often not viable and in such areas 1.0m below ground level would be the best achievable depth. In these areas however, the possibility of incorporating shallow infiltration features such as trenches should be investigated. Deeper ('deep bore') soakaways pose a serious pollution risk and are not acceptable, and it is expected they will become contrary to the European Union (EU) WFD.

Keep surface water on the surface

- 6.3.22** It is acknowledged that infiltration will not be possible on all sites. Low permeability soils are often cited as a reason for not including SuDS; however this is not acceptable in Cambridgeshire as solutions do exist. Although soakaways and other infiltration methods may not be suitable, many other methods such as swales, ponds and wetlands should be prioritised, selected and designed accordingly. It is also possible to allow some water to soak into the ground (for example out of the bottom of an unlined swale), even if drainage design calculations do not allow for it.

- 6.3.23** Design and layout should seek to manage and convey surface water above-ground, avoiding the use of underground piping as far as possible. This is particularly pertinent in Cambridgeshire due to the flat landscape and areas of high groundwater. Managing surface water runoff at the surface has the benefit of:

- Avoiding concentration and acceleration of surface water into waterways which causes downstream erosion;
- Integrating removal of pollutants by filtering water during conveyance;
- Reducing construction and maintenance requirements and costs;
- Creating habitats;
- Contributing to public amenity by better quality urban and landscape design;
- Increasing residents' awareness of water management; and
- Detecting blockages and obstructions more easily.

Place-making through SuDS design

- 6.3.24** When using conventional surface water management systems, water is hidden in pipes underground. By bringing water management to the surface using SuDS, there is an opportunity to enliven public spaces and streetscapes. The presence of water features within the urban environment can promote a strong sense of place, bring an urban space to life and create unique spaces that can be enjoyed by all. SuDS features such as ponds, wetlands, pools, fountains and planted rills which can be purely aesthetic or interactive in nature, can be integrated into the public realm and open spaces to enrich the area with green infrastructure. Note that interactive SuDS should include an appropriate level of natural pre-treatment upstream before coming into human contact, such as in the case of water play areas. Designing for water quality is discussed further in Section 6.5.

Landscape-led approach

- 6.3.25** The selection of SuDS types and the creation of the SuDS network should both respond to and contribute to the surrounding built and natural landscape. A landscape-led approach uses SuDS as a mechanism to create strong green infrastructure networks and is important to increase connectivity to the wider ecosystem and landscape. Effective integration will also require carefully researched and selected plants, which work to improve the local green infrastructure and enhance biodiversity. Also selection of hardscape materials used in SuDS construction, such as concrete, brickwork, wood, aggregate and paving, should

consider the surrounding landscape and urban character and be developed alongside the overall urban design vision. Using a landscape led approach will improve the amenity value of SuDS for local residents, and provide water management and design benefits.

Recognise and conserve the significance of Cambridgeshire's historic and archaeological environment

- 6.3.26** Cambridgeshire has a strong history and tradition of water management, dating back two thousand years. SuDS design should recognise the importance and significance of what has been done before and where possible duplicate or enhance it. Materials used should be sympathetic to the built environment and reflect local design guides or other planning policy documents.
- 6.3.27** Where proposals will impact on the significance of designated or non-designated heritage assets, appropriate mitigation should take place as part of the SuDS proposal. Buried archaeological deposits can be damaged by changes to the water management regime in an area such as a change in groundwater levels or soil moisture content. The design of SuDS should take the presence of any buried archaeology into consideration and developers should undertake early discussions with Historic England and Cambridgeshire County Council's Historic Environment Team.

Minimise embodied carbon in SuDS

- 6.3.28** One of the advantages of SuDS is their ability to improve the natural environment. It is important that environment improvements from SuDS are not reduced by incorporating high carbon solutions. The excessive use of concrete and other aggregates with high levels of embodied energy is discouraged. Eliminating energy consuming water pumps whenever possible is also encouraged. Vegetated SuDS components can have a positive impact by storing carbon as they grow, through a process known as carbon sequestration.

Minimise waste in SuDS

- 6.3.29** When undertaking the maintenance of SuDS, waste will be generated. This will be predominantly grass and other vegetation, and may be managed on site in wildlife piles. There is still a requirement to comply with all relevant waste management legislation and ensure waste is taken to an appropriately licensed site. This is even more pertinent when waste is disposed off-site. Management of SuDS on industrial sites will need to ensure hazardous waste is disposed of separately.

Design for wildlife and biodiversity

- 6.3.30** SuDS can provide the ideal opportunity to bring urban wetlands and other wildlife-friendly green spaces into towns and cities. They can be linked with existing habitats to create blue and green corridors whilst providing an amenity and education resource for the community.
- 6.3.31** Where possible, existing habitats should be retained and incorporated into the landscape design. SuDS features are likely to have greater species diversity if existing habitats are within dispersal distance for plants, invertebrates and amphibians. It should however be noted that existing wetlands should not be incorporated into SuDS unless there is a guaranteed supply of clean water.
- 6.3.32** An aim should be to create new habitats based on the ecological context and conditions of the site. Habitats and species objectives that contribute to local, regional and national biodiversity targets should be prioritised. Further information on local objectives can be found in local (BAPs). Guidance on maximising the biodiversity potential of SuDS can be found in the [Royal Society for the Protection of Birds \(RSPB\) publication, Maximising the Potential for People and Wildlife](#).

Design for easy maintenance and access

6.3.33 When designing SuDS it is crucial to consider throughout the process how features will be maintained and accessed, who is ultimately responsible for the lifetime of the development, and the likely costs involved. Embedding foresight into every stage of the design process will produce a more effective, better maintained SuDS scheme upon completion. Design should also consider [Construction Design and Management \(CDM\) Regulations](#) from the outset to ensure that access is provided for maintenance and that health and safety measures are adhered to. Those responsible for SuDS across a development should ideally be provided with an operation and maintenance manual by the designer and this could be part of the documentation provided under CDM. Aspects that should be included within the operation and maintenance manual are shown in Table 6.2:

Table 6.2 : What to Include in the Operation and Maintenance Manual

<ul style="list-style-type: none">• Location of all SuDS components on site• Brief summary of the design intent, how the SuDS components work, their purpose and potential performance risks• Depth of silt that will trigger maintenance• Visual indicators that will trigger maintenance• Depth of oil in separators etc. that will trigger maintenance• Maintenance requirements (i.e. maintenance plan) and a maintenance record proforma• Explanation of the objectives of the maintenance proposed and potential implications of not meeting those objectives• Identification of areas where certain activities are prohibited (e.g. stockpiling materials on pervious surfaces)• An action plan for dealing with accidental spillages of pollutants• Advice on what to do if alterations are to be made to a development or if service companies need to undertake excavations or similar works that could affect SuDS• Details of whom to contact in the event that pollution is seen in the system or if it is not working properly
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Source: CIRIA 753 (Chapter 32)

6.3.34 Consideration should be given to access to, and maintenance of, existing infrastructure which includes existing watercourses. Many IDBs, Local Authorities and the EA have requirements and/or byelaws requiring maintenance strips adjacent to a watercourse and should be contacted for exact requirements in their area.

Design SuDS for brownfield sites

6.3.35 Previously developed land (brownfield sites) should not be seen as a barrier to using SuDS. When developing on brownfield sites, existing drainage infrastructure should be documented and mapped to determine what can be reused as part of the SuDS scheme.

6.3.36 The use of shallow surface features can often be a benefit in brownfield sites as they limit excavations into contaminated soils. The impact of the proposed SuDS features on any contamination and vice versa needs to be carefully assessed by an experienced professional. The presence of contamination in the ground may limit the use of certain features (e.g. soakaways) or require liners below ponds, basins and permeable pavements; however, it will never prevent the use of all SuDS features and a suitable system can be designed. The separation of surface water drainage and foul drainage should be a priority in these areas.

Consider flood extents in SuDS design

6.3.37 The natural floodplain must be protected and considered in the design of SuDS. Where SuDS are proposed in a fluvial or tidal floodplain (Flood Zones 3a or 3b) the features may fill during a flood event and would therefore not have capacity to hold the rainfall runoff from the site as originally intended. Large areas of Cambridgeshire, where land is low lying, are in the floodplain, and a pragmatic approach to SuDS design needs to be taken where flood risk is carefully considered. However, the presence of a floodplain should not explicitly exclude the integration of SuDS features for day-to-day water management provided the SuDS do not contribute towards stormwater storage requirements. Above ground SuDS should not be included in areas where water regularly flows or is stored.

Design open spaces to incorporate SuDS

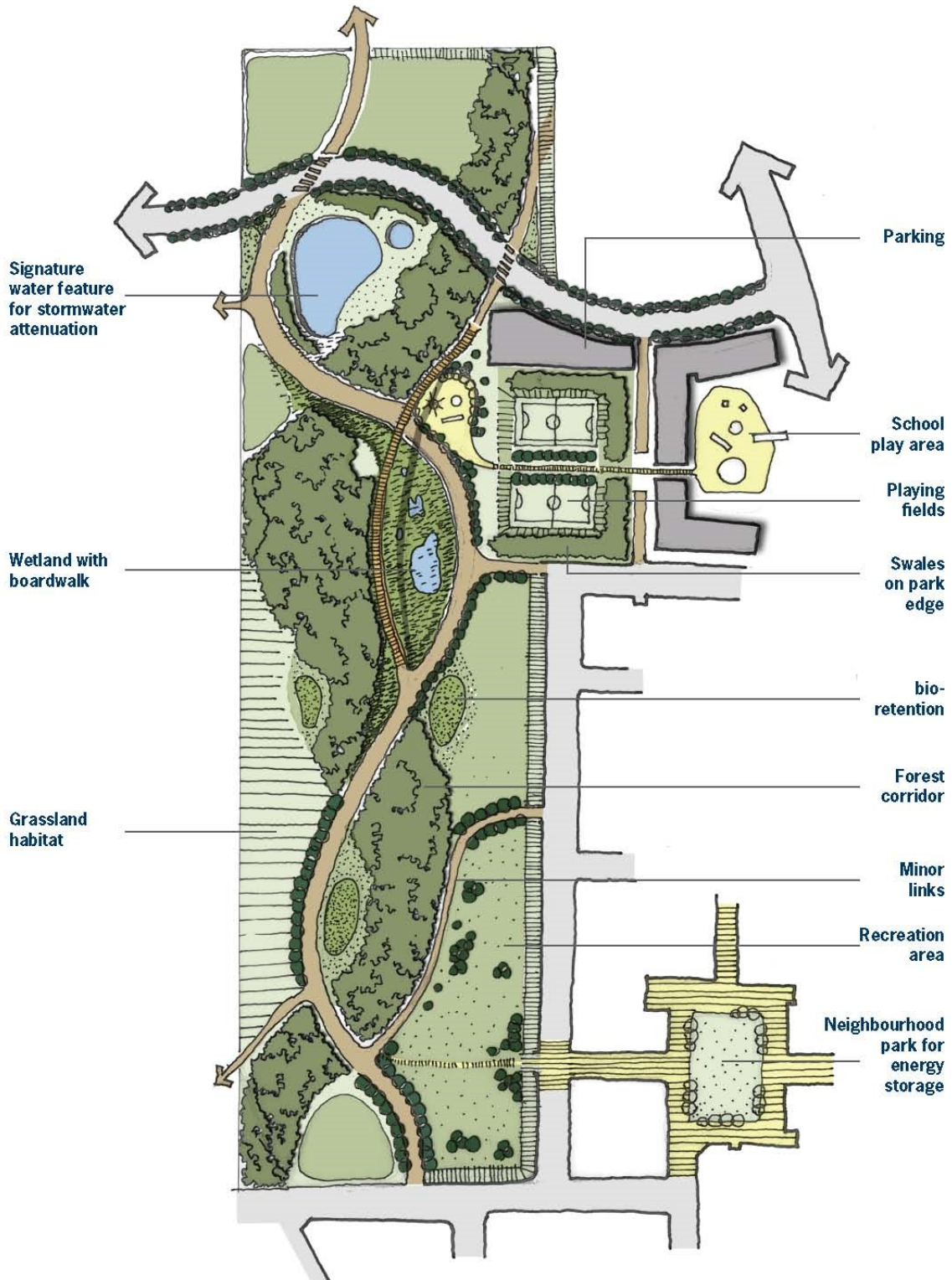
6.3.38 Open spaces are an asset to the community and to the environment and form an important component of a wider green infrastructure network. A network of woodland, recreational and open spaces, whether green or paved will be essential for well-designed developments. Open spaces can provide space for SuDS features to provide attenuation and treatment of surface water runoff. Good design will seek ways to integrate SuDS with the rest of the open space and to make SuDS features multifunctional. In these areas there is a need to concentrate on design and amenity value, recreational use, and fit with surrounding landscape (see Figure 6.9). Examples of multi-functional uses in open spaces include; temporary storage areas doubling as playing fields or recreation areas, hardscape attenuation doubling as water features and public art, bioretention areas doubling as landscaped garden areas, wetlands and ponds doubling as amenity and habitat areas, and bioretention planters linking with open space divisions or seating areas. Within open spaces, SuDS design will also need to consider:

- The interaction with the public – safety, education, and controlled access via boardwalks or similar structures;
- Areas of the ground that are likely to be seasonally wet should not be used for formal or informal recreation and play space such as sports pitches;
- An appropriate balance between visual amenity and water treatment needs to be achieved – while amenity value is of increased importance, it should not impinge on SuDS treatment and water management;
- Situating SuDS away from floodplains that might impact on SuDS treatment and floodplain storage and conveyance;
- Ecological needs – existing vegetation of biodiversity value should be retained whenever possible, and land stability taken into account.
- Opportunities to reuse recycled surface water for irrigation or other purposes.
- LPA's specific policy regarding water ponding in or near play areas. It is the responsibility of the developer to be aware of relevant local policy.

6.3.39 Where the local authority will adopt SuDS in public open spaces, they must still be able to function and be accessible as useable open space for the majority of the time for them to be included within the open space calculations.

6 Surface water and sustainable drainage systems

Figure 6.9 : Intergration of SuDS features into open space design



Source: Woods Ballard, B., et al (2015) The SuDS Manual, CIRIA, C753

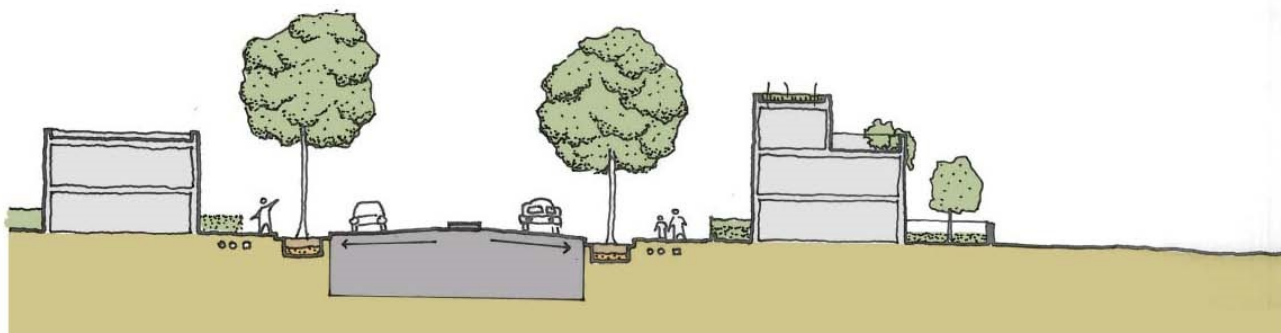
Design streets to incorporate SuDS

6.3.40 Within a catchment, streets and roads are a significant source of surface water runoff and pollutants. Streets are often used as a conveyance of surface water drainage from adjoining sites via underground pipes, and in a SuDS network they are likely to also be key conveyance routes for example through the use of roadside swales. Therefore there is a prime opportunity in streetscapes to integrate SuDS features that capture, treat and attenuate surface runoff. Improving upon traditional drainage, streetscapes can include bioretention technology (rain gardens) with appropriate conveyance such as swales or under-drained SuDS features to minimise the need for conventional piping. A number of standard streetscape features can include SuDS and become multifunctional, including verges, tree pits, traffic calming islands, and parking dividers. To implement SuDS effectively either along or within streets, there is a need to consider:

- Easy and safe access for all highway users, irrespective of mode of travel;
- Easy access to utilities for maintenance workers;
- Improvement to the urban design of streetscapes and contribution to sense of place; and
- Robust design to reduce maintenance and replacement requirements

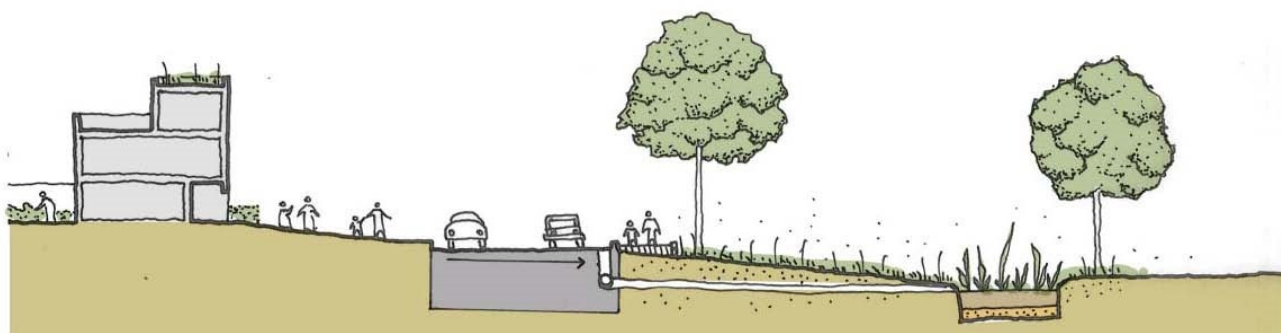
6.3.41 Figure 6.10 to Figure 6.12 demonstrate how SuDS can be incorporated into street design.

Figure 6.10 : Street design to drain SuDS features to either side



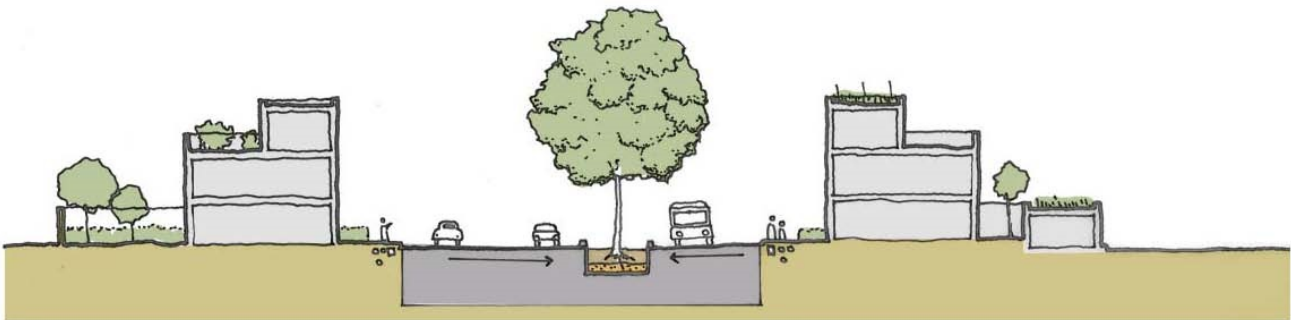
Source: Woods Ballard, B., et al (2015) The SuDS Manual, CIRIA, C753

Figure 6.11 : Street design to drain to adjoining lower ground SuDS feature



Source: Woods Ballard, B., et al (2015) The SuDS Manual, CIRIA, C753

Figure 6.12 : Street design to drain to central SuDS feature



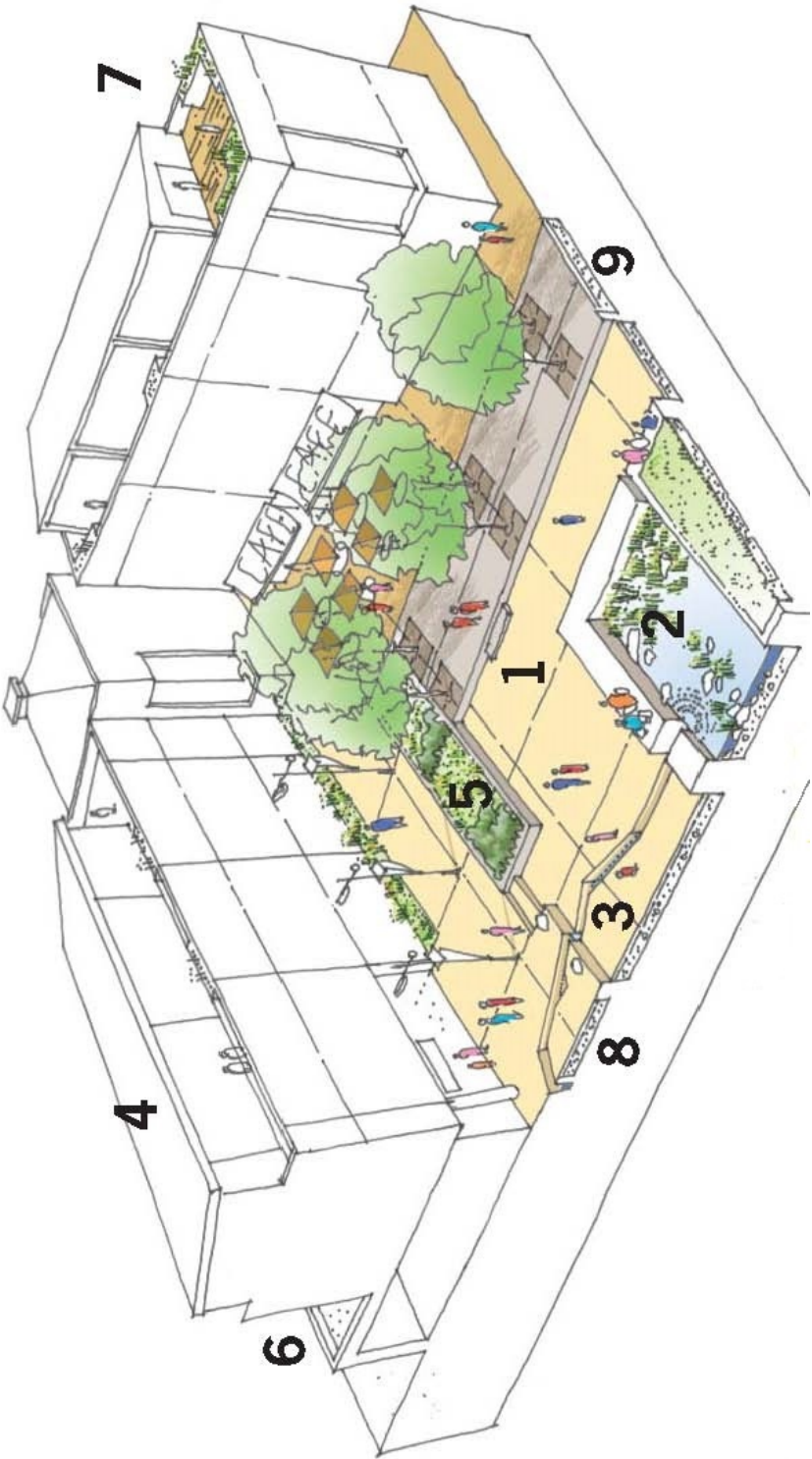
Source: Woods Ballard, B., et al (2015) The SuDS Manual, CIRIA, C753

Design SuDS to match the density of development

6.3.42 Limited space is often cited as a reason for not including SuDS, which is not acceptable in Cambridgeshire as solutions do exist. Ideally, initial layout should consider how source control and localised SuDS features can be sized and located to provide adequate attenuation and treatment of runoff from high density areas. It is still possible to use SuDS in high density developments, but design needs to be suitable. Source control measures like green roofs and rainwater harvesting are strategies to reduce runoff. Additionally, building downpipes can be altered or disconnected to feed into gardens, soakaways or permeable paving. In high density courtyards and streets there is also potential to incorporate bioretention features and planted rills. Figure 6.13 to Figure 6.15 demonstrate how SuDS can be incorporated into developments of varying densities.

Figure 6.13 : SuDS options in high density developments.

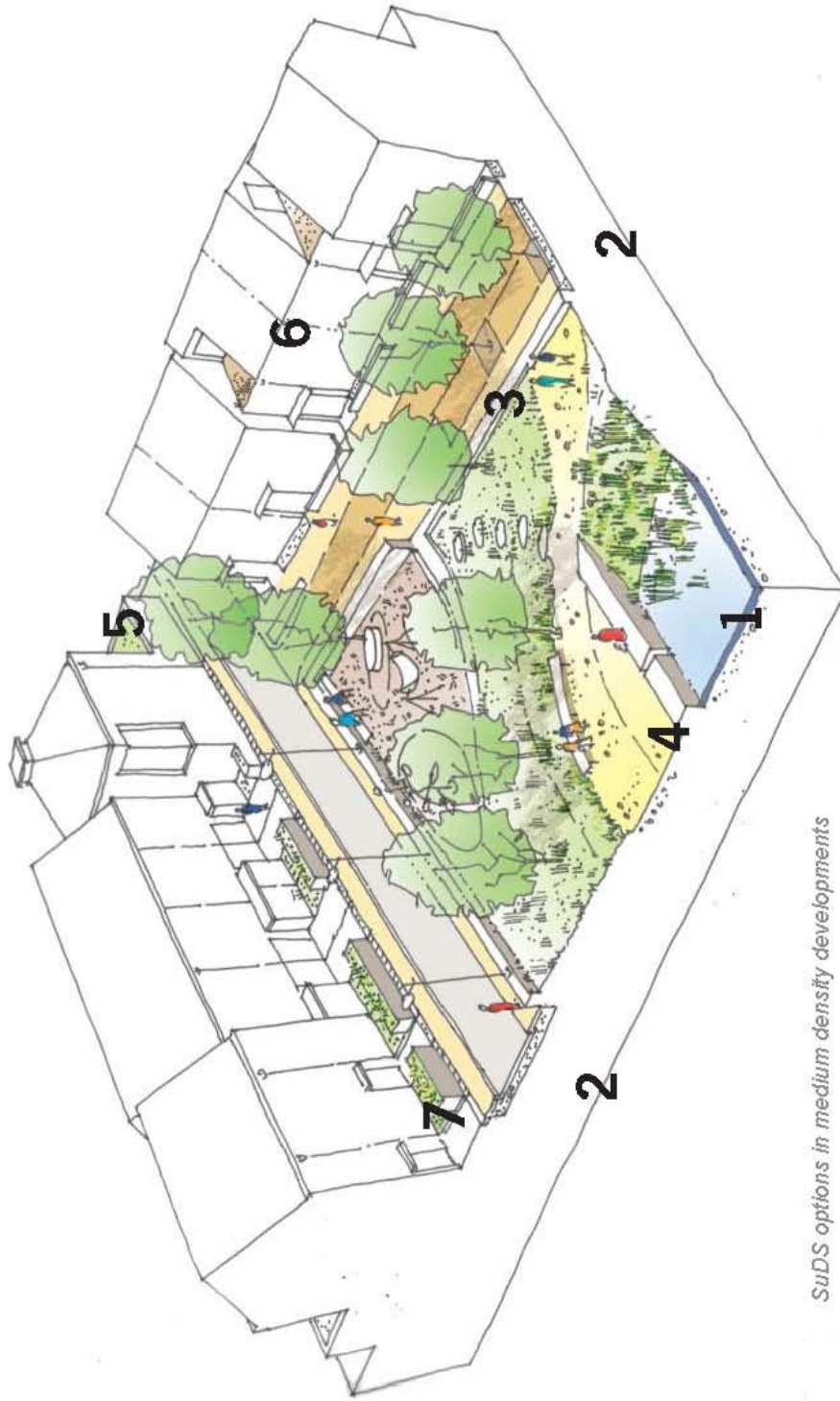
- 1 Urban square with permeable paving
- 2 Retention pond with integrated seating
- 3 Rill within pedestrianised shopping street
- 4 'Brown' roofs within town centre
- 5 Rain garden/planted bio-retention element
- 6 Green roofs
- 7 Roof gardens
- 8 Permeable paving within street
- 9 'Bio-retention tree pits within square



Source: Woods Ballard, B., et al (2015) The SuDS Manual, CIRIA, C753

Figure 6.14 : SuDS options in medium density developments

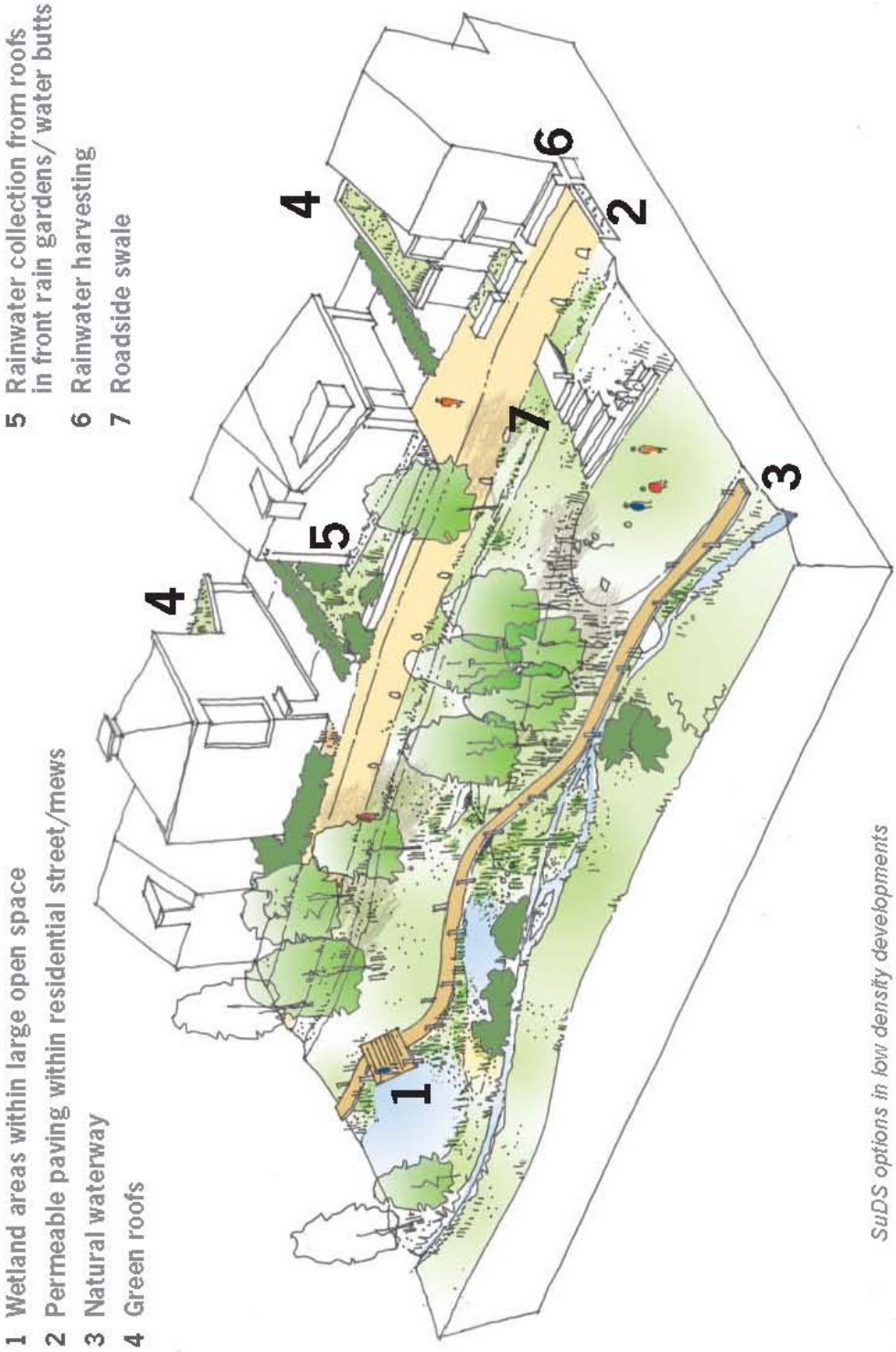
- 1 Filter strip and retention pond within residential square
- 2 Permeable paving within residential street/mews
- 3 Roadside bio-retention tree pits
- 4 Gravel/permeable surfaces within residential square
- 5 Green roofs
- 6 Roof gardens
- 7 Rainwater collection from roofs in front rain gardens/water butts



SuDS options in medium density developments

Source: Woods Ballard, B., et al (2015) The SuDS Manual, CIRIA, C753

Figure 6.15 : SuDS options in low density developments



- 1 Wetland areas within large open space
- 2 Permeable paving within residential street/mews
- 3 Natural waterway
- 4 Green roofs

- 5 Rainwater collection from roofs in front rain gardens/ water butts
- 6 Rainwater harvesting
- 7 Roadside swale

SuDS options in low density developments

Source: Woods Ballard, B., et al (2015) The SuDS Manual, CIRIA, C753

Design SuDS for flat sites

6.3.43 Drainage is particularly important on flat sites that do not have the opportunity to take advantage of gravity. Hydraulically efficient kerbs should be designed to channel water directly onto above ground SuDS, before draining to underground storage, or a piped network. Alternatively, roadside swales located within the road verge with flush kerbs can enable surface water to discharge directly into the swale, where it is pre-treated before discharging to a SuDS feature downstream, such as a retention pond, rain garden, or wetland. By keeping water on the surface as much as possible, deep downstream management features can be avoided. Deep features are undesirable due to increased excavation, the potential need for unnecessary pumping and the requirement for mitigation measures. Figure 6.16 demonstrates the negative impact a piped system can have on flat sites.

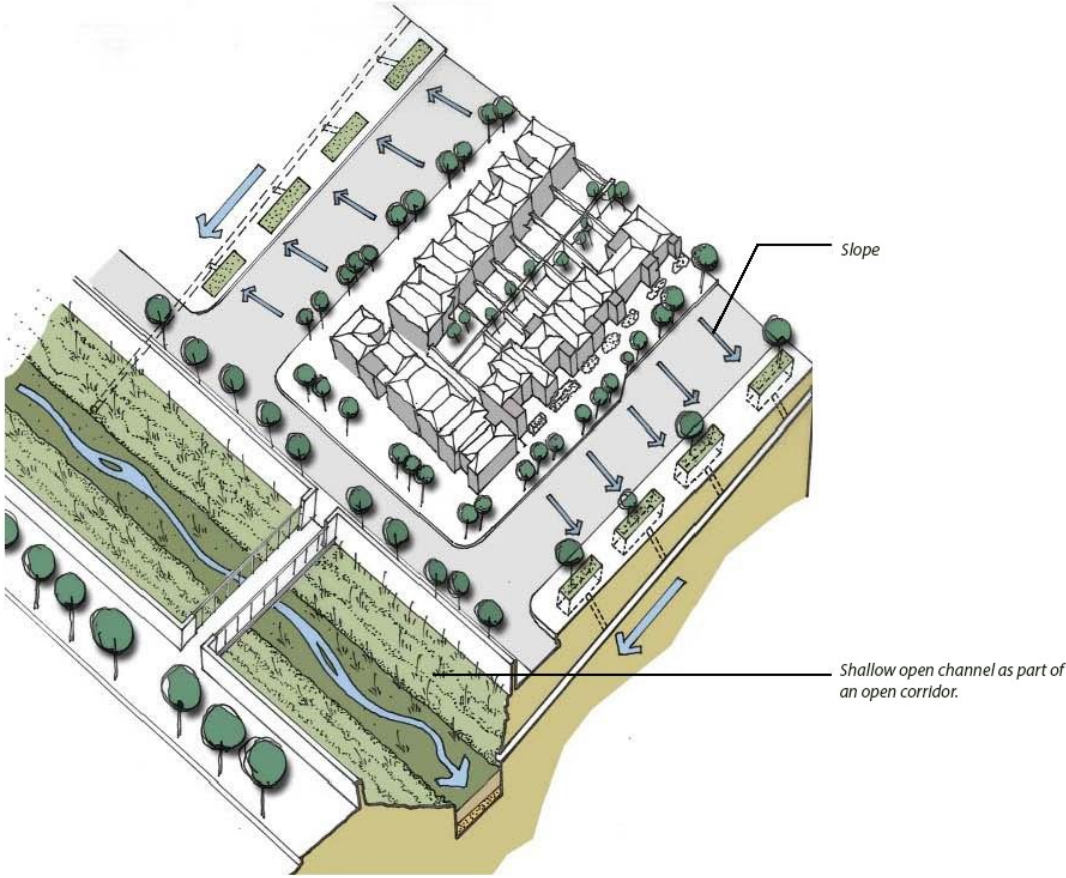
Figure 6.16 : Negative impact of piped drainage on a flat site



Source: Woods Ballard, B., et al (2015) *The SuDS Manual*, CIRIA, C753

6.3.44 Figure 6.17 shows how SuDS could possibly be incorporated into a flat, urban site.

Figure 6.17 : Possible urban layout for a flat site



Source: Woods Ballard, B., et al (2015) The SuDS Manual, CIRIA, C753

Design industrial and agricultural sites to incorporate SuDS

6.3.45 Industrial and agricultural sites often have larger volumes of water discharge with higher levels of pollutants, and as such they require special attention. The best strategy is to separate water discharging from work areas, car parks and roofs. Water runoff from high-risk work areas should be separated into interceptor tanks and treated as industrial waste. This separation is vital to ensuring the surface water from non-work areas of the site that do not have the same contaminants, can be treated similarly to surface water runoff from residential and commercial properties. Additional treatment stages are required where runoff is being drained from higher contamination risk area, such as car parks. Each site should be designed based on the risk posed. Figure 6.18 demonstrates how SuDS can be incorporated in an industrial setting.

Figure 6.18 : Incorporating SuDS on industrial sites



Source: Woods Ballard, B., et al (2015) The SuDS Manual, CIRIA, C753

6.4 Design standards and designing for exceedance

- 6.4.1** In a new development there should be no flooding of any properties as a result of that development for a 1 in 100 annual probability (critical) rainfall event plus an appropriate allowance for climate change (refer to Chapter 5 for details of climate change allowances). In line with Sewers for Adoption, there should also be no water outside of the designed system for a 1 in 30 annual probability (critical) rainfall event.
- 6.4.2** Consideration should also be given as to how the system performs for events that exceed the design capacity of the system or if a part of the system blocks or fails. This is generally referred to as designing for exceedance. Guidance on how to apply this can be found in [Designing for Exceedance in Urban Drainage: Good Practice \(C635\)](#).

6.5 Designing for water quality

- 6.5.1** SuDS have a considerable advantage over traditional drainage as a well-designed system will provide a level of treatment to surface water runoff before it is discharged into the receiving water body. It does this through a number of processes including filtration, settlement, and uptake by plants.
- 6.5.2** To protect the water quality of receiving waters, runoff from a site should be of an acceptable water quality to help ensure current and/or future water quality objectives are not compromised. As there can be a wide range and level of contaminants contained within surface water runoff, water quality needs to be managed using a risk-based approach, facilitated by the SuDS management train. The SuDS management train refers to a variety of SuDS components in a series that provide treatment processes to deliver a gradual improvement in water quality as water moves through the system.
- 6.5.3** The size and number of treatment stages required is based on the level of pollution entering into the system. For example, industrial sites will contain a higher level of pollutants within surface water runoff than from a small residential road. Please refer to Chapter 4 of the [Ciria SuDS Manual \(C753\)](#) for further detail on designing SuDS for water quality.

6.6 Designing a safe environment

- 6.6.1** All SuDS schemes should be designed as a safe environment that can be accessed and enjoyed by residents and visitors. The use of fencing and barriers should not be the approach to making SuDS features safe, particularly in residential developments. It is however recognised that there may be cases in less sensitive environments (such as industrial areas) where steeper earthworks and safety measures are appropriate. The SuDS features themselves should be designed to be safe through measures such as:
- Following the topography of the site, this will minimise the depth of the features throughout the development.
 - Ensuring gently sloping sides and that they are planted with vegetation to act as a barrier to unintended entry into the water.
 - Ensure open areas of water are obvious to residents and visitors and any vertical drops are easily identified. The use of safety rings are generally not appropriate for SuDS as they are designed to be dropped vertically and not thrown any distance as they are heavy and awkward to handle. Their use should be limited to areas where they will be effective.
 - Use of appropriate signage in the right locations. These should not be used as a replacement for appropriate design.
- 6.6.2** Further information can be found in the CIRIA publication, [The SuDS Manual \(C753\)](#) and the [RoSPA publication Safety at Inland Water Sites](#).

6.7 Developing a surface water drainage strategy

Masterplanning

6.7.1 For larger developments a masterplan will be necessary. It is at this stage the SuDS layout (taking into account flow routes, topography, geology and green space) and proposed maintenance of the system should be determined whilst, ensuring a safe design and mitigation of flood risk (see Figure 6.1). Seeking advice at the earliest opportunity from the relevant WMAs will help avoid any costly issues or redesigns at a later stage. Effective master planning should ensure a robust, viable and cost-effective scheme from the outset, where objectives of the development are informed by the SuDS scheme and vice versa.

Pre-application

6.7.2 The majority of planning applications do not require a masterplan but all applicants should engage in pre-application discussions with the relevant WMAs before developing a surface water drainage strategy. This is the point at which key documents and information should be reviewed including topographic surveys, Strategic Flood Risk Assessment (SFRAs), geological maps, relevant site surveys and Flood Risk Assessments (FRAs) that have already been undertaken. Again Figure 6.1 can be used as a stage guide for how to integrate SuDS across sites. See Appendix E for details of the matters which should be considered at this stage.

Outline planning application

6.7.3 When an outline planning application is required the applicant should include an outline drainage strategy with the planning application. It should include enough design information that demonstrates the conceptual surface water drainage design across the site. The assessment submitted should outline the existing surface water run-off rates from the site and an indication of post development run-off rates with associated storm water storage requirements. SuDS should have been appropriately considered taking into account site specific drainage requirements and constraints and incorporated effectively into the overall masterplan. Appendix F includes a drainage proforma to be followed to ensure the correct information is included within the drainage strategy.

Full planning application or reserved matters application

6.7.4 Many developments move straight to a full planning application following pre-application discussions with the relevant WMAs. At this stage applicants will also be expected to submit a detailed surface water drainage strategy with the planning application. Whilst most topics will have been covered to some degree in the outline drainage strategy (if applicable) the applicant will be expected to provide more detail at this stage. The strategy should demonstrate that opportunities to integrate SuDS have been maximised and where obstacles to their use do persist this should be fully justified within the report. Where proposing to discharge into a third party asset (such as a watercourse or public sewer), appropriate permissions and required consents should have been discussed with the asset owner.

6.7.5 The key information a surface water drainage strategy must contain includes:

- How the proposed surface water scheme has been determined following the drainage hierarchy;
- Pre-development runoff rates;
- Post development runoff rates with associated storm water storage calculations
- Discharge location(s);
- Drainage calculations to support the design of the system;
- Drawings of the proposed surface water drainage scheme including sub catchment breakdown where applicable;

- Maintenance and management plan of surface water drainage system (for the lifetime of the development) including details of future adoption;
- Completed drainage proforma – the applicant must ensure that the surface water strategy contains the appropriate level of information in relation to the points covered in the proforma.

6.7.6 Note that the size and complexity of the site will determine how much information is included within the surface water drainage strategy however using the pre-application design checklist and drainage proforma in Appendix F will ensure the right matters are covered with the appropriate level of detail.

6.8 Approval of SuDS

6.8.1 SuDS are approved as part of the planning application for a development. It is the LPAs responsibility to ensure that the design submitted as part of either an outline or full planning application is robust and contains adequate detail to ensure that the SuDS are appropriate for the development and will be adequately maintained throughout their lifetime. The LPA may also seek expert advice from the LLFA as part of this process. For major developments national guidance for SuDS can be found in the [PPG](#), additionally the Non-Statutory Technical Standards for Sustainable Drainage Systems provides the high level principles all SuDS designs must follow.

6.8.2 A surface water drainage strategy is required to be submitted with a planning application which should contain details of the SuDS. Its scope should be commensurate with the size of development and can range from a paragraph describing the proposed drainage measures with a discharge location for residential extension, to extensive hydrological modelling accompanied by a full report with drawings for a larger site. Further details on what should be considered or included can be found in Appendix E; this guidance is likely to be updated over time to focus more specifically on different scales of development.

6.9 Adoption and maintenance of SuDS

6.9.1 The LPA may seek advice for developers looking to source an appropriate body for SuDS adoption and maintenance. It is recommended that a statutory organisation takes on the role of maintaining the SuDS as this will guarantee maintenance of the drainage system in perpetuity; however where this is not possible, alternative bodies may also be able to maintain SuDS, provided that a suitable maintenance plan has been submitted to and agreed with the LPA. Statutory organisations in Cambridgeshire may include organisations such as the local authorities, Anglian Water and IDBs. For SuDS serving the highway these should be discussed with the Highways Authority at Cambridgeshire County Council (CCC) to ensure suitability for adoption.

6.9.2 Open space provision within development sites is a normal planning requirement and offers suitable landscaped areas for the inclusion of a wide range of SuDS features (e.g. ponds, basins and swales). These features can enhance the nature conservation and amenity value of the site, although a primary consideration should be the effectiveness and maintenance of the SuDS.

6.9.3 Where local authorities are adopting the open space provision, this could include adoption of the SuDS features within the open space (seek clarification from individual local authorities). In adopting these features, a range of issues will need to be addressed:

- The primary purpose of the SuDS features relate to drainage. If the open space is to be used for other purposes, such as nature conservation or as a play area, this must not conflict with the effective working and maintenance of the SuDS.
- Safety issues will come into play if a body of water is involved.
- There is a need to ensure that a long-term, effective maintenance regime is in place along with a long term habitat management plan where appropriate

6.9.4 Some local authorities may have specific design and adoption standards in place, for example in [Cambridge City](#), and these should be referred to and early consultation undertaken with the relevant LPA.

6 Surface water and sustainable drainage systems

- 6.9.5** If the applicant is minded to choose Anglian Water as the appropriate body for SuDS adoption they should ensure the proposed design meets Anglian Water's adoption criteria, referencing relevant guidance and advice where appropriate. Further guidance on Anglian Water SuDS adoption (including their [Sustainable Drainage Systems Adoption Manual](#)) is available on the Anglian Water website.
- 6.9.6** In some situations, IDBs may adopt above ground SuDS features. If this option is pursued, the developer should engage in early stage discussions with the relevant IDB to ensure it meets their criteria. Further guidance is available from the individual IDBs.
- 6.9.7** Section 106 of the Town and Country Planning Act 1990 provides a suitable mechanism by which properly designed SuDS features can be transferred into the management and maintenance responsibilities of a local authority or other statutory organisation. The local authority should secure a financial mechanism through commuted sums, identified in the adoption agreement, to facilitate maintenance and management requirements. This would allow adoption of the areas within an acceptable timeframe without placing additional burdens on the local authority's resources. Clarification will also need to be sought from the relevant LPA on whether SuDS are delivered through the Community Infrastructure Levy or Section 106.
- 6.9.8** In certain circumstances where a management company is required to maintain the SuDS, a legal agreement tied to the title of the property will need to be agreed with the LPA (usually via a Section 106 agreement). If this is the case then discussions will need to take place during the pre-application stage of the development so that assurances can be made that this is the correct option for the development. Evidence should be provided by the applicant on the suitability and experience of the management company during this process.



7 Water Environment

The aim of this chapter is to consider the water environment in response to the requirements (e.g. ecological matters) set out within the European Water Framework Directive, and it looks at what supporting plans are in place to support those objectives from a planning perspective. For the majority of planning applications, compliance with the Directive will be dealt with via the Environment Impact Assessment requirements, but for some applications that have a direct impact upon a waterbody, a more detailed assessment may be required.

7.1 Introduction

7.1.1 The European Water Framework Directive (WFD) is an established legal framework for managing the water environment. Under the WFD the UK must aim to achieve 'good ecological status' by 2015 in all surface freshwater bodies, including rivers, lakes, groundwater, transitional and coastal waters regardless of size and characteristics. Other objectives of the WFD include preventative deterioration of the status of all bodies of surface water, including groundwater.

7.1.2 Development proposals may affect the water environment in various ways. Impacts leading either to deterioration in the status of a water body or to the water body being unable to achieve its WFD objectives can only be permitted in wholly exceptional circumstances. [New development must be assessed](#) to identify if it will cause deterioration, or lead to failures to achieve ecological objectives. New development also offers the opportunity to enhance the quality of the water environment.

7.2 River basin management plans

7.2.1 River Basin Management Plans produced by the EA, in consultation with the LPA, detail the pressures facing the water environment and what actions need to be taken in order for the WFD to be met in each area. The Anglian District River Basin Management Plan (ARBMP - December 2009) covers Cambridgeshire; an updated 2015 Plan is currently under consultation.

7.2.2 The ecological benefits of improved water quality in Cambridgeshire are significant. High water quality attracts species and encourages habitat creation; improving the biodiversity of the surrounding area. Species such as fish, newts, kingfishers and water voles are dependent on high water quality. The following areas in Cambridgeshire are considered to have habitat importance and maintaining high water quality is required.

- Ouse Washes Ramsar, SAC and SPA
- Fenland SAC
- Portholme SAC
- Devils Dyke SAC
- Breckland SAC and SPA
- Fenland SAC (Woodwalton Fen, Chippenham Fen, Wicken Fen)
- The River Cam - designated wildlife site
- Stourbridge Common Local Nature Reserve
- Sheep's Green and Coe Fen Local Nature Reserve

7.2.3 If sensitively managed, the river and its banks provide opportunities for declining species to recover and disperse.

7.3 Water Framework Directive and the planning process

- 7.3.1** Where developments require an Environmental Impact Assessment (EIA), applicants should include the impact resulting from development on the water environment in the EIA assessment using information from the ARBMP or directly from the EA. However, there will be instances where an EIA is not required. A screening opinion should be sought from the relevant LPA to determine whether an [EIA is required](#) for the particular development.
- 7.3.2** Where developments do not require an EIA but have the potential to impact on water bodies then applicants should consult the EA as a separate assessment might be required.
- 7.3.3** There may be proposals that do not need EIA but have potential WFD-related impacts for example marinas, development in close proximity to a river bank, channel diversions, new culverts on main rivers, mineral extraction close to watercourses or intensive agriculture. In most cases the EA can confirm where the WFD assessment might be most appropriate to be undertaken.
- 7.3.4** WFD Assessments are sometimes required by the EA for developments where permissions are required for works near/on main rivers under the Water Resources Act 1991.
- 7.3.5** Sustainable Drainage Systems (SuDS) should be utilised in as they support good quality water environments by mimicking the way nature deals with rain water, rather than piping surface water run-off from a development directly to a watercourse, evening out peaks and troughs in the amount of run off and reducing pollutants reaching watercourses.
- 7.3.6** SuDS can provide water quality improvements by reducing sediment and contaminants from runoff either through settlement or biological breakdown of pollutants. The full potential for the use of SuDS should be reviewed in the initial stages of planning the development (Refer back to Chapter 6 for further guidance on using SuDS).
- 7.3.7** Another source of information leading on from the WFD are Water Cycle Studies (WCS). The WCS assesses the capacities of water bodies and water related infrastructure to accommodate future development and growth throughout Cambridgeshire, for each of the city and district councils, and is intended to support the evidence base for their relevant local plans.

7.4 Water resources and waste water

- 7.4.1** If the water supply or wastewater discharge needs of any future development are likely to cause deterioration to the WFD status, the LPA and applicant will need to take this into consideration and determine and manage the impacts accordingly.
- 7.4.2** The supply of drinking water to Cambridgeshire involves abstraction from water resource zones across the County and the wider area. The resilience of the supply systems have the potential to be affected by the impact of climate change and severe weather related events. Both [Cambridge Water](#) and [Anglian Water](#) have encompassed the potential effects of climate change within their Water Resource Management Plans, which have determined the need for investment in both mitigation and adaptation, specifically to reduce water consumption particularly in water stress areas.

Table 7.1 : Water resource zones in Cambridgeshire

Council/ Area	Water resource zone
Cambridge Urban Area	Reservoir to the east of the city and boreholes within the network.
East Cambridgeshire	Chalk Aquifer within the Cambridgeshire and West Suffolk Zone (WRZ9)
Fenland	Chalk Aquifer- Fenland WRZ (supplying Wisbech and surrounds), Ruthamford (supplying March, Doddington, Chatteris and Peterborough)
Huntingdonshire	Ruthamford North and Ruthamford South Water Resource Zone
South Cambridgeshire	Ground water Borehole Abstraction within the Cam and Ely Ouse Catchment Area

- 7.4.3** When water is removed from a river it can reduce water quality due to reduced dilution of pollutants. Standards are in place between the EA and the relevant water company to ensure that most of the time water levels within the river are maintained at an appropriate level for fish and other wildlife. However, in drought periods or with increasing demand water companies may need to apply for a permit to increase abstraction, and hence reduce river levels. Queries regarding increases to abstraction should be directed to the EA in the first instance.
- 7.4.4** If the local water and sewerage company reaches a point where it needs to apply for a permit for increased discharge flows from a sewage treatment work (STW), it is likely that the water quality limits will be tightened. This is intended to aid achievement of the water quality objectives of the receiving water body under the WFD. Details of treatment work infrastructure can be found with the relevant LPAs WCS and their update reviews.
- 7.4.5** Any additional discharges beyond those permitted into the Middle Level Commissioners (MLC) and associated Internal Drainage Boards' (IDBs) systems will require their prior written consent together with the payment of the relevant fee.

7.5 Development location in relation to catchment or watercourse

- 7.5.1** Under the WFD, a development's location within a catchment or its proximity to a watercourse is relevant. Proximity to a watercourse is relevant where, for example, development or engineering works could affect the ability of the body responsible for maintaining the watercourse to access, maintain or improve the water body, or where it could affect the flow in a watercourse. Riverside development must therefore be set back a reasonable distance from the water's edge, allowing a corridor between the two environments.
- 7.5.2** IDB's and some awarded watercourses have a specific minimum width for a maintenance strip. While this corridor is crucial for access for maintenance, it is also the most effective means of ensuring there is potential for habitat and ecological benefits. Appropriate form and landscaping of the riverbanks can be fulfilled through good design. The width of 'maintenance access strips' may vary depending on the size of the watercourse, the type of maintenance that is required, and the organisation responsible for maintenance. The width will therefore be determined on a case by case basis with developers bearing in mind the need for access and green infrastructure. Queries regarding maintenance should be directed to the IDBs in the first instance.
- 7.5.3** Special consent may be required from Cambridgeshire's water management authorities (WMAs) for development that takes place inside or within a certain distance of a non-main river watercourse. Developers should contact Cambridgeshire County Council (CCC) (the Lead Local Flood Authority (LLFA)) for further details.

7.6 Aquatic environment

7.6.1 Planning Policies in Local Plans provide guidance to ensure development adjacent to watercourses protects and enhances the physical and natural landscape. Proposals for new development should where possible enhance the natural resources of the river corridor, and offer opportunities where applicable for the re-naturalisation of the river to improve water quality, increase public access to adjacent open spaces and improve the integrity of the built environment in terms of its location, scale, design and form.

7.6.2 Where a watercourse must still serve a function for which it has been modified or was originally created, naturalisation and habitat measures may need to be more subtle or more carefully considered since they must not, for example, increase flood risk. This could be the case in Cambridgeshire where a large number of the watercourses in the north and east of the county are managed by an IDB. Smaller changes such as the installation of fish passes alongside pumping stations or bank-side planting can be particularly valuable to improve the habitat for native species. Reference should be made to the [Drainage Channel Biodiversity Manual](#) (NE121). This document has been written for use by IDBs operating in England and looks to tackle the challenge of making space for both flood waters and wildlife through the integrated planning and management of drainage catchments. Examples of some of the measures are set out below:

- Forming marginal ledges in open channels
- Changing the timing of works to accommodate species
- Having maintenance rotation periods
- Using 'softer' erosion control measures such as sedge plugs and coir roll revetments

7.6.3 The EA's online WFD mitigation measures manual provides examples of methods currently used (where appropriate to individual sites) to bring about river naturalisation and improve the [WFD status of rivers](#).

7.7 Highways

7.7.1 Highway developments may result in negative impacts on water bodies. Where this occurs, positive measures must be considered. The following are some examples of how positive measures can be included in highways developments:

- Where a bridge crosses a watercourse or a road runs down towards a river, surface water exceedance flows may lead water to run off these surfaces directly into a water body, taking heavy metals and hydrocarbons with it. Balance and holding ponds should be installed adjacent to bridges and other highways enabling pollutants to collate.
- The design of new bridges may require river edges to be strengthened and hardened on both sides potentially cutting off a wildlife corridor and increasing for example otter mortality on our roads. The installation of an otter crossing, including a mammal ledge and guide fencing, under the A1 at Hail Bridge (near St Neots) has helped to minimise such an impact by providing a safe crossing for mammals when water levels are high.
- Culverting of a watercourse under a carriageway causes a loss of ecological diversity and habitat continuity which may interrupt the migration routes of animals. Using culverts that create the natural river bed morphology and natural invert levels can help reduce such impacts. Retrofitting baffles and/or ripracks to existing culverts can help improve fish passage.

7.8 Land contamination

7.8.1 Groundwater beneath development sites can provide a base flow to surface waters in that the water will find its way to the surface via channels which are often not apparent. Ground conditions on brownfield land potentially affected by contamination should therefore be investigated prior to decisions being made about site layout and design of drainage systems.

- 7.8.2** If there is potential for land contamination on site then this can affect more areas than just drainage and water environments. Planning policies contained within the Local Plans require that sites with the potential to be affected by contamination undertake a preliminary assessment prior to a planning decision being made (see Appendix A). This will identify if additional measures and investigations need be carried out before development commences. Pre-application advice can be sought from the relevant LPA and the EA to assess the possible contamination of a site to ensure a smoother planning application process.
- 7.8.3** Planning conditions can control pollution during construction, but this may not be appropriate for land contamination, which should be addressed in principle prior to development decisions. Further information is included in the planning policies and supporting text in each LPAs Local Plan (see Appendix A for further details on relevant planning policies).
- 7.8.4** Developers seeking further guidance about land contamination should refer to the following documents, or any successor documents, available on the Environmental Agency Website:
- Technical Guidance on the [management of contaminated land](#) (2014).
 - The risk management framework provided in CLR11: [Model Procedures for Management of Land Contamination](#); and
 - [Guiding Principles for Land Contamination](#) for the type of information required in order to assess risks to controlled waters from the site.



Appendix A Local plan policies

Each Local Planning Authority (LPA) within Cambridgeshire has its own adopted (or is working towards adoption of its own) Local Plan. Local Plans set out a vision for their administrative area and the planning policies necessary to deliver the vision. The relevant LPAs and their adopted or emerging planning policies that this SPD supports Local Plans are listed below:

A.1 Cambridgeshire County Council

The Cambridgeshire & Peterborough Minerals & Waste Development Plan 'Core Strategy Development Plan Document' (adopted July 2011), sets the type and amount of Minerals and Waste development that will be accommodated in Cambridgeshire up until 2026. The relevant planning policies are as follows:

- CS22 (Climate Change)
- CS35 (Biodiversity and Geodiversity)
- CS39 (Water Resources & Pollution Prevention)

The Cambridgeshire & Peterborough Minerals & Waste Development Plan 'Site Specific Proposals DPD' (adopted February 2012) identifies sites for development to meet the vision of the Core Strategy.

The County Council has also produced a number of (SPDs) to accompany the development plans. The relevant SPDs are as follows:

The Location and Design of Waste Management Facilities SPD (Adopted July 2011)

This SPD provides detailed guidance to help implement policy CS22 (Climate Change) of the Core Strategy DPD, and makes particular references to flood risk and water resources/quality. The document also supports and cross references the following planning policy:

- CS35 (Biodiversity and Geodiversity)

The Block Fen/Langwood Fen Master Plan SPD (Adopted July 2011)

The Master Plan provides a more detailed land use planning framework for mineral and waste activity in the Earith / Mepal area, and builds upon the proposals set out in the Core Strategy. Water storage and flood prevention are a common theme within the SPD. The SPD aims to guide developers on the implementation of proposals for the Block Fen/Langwood Fen area mainly through policies:

- CS3 (Strategic Vision & Objectives for Block Fen/Langwood Fen)
- CS5 (Earith/Mepal)
- CS20 (Inert Landfill)

A.2 Cambridge City Council

The 'Cambridge Local Plan 2014: Proposed Submission' sets out how Cambridge City Council will meet the development needs of Cambridge to 2031. The key policies that are of relevance are as follows:

- Policy 27: Carbon reduction, community energy networks, sustainable design and construction, and water use
- Policy 31: Integrated water management and the water cycle
- Policy 32: Flood risk
- Policy 33: Contaminated Land

The City Council also has a number of SPDs that are of relevance to this Flood & Water SPD, which are as follows:

Draft Planning Obligations Strategy Supplementary Planning Document (June 2014)

This draft SPD has been written to support the emerging Cambridge Local Plan 2014 and the emerging Cambridge Community Infrastructure Levy (CIL), both of which the Council expects to adopt in 2015. This SPD supports Policy 85 (Infrastructure delivery, planning obligations and the Community Infrastructure Levy) of Cambridge's draft Local Plan. Strategic improvements to landscape, habitats, access to the countryside and major green infrastructure projects could be funded by CIL. Environmental mitigation measures will be considered on a site by site basis. Depending on the scale of the development there may be circumstances where schemes require mitigation measures to be included in a Section 106 Agreement. Matters which could be included in a S.106 Agreement include:

- Ecological Mitigation/Remediation
- Major contamination issues

Open Space & Recreation Strategy (adopted October 2011)

This document, which forms part of the technical evidence base for the Local Plan, seeks to ensure that open space supports the development of sustainable communities, and the enhancement of the health and well-being of residents and the biodiversity of the city.

The Council is also due to update its Sustainable Design and Construction SPD, which will provide further guidance on policy requirements regarding water conservation measures and water sensitive urban design.

The Council has also adopted the Cambridge Sustainable Drainage Design and Adoption Guide, which sets out the Council's requirements for the design of SuDS in public open spaces.

A.3 East Cambridgeshire District Council

The 'East Cambridgeshire Draft Local Plan (pre-submission version, February 2013)' sets out a blueprint for the future growth of East Cambridgeshire, covering a period up to 2031. Contained within the draft document are planning policies which are relevant to this SPD. The SPD is intended to supplement the following Local Plan policies:

- Policy HOU 9: Gypsies, travellers and travelling show people sites
- Policy ENV 2: Design
- Policy ENV 7: Biodiversity and geology
- Policy ENV 8: Flood risk
- Policy ENV 9: Pollution

East Cambridgeshire District Council have also produced a number of SPDs which are also relevant:

Design Guide SPD (adopted March 2012)

The Design Guide SPD is intended to set out the requirements and aspirations for development within East Cambridgeshire. Developers would need to consider a number of development principles including foul and surface drainage methods.

Developer Contributions SPD (adopted March 2013)

This SPD sets out the Council's approach to seeking developer contributions for infrastructure or environmental improvements required as a result of new development. It is aimed at developers, agents and the general public, and seeks to provide people with a better understanding of when planning contributions will be sought and how they will be used.

East Cambridgeshire District Council may seek planning obligations for certain types of infrastructure and benefits, including flood defence work and SuDS. Financial contributions through planning obligations may be sought towards the maintenance and/or monitoring of SuDS

A.4 Fenland District Council

The 'Fenland Local Plan' (adopted 8 May 2014) contains the policies for the growth and regeneration of Fenland up to 2031. The policies that are of relevance are as follows:

- Policy LP14 – Responding to Climate Change and Managing the Risk of Flooding in Fenland
- Policy LP16 - Delivering and Protecting High Quality Environments across the District

Fenland District Council has also produced two SPDs in support of their adopted Local Plan, with one of the SPDs directly relevant in the context of this SPD.

Delivering and Protecting High Quality Environments in Fenland SPD (adopted July 2014) The Delivering and Protecting High Quality Environments in Fenland SPD has been prepared to provide further guidance on a number of policies in the Fenland Local Plan 2014, in particular Policy LP16, 'Delivering and Protecting High Quality Environments across the District'. The following policies in the SPD are of relevance:

- Policy DM6 – Mitigating Against Harmful Effects
- Policy DM7 – Land Contamination
- Policy DM8 – Riverside Settings

Resource and Renewable Energy SPD (adopted July 2014)

This SPD sets out in detail Fenland District Council's policies in respect of resource use and renewable energy, in order to suitably expand on Part (A) of Policy LP14 in the Fenland Local Plan 2014.

A.5 Huntingdonshire District Council

Huntingdonshire's 'Core Strategy' (adopted September 2009) sets out the Council's strategy for sustainable growth over the plan period up to 2026. The following policies within the draft Local Plan are relevant to this SPD.

- CS 1: Sustainable Development in Huntingdonshire
- CS 10: Contributions to Infrastructure Requirements

The Council is preparing a new Local Plan 'Huntingdonshire's Local Plan 2036' which is intended to replace the Core Strategy once it has been adopted. In line with the NPPF (paragraph 216) policies contained in the emerging Local Plan may be considered to have weight once the plan has been subject to representations at the 'Publication' stage, also known as 'Proposed Submission'. Readers should contact Huntingdonshire District Council for up to date information about the emerging Local Plan and how this SPD supports draft policies.

A.6 South Cambridgeshire District Council

The 'South Cambridgeshire Development Control Policies Development Plan Document' (DPD) (adopted in July 2007) guides decisions on planning applications within South Cambridgeshire and sets out the Council's planning policies on a wide range of topics, including housing, jobs, services and facilities, travel, the natural environment and the Green Belt. The following planning policies are particularly relevant to this SPD:

- Policy DP/1: Sustainable Development
- Policy DP/4: Infrastructure and New Development
- Policy NE/6: Biodiversity
- Policy NE/8: Groundwater
- Policy NE/9: Water and Drainage Infrastructure
- Policy NE/10: Foul Drainage – Alternative Drainage Systems
- Policy NE/11: Flood Risk
- Policy NE/12: Water Conservation

South Cambridgeshire District Council is preparing a new Local Plan which once adopted will replace the Development Control Policies DPD. The 'South Cambridgeshire Local Plan' (submitted in March 2014) sets out how South Cambridgeshire District Council will deliver the levels of employment and housing development that should be provided over the plan period to 2031. The following planning policies are particularly relevant to this SPD:

- Policy CC/1: Mitigation and Adaptation to Climate Change
- Policy CC/7: Water Quality
- Policy CC/8: Sustainable Drainage Systems
- Policy CC/9: Managing Flood Risk
- Policy HO/1: Design Principles
- Policy NH/4: Biodiversity
- Policy NH/6: Green Infrastructure
- Policy SC/12: Contaminated Land
- Policy TI/8: Infrastructure and New Developments

Appendix B Applicant checklists

B.1 Drainage checklist

Development:	
Location:	
Date:	
LPA contact:	
EA contact:	
IDB contact:	
LLFA contact:	
General Notes:	

Recommended actions	Notes	Tick
Managing the risk of flooding (see Chapter 4)		
Establish if your development is at risk of tidal, river flooding or other forms of flooding. Check the flood maps on the EAs website, and the LPAs SFRAs and SWMPs		
Make sure the location of your development meets the Sequential Test (NPPG). Only where there is no other choice, carry out and meet the Exception Test.		
Assess what information is required to be included within your FRA, if one is required. See FRA checklist below for further details.		
Managing surface water (see Chapter 6)		
Before you plan your site, consider how you can manage the rate of surface water run-off so that it is similar to the conditions before the development. Also consider the effect this run-off will have on any receiving watercourse.		
Demonstrate in your FRA that you will deal with surface water by installing the best combination of SuDS techniques for your site (see FRA requirements below).		
Use CIRIA guidance to inform your choice of SuDS design for the development.		

Recommended actions	Notes	Tick
Where infiltration techniques are not possible, or where space is limited, you can still use features such as green roofs to reduce the rate or total amount of run-off.		
Speak to the LLFA about the surface water drainage proposals for your site. They can tell you what consents you will need, which types of SuDS are unsuitable and whether you will have to take special precautions to prevent pollution or reduce infiltration.		
Demonstrate in your FRA that you will deal with surface water by installing the best combination of SuDS techniques for your site.		
Ensure you have an adequate management and maintenance system in place.		
Water Resources (see Chapter 6)		
Design your development to at least meet the minimum level of Building Regulations or Local Planning policies related to water conservation where appropriate.		
Consider water and energy-efficient appliances and fittings in your development such as 'A-rated' washing machines and low or dual-flush toilets.		
If your development is large, consider leak-detection, rainwater-harvesting or even rainwater re-use systems. Information about their management and maintenance should be provided.		
Pollution Prevention (see Chapter 7)		
Talk to the local sewerage company to ensure: <ul style="list-style-type: none"> • there is sufficient sewage treatment capacity for the lifetime of your development; • there are arrangements for sewage discharges to foul sewer; • what consents you will need. 		
Please also check with the Local Planning Authority as to their full Local Validation requirements.		

B.2 Flood risk assessment checklist

FRA requirements	Notes	Tick
1. Development Description and Location		
a. What type of development is proposed (e.g., new development, an extension to existing development, a change of use etc.) and where will it be located.		
b. What is its flood risk vulnerability classification ?		
c. Is the proposed development consistent with the Local Plan for the area? (Seek advice from the LPA if you are unsure about this).		
d. What evidence can be provided that the Sequential Test and where necessary the Exception Test has/have been applied in the selection of this site for this development type?		
e. Will your proposal increase overall the number of occupants and/or users of the building/land, or the nature or times of occupation or use, such that it may affect the degree of flood risk to these people? (Particularly relevant to minor developments (alterations and extensions) and changes of use).		
2. Definition of the Flood Hazard		
a. What sources of flooding could affect the site?		
b. For each identified source in box 2a above, can you describe how flooding would occur, with reference to any historic records where these are available?		
c. What are the existing surface water drainage arrangements for the site?		
3. Probability		
a. Which Flood Zone is the site within? (As a first step, check the Flood Map for Planning (Rivers and Sea) on the EA's website).		
b. If there is a SFRA covering this site (check with the LPA), does this show the same or a different Flood Zone compared with the EA's flood map? (If different you should seek advice from the LPA and, if necessary, the EA).		
c. What is the probability of the site flooding, taking account of the maps of flood risk from rivers and the sea and from surface water, on the EA's website , and the SFRA, and of any further flood risk information for the site?		
d. If known, what (approximately) are the existing rates and volumes of surface water run-off generated by the site?		

FRA requirements	Notes	Tick
4. Climate Change		
How is flood risk at the site likely to be affected by climate change? (The LPAs SFRA should have taken this into account). Further information on climate change and development and flood risk is available on the EAs website.		
5. Detailed Development Proposals		
Where appropriate, are you able to demonstrate how land uses most sensitive to flood damage have been placed in areas within the site that are at least risk of flooding (including providing details of the development layout)?		
6. Flood Risk Management Measures		
How will the site/building be protected from flooding, including the potential impacts of climate change, over the development's lifetime?		
7. Off-site Impacts		
a. How will you ensure that your proposed development and the measures to protect your site from flooding will not increase flood risk elsewhere?		
b. How will you prevent run-off from the completed development causing an impact elsewhere?		
c. Are there any opportunities offered by the development to reduce flood risk elsewhere?		
8. Residual Risks		
a. What flood-related risks will remain after you have implemented the measures to protect the site from flooding?		
b. How, and by whom, will these risks be managed over the lifetime of the development? (e.g., flood warning and evacuation procedures).		

Notes:

1. A site-specific flood risk assessment (FRA) is required for proposals of 1 hectare or greater in Flood Zone 1; all proposals for new development (including minor development and change of use) in Flood Zones 2 and 3, or in an area within Flood Zone 1 which has critical drainage problems (as notified to the LPA by the EA); and where proposed development or a change of use to a more vulnerable class may be subject to other sources of flooding (NPPF, Footnote 20).
2. A step by step guide on how to complete a FRA in support of a planning application is set out in Chapter 4.
3. The checklist is taken from the [National Planning Practice Guidance \(NPPG\) on Flood Risk and Coastal Change – Site-Specific Flood Risk Assessment: Checklist](#).

Appendix C Internal drainage boards

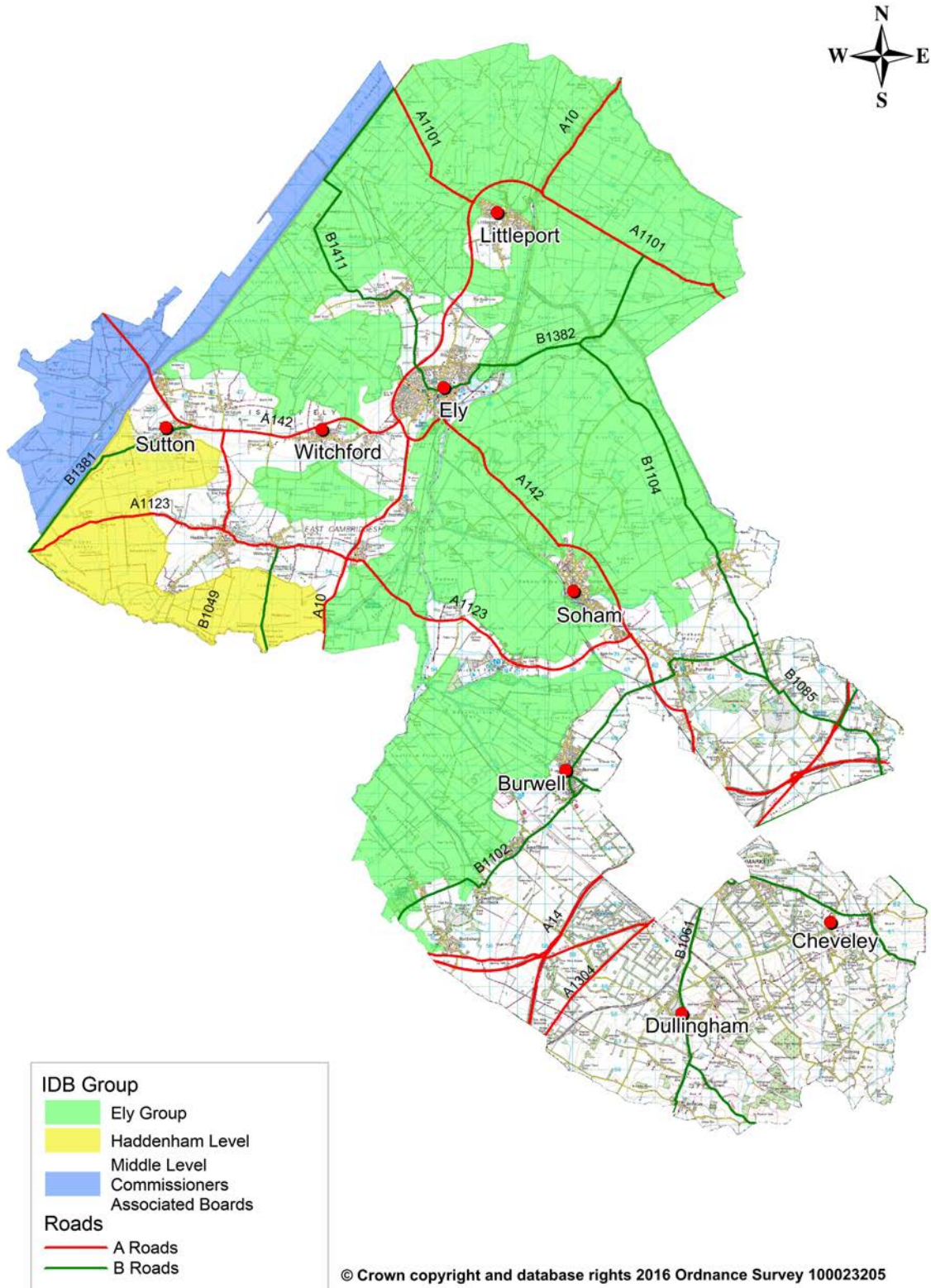
Further details relating to the Internal Drainage Boards and their roles and functions can be found at Chapter 3 and Table 3.2.

IDBs	Applicable to the relevant district council area
North Level Drainage Board	Fenland District Council
Kings Lynn IDB	Fenland District Council
Ramsey IDB ⁽¹⁾	Huntingdonshire District Council
Whittlesey Consortium of IDBs ⁽¹⁾ : <ul style="list-style-type: none"> • Drysides • Feldale IDB • Holmewood and District IDB • Woodwalton Drainage Commissioners • Whittlesey IDB 	Huntingdonshire District Council Fenland District Council
Bedford Group of IDBs (in Cambridgeshire): <ul style="list-style-type: none"> • Alconbury and Ellington IDB • Bedfordshire and River Ivel IDB 	Huntingdonshire District Council
IDBs that have been agreed to be represented by Ely Group : <ul style="list-style-type: none"> • Burnt Fen IDB • Cawdle Fen • Littleport and Downham • Middle Fen and Mere • Old West • Padnal and Waterden • Swaffham • Waterbeach Level 	East Cambridgeshire District Council South Cambridgeshire District Council
IDBs presently managed by the Middle Level Commissioners : <ul style="list-style-type: none"> • Benwick IDB • Bluntisham IDB • Conington and Holme IDB • Churchfield and Plawfield IDB • Curf and Wimblington Combined IDB • Euximoor IDB • Haddenham Level • Hundred Foot Washes IDB • Hundred of Wisbech IDB • Manea and Welney District Drainage Commissioners • March and Whittlesey IDB • March East IDB • March and Whittlesey IDB • March Fifth District Drainage Commissioners • March Sixth District Drainage Commissioners 	Fenland District Council East Cambridgeshire District Council South Cambridgeshire District Council Huntingdonshire District Council

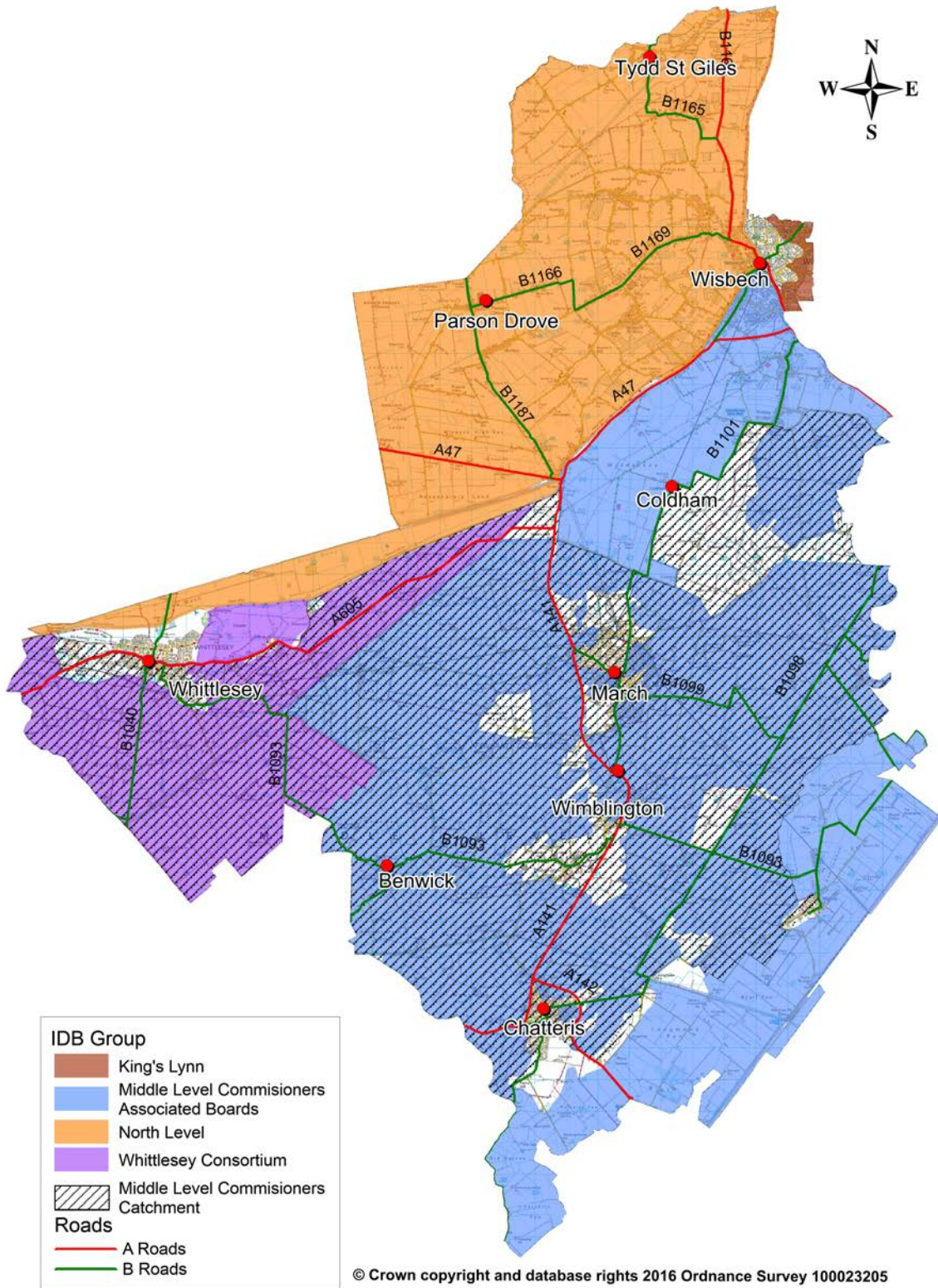
IDBs	Applicable to the relevant district council area
<ul style="list-style-type: none"> • March Third District Drainage Commissioners • Middle Level Commissioners • Needham and Laddus IDB • Nightlayers IDB • Nordelph IDB • Over and Willingham • Ramsey First (Hollow) IDB • Ramsey Fourth (Middlemoor) IDB • Ramsey Upwood & Great Raveley IDB • Ransonmoor District Drainage Commissioners • Sawtry IDB • Sutton and Mepal IDB • Swavesey IDB • Upwell IDB • Waldersey IDB • Warboys Somersham and Pidley IDB • White Fen District Drainage Commissioners 	

1. The MLC provide planning services for Ramsey IDB and the Whittlesey Consortium of IDBs.

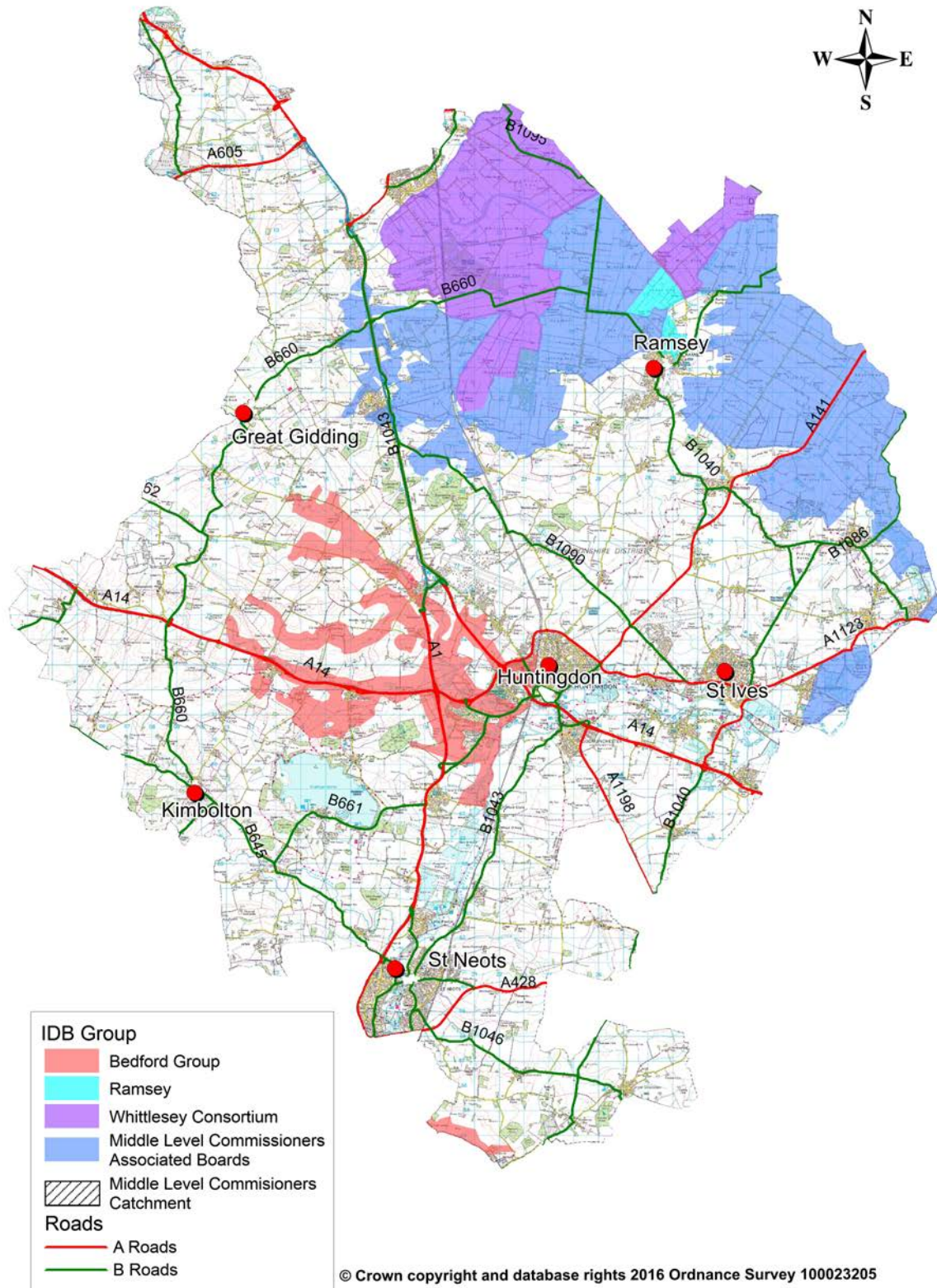
Map C.1 : IDBs within East Cambridgeshire District Council (ECDC) Area



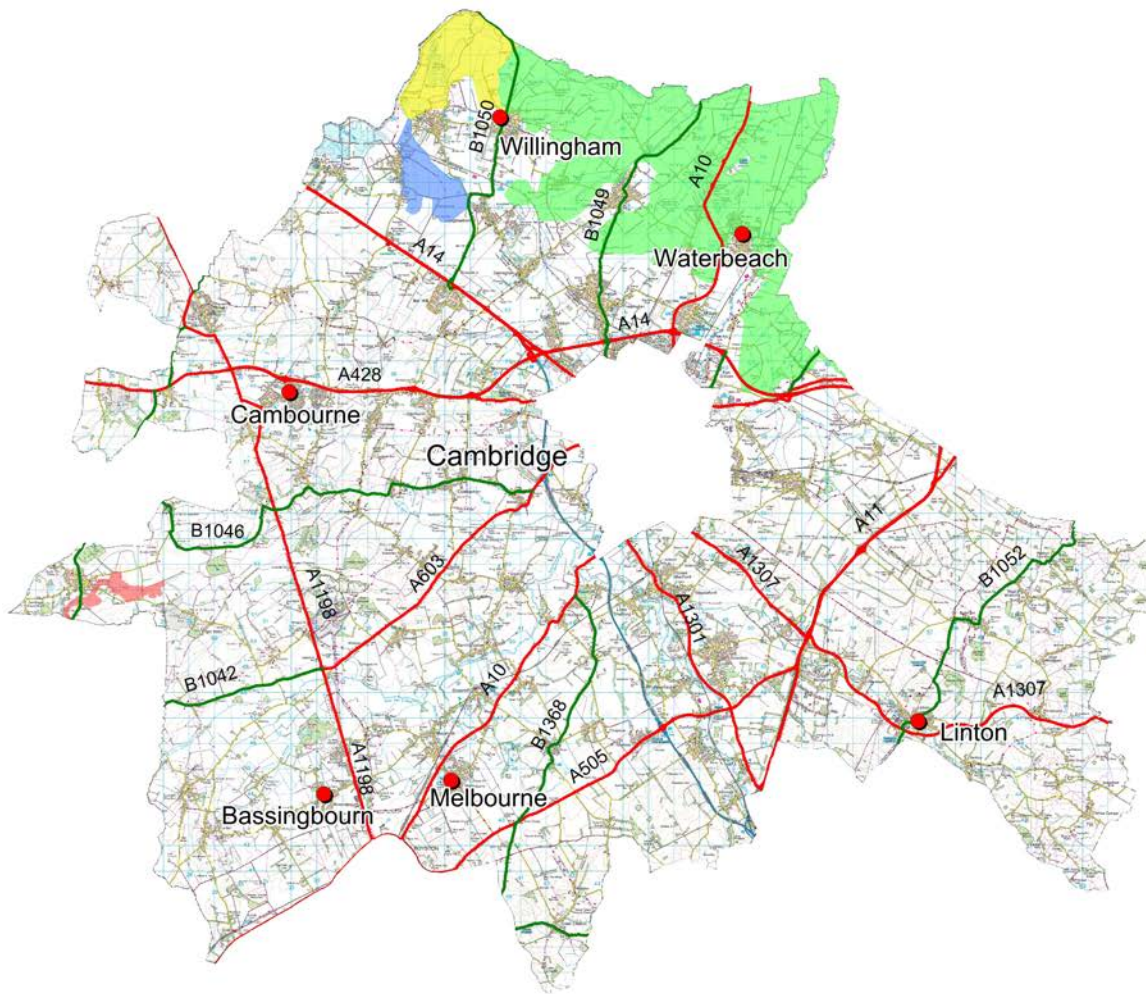
Map C.2 : IDBs within Fenland District Council (FDC) Area



Map C.3 : IDBs within Huntingdonshire District Council (HDC) Area



Map C.4 : IDBs within South Cambridgeshire District Council (SCDC) Area



IDB Group	
■	Middle Level Commissioners Associated Boards
■	Haddenham Level
■	Ely Group
■	Bedford Group
Roads	
—	A Roads
—	B Roads

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Appendix D Building materials guidance

Table D.1

A) Foundations
<p>Water exclusion strategy:</p> <ul style="list-style-type: none">• Concrete blocks used in foundations should be sealed with an impermeable material or encased in concrete to prevent water movement from the ground to the wall construction. <p>Water entry strategy:</p> <ul style="list-style-type: none">• Provide durable materials that will not be affected by water and use construction methods and materials that promote easy draining and drying.
B) Floors
<p>Ground floors can be influenced by two different conditions:</p> <ul style="list-style-type: none">• Water entry from the ground which can cause uplift pressures and will require structural checks if a water exclusion strategy is proposed;• Exposure to standing water. <p>Water exclusion and entry strategy:</p> <ul style="list-style-type: none">• Materials that retain their structural integrity post flood event or easily replaced materials should be specified along with an engineering report confirming structural integrity for depths anticipated;• Construction should allow for cleaning and drainage;• Concrete ground supported floors are preferable to suspended floors where ground conditions allow;• Suspended floors may require cleaning out of the sub-floor space post flooding so access and falls should be provided;• Suspended steel floors would require anti-corrosion protection;• Suspended timber floors are not recommended;• Insulation should be of the closed cell type, generally insulation placed above the floor slab minimises the effect of flood water but may float if a low mass floor cover and screed is specified;• Floor finishes should generally be ceramic or concrete based floor tiles and sand/cement screed. Water resistant grout and a cement based adhesive/bedding is preferred;• Skirting boards should not be timber but either ceramic tiles or plastic;• If the flooding risk is up to a 1 in 5 year event a floor sump should be specified;• Under floor services should avoid using ferrous materials.
C) Walls
<p>Refer to Figure 5.4 for guidance on appropriate building materials to be specified.</p> <p>Water exclusion strategy for depths of water up to 0.3m or where structurally designed, up to 0.6m.</p> <p>Masonry walls:</p> <ul style="list-style-type: none">• Joints should be fully filled and bricks should be laid frog upwards;• Perforated bricks should not be used;

C) Walls

- Where possible use engineering bricks up to flood level plus one brick course for freeboard;
- Blocks and dense facing bricks have improved performance when covered with render;
- Do not use highly porous bricks such as handmade bricks;
- For a water exclusion strategy where leakage is expected to be minimal aircrete blocks are recommended but may retain moisture longer than concrete blocks and provide less restraint to uplift forces on flood slabs/edges;
- Solid masonry walls are a good option but will need to have suitable wall insulation to comply with the latest building regulations;
- Clear cavity walls are preferable if sufficient insulation cannot be provided elsewhere.

Timber Frame walls:

- Timber frame walls are not recommended.

Reinforced concrete wall/flood:

- Should be considered where the risk of frequent flooding is high.

External render:

- Effective barriers should be used with blocks or bricks up to predicted flood level plus one brick course for freeboard, to prevent thermal bridge may require additional insulation on inner skin of wall or external insulation;
- External renders with lime content can induce faster surface drying.

Insulation:

- External insulation is better than cavity insulation as it is easily replaced;
- Cavity insulation should be a rigid closed cell type.

Internal linings:

- Internal cement renders (with good bond) are effective at reducing leakage and assist rapid drying;
- Avoid gypsum plasterboard;
- Internal lime plaster/render can be a good solution once full strength has been gained (6 months approximately).

Water entry strategy

Masonry walls:

- Use good quality facing bricks for the external face of cavity walls;
- Do not use highly porous bricks such as handmade bricks;
- For a water entry strategy where water is expected to enter the building concrete blocks are recommended;
- Clear cavity walls are preferable if sufficient insulation cannot be provided elsewhere.

Timber Frame walls:

- Timber frame walls are not recommended.

External render:

C) Walls

- Should not be used as it is a barrier to water penetration and may induce excessive differences with flood water depths internally and externally.

Insulation:

- External insulation is better than cavity insulation as it is easily replaced;
- Cavity insulation should be a rigid closed cell type.

Internal linings:

- Avoid internal cement renders as these can prevent drying;
- Use standard gypsum plasterboard up to the predicted flood level plus a freeboard of 100mm as a sacrificial material;
- Internal lime plaster/render can be a good solution once full strength has been gained (6 months approximately).

D) Doors and windows

Doors:

- Thresholds should be raised as high as possible whilst still complying with level access requirements;
- External PVC doors are preferable. Where an external wooden door is used, all efforts should be made to ensure a good fit and seal to the frames;
- For a flood exclusion strategy the use of flood doors should be specified. This type of door seals and protects from flooding once closed;
- Hollow core timber internal doors should not be used in high flood risk areas;
- Butt hinges can aid in the removal and storage of doors in dry areas;

Windows and patio doors:

- Should employ similar measures to doors. Special care should be taken to ensure adequate sealing of any window/door sills to the fabric of the property.

Air vents:

- There are two types of air vents that could be specified, either a periscope air vent which has a higher external opening than internal opening or a self-closing air vent by means of an internal floatation mechanism. Periscope air vents are generally preferable as there are no moving parts reducing the maintenance requirements.

E) Fittings

- The main principle is to use durable fittings that can be easily cleaned e.g. the use of plastic or stainless steel for kitchen units;
- Domestic appliances such as fridges and ovens on plinths as high as practicable above the floor.

F) Services

- All service penetrations should be sealed with expanding foam or similar closed cell material;
- Where applicable pipework should use closed cell insulation below the predicted flood level;

F) Services

- Non-return valves are recommended to prevent back flow of diluted sewage in situations where there is an identified risk of foul sewer surcharging. There is an ongoing maintenance requirement for these valves. Downstairs bathrooms and sinks are often conduits during flood conditions and careful consideration needs to be given to these;
- Water, electricity and gas meters should be located above the predicted flood level where possible;
- Electric ring mains should be installed at first floor level which drops towards the ground floor where ground floor sockets should be installed at a high level;
- Heating boiler units should be installed above the predicted flood level and preferably on the first floor. Underfloor heating should be avoided on ground floors. Conventional heating pipes are unlikely to be significantly affected by flood water;
- Communication wiring for telephone, TV and internet and other services should be protected by suitable insulation in the distribution ducts to prevent damage;
- Septic tanks are required in some rural parts of Cambridgeshire. Recommended criteria for the design and installation of these systems are given in BS 6297. The septic tank should be appropriate for the ground conditions locally and take into account flood levels.

Appendix E Pre-application checklist

Requirements	Details (or reference documentation)	Agreed?
(a) Any planning and environmental objectives for the site that should influence the surface water drainage strategy. These objectives can be put forward by the developer, LPA or relevant water management authorities and should be agreed by all parties.		
(b) The likely environmental or technical constraints to SuDS design for the site. These should be agreed by all parties.		
(c) The requirements of the local adoption or ongoing maintenance arrangements. The LPA have the overriding decision on the appropriateness of the adoption arrangements.		
(d) The suite of design criteria to be applied to the SuDS scheme (taking account of (a) to (c)).		
(e) Evidence that the initial development design proposals have considered the integration and linkage of the surface water management with street layouts, architectural and landscape proposals.		
(f) An assessment of strategic opportunities for the surface water management system to deliver multiple benefits for the site (see Table 5, British Standard 8582). This should be provided by the developer and should include the strategic use of public open space for SuDS.		
(g) The statutory and recommended non-statutory consultees for the site. This should be provided by the LPA.		
(h) The likely land and infrastructure ownership for drainage routes and points of discharge (including sewerage assets).		
(i) An assessment of statutory consultee responsibilities and requirements, including timescales for any likely required approvals/consents.		
(j) Any potential local community impacts, health and safety issues or specific local community concerns/requirements that should be addressed by the detailed design.		
(k) An assessment of cost implications of stakeholder obligations.		
(l) An agreed approach to the design and maintenance of the surface water management for the proposed site.		

Appendix F Surface water drainage pro-forma

Applicants should complete this form and submit it to the LPA, referencing from where in their submission documents this information is taken. The proforma is supported by the [DEFRA/EA guidance on Rainfall Runoff Management](#), and uses the storage calculator on [www.UKsuds.com](#). The proforma should be considered alongside other supporting SuDS Guidance, but focuses on ensuring flood risk is not made worse elsewhere. This proforma is based upon current industry standard practice.

1. Site details

Site	
Address & post code or LPA reference	
Grid Reference	
Is the existing site developed or Greenfield?	
Total Site Area served by drainage system (excluding open space) (Ha)⁽¹⁾	

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¹ The Greenfield runoff off rate from the development which is to be used for assessing the requirements for limiting discharge flow rates and attenuation storage from a site should be calculated for the area that forms the drainage network for the site whatever size of site and type of drainage technique. Please refer to the Rainfall Runoff Management document or CIRIA manual for detail on this.

2. Impermeable area

	Existing	Proposed	Difference (Proposed-Existing)	Notes for developers and Local Authorities
Impermeable area (ha)				If proposed > existing, then runoff rates and volumes will be increasing. Section 6 must be filled in. If proposed ≤ existing, then section 6 can be skipped & section 7 filled in.
Drainage Method (infiltration/sewer/watercourse)			N/A	If different from the existing, please fill in section 3. If existing drainage is by infiltration and the proposed is not, discharge volumes may increase. Fill in section 6.

3. Proposing to discharge surface water via

	Yes	No	Evidence that this is possible	Notes for developers and Local Authorities
Infiltration				e.g. soakage tests. Section 6 (infiltration) must be filled in if infiltration is proposed.
To watercourse				e.g. Is there a watercourse nearby?
To surface water sewer				Confirmation from sewer provider that sufficient capacity exists for this connection.
Combination of above				e.g. part infiltration part discharge to sewer or watercourse. Provide evidence above.

4. Peak Discharge Rates ⁽¹⁾

	Existing rates (l/s)	Proposed rates (l/s)	Difference (l/s) (Proposed-Existing)	Notes for developers and Local Authorities
Greenfield QBAR		N/A	N/A	QBAR is approx. 1 in 2 storm event. Provide this if Section 6 (QBAR) is proposed.
1 in 1				Proposed discharge rates (with mitigation) should be no greater than existing rates for all corresponding storm events. e.g. discharging all flow from site at the existing 1 in 100 event increases flood risk during smaller events.
1 in 30				
1 in 100				
1 in 100 + climate change	N/A			To mitigate for climate change the proposed 1 in 100 +CC must be no greater than the existing 1 in 100 runoff rate. If not, flood risk increases under climate change. 30% should be added to the peak rainfall intensity.

1. This is the maximum flow rate at which storm water runoff leaves the site during a particular storm event.

5. Calculate additional volumes for storage⁽¹⁾

	Existing volume (m ³)	Proposed volume (m ³)	Difference (m ³) (Proposed-Existing)	Notes for developers and Local Authorities
1 in 1				Proposed discharge volumes (without mitigation) should be no greater than existing volumes for all corresponding storm events. Any increase in volume increases flood risk elsewhere. Where volumes are increased section 6 must be filled in.
1 in 30				
1 in 100				
1 in 100 + climate change				To mitigate for climate change the volume discharge from site must be no greater than the existing 1 in 100 storm event. If not, flood risk increases under climate change.

1. The total volume of water leaving the development site. New hard surfaces potentially restrict the amount of storm water that can go to the ground, so this needs to be controlled so not to make flood risk worse to properties downstream.

6. Calculate attenuation storage⁽¹⁾

	Notes for developers and Local Authorities
Storage Attenuation volume (Flow rate control) required to retain rates as existing (m ³)	Volume of water to attenuate on site if discharging at existing rates. Can't be used where discharge volumes are increasing

1. Attenuation storage is provided to enable the rate of runoff from the site into the receiving watercourse to be limited to an acceptable rate to protect against erosion and flooding downstream. The attenuation storage volume is a function of the degree of development relative to the greenfield discharge rate.

7. How is Storm Water stored on site?⁽¹⁾

		Notes for developers and Local Authorities
Infiltration	State the Site's Geology and known Source Protection Zones (SPZ)	Avoid infiltrating in made ground. Infiltration rates are highly variable and refer to Environment Agency website to identify and source protection zones (SPZ)
	Are infiltration rates suitable?	Infiltration rates should be no lower than 1×10^{-6} m/s.
	State the distance between a proposed infiltration device base and the ground water (GW) level	Need 1m (min) between the base of the infiltration device & the water table to protect Groundwater quality & ensure GW doesn't enter infiltration devices. Avoid infiltration where this isn't possible.
	Were infiltration rates obtained by desk study or infiltration test?	Infiltration rates can be estimated from desk studies at most stages of the planning system if a backup attenuation scheme is provided.
	Is the site contaminated? If yes, consider advice from others on whether infiltration can happen.	Water should not be infiltrated through land that is contaminated. The Environment Agency may provide bespoke advice in planning consultations for contaminated sites that should be considered.
In light of the above, is infiltration feasible?	Yes/No? If the answer is No, please identify how the storm water will be stored prior to release	If infiltration is not feasible how will the additional volume be stored? The applicant should then consider the following options in the next section.

1. Storage is required for the additional volume from site but also for holding back water to slow down the rate from the site. This is known as attenuation storage and long term storage. The idea is that the additional volume does not get into the watercourses, or if it does it is at an exceptionally low rate. You can either infiltrate the stored water back to ground, or if this isn't possible hold it back with on-site storage. Firstly, can infiltration work on site?

Storage requirements

The developer must confirm that either of the two methods for dealing with the amount of water that needs to be stored on site.

- Option 1 Simple:**
 Store both the additional volume and attenuation volume in order to make a final discharge from site at QBAR (Mean annual flow rate). This is preferred if no infiltration can be made on site. This very simply satisfies the runoff rates and volume criteria.
- Option 2 Complex:**
 If some of the additional volume of water can be infiltrated back into the ground, the remainder can be discharged at a very low rate of 2 l/sec/hectare. A combined storage calculation using the partial permissible rate of 2 l/sec/hectare and the attenuation rate used to slow the runoff from site.

	Notes for developers and Local Authorities
Please confirm what option has been chosen and how much storage is required on site.	The developer at this stage should have an idea of the site characteristics and be able to explain what the storage requirements are on site and how it will be achieved.

8. Please confirm

	Notes for developers and Local Authorities
Which SuDS measures have been used?	SuDS can be adapted for most situations even where infiltration isn't feasible e.g. impermeable liners beneath some SuDS devices allows treatment but not infiltration. See CIRIA SuDS Manual C697.
Drainage system can contain in the 1 in 30 storm event without flooding	This a requirement for sewers for adoption & is good practice even where drainage system is not adopted.
Any flooding between the 1 in 30 & 1 in 100 plus climate change storm events will be safely contained on site.	Safely: not causing property flooding or posing a hazard to site users i.e. no deeper than 300mm on roads/footpaths. Flood waters must drain away at section 6 rates. Existing rates can be used where runoff volumes are not increased.
How are rates being restricted (hydrobrake etc)	Hydrobrakes to be used where rates are between 2l/s to 5l/s. Orifices may not work below 5l/s as the pipes may block. Pipes with flows < 2l/s are prone to blockage but this can be overcome with careful product selection and SuDS design.

Notes for developers and Local Authorities	
Please confirm the owners/adopters of the SuDS throughout the development. Please list all the owners.	If these are multiple owners then a drawing illustrating exactly what features will be within each owner's remit must be submitted with this Proforma.
How are the entire SuDS to be maintained?	If the features are to be maintained directly by the owners as stated in answer to the above question please answer yes to this question and submit the relevant maintenance schedule for each feature. If it is to be maintained by others than above please give details of each feature and the maintenance schedule. Clear details of the maintenance proposals of all element of the proposed drainage system must be provided. Poorly maintained drainage can lead to increased flooding problems in the future.

9. Evidence

Pro-forma Section	Document reference where details quoted above are taken from:	Page Number
2		
3		
4		
5		
6		
7		

<p>The above form should be completed using evidence from the Flood Risk Assessment where applicable, surface water drainage strategy and site plans. It should serve as a summary sheet of the drainage proposals and should clearly show that the proposed rate and volume as a result of development will not be increasing. If there is an increase in rate or volume, the rate or volume section should be completed to set out how the additional rate/volume is being dealt with.</p> <p>This form is completed using factual information from the Flood Risk Assessment and Site Plans and can be used as a summary of the surface water drainage strategy on this site.</p>	
	<p>Form completed by:</p>
<p>Qualification of person responsible for signing off this pro-forma:</p>	
<p>Company:</p>	
<p>On behalf of (Client's details):</p>	
<p>Date:</p>	

Glossary of terms

Awarded watercourse	Watercourses who's maintenance responsibility lies with the relevant local authority.
Aircrete blocks	Often known as aerated concrete blocks combining the reliability and strength of concrete blocks with the advantage of using lightweight blocks on site.
Annual exceedance probability (AEP)	AEP is the probability associated with a return period. Thus an event of return period 50 years has an AEP of 1/T or 0.02 (2%).
Aquatic ecosystems	Ecosystem within a body of water. Communities of organisms that depend on each other and their environment living in aquatic ecosystems. Two main types of aquatic ecosystem are marine ecosystems and freshwater ecosystems.
Base flow	The sustained flow in a channel or drainage system.
Bioretention	A depressed landscaping area that is allowed to collect run-off so it percolates through the soil below the area into an underdrain, thereby promoting pollutant removal.
Carbon sequestration	Process of capturing and long term storage of carbon dioxide from the atmosphere.
Catchment	The area contributing surface water flow to a point on a drainage or river system. Can be divided into sub-catchments.
Catchment Flood Management Plan (CFMP)	Catchment Flood Management Plans (CFMPs) are a large-scale strategic planning framework for the integrated management of flood risks to people and the developed and natural environment in a sustainable manner.
Combined Sewer	A sewer designed to carry foul sewage and surface water runoff in the same pipe.
Conveyance	Movement of water from one location to another.
Evapotranspiration	The process by which the Earth's surface or soil loses moisture by evaporation of water and by uptake and then transpiration from plants.
Exceedance flow	Excess flow that appears on the surface once the conveyance capacity of the drainage system is exceeded.
Exceedance flow route	Design and consideration of above-ground areas that act as pathways permitting water to run safely over land to minimise the adverse effect of flooding on people and property. This is required when the design capacity of the drainage system (SuDS or traditional drainage) has been exceeded.
Filtration	The act of removing sediment or other particles from a fluid by passing it through a filter.
Flood defence	A structure (or system of structures) for the alleviation of flooding from rivers or the sea.
Flood mechanism	A natural or established process by which flooding takes place or is brought about.

Flood risk	The level of flood risk is the product of the frequency or likelihood of the flood events and their potential consequences (such as loss, damage, harm, distress and disruption).
Floodplain	Any area of land over which water flows or is stored during a flood event or would flow but for the presence of flood defences
Fluvial	Landforms created by deposits from processes associated with rivers and streams.
Green infrastructure	Network of green open spaces that help to solve urban and climatic challenges by providing stormwater management, clean water, more biodiversity and healthy soils.
Groundwater	Water that is below the surface of the ground in the saturation zone.
Hardscape	The built environment including paved areas like streets, pavements, structures, walls, street amenities, pools and fountains.
Hydraulic model	A simplified representation of flow within a river system.
Hydromorphology	The subfield of hydrology that deals with the structure and evolution of the Earth's water resources. It also deals with the origins and dynamic morphology of those water resources.
Hydrological model	Estimates the flow in a river arising from a given amount of rainfall falling into the catchment.
Infiltration	The passage of surface water into the ground.
Main river	Main rivers are usually larger streams and rivers, though some of them are smaller watercourses of local significance. The main rivers are marked on an official document called the main river map. Copies of these maps can be located at the local offices of the Environment Agency.
Minor development	For the purposes of assessing flood risk, Minor Development is defined within the NPPG as follows: <ul style="list-style-type: none"> • minor non-residential extensions: industrial/commercial/leisure etc. extensions with a footprint less than 250 square metres. • alterations: development that does not increase the size of buildings e.g. alterations to external appearance. • householder development: For example; sheds, garages, games rooms etc. within the curtilage of the existing dwelling, in addition to physical extensions to the existing dwelling itself. This definition excludes any proposed development that would create a separate dwelling within the curtilage of the existing dwelling e.g. subdivision of houses into flats.
Non-potable water	Poor quality water that is not safe enough to be consumed by humans
Ordinary watercourses	All watercourses not designated as Main River or IDB watercourses. The operating authority (local authority or IDB) has permissive powers to maintain them but the responsibility to do so rests with the riparian owner.
Planning performance agreements	A planning performance agreement is a project management tool which sets timescales for actions between the LPA and an applicant.

Glossary of terms

Potable water	Water company/utility/authority drinking water supply.
Probability of occurrence	The probability of a flood event being met or exceeded in any one year. For example, a probability of 1 in 100 corresponds to a 1 per cent or 100:1 chance of an event occurring in any one year.
Residual risk	The remaining risks associated with the location of development and the mitigation actions needed to be taken after the sequential approach has been applied.
Raingarden	Planted depression that allows rainwater runoff from impervious urban areas like roofs, driveways, walkways, parking lots and compacted lawn areas to be absorbed.
Riparian owners	Landowners who have rights and responsibilities to maintain the flow of water in a channel.
Septic tank	Small scale sewage treatment system common in areas with no connection to main sewage pipes.
Sewage treatment work (STW)	Process of removing contaminants from wastewater including household sewage and runoff.
Standard of protection	The flood event return period above which significant damage and possible failure of the flood defences could occur.
Sustainable drainage systems (SuDS)	Sustainable Drainage Systems; an approach to surface water management that combines a sequence of management practices and control structures designed to drain surface water into a more sustainable fashion than some conventional techniques
Surface water flooding	Surface water flooding is the flooding that occurs from excess water that runs off across the surface of the land and does not come from a watercourse.
Swales	A shallow vegetated channel designed to conduct and retain water, but may also permit infiltration. The vegetation filters particulate matter.
Waste water treatment works (WwTW)	Installation to treat and make less toxic domestic and/or industrial effluent.

Acronyms

CCC	Cambridgeshire County Council
CCiC	Cambridge City Council
CSO	Combined Sewer Outfall
BAP	Biodiversity Action Plan
EA	Environment Agency
ECDC	East Cambridgeshire District Council
FDC	Fenland District Council
FRA	Flood Risk Assessment
HDC	Huntingdonshire District Council
IDB	Internal Drainage Boards
LLFA	Lead Local Flood Authority
LPA	Local Planning Authorities
NPPF	National Planning Policy Framework
PPA	Planning Performance Agreements
PPG	Planning Practice Guidance
RMA	Risk Management Authority
RSPB	Royal Society for the Protection of Birds
SCDC	South Cambridgeshire District Council
SFRA	Strategic Flood Risk Assessment
SPD	Supplementary Planning Document
SPZ	Source Protection Zones
SSSI	Site of Special Scientific Interest
STW	Sewage Treatment Works
SWMP	Surface Water Management Plan
SuDS	Sustainable Drainage System
WCS	Water Cycle Study
WFD	Water Framework Directive
WwTW	Waste Water Treatment Works
WRZ	Water Resource Zone

Cambridge City Council, East Cambridgeshire District Council, Fenland District Council, Huntingdonshire District Council and South Cambridgeshire District Council

Cambridgeshire Flood and Water Supplementary Planning Document

Consultation Statement

1. Introduction

- 1.1. The Town and Country Planning (Local Planning) (England) Regulations 2012 require a local planning authority to consult the public and stakeholders before adopting a Supplementary Planning Document (SPD). Regulation 12(a) requires a statement to be prepared setting out who has been consulted while preparing the SPD; a summary of the main issues raised; and how these issues have been addressed in the SPD.
- 1.2. This statement sets out details of the consultation which has informed the preparation of the SPD.
- 1.3. The Cambridgeshire Flood and Water SPD has been prepared to provide guidance on the implementation of flood and water related planning policies contained within the draft or adopted Local Plans of Cambridge City Council, East Cambridgeshire District Council, Fenland District Council, Huntingdonshire District Council and South Cambridgeshire District Council. Such policies address matters of flood risk, including use of Sustainable Drainage Systems (SuDS), water quality and water resources.
- 1.4. The SPD has been prepared to provide further guidance on flood risk and water management matters to support the policies in the local plans. It will assist developers, householders and landowners in preparing planning applications for submission to the local planning authority and will also help the Councils in determining relevant planning applications.

2. Consultation Undertaken

- 2.1. The SPD has been prepared by the Local Planning Authorities within Cambridgeshire, Environment Agency, Anglian Water and Internal Drainage Boards. A steering group was set up with representatives from each of these organisations.
- 2.2. Formal public consultation on the SPD was undertaken from 4 September 2015 until 16 October 2015. The draft Flood and Water SPD and supporting documents (Equalities Impact Assessment, Strategic Environmental Assessment (SEA) Screening Statement, and Consultation Statement) were made available on each of the Councils website, and comments could be made online using Huntingdonshire District Council's consultation system (<http://consult.huntingdonshire.gov.uk/portal/pp/spd/fw>).

- 2.3. A total of 149 representations were received on the draft SPD, and the breakdown was as follows:
- 14 support
 - 16 object
 - 119 observations
- 2.4. The SPD consultation was publicised in the different Cambridgeshire local newspapers after a press release was sent out by the County Council prior the consultation. A public notice in the form of a poster was included in the Cambridge News on 4 September 2015.

3. Issues Raised During the Production Stage of the Draft SPD

- 3.1. Comments made by members of the Steering Group were generally supportive, with more focused comments being given on particular sections of the draft SPD.
- 3.2. The Internal Drainage Boards (IDBs), in particular the Middle Level Commissioners, made detailed comments in respect of Chapter 6 (Surface Water and SuDS chapter), focusing on the management of surface water into the IDBs drains.
- 3.3. The Environment Agency and the local planning authorities also made substantial comments regarding the challenges presented within chapter 6, but focused mainly on ensuring that Chapter 4 regarding the Sequential and Exception tests were precise, and provide the right level of guidance for both applicants and the local planning authority.
- 3.4. The Steering Group also made substantial changes to Chapter 7 to make it more concise.
- 3.5. In response to further comments by the Steering Group, it was agreed to revise the length and number of appendices forming the SPD. Some of the detail was considered irrelevant and unnecessary, and did not add to the purpose of the document.

4. Issues Raised During the Public Consultation

- 4.1. The following issues were raised as part of the public consultation:
- Make the document as user friendly as possible;
 - Better quality document in terms of design and clarity of images and graphs;
 - Acknowledgment of the differences in landscapes and typography across the county (city to fen) should be made. Often it is perceived that SuDS cannot be used in fen areas; however this is not the case and therefore a paragraph relating to this should be added;

- Clarification of the role of Internal Drainage Boards;
 - Strengthen the document to ensure the maximum benefit of any SuDS schemes, for wildlife and people;
 - Include a statement that acknowledges that the Water Framework Directive categorizes water bodies into natural or heavily modified/artificial, which in turn directs the appropriate course of action of ecological status or ecological potential;
 - Further clarity regarding the requirement for developers to provide evidence in relation to the sequential test and this should be more explicit within the document;
 - Provide more information on the likely impacts on the Historic Environment;
 - Emphasis on the need to design biodiversity into the SuDS so these can function in the future to manage flood risk, and hence avoid unnecessary conflict over maintenance and the risk of disturbing protected species;
 - Importance of more trees and woodlands in and around our towns and cities where they can safeguard clean water, help manage flood risk or improve biodiversity.
- 4.2. Annex B records all comments received during the public consultation, together with the Councils' assessment of them, and where appropriate any changes that have been made to the SPD.

5. Issues Raised After the Public Consultation by the Steering Group

- 5.1. Detailed discussions were undertaken with each of the IDBs after the public consultation in the process of considering the comments made, and changes have been made to the SPD to show a better understanding of the Fen areas and IDB requirements.
- 5.2. Managing the conflicts between what works in City and what works in the Fens.
- 5.3. A further change was made to the Sequential Test as set out in Chapter 4 in response to a recent appeal decision which was material to the SPD.

Annex A: List of Organisations Consulted on the Draft Flood and Water SPD

191 Parish Council across Cambridgeshire	AMEC E&I UK for National Grid
2 The Drawing Board	Amec Plc
A2 Dominion Housing Group	Andrew Firebrace Partnership
Abbey Properties (Cambs) Ltd	Andrew Fleet
Abbeygate Properties	Andrew Martin Associates
Abel Energy	Andrew S Campbell Associates Ltd
Accent Nene Housing Society Limited	Anfoss Ltd
Acorus RPS	Anglia Building Consultancy
Addenbrookes NHS Foundation Trust	Anglia Building Surveyors
Adlington	Anglia Design LLP
Admiral Homespace	Anglia First
Aecom	Anglian (Central) Regional Flood and Coastal Committee
AFA Associates Specialist Planning Services	Anglian Home Improvements
Affinity Water	Anglian Ruskin University
Age Concern Cambridgeshire	Anglian Water Services Limited
Age UK Cambridgeshire	Annington Homes
AH Building Design	Appletree Homes Ltd
Aldwyck Housing Association	Archade Architects
Alexanders	Architectural & Surveying Services Ltd
Alison Withers	Architectural Design Services
Alium Design Ltd	Architectural Services
Alliance Planning	Architecture & Building Design
Allsop	Art Architecture Ltd
Alsop Verrill Town Planning and Development	Ashworth Parkes Associates
Altodale Limited	Atkins
Alun Design Consultancy	ATP Group
	Authorised Design Ltd

Axiom Housing Association
Ayres
Barford & Co
Barker Storey Matthews
Barratt Eastern Counties
Barton Wilmore Planning
Beam Estates
Beam Estates Ltd
Beacon Planning
Bedford Borough Council
Bedfordshire Pilgrims Housing Association
Bellway Homes
Ben Pulford Architect Ltd
Bendall and Sons Solicitors
Berkeley Group Holdings Plc
Bewick Homes Ltd
BGG Associates Ltd
Bidwells
Bidwells Property Consultants
Bird & Tyler
Birketts LLP
Bloombridge Development Partners
Bloor Homes
Bloor Homes South Midlands
Blue Tree Specific Skills
BMD Architects
Bond Chartered Architects
Borough Council of Kings Lynn & West Norfolk
Bovis Homes Ltd

Bramley Line Heritage Railway Trust
Braintree District Council
Brampton Bridleway Group
Brampton Little Theatre
Brampton Park Theatre Co
Brampton Youth Forum
Brand Associates
Breathe Architecture Ltd
Brian Barber Associates
British Horse Society
British Marine Federation
British Wind Energy Association
Broadview Energy Ltd
Brookgate
Brown & Co
Brown & Scarlett Architects
BRP Architects
BS Initiative
BS Services
Buckden Marina
Buckles Solicitors
Building Research Establishment
Burgess Group PLC
Caldecotte Consultants
Cam Valley Forum
Camal Architects
Cambourne Crier
Cambria Project Management Ltd
Cambridge and County Developments (formerly Cambridge Housing Society)

Cambridge Biomedical Campus
Cambridge Cleantech Limited
Cambridge Council for Voluntary Service
Cambridge Ethnic Community Forum
Cambridge Forum of Disabled People
Cambridge GET Group
Cambridge Housing Society
Cambridge Inter-Faith Group
Cambridge Past Present and Future
Cambridge Piped Services Limited
Cambridge Sub-Regional Housing Board
Cambridge University Hospitals NHS Foundation Trust
Cambridge Water
Cambridgeshire & Peterborough Association of Local Councils
Cambridgeshire & Peterborough Environmental Records Centre
Cambridgeshire & Peterborough NHS Foundation Trust
Cambridgeshire ACRE
Cambridgeshire Bat Group
Cambridgeshire Chamber of Commerce
Cambridgeshire Constabulary
Cambridgeshire Diversity and Equality Service
Cambridgeshire Ecumenical Council
Cambridgeshire Fire and Rescue
Cambridgeshire Fire & Rescue Service
Cambridgeshire Local Access Forum

Cambridgeshire Older Peoples Enterprise
Cambridgeshire Police Authority
Cambridgeshire Race Equality and Diversity Service
Cambridgeshire Travellers Initiative
Cambridgeshire Wildlife Trust
Cambs Homes Improvement Agency
Cambs LTA
Cam-Mind
Campaign for Real Ale
Campaign for Real Ale (Huntingdonshire branch)
Campaign to Protect Rural England (CPRE)
Camstead Homes
Cannon Kirk UK Ltd
Cantab Design Ltd
Care Network Cambridgeshire
Carlton cum Willingham
Carter Jonas
CB Design
CE Building Designs
CeGe Design
Central Association of Agricultural Valuers
Central Beds Council
Centre for Sustainable Construction
CgMS Consulting
Chase Construction
Chancellor, Masters and Scholars of the Univ. of Cambridge

Chatteris Town Council	Conservators of the River Cam
Cheffins	Construct Reason Ltd
Chesterton Parish Meeting	Contour Planning Services Ltd
Chorlton Planning Ltd	Coppice Avenue Residents Association
Churches Together	Corpus Christi Group
Churchgate Property	Cotton Windfarm Action Group
Circle Anglia Housing Trust	Council for British Archaeology
Circle Housing Group	Councillors – Cambridgeshire County Council
Cirrus Planning & Development	Councillors – Cambridge City Council
City of Ely Council	Councillors – East Cambridgeshire District Council
City of Providence	Councillors – Fenland District Council
Civic Society of St Ives	Councillors – Huntingdonshire District Council
Civic Trust	Councillors – South Cambridgeshire District Council
Clark-Drain	Country Land and Business Association
Classic Design Partnership	Countryside Properties (Special Projects) Ltd
Cluttons LLP	Countryside Properties Plc
Cocksedge Building Contractors	CPRE
CODE Development Planners Ltd	CPRE Cambridgeshire
Coldham Residents Action Group	Cromwell Park Primary School
Colin Smith Planning	Cross Keys Homes
Colliers CRE	Croudace
Commercial Estates Group	Cruso & Wilkin
Commissions East	CS Planning Ltd
Common Barn [Southoe] Action Group	Cyclists Touring Club for Huntingdonshire
Concorde BGW Ltd	Dalkin Scotton Partnership Ltd
Connecting Cambridgeshire	
Connington Parish Meeting	
Connolly Homes plc	
Confederation of British Industry - East of England	

David Broker Design Services	DGM Properties Ltd
David lightfoot Design	Dickens Watts and Dade
David Lock Associates (on behalf of O&H Properties)	Diocese of Ely
David Russell Associates	Disability Cambridgeshire
David Shaw Planning	Disability Information Service Huntingdonshire
David Taylor Associates (UK) Ltd	Distinct Designs UK Ltd
David Walker Chartered Surveyors	DLP Consultants Ltd
David Wilson Homes and Kler Developments Ltd	DLP Planning Ltd
Dawbarn and Sons Ltd	DPA Architects
DC Blaney Associates Ltd	DPDS Consulting Group
DCN Architectural Design Services	Drake Towage Ltd
Dean Jay Pearce Architectural Design	DTZ
Defence Estates (MoD)	E & P Building Design
Defence Estates Operations	E.ON UK
Defence Estates Operations North	Eagle Home Interiors
Defence Infrastructure Organisation	Earith Plant Ltd
Defence Lands Ops North	Earith Primary School
Delamore	Earith Timber Products Ltd
Denley Draughting Ltd	East Northamptonshire District Council
Denton and Caldecote Parish Meeting	East of England Black and Minority Ethnic Network
Department of Environment, Food and Rural Affairs	East of England Strategic Health Authority
Derbyshire Gypsy Liaison Group	Ecoexcel Ltd
Design & Planning	ECS Ltd
Design ID	Elmside Ltd
Dev Plan UK	Ely Design Group
Development Land and Planning Consultants	Ely Diocese/HS&P
DGA Architecture	Ely Group of Internal Drainage Boards
	Empowering Wind Group

Energiekontor UK Ltd	FOB Design
Engena Ltd	Ford and Slater
Engineering Support Practice Ltd	Forest Heath District Council
English Brothers Ltd	Forestry Commission
Entec on behalf of National Grid	Foster Property Developments Ltd
Environment Agency	Fountain Foods
ESCA Eatons Community Association	Foxley Tagg Planning Ltd
Essex County Council	Framptons
Estover Playing Field Association	Francis Johnson & Partners
Eversheds LLP	Francis Jackson Estates Ltd
Evolvegroup Ltd	Freeland Rees Roberts
FACT	Freeman Brear Architects
Fairhurst	Freight Transport Association
Farcet Farms	Friends Families Travellers
Farcet Nurseries	Friends of the Earth
Federation of Small Businesses	Friends of Hinchingsbrooke Park
Fen Ditching Company	Friends of Holt Island Nature Reserve
Fenland Chamber of Commerce	Friends of Paxton Pits Nature Reserve
Fenland Citizen	Friends of Priory Park
Fenland Citizen Advice Bureau	Friends of the Earth
Fenland Leisure Products Ltd	FSB Huntingdonshire
Fenpower/Ecogen	Fuse 3
Fenstanton Village Hall Trust	Fusion On-Line Limited
FFT Planning	G K Partnership
Fields In Trust	G1 Architects
First Capital Connect	G.H. Taylor Design
Firstplan	G.R.Merchant Ltd
Fisher Parkinson Trust	Gallagher Estates Ltd
Fitch Butterfield Associates	Galliford Try Strategic Land
Flagship Housing Group	GamPlan Associates

Gary John Architects
Gatehouse Estates
Gavin Langford Architects Ltd
GC Planning Partnership
GCE Hire Fleet Ltd
Gerald Eve
Geo Networks Limited
Geoff Beel Consultancy
Geoffrey Collings and Company
George Laurel & Partners
Gillespies Ltd
GL Hearn
Gladman Developments Ltd
GML Architects Ltd
Godmanchester in Bloom
Godmanchester Rovers Youth Football Club
Godmanchester Town Council
Good-Designing Ltd
Gooding Holdings Ltd
Goose Architects Ltd
Govia plc
Govia Thameslink Railway
Graham Handley Architects
Grahame Seaton Design Ltd
Granta Housing Society
Great Ouse AONB Working Group
Great Ouse Boating Association
Great Shelford Parochial Charities

Greater Cambridge Greater Peterborough Local Enterprise Partnership
Greater Cambridgeshire Local Nature Partnership
Greater London Authority
Green Power Solutions UK Ltd
Greg Saberton Design
Gregory Gray Associates
Grosvenor USS
Gs Designs
Guinness Trust
GVA
H L Hutchinson Ltd
Haddenham BDC
Haddon Parish Meeting
Hallam Land Management
Hallmark Power Ltd
Hamerton and Steeple Gidding Parish Meeting
Hanover Housing Association
Hargrave Conservation Society
Harlequin Ltd
Harris Lamb Chartered Surveyors
Harris Partnership
Hartford Conservation Group
Hartford Marina
Hastoe Housing Association
Haysom Ward Miller Architects
Heaton Planning Ltd
Hemingford Abbots Golf Club

Henry H Bletsoe & Son	Huntingdon Timber
Hertfordshire County Council	Huntingdon Town Council
Hewitsons	Huntingdon Youth Town Council
HFT Gough & Co	Hunts Cricket Board
Highways England	Hunts Health - Local Commissioning Group
Hill	Hunts Forum for Voluntary Organisations
Hill Construction	Hunts Society for the Blind
Hinchingbrooke Health Care NHS Trust	Hutchinsons
Hinchingbrooke Water Tower Ltd & Landro Ltd	Hutchinsons Planning and Development Consultants
Historic England	Hyde Housing
Hobson's Conduit Trust	Ian H Bix Associates Ltd
Hodplan Ltd	ICE Renewables
Hodsons	Iceni Homes
Hollins Architects, Surveyors and Planning Consultants	Iceni Projects Ltd
Home Builders Federation	In-site Design
Homes & Communities Agency	Inigo Architecture
Houghton and Wyton Neighbourhood Plan Working Party	Indigo Planning Limited
Housing 21	Infinity Architects
Howard Sharp and Partners	Insight Town Planning
HPN Ltd	Iplan Ltd
HTA	Institute of Directors - Eastern Branch
Humberts	Irish Travellers Movement in Britain
Hundred Houses Society	ISOFAST
Huntingdon and Godmanchester Civic Society	Ivy House Trust
Huntingdon CAB	J & J Design on behalf of Chatteris Airfield
Huntingdon Freeman's Charity	J & J Design on behalf of Defence Estates
Huntingdon Mencap	J Brown and Sons

James Development Co Ltd
James England Ltd
James Mann Architectural Services
Januarys
Januarys Consultant Surveyors
Jehovah's Witnesses
Jephson Housing Association Group
John Martin & Associates
John Stebbing Architects
Johnson Design Practice
Joint Strategic Planning Unit
JK Architecture
John Rowan & Partners
Jones Day Solicitors
Jones Developments Ltd
JRK & Partners Ltd
JS Bloor Services Ltd
K L Elener Architectural Design
Kevin Burton MCIAT
Kier Group plc
Kier Partnership Homes Limited
Kier Residential (part of Twigden)
Kimbolton School
King Street Housing Society
Kinnaird Hill
KWA Architects Ltd
L Bevens Associates Ltd
Lafarge Aggregates & Concrete UK
Lakeside Lodge Golf Centre

Lambert Smith Hampton Property Solutions
Lancashire Industrial & Commercial Services
Landmark Landscape Planning
Landro Ltd
Landscape Institute
Langley Associates
LANPRO SERVICES
Larkfleet Homes
Laurence Gould Partnerships Limited
Leach Homes
Les Stephan Planning
Lewvel
Lewis & Hickey
Lidl UK
Lightfoot Design
Linden Homes
Linconshire County Council
Living Sport
Local Generation Ltd
Local Nature Partnership
London Gypsy and Traveller Unit
Longhurst & Havelok Homes Ltd
Longsands Academy
Loves Farm Community Association
Luminus Group
Lynwood Associates Ltd
Lyster Grillet & Harding
M R Designs
M T Consulting

Mair & Sons (Farmers) Ltd	Molesworth Action Group
March Chamber of Commerce	Morbone Parish Meeting
March Town Council	Morton & Hall Consulting Ltd
Marine Management Organisation	Mosscliff Environmental Ltd
Mark Reeves Architects	MP North West Cambridgeshire
Marlborough Properties UK Ltd	MRPP
Marshalls of Cambridge	Mrs P Wilderspin
Mart Barrass Architect Ltd	Muir Housing Group
Martineau	Murray Planning Associates Ltd
Matrix Planning Ltd.	N & C Glass Ltd
Maxey Grounds & Co	National Farmers Union
Maxey Grounds LLP	National Federation of Gypsy Liaison Groups
Mayfair Investments	National Grid
McCann Homes	National House Building Council
Melbourn Dental Practice	National Housing Federation
Melbourn Housing Development Awareness Campaign	National Trust
Melling Ridgeway & Partners	Natural England
Meridian	NDC Architects Ltd
Meridian Architectural LLP	Neale Associates
Michael Bullivant Associates	Neil Cutforth & Associates
Michael Ingham Associates	Nene Valley Gliding Club
Middle Level Commissioners	Nene Valley Nature Improvement Area
Mike Hastings Building Design	Network Rail
Mike Sibthorp Planning	New Homes
Miller Homes	New World Architectural
Milton (Peterborough) Estates Co	NHS Cambridgeshire and Peterborough
Minster Housing Association	NHS England (Midlands & East)
MLT Architects	NHS Property Services
Mobile Operators Association	NKW Design

NJL Consulting
Nobles Field Committee
Noble's Field Trust Committee
Norfolk County Council
Norfolk Street Traders
Norman Cross Action Group
North Hertfordshire District Council
North Northamptonshire Joint Planning Unit
Northamptonshire County Council
Northern Trust
Notcutts Limited
NRAP Architects
Nupremis
MWS Design
N'worth Hous.Consort
Office of Rail and Road
Oglesby & Limb Ltd
Oliver Russell Property Consultants
Omega Signs Ltd
Once Architecture Ltd
Optical Activity Ltd
Orchard Park Community Council
Ormiston Children's and Family Trust
Ove Arup & Partners
Over and Willingham Internal Drainage Board
Oxmoor in Bloom
P Grisbrook Building Design Service
Papworth Hospital NHS Foundation Trust

Papworth St Agnes Parish Meeting
Paradigm Housing Group
Parkin Planning Services
Parson Drove Amenities Group 95
Partners in Planning & Architecture Ltd
Paul & Company
Paul Mitchell & Co
Paul Owen Associates
PDE Construction Ltd
PDG Architects
Peacock & Smith
Pegasus Planning
Pegasus Planning Group
Pendimo
Persimmon Homes (East Midlands) Ltd
Peterborough City Council
Peterborough Environment City Trust
Peter Brett Associates
Peter Cutmore Architect
Peter Humphrey Associates
Peter Rawlings Architects Ltd
Peter Smith Associates
Phase 2 Planning & Development Ltd
Philip Bailey Architects Ltd
Phillips Planning Services Ltd
Pick Everard
Pidley Cum Fenton PC
Plainview Planning Ltd
Plan B Drawing Service

Planning Aid	Raymond Stemp Associates
Planning Places for People	RB Organic
Planning Potential	Redmayne Arnold & Harris
PlanSurv Ltd	Redrow Homes (South Midlands) Ltd
Planware Ltd	Renewables East
PMA	RES UK and Ireland Ltd
Pocock & Shaw	Residential
Poors Allotments Charities	Residential Development Land Agent Ltd
Poppyfields Investments	RFU
Powis-Hughes	RHH Associates Ltd
Premier Choice Ltd	Richard Brown Planning
Prime Oak Buildings Ltd	Richard Raper Planning Ltd
Property Revolutions Ltd	Richmond Fellowship Employment and Training
Preserving Upwood	Robert Doughty Consultancy
Project Support Services	Robinson & Hall LLP
Purcell UK	Robinson and Hall
R B Organic	Roddons Housing Association
Quay Plumbing Centre	Roger Driver Partnership
Railfuture East Anglia	Roger Tym and Partners
Ramblers' Association [Cambridge Group]	Rose Homes Ltd
Ramblers/Local Access Forum	Rotary Club of Wisbech
Ramboll UK	Royal Air Force
Ramsey Club Co Ltd	Royal Society for the Protection of Birds (RSPB)
Ramsey Estate	Roythorne and Co
Ramsey Fourth (Middlemoor) IDB	RPS Planning
Ramsey Million	Rutland County Council
Ramsey Town Centre Partnership	S B Components (International) Ltd
Rapleys Planning Consultants	Sampson Associates
RAVE	

Santon Retail Ltd	Sports and Fashions
Sanctuary Housing Association	Solo Designs
Saunders Boston Ltd	South Holland District Council
Savills	South Kesteven District Council
Savills Incorporating Smiths Gore	Springfields Planning & Development
Selling Solutions Cambridge Ltd	SSA Planning
Scotfield Ltd	St Edmundsbury Borough Council
SEARCH Architects	St Ives Chamber of Commerce and Industry
Seagate Homes	St Ives Town Initiative
Sentry Ltd	St Ives Town Team
Sharman Architecture	St Ivo School
SHED	St John's College
Shelter	St Neots and District Chamber of Commerce
Shrimplin Brown Planning & Development	St Neots Town Centre Manager
Showmen's Guild of Great Britain	St Neots Town Council
Signet Design	St Neots Youth Town Council
Skanska UK Plc	Stecen Abbott Associates
Ski Property Management	Stewart Ross Associates
Simon J Wilson Architect	Stilton Community Association
Smart Planning Ltd	Stop Molesworth Wind Farm Action Group
Smarter Planning Champion	Strawsons Holdings Ltd
Smith Farrer Holdings	Strutt and Parker LLP
Smiths Gore	Studio 11 Architecture
Soham Town Council	Suffolk County Council
Somersham and District Day Centre	Sustrans
South Cambridgeshire Youth Council	Swann Edwards Architects
Spacelab	Swavesey District Bridleways Association
Sport England	
Sport England (East Region)	

Swavesey Internal Drainage Board
T A M Engineering
T C Harrison Ford
Tadlow Parish Meeting
Taylor Vinters - Solicitors
Taylor Wimpey
TCI Renewables Ltd
TCS Design
TE&AS
Technical Signs
Terence O'Rourke Ltd
Terry Stoodley Partnership
The Abbey Group Cambridgeshire Ltd
The British Wind Energy Association
The Bursars Committee
The Cambridge Conservatory Centre Ltd
The Cambridgeshire Cottage Housing Society
The Card Gallery
The Civic Society of St Ives
The Church of England Ely Diocese
The Churches Conservation Trust
The Clarke Smith Partnership
The Coal Authority
The Crown Estate
The Design Partnership (Ely) Ltd
The Ely Planning Company
The Environment Agency
The Environmental Protection Group Ltd

The Equality and Human Rights Commission
The Fairfield Partnership
The Fisher Parkinson Trust Ltd
The Foyer
The Garden Office Company
The Gypsy Council (GCECWCR)
The Inland Waterways Association
The Landmark Practice
The Landscape Partnership
The National Federation of Gypsy Liaison Groups
The National Trust (East of England Office)
The Papworth Trust
The Planning Law Practice
The Redhouse Trust
The Robert Partnership
The Showmen's Guild of Great Britain
The Solar Cloth Company Limited
The Theatres Trust
The Traveller Movement
The Varrier Jones Foundation
The Wellcome Trust
The Whitworth Co-Partnership
The Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire
The Woodland Trust - Public Affairs
Thornburrow Thompson Ltd
Thurlow Nunn Standen Ltd
Tibbalds Planning and Urban Design

Tibbet Architectural Services	Visual Creations
Tim Marshall Design	W A Fairhurst & Partners
Tim Moll Architecture	Wagstaffe & Ablett
Timothy Smith & Jonathan Taylor LLP	Warboys Sports Ground Trust
Tingdene Developments Ltd	Ward Gethin Archer
TNEI Services Ltd	Wardell Armstrong LLP
Tony Walton Design	Warden Housing Association Ltd
Town Planning Services	Warren Boyes & Archer Solicitors
Traer Clark Chartered Architects	Wellsfield Associates
Travel for Cambridgeshire	Wenman Design Solutions Ltd
Traveller Law Reform Project	West End Preservation Society
Travellers Times Online	Westbury Garden Rooms Ltd
Travis Perkins	White and Eddy
Truckmasters Ltd	White Young Green
Trumpington Residents Association	Whiting & Partners
Turner Contracting	Whittlesey & District Tenants' Association
Twitchett Architects	Whittlesey Town Council
UK Power Networks	Whittome Farms
University of Cambridge Estate Management and Building Service	Wildfowl and Wetlands Trust Centre
University of Cambridge - Vice Chancellor's Office	William H Brown
Urban and Civic	Wind Direct
Uttlesford District Council	Wind Energy Direct Ltd
V G Energy	Wind Prospect Developments
Various Leverington Groups	Windcrop Ltd
Vawser and Co	WindEco Ltd
Vergettes	Winwick Parish Meeting
Verity & Beverley Ltd	WisARD
Vincent and Gorbing Chartered Town Planners	Wisbech and District Chamber of Commerce
	Wisbech Chamber of Commerce

Wisbech Electrical
Wisbech Roadways
Wisbech Round Table
Wisbech Town Council
Wm Morrison Supermarkets plc
Wood Hardwick Ltd
Woodard Builders & Developers
Woodland Trust
Woods Hardwick Planning Ltd
Woolley Hill Action Group
Workshop 76 Ltd
Wynnstay Properties
WYG
Wythe Holland Partnership LLP
XCellId Ltd- Renewable Energy
Yaxley Ammenity Centre
York Green Renewables

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Consultee Name	Chapter or Para No.	Comment ID	Support/ Observations / Object	Comment	Councils' assessment	Action
Overall Document						
Dr Roger Sewell	Overall doc	F+W SPD:3	Support	I thought this was a good and carefully written document which I support.	Support noted	No change
Mrs Hattie Emerson	Overall doc	F+W SPD:7	Support	I stongly agree that SuDs should be conisdered by developers and adopted where appropriate for flood attenuation. This should also be rigorously enforced	Support noted	No change
Mr Brian Williams	Overall doc	F+W SPD:8	Have observations	<p>I have an issue I would like to be considered.</p> <p>Around the junction of Bannold rd and Bannold Drove Waterbeach near Mid Load Farm 2/3 times per year after heavy rains we experience effluent backing up the sewer drain into the gardens and surrounding a dozen or so properties.</p> <p>We are concerned that Aglian Water and the Planning Authority do not take any account of the invasion of surface water into the sewer when they calculate the capacity of the sewer. Our great concern is that around 300 houses are to be built in the area and Aglian Water will respond to the question of capacity solely on the estimate of foul water entering the drain despite their knowledge of the sewer being overwhelmed by surface water on a regular basis.</p> <p>I would like the document to reflect the fact of non sustainability and be rectified by increasing capacity or restricting surface water from the foul drain before any additional housing is connected.</p>	This is acknowledged; however the issue is out of the scope of the SPD	No change

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Parish Clerk Burwell Parish Council	Overall doc	F+W SPD:17	Have observations	Burwell Parish Council is concerned that with lack of maintenance and dredging of the Burwell Lode, that flood issues could arise in Burwell in future years	This is acknowledged; however the issue is out of the scope of the SPD	No change
Mr Michael Wollaston	Overall doc	F+W SPD:18	Have observations	<p>The Suds in principal can only work when all other contributing factors are considered . The example I will give is land to the north of Whittlesey . This area of land is adjacent to a functional floodplain . Flood zone 3(b) , Whittlesey washes .</p> <p>Despite not being an area of land identified in the local plan , two sites still managed to get approval via the windfall loop hole which is being exploited by developers . The areas that have been earmarked for development need to have robust drainage systems incorporated to mitigate against flood lock , which can last for weeks and sometimes months .</p> <p>overland flow routes for surface water , to and from existing dwellings and infra structure should be included In all sud designs and include capture and hence additional capacity .</p> <p>Sud viability should take into consideration existing soil structure pre -development . placing suds on secondary aquifers with fluctuating water bodies dependant on rainfall inundation , has the potential to increase flood risk elsewhere , putting suds on Mudstone overlaine by March gravels at various levels needs careful consideration in the design process as this has the potential</p>	This is acknowledged; however the issue is out of the scope of the SPD. It should be noted that the consideration of site conditions and SuDS suitability is covered in Section 6.2 of this SPD.	No change

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				<p>to create spring points . This would go against the NPPF and NPG for flood risk For both pluvial and fluvial flooding .</p> <p>In summary Developing land on and adjacent to the north of Whittlesey adjacent to Whittlesey washes is not a viable option , due to the lifetime sustainability of the Suds which Cannot be guaranteed .Both existing and new residents need to be safeguarded from flooding from ALL SOURCES.</p>		
Mr Andy Brand The Abbey Group Cambridgeshire Ltd	Overall doc	F+W SPD:28	Have observations	The images used within the document are not clear and often distorted.	This is agreed and relates to the space available on the host website for the draft SPD. Full resolution images are to be used for final document.	Full resolution images/plans added to final SPD
Mr Richard Whelan	Overall doc	F+W SPD:39	Have observations	<p>The document does not seem to be conducive to encouraging developers compliance with changes in recent legislation, it seems rather cumbersome in places and would be quite an animal to tackle for anyone who may have to deal with more than one authority.</p> <p>Document appears to focus on the requirements of the MLC more than those of all water level management bodies/ Internal Drainage Boards.</p> <p>Would definitely support a document that can be adopted across the whole of the county area and have buy in of all planning authorities</p> <p>Some of the document appears to be rather</p>	<p>Several comments relating to cumbersome nature of document have been received as part of consultation; however content and length were agreed by the steering group prior to publication of the draft. Chapter 4 which received most comments needs to be rearranged to enhance readability.</p> <p>It is a fair comment that Middle Level Commissioners (MLC) have far more IDB specific information contained within the SPD than other IDBs and much of it is indeed relevant to all IDBs. References to MLC requirements that also relate to other IDBs should be replaced with</p>	<p>Chapter 4 rearranged to make it more reader friendly. Agreed by steering group</p> <p>Step 4 of Section 4.3 reworded from '<i>meets the criteria of the Middle Level Commissioners</i>' to '<i>may have an impact on an IDBs system</i>'.</p> <p>Document amended so titles are on new pages and boxes/tables amended to fit on one page wherever possible</p>

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Consultee Name	Chapter or Para No.	Comment ID	Support/ Observations / Object	Comment	Councils' assessment	Action
				<p>wordy and overly complicated, would be concerned over how easy it would be to navigate and pick out the areas that are needed, for example chapter 4 could be easier to follow and the wording for step 6 (a) on page 31</p> <p>Make it more visually appealing to have titles starting new pages and boxes on one page where possible, e.g 4.6 and the blue box for step 4 spans two pages</p>	<p>general IDB requirements.</p> <p>As MLC is also a navigation authority, some references that single out MLC have to remain as they are slightly different to other IDBs in this respect.</p> <p>Acknowledged that some tables and their associated text have split between pages; this should amended for final draft</p>	
Mr George Dann King's Lynn Drainage Board	Overall doc	F+W SPD:112	Have observations	<p>While generally a good document, and certainly a significant step in the right direction, along with various spelling and grammar issues at points throughout the document, I'd wish to note a few other issues which I feel merit amendment prior to publication of the final version. Section numbers refer to those in your draft SPD.</p>	Acknowledged and a full spelling/grammar check should be undertaken prior to publication of final version	Spelling/grammar check undertaken
Allan Simpson Anglian Water Services Ltd	Overall doc	F+W SPD:126	Support	<p><u>Para 3.2.20</u></p> <p>The final sentence of this paragraph states that it is responsibility of applicants to consult relevant WMAs.</p> <p>It is unclear what is intended as the Local Planning Authority (LPA) is responsible for consulting statutory and non-statutory consultees as part of the planning application process. Applicants should be encourage to consult relevant bodies including Anglian Water as part of the pre-application process. It would also be helpful if it was made clear that LPAs are required</p>	<p>Acknowledged – this should be made clearer in the final document. As part of the planning consultation process it is the responsibility of the LPAs to consult statutory consultees and not the applicant. Pre-application discussions are however always encouraged.</p>	<p>Amend paragraph 3.2.20 to, '<i>The LPA will consult the relevant statutory consultees as part of the planning application assessment and they may, in some cases also contact non-statutory consultees (e.g. Anglian Water or IDBs) that have an interest in the planning application</i>'</p> <p>Due to other alterations throughout the document this is now paragraph 3.2.22</p>

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Consultee Name	Chapter or Para No.	Comment ID	Support/ Observations / Object	Comment	Councils' assessment	Action
				to consult statutory consultees as but they also consult relevant bodies including Anglian Water who have interest in a planning application and managing flood risk.		
Scott Hardy RSPB	Overall doc	F+W SPD:134	Have observations	<p>Thank you for providing the RSPB with the opportunity to comment on the above consultation. The RSPB is supportive of the overall objective of the Cambridgeshire Flood and Water Supplementary Planning Document (SPD) and its role in supporting sustainable policies for managing increased flood risk in Cambridgeshire. However, there are areas that we consider the document should be strengthened to ensure the maximum benefit of any SuDS schemes, for wildlife and people, will be delivered. Our recommendations are detailed below.</p> <p>1. RSPB concerns regarding Cambridgeshire watercourses</p> <p>The RSPB has serious concerns about the current impact of flooding and poor water management on wildlife within Cambridgeshire. For example, the Ouse Washes since the 1970s has seen increased incidence and severity of late spring/summer flooding, longer deeper winter flooding, and poor water quality resulting in demonstrable ecological deterioration. Our key interest in the Flood and Water SPD relates to its role in ensuring new developments do not pose a risk to protected sites designated for their national and international importance for</p>	Support acknowledged.	<p>Added additional section titled 'Design for Wildlife and Biodiversity' (6.3.30 – 6.3.32).</p> <p>6.3.30 SuDS can provide the ideal opportunity to bring urban wetlands and other wildlife-friendly green spaces into towns and cities. They can be linked with existing habitats to create blue and green corridors whilst providing an amenity and education resource for the community.</p> <p>6.3.31 Where possible, existing habitats should be retained and incorporated into the landscape design. SuDS features are likely to have greater species diversity if existing habitats are within dispersal distance for plants, invertebrates and amphibians. It should however be noted that existing wetlands should not be incorporated into SuDS unless there is a guaranteed supply of clean water.</p> <p>6.3.32 An aim should be to create new habitats based on the ecological context and conditions of the site. Habitats and species objectives that contribute to local, regional and national biodiversity targets should be prioritised. Further information on local objectives can be found in local (BAPs). Guidance on maximising the biodiversity potential of SuDS can be found in the Royal Society for the Protection of Birds (RSPB) publication - Maximising the Potential for People and Wildlife</p>

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				<p>nature conservation, and that they maximise the opportunities for wildlife and people through sustainable water management. Strong policy and guidance is required to ensure that new development does not negatively impact on already strained systems, and wherever possible helps contribute to improving upstream storage.</p>		
				<p>2. RSPB position on Sustainable Drainage Systems (SuDS)</p> <p>Many existing drainage systems cause problems of flooding and/or pollution. Traditionally, underground pipe systems drain surface water and prevent flooding locally by quickly conveying away water. Such alterations to natural flow patterns can lead to flooding downstream and reduced water quality. The impact of climate change could see even greater pressure placed upon our drainage systems. SuDS provide a solution to mitigate and manage this challenge. They can provide cost effective and resilient drainage without causing the problems associated with traditional piped drainage. They also provide the ideal opportunity to bring urban wetlands and other wildlife-friendly green spaces into our towns and cities and link these with existing habitats creating blue and green corridors. Well-designed SuDS should also be an amenity and education resource for the community, providing high-quality public green space in which to relax, play and enjoy wildlife. If designed innovatively and correctly they can provide the community</p>		

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Consultee Name	Chapter or Para No.	Comment ID	Support/ Observations / Object	Comment	Councils' assessment	Action
				<p>with a healthy and aesthetic environment, which they feel proud to live in and the wildlife will colonise naturally.</p> <p>3. Opportunities to improve SuDS guidance within SPD</p> <p>Having reviewed the Cambridgeshire Flood and Water SPD we are pleased to see it provides sound guidance on selecting appropriate sites through Flood Risk Assessment, and the incorporation of Sustainable Urban Drainage Systems (SuDS) into development proposals. However, the RSPB strongly recommends that the following points be taken in to account in order to strengthen and improve the guidance.</p> <p>The RSPB supports the development of the SPD as a useful tool for Local Planning Authorities (LPAs) to engage with developers about flood and water management from the earliest proposal stage. However, the document should be strengthened to ensure that the maximum benefits of SuDS scheme are delivered. Given concerns regarding increased flooding and water quality issues in Cambridgeshire currently, and the potential increased pressures from climate change, the RSPB recommends the SPD be used as a catalyst to adopt stronger flood and water management requirements within future LPA Local Plans within Cambridgeshire's</p>		
Mr Graham Moore	Overall	F+W	Have	The Commissioners and associated Boards are pleased to have been invited to assist in	Comment acknowledged – it is appreciated that there are differing	Paragraph 3.2.7 reworded to, ' <i>IDBs are local public authorities that manage water levels.</i>

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Consultee Name	Chapter or Para No.	Comment ID	Support/ Observations / Object	Comment	Councils' assessment	Action
Middle Level Commissioner s	doc	SPD:140	observations	<p>the preparation of this document which has involved considerable discussion being undertaken with yourselves and other stakeholders.</p> <p>While it is acknowledged that the SPD is written by the County Council as LLFA and is intended to cover the whole County it needs to be appreciated that this involves a number of differing risk management authorities and water level/flood risk management scenarios. Both the NPPF and PPS/G25, together with the associated guidance, are generic documents and do not appreciate the special circumstances of water level/flood risk management within The Fens. Therefore, it is considered that further guidance is required to assist all parties involved within the planning process of the specific issues that are different to other parts of the Country, and must be considered.</p> <p>However, in order to be fully utilised the approved document needs to provide better, succinct and detailed guidance to aid Council Officers, developers, agents and other parties involved in the wider development management decision making process. It is considered that the current document is "wordy" and is likely to become ineffective. A set of guidance notes for the target audience could assist and provide a more effective "journey" for users of the document. Whilst it is accepted that there is a production cost, the notes could speed up the planning process, reduce wasted time by all parties, including the Commissioners, in</p>	<p>landscapes across Cambridgeshire and these should be fully acknowledged in the SPD.</p> <p>Some of the policy documents including PPS/G25 are now superseded.</p> <p>Comment on length of document acknowledged; however this was agreed by the steering group prior to the draft being published. Each LPA or the LLFA may wish to provide a supporting note for the SPD; however this isn't directly related to publication of the final SPD.</p> <p>Descriptions of each water management authority are provided throughout the document; however it is acknowledged that additional information regarding the role of IDBs could be included.</p>	<p><i>They are an integral part of managing flood risk and land drainage within areas of special drainage need in England and Wales. IDBs have permissive powers to undertake work to provide water level management within their Internal Drainage District. They undertake works to reduce flood risk to people and property and manage water levels for local needs. Much of their work involves the maintenance of rivers, drainage channels, outfalls and pumping stations, facilitating drainage of new developments and advising on planning applications. They also have statutory duties with regard to the environment and recreation when exercising their permissive powers' Due to other changes this is now paragraph 3.2.6.</i></p> <p><i>New paragraph (3.2.7) added in, 'IDBs input into the planning system by facilitating the drainage of new and existing developments within their districts and advising on planning applications; however they are not a statutory consultee to the planning process'</i></p> <p><i>New paragraph (3.2.9) added in, 'Some IDBs also have other duties, powers and responsibilities under specific legislation. For example the Middle Level Commissioners (MLC) is also a navigation authority. Although technically the MLC are not an IDB, for ease of reference within this document it has been agreed that the term IDB can be used broadly to refer to all</i></p>

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				<p>responding to basic and fundamental queries and thus reduce costs in the long term.</p> <p>The document fails to readily identify the difference between the Environment Agency and the IDBs and our differing concerns and requirements and even differences between individual IDBs. The overriding impression given is one where the role, function and governance of the IDBs appears not to be clearly understood. IDBs are set up because their area/District is at flood risk and therefore requires special local measures to be undertaken and maintained to reduce/alleviate that flood risk.</p> <p>The IDBs have therefore, been established with that purpose and have already established policies and governance indicating how their statutory functions will be undertaken. They already, through their local nature and funding arrangements, have very close connections and liaison with their communities and their members are, or represent, those who are required to fund their operations.</p> <p>They, therefore, as a matter of routine, will address the need for capital and maintenance works to be undertaken. They are therefore well versed in the needs of their Districts and answerable to their rate/special levy payers if the reasonable needs or expectations of such payers are</p>		<p><i>relevant IDBs under its jurisdiction. A list of the IDBs can be found in Appendix 3</i></p> <p>Paragraph 3.2.2 already encourages applicants to seek pre-application advice therefore no further action on this is required.</p>

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				<p>not met. The IDBs may therefore not be able to accept principles and policies which accommodate a County wide "broad brush" basis but which are not consistent with the more detailed requirements of their local areas.</p> <p>In the flood risk areas managed by IDBs, development proposals are too often granted subject to conditions to allow LPAs to reach their targets, without sufficient regard to IDB comments on flood risk. It should also be appreciated that while LPAs receive fees for dealing with planning applications, IDBs do not, unless the developer chooses to follow an IDB pre-application procedure. Too often our advice is ignored and we are expected to provide a subsidised service for planning authorities to enable them to meet their targets, which the Boards are not prepared to do.</p> <p>Therefore, we wish to encourage LPAs to, in turn, encourage developers to adopt this procedure. In the absence of the developer doing so, we can give no guarantee that, under the present arrangements, we will be able to respond to the Council's request for advice on flood risk.</p>		
Janet Nuttall Natural England	Overall doc	F+W SPD:151	Support	Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable	Support acknowledged.	No change

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				<p>development.</p> <p>We note the aim of the SPD is to provide guidance to applicants on managing flood risk through development. We support guidance to ensure that drainage schemes will protect and enhance the natural environment where possible, including contribution to local Biodiversity Action Plan targets and the objectives of the Cambridgeshire Green Infrastructure Strategy. We particularly welcome the promotion of multi-functional SUDS, taking a landscape-led approach to provide biodiversity, landscape and green infrastructure enhancements. We agree that drainage should mimic the natural drainage systems and processes as far as possible and that SUDS can be designed to provide valuable amenity and ecological features. We believe developers should be encouraged to maximise biodiversity benefits through SUDS wherever possible.</p> <p>Natural England is fully supportive of the requirement for a drainage strategy to accompany planning applications and for consideration of long-term management of SUDS; this will be critical to the maintenance of long-term benefits for the natural environment.</p> <p>We support recognition of Natural England's Impact Risk Zones to help developers and LPAs identify potential implications for designated sites and the need for consultation. Consideration of the effects of development on the quality of the water environment, and implications for water-</p>		

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				<p>dependent sites and compliance with the requirements of the Water Framework Directive (WFD) is also welcomed.</p> <p>Natural England has advised through previous correspondence that it is generally satisfied with the conclusions of the Habitats Regulations Assessment that the SPD is unlikely to have a significant effect on European sites.</p>		
Adam Ireland Environment Agency	Note to the reader	F+W SPD:71	Support	<p>The Environment Agency welcomes the SPD and subsequent consultation. We support the SPD in a county which, from a national perspective, has high growth pressures coupled with widespread areas at risk of flooding. The SPD is a necessary means of guiding developers, infrastructure providers and decision makers with a clear illustration of how 'high level' local plan policy is translated and adopted in Cambridgeshire's unique catchments.</p> <p>Summary</p> <p>Overall we commend this is a helpful and progressive Flood Risk Guidance Document. We believe that it chimes with NPPF and accompanying practice guide, adding both detail and process guidance where the NPPF policies [and Practice Guidance] are succinct or do not provide contextual focus for a generally low lying terrain and fenland catchment.</p> <p>We are of the view that the SPD is consistent with and compliments the adopted Development Plan Documents for</p>	<p>Support acknowledged.</p> <p>Chapter 4 which received most comments needs to be rearranged to enhance readability.</p> <p>Some sections include detail from other policy/guidance documents and this was agreed with the steering group as it provides users of the document with easy reference guidance to support the content of the SPD.</p>	Layout of Chapter 4 revised for improved readability

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				<p>Huntingdonshire, East Cambridgeshire, Fenland and South Cambridgeshire. We also believe it to be consistent with the flood risk policy in the Cambridge City Local Plan and South Cambridgeshire Local Plan currently in examination. We consider that the SPD is a necessary means of ensuring that the flood risk policies in these higher tier plans can be implemented effectively and efficiently.</p>		
				<p>We suggest some minor changes for accuracy, completeness and by way of update, particularly in respect of chapters 4, 5 and 7 where we did not have resources for detailed 'editing level' comments during formative draft stages.</p>		
				<p>In Chapter 4 the headings hierarchy may need some re-planning to read the structure more clearly and see where the Stages fit into the Steps and where the sequential test and exception test fit into that. We make some recommendations.</p>		
				<p>There may be further scope not to repeat verbatim other documents (flood resistance and SuDS sections). Perhaps use links if base documents have a stable web location. There are some sections that can be reworded to ensure a wider audience can understand them. We make some</p>		

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				suggestions. Similarly, some sections needing more clarity in definition i.e. risk, residual risk, breach mechanisms, 'safe' access, and flood probability. We suggest text.		
Adam Ireland Environment Agency	1.1 Background	F+W SPD:72	Have observations	1.1.5. – It would be illustrative to add current growth figures/ranges from the local plans if known. 1.1.5 - minor phrasing changes needed i.e. the 'impacts' of climate change. 1.2.3 – is there a place that acts as a road map to other documents on these issues?	These figures are already contained within the Local Plans and there would be a direct repeat of information. Additionally, some LPAs have not yet finalised their local plans. Throughout the SPD, hyperlinks to other documents are used and the number of these hyperlinks may be increased as part of the final document.	Paragraph 1.1.5 amended to read, ' <i>A significant amount of new development will occur in Cambridgeshire in the next 20 years and beyond. In order to reduce the impact upon the water environment, development must be appropriately located, well designed, managed and take account of the impacts of climate change.</i> ' Due to other changes this is now paragraph 1.2.2 Hyperlinks to external documents included throughout SPD
Mr George Dann King's Lynn Drainage Board	2 Setting the scene	F+W SPD:114	Have observations	In section 2 "Setting the scene", I feel mention should be made of Eric Pickles's Ministerial Statement of 18 December 2014 regarding the use of SuDS within major developments.	Acknowledged and agreed – this should be added	New paragraph added in (2.3.7) titled ' <i>Sustainable Drainage Systems: Written Ministerial Statement</i> '. ' <i>On 18 December 2014, a Ministerial Statement was made by the Secretary of State for Communities and Local Government (Mr Eric Pickles). The statement has placed an expectation on local planning policies and decisions on planning applications relating to major development to ensure that SuDS are put in place for the management of run-off, unless demonstrated to be inappropriate. The statement made reference to revised planning guidance to support local authorities in implementing the changes and</i>

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						<p>on 23 March 2015, the Department for Environment, Food and Rural Affairs (Defra) published the <u>'Non-Statutory Technical Standards for Sustainable Drainage Systems'</u>. Further detail on how SuDS can be delivered in the Cambridgeshire context can be found in <u>Chapter 6'</u></p>
Mr John Oldfield Bedford Group of IDBs	2.2.1	F+W SPD:52	Have observations	This section should include a statement that acknowledges that WFD categorizes waterbodies into natural or heavily modified/artificial, which in turn directs the appropriate course of action of ecological status or ecological potential. This is of fundamental importance in Cambridgeshire given its waterbody systems that are heavily modified and artificial in nature.	<p>It is acknowledged that many watercourses throughout Cambridgeshire are artificial or heavily modified in nature' and this has a direct impact on WFD requirements. This should therefore be highlighted within the SPD.</p> <p>The WFD however has many requirements and if the HMWB etc. are discussed here in a lot of detail other elements of the WFD will need to be too and this section will become much larger than the other policy sections.</p>	<p>Added in new paragraph (2.2.2), 'To achieve the purpose of the WFD of protecting all water bodies, environmental objectives have been set. These are reported for each water body in the River Basin Management Plan. Progress towards delivery of the objectives is reported on by the relevant authorities at the end of each six-year river basin planning cycle. Objectives vary according to the type of water body; across Cambridgeshire and the Fens there is a significant network of heavily modified and artificial watercourses'</p> <p>The following 2 paragraphs (7.1.3 and 7.1.4) have been added to Chapter 7,</p> <p>7.1.3 In order to be able to calculate a baseline and monitor changes in ecological status/potential water bodies have been classified by their biology, their chemistry and their physical characteristics such as shape, depth, width and flow. The highest status that can be achieved, "high" is defined as the conditions associated with no or very low human pressure on the water body.</p> <p>7.1.4 It is, however, recognised in the WFD that physical alterations have taken place historically to support the socio-economic use of a water body for a particular purpose</p>

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						<i>(e.g. water storage, flood defence or navigation). In this case the water body may be designated as a Heavily Modified Water Body (HMWB). Artificial Water Bodies (AWBs) are also identified in the WFD as those water bodies that have been constructed for a specific use. HMWBs and AWBs are subject to alternative environmental objectives and hence they have been clearly identified in each river basin district. This is of fundamental importance across Cambridgeshire given that many of its water body systems are heavily modified and artificial'</i>
John Bedford Group of IDBs	2.3.1	F+W SPD:51	Have observations	It should be noted that LLFA only have responsibility for Ordinary Watercourses outside an IDB Drainage District, which isn't clear from the text.	Acknowledged – greater distinction should be made in final version	Added footnote to read, 'IDBs manage ordinary watercourses within their districts'.
Allan Simpson Anglian Water Services Ltd	2.3.4	F+W SPD:127	Have observations	<u>Para 3.2.4</u> This paragraph states that applicants for sites which require masterplans should consult relevant WMAs <i>prior</i> to the pre-application stage. Large developments sites should use the Anglian Water pre-planning service, available on our website - http://www.anglianwater.co.uk/developers/pre-planning-service-.aspx	Due to the large number of water management authorities and local planning authorities referenced within the document it would be in appropriate to provide direct links to each of their websites throughout the text. It is however acknowledged that it could be made clearer that a pre-application service is offered by most WMAs	Column 2 refers to 2.3.4 but comment relates to 3.2.4. Action relates to 3.2.4 rather than 2.3.4. Paragraph 3.2.1 amended to, 'Many of Cambridgeshire's LPAs and WMAs provide a pre-application advice service. There may be a charge for this service. Further advice can be found on each LPAs or WMAs website'. Paragraph 3.2.4 removed as this would still be considered 'pre-app' and is therefore covered in preceding paragraph.
Mr Graham Moore	2.3.4	F+W	Have	It should be noted that the Commissioners and associated Boards do not support the following aspects of the SPD. Our position is	(i) Changes to national legislation are beyond the control of the	No change

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Middle Level Commissioner s		SPD:143	observations	<p>as follows:</p> <p>(i) The Government has published the NPPF which condenses the contents of all of the former PPS documents into a general framework document which, it is proposed, will simplify the planning process. The areas of the Middle Level Commissioners and our associated/administered IDBs are a defended flood plain in which detailed day to day management of water levels is required to reduce flood risk. This must clearly influence the consideration given to development proposals and their effects. Given therefore the importance and sensitivity of water level/flood risk management within The Fens, the Commissioners and associated/administered Boards consider the NPPF to be a significantly retrograde step that will increase the risk of flooding in their area by appearing to dilute a proper consideration of the flood risk both to and caused by development in this area.</p> <p>In consequence, therefore, when dealing with issues related to our byelaws and consent procedures the Commissioners and associated/administered Boards will promote and require continued adoption of and compliance with the relevant principles contained within PPS25 and the associated Practice Guide together with the provision of a FRA that meets their own requirements ie detailed assessments on the impacts on the respective water level/flood risk management systems and the provision of adequate evidence to prove that a viable</p>	<p>LLFA and District Councils. It is the choice of the MLC if they request a FRA to be submitted meeting their own criteria</p> <p>(ii) Due to national policy it is a requirement that developers must demonstrate the use of SuDS across a site and if not there must be clearly demonstrable reasons why this is the case. It is also the case that the rate and volume of surface water leaving a site must not be any greater than existing; therefore it is unlikely that direct, unattenuated discharge will be acceptable to the LLFA or LPA</p>	

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				<p>scheme for appropriate water level/flood risk management exists, and that it could be constructed and maintained for the lifetime of the development. We will also be urging the LPAs within our areas to adopt a similar approach to ensure that proper consideration is given to flood risk issues arising from development until a suitable detailed replacement is in force.</p> <p>(ii) Whilst the emphasis placed on SuDS is noted, and the Commissioners and associated Boards appreciate that the use of SuDS does have a place within water level/flood risk management, particularly the discharge into managed watercourses, but it is considered that, despite the significant emphasis placed on such facilities, the use of attenuation devices in this area is not always the correct or most appropriate solution. Therefore, care needs to be taken to ensure that resources and funds are not wasted by seeking to impose attenuation solutions when a direct discharge is acceptable to the local drainage authorities.</p>		
Mr George Dann King's Lynn Drainage Board	2.3.5	F+W SPD:115	Have observations	2.3.5 - the aim is not only to ensure that flood risk is not increased, but that it's reduced if possible.	Comment acknowledged and this should be incorporated into the final document	<p>Amended paragraph to read '<i>The NPPF states that both Local Plans and planning application decisions should ensure that flood risk is not increased and where possible is reduced. Development should only be considered appropriate in flood risk areas where it can be demonstrated that</i>'</p> <ul style="list-style-type: none"> • <i>A site specific flood risk assessment has been undertaken which follows the Sequential Test, and if required,</i>

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						<p><i>the Exception Test;</i></p> <ul style="list-style-type: none"> <i>Within the site, the most vulnerable uses are located in areas of lowest flood risk unless there are overriding reasons to prefer a different location;</i> <i>Development is appropriately flood resilient and resistant, including safe access and escape routes where required (Please see the Defra/EA publication 'Flood Risks to People' for further information on what is considered 'safe');</i> <i>That any residual risk can be safely managed, including by emergency planning; and</i> <i>The site gives priority to the use of SuDS.</i>
Adam Ireland Environment Agency	2.4 Local context	F+W SPD:73	Have observations	2.4 - should be referencing the Flood Risk Management Plan as well as/rather than the CFMP. Great Ouse FRMP is now out of consultation and due for adoption December 2015.	Comment acknowledged and this should be incorporated into the final document	<p>Added section (2 paragraphs – 2.4.3 and 2.4.4) titled, '<i>River Basin Management Plans</i>' and the following text. '<i>2.4.3 In addition, the EA have developed an Anglian District River Basin Management Plan (ARBMP) this document identifies the state of, and pressures on, the water environment. This document implements the Water Framework Directive in the region and supports Defra's Catchment Based Approach.</i></p> <p><i>2.4.4 The CFMPs, FRMPs and the RBMPs together, highlight the direction of considerable investment in Cambridgeshire and how to deliver significant benefits to society and the environment'</i></p>

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Adam Ireland Environment Agency	2.4.6	F+W SPD:74	Have observations	<p>2.4.6 – should this section also include a paragraph on where the watercourse discharge to when leaving Cambridgeshire. It needs to be acknowledged that any FRM work carried out will have an impact on other LPAs/LLFAs.</p> <p>Suggest: "From Cambridgeshire the watercourses flow down to the Ouse Washes and eventually discharge to the sea via the North Norfolk coast line. Changes in flood regimes in Cambridgeshire can therefore have consequences downstream within the Ouse Washes catchment beyond Cambridgeshire."</p>	Acknowledged and this should be incorporated into the final document. Suggested wording to be added to SPD	Added following text to end of 2.4.6, ' <i>From Cambridgeshire the watercourses eventually flow to the River Nene and River Great Ouse and subsequently discharge to The Wash and the North Sea. Changes in flood regimes in Cambridgeshire can therefore have consequences downstream within the Nene and Ouse Washes catchment, beyond Cambridgeshire</i> ' Due to other changes this is now 2.4.9
Mr George Dann King's Lynn Drainage Board	3.1.2	F+W SPD:116	Have observations	3.1.2 - the second half of this section includes a lot of duplication of content.	Acknowledged – Multiple references made to table 3.2 This should be amended for better readability.	Paragraph 3.1.2 amended to read, ' <i>The National Planning Practice Guidance (NPPG) lists the statutory consultees to the planning process. Within Cambridgeshire, although the local water and sewerage companies (Anglian Water and Cambridge Water) and the IDBs are not statutory consultees, they are consulted by the LPAs as part of the planning application process. Table 3.1 lists all the key WMAs across Cambridgeshire (some of which are statutory consultees) and it is important that those proposing new developments actively engage with the relevant WMAs at the earliest possible stage</i> '
Allan Simpson Anglian Water Services Ltd	3.2 Pre-application advice	F+W SPD:130	Have observations	<p><u>Para 3.2.13</u></p> <p>Reference is made to Anglian Water assessing the capacity of the public system to accept flows when an application is</p>	Acknowledged and this should be incorporated into the final document. Suggested wording to be added to SPD	Paragraph 3.2.13 amended to ' <i>Anglian Water is also the sewerage undertaker for the whole of Cambridgeshire and has the responsibility to maintain foul, surface and</i>

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				<p>received for a sewer connection (section 106 of the Water Industry Act 1991). However, applications for sewer connections are made to Anglian Water once a site has the benefit of planning permission and the details of the site have been approved. Anglian Water assesses the capacity of public sewers as part of our pre-application service and when responding to planning application consultations from Local Planning Authorities. Anglian Water is normally referred to as sewerage undertaker.</p> <p>It is therefore proposed that paragraph 3.2.13 should be amended as follows:</p> <p>'Anglian Water is also the sewer age undertaker..... Anglian Water needs to ensure that the public system has the capacity to accept these flows –This is assessed when an applicant applies for a sewer connection as part of the pre-application service provided by Anglian Water . Information about Anglian Water's development service is available on their website. Anglian Water also comments on the available capacity of foul and surface water sewers as part of the planning application process'</p> <p>It is also important to note that our response to the planning application will be based on the details completed in the application form and supporting details. We will not assess capacity if the proposed method of drainage does not interact with an Anglian Water</p>		<p><i>combined public sewers so that it can effectively drain the area. When flows (foul or surface water) are proposed to enter public sewers, Anglian Water will assess whether the public system has the capacity to accept these flows as part of their pre-application service. If there is not available capacity, they will provide a solution that identifies the necessary mitigation. Information about Anglian Water's development service is available on their website. Anglian Water also comments on the available capacity of foul and surface water sewers as part of the planning application process'. Due to other changes this is now paragraph 3.2.14.</i></p>

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				operated system.		
Mr Andy Brand The Abbey Group (Cambridgeshire) Ltd	3.2.6	F+W SPD:19	Have observations	It is imperative that all IDB's are involved within and buy-in to this document. It appears that some discussion has taken place with MLC. Without IDB buy-in the document will be less effective and result in continued tensions.	Comment acknowledged. Other IDBs have also been consulted on the document	No change
Mr John Oldfield Bedford Group of IDBs	3.2.7	F+W SPD:53	Have observations	It would be worth referencing other roles undertaken by IDBs for clarity, such as Consenting on Ordinary Watercourses in Drainage Districts and IDB Byelaws that protect the watercourse corridor.	Comment acknowledged	Changes made as part of comment F+W SPD:140 cover this comment so no additional changes made
Mr John Oldfield Bedford Group of IDBs	3.2.9	F+W SPD:54	Object	<p>IDBs have the same powers and duties for the benefit of their Drainage District that is governed by the Land Drainage Act and Byelaws, and not dictated by drainage rates. It is correct that there may be different rates in different districts.</p> <p>I'd support the 2nd sentence, that advises interested parties to contact an IDB if development/works are to be undertaken in or adjacent to an IDB Drainage District</p>	Comment acknowledged	Paragraph 3.2.9 amended to read, ' <i>IDBs may have rateable and non-rateable areas within their catchments. It is recommended that applicants contact the relevant IDB to clarify which area proposed development falls into, and if there is an associated charge</i> '. Due to other changes this is now paragraph 3.2.10
Mr George Dann King's Lynn Drainage Board	3.2.10	F+W SPD:113	Have observations	Although King's Lynn IDB only covers a small part of Cambridgeshire, I would primarily note my extreme disappointment that we are not mentioned anywhere within the document, despite other IDBs appearing many times, and the fact the Board was only informed of this draft publication by a consultant who had received your email. In particular, this Board should be listed in sections 3.2.10, table 3.2 (with ticks against	Comment acknowledged and it needs to be ensured that appropriate reference is made to King's Lynn IDB throughout the document. Maps will also need to be updated to include boundaries of the IDBs within Cambridgeshire	Paragraph 3.2.10 amended to add in King's Lynn IDB. ' <i>There are 53 IDBs within Cambridgeshire. Map 3.1 highlights the area of Cambridgeshire that is covered by IDBs. Some of the IDBs are represented or managed by Haddenham Level Drainage Commissioners, Whittlesey Consortium of IDBs, North Level District IDB, Ely Group of IDBs, Bedford Group of IDBs, King's Lynn IDB and MLC. The names of the IDB groups</i>

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				CCC and FDC) Appendix 2 and map 2.2.		covering each district are stated in Appendix 3 . Due to other changes this is now paragraph 3.2.11
Mr Richard Whelan	Map 3.1: IDBs within Cambridgeshire	F+W SPD:36	Have observations	Map 3.1 IDBs within Cambridgeshire; is not the clearest map; a few of the town names are chopped; an alternate road map or some editing of map may make this clearer	Comment acknowledged. Clearer maps need to be provided in final document. Due to space allocated when uploading the draft document there was a restriction on the size of images that could be used.	Map 3.1 updated
Mr Graham Moore Middle Level Commissioner	Map 3.1: IDBs within Cambridgeshire	F+W SPD:141	Have observations	Whilst many of the issues previously raised by us during the preparation of the document appear to have been ignored and/or have not been included. There are also many items which are incorrect or contain errors, for example, Fig 3.1 remains a mix of rateable and catchment areas, Drysides IDB amalgamated with Whittlesey IDB to form Whittlesey and District IDB in April 2011 – Appendix 3, Nordelph IDB – Appendix 2 – is in Norfolk etc	Without further detail it is unclear what items are perceived to have been missed out. Figure 3.1 needs to be amended to ensure any incorrect boundaries are removed.	Map 3.1 updated and checked with IDBs
Allan Simpson Anglian Water Services Ltd	3.2.13	F+W SPD:128	Have observations	<u>Para 3.2.13</u> Reference is made to Anglian Water assessing the capacity of the public system to accept flows when an application is received for a sewer connection (section 106 of the Water Industry Act 1991). However, applications for sewer connections are made to Anglian Water once a site has the benefit of planning permission and the details of the site have been approved. Anglian Water assesses the capacity of public sewers as part of our pre-application service and when	This comment has been made previously (appears to be a duplicate) under F+W SPD:130 and therefore no additional changes are required	No change

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				<p>responding to planning application consultations from Local Planning Authorities. Anglian Water is normally referred to as sewerage undertaker.</p> <p>It is therefore proposed that paragraph 3.2.13 should be amended as follows:</p> <p>'Anglian Water is also the sewer age undertaker..... Anglian Water needs to ensure that the public system has the capacity to accept these flows This is assessed when an applicant applies for a sewer connection as part of the pre-application service provided by Anglian Water . Information about Anglian Water's development service is available on their website. Anglian Water also comments on the available capacity of foul and surface water sewers as part of the planning application process'</p> <p>It is also important to note that our response to the planning application will be based on the details completed in the application form and supporting details. We will not assess capacity if the proposed method of drainage does not interact with an Anglian Water operated system.</p>		
Mr Richard Whelan	Map 3.2: Cambridge Water and	F+W SPD:40	Have observations	Map 3.2 Camb Water and AW coverage; is it worth having two maps? One for clean and one for waste? 3.2 may seem confusing; whilst it is described in 3.2.13 it is not overly clear	It may be possible to have two maps; however the document is already lengthy and this would add another page. A note should be added to this page to reiterate that	Note added to Map 3.2 to reiterate 3.2.13

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	Anglian Water coverage				foul water is dealt with solely by Anglian Water	
Mr George Dann King's Lynn Drainage Board	Map 3.2: Cambridge Water and Anglian Water coverage	F+W SPD:118	Have observations	Map 3.2 - the note to this is shown on page 14, but needs to appear on page 13 with the map.	Acknowledged that some tables and their associated text have split between pages; this should be amended for final draft	Note now shifted to same page as map 3.2
Mr Richard Whelan	3.2.16	F+W SPD:41	Have observations	Possibly revisit; seems to give the impression the LLFA have a maintenance or operational responsibility to ordinary watercourses. Believe this is a power rather than a duty.	Acknowledged that there is no responsibility of the LLFA to maintain ordinary watercourses therefore this needs to be made clearer	Paragraph 3.2.16 amended to, ' <i>The LLFA has powers to require works to be undertaken to maintain the flow in ordinary watercourses that fall outside of an IDB districts</i> '. Due to other changes this is now 3.2.17
Mr George Dann King's Lynn Drainage Board	3.2.16	F+W SPD:120	Have observations	3.2.16 - the LLFA can also delegate the responsibility to a different RMA, such as IDBs, as happens elsewhere in the country.	Comment noted and this is correct, but the paragraph is not applicable to planning and could be confusing (section 13 of the FWMA does not apply to LLFA's planning function). Rather than introduce more text to explain all the LLFA's other functions under the FWMA this paragraph should be amended to remove reference to other RMAs as it would not be possible to list all here due to their different requirements	Paragraph 3.2.16 amended to ' <i>The LLFA has powers to require works to be undertaken to maintain the flow in ordinary watercourses that fall outside of an IDB districts</i> ' Due to other changes this is now 3.2.17

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Mr George Dann King's Lynn Drainage Board	3.2.17	F+W SPD:121	Have observations	3.2.17 - should mention not to be made of the Highways Agency?	Acknowledged and this should be added to the document	Addition made to end of paragraph 3.2.17 – <i>'In addition, Highways England operates, maintains and improves a number of motorways and major A roads across the County'</i>
Mr George Dann King's Lynn Drainage Board	3.2.19	F+W SPD:122	Have observations	3.2.19 - I think "in the majority of instances" should be deleted at the end of this section - the intention is to make sure that flooding and other similar risk are always effectively managed	Acknowledged - the phrase adds a level of ambiguity so should be amended	Paragraph 3.2.19 amended to <i>'Each of the five City and District Councils within Cambridgeshire are LPAs and assess, consult on and determine whether or not development proposals are acceptable, ensuring that flooding and other similar risks are effectively managed'</i> Due to other changes this is now 3.2.21
Mr George Dann King's Lynn Drainage Board	3.2.20	F+W SPD:123	Have observations	3.2.20 - I disagree. While this document should help to improve consultation with relevant WMAs, with planning application decisions it is, of course, the LPA that has to be satisfied that the surface water disposal and flood risk aspects have been appropriately dealt with. A key part of this is likely to be consulting with WMAs, so I do not consider it appropriate for any attempt to be made to pass this responsibility entirely on to the developer. Doing so can only lead to more disputes and problems in the future.	Acknowledged – this should be made clearer in the final document. As part of the planning consultation process it is the responsibility of the LPAs to consult statutory consultees and not the applicant. Pre-application discussions are however always encouraged.	Paragraph 3.2.20 amended to <i>'The LPA will consult the relevant statutory consultees as part of the planning application assessment and they may, in some cases also contact non-statutory consultees (e.g. Anglian Water or IDBs) that have an interest in the planning application'</i> Due to other changes this is now 3.2.22
Allan Simpson Anglian Water Services Ltd	3.2.20	F+W SPD:129	Have observations	<u>Para 3.2.20</u> The final sentence of this paragraph states that it is responsibility of applicants to consult relevant WMAs. It is unclear what is intended as the Local	Acknowledged – this should be made clearer in the final document. As part of the planning consultation process it is the responsibility of the LPAs to consult statutory consultees and not the applicant. Pre-	Paragraph 3.2.20 amended as part of F+W SPD:123 and also covers F+W SPD:129. <i>'The LPA will consult the relevant statutory consultees as part of the planning application assessment and they may, in some cases also contact non-statutory</i>

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				Planning Authority (LPA) is responsible for consulting statutory and non-statutory consultees as part of the planning application process. Applicants should be encourage to consult relevant bodies including Anglian Water as part of the pre-application process. It would also be helpful if it was made clear that LPAs are required to consult statutory consultees as but they also consult relevant bodies including Anglian Water who have interest in a planning application and managing flood risk.	application discussions are however always encouraged.	<i>consultees (e.g. Anglian Water or IDBs) that have an interest in the planning application'</i> Due to other changes this is now 3.2.22
Miss Kayleigh Wood Historic England	3.2.21	F+W SPD:9	Have observations	We would advise that the words 'and their setting' are included after 'Whilst Historic England are not a WMA, they should be consulted where proposals may affect heritage assets'. We would advise this wording is included for clarity and to ensure the significance of Heritage Assets is not damaged due to inappropriate development within their setting.	Acknowledged – this should be included in final document	Wording amended to, ' <i>Whilst Historic England is not a WMA, it should be consulted where proposals may affect heritage assets and their setting'</i>
Mr Richard Whelan	3.2.21	F+W SPD:42	Support	Table 3.2 very good way of displaying this information	Support acknowledged	No change
Allan Simpson Anglian Water Services Ltd	Table 3.2: Simplified table of key water management authority	F+W SPD:133	Have observations	<u>Drainage Proforma for Consideration and Submission at Outline, Full or Reserved Matters</u> Section 3 asks applicants to identify the proposed method of surface water disposal. It is important that other methods of surface water disposal are investigated prior to	Acknowledged – on occasion there are times when it is unclear to the LLFA/water company whether the other has been consulted and what their response was. This amendment should help reduce any confusion and make it clearer for the LPAs when reviewing applications	Amended text to ' <i>Evidence should be provided to the LPA and sewerage undertaker to demonstrate that it is not possible to discharge surface water via infiltration or to a watercourse in accordance with Part H of Building Regulations'</i>

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	es that may need to be consulted during the planning application process on flood and water matters			<p>applicants proposing to connect to surface water sewers (where available).</p> <p>It is therefore proposed that the row entitled 'To Surface Water Sewer' should be amended as follows:</p> <p>'Evidence should be provided to the LPA and sewerage undertaker to demonstrate that it is not possible to discharge surface water via infiltration or to a watercourse in accordance with Part H of Building Regulations. The confirmation from sewerage provider undertaker that sufficient capacity exists for this connection'</p>		
Adam Ireland Environment Agency	4 Guidance on managing flood risk to developments and site selection	F+W SPD:75	Support	<p>Section 4:</p> <p>We generally support this section and the guidance it provides on sequential approach process and how the various tests and evidence bases inform it. In the case of <i>The Environment Agency vs Tonbridge and Malling</i>, the process of the sequential test was confirmed as being a vital part of the decision making process. The lack of understanding and process structure of these tests, in EAs experience, is the single most significant factor leading to flood risk being 'expedited' and overridden at the planning application stage. The SPD reduces the risk of challenge by helping to make this process clearer.</p>	Support acknowledged	No change

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Consultee Name	Chapter or Para No.	Comment ID	Support/ Observations / Object	Comment	Councils' assessment	Action
Adam Ireland Environment Agency	4.1.2	F+W SPD:76	Have observations	<p>4.1.2 – look up definition of risk – it is based on probability of occurrence and the impact. Low impact but high frequency events can equal low risk and vice versa. Suggest wording for 4.1.2 replaced with:</p> <p>“Flood risk is an expression of the combination of the flood probability (how likely the event will happen) and the magnitude of the potential consequences (the impact such as economic, social or environmental damage) of the flood event.”</p>	Acknowledged and to be incorporated into final document	Paragraph 4.1.2 has been amended to <i>‘Flood risk is an expression of the combination of the flood probability (how likely the event will happen) and the magnitude of the potential consequences (the impact such as economic, social or environmental damage) of the flood event’</i>
Adam Ireland Environment Agency	4.1.3	F+W SPD:77	Have observations	<p>4.1.3 We think this section needs to be looked at in greater detail or we suggest the following wording:</p> <p>“The likelihood or risk of flooding can be expressed in two ways:</p> <ul style="list-style-type: none"> - Chance of flooding: As a percentage of flooding each year, for example for flood zone 3a there is a 1% annual probability of this area flooding. - As a return period: return period is a term used to express the frequency of flood events. It refers to the estimated average time interval between events of a given magnitude. However it is misleading to say that a 1% annual probability flood will only occur once in every hundred years. This suggests that if it occurs in one year then it should not be expected to reoccur again for another 100 years. This is not the case. It simple means it is such an extreme ‘rare event that we would not expect it to occur often but an area could be affected by a 1% flood event over several years. It is important to recognise that a 1% flood event has a 	Acknowledged and to be incorporated into final document	<p>Paragraph 4.1.3 amended to <i>‘The likelihood or risk of flooding can be expressed in two ways:</i></p> <ul style="list-style-type: none"> ▪ <i>Chance of flooding: As a percentage chance of flooding each year. For example, for Flood Zone 3a there is a 1% annual probability of this area flooding</i> ▪ <i>Return period: This term is used to express the frequency of flood events. It refers to the estimated average time interval between events of a given magnitude. For example, for Flood Zone 3a the return period would be expressed as 1 in 100 year</i>

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				26% probability of being equalled or exceeded at least once in every 30 years (the duration of a typical mortgage and a 49% probability of being equalled or exceeded at least once in 70 years (a typical human lifetime)."		
Adam Ireland Environment Agency	4.1.6	F+W SPD:78	Have observations	4.1.6 - update to Gov.uk. NB the EA website does not exist anymore	Acknowledged and to be incorporated into final document	Paragraph 4.1.6 amended to, ' <i>Maps showing Flood Zones are available on the GOV website. The Flood Zones refer to the probability of river and sea flooding, ignoring the presence of defences. Table 4-1 details the Flood Zones and their definitions taken from the NPPG</i> '
Adam Ireland Environment Agency	4.1.7	F+W SPD:79	Have observations	4.1.7 – we believe it's worth referencing that developments have to be safe for its life time so climate change is a key consideration in planning.	Acknowledged and to be incorporated into final document	Paragraph 4.1.7 amended to ' <i>To cope with the potential risks and forecasts of climate change (predicted 1.05m rise in sea levels in the East of England, warmer summers, wetter winters and increased river flows by 2115) and to ensure that new development is safe for its lifetime, the Government has emphasised that development in areas at risk of flooding should be avoided by directing development away from the highest risk areas. Where development is necessary it should be made safe without increasing flood risk elsewhere</i> '
Mr John Oldfield Bedford Group of IDBs	4.3.1	F+W SPD:55	Have observations	This section should highlight that there is also a requirement to obtain Consent from EA/IDB/LLFA if the discharge is into a surface water system (River/Watercourse) or the Sewage Undertaker if connecting to a public sewer. Early consultation with the relevant authority is recommended.	Although this is not a direct planning issue it is acknowledged that it would be useful to include it for developers as it still facilitates development.	Addition made to step 3 (after paragraph 4.5.10) – (i) – ' <i>Are any consents required from the EA/IDB/LLFA/Anglian Water</i> '. Due to other changes this is now after paragraph 4.3.9

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Consultee Name	Chapter or Para No.	Comment ID	Support/ Observations / Object	Comment	Councils' assessment	Action
Adam Ireland Environment Agency	4.3.1	F+W SPD:80	Have observations	<p>4.3 - for those sites that are shown to be at risk of other sources of flooding – do they need to show that they have passed the sequential test as well? This has been raised later in the document but would be beneficial to introduced first here.</p> <p>In section 4.3 we agree with the steps and stages. However, the heading hierarchy needs reworking so its clearer which step/stage/process is which. In section 4.3 need to rethink where the ST and ET sit within the</p> <p>These test and key steps should be named in the 4.3.1 section.</p> <p>4.3 Steps - can the steps be named? It makes it clear what each step involves. Step 1 – Site Allocation etc. Consider 4.3.1 as a flow diagram or somehow emphasizing that this is a summary of the steps, and where the Stages A-E slot in.</p>	Acknowledged and agree – all sources of flooding should be considered.	<p>Chapter 4 amended to make it more reader friendly (see action on comments F+W SPD:39).</p> <p>Steps have now been named within each box.</p> <p>Step 1 – <i>Consider allocations</i></p> <p>Step 2 – <i>Consider flood risk</i></p> <p>Step 3 – <i>undertake pre-application consultation</i></p> <p>Step 4 – <i>Site specific flood risk assessment (FRA)</i></p> <p>Step 5 – <i>Surface water drainage strategy</i></p> <p>Step 6 – <i>Submission of planning application</i></p>
Mr Andy Brand The Abbey Group (Cambridgeshire) Ltd	4.3.2	F+W SPD:20	Object	<p>I am uneasy regarding this point as PPG paragraph Paragraph: 033Reference ID: 7-033-20140306 is at odds with this. The development plan is intended to give certainty to developers and the latter sentences in this paragraph erode this. If the change in the flood risk zone is so fundamental then the Local Plan should be reviewed and amended. It is inappropriate and at odds with national policy to do otherwise. Criteria b. of Step 1 should be deleted.</p>	Acknowledged – part b) can be amended to reflect this point	<p>Part b) amended to:</p> <p>b) <i>Can it be demonstrated that the flood risk information contained within the SFRA and associated Sequential Test assessment accompanying the Local Plan/development plan (where applicable) is still appropriate for use</i></p>

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Consultee Name	Chapter or Para No.	Comment ID	Support/ Observations / Object	Comment	Councils' assessment	Action
Adam Ireland Environment Agency	4.3.3	F+W SPD:81	Have observations	<p>4.3.3 'land use type wording in first sentence' perhaps the words could include: "land use type <u>considering the vulnerability classification.</u>"</p> <p>Step 2 last sentence in box – It would be useful to make it clear that at this stage discussions on Exception Test should not be taking place until the ST is undertaken and passed.</p> <p>General – use of acronyms – perhaps chance to use more acronyms in view of glossary in the back. The use of long terms (Strategic Flood Risk Assessment to name one specific example) makes some sections hard to read.</p> <p>Step 2 b) really hard to get what this means – we recommend rewording this to bring clarity.</p> <p>Step 2 c) what is deemed 'significant flood risk' could leave out the term significant – the exception test may determine this.</p>	<p>Acknowledged – important to include vulnerability classification as this is key within the NPPF. Agree Exception Test should not commence until ST passed as this needs to be reinforced through the SPD.</p> <p>Acronyms should be used as much as possible throughout the report.</p> <p>Agree wording of step 2b) may be confusing and this should be amended appropriately.</p> <p>Agree the word 'significant' is subjective and should be reworded appropriately</p>	<p>Paragraph 4.3.3 amended to '<i>Applicants must consider allocations within the relevant local development plan. If the site has been allocated in the relevant Local Plan/development plan for the same land use type/vulnerability classification that is now being proposed, then an assessment of flood risk, at a strategic level, has already been undertaken. This will have included assessing the site, against other alternative sites, as part of a Sequential Approach to flood risk</i>'. Due to other changes this is now paragraph 4.3.4</p> <p>In Step 2 box added, '<i>Note: Discussions on the Exception Test should not be taking place until the Sequential Test is undertaken and passed. Further information on the Sequential and Exception Tests can be found in Sections 4.4 and 4.5 respectively</i>'</p> <p>Acronyms updated throughout document</p> <p>Amended part b) of Step 2 to '<i>In Flood Zone 1 and within an area that has been identified in the relevant SFRA (or any updated available information) as having flooding issues now or in the future (for example, through the impacts of climate change)?</i></p> <p>Amended part c) of Step 2 to '<i>In an area of flood risk from sources other than fluvial or tidal such as surface water, ground water, reservoirs, sewers, etc? (See Stage C of the Sequential Test for details).</i>'</p>

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Adam Ireland Environment Agency	4.4.2	F+W SPD:82	Have observations	4.4.2 - Sequential test is hard to apply for small scale developments i.e. 1-10 dwellings. Is this SPD to provide any specific guidance for this scale of development?	The SPD does not provide specific guidance on small scale developments	No change
Harry Jones of David Lock Associates for Tim Leathes Urban and Civic	4.4.2	F+W SPD:147	Have observations	<p>Requirement for the Sequential Test</p> <p>U&C is concerned that the document lacks clarity regarding the requirement for developers to provide evidence in relation to the sequential test and this should be more explicit within the document.</p> <p>For example, text could be added to paragraph 4.4.2 to indicate that the sequential test does not need to be applied for sites located in flood zone 1 and this would reflect the National Planning Policy Framework (NPPF) - paragraph 100 and 101.</p>	<p>Detail on the requirements of the Sequential test is provided within the NPPF and PPG – we don't to lift large sections of national policy and repeat within the PPG.</p> <p>Additional bullet point to be added to reiterate ST not required for sites in FZ1</p>	<p>Added additional bullet point to Paragraph 4.4.2.</p> <p><i>'iii) Sites location wholly in Flood Zone 1'</i></p>
Mr Andy Brand The Abbey Group (Cambridgeshire) Ltd	4.4.6	F+W SPD:21	Object	<p>The text below the bullet points in Stage D implies that, as the existing defences are not to be taken into account, the SFRA is not to be used for the purposes of the sequential test. PPG para Paragraph: 010Reference ID: 7-010-20140306 confirm that the SFRA is to be used so this wording needs amendment to be consistent with national policy.</p> <p>The bold text at the end of Stage E is also confusing and requires amendment.</p>	<p>Disagree that this suggests the SFRA should not be used as these documents provide a large amount of other detail as well that will be useful for the ST.</p> <p>Bold text appears to contain a number of typos which have caused it to lose its meaning. Wording needs to be amended.</p>	<p>Wording of bold text in Stage E amended to <i>'If no, this still does not mean that the proposed development is acceptable in terms of flood risk as it may be necessary to undertake the <u>Exception Test</u> and a site specific <u>FRA</u>'</i></p>
Adam Ireland Environment	4.5.1	F+W SPD:83	Have observations	4.5.1 Is this sentence suggesting the ST has been passed, if so perhaps it should be	Yes – ET should only be undertaken upon passing of the ST as	Paragraph 4.5.1 amended to <i>'As explained within <u>paragraph 102</u> of the NPPF, the</i>

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Agenc				stated here?	highlighted by other representations.	<i>Exception Test is applied to the proposal by the developer where, following application of the Sequential Test it is not possible, consistent with wider sustainability objectives, for the development to be located in zones with a lower risk of flooding'</i>
Mr Andy Brand The Abbey Group (Cambridgeshire) Ltd	4.5.5	F+W SPD:23	Have observations	Typographical error on the fourth line.	The tick included within the Word document has transferred incorrectly into the publishing programme. This needs to be amended in final document.	Paragraph 4.5.5 amended to replace typographical error with a 'tick'
Mr Andy Brand The Abbey Group (Cambridgeshire) Ltd	4.5.6	F+W SPD:22	Have observations	This text confirms that the SFRA is to be used for the sequential test - the previous text (see my other comments on page 24 of the Draft SPD) requires revision to reflect this.	Agree this paragraph could be amended to reinforce point made previously relating to ignoring presence of defences. Add footnote in.	Footnote added to text in Exception test box (below paragraph 4.5.6). ' <i>Ignoring the presence of defences</i> '
Miss Kayleigh Wood Historic England	4.5.8	F+W SPD:10	Object	We would advise the replacement of the words 'cultural heritage' with 'the Historic Environment'. The 'Historic Environment' is an all-encompassing term which takes into account the physical built heritage and archaeology for example, but also the less tangible elements such as the sense of place and time depth and cultural heritage	Acknowledge - this can be replaced	Third bullet point of Paragraph 4.5.8 amended to ' <i>Landscape, townscape and historic environment</i>
Mr Andy Brand The Abbey Group (Cambridgeshire) Ltd	4.5.9	F+W SPD:24	Object	The suggestion that new housing may not be sufficient by itself in order to outweigh flood risk is a general assertion and may not be applicable to individual circumstances. If this is the view of the Councils then it should be tested properly through the Local Plan	The words 'not normally' provides caveat for times where this will change; however it can be added in that applicants should check with the LPA each time.	Amended paragraph 4.5.9 to ' <i>Any development undertaking the Exception Test should demonstrate the sustainability issues that the proposal is seeking to address. The general provision of housing by itself would not normally be considered as a wider sustainability benefit to the community which</i>

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				examination.		would outweigh flood risk; however confirmation should be sought from the LPA'
Mrs Ellie Henderson	4.5.10	F+W SPD:29	Object	<p>We would ask that you amend the sentence as follows:</p> <p>new community facilities such as a park, <u>woodland</u>, community centre, cycle ways/ footways or other infrastructure which allow the community to function in a sustainable way.</p> <p>Rationale:</p> <p>The Woodland Trust believes that woodland creation is especially important because of the unique ability of woodland to deliver across a wide range of benefits – see our publication Woodland Creation – why it matters (http://www.woodlandtrust.org.uk/en/about-us/publications/Pages/ours.aspx). These include for both landscape and biodiversity (helping habitats become more robust to adapt to climate change, buffering and extending fragmented ancient woodland), for quality of life and climate change (amenity & recreation, public health, flood amelioration, urban cooling) and for the local economy (timber and woodfuel markets).</p> <p>In terms of 'allowing the community to function in a sustainable way' - trees help to improve air quality, reduce the heat island effect and provide a local source of fuel.</p> <p>In terms of water management:</p>	Acknowledge – add woodland into text here.	Paragraph 4.5.10 amended to 'Examples of wider sustainability benefit to the community that would be considered could include the regeneration of an area, or the provision of new community facilities such as green infrastructure, woodland community centres, cycle ways/footways or other infrastructure which allow the community to function in a sustainable way'

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				Woods, trees and hedgerows can play a key role in water management whether reducing flood risk, improving water quality or helping freshwater wildlife thrive and survive - see the Woodland Trust publication Woodland actions for biodiversity and their role in water management (pdf) - https://www.woodlandtrust.org.uk/publications/2008/03/woodland-actions-for-biodiversity-and-their-role-in-water-management/		
Mr John Oldfield Bedford Group of IDBs	4.6.2	F+W SPD:56	Support	Pleased the guidance refers to Byelaws, as these can often be overlooked at an early stage, and then later can compromise the developable areas.	Bylaws already referred to throughout document (3.2.8, 6.3.34, 7.5.3) and as it doesn't strictly relate to planning we don't need to also add it in here	No change
Mr Andy Brand The Abbey Group (Cambridgeshire) Ltd	4.6.3	F+W SPD:25	Have observations	This reads as if the FRA is to be submitted to MLC only whereas it would normally be submitted to the LPA.	Although it is acknowledged the MLC have their own requirements for FRAs these do not strictly relate to the planning application process. In addition, if we are to list the requirements of the MLC then the requirements of all other WMAs should also be listed. The section relating to MLCs requirements should therefore be removed and replaced with reference to IDBs in general	<p>Paragraph 4.6.3 amended to 'In some cases, a development meeting the criteria listed below may need to submit a FRA to the IDBs to inform any consent applications. This relates to the IDBs' by-laws under the Land Drainage Act 1991¹ (further information on the preparation of site specific FRAs can be found in Chapter 4).</p> <ul style="list-style-type: none"> ▪ Development being either within or adjacent to a drain/watercourse, and/or other flood defence structure within the area of an IDB; ▪ Development being within the channel of any ordinary watercourse within an IDB area;

¹ Land Drainage Act 1991 stipulates the relevant drainage districts powers and duties.

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						<ul style="list-style-type: none"> ▪ Where a direct discharge of surface water or treated effluent is proposed into an IDBs catchment; ▪ For any development proposal affecting more than one watercourse in an IDBs area and having possible strategic implications; ▪ In an area of an IDB that is in an area of known flood risk; ▪ Development being within the maintenance access strips provided under the IDBs byelaws; ▪ Any other application that may have material drainage implications' <p>Due to other changes this has been moved to paragraph 3.2.8</p>
Mr Richard Shelan	4.6.3	F+W SPD:35	Have observations	<p>Not very easy to follow</p> <p>4.6.3 Should this read submit an FRA to the LPA who will in turn consult the MLC?</p>	Acknowledge – this relates directly to comment F+W SPD:25 (see comments/actions)	Same action as for comment F+W SPD:25
Adam Ireland Environment Agency	4.6.3	F+W SPD:84	Have observations	<p>4.6 Box last section page 29 would it not be useful for all LPAs to add an additional no 5 bullet point: Where evidence of historical or recent flood events have been passed to the LPA, then a FRA may be requested.</p> <p>4.6.3 – 'A development proposal meeting the following criteria is required by...' [say whom]</p> <p>"in an area of known actual flood risk within the Middle Level Commissioner's area" – how is this flood risk mapped? It is not possible to separate out the fluvial risk from the MLC network from the Ouse/Nene flood zones.</p> <p>Last bullet point on section 4.6.3 at top of</p>	<p>Acknowledge – where a development site is located within FZ1 but there is history of flooding the LPA may ask for a FRA – additional point should be added to this list.</p> <p>Comments on 4.6.3 relates directly to comment F+W SPD:25 (see comments/actions)</p>	Box in Section 4.6 – Additional 5 th bullet point added in ' <i>where evidence of historical or recent flood events have been passed to the LPA</i> ' Due to other changes this is now 4.3.11

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				page 30 may over assume MLC powers. How can MLC set such a wide ranging demand?		
Mr Andy Brand The Abbey Group (Cambridgeshire) Ltd	4.6.4	F+W SPD:26	Have observations	To whom must it be demonstrated?	Comments on 4.6.3 relates directly to comment F+W SPD:25 (see comments/actions)	Entire paragraph removed
Miss Kayleigh Wood Historic England	4.7.2	F+W SPD:11	Support	We welcome the inclusion of the consideration of the effects of a range of flood events on the Historic Environment.	Acknowledged – no actions required	No change
Mr John Oldfield Bedford Group of IDBs	4.7.2	F+W SPD:57	Have observations	This section should include reference to consultation with the IDB if the site is in a Drainage District.	This is also applicable for all other WMAs – a line should be added in to this effect.	Text added to Paragraph 4.7.2 ' <i>In the preparation of FRAs, applicants are advised to consult the relevant WMAs</i> '. Due to other changes this is now 4.3.13. Box updated as action to F&W SPD:55. First sentence of Step 3 (now 4.3.9) updated to ' <i>Meaningful, on-going and iterative discussions with the LPAs and relevant WMAs can resolve issues prior to the submission of a planning application and can result in a more efficient planning application process</i> '
Adam Ireland Environment Agency	4.7.2	F+W SPD:85	Have observations	4.7.2 – 'FRA should' box – is this ordered in a logical way? If not can it? Bullet point (d) 'take the impacts of climate change into account', then add "for the lifetime of the development."	On reflection the order could be improved here. The order should reflect the order in which activities are undertaken as part of a FRA.	List updated to following order, a) Be proportionate to the risk and appropriate to the scale, nature and location of the development; b) Be undertaken as early as possible in the particular planning process, by a

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						<p>competent person, to avoid abortive work raising landowner expectations where land is unsuitable for development;</p> <p>c) Consider and quantify the different types of flooding (whether from natural or human sources and including joint and cumulative effects). The LPA will expect links to be made to the management of surface water as described in Chapter 6. Information to assist with the identification of surface water and groundwater flood risk is available from the LLFA (CCC), the EA and the LPA. Applicants should also assess the risk of foul sewage flooding as part of the FRA. Anglian Water as sewerage undertaker can provide relevant information to the applicant to inform preparation of FRAs</p> <p>d) Consider the effects of a range of flooding events including the impacts of extreme events on people, property, the natural and historic environments and river processes;</p> <p>e) Consider the vulnerability of occupiers and users of the development, taking account of the Sequential and Exception Tests and the vulnerability classification, and include arrangements for safe access;</p> <p>f) Identify relevant flood risk reduction measures for all sources of flood risk;</p> <p>g) Consider both the potential adverse and beneficial effects of flood risk management infrastructure including raised defences, flow channels, flood storage areas and other artificial features</p>

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						<p>together with the consequences of their failure;</p> <p>h) Include assessment of the 'residual' (remaining) risk after risk reduction measures have been taken into account and demonstrate that this risk is acceptable for the particular development or land use. Further guidance on this is given in Chapter 5;</p> <p>i) Be supported by appropriate evidence data and information, including historical information on previous events.</p> <p>j) Consider the risk of flooding arising from the proposed development in addition to the risk of flooding to development on the site. This includes considering how the ability of water to soak into the ground may change after development. This would mean the preparation of surface water drainage proposals;</p> <p>k) Take a 'whole system' approach to drainage to ensure site discharge does not cause problems further along in the drainage sub-catchment/can be safely catered for downstream and upstream of the site;</p> <p>l) Take the impacts of climate change into account for the lifetime of the development including the proposed vulnerability classification. Guidance is available on the .gov.uk website.</p>

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Allan Simpson Anglian Water Services Ltd	4.7.2	F+W SPD:131	Have observations	<p><u>Para 4.7.2</u></p> <p>The text box which follows para 4.7.2 refers to all sources of flooding but does not include a specific reference to the risk of foul sewage flooding. Flood Risk Assessments which are submitted with planning applications should consider the risk of flooding from foul sewage together with other potential sources of flooding.</p>	Acknowledged and this should be added in.	Amended point h) of box to <i>Applicants should also assess the risk of foul sewage flooding as part of the FRA. Anglian Water as sewerage undertaker can provide relevant information to the applicant to inform preparation of FRAs</i> . Due to other changes this is now point c).
				<p>It is therefore suggested that the text should be amended as follows:</p> <p>'consider and quantify....and the LPA. Applicants should also assess the risk of foul sewage flooding as part of the FRA. Anglian Water as sewerage undertaker can provide relevant information to applicant to inform preparation of FRAs'</p>		
Adam Ireland Environment Agency	4.8.1	F+W SPD:86	Have observations	<p>4.8.1 - is it essential that the drainage strategy has to be within the FRA? There are benefits of having a separate drainage strategy document to the FRA as there are more issues to drainage than just flood risk. By always having it in the FRA, other considerations are often ignored. The findings of the drainage strategy should definitely be within the FRA.</p>	It is not essential and can be provided in a separate document. The section should be updated to reflect this.	Paragraph 4.8.1 amended to 'A surface water drainage strategy contains the proposals for the surface water drainage of the development. Such a strategy should include initial proposals that are sufficient to demonstrate a scheme can be delivered that will adequately drain the proposed development whilst not increasing flood risk elsewhere' Due to other changes this is now 4.3.14

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Adam Ireland Environment Agency	4.8.2	F+W SPD:87	Have observations	4.8.2 add the word 'outline' rather than 'conceptual' for accuracy.	Acknowledged and will change	Paragraph 4.8.2 amended to ' <i>If an outline application is to be submitted for a major development then an outline surface water drainage strategy should be submitted outlining initial proposals and quantifying the conceptual surface water management for the site as a whole. This should detail any strategic features, including their size and location. A detailed surface water drainage strategy should subsequently be submitted with each reserved matters application that comes forward and demonstrate how it complies with the outline surface water drainage strategy</i> '
Adam Ireland Environment Agency	4.8.2	F+W SPD:88	Have observations	Step 6) B) should maintenance be included in the list?	This is already included in point c); therefore no changes required	No change
Miss Kayleigh Wood Historic England	5 Managing and mitigating risk	F+W SPD:12	Object	<p>Whilst it is appreciated that the SPD will centre upon issues directly surrounding flood and water within the district it is considered that the document should provide more information on the likely impacts on the Historic Environment, more specifically, as examples:</p> <ul style="list-style-type: none"> The opportunities for conserving and enhancing heritage assets as part of an integrated approach for catchment based flooding initiatives, this including sustaining and enhancing the local character and distinctiveness of historic townscapes and landscapes. The potential impact of changes in groundwater flows and chemistry 	Acknowledged – happy to add additional references to historic environment where appropriate	<p>'historic environment' added into 3rd bullet point of 4.5.8</p> <p>'historic environment' added into overview of Chapter 6</p>

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				<p>on preserved organic and palaeo-environmental remains. Where groundwater levels are lowered as a result of measures to reduce flood risk, this may result in the possible degradation of remains through de-watering, whilst increasing groundwater levels and the effects of re-wetting could also be harmful.</p> <ul style="list-style-type: none"> • The potential impact on heritage assets of hydromorphological adaptations. This can include the modification/removal of historic in-channel structures, such as weirs, as well as physical changes to rivers with the potential to impact on archaeological and palaeo-environmental remains. • The potential implications of flood risk on securing a sustainable use for heritage assets, including their repair and maintenance. • Acknowledgment that Historic Buildings, for example, can be damaged by standard Flood Risk Management and Mitigation and often need a tailored approach. • The opportunities for improving access, understanding or enjoyment of the Historic Environment and heritage assets as part of the design and implementation of flood and water management proposals. • The vulnerability of most heritage assets (designated and non-designated) to flooding, including occasional flooding, and the potential harm to or loss of their significance. • The opportunity for increasing 		

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				<p>public awareness and understanding of appropriate responses for heritage assets in dealing with the effects of flooding and improving resilience.</p> <p>For further information please see link to our guidance on Flooding and Historic Buildings: http://historicengland.org.uk/images-books/publications/flooding-and-historic-buildings-2ednrev/</p> <p>It is considered that specific paragraphs on the Historic Environment could be provided within Section 5 Managing and Mitigating Risk.</p>		
Adam Ireland Environment Agency	5.1.4	F+W SPD:89	Have observations	<p>5.1.4 - Breach mapping – reference should be given to methods outlined in FD2320/1: flood risk to people.</p> <p>5.1.4 – Instantaneous breaches – this does define what an Instantaneous breach is i.e. opens to the full extent within a very short time frame (seconds). This replicates a sudden failure. This could be expanded to explain when each type should be used. Note a recent study by the EA demonstrates that there is little difference in the flood extents etc depending upon what method is used.</p>	<p>Rather than repeat long sections of the document a link to the FD2320/1 should be provided within the SPD. Similarly, the above document provides detail on breaches that readers of the SPD may refer to as appropriate</p>	<p>Added '(see the Environment Agency's publication – Flood Risk Assessment Guidance for New Development for further information)' to Paragraph 5.1.4</p>
Adam Ireland Environment Agency	5.1.5	F+W SPD:90	Have observations	<p>5.1.5 – this doesn't refer to what type of breach model was used. It would be worth adding this in.</p>	<p>We have not received any detail from the EA as to what type of model was used therefore no changes proposed to the SPD</p>	<p>No change</p>

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Mr Andy Brand The Abbey Group (Cambridgeshire) Ltd	5.1.9	F+W SPD:27	Object	Please see my previous comments which are applicable here also. If the flood zone changes then the Local Plan should be reviewed. The development plan is integral to providing certainty to the development industry.	Discussed with steering group- EA flood maps may be updated every quarter; therefore it would be inappropriate to update Local Plans every time.	No change
Adam Ireland Environment Agency	5.1.9	F+W SPD:91	Have observations	5.1.9 – the Environment Agency also hold data on climate change impacts of flood levels for the areas covered by recent models. This data is going to be released before the end of the year so it would be worthwhile the climate change scenarios referring to the 'latest guidance'.	Acknowledged – paragraph reworded in the SPD	Paragraph reworded anyway due to changes to climate change allowances issued in March 2016
Harry Jones of David Lock Associates for Tim Leathes Urban and Civic	5.1.10	F+W SPD:146	Have observations	<p>The Master Planning Process</p> <p>Flood risk, management of the water environment and the design of SuDS are best considered as part of a holistic master planning process. Flood and water issues are not a singular topic but one of a range of issues and constraints that are taken into account in planning and design. In this context U&C suggest that the draft SPD should highlight the importance of ensuring that the draft SPD recognises that these issues including the design of SuDS are one of a number of influences on the preparation of a master plan.</p> <p>Specifically, it is considered vital that the guidance recognises the applicability of the different tiers of SuDS design at each stage of the planning process. A proportionate approach to SuDS, tailored to the planning process, is essential to ensure the correct</p>	Chapter 6 already includes steps in the planning process to ensure SuDS are considered as early as possible and paragraph 5.1.10 already directs readers to Chapter 6 therefore no changes proposed.	No change

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				level of detail is provided at the right time. For example only limited detail should be expected at strategic stages of allocation and outline consent compared to requirements for the detailed stages of Design Codes and Detailed/Reserved Matters consents. Therefore there should be flexibility to enable SuDS design to evolve with the wider development. U&C suggest that text acknowledging the above could be added to section 5 – paragraphs 5.1.10 to 5.1.16 which relate to site layout		
Mrs Ellie Henderson	5.1.11	F+W SPD:30	Object	<p>We would like to see trees mentioned as a key part of GI. See suggested ammendment below:</p> <p>The inclusion of good quality green infrastructure (<u>in particular trees</u>) within a development master plan has the potential to significantly increase the profile and profitability of developments. Low lying ground can be designed to maximise benefits by providing flood conveyance and storage as well as recreation, amenity and environmental purposes. Where public areas are subject to flooding easy access to higher ground should be provided. Structures, such as street furniture and play equipment, provided within the low lying areas should be flood resistant in design and firmly attached to the ground.</p> <p>The Woodland Trust believes that woodland creation is especially important for green infrastructure provision because of the unique ability of woodland to deliver across a wide range of benefits – see our publication</p>	Acknowledge – can include trees here; however rather than the use of 'in particular' which implies trees are always important, the word 'including' should be used.	Paragraph 5.1.11 amended to ' <i>The inclusion of good quality green infrastructure (including trees and other vegetation) within a development master plan has the potential to significantly increase the profile and profitability of developments. Low lying ground can be designed to maximise benefits by providing flood conveyance and storage as well as recreation, amenity and environmental purposes. Where public areas are subject to flooding easy access to higher ground should be provided. Structures, such as street furniture and play equipment, provided within the low lying areas should be flood resistant in design and firmly attached to the ground</i> '. Due to other changes this is now paragraph 5.1.14

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				<p><i>Woodland Creation – why it matters</i> http://www.woodlandtrust.org.uk/en/about-us/publications/Pages/ours.aspx).</p> <p>The Case for Trees (Forestry Commission, July 2010) states:</p> <p>'There is no doubt that we need to encourage increased planting across the country – to help meet carbon targets – and every tree can count towards those targets as part of a renewed national effort to increase the country's overall woodland canopy.</p> <p>But it's not all about carbon; there is a growing realisation among academics about the important role trees play in our urban as well as the rural environment. It has long been accepted and confirmed by numerous studies that trees absorb pollutants in our cities with measurable benefits to people's health – such as reducing asthma levels. Yet trees also deliver a whole host of other extraordinary economic, environmental and social benefits.'</p> <p>The report goes on to say:</p> <p>'The development of the space in which we live and work represents an opportunity for change that may not be repeated for many years. Making the right decisions at these pivotal moments can influence peoples' sense of place, health and wellbeing for generations.'</p>		

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Mr John Oldfield Bedford Group of IDBs	5.1.12	F+W SPD:58	Have observations	<p>The opportunity to strengthen the need for reducing flood risk should be taken whenever possible. 'should' will give officers more room to negotiate betterment in the future than saying 'can'</p> <p>".....the proposed development <u>should can</u> offer flood risk betterment by holding back flood flow peaks....."</p>	Acknowledge and agree – change can to should.	<p>Amended wording of paragraph 5.1.12 to <i>Site layout does not only have to cater for the flood risk on the site but can also accommodate flood water that may contribute to a problem downstream. For example, where a proposal has a watercourse flowing through which contributes to flooding downstream in the existing community or further downstream within an adjacent community, the proposed development should offer flood risk betterment by holding back flood flow peaks within the site in a green corridor and by making space for this water. This is a proactive approach to flood risk management in Cambridgeshire where new developments offers enhancements to the surrounding area. All developments with watercourses identified within their site must consider this approach. Due to other changes this is now 5.1.15</i></p>
Mr John Oldfield Bedford Group of IDBs	Figure 5.1: Upper river catchment development ©BACA Architects	F+W SPD:60	Have observations	the figure should include reference to the Byelaw zone adjacent to the watercourse/river and show a clear working bank for maintenance access	Unable to change layout as this is a fixed layout	No change
Mr John Oldfield Bedford Group	Figure 5.2: Middle	F+W SPD:59	Have observations	Figure should refer to Byelaw zone adjacent to watercourse/river and show clear working	Unable to change layout as this is a fixed layout	No change

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of IDBs	river catchment development ©BACA Architects			bank		
Mr John Oldfield Bedford Group of IDBs	Figure 5.3: Lower river catchment development ©BACA Architects	F+W SPD:61	Have observations	The figure should show Byelaws relating to river and also to flood defences.	Unable to change layout as this is a fixed layout	No change
Adam Ireland Environment Agency	5.1.15	F+W SPD:92	Have observations	5.1.15 perhaps signpost in this section to FD2320 an excellent government research document on the hazards of flooding.	Acknowledge – provide link to this document here	Added 'A guidance document titled 'Flood Risks to People' was published by Defra/EA in 2006 which developed a method for estimating risks to people, both during and immediately after a flood event. This document contains useful information on the hazards of flooding' added to paragraph 5.1.15. Due to other changes this is now 5.1.21
Adam Ireland Environment	5.1.17	F+W SPD:93	Have observations	5.1.17 "Where it is not possible to avoid flood risk or minimise it through site layout, raising floor levels above the predicted flood	Acknowledge – change exit to egress. 'Safe' is referred to with no definition	Paragraph 5.1.17 reworded to 'Where it is not possible to avoid flood risk or minimise it through site layout, raising floor levels above

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Agency				<p>level with an allowance for the life time of the development (climate change allowance)" – doesn't make much sense in the context - allowance for the impacts of climate change over the life time of the development maybe.</p> <p>5.1.17 – Consider changing 'exit' to 'egress'</p> <p>Safe access and egress – this mentioned numerous times in the SPD but is never classified – what is classed as 'safe'. The Environment Agency will object to any application that has a greater hazard rating the 0.75 (FD2320) but makes no comments on the wider issue of safety. This should be expanded upon. The subsequent section on resilience planning could be sign posted.</p>	<p>and therefore reference should be made to the Flood Risks to People document throughout (wherever safe is mentioned).</p> <p>Reference to the Flood Risks to People document should be made throughout the SPD whenever 'safe access' is referred to.</p>	<p><i>the predicted flood level (including an appropriate allowance for climate change) is a possible option in some circumstances to manage flood risk to new developments however this can increase flood risk elsewhere; it can create an 'island effect' with surrounding areas inundated during a flood, makes access and egress difficult; can affect river geomorphology; can have further potential impacts, such as erosion on site and changes to erosion and sedimentation elsewhere and can also have an impact on the landscape value and amenity of the river flood plain'. Due to other changes this is now 5.1.23</i></p> <p><i>'Please see the Defra/EA publication 'Flood Risks to People' for further information on what is considered 'safe.'</i> Added in to 4.1.7, 4.5.6 and 5.1.26</p>
Adam Ireland Environment Agency	5.1.19	F+W SPD:94	Have observations	5.1.19 Access ramps can also take up flood storage so these also need to be considered within the overall loss of flood plain.	Acknowledged and this should be added in to section 5.1.19	Amended paragraph 5.1.19 to ' <i>Raising floor levels can have an adverse impact on the street scene as building and feature heights will increase. In addition there may be implications for access ramps for wheelchairs which in turn can also take up flood storage leading to an overall loss of floodplain. Raising floor levels may also be significantly more difficult to achieve privacy standards with higher windows and this may also create the need for significantly higher boundary treatments or screens</i> '. Due to other changes this is now 5.1.25
Adam Ireland Environment	5.1.22	F+W	Have observations	5.1.22 – can ground floor flats be referenced in this section as well. Is it deemed	Acknowledged – important to include	Amended paragraph 5.1.22 to ' <i>Single storey residential development and ground floor</i>

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Agency		SPD:95		acceptable to provide safe refuge in non-habitable areas like corridors?	ground floor flats here	<i>flats are generally more vulnerable to flood damage as occupants do not have the opportunity to retreat to higher floor levels and salvage belongings to higher ground. For this reason single storey housing and ground floor flats in flood risk areas should not be allowed unless finished floor levels are set above the appropriate flood level for the lifetime of the property (taking into account the appropriate climate change allowance), and there is safe access and escape. In areas of extensive floodplain (e.g. Wisbech), single storey housing could be supported where a purpose built stairway is provided to the roof area and escape from this area is in the form of easily accessible and easy to open roof light windows or similar (this must be as agreed by the relevant LPA in advance'. Due to other changes this is now 5.1.28</i>
Adam Ireland Environment Agency	5.1.23	F+W SPD:96	Have observations	5.1.23 – unless FFLs are raised or can be raised?	Acknowledged – this should be updated in the SPD	<i>Amended paragraph 5.1.23 to 'Sleeping accommodation on the ground floor that relies on flood warnings and the implementation of flood proofing measures is hazardous. Change of use from commercial to residential that results in proposed ground floor flats in Flood Zone 3 is unlikely to be acceptable (even with the use of flood proofing measures to mitigate the flood risk) unless finished floor levels are or can be raised above the predicted flood level (with an appropriate allowance for climate change), and there is safe access to and escape from higher storeys of the building'. Due to other changes this is now 5.1.29</i>

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Mr John Oldfield Bedford Group of IDBs	5.1.27	F+W SPD:62	Have observations	IDBs may also adopted new flood defences under Agreement and with funding	Acknowledged – this should be updated in the SPD	Added ' <i>In addition, IDBs may also adopt new flood defences if appropriate agreements and funding are in place.</i> ' To end of paragraph 5.1.27. Due to other changes this is now 5.1.33
Adam Ireland Environment Agency	5.1.27	F+W SPD:97	Have observations	<p>5.1.27 – Defences are not there to allow for further development and therefore should not be agreed unless there is wider sustainability benefits. We would prefer that this position is made clear within this paragraph.</p> <p>This section should also look into designations under the FWM Act. Where a defence was being built to protect a development or area, this could be designated a 'flood asset' by the LLFA.</p>	Acknowledge – this should be updated in the SPD	<p>Paragraph 5.1.27 amended to '<i>The construction of new flood risk defences may enable development to take place provided that there are wider sustainability benefits associated with their construction (this could be demonstrated through a sustainability appraisal for example). Their construction needs to be very carefully considered with the LPA, the EA and the relevant IDB. New defences create new residual risks that can take significant investment to fully understand and plan. WMAs who maintain defences (such as the EA or IDBs) are not obliged to maintain defences and could potentially reprioritise or reduce expenditure in this area. Where defences are required, maintenance agreements will need to be reached through Section 106 of the <u>Town and Country Planning Act 1990</u> or Section 30 of the <u>Anglian Water Authority Act 1977</u>. The latter can be used by the EA to adopt flood defences directly. In addition, IDBs may also adopt new flood defences if appropriate agreements and funding are in place.</i>' Due to other changes this is now 5.1.33</p> <p>Additional paragraph (5.1.34) added in – '<i>Under the FWMA 2010, the EA, LLFA, District Councils and IDBs have legal powers to designate structures and features that affect flood risk and are not directly</i></p>

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						<i>maintained by these organisations. Where a defence is being built to protect a development or area, it may be designated as a 'flood asset' by the relevant body. Further information on the designation of structures can be found in Defra's Designation of Structures and Features for Flood and Coastal Erosion Risk Management Purposes – Information Note.</i>
Adam Ireland Environment Agency	5.2.9	F+W SPD:110	Have observations	5.2.9 – Contradictory – what is best for flood depths between 0.3-0.6m? General – There are numerous illustrations sourced from other documents that aren't directly referenced. Check permissions to use these illustrations.	Acknowledged – the difference between 0.3 and 0.6 has been unintentionally missed out. This should be updated to include all depths up to 0.6 m (based on DCLG document).	Updated water exclusion strategy to ' <i>Water exclusion strategy – where emphasis is placed on minimising water entry whilst maintaining structural integrity, and on using materials and construction techniques to facilitate drying and cleaning. This strategy is favoured when low flood water depths are involved (not more than 0.6m). It should be noted that even with this strategy, water is still likely to enter the property</i> ' All illustrations now referenced appropriately
Adam Ireland Environment Agency	5.2.10	F+W SPD:111	Have observations	5.2.10 – if the text is taken directly from the guidance then why include it?	The text is not directly lifted and therefore the wording should be amended here to say 'further information can be found...'	Amended wording of paragraph 5.2.10 to ' <i>Further details can be found in improving the Flood Performance of New Buildings (CLG, 2007)</i> '
Miss Kayleigh Wood Historic England	6 Surface Water and Sustainable Drainage Systems	F+W SPD:13	Object	Within the red summary box it states that Sustainable Drainage Systems will: 'Conserve, accommodate and enhance biodiversity'. However, it does not highlight the need to conserve or enhance the Historic Environment (which is covered within the Section at 6.2.8, 6.2.9, 6.3.18 and 6.3.19) and we would therefore advise that this is included within the red summary box.	Acknowledge – historic environment should be added in here	Third bullet point within box amended to ' <i>Conserves, accommodates and enhances biodiversity and the historic environment; and</i> '

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Mr John Oldfield Bedford Group of IDBs	6 Surface Water and Sustainable Drainage Systems	F+W SPD:63	Have observations	An essential element of a SuDS is maintainability to ensure it continues to function effectively in the future.	No specific changes required; however additional detail on maintenance has been added throughout chapter due to changes made by newly published SuDS Manual	No change
Mr Graham Moore Middle Level Commissioners	6 Surface Water and Sustainable Drainage Systems	F+W SPD:144	Have observations	<p>Our position on the use of SuDS is as follows:</p> <p>“National guidance promotes the management of water in a sustainable way to mimic the surface water flows from the site prior to development, thus discouraging the discharge of unregulated flows of surface water to sewers and watercourses. This, however, primarily refers to and presupposes the use of gravity systems which serve most of the country. Whilst the Commissioners and associated Boards generally support adherence to national guidance where appropriate this must, to a certain extent, depend on the individual circumstances of the site or receiving watercourse system.</p> <p>Unlike most of the country, the majority of Fenland is served by pumped, artificial drainage systems with low hydraulic gradients with any run-off generally being stored within them, often for a great length of time, before being discharged into the river system and thus reducing any impact on the peak flow within the river system.</p>	Acknowledged – as outlined in previous comments, some acknowledgment of the differences in land types across the county (city to fen) should be made. Often it is perceived that SuDS cannot be used in fen areas; however this is not the case and therefore a paragraph relating to this should be added.	New paragraph (6.1.4) added in to represent different landscape of the Fens <i>'Even across man-made areas such as the Fens there is the potential to make use of many different SuDS components as they can reduce the immediate impact of intense rainfall ultimately having a cumulative beneficial effect on flood risk from main rivers. Together SuDS and IDB systems can be a strong combination providing significant benefits for future development'</i>

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				<p>A major concern regarding the use of grey water recycling, infiltration devices, attenuation storage systems and other SuDS, although not necessarily our problem at this time, is the future funding and maintenance of such devices which, if unmaintained, can become a liability resulting in drainage/flooding problems which have to be resolved at a cost to the owner and possibly the public purse. The resolution of this issue, which was considered as part of the Pitt Review, is still awaited.</p> <p>It is considered that, in some circumstances, an unregulated flow in to the Board's managed system is the most appropriate long term solution. The associated contribution for making an unregulated direct discharge to the Board's system will ensure that it is maintained and continues to perform its function and provides the appropriate Standard of Protection (SoP) at relatively small cost and with minimal environmental impact reducing the need to utilise natural resources and the impact of climate change by reducing greenhouse gas emissions."</p>		
Mr Richard Whelan	6.1.5	F+W SPD:37	Have observations	6.1.5 Mentions the NPPF, it would be worth making reference to the Planning Practice Guidance and the Non-Statutory Technical Standards at this stage as they are a good guide for LLFAs and developers, out in 6.8.1 later in the document.	Acknowledge – these need to be added in alongside local planning policies	Amended paragraph 6.1.5 to <i>'Please note that reference is made to 'SuDS' throughout this chapter, rather than 'surface water drainage' as the NPPF, NPPG, Non-Statutory Technical Standards for Sustainable Drainage and adopted and emerging Local Planning policies require a SuDS solution to surface water management</i>

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						<i>for new development. Many of the general principles within this chapter can also be applied to traditional surface water drainage and so this chapter needs to be complied with on all development sites and the provision of SuDS maximised. Even on very constrained sites SuDS can be implemented in one form or another'. Due to other changes this is now 6.1.6</i>
247 Mrs Ellie Henderson	6.2.2	F+W SPD:31	Object	<p>We would wish to note the following point:</p> <p>Trees can reduce the impact of drought as, under the right conditions, shelterbelts can enable crops to use water more efficiently which could reduce the need for irrigation and lead to less abstraction.</p> <p>A joint Environment Agency/Forestry Commission publication Woodland for Water: Woodland measures for meeting Water Framework objectives states clearly that: <i>'There is strong evidence to support woodland creation in appropriate locations to achieve water management and water quality objectives'</i> (Environment Agency, July 2011- http://www.forestry.gov.uk/fr/woodlandforwater).</p> <p>Therefore we would like to see mention here of the value of trees and woodlands in this regard.</p>	Acknowledge – add into SPD	<i>Added 'Equally, trees and woodland, where used appropriately can reduce the impact of drought as, under the right conditions, shelterbelts can enable crops to use water more efficiently (by reducing evapotranspiration losses) which could reduce the need for irrigation and lead to less abstraction' to paragraph 6.2.2.</i>
Mr John Oldfield Bedford Group	6.2.6	F+W SPD:64	Have observations	The section should emphasize the need to design biodiversity into the SuDS so that the SuDS can function in the future to manage flood risk, and hence avoid unnecessary	Acknowledge – add into SPD	Amended wording of paragraph 6.2.6 to <i>'Many of Cambridgeshire's nationally and locally designated nature conservation areas are designated because of their water</i>

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of IDBs				conflict over maintenance and the risk of disturbing protected species.		<i>environment. The integration of SuDS into the landscape needs to be sensitive to the local biodiversity and equally, biodiversity needs to be designed into SuDS. At present one of the main risks to biodiversity in Cambridgeshire is the extent of fragmentation of habitats and loss of species due to historical farming practices and more recently increased pressures from development. Inclusion of SuDS networks could help to re-connect existing habitats and re-create new areas. Cambridgeshire's <u>Habitat Action Plans</u> and <u>Species Action Plans</u> provide specific information on desirable habitat design in the county. Biodiversity should be integrated into SuDS at the early design stage to avoid unnecessary conflict over maintenance and the disturbance of protected species. Additionally if protected species are likely to be attracted to SuDS features, the protection of these habitats during maintenance and operation should be considered in the design'</i>
Mrs Ellie Henderson	6.2.7	F+W SPD:32	Object	<p>We would wish to see mention of woodland creation here.</p> <p>We believe that woodland creation is especially important because of the unique ability of woodland to deliver across a wide range of benefits – see our publication Woodland Creation – why it matters (http://www.woodlandtrust.org.uk/en/about-us/publications/Pages/ours.aspx). These include for both landscape and biodiversity (helping habitats become more robust to adapt to climate change, buffering and extending fragmented ancient woodland), for</p>	Acknowledge – add into SPD	Amended wording of paragraph 6.2.7 to 'A UK government objective is, "connecting people with nature" (Defra 2011) and the use of SuDS can help deliver this objective. Through careful design, SuDS can respect, enhance and connect local habitats and support biodiversity and green infrastructure in Cambridgeshire. As recognised in the CIRIA SuDS Manual (C753), water within a SuDS system is essential for the growth and development of plants and animals and biodiversity value can be delivered on any scheme from small, isolated systems to

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				<p>quality of life and climate change (amenity & recreation, public health, flood amelioration, urban cooling) and for the local economy (timber and woodfuel markets).</p> <p>Government response to Independent Panel on Forestry Report (January 2013):</p> <p>We want to see significantly more woodland in England. We believe that in many, although not all, landscapes more trees will deliver increased environmental, social and economic benefits. We particularly want to see more trees and woodlands in and around our towns and cities and where they can safeguard clean water, help manage flood risk or improve biodiversity.</p>		<p><i>large strategic developments where SuDS are planned as part of the wider green landscapes. The creation of rough grasslands, woodland, wetland meadows, aquatic planting and open water can provide shelter, food and foraging and breeding opportunities for a wide variety of wildlife'</i></p>
249 Miss Kayleigh Wood Historic England	6.2.8	F+W SPD:14	Support	<p>Accommodating measures such as Sustainable Drainage Systems, whilst sustaining and enhancing the character of historic townscapes and landscapes, is an area which should be explored and it is appreciated that this is covered at points 6.2.8 and 6.2.9 and this is welcomed.</p>	Support noted	No change
Mrs Ellie Henderson	6.2.13	F+W SPD:33	Object	<p>We would like to see mention of trees here.</p> <p>The Forestry Commission's publication, <i>The Case for Trees in development and the urban environment</i> (Forestry Commission, July 2010), explains how: <i>'the capacity of trees to attenuate water flow reduces the impact of heavy rain and floods and can improve the effectiveness of Sustainable Urban Drainage Systems'</i>.</p> <p>Trees can help reduce mitigate surface</p>	Acknowledge – reference to trees should be made where possible throughout document	Trees additionally referred to elsewhere throughout document (paragraph 5.1.14 and 6.2.2)

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250				<p>water flooding in urban situations too, when rain water overwhelms the local drainage system, by regulating the rate at which rainfall reaches the ground and contributes to run off. Slowing the flow increases the possibility of infiltration and the ability of engineered drains to take away any excess water. This is particularly the case with large crowned trees. Research by the University of Manchester suggests that increasing tree cover in urban areas by 10% can reduce surface water run-off by almost 6%. Trees are therefore a useful component of Sustainable Urban Drainage Systems (SuDS). The Woodland Trust has produced a policy paper illustrating the benefits of trees for urban flooding – <i>Trees in Our Towns – the role of trees and woods in managing urban water quality and quantity</i> - https://www.woodlandtrust.org.uk/publications/2012/12/trees-in-our-towns/ .</p>		
Scott Hardy RSPB	6.2.13	F+W SPD:136	Have observations	<p>The SPD introduces the potential of SuDS to provide valuable habitat and to contribute to strong green infrastructure networks with increased benefits for biodiversity. It advises</p> <p><i>that there are several Biodiversity Action Plan species and habitats that can be supported by well designed SuDS', and that SuDS can 'enhance and connect local habitats' and 'provide an opportunity to replace some of [Cambridgeshire's] lost</i></p>		<p>Added paragraph (6.2.8) to Biodiversity and Green Infrastructure section (moved to remove duplication throughout chapter). 'There are several Biodiversity Action Plan (BAP) species and habitats² that can be supported by well-designed SuDS. In appropriate locations, design of retention ponds and wetlands should consider the integration of well-designed sanctuary areas wherever possible, to give spaces for the more sensitive wildlife species. To make sure SuDS can provide the best benefits to</p>

² Updates to Biodiversity Action Plans can be found here: www.cpbiodiversity.org.uk

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				<p><i>landscape and habitats</i>'.</p> <p>The RSPB strongly supports the adoption of a landscape-led approach to SuDS planning and the creation of locally appropriate habitats through SuDS, and are pleased to see this promoted within the SPD. However, in order to fully achieve this through SuDS, appropriate ecological expertise and engagement with local stakeholders is required. Currently the SPD states in point 6.2.13 that '</p> <p><i>designing SuDS effectively requires the right team with the relevant skills</i>'. The RSPB strongly recommends the SPD expands on this statement to ensure the importance of ecological expertise and stakeholder input is fully understood. Expert ecological advice will also allow SuDS to provide maximum benefit for protected species and other species of conservation concern which may already be present on site. A list of useful contacts is contained within the RSPB and WWT SuDS guidance booklet¹, and could help inform developers of the potential stakeholders and experts to engage with.</p> <p>For example, paragraph 6.2.13 could be expanded to describe:</p> <p><i>"designing SuDS effectively requires the right team with the relevant skills. To make sure SuDS can provide the best benefits to wildlife ecological expertise is strongly advised. Consultation with nature conservation groups can also help access such expertise. Further information and a list</i></p>		<p><i>wildlife, ecological expertise is strongly advised. Consultation with nature conservation groups can also help access such expertise. Further information and a list of useful contacts can be found in the RSBP and WWT publication 'Sustainable Drainage Systems: Maximising the Potential for People and Wildlife'</i></p>

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				<i>of useful contacts is contained within the RSPB and WWT SuDS guidance booklet1"</i>		
Mr Richard Whelan	Figure 6.1: Stage 1	F+W SPD:45	Support	This is a good representation of SuDS design, illustrating how early consideration of the drainage avoids expensive retrofit solutions on established plans	Support noted	No change
Mr Richard Whelan	6.3.4	F+W SPD:44	Have observations	Where the receiving water body allows reduced attenuation onsite it could be worth adding a design requirement that it must be demonstrated that the site is able to drain when the receiving waterbody is already in a 1% flow event. This helps to ensure that the experiences of 1998 are not revisited (where flooding was experienced when watercourses and sewers had difficulty in discharging due to an already high water level in the receiving watercourse)	Acknowledge – it is important to look at how the site will drain in flood conditions and an appropriate wording should be added in to reflect this.	Amended wording of paragraph 6.3.4 to ' <i>The LPA may allow a reduced level of attenuation prior to discharge to a watercourse where a strategy or study undertaken by or in partnership with an IDB or other WMA demonstrates that no increase in flood risk would occur to the site or elsewhere. It must however be demonstrated by the applicant that the site can continue to drain when receiving water bodies are in flood conditions. Irrespective of any agreed runoff rates, source control methods must be implemented across sites to provide effective pre-treatment of surface water. This must be demonstrated as part of the proposal</i>
Mr John Oldfield Bedford Group of IDBs	6.3.6	F+W SPD:65	Have observations	The section should include a figure to represent bespoke areas of Cambridgeshire, namely the heavily modified and artificial watercourses, which are equally as important as natural and urban examples.	Although Heavily Modified Waterbodies relate to the WFD it would be useful to include maps of these watercourses across the county. These need to be obtained from the EA's geostore and included as a figure within the text.	Added new paragraph (6.3.10), ' <i>In addition to natural and urban catchments, as already detailed, the Fen area of Cambridgeshire has an extensive network of artificial drainage channels that are mostly pump drained. The majority of these are under the control and management of IDBs. <u>Map 6.1</u> shows those areas of Cambridgeshire where the watercourse are designated by the EA as 'Heavily Modified Waterbodies' and 'Artificial Waterbodies'. Such designation relates to the Water Framework Directive</i>

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						(see Chapter 7 for further information); however it provides a useful visualisation of the artificial drainage network across Cambridgeshire' Also added plan of HMWB across Cambridgeshire (Figure 6-1)
Scott Hardy RSPB	6.3.10	F+W SPD:137	Have observations	<p>Point 6.3.10 of the SPD advises '<i>When designing SuDS networks on land that has low permeability, SuDS should be designed accordingly. Soakaways and other infiltration methods may not be suitable but there are many other methods that can be used on clay type soils</i>'.</p> <p>The RSPB are aware that clay type soils have previously been cited as a barrier to SuDS inclusion within development plans. We are pleased to see the SPD advise that there are '<i>many other [SuDS] methods that can be used on clay type soils</i>'. However, we would like to see this point strengthened given that clay soils have been viewed as a barrier to SuDS previously. It is our view that where clay soils are present there should be potential to provide even greater scope and opportunity for wildlife over free draining sites through SuDS. Clay soils have great potential for nature rich surface features such as swales, rills, retention basins, ponds, and wetlands</p>	Acknowledged – impermeable soils often cited as a barrier and appropriate wording should be added in to reinforce this will not be acceptable as a reason across Cambridgeshire	Following sentence added into 'keep water on the surface' ' <i>Low permeability soils are often cited as a reason for not including SuDS; however this is not acceptable in Cambridgeshire as solutions do exist. Although soakaways and other infiltration methods may not be suitable, many other methods such as swales, ponds and wetlands should be prioritised,</i> ' Due to other changes this is now 6.3.22
Mr Richard Whelan	6.3.11	F+W SPD:46	Have observations	This paragraph seems to aimed at setting out the consideration of infiltration but hints at SuDS as being primarily infiltration devices which is in conflict with what is described in 6.3.10. SuDS mimic natural	This is already covered throughout the SPD and 6.3.22	No change

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				drainage as described earlier in the document and with less permeable soils natural drainage would be a process of limited infiltration and overland flow through streams and rivers etc. Might I suggest amending this to say that ground conditions will influence the type of SuDS system being considered or remove the reference from SuDS from this paragraph and focus purely on infiltration, regardless of how that is achieved?		
Miss Kayleigh Wood Historic England 254	6.3.18	F+W SPD:15	Support	Accommodating measures such as Sustainable Drainage Systems, whilst sustaining and enhancing the significance of areas of archaeological interest and or potential interest, is an area which should be explored and it is appreciated that this is covered at points 6.3.18 and 6.3.19 and this is welcomed.	Support noted	No change
Mr John Oldfield Bedford Group of IDB	6.3.24	F+W SPD:66	Have observations	These areas may be subject Byelaws and specific restrictions, such as no development or obstruction.	Reference can be added in to byelaws	Amended paragraph 6.3.24 to ' <i>Consideration should be given to access to, and maintenance of, existing infrastructure which includes existing watercourses. Many IDBs, Local Authorities and the EA have requirements and/or byelaws requiring maintenance strips adjacent to a watercourse and should be contacted for exact requirements in their area</i> '. Due to other changes this is now 6.3.34
Mr Richard Whelan	6.3.25	F+W SPD:43	Have observations	Pleased to see mention of how SuDS does not always mean infiltration. The document almost requires a myth busting page as a pre-emptive approach to standard rejections of Sustainable Drainage Systems. There	This is acknowledged and has been covered by additions made in response to other representations.	No change

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				are still some strange widely held opinions that a SuDS system can only be used on certain sites. As you will know, ultimately any system that is not inspected, maintained or designed with site constraints and long term flood risk in mind will be unsustainable. Hence moving the focus onto ownership and adoption		
Mrs Ellie Henderson	6.3.27	F+W SPD:34	Object	We would like to see woodland mentioned here as it is multi-functional, delivering a wide range of benefits including - helping habitats become more robust to adapt to climate change, amenity & recreation, improving air quality, flood amelioration, urban cooling and for the local economy (timber and woodfuel markets).	Acknowledged – can add woodland in	Wording amended to ' <i>Open spaces are an asset to the community and to the environment and form an important component of a wider green infrastructure network. A network of woodland, recreational and open spaces, whether green or paved will be essential for well-designed developments. Open spaces can provide space for SuDS features to provide attenuation and treatment of surface water runoff. Good design will seek ways to integrate SuDS with the rest of the open space and to make SuDS features multifunctional. In these areas there is a need to concentrate on design and amenity value, recreational use, and fit with surrounding landscape (see figure 6-9) Examples of multi-functional uses in open spaces include; temporary storage areas doubling as playing fields or recreation areas, hardscape attenuation doubling as water features and public art, bioretention areas doubling as landscaped garden areas, wetlands and ponds doubling as amenity and habitat areas, and bioretention planters linking with open space divisions or seating areas</i> '. Due to other changes this is now

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						6.3.38
Scott Hardy RSPB	6.3.27	F+W SPD:138	Have observations	<p>The RSPB is pleased that the SPD promotes the use of SuDS in multi-functional landscapes to enhance urban, recreational, and open spaces. As recognised in the SPD this provides benefits for the local communities, including access to nature. However the RSPB does not consider the SPD provides sufficient guidance on encouraging community engagement and ownership of SuDS.</p> <p>The RSPB strongly recommend including additional information on community engagement and partnership working. With good design and an effective participation strategy, as well as expert ecological guidance, SuDS (particularly those that provide wildlife habitat and so an attractive feature) can readily become a focus of community life, where people are willing to get involved with local activities. The appropriate management of SuDS can provide many opportunities for learning, informal recreation, supported play and other community programmes. This has many social and health benefits and gives people a sense of pride, responsibility and ownership of their environment. Active interpretation, volunteering opportunities, guided walks and other forms of engagement provide ways in which people can become involved in decision-making and management of SuDS. This in turn can engender public support for SuDS, leading to increased awareness of wetlands and the natural environment and community</p>	Detail on pre-app working with relevant WMAs etc has been included throughout and there is a lot of information in Section 6 on how to most appropriate include SuDS therefore no additional changes proposed in response to this comment.	No change

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				cohesion.		
Mrs Helen Lack Huntingdonshire District Council	6.3.28	F+W SPD:5	Have observations	Please note that HDC's Design Guide states at 3.4.3 page17, "It is not acceptable for areas intended as informal open space to : 1)be comprised mainly or wholly of land which doubles as a balancing area (which is likely to be unusable for at least part of the year...." 6.3.28 seems to conflict with this approach	Acknowledge that different LPAs will have different approaches. Appropriate wording should be used to ensure differences between LPAs are made clear	Paragraph 6.3.28 amended to ' <i>Where the local authority will adopt SuDS in public open spaces, they must still be able to function and be accessible as useable open space for the majority of the time for them to be included within the open space calculations</i> '. Due to other changes this is now 6.3.39
257 Mr Richard Whelan	Figure 6.7 Street design to drain to adjoining lower ground SuDS feature (courtesy of CIRIA)	F+W SPD:50	Have observations	seems to show a traditional road and gully system when the water could be conveyed across the land illustrated, to the untrained eye this may appear fairly similar to the undesirable image in figure 6.12.	Updated images now obtained from Ciria which will be used throughout document	Updated
Mr Richard Whelan	6.3.31	F+W SPD:47	Have observations	It may be worth mentioning why the deep end of pipe assets are less desirable; increased excavation, potential need for unnecessary pumping or increased health and safety risk and mitigation requirements	Acknowledge – add in	Added ' <i>Deep features are undesirable due to increased excavation, the potential need for unnecessary pumping and the requirement for mitigation measures</i> ' to paragraph 6.3.31. Due to other changes this is now 6.3.43
Mr Richard Whelan	6.5.2	F+W SPD:48	Have observations	seems slightly simplistic, it could benefit from reference to Building Regulation requirements relating to separators/	Acknowledge. In addition, the Ciria SuDS manual has been updated and this section should therefore be	Section 6.5 now amended in relation to this comment and updates to the Ciria SuDS

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				interceptors and from a link to EA Pollution Prevention Guidance (https://www.gov.uk/government/collections/pollution-prevention-guidance-ppg). Also there should be consideration of the type of water quality risk and the type of treatment stages, for example trapped gullies, catch pit manholes and separators/ vortex devices are relatively ineffective against soluble or fine suspended pollutants such as milk or detergents.	updated to reflect both this comment and manual changes.	<p>manual.</p> <p>6.5.1 <i>'SuDS have a considerable advantage over traditional drainage as a well-designed system will provide a level of treatment to surface water runoff before it is discharged into the receiving water body. It does this through a number of processes including filtration, settlement, and uptake by plants.</i></p> <p>6.5.2<i>The size and number of treatment stages required is based on the level of pollution entering into the system. For example, industrial sites will contain a higher level of pollutants within surface water runoff than from a small residential road. Table 6-3 indicates the water quality management design method/approach required to determine the appropriate level of treatment for a number of land uses.</i></p> <p>6.5.3<i>Each treatment stage must be designed to be effective in pollutant removal as stipulated in The SuDS Manual C753). This needs to be quantified at the application stage. Different features have different levels of effectiveness and the system should be designed as a whole to ensure there is no detriment in water quality.</i></p> <p>6.5.4 <i>Guidance on the effectiveness and design of each potential feature can be found in Table 6-3 Guidance notes for Table 6-3 can be found in Appendix 5.'</i></p>
Mr Richard Whelan	6.5.4	F+W SPD:49	Have observations	The CIRIA SuDS Manual is due to be re-released this year under a different reference (i.e. not C697) would suggest making reference to the latest CIRIA guidance to avoid references to out dated documents (this is repeated in the	See comments and action above (F&W SPD:48)	No change

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				document)		
Harry Jones of David Lock Associates for Tim Leathes Urban and Civic	6.6 Designing a safe environment	F+W SPD:148	Have observations	<p>Detailed SuDS Design</p> <p>Section 6.6 of the draft SPD outlines that all SuDS schemes should be designed as a safe environment that can be accessed and enjoyed by residents and visitors. Paragraph 6.6.1 is clear that the use of fencing and barriers should not be the approach to making SuDS features safe. Whilst U&C agrees that it is not appropriate to include the fencing and barriers as part of the design of SuDS features in residential areas, the use of such features and steeper earthworks slopes may be acceptable in less sensitive environments such as for employment sites. In this context, it is suggested that paragraph 6.6.1 is amended to introduce more flexibility to allow the use of fencing, barriers and steeper earthworks slopes where appropriate within the landscape of less sensitive developments.</p> <p>U&C welcome the clarification within section 6 of the draft SPD that the provision of SuDS within development projects is the preferred approach for the design of water drainage systems in Cambridgeshire rather than traditional surface water drainage systems. This clarity will ensure that SuDS can be incorporated into the design of development proposals at the outset in order to maximise their efficiency and amenity value.</p> <p>The approach to SuDS design outlined within paragraph 6.6.1 highlights the opportunity to incorporate SuDS within</p>	Acknowledge – wording relating to the safety/use of fencing for SuDS should be added to this section.	Paragraph 6.6.1 amended to <i>'All SuDS schemes should be designed as a safe environment that can be accessed and enjoyed by residents and visitors. The use of fencing and barriers should not be the approach to making SuDS features safe, particularly in residential developments. It is however recognised that there may be cases in less sensitive environments (such as industrial areas) where steeper earthworks and safety measures are appropriate'</i>

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				formal public open space within development sites. U&C agree that well designed SuDS within safe environment can be a valuable amenity asset for local communities.		
Mr John Oldfield Bedford Group of IDBs	6.7 Developing a surface water drainage strategy	F+W SPD:67	Have observations	This whole section should have an overarching message that it is essential to consider maintenance at each stage of master planning.	Acknowledge – this is also reinforced by the NPPF which requires maintenance to be considered as part of a planning application. Appropriate wording should be added in.	Paragraph 6.7.1 amended to <i>'For larger developments a masterplan will be necessary. It is at this stage the SuDS layout (taking into account flow routes, topography, geology and green space) and proposed maintenance of the system should be determined whilst, ensuring a safe design and mitigation of flood risk (see Figure 6.1). Seeking advice at the earliest opportunity from the relevant WMAs will help avoid any costly issues or redesigns at a later stage. Effective master planning should ensure a robust, viable and cost-effective scheme from the outset, where objectives of the development are informed by the SuDS scheme and vice versa'</i> . 7th bullet point of paragraph 6.7.5 amended to, <i>'Maintenance and management plan of surface water drainage system (for the lifetime of the development) including details of future adoption'</i>
Mr and Mrs P Boon	6.9 Adoption and Maintenance of SuDS	F+W SPD:4	Have observations	I have read the document and think if it is enforced it could be a very good framework for agencies and developers to follow. Paragraph 6.9 Adoption and Maintenance of SuDS. This section covers the maintenance and adoption of SuDS. In my experience of local developments this is not sorted out, this should be a precondition and enforced. If the	Support noted	No change

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				SuDS for a development is not maintained then this could either cause flooding on the site or surrounding properties or the local authorities becoming responsible for maintenance and funding.		
Mr John Oldfield Bedford Group of IDBs	6.9.1	F+W SPD:68	Support	We support the benefits of the SuDS being adopted by a statutory body for the future maintenance, as this ensures there is an accountable body in the future to undertake maintenance. It also enables the developers to concentrate on their main priority of building houses and buildings.	Support noted	No change
Harry Jones of David Lock Associates for Tim Leathes Urban and Civic	6.9.1	F+W SPD:149	Have observations	Adoption and Maintenance of SuDS U&C agrees with the recommendation outlined at paragraph 6.9.1 that it would be preferable for a statutory organisation to take on the role of maintaining SuDS within developments. However, clarification is required to confirm that this is not the only approach which could be acceptable depending upon the circumstances of specific developments. For example, in some circumstances, it may be more appropriate that the long-term management of SuDS is undertaken by a management company or private owner.	Acknowledged – appropriate maintenance/adoption of SuDS will be considered by the LLFA. Amendment should be made to this effect.	Paragraph 6.9.1 amended to ' <i>The LPA may seek advice for developers looking to source an appropriate body for SuDS adoption and maintenance. It is recommended that a statutory organisation takes on the role of maintaining the SuDS as this will guarantee maintenance of the drainage system in perpetuity; however where this is not possible, alternative bodies may also be able to maintain SuDS, provided that a suitable maintenance plan has been submitted to and agreed with the LPA. Statutory organisations in Cambridgeshire may include organisations such as the local authorities, Anglian Water and IDBs. For SuDS serving the highway these should be discussed with the Highways Authority at CCC to ensure suitability for adoption.</i> '
Scott Hardy RSPB	6.9.3	F+W SPD:139	Have observations	The SPD advises under point 6.9.3 that ' <i>there is a need to ensure that a long-term, effective maintenance regime is in place</i> '. However, whilst the SPD states under 6.3.20	Acknowledged – appropriate wording relating to habitat management plans should be added	Third bullet point of 6.9.3 amended to ' <i>There is a need to ensure that a long-term, effective maintenance regime is in place along with a long term habitat management</i>

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				<p>that 'if protected species are likely to be attracted to SuDS features, the protection of these habitats during maintenance and operation should be considered in the design', it does not specify the need for a long term habitat management plan. The RSPB strongly recommends that the SPD confirms the need for a long term habitat management plan to be developed to inform any maintenance regime put in place to ensure the system functions effectively over time and continues to provide benefits to wildlife. Any habitat management plan should ensure key species continue to benefit from a SuDS scheme, as well as ensuring water storage and water filtration (to improve discharge quality) functions do not diminish.</p> <p>The RSPB strongly recommend that the role of source control within SuDS systems be expanded upon within the SPD to highlight the importance of adequate source control (e.g. green roofs, living walls, rain gardens, permeable surfaces, filter strips and bio-retention areas) for delivering SuDS with high wildlife and amenity value. The most important component of SuDS if they are to deliver for wildlife is source control. Poor water quality reduces the likelihood of creating valuable wildlife habitats. The more effort invested in features at the point at which rain lands the better the regional control of detention and retention basins will be for wildlife. Further information on this can be found on pages 15-21 of the</p>	in	<p>plan where appropriate'.</p> <p>Amended paragraph 6.3.11 to 'The SuDS management train is a central design concept for SuDS. It describes the use of a, "sequence of components that collectively provide the necessary processes to control the frequency of runoff, the flow rates and the volumes of runoff, and to reduce the concentrations of contaminants to acceptable levels" (CIRIA 2015). The management train begins with land use decisions and prevention measures, followed by interventions at the property scale and street scale (source control), through to considerations for downstream run-off controls within the overall site boundary, and wider initiatives downstream that are designed to manage the overall catchment. Source control includes features such as permeable paving, rainwater harvesting, living walls, rain gardens, filter strips, green roofs and bio retention areas. These allow water to penetrate the feature thereby reducing the proportion of surface water runoff that is conveyed into the drainage system'</p>

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				<p>aforementioned guidance 1, which we consider would provide helpful guidance if referenced and/or quoted in this section.</p>		
				<p>SuDS often have cost benefits in comparison to traditional pipe drainage systems. These benefits have been widely reported, including in the 'Lamb Drove Sustainable Drainage Systems (SuDS) Monitoring Project' report commissioned by Cambridgeshire County Council. This report states that the capital costs of the SuDS scheme were £314 per property cheaper than the alternative pipe drainage system.</p>		
				<p>It is the RSPB's view that the SPD does not adequately promote the potential cost benefits of multi-functional SuDS compared to traditional piped drainage systems. The RSPB recommends that the SPD strongly emphasises the potential cost benefits as this is likely to be a major consideration for developers.</p>		
				<p>The RSPB's has previously worked with Exeter City Council on their 'Residential Design' SPD by providing biodiversity advice which is incorporated into the SPD. The RSPB is also cited as an additional source of information within this document. The RSPB recommends including a link within the Flood and Water SPD to our 'Sustainable Drainage Systems - maximising the potential for people and wildlife' guidance booklet,</p>		

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Consultee Name	Chapter or Para No.	Comment ID	Support/ Observations / Object	Comment	Councils' assessment	Action
				<p>produced in partnership with the WWT1. The RSPB recommends the inclusion of a link to this SuDS guidance in the SPD to complete the portfolio of best practice guidance documents. It is our view that this will provide useful additional information and guidance for LPAs and developers regarding maximising the benefits of SuDS systems for people and wildlife.</p> <p>1RSPB/WWT (2014). Sustainable Drainage Systems - maximising the potential for people and wildlife. At: www.rspb.org.uk/forprofessionals/policy/sustainabledevelopment</p>		
Alan Simpson Anglian Water Services Ltd	6.9.5	F+W SPD:132	Have observations	<p><u>Para 6.9.5</u></p> <p>We recommend that this paragraph is amended to:</p> <p>“If the applicant is minded to choose Anglian Water as the appropriate body for SuDS adoption they should ensure the proposed design meets Anglian Water’s adoption criteria, referencing relevant guidance and advice where appropriate. Further information on Anglian Water SuDS adoption, including the SuDS adoption manual, is available on the Anglian Water website.”</p>	Acknowledged – to be added to SPD	Amended paragraph 6.9.5 to ‘ <i>If the applicant is minded to choose Anglian Water as the appropriate body for SuDS adoption they should ensure the proposed design meets Anglian Water’s adoption criteria, referencing relevant guidance and advice where appropriate. Further guidance on Anglian Water SuDS adoption (including their <u>Sustainable Drainage Systems Adoption Manual</u>) is available on the <u>Anglian Water website</u></i> ’
Mrs Helen Lack	6.9.6	F+W	Have	Is it the intention that the document will include a schedule of adoption rates,	No this will not be included within the SPD, particularly as they would be	No change

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Consultee Name	Chapter or Para No.	Comment ID	Support/ Observations / Object	Comment	Councils' assessment	Action
Huntingdonshire District Council		SPD:6	observations	supported by all Councils?	subject to change on a potentially frequent basis	
Mr Richard Whelan	7 Water Environment	F+W SPD:38	Have observations	Pleased to see the inclusion of compliance with the Water Framework Directive within the document (step 6 page 32 etc), however it should be noted that virtually all developments will have some level of WFD impact if the water eventually ends up in a WFD assessed waterbody (via a sewer or ground water flow), this may not cause the rivers to fail to meet WFD requirements instantly but the accumulative impact of development will increase the baseline contaminants within the water network and lead to a deterioration in the environment or a failure of compliance through accumulative inputs. Hence the need to ensure appropriate treatment stages are in place.	Support noted	No change
Adam Ireland Environment Agency	7 Water Environment	F+W SPD:98	Support	<p>Chapter 7: Summary</p> <p>We generally support this section as capturing the general thrust of the WFD and how it relates to the planning system with planning applications.</p> <p>We realize that we did not provide detailed comments during previous formative drafts due to time and resource constraints at that time, so as agreed we include these now as mainly 'editing' suggestions for accuracy and by way of update.</p>	Support noted	No change
Mr John Oldfield Bedford Group	7.1.1	F+W SPD:69	Object	This statement is incorrect in East of England, as a large proportion of our	Acknowledged – wording needs to be appropriately changed to reflect	Paragraph 7.1.1 amended to ' <i>The European WFD is an established legal framework for</i>

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Consultee Name	Chapter or Para No.	Comment ID	Support/Observations / Object	Comment	Councils' assessment	Action
of IDBs				waterbodies are artificial or heavily modified for agriculture, development, milling, navigation, infrastructure..... Hence, any WFD statement should refer to good ecological potential	natural and modified water bodies.	<i>managing the water environment. Under the WFD the United Kingdom must aim to achieve 'good ecological status/potential' (depending on the designation of the water body) by 2015 in all surface freshwater bodies, including rivers, lakes, groundwater, transitional and coastal waters regardless of size and characteristics. Other objectives of the WFD include preventing deterioration of the status of all bodies of surface water, including groundwater'.</i>
Adam Ireland Environment Agency	7.2.1	F+W SPD:99	Have observations	7.2.1 the second ARBMP will be adopted December 2015 by the time the SPD is adopted. There EU legislation allows no scope for this to slip.	Acknowledge – amend wording of SPD appropriately	Paragraph 7.2.1 amended to 'River Basin Management Plans produced by the EA, in consultation with the LPA, detail the pressures facing the water environment and what actions need to be taken in order for the WFD to be met in each area. The Anglian River Basin Management Plan (December 2015) covers Cambridgeshire'
Adam Ireland Environment Agency	7.3.2	F+W SPD:100	Have observations	7.3.2 Should submit a preliminary Water Framework Assessment and also consult the LLFA or LA depending on the waterbody, or if SuDS is a factor. 7.3.2 In most case the EA can "inform/advise" is more accurate than "confirm".	Wording currently states that a separate assessment may be required therefore this is already covered	No change
Adam Ireland Environment Agency	7.3.3	F+W SPD:101	Have observations	7.3.3 Last sentence accuracy :” In most cases EA can confirm <u>which process regulation</u> WFD assessment might be most appropriate to be undertaken <u>and whether there may be any in principle planning implications from WFD water body</u>	Acknowledge – amend wording of SPD appropriately.	Paragraph 7.3.3 amended to 'There may be proposals that do not need EIA but have potential WFD-related impacts for example marinas, development in close proximity to a river bank, channel diversions, new culverts on main rivers, mineral extraction close to watercourses or intensive agriculture. In

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Consultee Name	Chapter or Para No.	Comment ID	Support/ Observations / Object	Comment	Councils' assessment	Action
				<u>objectives being met.</u> "		<i>most cases the EA can advise which process regulation WFD assessment might be most appropriate to be undertaken and whether there may be any in principle planning implications from WFD water body objectives being met'.</i>
Adam Ireland Environment Agency	7.3.4	F+W SPD:102	Have observations	7.3.4 EA deals with permits under a much wider range of legislation. Suggest we omit 'Water resources Act' and replace with: "a breadth of Environmental Permitting, Land Drainage, Water Resources and Pollution Prevention acts and regulations. Developers should seek to ascertain through pre-application discussions with EA what regulations are involved and whether these might involve controls that would mean a planning permission could not be implemented. The risk of not doing so is that it may make planning process an abortive one for all concerned and is likely in any event to involve a detailed water framework assessment at the planning stage."	Acknowledge – amend wording of SPD appropriately	Paragraph amended to ' <i>WFD Assessments are sometimes required by the EA for developments where permissions are required for works near/on main rivers under the breadth of Environmental Permitting, Land Drainage, Water Resources and Pollution Prevention Acts and Regulations. Developers should seek to ascertain through pre-application discussions with the EA what regulations are involved and whether these might involve controls that would mean a planning permission could not be implemented. The risk of not doing so is that it may make the planning process an abortive one for all concerned and is likely in any event to involve a detailed WFD assessment at the planning stage'.</i>
Adam Ireland Environment Agency	7.3.7	F+W SPD:103	Have observations	7.3.7. Add 'Water companies can also provide up to date information and guidance' for completeness and getting up to date information.	Acknowledge – amend wording of SPD appropriately	Amended paragraph 7.3.7 to ' <i>Another source of information leading on from the WFD is Water Cycle Studies (WCS). The WCS assesses the capacities of water bodies and water related infrastructure to accommodate future development and growth throughout Cambridgeshire, for each of the City and District Councils, and is intended to support the evidence base for their relevant Local Plans. Water companies can also provide up to date information and guidance relating to the available capacity of water and water recycling infrastructure as</i>

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Consultee Name	Chapter or Para No.	Comment ID	Support/Observations / Object	Comment	Councils' assessment	Action
Mr Graham Moore Middle Level Commissioners	7.4 Water resource s and waste water	F+W SPD:145	Have observations	<p>We are disappointed that given the title of the document that all water cycle issues such as water resources were not more fully considered. Within the document water resource issues predominantly refer solely to potable water supply but other water resource issues which exist within the study area, for example, agricultural use, navigation, amenity, biodiversity should also be considered, particularly if drought conditions, like those recently experienced, become more regular, if the impact of climate change becomes a reality.</p> <p>The largest development within the County during the current plan period and beyond is the Great Fen Project. The impact on the water cycle within the Commissioners' area may be beneficial, by providing flood protection, amenity, biodiversity benefits and/or detrimental by requiring high levels of abstraction when water is scarce.</p> <p>It should be remembered that with the exception of rain falling on the catchment, the Commissioners only source of water is the abstraction from the Back River, a tributary of the River Nene, through Stanground Lock. During periods of dry weather this abstraction from the Nene is reduced or ceases and this can detrimentally affect the Commissioners' system. The Nene system also serves Anglian Water's potable water storage reservoirs.</p> <p>Due to the statutory requirement within the</p>	<p>Previous actions have added in additional references to Fenland and differences between landscapes across the county. However additional wording could be added in. This would be more appropriate in Section 6 where the Cambridgeshire context is discussed</p>	<p><i>part of their pre-planning services'</i></p> <p>Previous actions have added in additional references to Fenland.</p> <p>Paragraph 6.2.2 amended to included reference to irrigation. <i>'Cambridgeshire is one of the driest counties in the UK. On average, the county receives less than 600 mm of rainfall per annum; however, this can drop below 500mm in particularly dry years. This is less than half the national average of 1,176mm. Accordingly, water management is an important issue and source control measures like rainwater harvesting that enable water use reduction locally are important along with retention of water for irrigation purposes. Equally, in some areas infiltration to re-charge local groundwater supplies is important due to the low rainfall conditions in Cambridgeshire and SuDS such as soakaways can help by encouraging infiltration wherever it is achievable and acceptable. In Fen areas where water levels are closely managed to sustain development and agriculture, the IDBs can use their systems to manage water supplies for agriculture. Equally, trees and woodland, where used appropriately can reduce the impact of drought as, under the right conditions, shelterbelts can enable crops to use water more efficiently (by reducing evapotranspiration losses) which could reduce the need for irrigation and lead to less abstraction'</i></p>

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Consultee Name	Chapter or Para No.	Comment ID	Support/ Observations / Object	Comment	Councils' assessment	Action	
				<p>Middle Level System to maintain the navigation level which takes precedence over water abstraction if, during a long hot summer, there is any risk of dropping below the minimum navigation level, then all abstraction from our system will be curtailed or has to cease. This can last for potentially 4 – 6 weeks, which obviously has an impact on crop yields and could have an adverse impact on the Great Fen and other amenity, biodiversity sites.</p>	<p>Whilst it is appreciated that agriculture, navigation and tourism are not likely to significantly impact on the larger “growth” issues, the study area is likely to remain primarily agriculturally based for the foreseeable future, and will therefore, create employment and contribute to the economy. Similarly, navigation and tourism do the same but on a much smaller scale and have sustainability and biodiversity benefits.</p>	<p>The Middle Level Commissioners have to balance these against the need to retain both flows and a navigation level. Therefore, it is important that public water supply is balanced against these requirements; for example the supply of water from the River Nene to the Middle Level. These issues need to be taken into account including changes in upstream demand for water beyond the study area. The failure to consider this could have severe economic and environmental effects on the area that any growth in the Council's area may be affected.</p>	

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Consultee Name	Chapter or Para No.	Comment ID	Support/ Observations / Object	Comment	Councils' assessment	Action
Adam Ireland Environment Agency	7.4.1	F+W SPD:104	Have observations	7.4.1 For accuracy and completeness: future development 'have the potential to cause deterioration to the WFD status, the LPA and applicant will need to assess this and manage impacts accordingly to avoid any deterioration in line with Article 4.7 of the Directive. (NB we would not know if deterioration were likely until an assessment were carried out)	Acknowledged – amend wording of SPD appropriately	Paragraph 7.4.1 amended to ' <i>If the water supply or wastewater discharge needs of any future development have the potential to cause deterioration to the WFD status, the LPA and applicant will need to assess this and manage the impacts accordingly to avoid any deterioration in line with Article 4.7 of the WFD</i> '
HarryJones of David Lock Associates for Tim Leathes Urban and Civic	7.4.1	F+W SPD:150	Have observations	Water Framework Directive Paragraph 7.4.1 confirms that where it is likely that water supply or wastewater discharge needs have potential to cause deterioration of the Water Framework Directive (WFD) status, this must be taken into consideration by applicants and local planning authorities. U&C suggests that this paragraph could be clarified to also include that consideration of the WFD is required to be considered in circumstances where the sewerage undertaker has confirmed that there is capacity in both the foul sewer network and at water recycling centres	This is not necessarily the case and could confuse matters if included	No change
Adam Ireland Environment Agency	7.4.2	F+W SPD:105	Have observations	7.4.2 at the end, for accuracy and update, add ...water consumption "from all water resources in Cambridgeshire" in place of 'water stressed areas' which are anomalous for planning purposes.	Acknowledged – amend wording of SPD appropriately	Paragraph 7.4.2 amended to ' <i>The supply of drinking water to Cambridgeshire involves abstraction from Water Resource Zones (WRZ) across the County and the wider area (Table 7-1). The resilience of the supply systems have the potential to be affected by the impact of climate change and severe</i>

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Consultee Name	Chapter or Para No.	Comment ID	Support/ Observations / Object	Comment	Councils' assessment	Action
						<i>weather related events. Both <u>Cambridge Water</u> and <u>Anglian Water</u> have encompassed the potential effects of climate change within their Water Resource Management Plans, which have determined the need for investment in both mitigation and adaptation, specifically to reduce water consumption from all water resources in Cambridgeshire'</i>
Adam Ireland Environment Agency	7.4.3	F+W SPD:106	Have observations	7.4.3 Suggest moving this to before 7.5.1. Last line, update for accuracy and to accord with the ARBMP: Replace with "Increases to year round abstraction are unlikely to be permitted by the EA."	Acknowledged – amend wording of SPD appropriately	Change made and additional text added to paragraph 7.5.1 – amended to 'When water is removed from a river it can reduce water quality due to reduced dilution of pollutants. Standards are in place between the EA and the relevant water company to ensure that most of the time water levels within the river are maintained at an appropriate level for fish and other wildlife. However, in drought periods or with increasing demand water companies may need to apply for a permit to increase abstraction, and hence reduce river levels. Queries regarding increases to year round abstraction are unlikely to be permitted by the EA.'
Adam Ireland Environment Agency	7.4.4	F+W SPD:107	Have observations	7.4.4 Update for accuracy and clarity of the process to avoid delays/uncertainty: delete 'it is likely that'. Last line "Details of works infrastructure in planned development locations can be found in the LPAs WCS and their update reviews. <u>Proposal not accounted for in WCSs should be assessed in pre-application consultation with EA, AW/CWW. Proposals submitted without such info may experience delay or be determined as submitted.</u> "	Acknowledged – amend wording of SPD appropriately	Paragraph 7.4.4 amended to 'If the local water and sewerage company reaches a point where it needs to apply for a permit for increased discharge flows from a sewage treatment work (STW), water quality limits will be tightened. This is intended to aid achievement of the water quality objectives of the receiving water body under the WFD. Details of works infrastructure in planned development locations can be found in the LPA's WCS and their update reviews. Proposals not accounted for in WCSs should be assessed in pre-application consultation

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Consultee Name	Chapter or Para No.	Comment ID	Support/ Observations / Object	Comment	Councils' assessment	Action
						<i>with the EA, Anglian Water/Cambridge Water'. Due to other changes this is now 7.4.3.</i>
Mr George Dann King's Lynn Drainage Board	7.4.5	F+W SPD:124	Have observations	7.4.5 - this section is not particularly clear, and may benefit from being re-written. The requirement to obtain prior written consent for increases in the rate and/or volume of discharge in a watercourse in an IDB district, and to pay a fee for this, applies with most IDBs throughout the country, and certainly the vast majority, if not all, of the ones mentioned in your document, not just MLC.	Acknowledged and as previous comments have discussed, reference to MLC specific requirements have been removed throughout the report and have been generalised to all IDBs.	Paragraph 7.4.5 amended to <i>'Within most IDB areas, any additional discharges beyond those permitted into the IDBs systems will require their prior written consent together with the payment of the relevant fee'</i>
Mr John Oldfield Bedford Group IDBs	7.5 Development location in relation to catchment or watercourse	F+W SPD:70	Have observations	For clarity, this section should refer to Byelaws and Consents.	Acknowledge – reference to byelaws should be added to paragraph 7.5.4	Amended paragraph 7.5.4 to <i>'Special consent may be required from Cambridgeshire's WMAs for development that takes place inside or within a certain distance of a non-main river watercourse. Developers should contact CCC (the LLFA) or IDB (If within an IDB's rateable area) for further details. Byelaws may also be applicable in some areas throughout Cambridgeshire. Check with the LPA/IDB if this is the case'.</i>
Adam Ireland Environment Agency	7.5.1	F+W SPD:108	Have observations	7.5.1 at the end add for accuracy and completeness environments... <u>"or any modifications needed to facilitate improvement and not compromise the river's form and function"</u> .	Acknowledged – amend wording of SPD appropriately	Paragraph 7.5.2 amended to <i>'Under the WFD, a development's location within a catchment or its proximity to a watercourse is relevant. Proximity to a watercourse is relevant where, for example, development or engineering works could affect the ability of the body responsible for maintaining the watercourse to access, maintain or improve the water body, or where it could affect the flow in a watercourse. Riverside development must therefore be set back a reasonable distance from the water's edge,</i>

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Consultee Name	Chapter or Para No.	Comment ID	Support/Observations / Object	Comment	Councils' assessment	Action
						<i>allowing a corridor between the two environments or any modifications needed to facilitate improvement and not compromise the river's form and function'.</i>
Mr Graham Moore Middle Level Commissioners	Map 2.1: IDBs within East Cambridgeshire District Council (ECDC) Area	F+W SPD:142	Have observations	Unlike Maps 1.1, 3.1 and 3.2, the maps 2.1–2.4 included in Appendix 2 are of extremely poor quality. This is particularly disappointing given that a detailed plan showing both the Middle Level Commissioners' catchment, rivers and our pumping station at St Germans together with the drainage districts to whom we provide administrative, engineering and/or planning services and the LPA boundaries was sent to you in April.	This is agreed and relates to the space available on the host website for the draft SPD. Full resolution maps are to be used for final document.	Amended for final document
Miss Kayleigh Wood Historic England	Appendix 4: Building materials guidance	F+W SPD:16	Object	It should be acknowledged that the Building Material Guidance will not always be appropriate for Historic Buildings.	Acknowledged – a footnote to this effect should be added in	Included footnote ' <i>Please note: Building Material Guidance will not always be appropriate for historic buildings</i> '
Adam Ireland Environment Agency	Glossary of terms	F+W SPD:109	Have observations	Glossary: Include 'ambient risk' in the glossary (from sequential test Stage D page 24). Suggest: "Ambient Risks: The pre-development risks of all forms of flooding with the presence of existing defences, including risks from defences being overwhelmed, or defence asset failure. Ambient risk does not include proposed site mitigation measures.	Unsure why this is required as ambient risk is not referred to in the SPD?	No change

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Consultee Name	Chapter or Para No.	Comment ID	Support/ Observations / Object	Comment	Councils' assessment	Action
	Glossary of terms	F+W SPD:125	Have observations	Glossary - the definition of a "Hydrological Model" is much broader than this, and can apply to any watercourse, not just rivers.	Acknowledged and this should be changed	Amended to ' <i>Estimates the flow in a river/watercourse from a given amount of rainfall falling into the catchment</i> '

Cambridge City Council, East Cambridgeshire District Council, Fenland District Council, Huntingdonshire District Council and South Cambridgeshire District Council

Strategic Environmental Assessment Screening for the Cambridgeshire Flood and Water SPD

1. Statements of Reasons for Determination

- 1.1 Sustainability Appraisal (SA) is a tool to test whether the plans, policies and proposals can deliver sustainable development. Integrated into the SA are the requirements of the Strategic Environmental Assessment (SEA) Directive. However, the SA covers wider social and economic effects of plans, as well as the more environmentally-focused considerations in the SEA Directive.
- 1.2 The Planning and Compulsory Purchase Act 2004 required that all Local Development Documents, including DPDs (now local plans) and SPDs be subject to SA prior to publication. The rationale behind this is that SPDs do not contain any new policies, but provide supplementary guidance relating to policies set out in overarching local plans that have been subject to SA.
- 1.3 However, a SPD may occasionally be found likely to give rise to significant effects which have not been formally assessed in the context of a higher-level planning document. Therefore, local authorities need to screen their SPDs to ensure that the legal requirements for SA are met where there are impacts that have not been covered in the appraisal of the parent plan or where an assessment is required by the SEA Directive.
- 1.4 Sustainability Appraisals have been undertaken for the following parent plans:
- Sustainability Appraisal of the Cambridge Local Plan 2014. [Volume 1: Final Appraisal for Submission to the Secretary of State](#) (March 2014), and [volume 2: History of Site Allocations](#). This SA is also applicable for South Cambridgeshire District Council and their current draft Local Plan.
 - [Sustainability Appraisal of the Cambridgeshire & Peterborough Minerals and Waste Core Strategy \(adopted 19 July 2011\)](#).
 - [Sustainability Appraisal of East Cambridgeshire District Council's Local Plan: version 2 \(updated August 2013\)](#).
 - [Sustainability Appraisal of the Fenland Core Strategy \(Submission September 2013\)](#).
 - [Sustainability Appraisal for Huntingdonshire District Council's adopted Core Strategy \(September 2009\)](#). Further SA work will inform the District Council's Local Plan to 2036 once adopted.
 - [Sustainability Appraisal for South Cambridgeshire District Council's adopted Development Control Policies DPD and Draft Final Sustainability Appraisal for submitted South Cambridgeshire Local Plan](#)

- 1.5 The Cambridgeshire Flood and Water SPD does not determine the use of land or constitute modifications to any of the district or city plans. Based on the assessment in Appendix 1, it is demonstrated that the SPD does not give rise to significant environmental effects.

Appendix 1

Criteria for determining the likely significance of effects referred to in Article 3(5) of Directive 2001/42/EC

The characteristics of the Cambridgeshire Flood and Water SPD having regard to:	
(1a) The degree to which the plan or programme sets a framework for projects and other activities, either with regard to the location, nature, size and operating conditions or by allocating resources.	<p>Applicable in part. The SPD does refer to a 'framework for projects' for reference purposes, but does not allocate resources against those projects.</p> <p>The framework is set by the National Planning Policy Framework and National Planning Practice Guidance as well as local policies contained in each districts local plans. The SPD provides additional guidance in relation to water and flooding, and will help to ensure successful implementation at a local level. The SPD will not, however, set the framework for the allocation or levels of development within Cambridgeshire.</p>
(1b) the degree to which the plan or programme influences other plans and programmes including those in a hierarchy.	<p>Not applicable. The SPD sits at the bottom of the plan hierarchy and therefore does not influence other plans, but simply aims to be a supporting document to those plans. Conversely, it is influenced by and in general conformity documents at local, regional and national level.</p>
(1c) the relevance of the plan or programme for the integration of environmental considerations in particular with a view to promoting sustainable development.	<p>The SPD clarifies and adds detail to the process of ensuring that appropriate mitigation is taken when considering flood risk, including matters of water resources or quality, arising from development, including associated environmental effects. Overall, it therefore contributes positively to the integration of environmental considerations.</p>
(1d) Environmental problems relevant to the plan or programme.	<p>The main aim of the SPD seeks to address environmental problems, such as flood risk, water quality and resources, by providing clear guidance in support of the planning policies contained within the adopted local plans in Cambridgeshire.</p>
(1e) The relevance of the plan or programme for the implementation of Community legislation on the environment (for example, plans and programmes linked to waste	<p>Applicable in part. The SPD is relevant in part in that the document seeks to provide advice and guidance to developers, householders and landowners on water protection measures (e.g. flood risk, water resources</p>

management or water protection).	and quality), and as such will help with the implementation of the requirements set out in the Water Framework Directive. However, the planning policies contained within the local plans set out the implementation of Community legislation.
Characteristics of the effects and of the area likely to be affected, having regard, in particular to:	
<p>(2a) the probability, duration, frequency and reversibility of the effects.</p> <p>(2b) the cumulative nature of the effects.</p>	There are little direct or cumulative effects arising from the SPD. Again, the SPD is a supportive document to policies contained within Local Plans.
(2c) the transboundary nature of the effects.	The SPD covers the county of Cambridgeshire. As such, the SPD may affect the transboundary local planning authorities within the county. However, the SPD will not conflict with any policies contained within the local plans. Accordingly, the effects would be limited.
(2d) the risks to human health or the environment (for example, due to accidents).	Applicable in part. The Cambridgeshire Flood and Water SPD seeks to reduce the risks to human health by producing clear guidance on matters such as flood risk, and water quality, for example.
(2e) the magnitude and spatial extent of the effects (geographical area and size of the population likely to be affected).	The SPD is applicable countywide; therefore it affects a population of approximately 622,200 and relates to proposed new developments within a geographical area of 1,176 square miles.
<p>(2f) the value and vulnerability of the area likely to be affected due to—</p> <ul style="list-style-type: none"> (i) special natural characteristics or cultural heritage; (ii) exceeded environmental quality standards or limit values; or (iii) intensive land-use; and 	There are a range of special natural characteristics in Cambridgeshire including sites of special scientific Interest, county wildlife sites and local nature reserves, and heritage assets, including, scheduled ancient monuments, areas of archaeological significance and listed buildings of various ratings. These are largely protected, conserved and enhanced by adopted planning policies, as well as national policy. The SPD is unlikely to have an impact on these areas; however the SPD does include guidance on the relevant organisations to consult if any of these characteristics might be affected by the proposed development.

<p>(2g) the effects on areas or landscapes which have a recognised national, Community or protection status.</p>	<p>There are a range of internationally designated sites in Cambridgeshire including Ramsar sites, special areas conservation and special protection Areas, as well as national and local designations including sites of special scientific interest, county wildlife sites and local nature reserves. These are protected, conserved and enhanced by adopted planning policies. These plans have been subject to the Habitat Regulations Assessment screening process and, where necessary, appropriate assessment. The SPD is unlikely to have an impact on these areas; however the SPD does include guidance on the relevant organisations to consult if any of these characteristics might be affected by the proposed development.</p>
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Cambridge City Council, East Cambridgeshire District Council, Fenland District Council, Huntingdonshire District Council, and South Cambridgeshire District Council

Cambridgeshire Flood and Water Supplementary Planning Document

Habitats Regulations Assessment

1. The Need for an Assessment

- 1.1 The Cambridgeshire Flood and Water Supplementary Planning Document (SPD) has been produced to provide guidance on flood risk and water management planning matters across Cambridgeshire. The local planning authorities (LPAs) for Cambridge City Council, East Cambridgeshire District Council, Fenland District Council, Huntingdonshire District Council and South Cambridgeshire District Council have produced this guidance jointly with Cambridgeshire County Council to provide a 'countywide' approach to development, specifically on flooding and water management (e.g. SuDS). All LPAs are committed to adopting the SPD.
- 1.2 The SPD was subject to public consultation during September and October 2015.
- 1.3 It has been identified that an assessment is required in accordance with the Habitats Directive 92/43/EEC and Habitats Regulations 1994. These require a Habitats Regulations Assessment to be carried out for the SPD in order to determine any likely significant effects that it might have on the integrity of European nature conservation sites. These are designated as either Special Areas of Conservation (SACs) or Special Protection Areas (SPAs). Collectively the sites form part of a European network of protected areas known as Natura 2000, and Ramsar sites. The Government requires that Ramsar sites are afforded the same level of protection as European sites. The sites in Cambridgeshire are set out in Appendix A.
- 1.4 Advice from Natural England, following comments on an initial draft of this document, has been used to inform this assessment.

2. Baseline Data Gathering

- 2.1 Information on the sites and features of the SACs and SPAs was taken from the Screening Report of the Habitats Regulation Assessment of the East of England Plan Regional Spatial Strategy (May 2008) and the JNCC (Joint Nature Conservation Committee).
- 2.2 A variety of plans and programmes have been reviewed for the 'in combination' part of the assessment. These relate to regional, sub regional and local plans and guidance. Plans and programmes that relate to Cambridgeshire and its LPAs were included, where available. A list of the plans and programmes considered can be found in Appendix B.

3. Predicting and assessing effects on a European Site

3.1 When carrying out the assessment the following issues were considered:

- Scope of the guidance included in the SPD;
- Character of Sustainable urban Drainage Systems (SuDS) development;
- Sensitivities associated with the European Sites;
- Whether or not there are sufficient safeguards for European sites;
- The likely effects of SuDS development on the integrity of European sites;
- The likelihood that further HRA (and associated Appropriate Assessment) would be necessary at the planning application stage.

4. Scope of the guidance included in the SPD

4.1 The SPD aims to provide advice to support policies in Cambridgeshire LPAs' Local Plans (adopted or draft). It provides guidance only and reflects current national and local planning policy. It does not include any policies or site allocations. It provides guidance and advice on the full range of environmental, social and economic planning issues related to flood risk and water management matters and aims to assist in determining planning applications and to help interpret national policy and guidance and provides support to relevant local planning policies. It predominantly focuses on giving clearer guidance to applicants on addressing flood risk issues and clear detailed advice on the use of SuDS, as well as other water management issues.

4.2 The SPD is divided into seven chapters, which are as follows:

Chapter 1 –provides background information and how the SPD should be used.

Chapter 2 –provides an overview of the European and national context on flood risk and water management, as well as providing further details on the local plans and policies associated with Cambridgeshire.

Chapter 3 – provides details on the key water management authorities that may need to be consulted by the applicant during the planning application, including pre-application and planning application stages.

Chapter 4 –provides specific advice on how to address flood risk issues within the planning process, including the application of the 'sequential approach' to flood risk and producing site specific flood risk assessments.

Chapter 5 – An integral part of managing risk associated with flooding is good site design. This chapter covers ways in which those risks can be appropriately addressed.

Chapter 6 –specifically looks at a number of different design methods and how they can be incorporated into SuDS that form part of a proposed development. In addition, further guidance is given on the adoption and maintenance of SuDS.

Chapter 7 – Under the Water Framework Directive water environment must also be protected and improved with regards to water quality, water habitats, geomorphology and biodiversity.

5. Sensitivities associated with the European Sites

5.1 It is generally accepted that managing development associated with flood risk and SuDS design could potentially affect European sites and features in a range of ways.

- Direct habitat loss or damage (on and off site);
- Interference with geological processes (e.g. slope profile);
- Interference with hydrological processes (e.g. increased runoff, erosion, silting);
- Disturbance to and displacement of mobile species such as bats and birds (e.g. for migration, feeding, nesting and over wintering). Sensitivities associated with birds can relate to both loss of habitat as a result of development, including SuDS design, and displacement of birds due to the construction and operation of developments causing disturbance to feeding, and breeding and over wintering grounds.

5.2 Such risks need to be considered when incorporating SuDS as part of the wider development. The SPD highlights some of these issues and requires developers to consider such issues when developing SuDS schemes in Cambridgeshire.

5.3 When reviewing the characteristics associated with the European sites in Cambridgeshire it is considered that the issues above are relevant, particularly with regard to habitat loss and effects on birds.

6. Whether or not there are sufficient safeguards for European sites

6.1 It is understood that effects to biodiversity could take place during the construction of SuDS and of the associated development and could arise from any element of the development. Cumulative effects may also impact on biodiversity across a wide area arising from other development/activities.

6.2 However, the SPD recognises the biodiversity benefits that incorporating SuDS into a development can have. Paragraph 6.2.6 of Chapter 6, states that:

“Many of Cambridgeshire’s nationally and locally designated nature conservation areas are designated because of their water environment. The integration of SuDS into the landscape needs to be sensitive to the local biodiversity and equally, biodiversity needs to be designed into SuDS. At present one of the main risks to biodiversity in Cambridgeshire is the extent of fragmentation of habitats and loss of species due to historical farming practices and more recently increased pressures from development. Inclusion of SuDS networks could help to re-connect existing habitats and re-create new areas. Cambridgeshire’s Habitat Action Plans and Species Action Plans provide specific information on desirable habitat design in the county. Biodiversity should be integrated into SuDS at the early design stage to avoid unnecessary conflict over maintenance and the disturbance of protected species. Additionally if protected species are likely to be attracted to SuDS features,

the protection of these habitats during maintenance and operation should be considered in the design.”

7 The likelihood that further HRA would be necessary at the planning application stage.

7.1 As concluded above, in order to ascertain that development schemes addressing flood risk or water management matters alone will not have an adverse effect on the integrity of a European site or feature, a Habitats Regulations Assessment may need to be carried out on certain sites as such proposals come forward.

8. Findings of assessment and conclusions

8.1 The assessment has indicated that the SPD could result in likely effects on the integrity of European sites. Although the SPD is not site specific, its wide ranging scope could potentially result in developments associated with flood risk or water management matters being proposed close to European sites or features which could create an adverse effect.

8.2 In order to remove the likely effect, consideration has been given to potential avoidance measures. As previously mentioned, text that forms part of the SPD attempts to ensure that biodiversity should be incorporated into the development where considered necessary.

8.3 As identified above, the Cambridgeshire Flood and Water SPD is a guidance document that aims to improve the quality and sustainability of new development within Cambridgeshire in respect of appropriately addressing flood risk and water management matters. It does not present any policies or proposals, and serves only to provide greater clarity about the expectations in relation to existing policies within adopted or emerging Local Plans within the Cambridgeshire LPAs. Those adopted or emerging Local Plans have been subject to both Sustainability Appraisal and Habitats Regulations Assessment.

8.4 On this basis, it is considered that there will be no likely significant adverse effect on the integrity of the Natura 2000 sites as a result of the Cambridgeshire Flood and Water SPD.

Appendix A:

1. 2000 sites being considered for HRA screening exercise within the Cambridgeshire County Council administrative area:

- The Ouse Washes SAC, SPA and Ramsar
- The Nene Washes SAC, SPA and Ramsar
- Fenland SAC (comprising Chippenham Fen Ramsar, Wicken Fen Ramsar & Woodwalton Fen Ramsar)
- Barnack Hills and Holes SAC
- Orton Pit SAC
- Devils Dyke SAC
- Portholme SAC
- Eversden and Wimpole Woods SAC

2. The Ouse Washes SAC, SPA and Ramsar

Unitary Authority Cambridgeshire; Norfolk

Centroid TL498895

SAC EU code UK0013011

Status Designated Special Area of Conservation (SAC), Spa and Ramsar

Area (ha) 311.35

Annex I habitats that are a primary reason for selection of this site

Not applicable

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

Not applicable.

Annex II species that are a primary reason for selection of this site

1149 Spined loach *Cobitis taenia*

The Ouse Washes represent spined loach *Cobitis taenia* populations within the River Ouse catchment. The Counter Drain, with its clear water and abundant macrophytes, is particularly important, and a healthy population of spined loach is known to occur.

Annex II species present as a qualifying feature, but not a primary reason for site selection

Not applicable.

3. The Nene Washes SAC, SPA and Ramsar

Unitary Authority	Cambridgeshire; City of Peterborough
Centroid	TL302990
SAC EU code	UK0030222
Status	Designated Special Area of Conservation (SAC)
Area (ha)	88.19

Annex I habitats that are a primary reason for selection of this site

Not applicable

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

Not applicable.

Annex II species that are a primary reason for selection of this site

1149 Spined loach *Cobitis taenia*

Moreton's Leam, a large drainage channel running along the eastern flank of the Nene Washes, contains the highest recorded density of spined loach *Cobitis taenia* in the UK. There may also be thriving populations in the smaller ditches of the Washes. The site represents spined loach populations in the Nene catchment.

Annex II species present as a qualifying feature, but not a primary reason for site selection

Not applicable.

4. Fenland SAC (comprising Chippenham Fen Ramsar, Wicken Fen Ramsar & Woodwalton Fen Ramsar)

Unitary Authority	Cambridgeshire
Centroid	TL554701
SAC EU code	UK0014782
Status	Designated Special Area of Conservation (SAC)
Area (ha)	618.64

Annex I habitats that are a primary reason for selection of this site

6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)

Fenland contains, particularly at Chippenham Fen, one of the most extensive examples of the tall herb-rich East Anglian type of M24 *Molinia caerulea* – *Cirsium dissectum* fen-meadow. It is important for the conservation of the geographical and ecological range of the habitat type, as this type of fen-meadow is rare and ecologically distinctive in East Anglia.

7210 Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* * Priority feature

The individual sites within Fenland SAC each hold large areas of calcareous fens, with a long and well-documented history of regular management. There is a full range from species-poor *Cladium*-dominated fen to species-rich fen with a lower proportion of *Cladium* and containing such species as black bog-rush *Schoenus nigricans*, tormentil *Potentilla erecta* and meadow thistle *Cirsium dissectum*. There are good transitions to purple moor-grass *Molinia caerulea* and rush pastures, all set within a mosaic of reedbeds and wet pastures.

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

Not applicable.

Annex II species that are a primary reason for selection of this site

Not applicable.

Annex II species present as a qualifying feature, but not a primary reason for site selection

1149 Spined loach *Cobitis taenia*

1166 Great crested newt *Triturus cristatus*

5. Barnack Hills and Holes SAC

Centroid	TF075046
Latitude	52 37 40 N
Longitude	00 24 41 W
SAC EU code	UK0030031

Annex I habitats that are a primary reason for selection of this site:

6211 Semi-natural dry grasslands and scrubland facies: on calcareous substrates (Festuco-Brometalia) (important orchid sites) * Priority feature

This habitat at Barnack Hills and Holes consists largely of CG5 Bromus erectus – Brachypodium pinnatum grassland. It supports what is considered to be the largest UK population of the nationally scarce man orchid Aceras anthropophorum. It also supports a rich assemblage of other orchid species, such as fragrant orchid Gymnadenia conopsea, pyramidal orchid Anacamptis pyramidalis and bee orchid Ophrys apifera. The site represents orchid-rich grassland in the northern part of its range, on limestone rather than on chalk.

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

Not applicable.

Annex II species that are a primary reason for selection of this site

Not applicable.

Annex II species present as a qualifying feature, but not a primary reason for site selection

Not applicable.

6. Devils Dyke SAC

Unitary Authority	Cambridgeshire; Suffolk
Centroid	TL611622
SAC EU code	UK0030037
Status	Designated Special Area of Conservation (SAC)
Area (ha)	8.02

Annex I habitats that are a primary reason for selection of this site

6211 Semi-natural dry grasslands and scrubland facies: on calcareous substrates (Festuco-Brometalia) (important orchid sites) * Priority feature

Devil's Dyke consists of a mosaic of CG3 Bromus erectus and CG5 Bromus erectus – Brachypodium pinnatum calcareous grasslands. It is the only known UK semi-natural dry grassland site for lizard orchid Himantoglossum hircinum.

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

Not applicable.

Annex II species that are a primary reason for selection of this site

Not applicable.

Annex II species present as a qualifying feature, but not a primary reason for site selection

Not applicable.

7. Portholme SAC

Unitary Authority	Cambridgeshire
Centroid	TL237708
SAC EU code	UK0030054
Status	Designated Special Area of Conservation (SAC)
Area (ha)	91.93

Annex I habitats that are a primary reason for selection of this site

6510 Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*)

This large site represents lowland hay meadows in eastern England. It is the largest surviving traditionally-managed meadow in the UK, with an area of 104 ha of alluvial flood meadow (7% of the total UK resource). There has been a long history of favourable management and very little of the site has suffered from agricultural improvement, and so it demonstrates good conservation of structure and function. It supports a small population of fritillary *Fritillaria meleagris*.

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

Not applicable.

Annex II species that are a primary reason for selection of this site

Not applicable.

Annex II species present as a qualifying feature, but not a primary reason for site selection

Not applicable.

8. Eversden and Wimpole Woods SAC

Unitary Authority	Cambridgeshire
Centroid	TL340526
SAC EU code	UK0030331
Status	Designated Special Area of Conservation (SAC)
Area (ha)	66.48

Designation:

Annex I habitats that are a primary reason for selection of this site

Not applicable

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

Not applicable.

Annex II species that are a primary reason for selection of this site

1308 Barbastelle *Barbastella barbastellus*

The site comprises a mixture of ancient coppice woodland (Eversden Wood) and high forest woods likely to be of more recent origin (Wimpole Woods). A colony of barbastelle *Barbastella barbastellus* is associated with the trees in Wimpole Woods. These trees are used as a summer maternity roost where the female bats gather to give birth and rear their young. Most of the roost sites are within tree crevices. The bats also use the site as a foraging area. Some of the woodland is also used as a flight path when bats forage outside the site.

Annex II species present as a qualifying feature, but not a primary reason for site selection

Not applicable.

Appendix B

List of adopted Plans, emerging or draft Local Plans and other relevant planning policy documents

Relevant Plan identified	Brief overview and outline of policy	Comments
Cambridgeshire County Council		
Cambridgeshire and Peterborough Minerals and Waste Core Strategy and Proposals Map C: Mineral Safeguarding Areas, adopted 19 July 2011.	The Waste Local Plan aims to provide a sustainable strategy and policy framework for waste management by seeking to reduce landfill, and place greater emphasis on recycling and recovery from waste. It includes site specific proposals for waste management facilities. Relevant saved policies include WLP8 Greenbelts and WLP11 Protected Species.	The SPD supports this plan and as such it should not cause any significant likely effects in combination with the SPD.
Location and Design of Waste Management Facilities Supplementary Planning Document (SPD), adopted 19 July 2011.	This SPD was prepared to assist in the delivery of high quality sustainable waste management facilities. The document sets out a series of key development principles based on recognised good planning and design practice.	It should not cause any significant likely effects in combination with the SPD.
RECAP Waste Management Design Guide SPD, adopted 22 February 2012.	This SPD was produced to support the process of supporting the design policy requirements set out within the Core Strategy.	It should not cause any significant likely effects in combination with the SPD.
Block Fen/Langwood Fen Master Plan SPD, adopted 19 July 2011.	This SPD focuses on the delivery of the strategic allocation within the Core Strategy at Block Fen / Langwood Fen. It has been designed to guide development in this area with close attention to the adjacent Ouse Washes. The complementary habitat being brought forward as part of this SPD and the flood storage benefits being delivered should have a positive impact on the Natura 2000 sites.	It should not cause any significant likely effects in combination with the SPD.
Cambridge City Council		
'Cambridge Local Plan 2014: Proposed Submission', submitted March 2014	Policies seek to conserve scenic beauty, natural resources and the quality of the built environment from inappropriate development. Designated sites (wildlife and archaeology) and landscapes are given protection from development. It also aims to promote environmental protection and enhancement, (public open space, wildlife, historic environment, groundwater and surface waters).	The SPD supports this plan and as such it should not cause any significant likely effects in combination with the SPD.
Cambridge City Local Plan, adopted July 2006 (policies as set out in	Policies seek to conserve scenic beauty, natural resources and the quality of the built environment from	The SPD supports this plan and as such it should not cause any significant likely effects in

Secretary of State's Direction issued 2nd July 2009).	inappropriate development. Designated sites (wildlife and archaeology) and landscapes are given protection from development. It also aims to promote environmental protection and enhancement, (public open space, wildlife, historic environment, groundwater and surface waters). This will be replaced by the submitted Local Plan once it is adopted.	combination with the SPD.
Draft Planning Obligations Strategy SPD (June 2014).	This SPD was produced to support the process of setting out how infrastructure requirements will be sought through planning obligations (currently Section 106s).	It should not cause any significant likely effects in combination with the SPD.
Open Space & Recreation Strategy (adopted October 2011).	The SPD supports policies relating open space and recreation, as well as ecology, biodiversity and water management within the current adopted Local Plan.	It should not cause any significant likely effects in combination with the SPD.
East Cambridgeshire District Council		
East Cambridgeshire Local Plan (adopted February 2015).	Policies seek to conserve scenic beauty, natural resources and the quality of the built environment from inappropriate development. Designated sites (wildlife and archaeology) and landscapes are given protection from development. It also aims to promote environmental protection and enhancement, (public open space, wildlife, historic environment, groundwater and surface waters).	The SPD supports this plan and as such it should not cause any significant likely effects in combination with the SPD.
Design Guide SPD (adopted March 2012).	The SPD supports design led policies, but will updated to reflect the currently adopted Local Plan.	It should not cause any significant likely effects in combination with the SPD.
Developer Contributions SPD (adopted March 2013).	This SPD was produced to support the process of setting out how infrastructure requirements will be sought through planning obligations (currently CIL and Section 106s).	It should not cause any significant likely effects in combination with the SPD.
Fenland District Council		
Fenland Local Plan, adopted 8 May 2014.	Policies seek to conserve scenic beauty, natural resources and the quality of the built environment from inappropriate development. Designated sites (wildlife and archaeology) and landscapes are given protection from development. It also aims to promote environmental protection and enhancement, (public open space, wildlife, historic environment, groundwater and surface waters).	The SPD supports this plan and as such it should not cause any significant likely effects in combination with the SPD.
Delivering and Protecting High Quality Environments in Fenland SPD (adopted July 2014).	This SPD supports policies contained within the adopted Local Plan, related mainly to design and masterplanning.	It should not cause any significant likely effects in combination with the SPD.

Resource and Renewable Energy SPD (adopted July 2014).	The SPD supports policies contained within the adopted Local Plan on resource and renewable energy.	It should not cause any significant likely effects in combination with the SPD.
Huntingdonshire District Council		
Huntingdonshire Core Strategy (adopted September 2009)	Policies seek to conserve scenic beauty, natural resources and the quality of the built environment from inappropriate development. Designated sites (wildlife and archaeology) and landscapes are given protection from development. It also aims to promote environmental protection and enhancement, (public open space, wildlife, historic environment, groundwater and surface waters).	The SPD supports this plan and as such it should not cause any significant likely effects in combination with the SPD.
Developer Contributions SPD (adopted December 2011).	This SPD was produced to support the process of setting out how infrastructure requirements will be sought through planning obligations (currently CIL and Section 106s).	It should not cause any significant likely effects in combination with the SPD.
Huntingdonshire Design Guide SPD (adopted June 2007).	This SPD provides policy guidance on design related planning policies contained within the adopted Core Strategy. The SPD will be updated following adoption of the draft Local Plan.	It should not cause any significant likely effects in combination with the SPD.
Huntingdonshire Landscape and Townscape Assessment SPD (Adopted June 2007).	This SPD provides poly guidance on undertaking landscape and townscape assessments.	It should not cause any significant likely effects in combination with the SPD.
South Cambridgeshire District Council		
South Cambridgeshire Local Plan (submitted March 2014).	Policies seek to conserve scenic beauty, natural resources and the quality of the built environment from inappropriate development. Designated sites (wildlife and archaeology) and landscapes are given protection from development. It also aims to promote environmental protection and enhancement, (public open space, wildlife, historic environment, groundwater and surface waters).	The SPD supports this plan and as such it should not cause any significant likely effects in combination with the SPD.
Open Space in New Developments SPD (adopted January 2009).	This SPD provides guidance on open space standards and supports the relevant policies contained within the current adopted Local Development Framework.	It should not cause any significant likely effects in combination with the SPD.
District Design Guide: High Quality and Sustainable Development in South Cambridgeshire SPD (adopted March 2010).	This SPD provides policy guidance on design related planning policies contained within the adopted Local Development Framework. The SPD will be updated following adoption of the Local Plan.	It should not cause any significant likely effects in combination with the SPD.
Landscape in New Developments SPD (adopted March 2010).	This SPD provides policy guidance on undertaking landscape and townscape assessments.	It should not cause any significant likely effects in combination with the SPD.

South Cambridgeshire District Council Biodiversity SPD (adopted July 2009)	This SPD supersedes the South Cambridgeshire District Council Biodiversity Strategy.	
Development Control Policies DPD (adopted July 2007)	This DPD includes policies that seek to conserve natural resources and the quality of the built environment from inappropriate development. Designated wildlife sites and landscapes are given protection from development. It also aims to promote environmental protection and enhancement (public open space, wildlife, historic environment, groundwater and surface waters). This will be replaced by the submitted Local Plan once its adopted.	The SPD supports this plan and as such it should not cause any significant likely effects in combination with the SPD.
Other plans and policies		
Cambridgeshire and Peterborough Local Biodiversity Action Plans	This is made up of a number of Biodiversity Action Plans relating to Habitats and Species. They contain objectives for improving the sustainability of priority habitats and species in farmland, grassland, wetlands, woodlands, and cities, towns and villages and contain broad targets for creating or expanding new habitat.	Positive beneficial Effect.
Cambridgeshire Green Infrastructure Strategy, Cambridgeshire Horizons	The provision of Green Infrastructure is identified as a key priority for the successful implementation of sustainable growth.	Positive beneficial effect.

Cambridge City Council, East Cambridgeshire District Council, Fenland District Council, Huntingdonshire District Council and South Cambridgeshire District Council

EQUALITIES IMPACT ASSESSMENT

CAMBRIDGESHIRE FLOOD AND WATER SUPPLEMENTARY PLANNING DOCUMENT

1. Introduction and Background

- 1.1 Cambridgeshire County Council has prepared the Cambridgeshire Flood and Water Supplementary Planning Document (SPD) in conjunction with the local planning authorities within Cambridgeshire to support the implementation of the flood risk and water related policies in the Local Plans.
- 1.2 The purpose of the SPD is to complement the requirements of the specific planning policies on flood risk and water quality/resources contained within the city and district councils' Local Plans (either adopted or in draft). It sets out clear and practical guidance with the following key aims:
 - Reduces the negative impacts of flood risk onto proposed developments;
 - Provides clear guidance to developers on pre-application advice and assessing risks associated with the water environment against their proposals;
 - Promotion of Sustainable Drainage Systems (SuDs) within developments and adoption mechanisms;
 - Incorporating water saving and water quality measures.
- 1.3 The SPD has been subject to an Equalities Impact Assessment (EqIA) at all stages of production. The County Council have taken specific account of the public sector equality duty in S149 of the Equality Act 2010. The EqIA has been undertaken by Cambridgeshire County Council on behalf of all the LPAs. This EqIA also accords with the County Councils 'Single Equality Strategy 2014-16', thus ensuring that the SPD reflects the Council's vision for equality and diversity in Cambridgeshire.
- 1.4 This EqIA has been produced alongside the SPD to assess the potential adverse impacts of the document on various equality groups.
- 1.5 The EqIA document sets out how the needs of equality groups have been taken into account during the preparation and development of the Cambridgeshire Flood and Water SPD. Its purpose is to thoroughly assess the likely implications of the proposed SPD on various equality groups once it is adopted. This enables the local planning authorities to identify direct and non-direct discrimination against equality groups and explore options for mitigating such impacts and improving the document.
- 1.6 This EqIA was subject to public consultation alongside the Draft SPD. Representations received have been taken into account and changes have been made to the final SPD.

2. Equality Impact Assessments

- 2.1 The LPAs are fully committed to ensuring that everyone has an equal opportunity to play an active and positive role in considering the planning issues which affect them and the County as a whole.
- 2.2 The production of an EqIA is a proactive approach to ensuring it meets its general duty under the Equality Act 2010 to have due regard to the need to:
- Eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by or under this Act;
 - Advance equality of opportunity between persons who share a protected characteristic and persons who do not share it; and
 - Foster good relations between persons who share relevant protected characteristics and persons who do not share it.

3. Extent of the Equality Impact Assessment

- 3.1 It is the responsibility of the Councils to ensure that the organisation does not discriminate in the way it provides services and employment and that it promotes equality, diversity and positive community relations across the district. This is further explored within the County Council's 'Single Equality Strategy 2014-16'¹.
- 3.2 This EqIA ensures that equality issues have been appropriately addressed in the preparation and development of the SPD. This assessment highlights the equality and diversity considerations which have been considered in the creation of the SPD. This supports the assessment process and could potentially pre-empt any adverse impacts on equality groups which may result from the guidance contained within the SPD.
- 3.3 For the purpose of this assessment, the following groups have been identified:
- Age
 - Disability
 - Gender
 - Marriage and Civil Partnership
 - Religion & Belief
 - Race
 - Sex
 - Sexual Orientation
 - Gender Reassignment
 - Pregnancy and Maternity
 - Rural isolation
 - Deprivation
 - Caring responsibilities
 - Part-time or fixed-term working responsibilities

¹ http://camweb.ccc.cambridgeshire.gov.uk/NR/rdonlyres/48A3976E-25CC-496C-8060-A3DDF5980A6F/0/single_equality_strategy201416.pdf A hard copy of this document can be obtained on request.

- 3.4 This assessment explores and recommends actions that, once adopted, will help LPAs to anticipate and address any negative consequences which may arise and identify opportunities for the ongoing promotion of equality within the County, and in accordance with its own 'Single Equality Strategy 2014-16'.

4. Overview of the Equality Impact Assessment Process

- 4.1 In undertaking the EqIA, the Council has followed the strategy and objectives set out in Cambridgeshire County Council's Single Equality Strategy (2014-16), and the processes contained in the Council's Community Impact Assessment (CIA). The CIA process is a local development of national Equality Impact Assessment procedures, allowing us to consider locally significant issues such as rural isolation and deprivation alongside nationally prescribed issues such as age and disability.
- 4.2 Following the public consultation there have not been any unexpected impacts that need to be reflected in the final EqIA.

5. Final Equality Impact Assessment

- 5.1 The Cambridgeshire Flood and Water SPD has been subjected to a final EqIA. The final assessment has identified no negative impacts upon the identified characteristics. The results of this assessment can be found in Appendix 1 to this report.
- 5.2 This assessment highlighted that a strategy that has a positive impact upon all the residents of Cambridgeshire, specifically the old, young and vulnerable is likely to lead to greater benefits in the long term.
- 5.3 There is likely to be a positive impact on people with physical disabilities. The proposals can be used to ensure that future developments integrate mechanisms and physical alterations, including those where disabled persons may be limited to ground floor accommodation.
- 5.4 Furthermore, the SPD encourages a better quality of life through the promotion of Sustainable Drainage Systems (SuDs) to be incorporated into new developments throughout Cambridgeshire, where considered appropriate, having pleasant green spaces and water features.
- 5.5 Taking all of the above into account, the SPD is likely to have a positive impact upon the built and natural environment.

Appendix 1 - Equalities Impact Assessment Template

Directorate / Service Area		Officer undertaking the assessment
ETE/Growth & Economy		Name: Judit Carballo Job Title: Principal Planning Officer Contact details: judit.carballo@cambridgeshire.gov.uk
Service / Document / Function being assessed		
Growth & Economy/draft Flood & Water SPD/assessment of equalities against the draft SPD.		
Business Plan Proposal Number (if relevant)	-	
Aims and Objectives of Service / Document / Function		
<p>The Cambridgeshire Flood and Water SPD has been prepared to support the City and District Councils flood risk and water quality/resources planning policies contained within their Local Plans (adopted or in draft). It sets out clear and practical guidance to supplement local (i.e. countywide) and national planning policy with the following key aims:</p> <ol style="list-style-type: none"> 1) Reduces the negative impacts of flood risk onto proposed developments. 2) Provides clear guidance to developers on pre-application advice and assessing risks associated with the water environment against their proposals. 3) The promotion of Sustainable Drainage Systems (SuDs) within developments and adoption mechanisms 4) Incorporating water saving and water quality measures 		
What is changing?		
Nothing has changed.		
Who is involved in this impact assessment?		
e.g. Council officers, partners, service users and community representatives.		
<p>Officers within the County Council have been tasked within producing the SPD. This was produced in conjunction with Cambridgeshire LPAs and close working with external stakeholders such as the Environment Agency, Anglian Water and Internal Drainage Boards. A public consultation has been carried out on the draft SPD, consulting with a broad range of audiences such as local and parish councillors, certain interested groups and the general public.</p>		

What will the impact be?

Tick to indicate if the impact on each of the following protected characteristics is positive, neutral or negative.

Impact	Positive	Neutral	Negative
Age	✓		
Disability	✓		
Gender reassignment		✓	
Marriage and civil partnership		✓	
Pregnancy and maternity		✓	
Race		✓	

Impact	Positive	Neutral	Negative
Religion or belief		✓	
Sex		✓	
Sexual orientation		✓	
The following additional characteristics can be significant in areas of Cambridgeshire.			
Rural isolation		✓	
Deprivation		✓	
Caring responsibilities		✓	
Part-time or fixed-term working responsibilities		✓	

For each of the above characteristics where there is a positive, negative and / or neutral impact, please provide details, including evidence for this view. Describe the actions that will be taken to mitigate any negative impacts and how the actions are to be recorded and monitored. Describe any issues that may need to be addressed or opportunities that may arise.

Positive Impact

Age

The SPD tackles principles of inclusive design in respect of SuDS, and the benefits this will bring to all ages. This is also applicable in addressing flood risk matters within proposed developments, ensuring that all ages, specifically the young, old and the vulnerable are protected from flooding events.

Children and Young People

Good SuDS design can provide an educational and sensory environment where children can explore and interact with their surroundings.

Disability

Access and the built environment

Making the environment more inclusive and accessible is vitally important in helping to reduce some of the barriers that disabled people face. Therefore, as above, good SuDS design can provide a positive environment for disabled people, in particular people with physical, sensory and cognitive impairments. In addition, through SuDS design, disabled people who may experience significant health inequalities may benefit from improved health outcomes.

In respect of flood risk (e.g. main river or surface water), appropriate mitigation measures taken in new developments are a benefit to all, including disabled persons.

Negative Impact

No negative impacts.

Neutral Impact

The changes are not expected to have any impact on the following protected characteristics due to the fact that they have little or no relevance to the content of the SPD:
Gender reassignment, marriage and civil partnerships, pregnancy and maternity, race, religion or belief, sex, sexual orientation, rural isolation or deprivation.

Issues or Opportunities that may need to be addressed

None Identified.

Public
Key Decision - No

HUNTINGDONSHIRE DISTRICT COUNCIL

Title/Subject Matter:	Strategic Review of Parking – Project Overview
Meeting/Date:	Overview and Scrutiny Panel (Economy and Growth) – 6th April 2017
Executive Portfolio:	Councillor Jim White, Executive Councillor for Operations
Report by:	Neil Sloper, Head of Operations
Wards affected:	All

Executive Summary:

This report and its accompanying appendices provide a background to the requirements for a Strategic Review of Parking, a summary of the approach to reach the defined targets, and a clear recommendation.

Recommendation:

That the project be given approval to proceed by Overview and Scrutiny.

1. PURPOSE OF THE REPORT

- 1.1 To propose the scoping, membership and objectives of the Council's Task and Finish in establishing a Car parking Strategy.

2. BACKGROUND

- 2.1 The Star Chamber Zero Based Budgeting process required a review of car park fees and charges in 2016. This review led to the abandonment of any changes to fees and charges in favour of undertaking a strategic review of parking.

2.2 The Problem

- No agreed vision for the role of car park management and operation.
- No agreed strategic priorities for car park management or operation.
- No clear evidence base of user requirements, preference or need.
- Future fees and charges need to be developed using an evidence base.
- Future investment and enhancements to car parks and their operation must be based on an evidence based vision and strategy.

2.3 The Solution

Strategic review of car parking that gathers evidence, establishes an agreed vision and then an agreed strategy.

3. REPORT

A four stage approach is proposed

3.1 Stage 1: Information (3 months, April – June 2017)

Before any discussion takes place with interested parties, information gathering and analysis is required so that fact and opinion can be understood as a background for both vision and then strategy development:

- Customer Review
 - Customer profiling to understand the user groups for each car park.
 - Customer requirements (needs / wants) from HDC car parks.
- Car Park Review
 - To understand the occupancy of all HDC car parks
 - To understand the turnover / dwell / stay within all HDC car parks
 - To understand "peak" times for all HDC car parks
 - The placement of car parks/resources against any current plans for development

Following a review of the information gathered as part of the above, a shortlist/summary of this can be taken to interested parties. As part of the discussion with interested parties we would expect to see agreement of requirements.

3.2 Stage 2: Vision (2 months, July – August 2017)

Once the requirements and expectations for each area are known, this information can be brought to the elected members for review and creation of a vision. This will not include any operational/management or strategic references, we would consider this stage crucial to the development of these.

3.3 Stage 3: Strategy (3 Months, August – November 2017)

Once the vision is approved, HDC can look to develop a Parking Strategy which will look at a high level policy position and strategy objectives setting out how the Council will achieve its vision:

- Consideration of the decriminalisation of on-street parking and its impact on the parking strategy of this Council;
- Specific local needs by town or village;
- Car park provision/rationalisation;
- Car park operation;
- Car Park Designation (part to play in town infrastructure);
- The setting of car park charges (not the charges themselves as this is a separate project after the strategy is approved);
- Car park standards and maintenance programme (capital & revenue spend), and
- Safety, mobility and disability parking policy.

3.4 Stage 4: Delivery (January 2018 onwards)

Once the vision is set with its strategic objectives project proposals will then be brought forward to deliver them. This will include by is not limited to:

- Parking technology used for enforcement
- Technology used to support operation of car parks
- The role of Parking Service Officers
- Management plan for the car park estate
- Fees and charges review

3.5 The Benefits

- Role and goal of car parking within the District clearly defined
- The strategy is evidence based allowing conflicting demands to be better managed.
- The strategic principles will enable focussed development of any future changes to fees and charges.
- Pro-active investment in and management of car parking to achieve the agreed vision.
- Investment options may be considered against the strategy.

4. COMMENTS OF OVERVIEW & SCRUTINY

4.1 The comments of the relevant Overview and Scrutiny Panel will be included in this section prior to the report to Cabinet.

5. KEY IMPACTS/RISKS

5.1 The availability of the Parking manager to progress support for the Task and Finish Group is critical and acting up arrangements funded from existing budgets will be put in place to achieve this.

- 5.2 Consultation amongst all stakeholders will be critical to enable the Task and Finish group to review and consider the sometimes conflicting demands of residents, motorists, visitors, workers and businesses in relation to car parking.

6. TIMETABLE

- 6.1 Please see attached Appendix 1 Task and Finish Scoping Document.

7. LINKS TO STRATEGIC PRIORITIES/CORPORATE PLAN

- 7.1 Establishing a clear Car Parking Strategy upon which to base the future fees and charges and operation of car parks will support the Council in:

- Delivering Sustainable Growth
- Becoming a More Efficient and Effective Council

- 7.2 The Corporate Strategic Plan identifies the delivery of a car parking strategy that is supportive of residents, visitors and local businesses as a key action under delivering Sustainable Growth.

8. CONSULTATION

- 8.1 Stakeholder consultation will be part of the information gathering to support the Task and Finish Group and will be part of the final approval processes for the Car Parking Strategy.

9. LEGAL IMPLICATIONS

- 9.1 This Council operates its off-street parking places under Parking Places Orders within the powers of the Road Traffic Regulation Act 1984. Any future changes to fees & charges or car park designation will require amendments to these orders and statutory consultation stages.

- 9.2 This council is directly engaged by Cambridgeshire County Council under the Highways Agreement as an agent to:

Enforce on-street paid for bays in:

- Market Square (*St Neots*)
- Market Hill (*St Ives*)
- High Street (*Huntingdon*)

Administer on-street resident's permits under given criteria for:

- Huntingdon Zone A
- Huntingdon Zone B
- St Neots Zone A
- St Neots Zone B

NB: Under this agreement HDC does not currently enforce these resident paid for bays. The enforcement of these resides with CCC.

- 9.3 This Council currently has no power to enforce on-street traffic restrictions commonly referred to as on-street restrictions highlighted by signs and lines. This responsibility currently resides with the Police as Cambridgeshire County Council has not yet adopted decriminalised parking enforcement for Huntingdonshire District.

10. RESOURCE IMPLICATIONS

External resources required for customer survey work	£10,000
HDC Parking Services staff (acting up arrangements)	£7,000
HDC Planning input	N/A
External Condition survey	£3,000
Portfolio Holder	N/A
Scrutiny Panel	N/A
Cabinet	N/A
Decriminalisation work	£6,000

11. REASON FOR RECOMMENDATION

- 11.1 The report and accompanying appendices set out an approach to reach a defined target.

LIST OF APPENDICES INCLUDED

Appendix 1: Overview and Scrutiny Panel Task and Finish Scoping Document

BACKGROUND PAPERS

[Review of Car Park Fees and Charges](#) – 20th October 2016

CONTACT OFFICER

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**OVERVIEW AND SCRUTINY COMMITTEE
TASK AND FINISH GROUP SCOPING DOCUMENT**

Task and Finish Group Title:	Strategic Review of Car Parking
Membership of Working Group:	<ul style="list-style-type: none"> • Cllr Jim White – Portfolio Holder – Operations • Cllr Doug Dew • Cllr Gardener • Cllr Sanderson
Aim:	<p>To establish a clear Vision for the Parking Service that sets the broad view of how the Council is going to leave an impact on customers and the greater community through the operation of car parking</p> <p>This will include our mission:</p> <ul style="list-style-type: none"> • What do we do? • How do we do it? • Whom do we do it for? • What value are we bringing? <p>The Vision will be used to inform:</p> <ul style="list-style-type: none"> • An evidence based Parking Strategy • Are individual town strategies required? • Are individual village strategies required? • The development of future operational and management projects
Key Officer Contacts: <i>(Lead and support)</i>	Neil Sloper – Head of Operations George McDowell – Parking Services Manager
Scoping form completed by:	Neil Sloper – Head of Operations
Scrutiny requested by:	October 2016 Cabinet
Criteria for inclusion in work programme:	
Customer Feedback:	<ul style="list-style-type: none"> • This is a highly sensitive topic due to different and competing demands of customer groups. • Information gathering stage will ensure the approach is evidence based with engagement from different customer groups and stakeholders

<p>Council Priority:</p>	<p>Links to Council's Vision:</p> <p>Particularly working towards sustainable economic growth whilst providing value for money services</p> <p>Links to strategic priorities:</p> <ul style="list-style-type: none"> • A strong local economy • Working with our communities • Ensuring we are service led with a customer focus
<p>Importance to local people:</p>	<ul style="list-style-type: none"> • Car parking provision, availability and cost is of high interest to customers, businesses and visitors. • Residents, business and local representatives desire involvement and to feel that their requirements have be considered as part of any development or proposed change to this councils parking facilities. • The Council needs to demonstrate it has listened, captured, evaluated and based its approach on their views.
<p>Value for Money Concerns:</p>	<ul style="list-style-type: none"> • Car parking operates at a surplus, the financial basis for the operations of the service and the use of the surplus may be considered. • The investment in new technology to deliver the agreed strategy may be significant. • The Vision and strategy will be used to guide future reviews of fees & charges
<p>Contributes to tackling inequalities:</p>	<p>The strategy will be used to inform the appropriate provision of facilities & service for those with a registered disability or mobility/access issues.</p>
<p>Improving partnership working:</p>	<p>To enable members to consider how the Council may best provide and manage parking services to support its wider objectives, such that the facilities and their operation best meet the often conflicting needs of different stakeholders (the taxpayer, motorist, visitor, worker, commuter, businesses, residents)</p>
<p>Tackling underperformance in services:</p>	<p>N/A</p>
<p>Cross-cutting issue:</p>	<p>N/A</p>
<p>Summary of overall anticipated benefits and intended outcomes:</p>	<p><u>Outcomes:</u></p> <ul style="list-style-type: none"> • A clear vision for the Council's provision and operation of Car Parks.

	<ul style="list-style-type: none"> • A clear strategy for the provision and operation of car parking to achieve the Council's vision
Indicators of success:	Fully endorsed Parking Services Vision Fully endorsed Parking Services Strategy
Scope:	
In Scope: <i>(Define what the scope of the review will be)</i>	<p>To understand:</p> <ul style="list-style-type: none"> • The needs, requirements and priorities of customer groups and how they may conflict • Use and future requirements of car parking provision • The contribution of car parking facilities to the infrastructure of towns/villages • Principles of car park operation and pricing • The standard of the facility provided • Terms of provision of disabled parking • The occupancy/turnover of vehicles • If this councils car parking capacity could accommodate the current on-street parking issues • Consideration of the decriminalisation of on-street parking and its viability within the strategy
Excluded from Scope: <i>(Define the exclusions from the scope of the review)</i>	<ul style="list-style-type: none"> • A review of the current level of fees and charges • A review of the current equipment and technology used to operate car parks
Benefits:	<p><u>Benefits:</u></p> <ul style="list-style-type: none"> • Clarity, focus and direction. • Drive and impetus to achieving set goals • A better understanding of the current facilities and if they will meet future needs • Agreement on the longer term future • Identifying the key steps needed to achieve the strategy
Council and Partner Involvement	
Who would need to be involved from the Council?	Portfolio Holder, Cabinet, O&S (Environment and Communities), Parking Service, Planning, Invite Councillors from each Town
Which of our partners, stakeholders and members of the community should we discuss this with?	Town Councils, St Neots Retail Club, St. Ives Town Initiative, Huntingdon BID, motorists, residents, shoppers, workers.

Review Resources	
Evidence: <i>(All to be gathered)</i>	<ul style="list-style-type: none"> • Customer feedback and user group analysis • A study of car park occupancy & the rate of turnover of users/spaces • Study of on-street parking issues • Future car parking requirements based on road construction and house building.
Witnesses: <i>(Who to see and when)</i>	Specialist consultants presenting occupancy and demand studies Representatives of key customer groups Representatives of specific Town issues
Site visits: <i>(Details of site visits and when they need to be held if appropriate)</i>	N/A
Consultation: <i>(Is there any consultation which needs to be undertaken to feed into the review?)</i> <i>(Consult with CMT on draft outcomes for any issues they may have)</i> <i>(Do findings need to be published for consultation before making final recommendations?)</i>	Public consultation, business consultation, Town Council consultation Findings of consultation will form evidence base for development of the final strategy
Expert Advice: <i>(Does the Task & Finish Group require expert advice and support due to the nature of the review? Note: if a cost is involved the senior officer will need to agree payment)</i>	Specialist consultants to undertake occupancy studies, origin and destination studies, capacity planning.
Timescales:	
Anticipated Review Start Date:	March 2017
Anticipated Reporting Date:	September 2017 – Vision December 2017 - Strategy
Frequency of Meetings:	May, July, October
Date to evaluate impact: <i>(A review in six to twelve months – dependent on outcomes – at this point deciding to either re-scrutinise this matter, with a different task and finish group, or sign it off as the indicators of success have been achieved)</i>	12 month review

CURRENT ACTIVITIES OF THE COMMUNITIES AND ENVIRONMENT AND PERFORMANCE AND CUSTOMERS PANELS

STUDY	OBJECTIVES	PANEL	STATUS
Huntingdonshire CCTV Network	Examine the utilisation of CCTV and identify whether they are value for money.	Communities and Environment	<p>The Panel discussed the scoping document at their meeting in January 2017. Councillors T D Alban, Mrs A Donaldson, D A Giles, P Kadewere and Mrs J Tavener have been appointed to the group. The Executive Councillor for Commercialisation and Shared Services worked with the task and finish group during their research.</p> <p>The Group held meetings on 8th February 2017 and 16th March 2017 and gathered evidence from Huntingdonshire Business Against Crime and Cambridgeshire Constabulary.</p> <p>The final report outlining the Group’s findings is to be presented to the Panel at its meeting in April 2017 and then to Cabinet at its meeting on 20th April 2017.</p>
Future of Hinchingsbrooke Country Park, Paxton Pits, Godmanchester Nursery and Public Rights of Way	To be confirmed.	Communities and Environment	<p>Members agreed at the Scrutiny Work Programming Session in September 2016 that this topic requires further scrutiny. The Panel, at its meeting in October 2016, decided to include the item on to its work programme.</p> <p>The Panel received an exempt report at its meeting in November 2016 on the contractual arrangements and potential improvement programme of Hinchingsbrooke Country Park.</p> <p>The Cambridgeshire County Council Officer responsible for the Public Rights of Way gave a presentation at the Panel meeting in March 2017.</p>
Community Resilience Plan including relationships with Parish and Town Councils and the County Council	To examine how the Community Resilience Plan will affect the Council’s relationships with the wider community.	Communities and Environment	<p>The Executive Councillor responsible for the topic is to attend the Panel meeting in June 2017 and explain what work has been done so far.</p>

STUDY	OBJECTIVES	PANEL	STATUS
Shared Services Strategy	To be decided.	Performance and Customers	<p>Members agreed at the Scrutiny Work Programming Session on 20th September that this area requires scrutinising.</p> <p>The Panel have invited the Executive Councillor responsible for the topic to attend a future Panel meeting and explain what work has been done so far.</p>
Cambridgeshire County Council Budget Scrutiny	To review the Cambridgeshire County Council's Budget proposals and assess their impact upon Huntingdonshire and it's residents.	Performance and Customers	<p>Following the budget scrutiny exercise during the last Municipal Year, the County Council have decided to carry out a budget scrutiny exercise for 2017/18.</p> <p>Officers from the County Council were in attendance at the Panel meeting in December 2016 to present the County Council Budget for 2017-22. A response to the budget proposals has been sent to the County Council.</p>
Use of Council Assets	To be decided.	Performance and Customers	<p>Members agreed at the Scrutiny Work Programming Session on 20th September that this area requires scrutinising. The Panel is yet to decide whether to accept the item onto the work programme and how to proceed.</p>
Corporate Plan	To review the Performance Indicators and Key Actions of the Corporate Plan.	Performance and Customers	<p>At the Panel meeting in February, Members are to establish a task and finish group reviewing elements of the Corporate Plan. The Panel have appointed Councillors M F Shellens, R G Tuplin, D M Tysoe and R J West to the group.</p> <p>The group met on 27th February 2017 and the findings have been fed back into a report which was presented to Cabinet on 16th March 2017. The report was discussed by Full Council on 29th March 2017.</p>
Taxi and Hackney Carriages Policies	To be decided.	Performance and Customers	<p>Members agreed at the Scrutiny Work Programming Session on 20th September that this area requires scrutinising. The Panel is yet to decide whether to accept the item onto the work programme and how to proceed.</p>
Social Value In Procurement	To be decided.	Performance and Customers	<p>The Panel agreed that a task and finish group should be established to investigate social value in procurement.</p>

Panel Date	Decision	Action	Response	Date
	<p><u>Town Centres/High Street Viability</u></p> <p>07/07/16 Following a suggestion from a Member it was decided that Town Centres/High Street Viability should be scrutinised in order to help shape future policies for town centre uses.</p> <p>06/10/16 Members have agreed to accept the topic on to the work programme and invite the relevant Executive Councillors to future meetings of the Panel to update Members on their work.</p> <p>08/12/16 The Panel received the Review of Street Markets (Huntingdon and St Ives).</p> <p>08/12/16 The Executive Councillor for Strategic Resources was in attendance to discuss the Council's Commercial Investment Strategy.</p> <p>02/02/17 The BID Huntingdon were in attendance to explain the work it has carried out and the BID renewal ballot. In addition, Members considered a report on the delegation of powers to cast HDC's votes in the BID renewal ballot.</p>	<p>Working to include the investigation of the following areas: Marketing, Car Parks, Licensing, Property Portfolio and BID Huntingdon.</p>	<p>Some strands of this topic are being dealt with by separate work streams. The topic will remain on the work programme as a separate entity.</p>	
	<p><u>Strategic Review of Car Parking</u></p> <p>06/10/16 The Panel received the Review of Fees and Charges – Car Parks report. Members decided that a task and finish group should be established to review all the options for car park fees.</p>			

Panel Date	Decision	Action	Response	Date
03/11/16	The Panel discussed the Strategic Review of Car Parking Task and Finish Group following Cabinet's agreement to the establishment of the group.	The Panel appointed Councillors D B Dew, R Fuller, I D Gardener and T D Sanderson to the group. <i>(nb Councillor Fuller is now a Member of the Cabinet and can no longer participate in the task and finish group.)</i>	A project overview and scoping document have been drafted and will be presented to the Overview and Scrutiny Panel in April 2017.	06/04/2017
06/10/16	<p><u>Local Plan To 2036</u></p> <p>Members agreed to keep the Local Plan to 2036 on the work programme. A task and finish group has not be established however the Panel have agreed that the Chairman should become the Panel expert on the topic.</p>			
08/12/16	The Panel received and discussed the Local Plan and Infrastructure Planning Update.		The Panel is to receive an update on the Local Plan and Infrastructure Planning at its meeting in April 2017.	06/04/2017
06/10/16	<p><u>Devolution</u></p> <p>Members agreed to keep Devolution on the work programme however before appointing a Panel expert, Members would like to invite the relevant Executive Councillor responsible to a future Panel meeting to update the Panel on what work has been done so far.</p>			
03/11/16	The Panel received an update on Devolution from the Executive Leader.		The Panel agreed to invite the Executive Leader to update	

Panel Date	Decision	Action	Response	Date
			Members after the election of the Combined Authority Mayor.	
06/10/16	<u>Housing Working Group</u> Members agreed that a Housing Working Group (formally known as the Affordable Housing Working Group and the Registered Social Providers Working Group) should be resurrected to review housing policy as and when required.			
03/11/16	The Panel decided to reconstitute the Housing Working Group with Councillors D B Dew, R Fuller and T D Sanderson appointed to the group.		Officers are working on a scoping document for consultation with the Panel.	To be decided.
05/01/17	Councillor R Fuller has been appointed to the Cabinet and therefore can no longer be a Member of the Working Group. The Panel will have to appoint a replacement.		The Panel are expecting the Housing Strategy at its meeting in June 2017.	08/06/2017
09/03/17	The Panel appointed Councillor I D Gardener to the Housing Working Group.	The Head of Development and the Executive Councillor for Housing and Regulatory Services will work with the group on the Housing Strategy before it is presented to the Panel and Cabinet in June 2017.		
Annual	<u>Reports Due/Regular Items</u> Representatives on External Organisations Selected Members represent the Council on various External Organisations.	The Panel received updates at their meetings in November 2016	Next report is due at the Panel meeting in December 2017.	07/12/2017

Panel Date	Decision	Action	Response	Date
	<p>Marketing Strategy Work Programme The Panel have requested annual updates on the work programme.</p>	<p>and March 2017. The Panel is to receive annual updates on the marketing strategy work programme.</p>	<p>Report was presented in July 2016.</p>	<p>06/07/2017</p>