ENVIRONMENT AND GREEN INVESTMENT

Cambridgeshire County Council

Thursday, 03 March 2022

Democratic and Members' Services
Fiona McMillan
Monitoring Officer

10:00

New Shire Hall
Alconbury Weald
Huntingdon
PE28 4YE

Multi-Function room New Shire Hall PE28 4YE [Venue Address]

AGENDA

Open to Public and Press by appointment only

CONSTITUTIONAL MATTERS

1.	**Apologies for absence and declarations of interest** *Guidance on declaring interests is available at http://tinyurl.com/ccc-conduct-code*	
2.	**Minutes of the Committee meeting held 20 January 2022 and Action Log**	**5 - 20**
3.	**Petitions and Public Questions**	

KEY DECISIONS

4.	**Low Carbon Heating Programme update**	**21 - 28**

Attending meetings and COVID-19

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The Environment and Green Investment comprises the following members:

Councillor Lorna Dupre (Chair) Councillor Nick Gay (Vice-Chair) Councillor Anna Bradnam Councillor Steve Corney Councillor Piers Coutts Councillor Stephen Ferguson Councillor Ian Gardener Councillor Mark Goldsack Councillor John Gowing Councillor Ros Hathorn Councillor Jonas King Councillor Brian Milnes Councillor Catherine Rae Councillor Mandy Smith and Councillor Steve Tierney

Clerk Name:	Dawn Cave
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Environment and Green Investment Committee

Date: 20 January 2022

Time: 10.00am – 13.15pm

Venue: New Shire Hall

Present: Councillors L Dupré (Chair), N Gay (Vice Chair), A Bradnam, S Corney, P Coutts, S Ferguson, I Gardener, M Goldsack, J Gowing, R Hathorn, J King, B Milnes, C Rae and M Smith

42. Apologies for Absence and Declarations of Interest

Apologies for absence were received from Councillor Tierney.

Councillor Bradnam declared a non-pecuniary interest in Item 7 as a South Cambridgeshire District Councillor.

Councillor Milnes declared a non-pecuniary interest in item 7 as a South Cambridgeshire District Councillor and Cabinet Member.

43. a) Minutes of the Environment & Green Investment Committee

The minutes of the meeting held on 16th December 2021 were agreed as a correct record.

b) Environment & Green Investment Committee Action Log

The Action Log was noted.

44. Petitions and Public Questions

No petitions or public questions were received.

45. Annual carbon footprint report 2020-21

The Committee considered a report on the carbon footprint for the County Council for the year 2020-21, and for Cambridgeshire as a county for 2019. The report included annual carbon footprint calculations and additional agreed actions.

The report summarised the Council's greenhouse gas emissions for 2020-21, and the county's emissions for 2019 which was the most recent data available. For the County footprint the methodologies used to identify the carbon footprint included BEIS's dataset of CO_2 emissions by geographical area, which enabled comparisons with other areas of the UK. The BEIS dataset had been revised significantly since the previous year, using an improved methodology for the Land Use, Land Use Change and Forestry (LULUCF) sector. The Cambridgeshire figures, both per capita and per km^2, were higher than the national average, mainly due to land use. Other sectors show a slight decline in emissions compared to previous years.

In terms of the Council's own emissions, 2020-2021 was an exceptionally unusual year, with lower emissions, mainly due to a reduction in construction activity for major capital building works, such as building new schools, due to the Covid-19 pandemic. Transport was also showing a substantial reduction, down by 62%, again due to reduced activity because of the pandemic. However, this downward trajectory is not expected to continue, the expectation is that construction and transport emissions will bounce back as pandemic measures are lifted.

A key change to the report was land use emissions for the Council's own land, which was included for the first time. Scope 1 and 2 emissions from the Council's assets was 20% lower than the previous year, partly due to more renewable electricity, a milder winter, less electricity for street lighting and lower fleet activity due to the pandemic.

Arising from the report:

- A Member asked if there had been an audit of effectiveness of the Balfour Beatty streetlighting contract, and whether the new streetlighting had resulted in less electricity consumption due to improved technologies. It was confirmed that this was the case, and there had also been a reduction in the number of streetlights. Officers agreed to circulate this information to the Committee. Action required;

- A Member requested information on progress versus planned actions in future reports. It was agreed that information would be prepared for the Committee, outlining what interventions had been implemented over the last year and what benefits had been delivered as a result of those interventions. Action required;

- Noting that the report referenced a number of gaps in information, a Member asked what was being done to plug those gaps to ensure that the information was available in future? It was noted that Cambridgeshire was already reporting more than most local authorities, as the majority only reported on Scope 1 and 2 emissions. Nonetheless, officers were working with colleagues and partners to fill the gaps in the information provided. However, it was recognised that some of the data was beyond the direct control of the Council and there would inevitably still be gaps going forward;

- A Member had had difficulty finding the previous Carbon Footprint reports on the County Council's website, and it was agreed that the link would be circulated to the Committee. Action required;

- A Member noted that land use and forestry was the most intractable element within the data, and asked whether it was fair for the Council to keep that element within its carbon footprint targets. In terms of policy, it was noted that land use was a Rural Estates policy issue, and Rural Estates colleagues are working hard to identify nature based solutions to reduce carbon emissions as well as working with tenants on farming practices, etc. The county's significant peat reserve had potential to deliver environmental benefits, so should be viewed positively;

- With regard to land use changes and forestry in particular, there was a question on whether the latest methodologies were being used, and also whether there were changes to the county's carbon footprint which were out of the Council's control, or were due to specific circumstances e.g. the pandemic. It was suggested that these elements needed to be made clearer to the public in the report. It was also

suggested that the data needed to be effectively smoothed e.g. the anomalous 2020 figures in calculating averages, to ensure a consistent picture was being presented in the medium term. In discussion, it was also suggested that it needed to be made clear that Scope 3 emissions were not in the direct control of the Council. In terms of explaining changes year on year, officers explained that this would partly be achieved through the narrative in the accompanying report, and trend analysis could also be presented;

- Two Members commented that it would be useful to have a summary for both Committee Members and the public, using infographics, for those unable to undertake a deep dive into the data. This could also highlight anomalous data, such as that attributable to the pandemic. Action required.

It was resolved unanimously to:

a) accept the annual carbon footprint report as a record of the Council's greenhouse gas emissions for the financial year April 2020 to March 2021;

b) publish the report on the Council's climate change pages on the website.

46. Cambridge University Science and Policy Exchange 2021: a Cambridgeshire Decarbonisation Fund (Part 2)

The Committee considered a report detailing the plans for the Cambridgeshire Decarbonisation Fund, which aimed to speed up carbon emission regulations by collaborating with public sector partners and businesses, and establishing a Decarbonisation Fund and Carbon Advisory Service for SMEs (Small and Medium Sized Enterprises).

A number of Members commended the championing of CUSPE by former County Councillor Ian Manning, and suggested it may be worth have a CUSPE Champion going forward.

Officers highlighted that the CUSPE researchers were not paid consultants, and had given up time from their doctorate studies to build skills and insights into how local authorities work, and play a role in helping to develop environmental policy. Many of the CUSPE researchers had scientific backgrounds, but not necessarily in environmental policy.

The focus of the detailed development work was on understanding how the Decarbonisation Fund could work for businesses; how projects could 'sell' carbon credits, and what the funding model would look like. The intention was also to progress the accreditation of the Swaffham Prior scheme so that carbon credits could be sold.

The Committee received a presentation from CUSPE researchers Buffy Eldridge-Thomas, Andrew Smith and Robert Pearce-Higgins on Carbon Advisory Service and Business Decarbonisation. It was agreed that their PowerPoint presentation would be appended to the minutes. Action required.

Members noted:

- The initial project brief to present a strategic business case for the establishment of a Decarbonisation Fund to sell carbon credits to Cambridgeshire businesses, and how this was focused on hard to treat emissions for businesses;

- How Carbon Advisory Services could help businesses calculate and reduce their emissions, but there appeared to be a lack of unified guidance. The first recommendation was to establish a local Carbon Advisory Service (CAS), similar to those currently provided in Norfolk and Suffolk. The services which would be provided were outlined;

- There were two possible approaches for delivering these services, either in-house or working with partners to offer "Council approved" advice and accreditation;

- Purchasing carbon credits would be used to help decarbonise businesses and invest in decarbonisation projects now that could bring benefits to the area;

- Validation and verification of projects is important for businesses. This needed to be undertaken by an independent third party, and there were already well-recognised standards and organisations to undertake these functions;

- The long term (40 year) financial model that has been developed would require up-front funding such as grants or borrowing (PWLB) from multiple sources, this would be phased out as the Fund became profitable and self-sustaining. The ultimate aim was that projects would be funded from previous projects;

- Projects should predominantly be those which were not otherwise financially viable.

Arising from the presentation:

A Member queried the verification and validation aspects, suggested there could be lot of pressure for potential projects to misrepresent their objectives. Officers commented that businesses want fair processes so that they know when they buy carbon credits that they were genuinely reducing carbon emissions. There needed to be independent verification and validation to provide assurance to those that buy credits that projects were appropriately accredited. The intention was that this would be targeted at hard to treat emissions.

A Member asked if consideration had been given to working with Suffolk and Norfolk, who already have established CASs? It was noted that building on the experience of Norfolk and Suffolk on CASs should be explored to prevent reinventing the wheel and that if Norfolk and Suffolk do not have Decarbonisation Funds offering carbon credits that extending the Fund to include Norfolk and Suffolk could be helpful.

A Member asked how partners, including the District Councils and the CPCA, could align objectives and avoid duplicating efforts on these issues. The example was given of housing development, alluded to in the presentation, which was a District Council responsibility. It was confirmed that this work had been shared with partners, and officers would work with colleagues at the CPCA and District Councils to align. It was also envisaged that the CAS would help remove the potentially onerous administrative burden that SMEs and micro businesses may be facing when implementing carbon saving measures. It was noted that SMEs and micro businesses were not required by law to demonstrate that they were transitioning to a low-carbon economy, as larger companies were. However, they were

being asked to demonstrate low carbon emissions in other contexts, for example when working with larger companies, who required the data relating to Scope 3 emissions for their supply chains. There were also potential cost saving incentives for SMEs and micro businesses to lower emissions.

A Member observed that the County Council's budget was already under pressure, and asked whether it was realistic to expect this scheme to be set up, especially if PWLB funding was required. Officers advised that there had been early stage discussions with finance colleagues, who had made comments on the funding model. More detailed work was required on the finance arrangements for the Fund, of which PWLB was one of the options to be explored along with other potential funding streams. The critical element was generating suitable projects.

The Chair observed that this project started out about funding, and had evolved into a proposal for the creation of an advisory service. It had become very clear that businesses were crying out for reliable trustworthy information in relation to decarbonisation, and she wholeheartedly endorsed this development. It would be vital to work closely with partners, including the Combined Authority, to achieve these outcomes.

Researchers were thanked for their excellent presentation and hard work on this project.

It was resolved unanimously to:

a) Note the Cambridgeshire University Science and Policy Exchange (CUSPE) 2021 research report on a Cambridgeshire Decarbonisation Fund attached as Appendix A;

b) Agree next steps as set out in paragraph 2.8 of the report.

47. Cambridge University Science and Policy Exchange 2021: Local Area Energy Planning: Evidence base for heat zoning

The Committee considered a report detailing the findings of a CUPSE research project on Local Area Energy Planning. The project focussed on establishing an evidence base for heat networks and heat zones, and aimed to identify and designate areas within which heat networks were the lowest cost low carbon solution for decarbonising heating and hot water for homes and non-domestic buildings. A better understanding of the evidence required and how easy it was to obtain this data would inform resource and skills planning for Local Authorities ahead of the Government's heat zoning legislation.

The Committee received a presentation from CUSPE researchers Grace Field, Hannah Galbraith-Olive and Lizzie Knight, and noted the following points:

- Why heating needed to be decarbonised: 80% of domestic energy demand was for space and water heating, most of which was currently supplied by gas. There were proven technologies to reduce carbon emissions from heating;

- Heat networks were one of the most cost effective ways to heat communities, and were usually provided by ground or air source heat pumps. Examples of heat network projects currently in place across the UK were noted, most of which include back up alternative energy sources. Energy centres were usually located on government owned land;

- Eventually all businesses and homes need to be heated through decarbonised heat;

- Maps were shown, illustrating which postcodes had higher than average gas consumption in the three priority towns of Huntingdon, Ely and March. Researchers explained the rationale for the selection of possible zones and location of energy centres but the wider policy context had not been explored such as Fuel Poverty or health which could be important factors informing heat zones;

- The proposed next steps, including stakeholder engagement, ensuring that heating decarbonisation was a priority in local plans, and undertaking a full technical analysis of the proposed heat networks.

Arising from the presentation:

A Member urged caution on basing the location of energy zones on areas of greatest demand, as these could be the most affluent areas and/or areas of greatest waste or poorest insulation. He suggested that energy zones be located in areas of the greatest need, especially in light of escalating energy prices. Officers commented the wider indices of Multiple Deprivation needed to be applied as part of the next steps of analysis. Researchers agreed.

Whilst acknowledging that the three towns in the study was a starting point, it was pointed out that there may be “low hanging fruit” in other areas of the county. It was noted that this was the first step, and the focus was on establishing the process and specifying the type of information required. Those Local Members present (Councillors J King, Gowing and Coutts) all commented that the areas identified in the three market towns they represented tended to be more affluent areas of those towns. It was stressed that these three areas were case studies only.

Members raised other examples of district heat systems, such as Eddington, and the geothermal project at Eden Project. It was confirmed that due to the local geology, there was not the option of deep geothermal projects such as Eden Project in Cambridgeshire.

A Member asked if there was an optimum size of housing development for heat networks. Officers suggested that new developments or extensions to towns were good opportunities for heat networks as installing heat networks in new developments is easier than retrofitting. Once in place, the heat network can be extended into the town or local area to support existing buildings. The Local Plan will be an important policy document for identifying potential opportunities for heat networks.

A Member asked how easy it was for properties to connect to heat networks, and the extent of modification required to existing systems required by homeowners. It was noted that it was easy to connect existing water based (e.g. gas or oil) central heating technology, and those systems would require no or little modification, but for properties heated only by electricity (e.g. storage heaters), significant retrofitting would be required. It was noted that in Swaffham Prior, there was a range of existing technologies, including electrically heated homes and oil central heating system. It was also noted that new housing developments could be heated on the low temperature systems, but older housing was likely to need good insulation and higher temperature heat pumps.

A number of Members highlighted that there were other examples locally, including other sustainable heat methods such as MVHR (Mechanical Ventilation with Heat Recovery), and

stressed the importance of working with partners. It was suggested that a strategic view needed to be taken, as often District authorities were focused on new technologies for heating systems in new developments, rather than on retrofit of homes using traditional gas/oil central heating based systems. However, given the information provided, it appeared that traditional heating systems could be more easily adapted to heat networks and needed further work. Another Member suggested that local planning authorities needed to consider options such as heating networks when major housing developments were being planned.

A Member commented on the links to the previous item, suggesting that once a scheme was up and running, such as Swaffham Prior, it would be possible to sell off carbon credits and reinvest that revenue in other schemes. Officers confirmed that a range of projects would be supported by the Decarbonisation Fund, including heat networks, although the latter are complex to deliver.

The Chair commented that this was clearly an issue that the Council could not tackle on its own, and the research needed to be reviewed with partners to see how it could inform the development of heat networks in the county. Local Area Energy Planning could then be included in the Combined Authority's Climate Action Plan. Some of these proposals would involve retrofitting, and there was a general consensus that a "fabric first" approach should be developed in tandem with heat network development.
It was resolved unanimously to:

a) Note the Cambridgeshire University Science and Policy Exchange (CUSPE) 2021 research report on Local Area Energy Planning: Evidence base for heat zoning, attached as Appendix A to the report;

b) Agree the next steps as set out in paragraph 2.7 of the report.

48. Greater Cambridge Local Plan: First Proposals (Regulation 18) Consultation Response

The Committee considered a report detailing the "First proposals" consultation for the Greater Cambridge Local Plan. The Local Plan was being prepared jointly by Cambridge City and South Cambridgeshire District Councils. This was the first statutory stage of the process, and the purpose of the consultation was to set out the preferred options, and for consultees to comment on the emerging strategy.

It was stressed that this was very much a technical officer response at this stage. Internal consultations had been undertaken across County Council service areas, and a formal officer response had been submitted prior to the statutory deadline in December. The shared planning service was aware that comments made by officers were dependent on the Committee's endorsement. Responses had been received from Education, Flood & Water, Minerals & Waste and Transport Strategy teams, and those responses were included in the response appended to the report. Following consideration of these consultations, a full draft plan would be prepared by Greater Cambridge Shared Planning later in the year.

Arising from the report:

A Member asked how existing villages would be protected when new developments were brought forward. The Member's main concern was flooding, but she also had concerns

regarding issues such as transport. Officers confirmed that the protection of villages had been picked up by the Flood and Water and Transport Strategy teams, and indicated that the flooding issue had specifically been picked up by the County Council in its role as lead local flood authority. Generally, the amount of growth in villages was fairly limited, and most new development was focused on Cambridge East, plus new allocations at Cambourne, increased densification at Eddington, and accelerated build out at Waterbeach and Northstowe. Planning authorities were trying to achieve a balance, especially in terms of strategic developments. The Member commented that developments such as those referred to could still have significant impacts in terms of issues such as flooding and transport on neighbouring villages.

A Member drew attention to the section on Education in relation to the NE Cambridge site. This acknowledged formal sports playing facilities would largely be delivered off site, as it needed to be a dense urban development to be viable, but that the Council preferred on site sports facilities. The Member asked if that view could be strengthened, e.g. where there was County Council land, could the Council have some safeguarding of land for provision of outdoor sports space for formal recreation, both for children and young people but also for wider community? In response, officers confirmed NE Cambridge would be a very dense urban development due to the high cost required to relocate the sewage works. The drawback of that approach was that planning authorities would need to be flexible in applying the usual sports and green space standards, as there was huge pressure on land to deliver housing, which was why some facilities may need to be located off site. It was acknowledged that the size of the facilities provided would not reflect the size of the schools. If facilities were not provided on site, some compensatory land elsewhere would need to be allocated, and officers indicated that they were happy to follow up on this point. Officers advised that planning authorities should be planning green areas and leisure facilities within their sites or in administrative areas. This issue would be raised with colleagues outside the meeting.

A Member noted that the report stated that there were no significant implications for communities, quality of life and children, which appeared incorrect given the issues raised e.g. provision of sports and recreational space. It was clarified that this was because the decisions on planning issues were not being taken by the Committee. The Member also specifically supported the issue of importance of playing fields and sports facilities.

For the creation of developments where cars were discouraged, there was an issue with earlier developments such as Orchard Park where there were not facilities for storing cargo bikes, etc, and a Member asked if there was an opportunity to retrofit those developments with these facilities. Officers responded that there were unlikely to be opportunities under Section 106 funding for cycle storage on existing developments, so any such projects would need to be pursued outside of the planning process.

Regarding freight and delivery, steps should be taken to ensure major providers did not have a monopoly e.g. to locker storage solutions for deliveries. Officers responded that these issues often came up in quality panels, when architects were reviewing developments, and that point could be made to the District Councils to see if it could be addressed.

A Member commented that it would be helpful if infrastructure not in the ownership of local authorities listed contact information e.g. lampposts owned by housing associations. Officers agreed to would raise this issue with the Asset Management team.

A Member commented that it would be helpful to encourage reduce and repair organisations to set up in developments such as NE Cambridge, which were usually discouraged in and around Cambridge due to high rents.

Asked if reference to zero or ultra low emission zones could be added e.g. for NE Cambridge, which would have the added benefit of assisting in terms of air quality in new developments. Officers agreed to raise this issue with partners, but it may be outside the remit of the Local Plan. Another Member asked if the issue could be raised on the road hierarchy, specifically 20mph zones, and whether the Council could comment on that as highways authority. Officers advised that there may be scope for the delivery of 20mph zones, but this would be a matter for the Highways Authority under separate legislation. It was agreed this would be recorded in the minutes and picked up with partners.

It was resolved unanimously to:

a) Endorse the consultation response to the Greater Cambridge Local Plan (First Proposals) as set out in Appendix 1 of the report; and

b) Delegate to the Executive Director (Place and Economy) in consultation with the Chair and Vice Chair of the Committee the authority to make minor changes to the response.

49. Finance Monitoring Report – November 2021

The Committee received the November 2021 Finance Monitoring Report. Introducing the report, the presenting officer highlighted that Place and Economy was currently forecasting a £52,000 overspend for the year end. There were no significant Revenue issues to update Committee on. There had been some changes in forecast for energy schemes under Capital, which were detailed in Appendix 6 to the report.

There was a Member question on the Busway Litigation issue, and it was agreed that this was outside of the remit of the Committee, and questions relating to that issue could be taken up with Highways & Transport Committee.

Using the example of the St Ives Park & Ride solar scheme, a Member noted that the Committee had previously been advised of a reduction in construction materials prices. He sought reassurance that this was being monitored, as his own professional experience indicated that construction materials prices were reducing. Officers confirmed that they worked closely with procurement colleagues and also Bouyges, and they would ensure this was followed up. Action required.

It was resolved unanimously to:

Note the contents of the report.

50. Environment & Green Investment Committee Agenda Plan and Training Plan and Appointments to Outside Bodies and Internal Advisory Groups and Panels

The Committee noted its Agenda Plan, Training Plan and appointments to Outside Bodies and Internal Advisory Groups.

The following changes to appointments were agreed:

- Appoint Councillor Gardener to the Green Investment Group, to replace Councillor J King;
- Appoint Councillor Coutts as Cllr Dupré's deputy to the meeting of the Anglian (Great Ouse) Regional Flood and Coastal Committee on Thursday 27 January.

A number of additions and changes were noted to the Agenda Plan, and it was agreed that a revised Agenda Plan would be circulated to Members. Action required.

51. Digital Connectivity Infrastructure Strategy Refresh and Connecting Cambridgeshire Programme

The Committee received a report detailing the updated Digital Connectivity Infrastructure Strategy and the Connecting Cambridgeshire programme. It was noted that the report contained a confidential appendix, and the Committee agreed to move into private session when that appendix was discussed, but as much as possible would be discussed in public session.

The Cambridgeshire and Peterborough Digital Connectivity Infrastructure Strategy 2021-2025 had been approved by the CPCA's Housing and Communities Committee in November 2021. The Strategy built on previous work, but included updated stretch targets and objectives to better meet the needs of businesses and communities, and provide future proofed solutions.

The report also detailed the Superfast Broadband (SFBB) gap funding contracts, for which the County Council was the accountable body for both Peterborough and Cambridgeshire. The aim of this contract was to ensure that more rural (and hence less commercially profitable) areas of the county still enjoyed good SFBB connectivity. These contracts had taken longer than originally envisaged, but had been taken further as it had been possible to draw more government and EU funding.

The first contract was now in closedown with an underspend declared, , for which the Council's portion is around £900,000 The second contract was ongoing and would complete in late 2022. There was a clawback mechanism, whereby any excess profits were allocated to an investment pot. Take-up had been extremely good, and it was expected that when that fund matures, the remaining amount would be divided up among HM Treasury and the two Councils in line with the original agreement.

Arising from the report:

- A Member queried the terminology, specifically definition of "superfast", given the speeds quoted of 24mbps did not seem that high. If was confirmed that the contracts were based on 24mbps, but communities now need full fibre solutions, and new higher targets were being set accordingly;

- A Member asked how the rollout of fibre and greater bandwith to rural villages would be achieved and prioritised. Officers confirmed this was a key objective of this project, and there were now a number of commercial operators also looking to roll out to rural areas of the county, in addition to the area being a pilot for the Government's Project Gigabit programme which will provide funding for difficult to reach areas which would otherwise not be commercially viable;

- A Member asked if there were SLAs in place on availability, which was a key issue, e.g. for online meetings. Officers could not comment as contractual arrangements for IT Services sat with the Council's IT team, but generically, service delivery at a regulatory level was the responsibility of Ofcom;

- It was noted that analogue phone lines would be ending in 2026, and it was suggested that a seminar would be worthwhile, as many Members were unaware that this was the case. Officers advised that they would have further information available on this issue later in the year;

- A Member observed that there was considerable emphasis on business, but less on education, and the last two years had demonstrated how important connectivity was for students, especially those from low income backgrounds. She asked if the data was available on how many students did not have connectivity. Officers agreed that at the early stages of the pandemic, connectivity had been poor, and detailed how students had been supported. Public access Wifi was available through 200 free hubs across the county, and officers agreed to circulate a link mapping those locations. Action required;

- In response to a Member question, it was noted that the take-up rate across Cambridgeshire and Peterborough exceeded 76%, which was one of the reasons that more commercial providers had been encouraged to enter the market locally. However, there were still known gaps, especially for social housing;

- A Member observed that poor customer service could often be a barrier to connectivity. Officers agreed, and advised that whilst complaints should go to Ofcom, they were happy to signpost individuals when they had a complaint;

- A Member advised that there was a new housing development in her division, and some of the homes did not have connectivity. It was agreed that officers would follow up on this individual case. Action required.

- A Member asked if District Councils were consulted about 5G phone masts, as Districts were often uneasy about 5G applications and were frequently unaware that they were coming forward. Officers advised that there would be seminars and information packs later in the year so that Members had a greater awareness in relation to the 5G roll out. It was confirmed that under the current statutory framework, providers were able to deploy 5G masts under permitted development regulations up to a certain height, and they did not necessarily have to inform planning authorities, depending on the context of what was being undertaken. It was agreed that officers would provide further written detail on this point. Action required.

The following points were raised in discussion:

- A number of Members were interested in the cessation of copper/analogue network, and expressed concern that some residents, especially the elderly, may be reliant on landline. They were also concerned on the implications if there was an electrical outage in a disaster scenario, particularly flooding. Officers advised that there were emerging standards that require battery back up in particular situations, but this

would only be for a certain period of time. Officers shared Members' concerns, and agreed that these concerns needed to be flagged up with DCMS, especially on flooding issues;

- A Member commented that there was a huge social justice element given that rural communities often did not have high speed internet connectivity, which had impacts in terms of reduced access to employment (i.e. working from home), education and entertainment. It was vital that rural communities had the same opportunities;

- A Member commented that it would be better if an independent party provided 5G phone masts, and the numbers where therefore limited. It was important to have discussions on 5G masts at a community level, and it would be helpful to publicise to District and Parish Councils that there was a Strategy coming forward later in the year.

It was resolved unanimously:

a) Note and endorse the Cambridgeshire and Peterborough Digital Connectivity Infrastructure Strategy 2021-2025 which was recently approved by the Cambridgeshire and Peterborough Combined Authority's Housing and Communities Committee;

b) Note the progress of the Superfast Broadband rollout;

c) Note the progress of the Light Blue Fibre joint venture organisation with the University of Cambridge and Cambridgeshire County Council

Exclusion of Press and Public

It was resolved unanimously that:

the press and public be excluded from the meeting on the grounds that the agenda contains exempt information under Paragraph 3 of Part 1 of Schedule 12A of the Local Government Act 1972, as amended, and that it would not be in the public interest for this information to be disclosed - information relating to the financial or business affairs of any particular person (including the authority holding that information)

Environment and Green Investment Committee Minutes - Action log
(includes outstanding actions from the Environment and Sustainability Committee)

This is the updated action log as at 7th February 2022 and captures the actions arising from the most recent Environment and Green Investment Committee meetings and updates Members on the progress on compliance in delivering the necessary actions.

Environment and Sustainability Committee minutes of 14th January 2021					
50.	Swaffham Prior Community Heat Project- Investment Case	Sheryl French	A suggestion was made by a Member, to instruct officers to engage in a discussion with the Secretary of State for Business, Energy and Industrial Strategy in order to broaden the Agricultural Grant Schemes to include incentives for landowners of suitable land for future energy projects. By including these landowners in the scheme would reduce the risks to potential future developments	Update to be provided at Committee meeting.	Ongoing
Environment and Green Investment Committee minutes of 1st July 2021					
7.	Low Carbon Lifecycle Heating Replacements at Maintained Schools	Chris Parkin	It was clarified that the £12.5M Environment Fund figures referred to in paragraph 2.6.4 was incorrect, it should read £13.5M, which was made up of £10M remaining Environment Fund, plus £3.5M Public Sector Decarbonisation Scheme. It was confirmed that there was a pipeline	Update 01.07.21: Cllr Dupré has requested a briefing on the pipeline and what would be required to decarbonise all maintained schools by 2030. This is awaiting a forward look of works from Education Capital's school Condition Surveys and will be provided for the Green Investment Advisory Group	Ongoing

			for some of the £10M and an estimate could be provided.	meeting in December. We expect to provide a briefing on the pipeline for Council Buildings for the same meeting. ***Update 23.02.22: pipeline of school low carbon heating projects has been discussed with Chair of Committee. Owing to uncertainties around project costs and future Government policy on funding for low carbon heating it is not possible to make a meaningful projection of costs for a pipeline of school low carbon heating projects at this point.*** ***£2.27m of Environment Fund spent on 22 projects on Council building along with £2.96m from grant funding. Costs for further projects on Council buildings awaited.***	
Environment and Green Investment Committee minutes of 20th January 2022					
45	Annual carbon footprint report 2020-21	Sarah Wilkinson	Circulate information regarding energy efficiency improvements resulting from street lighting contract to Committee.		In progress
45	Annual carbon footprint report 2020-21	Sarah Wilkinson	Requested information on progress versus planned actions in future reports. It was agreed that information would be prepared for the Committee, outlining what	To be incorporated in future reports.	Ongoing

			interventions had been implemented over the last year and what benefits had been delivered as a result of those interventions.		
45	Annual carbon footprint report 2020-21	Sarah Wilkinson	Agreed to circulate the link to previous Annual Carbon Footprint reports to the Committee.	Circulated by Sarah by email on 20/01/22 Carbon Footprinting: How Big is the problem? - Cambridgeshire County Council	Completed.
45	Annual carbon footprint report 2020-21	Sarah Wilkinson	Suggested a summary for both Committee Members and the public would be useful, using infographics, for those unable to undertake a deep dive into the data. This would also highlight anomalous data, such as that attributable to the pandemic.	circulated to members	Complete
49.	Finance Monitoring Report – November 2021	Sarah Heywood/ Sheryl French	A Member suggested that construction materials prices may be reducing. Officers confirmed that they worked closely with procurement colleagues and also Bouyges, and they would ensure this was followed up.		
50.	Agenda Plan	Dawn Cave	Circulate updated Agenda Plan.		
51.	Digital Connectivity Infrastructure Strategy Refresh and Connecting Cambridgeshire Programme	Noelle Godfrey	Public access Wifi was available through 200 free hubs across the county, and officers agreed to circulate a link mapping those locations		

51.	Digital Connectivity Infrastructure Strategy Refresh and Connecting Cambridgeshire Programme	Noelle Godfrey	Cllr Hathorn advised that there was a new housing development in her division, and some of the homes did not have connectivity. It was agreed that officers would follow up on this individual case.	Noelle Godfrey contacted Cllr Hathorn.	Completed.
51.	Digital Connectivity Infrastructure Strategy Refresh and Connecting Cambridgeshire Programme	Noelle Godfrey	Noted that under the current statutory framework, providers were able to deploy 5G masts under permitted development regulations up to a certain height, and they did not necessarily have to inform planning authorities, depending on the context of what was being undertaken. It was agreed that officers would provide further written detail on this point.		

Low Carbon Heating Programme Update

To:	Environment and Green Investment Committee
Meeting Date:	3 March 2022
From:	Steve Cox, Executive Director of Place and Economy
Electoral division:	All, but in particular Huntingdon West and Ely North
Forward Plan ref:	2022/018
Key decision:	Yes
Outcome:	Reduction of 357 tonnes of carbon dioxide equivalent (CO_2e) emissions per annum as part of the Council's "scope 1" direct carbon emissions through the replacement of fossil fuel heating at 22 sites, including Scott House and Larkfield Resource Centre, with low carbon Air Source Heat Pumps (ASHPs).
Recommendation:	(a) To authorise the required additional spend as detailed in paragraphs 2.6 to 2.12 on the projects to install ASHPs at Scott House and Larkfield Resource Centre (b) To delegate authority to the Executive Director of Place and Economy, in consultation with the Chair / Vice-Chair of the Environment and Green Investment Committee, to authorise any further increases of costs on individual projects, as long as the business case for the entire programme as a portfolio remains within the other agreed investment criteria.

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1. Background

1.1. In December 2019, following an update to Buildings Regulations on 'Nearly Zero Energy Buildings', the Council's General Purposes Committee resolved unanimously to install low carbon heating systems for any refurbishments and boiler replacements.

1.2. In February 2020, the Council included a £16million Environment Fund in its budget plan to support delivery of its commitments set out in the Climate Change and Environment Strategy approved in May 2020 at Full Council. £15million of the fund was earmarked for replacing oil and gas heating with renewable heating. There are approximately 70 buildings owned and occupied by the Council.

1.3. The Council's latest annual carbon footprint report shows that heating buildings with oil and gas accounted for around two thirds of the Council's 'Scope 1' carbon footprint. Scope 1 emissions are direct emissions from the Council's own assets and as such are those that we have the greatest control over. It will not be possible to meet the Council's climate change targets whilst so many of its buildings are heated with gas and oil.

1.4. In June 2020, the Environment and Sustainability Committee agreed the assessment criteria for the Low Carbon Heating Programme for the Council's buildings against which individual projects can draw down investment from the Environment Fund for their implementation and thus enable the Council to proceed with significant work towards meeting its climate change commitments. The approved criteria for investment include:

- Individual sites are owned (either freehold or long term leaseholds) and occupied by the Council, and not planned to be sold or let out within the next five years (based on currently known and agreed plans);
- The proposed design meets the Council's renewable heating specification;
- The Programme is expected to achieve a simple average payback of 20 years or better for the £15million investment, taking into account the value of carbon. (Individual projects may exceed this as long as the average is maintained);
- If any individual project is greater than £500,000, the project will come forward to Committee for approval.

1.5. Also, in June 2020, the committee resolved to approve the inclusion of a carbon savings cost into the business case to sit alongside the financial business case for the low carbon heating programme. In October 2020 the same committee resolved to implement a virtual internal carbon price, to be taken into account in decision making for all applicable business cases.

1.6. The most suitable technologies for heating buildings from renewable sources are Air Source Heat Pumps (ASHPs) and Ground Source Heat Pumps (GSHPs). In ASHPs, outside air is used to heat a liquid refrigerant. The pump uses electricity to compress the refrigerant to increase its temperature then condenses it back to release stored heat. This heat is then used to heat water which is then piped to either radiators or under-floor heating. ASHPs still work well even when the outside air temperature is very low. They are generally very reliable sources of heat and require very little maintenance. GSHPs work in a similar way, except that coils or pipes containing refrigerant are buried in the ground. Note that whilst

heat pumps do use electricity, they are very different to traditional electric heating, in that the electricity is not the source of heat. Heat pumps typically produce a heat output 3 to 4 times as much as the electricity they use. GSHPs are considerably more expensive than ASHPs.

1.7. 22 projects have been brought into the low carbon heating programme so far.

1.8. The intended outcome of this report is to agree the continuation of this programme in the light of new information detailed below.

2. Main Issues

2.1. Progress to date. At the time of writing, 8 projects are finished and another 14 are currently on site. By the date of the committee meeting, all except 5 are expected to be complete.

2.2. The 22 sites in the programme so far are as follows:

33 Haviland Way, Cambridge. Finished
78 Victoria Rd, Wisbech. Finished
Bargroves Resource Centre, St Neots. Finished.
Cottenham Library. Finished
Ely Branch Library. On site, expected to complete in March 2022.
Hereward Hall, March. Finished.
Huntingdon Community Centre. Finished
Huntingdon Library. On site, expected to complete in April 2022..
Larkfield Resource Centre, Ely. expected to complete in March/April 2022.
Scott House, Huntingdon. On site, expected to complete in March 2022.
Victoria Lodge, Wisbech. Finished
Woodland Lodge, Huntingdon. On site, expected to complete in March/April 2022.
Burwell House. On site, expected to complete in May/June 2022.
Roger Ascham site, Cambridge. On site, expected to complete in May/June 2022.
Cambridge Central Library. On site, expected to complete in March/April 2022
Chatteris Library. On site, expected to complete in February/March 2022.
March Library. On site, expected to complete in March 2022.
Ramsey Library. On site, expected to complete in March 2022.
Shortsands Day Centre, St Neots. On site, expected to complete in February/March 2022.
Stanton House, Huntingdon. On site, expected to complete in March 2022.
Wisbech Library. On site, expected to complete in March 2022.
Bassingbourn preschool. Finished

2.3. All 22 sites are having ASHPs installed. A few of the sites are also having additional energy measures including solar photovoltaic panels, double glazing, or upgraded heating controls. Some sites have also required upgrades to the incoming electricity supply.

2.4. The total capital cost of these 22 projects is forecast to be around £5.2m. This is funded through a combination of grants and borrowing.

2.5. In late 2020, the government's Public Sector Decarbonisation Scheme (PSDS) was launched by Salix Finance, offering grant funding to local authorities for heating decarbonisation projects. We were successful in securing grant funding for 3 applications, which will in total contribute just under £3m towards the cost of 21 projects. The grant

covers costs of up to £500 per tonne of carbon saved over the project lifetime, plus up to 100% of some specific costs such as metering and electricity supply upgrades. Overall, the grant is expected to cover around 56% of our costs for this programme. The net cost to the council is therefore reduced to nearer £2.3m.

2.6. Rising costs. At some sites, unforeseen additional work has been required. Reasons for extra costs include the need for temporary heating and hot water solutions, asbestos surveys and removal, out of hours work, and minor changes to designs requiring additional pipework or alternative equipment such as different sized radiators or acoustic barriers. This varies from site to site, with a few sites coming in cheaper than expected and a few considerably more expensive. Across the whole programme, additional costs and expected variations add around 8% to the expected costs. This is already included in the totals above.

2.7. Due to these unforeseen additional costs, two sites are now at risk of exceeding the £500,000 limit of delegated authority. These are Scott House and Larkfield Resource Centre.

2.8. The overall programme across all sites is still within the agreed payback and other criteria. Across the whole portfolio, the simple average payback is currently estimated at 5 years. This is based on the differential costs compared to a counterfactual of replacing heating systems like with like (rather than low carbon) and taking into account the value of carbon (which is a virtual cost), in line with the previously agreed investment criteria.

2.9. The project at Scott House was originally forecast to cost £472,879. Since the project started work, additional unforeseen costs have occurred, totalling £22,772. The reasons for these additional costs at this site are minor design changes that were unknown to be needed until work started on site, including additional electrical work, the need for a fire partition to house the buffer vessels, revised prices of steel frame for the acoustic enclosure, repositioning of the cycle shed, cable support in the basement, and out of hours work. Further costs are expected in the next few weeks of £4,829 for weekend work to drain and flush the system and £2,477 for temporary heating. This brings the new forecast total cost to £502,957 (excluding costs of staff time), slightly exceeding the £500,000 limit. This figure is unlikely to change much now because this project is very close to completion.

2.10. The project at Scott House is expected to save 20 tonnes CO_2e per annum and annual energy use will reduce by over 80,000 kWh. Energy and maintenance bills for the site are also expected to be slightly reduced (estimated saving £372 per year). The high cost of this project means these savings will not pay back the cost of installation on this individual project, which would be more expensive than a like for like replacement of gas boilers. However the overall portfolio of projects remains within the agreed investment criteria. The PSDS grant for the site is around £135,871 and so covers around 27% of the estimated total project costs.

2.11. The project at Larkfield Resource Centre was originally forecast to cost £444,371. Additional costs of £37,939 have occurred to date, some of which were unforeseen. The reasons for additional costs at this site include revised trenching and related works for the required UKPN substation, tree works, resized radiators, temporary hot water solution, electrical variations and out of hours work. Further additional costs are going to be required here too, estimated at £28k, for an acoustic enclosure. The revised total project cost is therefore likely to be around £513,237.

2.12. The project at Larkfield will save an estimated 41 tonnes CO_2e per annum and reduce

annual energy usage by over 175,000 kWh. Energy bills for this site are expected to increase in the early years of the project by about 3.5% before becoming cheaper (compared to gas) from around year 8 onwards (forecast average of 4% cheaper over 25 year lifetime). The PSDS grant funding for this site is around £390,701 and so covers about 75% of the total project costs. Taking into account the value of saved carbon emissions, the total lifetime cost (installation and operation over 25 years) is estimated at £311,530 less than replacing like for like with gas (based on undiscounted prices). Excluding the value of carbon emissions, the low carbon option is still estimated £90,710 cheaper over 25 years.

2.13. ASHPs do make some noise (mainly due to the fan) but are not generally loud. However, the noise levels vary by make/model and the impact of noise also varies by location and use of the site. An acoustic engineer has been engaged to assess noise levels. The majority of projects do not require any acoustic mitigations, but a small number, including Larkfield, will need these additional measures. Scott House already has an acoustic enclosure.

2.14. None of the other projects are at risk of exceeding the £500,000 limit, other than Burwell House which already has committee approval to exceed that value should it be necessary, and is currently forecast at £490k.

2.15. Timing. The conditions of the grant funding require the grant-funded portion of the works to be completed by 31 March 2022 for most projects. Supply chain challenges are a significant risk to the delivery and meeting the planned timetable. For example:

- One of the heat pump manufacturers has informed us of significant delays to delivery lead times due to a global shortage of microprocessors and various raw materials.
- The potential for labour shortages due to Covid-19
- The potential for unforeseen technical or practical issues on site, such as asbestos.

2.16. A small number of sites are at risk of not completing this financial year, for various reasons. Huntingdon Library started late due to a delay whilst waiting for planning permission, but is now on site. However, the heat pumps are not expected to be delivered until early April. At Burwell House, delays have occurred for two main reasons. Firstly, the heat pumps are not expected until April or May due to manufacturer delays. Secondly, we are waiting for confirmation of dates for the work required by UK Power Networks for the electricity supply upgrade. Nonetheless, we still expect to complete most of the work in advance and so expect to have spent the grant-funded portion of the costs for both of these sites before the grant deadline of 31 March 2022. Cambridge Central Library is expected to complete at the end of March but may run into April if there are any unforeseen delays.

2.17. Once these projects are all complete, these 22 projects between them are expected to save around 357 tonnes carbon emissions per year and reduce the Council's gas usage by around one third.

2.18. The council's other sites that are still heated by fossil fuels may be considered for future projects, and a pipeline of potential projects is being developed for when resources allow. It is unknown whether further grant funding for these types of projects will be available in future, but from what we know so far, the eligibility criteria is likely to be stricter than the previous grants we secured.

3. Alignment with corporate priorities

3.1. Communities at the heart of everything we do

There are no significant implications for this priority. However, there will be a benefit to workers involved in the works. The sites having updated heating systems will benefit the staff and service users who use the sites.

3.2. A good quality of life for everyone

There are no significant implications for this priority. However, a reduction in the carbon footprint for Cambridgeshire has benefits to the quality of life of our residents.

3.3. Helping our children learn, develop and live life to the full

Some of these sites provide important services for children and young people. For example, Woodland Lodge is a children's home. Burwell House offers residential and non-residential courses for children, young people and adults. Our libraries are also important places of learning for children and others. These sites will benefit from the updated heating systems with a reduced carbon footprint.

3.4. Cambridgeshire: a well-connected, safe, clean, green environment.

This programme is helping the Council to meet its carbon reduction ambitions in relation to this priority.

3.5. Protecting and caring for those who need us

There are no significant implications for this priority.

4. Significant Implications

4.1. Resource Implications

The report above sets out details of significant implications in paragraphs 2.4 to 2.12, and 2.14. Our experience to date is that delivering low carbon heating schemes for projects does also require significant staff resource.

4.2. Procurement/Contractual/Council Contract Procedure Rules Implications

Tenders for the first batch of projects (14 sites) were completed using the Council's existing property minor works framework. The remaining 8 sites are being delivered through the Council's existing energy performance contracting framework.

4.3. Statutory, Legal and Risk Implications

All building works will need to comply with Building Regulations and Health and Safety legislation and policies.

Key risks include potential delays or additional costs owing to asbestos remedial works, COVID-19-related delays to materials supplies or contractor staff shortages or electricity

supply upgrades. These are all being monitored and managed by the project team.

4.4. Equality and Diversity Implications

Access to the buildings by staff and service users may, for some sites, be temporarily restricted whilst works on site are taking place. This could include temporarily closing buildings or relocating access routes, workspaces and services to other parts of the building or other buildings. Alternative plans are put in place where required to ensure staff and service users with protected characteristics are not negatively impacted. For example, temporary relocating the service from Shortsands Day Centre to another nearby location. These plans are being managed by the service manager, with transport provided for service users who require it.

4.5. Engagement and Communications Implications

The Council's Energy and Property FM teams have worked together to identify a list of properties to bring forward projects to replace oil or gas heating with ASHPs. This list was assembled with input from representatives of the Cambs2020 team, the Property FM team, the Energy Investment Unit and the Strategic Property Asset Board. The project teams have worked closely with building users to co-ordinate works at the sites where projects are taking place.

4.6. Localism and Local Member Involvement

Members have been informed about the Low Carbon heating Programme through reports to the Green Investment Advisory Group. In some cases, where there have been particular issues, engagement with the local councillor has been undertaken to share information and progress on the project.

4.7. Public Health Implications

The works will need to be done whilst minimising disruption and still adhering to social distancing requirements that may still be in place at the time, due to the COVID-19 situation.
Reducing our carbon footprint and helping to mitigate climate change also has public health benefits in the long term.

4.8 Environment and Climate Change Implications on Priority Areas:

4.8.1 Implication 1: Energy efficient, low carbon buildings.
Positive Status:
Explanation: This project will directly reduce carbon emissions from heating our buildings.

4.8.2 Implication 2: Low carbon transport.
Neutral.
Explanation: There are no changes to transport as a result of this project.

4.8.3 Implication 3: Green spaces, peatland, afforestation, habitats and land management.
Neutral.
Explanation: no impact

4.8.4 Implication 4: Waste Management and Tackling Plastic Pollution.
Neutral.
Explanation: no impact

4.8.5 Implication 5: Water use, availability and management:
Neutral.
Explanation: no impact

4.8.6 Implication 6: Air Pollution.
Neutral.
Explanation: no impact

4.8.7 Implication 7: Resilience of our services and infrastructure, and supporting vulnerable people to cope with climate change.
Neutral.
Explanation: no impact

Have the resource implications been cleared by Finance? Yes
Name of Financial Officer: Sarah Heywood

Have the procurement/contractual/ Council Contract Procedure Rules implications been cleared by the LGSS Head of Procurement? Yes Name of Officer: Clare Ellis

Has the impact on statutory, legal and risk implications been cleared by the Council's Monitoring Officer or LGSS Law? Yes Name of Legal Officer: Fiona McMillan

Have the equality and diversity implications been cleared by your Service Contact? Yes
Name of Officer: Elsa Evans

Have any engagement and communication implications been cleared by Communications? Yes
Name of Officer: Ken McErlain

Have any localism and Local Member involvement issues been cleared by your Service Contact? Yes Name of Officer: Sheryl French

Have any Public Health implications been cleared by Public Health? Yes
Name of Officer: Iain Green

If a Key decision, have any Environment and Climate Change implications been cleared by the Climate Change Officer? Yes Name of Officer: Emily Bolton

5. Source documents guidance

5.1. Source documents: none.

Development and construction of the Private Wire connecting North Angle Solar Farm and Swaffham Prior Community Heat Network

To:	Environment and Green Investment Committee
Meeting Date:	3 March 2022
From:	Steve Cox, Executive Director Place and Economy
Electoral division(s):	Soham South & Haddenham; Burwell; Woodditton
Key decision:	Yes
Forward Plan ref:	2022/001
Outcome:	Supply clean electricity from North Angle Solar Farm to Swaffham Prior Community Heat Project via a Private Wire to cut carbon emissions.
Recommendation:	Committee is asked to: a) Note progress with the project, b) Approve the private wire business case and recommend to Strategy & Resources Committee to approve additional expenditure, c) Approve purchase of long lead equipment. d) Approve entering into a contract variation for the existing North Angle Solar Farm project, to cover the private wire, e) Delegate the implementation of the decisions on the Private Wire including the purchase of long lead equipment to the Executive Director of Place and Economy and Director of Resources, in consultation with the Chair and Vice-Chair of Environment & Green Investment Committee.

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Member contacts:
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Tel: 01223 706398

1. Background

1.1 In December 2020, the Commercial and Investment Committee approved the investment case for the North Angle solar farm (NASF) project, which included scoping options for a private wire connection to the Swaffham Prior Community Heat Network (SPCHN) project. Shortly after, in January 2021, the investment case for the Swaffham Prior Community Heat Network was approved by the Environment and Sustainability Committee.

1.2 In March 2021, the Commercial and Investment Committee approved the option to progress a private wire between North Angle Solar Farm and Swaffham Prior Community Heat Network. The other option was for UKPN to deliver a grid connection from Burwell sub-station to the North Angle Solar Farm and a grid connection from Burwell sub-station to the Swaffham Prior Community Heat Project. The rationale for choosing the private wire option was a £2m cost saving compared to separate connections to Burwell sub-station from both projects.

1.3 Construction of the North Angle Solar Farm began in September 2021. Despite difficult ground conditions, expected during a winter build, it is progressing well. The piling has been completed and works to mount the solar panels is underway. The project is on track to be constructed during 2022.

1.4 Construction of the Swaffham Prior Community Heat Network started in August 2021. The main components of this project include the energy centre, the heat network and the customer connections. The Energy Centre building is nearly complete. Inside the building, the mechanical and electrical installation works have started and the evaporators for the Air Source Heat Pump are now installed on the external slab. Whilst there were some early problems that delayed the energy centre superstructure, these have now been resolved. Thirty-four boreholes, 200m deep, have been completed to date in the field adjacent to the energy centre and 40% of the heat network is now complete throughout the village with a completion anticipated in Spring. 102 homes in the village have committed to join the scheme to date.

1.5 The Private Wire when complete, will run from North Angle Solar Farm (NASF) to Burwell sub-station and sell renewable electricity to the grid through wholesale markets and supply and sell to the Swaffham Prior Community Heat Project (SPCHN) to run its energy centre.

1.6 This paper is seeking approval for the capital cost increase on the Private Wire that connects the North Angle Solar Farm and the Swaffham Prior Community Heat Network project.

2. Main issues

2.1 Increased Capital Costs. The current budget for the Private Wire is £6m. This is made up of a £4.6m contribution from the NASF project and £1.4m from the SPCHN project.

2.2 Finalised capital costs have now been received. Similar to all capital projects during the pandemic, costs have increased since March 2021, triggering the need to return to Committee with a revised investment case. Whilst capital costs for the Private Wire have increased, the expected revenue from both the NASF and SPCHN have also increased greatly as a result of higher sale prices for electricity and heat. This means that the overall business cases from the two projects is better now, even with the increased capital costs for the private wire, than when agreed by Committee.

2.3 Table 1 below compares the costs for the Private Wire and direct connections for NASF and SPCHN to the grid.

	Private Wire Budget approved at committee March 2021	Cost for two direct connections March 2021	Private Wire Budget Updated budget Feb 2022	Updated costs for two direct connections February 2022
Total costs	£6m	£7.98m	£7.7m	£10.3m*

**This is based on UKPN costs for contestable works increasing by 20%. UKPN costs have increased between 13-20%. The higher percentage has been used for contestable works due to substantial cost increases in labour.*

2.4 The key point is that the capital cost increase for the Private Wire in February 2022 remains lower than the original (March 2021) cost for the two direct cost connections and considerably better value than the February 2022 costs for the two direct connections once inflation costs have been applied.

2.5 The increased budget for the Private Wire is unavoidable due to the following reasons:

- Significant inflation of raw material and product costs in the past year. For example, the base rate of copper has increased by over 10% in the last 12 months, aluminium by over 30% and shipping by over 600%.
- Since the original budget was provided in March 2021 an additional sub-station at North Angle Solar Farm has been included as a result of discussions with UKPN.
- Additional equipment to operate the private wire as a microgrid is now included which is additional to the original budget.
- The non-contestable works for the Private Wire being delivered by UKPN have increased by 13%.
- March 2021 costs were market estimates, but the final costs of the Private Wire are based on costs from an Independent Connections Provider (ICP), a preferred bidder, selected by Bouygues from four tender submissions for the delivery of the private wire.

2.6 It is proposed that the contracting for the construction of the private wire sits under the North Angle Solar Farm Project. A contract variation is proposed and, by entering into contract with BYES, the price for the private wire will become fixed. The provisional sum for the project is not yet finalised so there remains a small cost exposure until these are confirmed and into contract. Taking the Private Wire option previously at Committee, has already helped manage some cost exposure to the project as employing UKPN to carry out the works would not provide any guarantee of costs; UKPN has the ability to increase costs at any time regardless of contracts.

3.0 Alignment with corporate priorities

3.1 Communities at the heart of everything we do

The cable connects North Angle Solar Farm to the Swaffham Prior Community Heat Network which allows 100% renewable energy to power the energy centre, cuts carbon emissions and provides a price affordable to the project.

3.2 A good quality of life for everyone

This project enables North Angle Solar Farm to be connected to the grid to supply renewable electricity and cut carbon emissions which is good for air quality and managing climate impacts.

3.3 Helping our children learn, develop and live life to the full

There are no significant implications for this priority.

3.4 Cambridgeshire: a well-connected, safe, clean, green environment

The project will enable both North Angle Solar Farm to energise and provide clean electricity to the grid and Swaffham Prior Community Heat Network.

3.5 Protecting and caring for those who need us

There are no significant implications for this priority.

4.0 Significant Implications

4.1 Resource Implications

The NASF and SPCHN are in construction and the private wire is essential works for both projects but particularly for the NASF. The additional costs were shared with Capital Programme Board members on 15th February 2022. Whilst costs have increased it should be noted that the Private Wire option remains less than the two grid connection option.

4.3 Procurement/Contractual/Council Contract Procedure Rules Implications

Bouygues Energies & Services were procured under a mini competition run under the Refit 3 Framework. There are no significant implications arising from this procurement or the proposed contractual arrangements.

4.4 Statutory, Legal and Risk Implications

The County Council has a priority outcome to deliver a well-connected, safe, clean, green environment and this project supports the Council to deliver this objective.

4.5 Equality and Diversity Implications

There are no significant implications.

4.6 Engagement and Communications Implications

Both NASF and SPCHN projects have had a significant level of engagement and communication and continue to have so. The private wire element will be communicated via the planning process.

4.7 Localism and Local Member Involvement

Both NASF and SPCHN projects have had local and local member involvement. The private wire element has been raised at the Green Investment Advisory Group.

4.8 Public Health Implications

The private wire will enable NASF and SPCHN to energise and start providing renewable energy to the local community.

4.9 Environment and Climate Change Implications on Priority Areas:

Implication 1: Energy efficient, low carbon buildings.
Positive/neutral/negative Status: Positive
Explanation: The private wire will enable the SPCHN Energy centre to run on clean renewable energy from NASF. This energy centre will then provide renewable energy to warm homes within Swaffham Prior.

Implication 2: Low carbon transport.
Positive/neutral/negative Status: Neutral
Explanation: This project does not cause a positive or negative on low carbon transport.

Implication 3: Green spaces, peatland, afforestation, habitats and land management.
Positive/neutral/negative Status: Positive
Explanation: Whilst this scheme will require the construction of a substation on current agricultural land, biodiversity net gain will be included as part of the planning application and it is anticipated that the habitat will improve as a result of the project through landscaping.

Implication 4: Waste Management and Tackling Plastic Pollution.

Positive/neutral/negative Status: Negative
Explanation: This project will likely cause waste which will need to be carted off site and disposed of. Plastic may be used as packaging. A waste management plan will be agreed as part of the project to reduce the negative impact of this project.

Implication 5: Water use, availability and management:
Positive/neutral/negative Status: Neutral
Explanation: A flood risk assessment will be carried out for this project, however, it not anticipated that this project would have any impact on water use, availability and management.

Implication 6: Air Pollution.
Positive/neutral/negative Status: Positive
Explanation: Reduction in carbon emissions from reduction in fossil fuels.

Implication 7: Resilience of our services and infrastructure and supporting vulnerable people to cope with climate change.
Positive/neutral/negative Status: Positive
Explanation: This project supports the SPCHN which is tackling fuel poverty in a local community to move off fossil fuels.

Have the resource implications been cleared by Finance?
Name of Financial Officer: Sarah Heywood

Have the procurement/contractual/ Council Contract Procedure Rules implications been cleared by the LGSS Head of Procurement? Yes Name of Officer: Clare Ellis

Has the impact on statutory, legal and risk implications been cleared by the Council's Monitoring Officer or LGSS Law? Yes Name of Legal Officer: Fiona McMillan

Have the equality and diversity implications been cleared by your Service Contact? Yes Name of Officer: Elsa Evans

Have any engagement and communication implications been cleared by Communications? Yes Name of Officer: Bethan Griffiths

Have any localism and Local Member involvement issues been cleared by your Service Contact? Yes Name of Officer: Sheryl French

Have any Public Health implications been cleared by Public Health? Yes
Name of Officer: Iain Green

If a Key decision, have any Environment and Climate Change implications been cleared by the Climate Change Officer? Yes Name of Officer: Emily Bolton

5.0 Source documents

5.1 Source documents

- North Angle Solar Farm Investment Decision – 18th December 2020 C&I committee
- Swaffham Prior Community Heat Project – Investment Case – 14th January 2021 E&S committee
- Clean electricity supply for Swaffham Prior Community Heat Project via Private Wire from North Angle Solar Farm – 19th March 2021 C&I committee

5.2 Location

- Document.ashx (cmis.uk.com)
- Document.ashx (cmis.uk.com)
- Document.ashx (cmis.uk.com)

Cambridgeshire Flood Risk Management Strategy

To:	Environment & Green Investment Committee
Meeting Date:	3 March 2022
From:	Steve Cox, Executive Director Place and Economy
Electoral division(s):	All
Key decision:	No
Forward Plan ref:	n/a
Outcome:	To seek members approval of Cambridgeshire's Flood Risk Management Strategy (2021-2027) following public consultation
Recommendation:	The Environment and Green Investment Committee is asked to: a) Approve the Cambridgeshire Flood Risk Management Strategy and supporting Action Plan

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Tel: 01223 706398

1. Background

1.1 Under the Flood and Water Management Act 2010, Cambridgeshire County Council is designated as a Lead Local Flood Authority and as such has the responsibility for developing, maintaining and applying a local flood risk management strategy (LFRMS) in Cambridgeshire.

1.2 As presented to members of the E&GI committee in November 2021, the Council's existing LFRMS covers the period 2015-2020 and therefore requires updating. Due to Covid and the impact this had on available resource to update the strategy in 2020, the update was delayed until 2021. The updated strategy covers the period 2021-2027. The reason behind covering a 6-year period rather than 5 is to ensure the next review period ties in with the update of the National Flood and Coastal Erosion Risk Management Strategy and Anglian Flood Risk Management Plans which are due for review in 2026/27.

1.3 An action plan has also been prepared with input from other flood risk management partners. This accompanies the strategy document.

1.4 The strategy was presented to the E&GI committee in November 2021 for their endorsement for public consultation. During this meeting the committee also resolved to '*following receipt of the consultation responses, convene one or more workshops of Committee Members, to review and consider consultation responses; and receive an updated FRMS at a future meeting of Committee, prior to presenting the updated FRMS and Action Plan to full Council for approval'.* Such committee workshops were held virtually on 11 January 2022 and 9 February 2022 and were well attended by members. The presentation of the updated strategy to this meeting of the E&GI committee addresses the second part of the resolution. Since the E&GI committee meeting in November 2021, it was confirmed by Democratic Services that The Constitution states the adoption or approval of the Local Flood Risk Management Strategy for Cambridgeshire is by local choice delegated to the relevant Policy and Service Committee (i.e. the E&GI committee). This has been discussed and confirmed with the Chair of the E&GI committee and as such the strategy will not be put before Full Council as originally resolved to.

1.5 An action from the minutes of the committee meeting in November 2021 was to add a section into the strategy regarding property owners and residents and the ongoing responsibilities for management of ditches. A section titled 'Living next to a watercourse' is included (section 4.16) and an additional diagram showing responsibilities of ditches adjacent to highways is included in section 4.2.4. In addition to this, the Lead Local Flood Authority team is in the process of updating the riparian guidance document which will be accompanied by an awareness raising campaign supported by our communications team, the Middle Level Commissioners and district councils.

2. Main Issues

2.1 As previously described in our presentation to the E&GI committee in November 2021 the overall objectives of the LFRMS remain the same as the 2015-2020 strategy:

1. Understanding flood risk in Cambridgeshire
2. Managing the likelihood of flooding
3. Helping Cambridgeshire's citizens to manage their own risk

4. Ensuring appropriate development in Cambridgeshire
5. Improving flood prediction, warning and post flood recovery

2.2 The format of the report has been adapted to make it easier to follow for the reader and aims to make a greater link between flood risk and the wider environment, including additional context in relation to policy and legislation.

2.3 As climate change is already happening and not something that is projected to happen in the future, it has been integrated consistently throughout the document rather than being identified in isolation.

2.4 As described in our last paper in November 2021, policy and legislative drivers have changed significantly since the 2015-2020 strategy was published and those relating to the wider water environment have been incorporated into the updated strategy. There is also increased importance of working across multiple disciplines to achieve our ambitions, so this has been incorporated. Examples of such working are new Council strategies (Climate Change and Environment Strategy for example), catchment partnerships and regional/strategic partnership projects such as Future Fens.

2.5 From the flooding that occurred in winter 2020/21, it became apparent that there needs to be much greater clarity on the roles of each flood risk management authority, so this has been incorporated into the strategy. There is also greater reference to riparian ownership and community involvement as this is important in managing flood risk on a local level.

2.7 An Equality Impact Assessment has been prepared with Equality, Diversity and Inclusion (EDI) colleagues. EDI topics have been built into the strategy and associated action plan to highlight some of the deprivation and isolation issues and considerations that need to be made.

2.8 The strategy was subject to a public consultation between 29 November 2021 and 23 January 2022 which partly coincided with the Environment Agency's Flood Risk Management Plan consultation. The consultation was promoted online via the Council's webpages and information was also shared with County Councillors, District Councillors, Parish Councils and in public buildings. Two workshops were run with members of the E&GI Committee. The first of these took place during the public consultation period to provide members with information on the structure and content of the strategy. The second workshop took place following the public consultation to provide a summary of the feedback received and the proposed amendments based on this feedback.

2.9 31 responses were received as part of the public consultation and these highlighted a number of consistent themes for further consideration. A summary of the themes and our resultant changes are included in the table below:

Themes/Issues raised	**Actions undertaken to address issues**
Request for greater reference to the natural and historic environment	Increased references made to both the natural and historic environment including the addition of a case study (Must Farm), also signposted need to consider these areas in project development.
Greater representation of	We have incorporated better signposting and connectivity to

local flooding issues	local risks and actions built into the strategy (without duplicating other documents published by partners). It is recognised that many communities are not specifically mentioned within the strategy. The communities that are mentioned are primarily those either a) where local risks have been determined through the previous version of the strategy, b) that have been subject to formal flood investigations in recent years or c) that have been identified through separate processes such as the Environment Agency's work under the Flood Risk Regulations. The strategy now includes a map of recent flood reports and details of the Flood Investigation Reports within Section 5.8.3 of the Strategy. Specific text has been incorporated for both the operations of sluice gates on the Great River Ouse and Cambridgeshire Lodes in sections 5.5.6 and 5.5.7 respectively.
Planning issues and the impact of new development on flood risk	We have developed further text relating to the risks and opportunities posed by new development, notably in relation to creating new risks (section 5.8.1).
Links to climate change and mention of sea level rise	The existing references to sea level and climate change have been made clearer and linked with related actions.
Communication with the community	There are a range of resources being developed as a part of the Community Flood Action Programme, including website improvements. In addition to this a Summary Document of this strategy is being produced using the public feedback to act as a quick reference guide and help direct the audience.
Ownership and responsibility of local assets	Work is underway to improve mapping held by partners and issues relating to changes of ownership and the potential dispersion of responsibility have been incorporated into updated text in the strategy.
Responsibilities/duties of organisations and partners	Text has been incorporated to clarify some responsibilities and confirm the County Council's Lead Local Flood Authority role as one of mediation with partners.
More information on flood action groups	More references to flood action groups have been incorporated, including within section 4.15.2 and the action plan to highlight the importance of local knowledge and some of the work already underway.
Actions and targets for combined sewers, including flooding and pollution	Many of the actions set out within the strategy related to issues in local drainage networks. This has been clarified by building on the detail in the Action Plan. We are not able to set specific targets for Water Company operations in Cambridgeshire.
Lack of detail around timescales in the action plan	The Action Plan now includes an introduction to confirm what each of the categories in that plan denote. Timescales may appear longer than expected in some instances but this is reflective of the range of interventions that may be required and the timescales associated with securing resources to deliver those interventions.

2.10 The following changes have also been made to the document:

1. Updated the strategy and action plan into the corporate font (called Program)
2. Added Foreword text
3. Added a case study of the Oxcam Property Flood Resilience Pathfinder Project (section 4.15.1)
4. Added detail and diagram around responsibilities for watercourse maintenance
5. Added a paragraph (in section 2.3.2) around where to find additional information on the 'Flood Risk Areas' defined by the Environment Agency
6. Added an additional paragraph in section 2.3.6 about how Drainage and Wastewater Management Plans (led by Anglian Water) will align with other strategies in Cambridgeshire
7. Added an additional paragraph about the update of the Council's Climate Change and Environment Strategy including signposting of where to find details of the strategy
8. Additional information added to section 5.5.8 around the Future Fens Flood Risk Management Project
9. Improved detailing of project considerations within Section 7.1.3
10. Figures and images updated with more up to date base mapping
11. Glossary added to appendix

2.11 During the public consultation and in the previous E&GI committee meeting in November 2021, the issue of updating the existing Flood and Water Supplementary Planning Document (SPD) was raised. We plan to commence this update in April 2022 with a view to completing it over the period of 12-18 months. The update will be reliant on cooperation by all local planning authorities (LPAs) in Cambridgeshire (as it is the LPAs that formally adopt the document) so the first step will be to engage with them which we plan to do in March 2022. The final publication date of the document will also be dependent on the committee timescales of the individual LPAs.

3. Alignment with corporate priorities

3.1 Communities at the heart of everything we do
The following bullet points set out details of implications identified by officers:

- The strategy recognises the value of working with communities to manage flood risk sustainably
- Community groups and the volunteers within them have a wealth of local knowledge and the strategy sets out how Cambridgeshire County Council will work with these groups to raise awareness of flooding

3.2 A good quality of life for everyone
The following bullet points set out details of implications identified by officers:

- The strategy sets out how effective local solutions can be funded within communities across Cambridgeshire to adapt and become more resilient to flood risk
- When communities understand and adapt to their risk, the adverse impacts of flooding can be minimised

3.3 Helping our children learn, develop and live life to the full
There are no significant implications for this priority

3.4 Cambridgeshire: a well-connected, safe, clean, green environment
The following bullet points set out details of implications identified by officers:

- The strategy recognises the need for risk management authorities and communities (both new and existing) to safely manage flood risk and sets out the policy and strategies to achieve this
- The strategy references national policy requiring the use of sustainable drainage systems which provide multi-functional benefits to manage flood risk whilst providing green open spaces for use by communities

3.5 Protecting and caring for those who need us
The following bullet points set out details of implications identified by officers:

- The strategy acknowledges that some areas of Cambridgeshire are the most vulnerable in the country to the ever-mounting effects of climate change and sets out the multi-partner projects which aim to not only help save these areas from inundation but also seize the opportunity to improve the economic and social prosperity of the region

4. Significant Implications

4.1 Resource Implications
There are no significant implications within this category.

4.2 Procurement/Contractual/Council Contract Procedure Rules Implications
The following bullet points set out details of significant implications identified by officers:

- Should procurements be required, they would be compliant with the Council's contract procedure rules

4.3 Statutory, Legal and Risk Implications
The following bullet points set out details of significant implications identified by officers:

- We have a statutory duty under the Part 1, Section 2 (9) of the Flood and Water Management Act 2010 to produce a Local Flood Risk Management Strategy
- The implication of failing to comply with this duty is that the county council will be in breach of a legal requirement. This could severely damage the reputation of the county council and jeopardize our position as a leading authority in flood and water management

4.4 Equality and Diversity Implications
The following bullet points set out details of significant implications identified by officers:

- A full Equality Impact Assessment has been undertaken for the production of this strategy

4.5 Engagement and Communications Implications
The following bullet points set out details of significant implications identified by officers:

- The strategy has been taken through a full public consultation following approval by the E&GI committee

4.6 Localism and Local Member Involvement
No significant implications have been identified by officers, as the strategy has been subject to public consultation allowing both residents and key stakeholders an opportunity to provide feedback on its content. Officers have also conducted two workshops with members of the E&GI committee (as set out in paragraph 2.8 of this report) and have listened to comments raised during those two events, in addition to the committee meeting in November 2021, and have incorporated changes wherever possible. In the event that changes haven't been possible officers have explained the reasoning behind this to the relevant councillors.

4.7 Public Health Implications
The following bullet points set out details of significant implications identified by officers:

- The consequences of flood risk impact on everyone, particularly the most vulnerable in society. Inappropriate or poorly designed surface water drainage infrastructure increases flood risk locally, and poorly prepared residents and communities can suffer disproportionately as a result. Therefore the county council's role as Lead local Flood Authority is critical to ensuring the preparedness and wellbeing of Cambridgeshire to meet and manage future flood threats

- The Local Flood Risk Management Strategy sets out our role, how we liaise with other Risk Management Authorities and how we work with residents and communities, especially those at greatest threat or disadvantage, to meet to minimise the risk to public health and wellbeing

4.8 Environment and Climate Change Implications on Priority Areas:
The following bullet points set out details of significant implications identified by officers:

4.8.1 Implication 1: Energy efficient, low carbon buildings.
Neutral Status:
Explanation: The strategy does not have an impact on the energy efficiency or carbon of buildings

4.8.2 Implication 2: Low carbon transport.
Neutral Status
Explanation: The strategy does not have an impact on transport

4.8.3 Implication 3: Green spaces, peatland, afforestation, habitats and land management
Positive Status:
Explanation: The strategy recognises the need to increase and enhance green spaces for the purposes of both water management and climate change adaptation

4.8.4 Implication 4: Waste Management and Tackling Plastic Pollution.
Neutral Status:
Explanation: The strategy does not have an impact on waste management

4.8.5 Implication 5: Water use, availability and management:

Positive Status:
Explanation: The strategy sets out the responsibilities of organisations in the management of water including flooding and sets actions for managing the impacts of climate change on water management

4.8.6 Implication 6: Air Pollution.
Neutral Status:
Explanation: The strategy does not have an impact on air pollution

4.8.7 Implication 7: Resilience of our services and infrastructure and supporting vulnerable people to cope with climate change.
Positive Status:
Explanation: The strategy includes information about the Community Flood Action Programme and the Future Fens projects which seek to assist vulnerable communities to adapt to climate change including flooding

Have the resource implications been cleared by Finance? Yes
Name of Financial Officer: Sarah Heywood

Have the procurement/contractual/ Council Contract Procedure Rules implications been cleared by the LGSS Head of Procurement? Yes Name of Officer: Clare Ellis

Has the impact on statutory, legal and risk implications been cleared by the Council's Monitoring Officer or LGSS Law? Yes Name of Legal Officer: Fiona McMillan

Have the equality and diversity implications been cleared by your Service Contact? Yes Name of Officer: Elsa Evans

Have any engagement and communication implications been cleared by Communications? Yes Name of Officer: Ken McErlain

Have any localism and Local Member involvement issues been cleared by your Service Contact? Yes Name of Officer: Emma Fitch

Have any Public Health implications been cleared by Public Health? Yes Name of Officer: Iain Green

If a Key decision, have any Environment and Climate Change implications been cleared by the Climate Change Officer? Yes or No Name of Officer: NA

5. Source documents

5.1 Source documents

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5.2 Location

For those documents without a web link in section 5.1, copies will be held at the team's office base at New Shire Hall.

Cambridgeshire County Council

Cambridgeshire Flood Risk Management Strategy

2021-2027

Flood Risk Management Strategy Production

The update of this strategy has been prepared by Cambridgeshire County Council (the Lead Local Flood Authority) with input from members of the Cambridgeshire and Peterborough Flood and Water Management Partnership.

This document is a revision of the existing Local Flood Risk Management Strategy created in 2015. As part of the development of the strategy the council are required to consider a range of assessments for environmental, social, and socio-economic impacts as options are developed for improving and managing flood risk in Cambridgeshire. As such as a part of the review process an Equality Impact Assessment has been carried out and the Strategic Environmental Assessment outcomes have been considered. All of which can be found in the supporting documents.

Associated Documents

- LFRMS Action Plan
- LFRMS Public Summary
- Equality Impact Assessment
- Strategic Environment Assessment of the Cambridgeshire Flood Risk Management Strategy, Cambridgeshire County Council

Further Information

For all general queries about flood risk and water management visit the website at https://www.cambridgeshire.gov.uk/business/planning-and-development/flood-and-water

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Foreword

Flooding can have a significant impact on communities and individuals alike. This was felt most recently in 2020 where widespread areas of Cambridgeshire were subject to intense rainfall over a prolonged period, and subsequent flooding on not just one, but two occasions.

The climate emergency means that the frequency and impact of such flood events is likely to increase. Cambridgeshire County Council recognises the importance of working with our communities and risk management authorities to create a safer and more resilient Cambridgeshire.

The flooding in 2020 demonstrated the importance of community flood groups. It was heartening to see how members of our varied and diverse communities pulled together to form strong bonds, working closely with one another to ensure they were safe at a time of need. One of our goals is to harness this community spirit and work alongside communities who know their local area in detail to ensure we don't miss opportunities to tackle the risks posed by flooding.

Cambridgeshire County Council is also responsible for convening the Cambridgeshire & Peterborough Flood & Water Partnership. This Partnership brings together the County Council, District Councils, the Environment Agency, Anglian Water, Fire & Rescue Service, Internal Drainage Boards, National Highways, and others to set strategic priorities, share information, and align work programmes.

This strategy identifies how the County Council and other organisations will help our communities become more resilient to flooding and how we will all manage flood risk between 2021 and 2027.

Councillor Lorna Dupré

Chair of the Environment and Green Investment Committee
Cambridgeshire County Council

Executive Summary

Flooding can occur at anytime and anywhere and increases in frequency are expected through climate change, the effects of which can already be seen. Cambridgeshire, as one of the lowest and flattest Counties of England, is very susceptible to flooding and long-term sea-level rise.

The strategy has been developed together with the members of Cambridgeshire and Peterborough Flood and Water Partnership alongside the Environment Agency's National Flood and Coastal Erosion Risk Management Strategy.

It encompasses the predicted and historical flooding issues in and around Cambridgeshire, focusing on how efficiencies and effectiveness of local solutions can be funded within communities to adapt and be more resilient to flood risk. Future adaptation will be key for the whole water environment as pressures are already being felt on water supply as well as flooding. Some work is already underway to provide greater support to communities as a part of the Community Flood Action Programme.

Cambridgeshire County has a rich environmental and historical character that must be protected for future generations. Our strategy recognises this heritage alongside other challenges and provides the necessary framework for fostering partnerships between flood risk management and environmental officers, particularly in delivering flood risk management schemes.

The strategy sets out the roles and responsibilities of Flood Risk Management Partners within the county, highlighting the position of the county council as the Lead Local Flood Authority under the Flood and Water Management Act 2010.

There are 5 key objectives within the strategy:

Objective 1:	Understanding flood risk in Cambridgeshire
Objective 2:	Managing the likelihood and impact of flooding
Objective 3:	Helping Cambridgeshire's citizens to understand and manage their own risk
Objective 4:	Ensuring appropriate development in Cambridgeshire
Objective 5:	Improving flood prediction, warning, and post flood recovery

Though flooding cannot always be stopped, with these key objectives, the strategy aims to coordinate, minimise, and manage its impacts within Cambridgeshire.

The strategy explains the funding avenues for flood risk management activities and emphasises the need for local partnership and contributions in delivering local flood schemes.

Contents

1. Introduction

In England, 5.2 million properties are at risk of flooding. Of these, 1.4 million are at risk from rivers or the sea, 2.8 million are at risk from surface water and 1 million are at risk from both. This risk was realised in many parts of the country during the summer floods of 2007, and more locally in August 2014 when over 300 homes flooded and December 2020 when more than 200 homes flooded in the County.

The Cambridgeshire Climate Change and Environment Strategy describes the range of risks to the water environment that Cambridgeshire is already experiencing. Many of these risks, such as rising sea levels, intense summer storms, wetter winters and droughts have seemingly been commonplace in recent years and highlight the need for a review of management practices and introduction of new measures. Climate change implications will be discussed throughout this strategy and the action plans of the two strategies will be aligned.

1.1 Requirement

Under the Flood and Water Management Act 2010, Cambridgeshire County Council is designated as a 'Lead Local Flood Authority' and as such has the responsibility for developing, maintaining, and applying a local flood risk management strategy (LFRMS) in Cambridgeshire.

It is intended that local authorities should reflect the content, guiding principles, aims and objectives of the National Flood and Coastal Erosion Risk Management Strategy in the development of their own LFRMS. The development of our LFRMS has required input from the designated 'Risk Management Authorities' (RMAs) who have a duty to act consistently with the strategy – in Cambridgeshire they are:

- District and City Councils
- Internal Drainage Boards
- Anglian Water Services Ltd
- Cambridge Water Company
- Highway Authority
- The Environment Agency

Our LFRMS clarifies roles and responsibilities for local flood risk, and the duties and permissive powers that RMAs have and will build on the existing partnerships developed in Cambridgeshire. The LFRMS will also provide a framework for local communities to develop local partnerships and solutions to the flood risks they face and underpin a partnership approach to funding flood resilience projects.

1.2 Review Procedures

Whilst there is no statutory deadline for producing a local flood risk management strategy, nor is there a prescribed format or scope beyond the legislative requirements contained in the Act, it is intended that the next formal update of the LFRMS will be in 2027. This is to align with updates to a related but separate document, produced in collaboration with the Environment Agency (EA), called the Anglian Flood Risk Management Plan.

1.3 'Local' Flood Risk

In setting out the county council's statutory requirement for a LFRMS, the term 'local' is specifically defined in paragraph 9, section (2) of the FWMA 2010 as including the sources of flood risk listed below.:

- ordinary watercourses
- groundwater, and
- surface runoff

In addition to the above, this strategy also provides guidance on other areas of the water environment, such as main river flood risk (a responsibility of the Environment Agency).

Surface runoff, groundwater and ordinary watercourses may interact with other sources including sewers and Main Rivers to worsen the impacts of flooding. It is important to consider the interaction of flooding from all sources to correctly assess the actual flood risk to a location. For example, since many ordinary watercourses and surface water sewers in the county ultimately flow into a Main River, when river water levels are very high, water will not be able to discharge and will instead overflow from the ordinary watercourses and the sewers.

Responsibility for different sources of flood risk sits with different organisations (discussed in Section 4), however through working together with all the water management organisations operating in Cambridgeshire, the county council has produced a strategy that co-ordinates flood risk management, and which residents and businesses can use as a reference.

It is inevitable that there will be competing demands across the Cambridgeshire area as the differing landscapes and characteristics mean that the needs of each area will differ. The aim of the LFRMS is to bring all these flood risk management needs together and try to ascertain the overall priorities on which the county council and its partners will invest resources over the coming years.

The objectives within this strategy were developed in partnership with Cambridgeshire's Risk Management Authorities as a part of the creation of the original Local Flood Risk Management Strategy published in 2015.

1.4 Status in the Planning System

As with any document, the LFRMS can be used as a material consideration in planning. To ensure that flood risk development policies have the required weight in the planning system a separate Supplementary Planning Document (SPD) has been prepared that is part of the planning policy framework for each local planning authority within Cambridgeshire. The Cambridgeshire Flood and Water Management SPD and associated Surface Water Planning Guidance specifically covers elements of flood risk and drainage which are relevant to new development, this is discussed briefly in section 2.3.13 with actions to review and update these documents and the associated processes included as a part of this strategy.

2 Policy, Legislation and Guidance

2.1 Links between legislation and guidance documents

Flood and water management in Cambridgeshire is influenced national and local policy and legislation as well as technical studies and local knowledge. Figure 1 summarises the main plans, strategies and legislation affecting flood risk management.

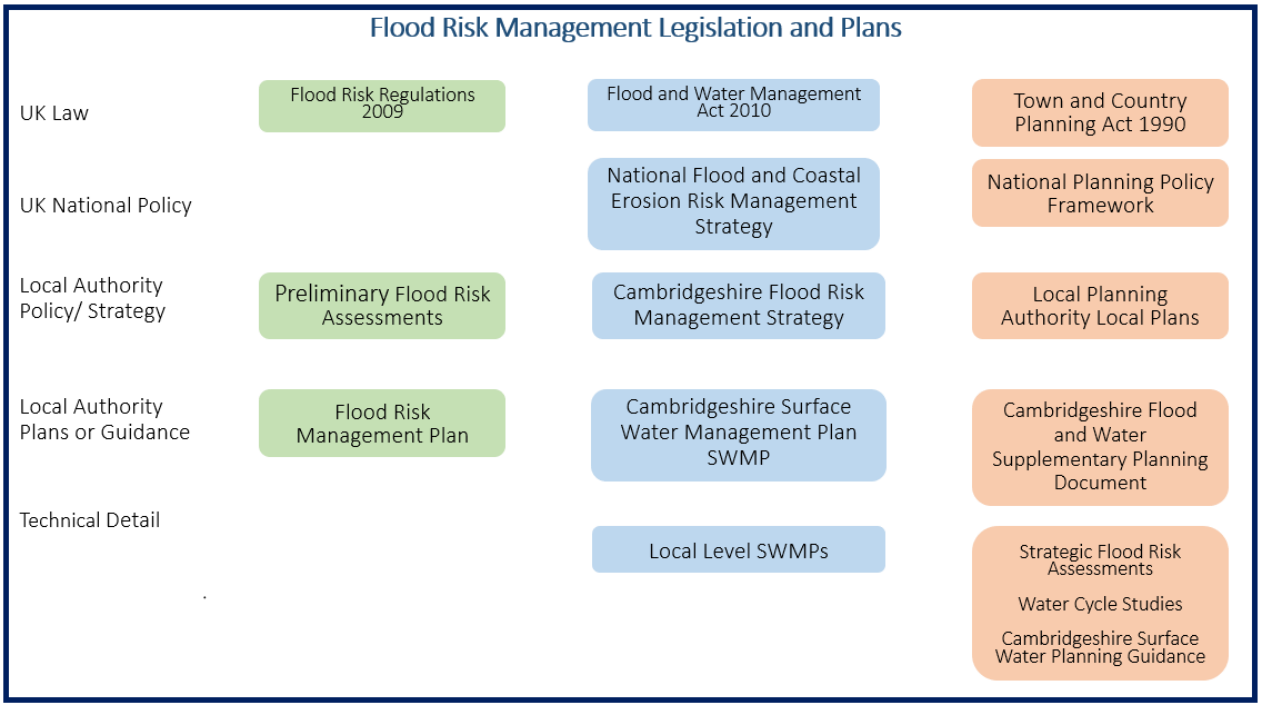


Figure 1: Legislation, Strategies, Policies and Plans Affecting Flood Risk Management

2.2 National Context

2.2.1 National Flood and Coastal Erosion Risk Management Strategy

Local flood risk management strategies must be consistent with the National Flood and Coastal Erosion Risk Management Strategy for England (the National Strategy) which was published in July 2020. The National Strategy sets out three ambitions to manage long term risk:

Climate resilient places - working with partners to bolster resilience to flooding and coastal change across the nation, both now and in the face of climate change
Today's growth and infrastructure resilient in tomorrow's climate - making the right investment and planning decisions to secure sustainable growth and environmental improvements, as well as infrastructure resilient to flooding and coastal change
A nation ready to respond and adapt to flooding and coastal change - ensuring local people understand their risk to flooding and coastal change, and know their responsibilities and how to take action

A series of strategic objectives sit under those ambitions alongside a series of measures designed to help achieve each of those objectives. Appendix 6 demonstrates how our LFRMS is consistent with the National Strategy.

The 2020 National Strategy has incorporated a step change in language in relation for responding to flood risk. The emphasis has moved from protection to one of resilience and adaptation (Figure 2). This recognises that that protection measures are just one part of the solution to making our communities more resilient in future and that constraints may prevent us from delivering protection in certain locations, such as the need for more space to accommodate flood waters in a dense urban environment or difficulties in securing funding for projects. The way in which resilience to communities is measured is being developed through national groups at the time of writing this report.

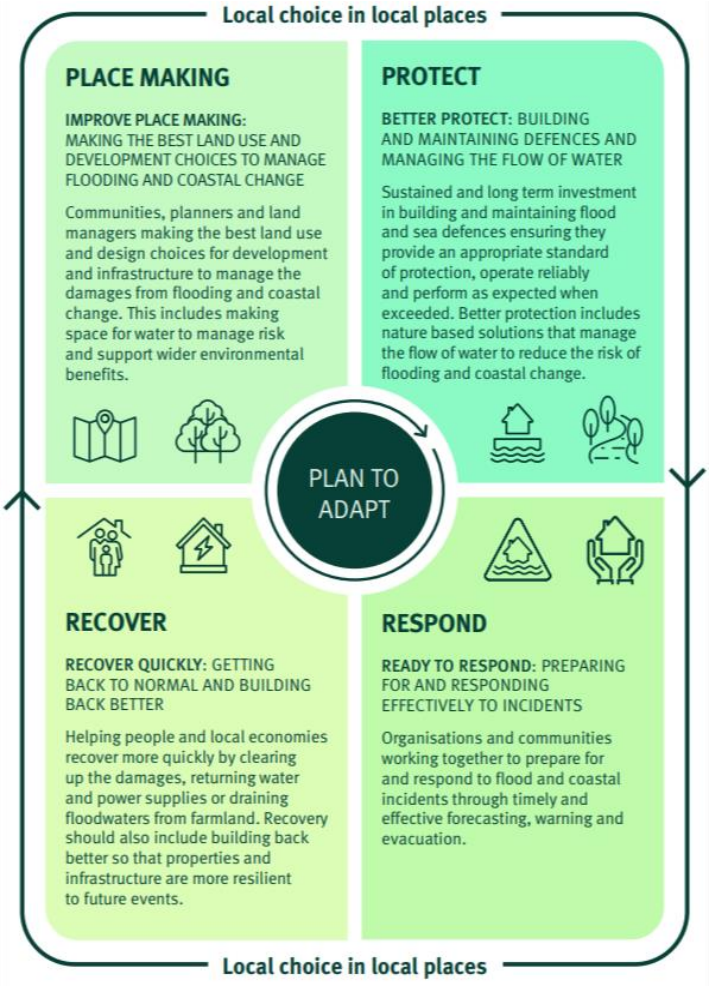


Figure 2: Components of Resilience Described in the national Strategy

2.2.2 National legislation and plans

Table 1 provides a summary of the other national context for the LFRMS.

Table 1: Summary of National Context for LFRMS

Flood Risk Regulations 2009	Came into force in response to the EU Floods Directive 2007/60/EC, this sets out the requirement for Preliminary Flood Risk Assessments (PFRA) and Flood Risk Management Plans (FRMP) to be produced.
The Water Environment (Water Framework Directive) Regulations 2017	Came into force as a response to the Water Frame Directive – 2000/60/EC (WFD). The regulations aim to prevent deterioration of surface water and ground water bodies whilst supporting the achievement of the environmental objectives for those water bodies.
Flood and Water Management Act 2010	Came into force to make changes to the way that flood risk is managed in the United Kingdom. This created Lead Local Flood Authorities.
National Surface Water Management Action Plan	Published in 2018 to set out steps being taken by risk management authorities on the management of surface water flooding.
25 Year Environment Plan	Released by government in 2018 and set out ambitions to improve the environment for future generations and provide a commitment from government to explore the potential for Environmental Net Gain.
National Planning Policy Framework	Section 14 of the National Planning Policy Framework (NPPF) sets out the government's intention that planning should proactively help mitigation of, and adaption to, climate change including management of water and flood risk.
Planning Practice Guidance – Flood Risk and Coastal Change	National Planning Guidance - Paragraphs 051 and 079-086 specifically explain the requirement for use of sustainable drainage systems (SuDS) in new and re-developments.
UK Climate Change Risk Assessment 2017	The UK government is required to carry out five yearly assessments of the impacts of climate change. The highlighted risks were then assigned urgency scores to prioritise research and actions. The Adaptation Programme highlights, among others, the important role of Drainage and Wastewater Management Plans as a means of creating a more joined up approach to the management of surface water and helping to deliver against the 25 Year Environment Plan
Flood and Coastal Risk Management: long term investment scenarios (LTIS)	An economic assessment which acts as evidence for government in future policy and investment decisions. The last assessment highlighted the weakness in the consideration of surface water flood risk, primarily due to a lack of evidence for consideration.
Climate Change Committee	An independent, statutory committee formed from the Climate Change Act 2008, they advise on emissions targets and on progress against reducing emissions and preparing for and adapting to climate change. Committee's progress report of June 2021 highlights areas of concern for the water environment and the management of local flood risk including highlighting 'fundamental gaps in policy' for the management of surface water on new developments and 'a significant lack of data' to assess progress in surface water flood alleviation
National Flood Risk Assessment (NaFRA)	National surface water flood risk mapping used in flood risk planning cycle to provide high level mapping of surface water flood risk, informing the designation of Flood Risk Areas of National Significance, as described in the PFRA and FRMP. NaFRA 2 – an update of this assessment, is due for update in 2024.
National Infrastructure Commission (NIC)	Provides impartial advice to government on infrastructure needs and solutions and highlights anticipated future challenges. Previously the NIC have been advocates for a catchment-based approach to managing water and a national standard of resilience against all forms of flood risk.

2.3 Local Context

Water doesn't flow according to political boundaries. Each river and its tributaries form a catchment area in which water is expected to ultimately flow into the named river (Figure 3). Understanding the management of flood risk across catchments is essential to ensure that flood risk is managed effectively without the creation of unintended impacts elsewhere. When larger catchments are grouped together this is known as a river basin. Cambridgeshire is part of the Anglian River Basin District. In this section there are a number of plans, strategies and ambitions that relate to Cambridgeshire, engaging in these processes can help to inform future investment and priorities for the county and provide us with opportunities to make communities more resilient.

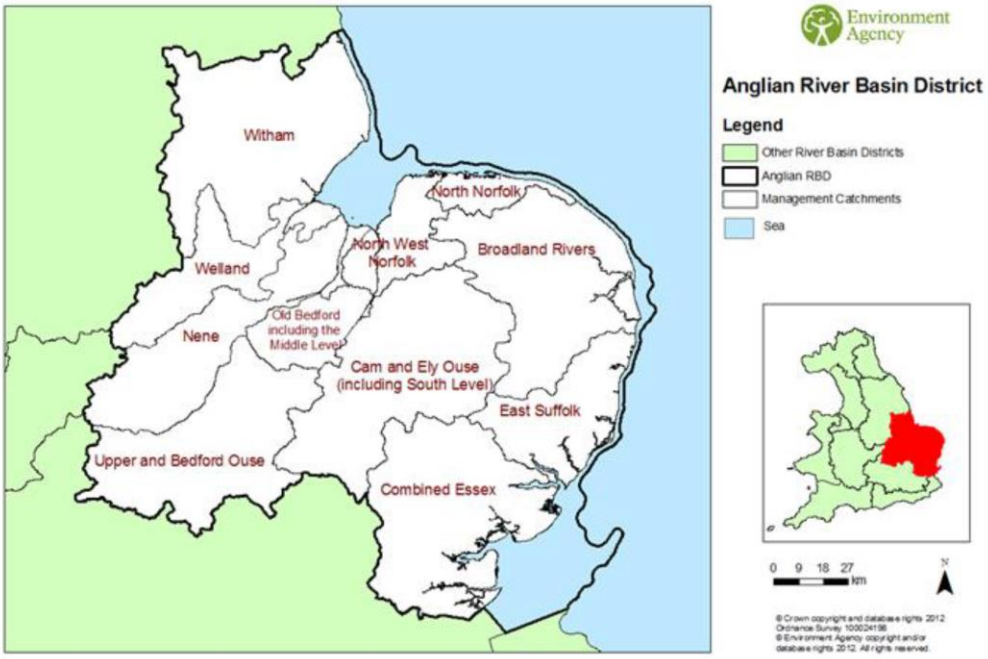


Figure 3: The Anglian River Basin District and its river catchments

2.3.1 Great Ouse and Nene Catchment Flood Risk Management Plans

In 2009 the Environment Agency completed Catchment Flood Management Plans (CFMPs) for each of Cambridgeshire's main river catchments. The catchments were then divided into policy units where flooding mechanisms and risk were similar so as to be assigned a policy to guide management in those areas. The CFMPs remain available despite not having been updated since 2009. They are largely superseded by the Flood Risk Management Plans described in Section 2.3.2.

2.3.2 Anglian Flood Risk Management Plan

Flood Risk Management Plans (FRMP) are a requirement of the Flood Risk Regulations 2009, which set out a statutory process for flood risk planning over a 6-year cycle. The Environment Agency (EA) and Lead Local Flood Authorities (LLFA) are required to:

- Assess the risk of flooding to people, the economy, and the environment.
- Identify areas where the risk of flooding is considered to be significant. These are designated flood risk areas (FRAs), which were identified through Preliminary Flood Risk Assessments (PFRAs) in 2017, Section 2.3.8 – see Table 2.
- Prepare flood hazard maps which highlight the risk of flooding to receptors within FRAs.

- Prepare FRMPs that set objectives and identify measures to manage flood risk within the FRAs and the wider River Basin District (RBD).

The first cycle Anglian FRMP was published in 2015 and covers the period from 2015-2021. The second cycle plan is currently being developed and will cover the period from 2021-2027. The Final FRMP will have two main parts:

- A series of reports providing an overview of the Anglian RBD, a review of progress made during the first cycle, and an Environmental Report.
- A live online mapping tool which will display the measures across the RBD. The tool will be updated during the lifecycle of the plan to ensure that information is up to date.

Table 2: Predicted Flood Risk Areas in the Cambridgeshire

Source of Flooding	
Main River and Sea	**Surface Water**
Alconbury & Alconbury Weston	Cambridge
Oakington	Huntingdon
Wisbech	March
These Flood Risk Areas are identified through the Environment Agency's 6 year flood risk planning cycle, as required by the Flood Risk Regulations. This follows an assessment of predictive national flood risk mapping and has not been determined by local flooding events. An assessment of the risk at local level will be carried out as a part of the action to update local wet spots highlighted in section 5.8.	

Details of the Preliminary Flood Risk Assessment and maps indicating the area covering the surface water flood risk areas of Cambridge, Huntingdon and March can be seen in paragraph 2.3.8 below, with actions for those areas detailed in Appendix 6. Maps and measures relating to the main river and sea flood risk areas are available through the online Environment Agency catchment explorer.

The Flood Risk Management Plan also highlights Strategic Areas. Strategic Areas are areas with a similar geography or strategic ambition where it is important to consider flood risk management across administrative boundaries and river catchments.

There are 2 Strategic Areas within the Anglian RBD which relate to the Cambridgeshire:

- Fens and Lowlands
- Oxford to Cambridge Growth Arc

2.3.3 Anglian River Basin Management Plan

The Environment Agency produces plans for each river basin district to cover other elements of water management, such as water resources and protection of the water environment. The Anglian River Basin Management Plan was released in 2015 and is reviewed every 6 years. The next update is anticipated to be released in 2022.

The Anglian RBMP sets out the current situation and pressures affecting the water environment with a range hierarchy of objectives, measures, and actions to protect and improve those environments.

2.3.4 Future Fens: Integrated Adaptation

The Fens, as one of the lowest-lying areas of the UK, which suffers acutely from economic deprivation, is one of the most vulnerable parts of the country to the ever-mounting effects of climate change and

associated sea-level rise. Current projections show the Fens could be underwater by 2100 if defence of the area is not sustained, leading to major displacement of communities and also significant damage to the economy and food security. Anglian Water are leading this partnership work with Water Resources East, the Environment Agency, County Council, and others to contribute to planning for the future.

Future Fens: Integrated Adaption is a cross-sector, holistic and ambitious approach that aims to not only plan for adaptation, but also seize the opportunity to improve the economic, environmental, and social prosperity of the region, all at a lower cost than by working independently of one another. The work of this project could influence the wider catchment as multi-functional solutions will need to take links to Chalk Streams and upstream land management into consideration.

2.3.5 Future Fens: Flood Risk Management

The Fens is in a unique position of having the only location specific measure within the National Flood and Coastal Erosion Risk Management Strategy. Much of the infrastructure in the Fens is nearing the end of its design life and will require significant investment soon. This work aims to develop a long-term approach to delivering drainage and flood risk infrastructure for future generations, these options will need to consider many external pressures such as funding constraints, housing needs, climate change, water resources, environmental, navigation and amenity services.

A baseline report for the Great Ouse Fens setting out the current situation and future challenges has been developed as a part of Phase one of the programme and was published in May 2021. Phase two is anticipated to take 5 years and will a long-term adaptive plan for the infrastructure in the fens. Phase three then looks at planning the delivery of the management options. Investment in infrastructure during the development of this Programme will need to carefully consider the long-term plans to avoid abortive costs.

The Fens are highlighted as a key piece of work within the National Strategy and have a measure assigned to them with the aim of developing a long-term plan for managing flood risk.

Fens Biosphere

There is an ambition across local partners to achieve a Biosphere status for the Fens from UNESCO. This status would recognise the Fens as a unique and valuable landscape and provide global recognition. If this status can be achieved a constituted partnership would manage a number of activities in the area to improve the natural environment whilst meeting the needs of those living in the area.

2.3.6 Drainage and Wastewater Management Plan

The Drainage and Wastewater Management Plan (DWMP), covering 2025-2050, is led by Anglian Water and aims to work with other strategic plans to ensure partners collectively plan for the impact of growth and climate change. This collaborative long-term view will highlight the known and expected future risks of flooding, environmental quality and wellbeing from wastewater, drainage and treatment, and work with stakeholders to identify the solution strategies to mitigate.

Being a new strategic plan, the DWMP follows “A framework for the production of the Drainage and Wastewater Management Plan” which was created through discussions with a number of regulatory bodies and published in 2018. Led by water companies the DWMP will be produced by working together with other risk management authorities and all interested parties, to produce a first draft for consultation in June 2022. The final DWMP will be published in spring 2023 and the outputs will be fed into Anglian Waters business plan submission to Ofwat later that year.

The DWMP will align with other strategies. Working together in identifying risks and solutions it will be possible to create a best value plan to collectively gain a range of benefits whilst producing a robust resilient plan to address the future challenges we all face. There are opportunities for the DWMP to influence long term investment in infrastructure across Cambridgeshire which could see an increase in the resilience of communities, appendix 6 of this strategy sets out actions where the county council and its partners could work as a part of this process to ensure priority locations are a part of the discussion.

2.3.7 Integrated catchment management plans

Integrated catchment management plans have been developed to provide more detail on how the actions from the Anglian RBMP and Water Framework Directive can be delivered. These actions are joined by equally important actions to improve the watercourse and our enjoyment of it in a wider sense. For example, this could be by improving amenity value for visitors, facilities for boaters and fisherman and bringing communities together to encourage them to help protect and maintain their local water environment.

2.3.8 Cambridgeshire Preliminary Flood Risk Assessment (2017)

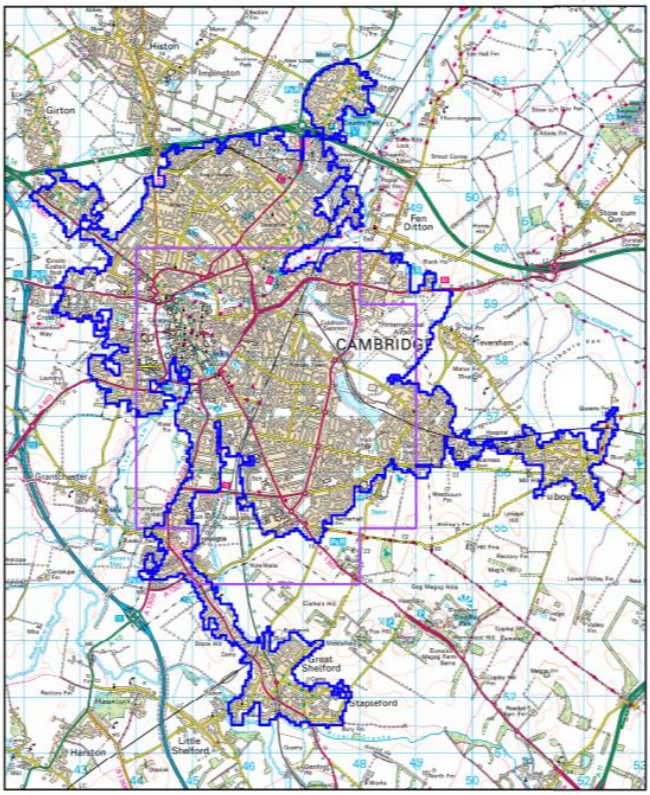
The Cambridgeshire Preliminary Flood Risk Assessment (PFRA) is a statutory document completed under the Flood Risk Regulations. The PFRA process is aimed at providing a high-level overview of flood risk from local flood sources, including surface runoff, groundwater, ordinary watercourses, and public sewers. It is not concerned with flooding from Main Rivers or the sea. The Cambridgeshire PFRA report, updated in 2017, identifies that there are three 'Flood Risk Areas' of national significance (Figure 4) within Cambridgeshire's administrative area, March, Cambridge and Huntingdon. These findings are then incorporated in the Flood Risk Management Plan. The PFRA will be updated in 2023, this is included in the Action Plan.

These Flood Risk Areas are determined through the level of risk to homes and infrastructure as shown by National Flood Risk Assessment mapping. The county council are required to further investigate the risk in these areas. Due to historic flood events this understanding is already being developed in both March and Cambridge. In Huntingdon there has been comparatively less historic flooding to cause this area to be investigated in as much detail, as such further work will be required to confirm why national mapping identifies this as a Flood Risk Area of national significance although it is understood that this level of risk reflects the critical infrastructure within the Town. Any projects highlighted by this work will need to be prioritised against locations where communities have experienced flooding to ensure interventions for modelled risks are targeted and proportional.

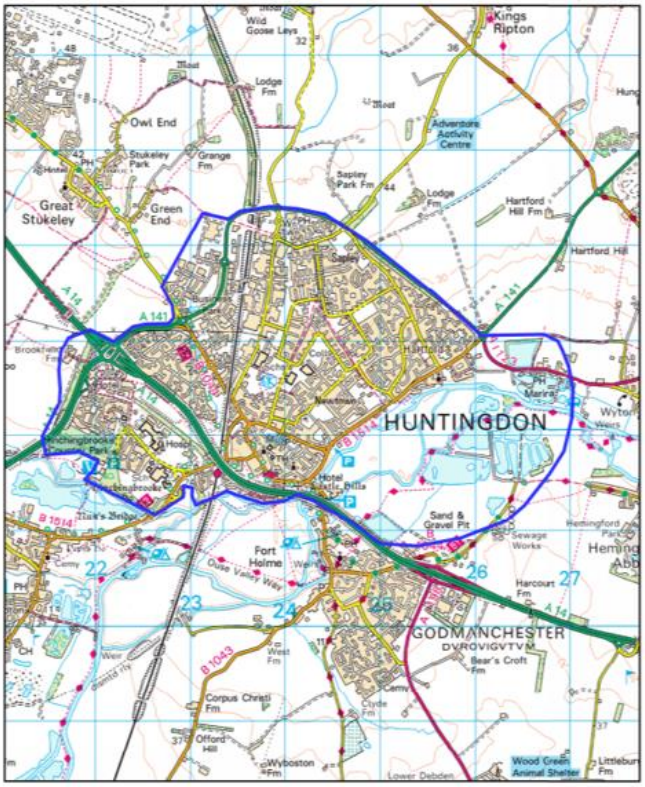
Both the Surface Water Management Plan (section 5.8.3) and Preliminary Flood Risk Assessment estimate the significance of flood risk based on the risk to people and property. This strategy also considers the significance of flooding to agricultural land and considers measures to ensure that food production, which is of regional and national significance, is resilient to flooding.

Figure 4: Maps of Flood Risk Areas for Surface Water Risk

Cambridge



Huntingdon



March

2.3.9 Cambridgeshire Climate Change and Environment Strategy

In May 2019 the county council declared a climate and environment emergency. In response to that declaration the county council approved a Climate Change and Environment Strategy, an action plan, carbon footprint for 2018/19 and Carbon Management Plan 2021-2026. The Strategy sets out 15 priority areas and 100 separate actions to help achieve the ambitions in the Strategy. Those priorities are separated into three themes.

Mitigation	Efforts to reduce or prevent emissions
Adaptation	Actions that help cope with the effects of climate change
Natural Capital	Elements of the Natural Environment that provide us with benefits

There are several actions directly related to flood risk and water management but there are also other actions related to the functions of all risk management authorities which will be reflected in this strategy and future partnership working, such as minimizing waste and reducing energy use.

The Climate Change and Environment Strategy and associated action plan are being updated in 2022 as such the detail of that strategy is not expanded here. This update will be available on the Cambridgeshire County Council website and the Lead Local Flood Authority will be involved in that review to retain consistency with the Cambridgeshire Flood Risk Management Strategy. The Action Plan in Appendix 6 of this document details where there are connections between the existing Climate Change and Environment Strategy but those actions can be updated as and when required.

The Forestry Commission and Natural England have both carried out studies to calculate the quantitative benefits of green space[78]. An example from Natural England's 2014 report is provided below:

A single large tree can transpire 450 litres of water per day, making urban trees an effective way of reducing temperatures. Street trees and green roofs can reduce runoff by 50% in the immediate area.

2.3.10 Partnerships

Table 3 provides a summary of the local partnerships in Cambridgeshire.

Table 3: Local Partnerships

CamEO	Operates around central forum, with input from four established sub-catchment partnerships for the Rivers Cam, Lark, Wissey & Little Ouse and Thet. These sub-catchment partnerships reflect the WFD Operational Catchment waterbodies within CamEO, however exact partnership boundaries differ from those of the official WFD Operational Catchments as demonstrated in the maps below. As yet no sub-catchment partnership has been successfully developed for the South Level & Cut Off Channel catchment. Annually each sub-catchment partnership identifies local priorities and develops local action plans identifying projects for delivery. These action plans are reviewed annually and must ultimately deliver against the CamEO catchment partnership five-year strategy. Within this strategy, the six areas of priority for the Cam & Ely Ouse are identified as: Community Action, Water Resources, Farming and Land Use, Healthy Rivers & Groundwaters, Invasive Non-Native Species and Maximising Resources.
Water Care	Catchment Partners work together to develop a shared understanding of the problems in their catchment and create an Action Plan to effectively target actions and funds where they will have multiple benefits for people and wildlife. The Water Care Action Plan lists projects currently underway and aspirational projects.
Upper and Bedford Ouse Partnership	Has a vision for the rivers and their catchments to be heathier, richer in wildlife and valued by all. The partnership is currently reviewing and prioritising projects using the framework set out by the Catchment Based Approach to develop a catchment plan. In the interim examples of projects can be found online.
River Nene Partnership	Co-ordinated the development of an integrated catchment management plan for the Nene which contains Cambridgeshire-based projects. Not all of these will be discussed in the LFRMS due to some being more about green infrastructure and less about flood risk. Projects identified in the River Nene plan aim to bring about as many different benefits as possible across the full scope of water management work. The Nene Catchment Partnership, hosted by the RNRP, will now look to co-ordinate delivery of the opportunities identified in the Nene Integrated Catchment Management Plan.

2.3.11 Other Cambridgeshire Strategies

Table 4 lists other strategies which will influence the way in which flood risk management functions are delivered in future.

Table 4: Cambridgeshire strategies

Plastic Strategy	Approved in 2019 this Strategy sets out how Cambridgeshire County Council will look to reduce its consumption of plastic and lead suppliers and communities to explore alternatives.
Corporate Energy Strategy	The strategy outlines our vision to secure renewable and resilient energy supplies and infrastructure than can support local needs
Waste Management Strategy	The joint Cambridgeshire and Peterborough Strategy 2008-2022 outlines how a more sustainable waste management process with recycling and composting targets will be achieved.
Tree and Woodland Strategy	This Strategy is currently being developed to establish how existing trees will be sustainably managed whilst looking to expand the tree cover and canopy cover across the county.
Minerals and Waste Development Plan	This Strategy runs to 2026 and sets out policies for how minerals are available to supply growth in the area and ensure that waste in modern waste management facilities is managed in a more sustainable way. This includes objectives which are specifically related to the management of water.
Cambridgeshire Green Infrastructure Strategy	Approved in 2011, the county council worked with its partners to develop a strategy for the development of green spaces throughout the county. This includes consideration of flood and water management.
The Cambridge Nature Network	A study to produce a spatial plan for nature, published in 2021 it provides a source of information for identifying wider considerations for new schemes. A Local Nature Recovery Network is anticipated to be established in the near future.
Doubling Nature Ambitions	Ambitions were launched in 2019 by Natural Cambridgeshire to double the area of land managed for nature in the county from 8% to 16%. Due to the nature of the Cambridgeshire landscape this will be closely linked to the water environment.
Cambridgeshire Peatland	The Cambridgeshire Fens accounts for 27% of England's total peatland stock. Peatland provides diverse wildlife habitat but has been damaged by long term drainage practices. Peat is also an important store for carbon when held in a saturated state.

Must Farm

The importance of water level management in Cambridgeshire is critical for a range reasons. Needs such as the protecting land and homes or water supply for agriculture are the most obvious and the impacts of lowered water tables on land shrinkage, subsidence and raised watercourses can be clearly seen. Some of the impacts such as carbon emissions from peat degradation are less obvious or not in plain sight.

At Must Farm one of these hidden assets is being investigated where Neolithic and Bronze Age archaeology have been preserved by the presence of water for more than 3000 years. Finds have included a number of structures, boats, kitchen ware, fabrics and tools, much of which would not have been preserved in a drier environment.

Bronze Age boat at Must Farm
Credit: Cambridge Archaeological Unit

Waterlogged soil has been essential in the preservation of these sites and will continue to be important for so many artifacts which still remain hidden deep under saturated fenland soils.

2.3.12 Strategic Flood Risk Assessments and Water Cycle Studies

Strategic Flood Risk Assessments (SFRAs) look at flood risk at a strategic level on a local planning authority scale. In Cambridgeshire, several have been produced and are detailed in Table 5 below.

SFRAs are used as part of the evidence base for each Local Authority's Local Plan. They help determine where growth should be allocated and steered away from the highest flood risk areas. They are used to inform the planning process by identifying where development will be at the lowest flood risk throughout the lifetime of the proposed development. By preparing Strategic Flood Risk Assessments, local planning authorities will be able to undertake the sequential test, identify the need for Site Specific Flood Risk Assessments (FRAs) and assist in emergency planning.

The Strategic Flood Risk Assessment level 1 provides a summary of the catchments, relevant policies, the current flood risks, the potential impacts of climate change, flood risk management practices and policy recommendations. It identifies and analyses current and future broad scale flooding issues for proposed development allocation sites/areas. The Strategic Flood Risk Assessment level 2 focuses on residual risks, such as the rate and depth of flooding if flood defences fail. It is necessary to examine these aspects so that any planned development will be safe. Guidance for the inclusion of climate change including predicted percentage changes to river flow and rainfall intensities is created by the Environment Agency and made available on Gov.uk.

Table 5: Evidence base for Local Plans

Authority	Evidence Base for Local Plan
Huntingdonshire District Council	A Level 1 SFRA is in place for Huntingdon with a Level 2 SFRA Detailed Site Assessments. A separate Water Cycle Study exists as a part of the evidence base for the Local Plan.
East Cambridgeshire District Council	A combined Level 1 and Level 2 SFRA is available, this is currently being updated with a view to continue with the hybrid report approach. A Water Cycle is also in place to support the Local Plan
Fenland District Council	Fenland District Council have a district wide Level 1 SFRA and a Level 2 SFRA for Wisbech. Local development is also informed by a Detailed Stage 2a Water Cycle Study.
Cambridge City Council and South Cambridgeshire District Council	These two authorities combine to create the Greater Cambridge Shared Planning Service (GCSPS). Currently there is a joint Level 1 SFRA is in place as a living document to be updated with new data as it becomes available. In November 2020 the GCSPS commissioned an Integrated Water Management Study in preparation of the update of the Local Plan which includes individual components for a Level 1 SFRA, Outline Water Cycle Study and Detailed Water Cycle Study.

A Water Cycle Study is an opportunity for key stakeholders to work together to identify the water services infrastructure that is needed to support and enable sustainable development. The studies will assist in identifying what infrastructure is needed, when it is required, how much it will cost, and who is responsible for delivery. The common elements that are considered in a Water Cycle Study include the location and capacity of Water Recycling Centres, sewage networks, water supply, water quality, the impact on biodiversity, and water neutrality as part of growth.

The varying nature of geology and topography across Cambridgeshire means a range of solutions will be required to meet the variety of pressures on the water environment. Challenges include providing sufficient infrastructure to convey and treat wastewater but also, and more notably, the challenge of ensuring the supply of water for nature, residents, businesses, farming, and new growth is sustainable in one of the driest parts of the country.

It is increasingly common for the Strategic Flood Risk Assessments and Water Cycle Studies to be combined into an Integrated Water Management Study or Assessment. This approach looks to better

connect consideration of all impacts on the water environment of new development but will need to consider the same impacts of having separate documents.

2.3.13 Cambridgeshire Flood and Water Supplementary Planning Document

The Local Planning Authorities across Cambridgeshire worked together to create this guidance for how developers should manage flood risk and the water environment as a part of new development proposals. This guidance includes details of the site selection and the incorporation of Sustainable Drainage Systems as well as highlighting specific local flood risk planning policies in each Local Planning Authority. This strategy includes an action to review and update this document in partnership with all Local Planning Authorities.

2.3.14 Cambridgeshire Surface Water Planning Guidance

This guidance was produced to support the Cambridgeshire Flood and Water Supplementary Planning Document by providing greater detail on the requirements for surface water drainage strategies and how this detail varies depending on types of applications. The Lead Local Flood Authority also provide pre-application advice to developers which can be used to provide greater confidence that proposals are acceptable prior to formal submission of new planning applications.

In preparation for the anticipated development associated with the Oxford to Cambridge Growth Arc (Figure 5) there are a number of initiatives led at a national or regional level working to ensure environmental standards and enhancements are delivered, these are described in the Action Plan for this strategy. The need for sustainable development and the opportunities for the OxCam Arc are recognised in the National Flood and Coastal Erosion Risk Management Strategy;

Oxford to Cambridge Arc

3.3 million people live in the Oxford to Cambridge (OxCam) Arc. It hosts some of the most productive and fastest-growing cities in the UK. Too much and too little water, alongside ageing infrastructure, are key considerations in the proposals for up to one million new homes by 2050. This will be double the previously proposed growth and is estimated to increase gross value added from £90 billion to £250 billion a year (HM Treasury, 2018).

Government and local partners recognise the value of the natural environment and have committed to deliver the government's 25 Year Environment Plan goals and environmental outcomes, including embedding a local natural capital planning approach, with the aim to meet their economic and housing ambitions while improving overall, rather than degrading, the environment in the Arc.

In the government's 2018 Budget, it confirmed funding for a pan Arc Local Natural Capital Plan to coordinate investment in housing, infrastructure, and the environment to support transformational growth across the Arc. The aim is to make sure new development maximises its economic potential, increases resilience to flooding and integrates environmental infrastructure with other development to provide high quality and productive places for people to live and work.

The principle of environmental net gain could provide a lever, not only for improvements in biodiversity, but also for improvements in sustainable flood and water infrastructure to support OxCam ambitions to be a model for climate-resilient growth.

The government's 2020 Budget committed to developing a new spatial framework and up to 4 new development corporations for the Arc, to give certainty about the location and timing of green growth, housing, and infrastructure, as well as a potential new town at Cambridge.

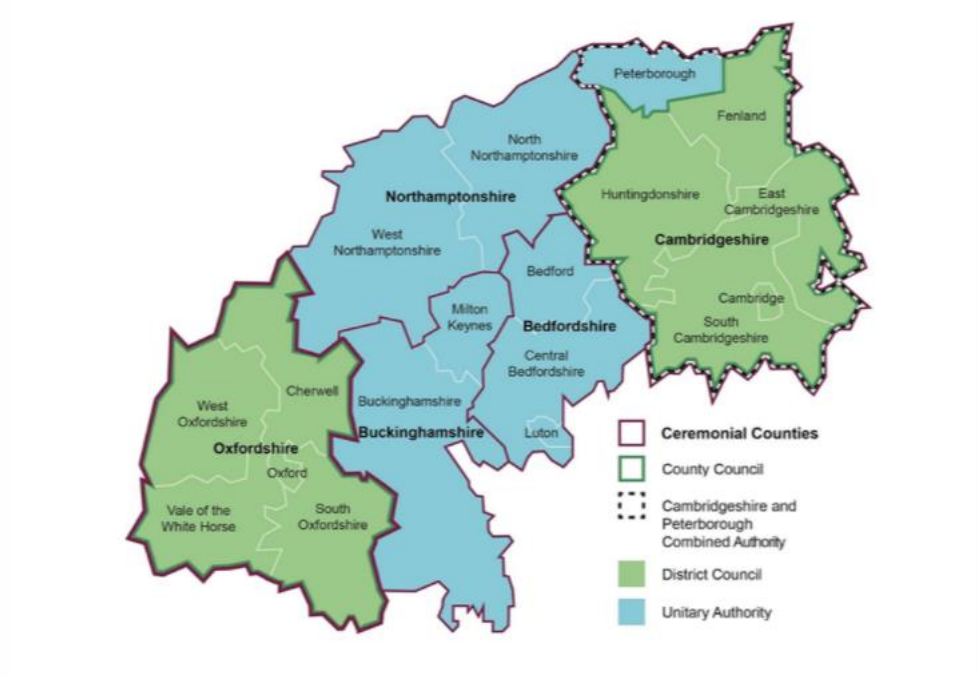


Figure 5: Area of Oxford to Cambridge Arc as defined by National Policy paper

2.3.15 Neighbourhood planning

Neighbourhood planning is a right for communities introduced through the Localism Act 2011. Local people have a major statutory say in helping to shape development in the areas in which they live. Neighbourhood development plans are a part of the local statutory development plan and will form the basis for determining planning applications in that area. A neighbourhood development order enables the community to grant planning permission for the development it wishes to see. The local parish or town council will lead the work with the support of the Local Planning Authority.

3 Cambridgeshire Background

Cambridgeshire is approximately 304,400 hectares in size and is comprised of one upper tier authority - Cambridgeshire County Council and five second tier local authorities: Cambridge City Council; East Cambridgeshire District Council; Fenland District Council; Huntingdonshire District Council; and South Cambridgeshire District Council.

Cambridgeshire spans two Environment Agency catchments: the 'East Anglia' and 'Lincolnshire and Northamptonshire' areas. Cambridgeshire encompasses 62 Internal Drainage Board (IDB) catchments. The water and sewerage undertaker for the County is Anglian Water Services Limited and Cambridge Water Company also provides water services.

The population of the county is approximately 859,830 (2020) and this is expected to increase significantly as part of the OxCam Arc growth corridor which expects to see 1 million new homes across the Arc by 2050 in existing and new settlements. The environmental impacts of this growth are already being assessed to ensure it considers the significant constraints around flood risk, water resources and the wider water environment. These developmental demands will be competing against existing ones, especially for water resources in one of the driest parts of the country which has a nationally significant agricultural industry.

Many of the large settlements we see today have been built around major river systems, with many properties built on low lying land close to the river, often on the natural floodplain. These settlements are typical of urban settlements across the UK, and they are often at risk from surface water flooding due to the historic design of the underground drainage system with more deprived dense urban environments typically at a higher risk. Although this is now recognised as a problem and higher design standards are in place, developments in previous decades have not taken more extreme rainfall events into consideration and the necessary resource to deliver widespread improvements to those systems is not readily available.

Much of the northern rural area in Cambridgeshire is known as 'The Fens' which is an area that is artificially drained. The Fens include the lowest lying land in Cambridgeshire, with Holme Fen being not only the lowest point in the County, but also the lowest point in the UK, approximately 2.75m below sea level. Peat soils that are common across the Fens shrink as they are drained. Prior to the draining of the Fens, Holme Fen was not below sea level. The management of water levels in the Fens is also incredibly important for the preservation of a number of heritage and historic environmental assets which are dependent on water to prevent their deterioration, such as bronze age boats preserved in saturated soils.

Over 50% of the land in Cambridgeshire is below mean sea level and is therefore reliant on pumped drainage. Management of such areas is by IDBs who manage water levels within their networks. IDBs produce policy statements (available via each IDB) that set out the level of protection provided within internal drainage districts and each board's approach to dealing with flood risk management. IDBs are locally based, democratically accountable bodies. They make local decisions about flood risk management activities and represent a good example of 'localism at work' in Cambridgeshire.

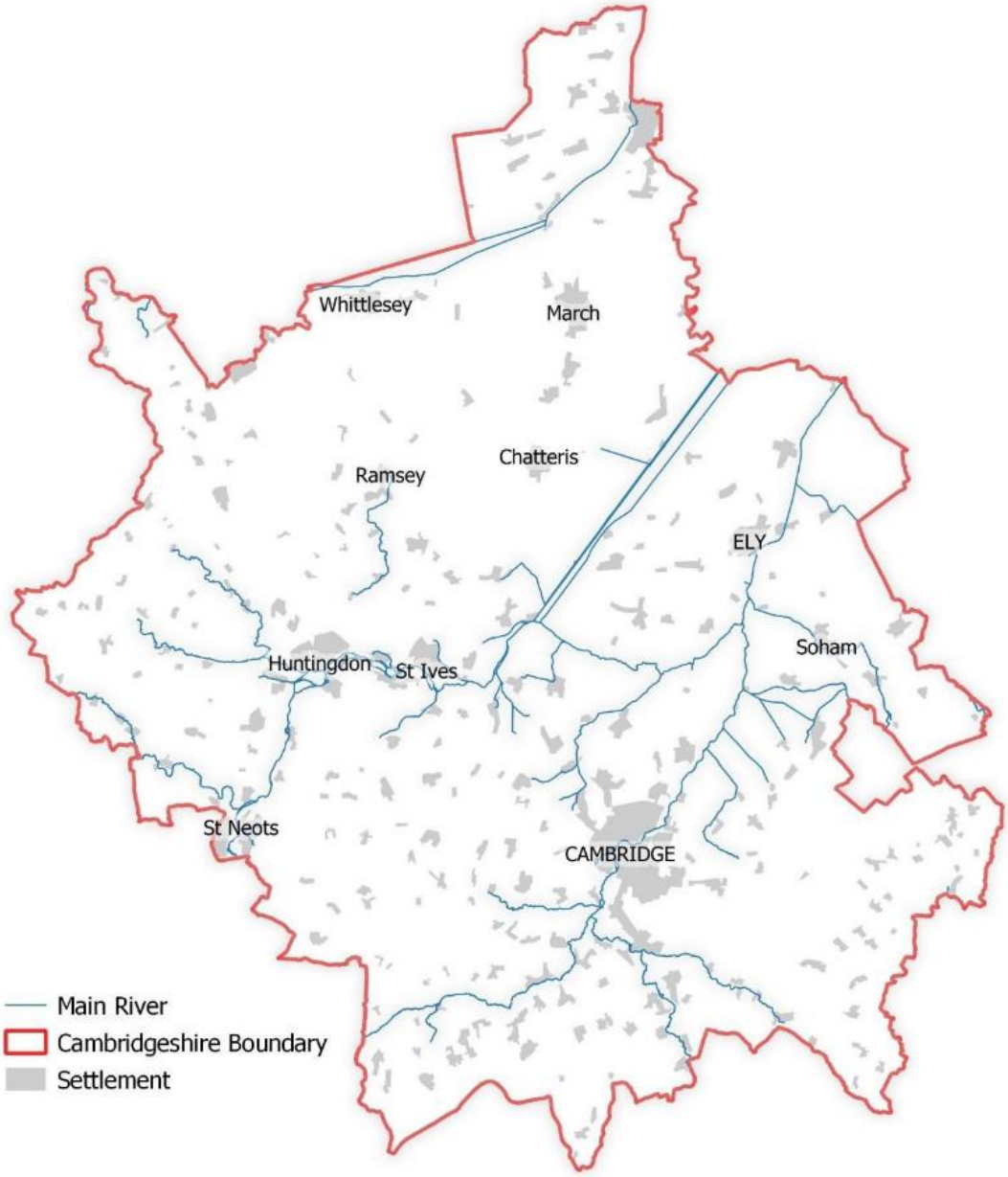


Figure 6: Main Settlements and Rivers in Cambridgeshire

4 Roles and Responsibilities

4.1 Organisations involved in flood risk management

There are a number of different organisations, authorities and individuals involved in flood risk management in Cambridgeshire. Figure 7 provides a reference guide for some of the main flood related issues that may be experienced. The principal management organisations are also discussed in this section, setting out what their roles and responsibilities are. A brief paragraph is also included on where the organisation's funding comes from. Funding for flood risk management schemes in Cambridgeshire is dealt with in more detail in Section6.

The organisations discussed in this section are defined by the FWMA 2010 as 'risk management authorities' (RMAs) with responsibilities relating to the LFRMS. These are set out in Table 6. All RMAs must also act in a manner which is consistent with the National Strategy and guidance. The other organisations discussed in this section have no formal duty in these respects.

Table 6: Risk management authorities and their associated legislation

Organisation	Defined as an RMA (FWMA 2010 section 6)	Legislation under which flood risk management functions may be exercised (FWMA 2010, section 4)	Duty relating to the LFRMS (FMW Act 2010 sections 9,11)
Cambridgeshire County Council (as LLFA and a highways authority)	Yes	FWMA 2010 Flood Risk Regulations 2009 Land Drainage Act 1991 Highways Act 1980	Develop, maintain, apply and monitor Consult the other RMAs Act in a manner consistent with the LFRMS and related guidance
District and City Councils (as Drainage Authorities, Planning authorities and Risk Management Authorities)	Yes	Land Drainage Act 1991 FWMA 2010 Town and Country Planning Act 1990	Act in a manner consistent with the LFRMS and related guidance
The Environment Agency	Yes	FWMA 2010 Flood Risk Regulations 2009 Water Resources Act 1991 Land Drainage Act 1991	
Internal Drainage Boards	Yes	FWMA 2010 Land Drainage Act 1991 Water Industry Act 1991 Highways Act 1980	
National Highways (as a highway authority)	Yes	FWMA 2010 Highways Act 1980	
Anglian Water (as water company)	Yes	FWMA 2010 Water Resources Act 1991 Water Industry Act 1991	Have regard to the LFRMS and guidance

4.2 Cambridgeshire County Council

4.2.1 As a Drainage Authority

Cambridgeshire County Council became a drainage authority following enactment of schedule 2 of the Flood and Water Management Act and the associated updates to Section 14 of the Land Drainage Act 1991. This gives the county council powers to carry out flood risk management work if certain conditions are met. The Lead Local Flood Authority at Cambridgeshire County Council do not hold any maintenance or capital budgets relating to the management of drainage or flood risk assets or the risks associated with them.

4.2.2 As a Lead Local Flood Authority

Under the FWMA 2010 Cambridgeshire County Council, along with other unitary and county councils, became a LLFA with the lead in managing local flood risks including flood risk from surface runoff, ordinary watercourses, and groundwater. Under this Act the county council has the following responsibilities, as set out in Table 8

In April 2015 an amendment was made to the Town and Country Planning Act 1990 to bring in a planning related duty for LLFAs. This was done through issuing the Town and Country Planning (Development Management Procedure) (England) Order 2015 (Table 7).

Table 7: The duty given to LLFAs under changes to the Town and Country Planning Act

Change	Notes	Power or duty?	Paragraph of Act (as amended)
Statutory consultee for major development applications	LLFAs are to be consulted, by planning authorities, on the management of surface water on major development sites (those of 10 dwellings or more; or equivalent non-residential or mixed development)	Duty	18 and Schedule 4

4.2.3 As an Emergency Responder

Under the Civil Contingencies Act 2004 Cambridgeshire County Council is a Category One Emergency Responder. The county council have a responsibility to ensure the county is prepared to respond to an emergency and works with other members of the Local Resilience Forum to produce plans in preparation for different situations.

4.2.4 As a Highways Authority

Under the Highways Act 1980 Cambridgeshire County Council is classed as a Highway Authority and is responsible for the management of highways including its drainage. The county council adopts and manages the majority of Cambridgeshire's highways and footpaths although it is not technically the landowner for them. Some highways are privately owned and managed, with the Strategic Road Network managed by National Highways.

Highway drainage systems are for the primary purpose of accepting surface water runoff from roads and carriageways and the authority's duties include the need to minimise flooding to roads that could in turn lead to a breakdown of the network. Ensuring that the network can function is the priority; small scale flooding in specific locations may be less of an issue if there are alternative routes that traffic can

take. Methods used to manage the closure of flooded roads is under constant review. The Local Highways Authority have a responsibility to contribute towards sustainable development.

Roadside ditches tend not to be the responsibility of the Highways Authority unless specifically put in place to manage the flows from the road. The Highways Authorities have the powers to ensure there is adequate drainage to maintain the safety of the road, however, there is a common law responsibility of the adjoining landowners to maintain those ditches.

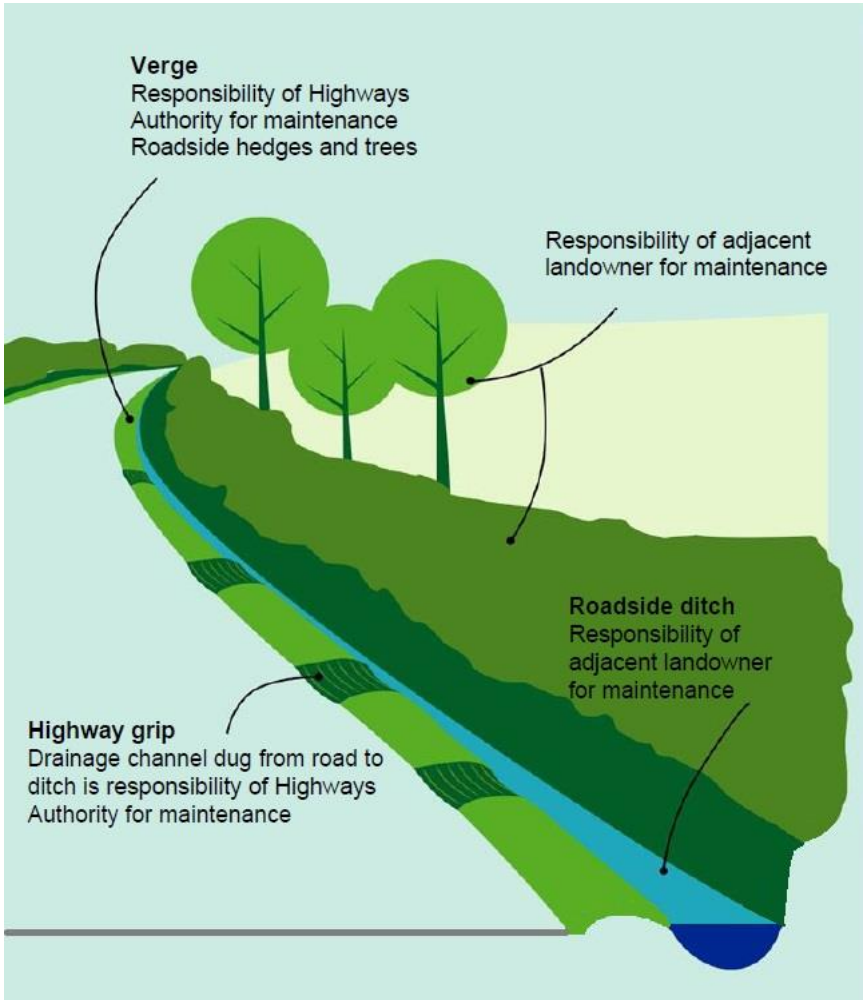


Figure 7: Roadside ditches (Essex County Council)

Cambridgeshire County Council as the local Highways Authority also undertakes work on a risk-based approach to regularly inspect and maintain highways structures such as ditches and gullies, to help ensure that they are fit for purpose.

4.2.5 Funding

Cambridgeshire County Council's funding comes from a variety of places. Government provides the most significant input in terms of grants. Unlike in the past these funds are often now not ring-fenced for any specific purpose and have to be allocated according to need. The county council also collects a percentage of its income from Council Tax. Aside from these the county council can borrow funds, generate income from selling assets or submit project specific bids to Government agencies or other funding bodies.

Table 8: The powers and duties given to LLFAs by the FWMA 2010

Power/Duty	Notes	Power or duty?	Paragraph of Act
Local Flood Risk Management Strategy	LLFAs are required to develop, maintain, apply, and monitor a strategy for local flood risk management in its area.	Duty	9
Duty to co-operate	All relevant authorities must co-operate with other relevant authorities in the exercise of their flood and coastal risk erosion management functions.	Duty	13 and 14 (4)
Power to delegate	An RMA may arrange for another flood risk management function, except for delivery of the local flood risk management strategy, to be exercised on its behalf by another RMA or a navigation authority.	Power	13 (4)
Power to request information	An LLFA and the EA may request information in connection with their flood risk management functions	Power	14
Investigating flood incidents	LLFAs have a duty to investigate flooding incidents within their area, to the extent that the LLFA considers it necessary or appropriate	Duty	19
Asset Register	LLFAs have a duty to maintain a register of structures or features which are considered to have a significant effect on flood risk and records of details about those structures, including ownership and condition as a minimum. The register must be available for inspection.	Duty	21
Contribution towards sustainable development	In exercising a flood risk management function LLFAs, IDBs and National Highways must aim to contribute towards the achievement of sustainable development.	Duty	27
Designation powers	LLFAs, the Environment Agency and IDBs, have powers to designate structures and features that affect flooding or coastal erosion to safeguard assets that are relied upon for flood or coastal erosion risk management.	Power	30 and Schedule 1
Works powers	LLFAs have powers to undertake works to manage flood risk from surface runoff, groundwater, or ordinary watercourse.	Power	31 and Schedule 2, section 29. Amends Land Drainage Act 1991 section 14.
Consents for works to ordinary watercourses	Consent is required from the LLFA before works can be carried out on a watercourse that is outside of an Internal Drainage Board District and not a Main River.	Duty	31 and Schedule 2, section 32 Amends Land Drainage Act 1991 section 23.
Overview and Scrutiny	Include arrangements to review and scrutinise the exercise by risk management authorities of flood risk management functions which affect the LLFAs area.	Duty	31 and Schedule 2, section 54. Amends section 21 of the Local Government Act 2000
Incidental flooding	LLFAs, District Councils and IDBs can carry out works that cause incidental flooding or increases in amount of water below the ground if the works satisfy four conditions. 1) work in interest of nature conservation, cultural heritage, or people's enjoyment of the environment. 2) Benefits outweigh harmful consequences 3) EA has been consulted and agreed (if applicable) 4) Other local authorities affected and owners/occupiers of land have been consulted.	Power	39
SuDS Approving Body (SAB)	This section of the Act, specifying that LLFAs would approve, adopt, and maintain any new drainage systems, was not brought into force.	N/A	32 and Schedule 3

4.3 District and City Councils

Second tier authorities are often landowners and as such have responsibilities for watercourse maintenance, in addition the Enclosure Act passed responsibility of maintaining awarded watercourses to these authorities in many locations across Cambridgeshire.

4.3.1 As a Drainage Authority

Second tier authorities are drainage authorities as prescribed by the Land Drainage Act 1991. This gives the councils powers to carry out flood prevention works, maintaining flows in watercourses and the making of byelaws. In many cases the powers and duties given to the councils have now been superseded by the FWMA 2010. South Cambridgeshire District Council have such byelaws in place. These authorities also have the powers to designate structures and features that affect flooding.

4.3.2 As a Planning Authority

Under the Town and Country Planning Act 1990 the local planning authority (LPA) has a responsibility to ensure new developments are designed in a way that protects them from flooding and to ensure that the developments do not increase flooding downstream.

For the management of surface water, the LPA is specifically expected to ensure that sustainable drainage systems are put in place in major developments, be satisfied that proposed minimum standards are met and ensure that there are clear arrangements in place for ongoing maintenance over the lifetime of the development. This should be carried out using local planning policies and decisions on planning applications.

Local Planning Authorities are responsible for ensuring sustainable drainage is incorporated into new development to deliver multiple benefits.

Since the District and City Councils are also Drainage Authorities so may have expertise in house to assist on drainage related matters which can complement the advice provided by the LLFAs.

4.3.3 As an Emergency Responder

Under the Civil Contingencies Act 2004 the District and City Councils are Category One Emergency Responders. The role is principally about recovery after an event, but the following actions are undertaken:

- Informing and warning activities
- Co-operating with other emergency responders
- Providing rest centres
- Helping to rehabilitate people after an incident

4.4 National Highways

4.4.1 Management of Strategic Road Network

Formerly an executive agency of the Department of Transport, known as the Highways Agency, then in turn Highways England, and more recently National Highways became a government-owned company on 1st April 2015. National Highways are responsible for operating, maintaining, and improving the Strategic Road Network in England on behalf of the Secretary of State. The network itself is owned by central government, is some 4,300 miles long and is made up of motorways and trunk roads (the most

significant 'A' roads). In Cambridgeshire National Highways manages the M11, A1, A1M, A11, A14, A47 and short sections of the A141 and A1307 including some but not all slip roads

Part of National Highway role in managing the roads is a responsibility for managing the quality and quantity of road runoff that is collected within their network. Flood risk must not be increased by new road projects and discharges of water from the highway must not cause pollution to receiving water bodies. In line with this aim a Memorandum of Understanding with the Environment Agency has been developed to support the two organisations working together. More information about Highway England's approach is available on their website.

4.4.2 Funding

National Highways funding continues to come from the Department for Transport based on a 5-year business plan known as a Road Investment Strategy. In response to the Government's Road Investment Strategy for 2020-2025 National Highways have a Strategic Business Plan and Delivery Plan which look to balance the needs of the Strategic Road Network and detail specific activities and projects over this period.

4.5 Environment Agency

4.5.1 Strategic Overview

The Environment Agency is a non-departmental public body and has responsibilities for protecting and enhancing the environment as a whole (air, land, and water), and contributing to the government's aim of achieving sustainable development in England and Wales.

Following the FMWA, the Environment Agency was given the strategic overview role for all types of flooding. This involves advising Government, supporting LLFAs with data and guidance and managing the allocation process for capital funding. In addition to this the Agency retains its existing responsibility for the management of flood risk from main rivers, the sea and regulating reservoir safety. This includes providing advice to planning authorities on development within Flood Zones 2 and 3. The Environment Agency currently provide nationally consistent flood maps for local flood risks.

For designated Main Rivers and any associated designated assets, the Environment Agency has permissive powers to carry out maintenance, improvement and flood defence works. User of the powers is determined on a risk based approach. This includes being responsible, through the flood risk activity permitting, for controlling works by others which could affect Main Rivers or flood defences. The Environment Agency do not, however, generally own Main Rivers and the overall responsibility for maintenance of Main Rivers (as with any other watercourse) does lie with the landowner (see section 4.16 on riparian owners).

The Environment Agency is the lead organisation responsible for coastal flood risk management and erosion, including tidal flooding and the enforcement authority for reservoirs in England and Wales that are designated high risk and hold more than 25,000 cubic metres of water. While the safety of reservoirs is the responsibility of the owner, the Environment Agency has responsibility for enforcing safety, maintaining a register of reservoirs, and ensuring that flood plans are put in place.

Alongside Local Authorities and the Emergency Services the Environment Agency is a Category One Emergency Responder under the Civil Contingencies Act 2004. Their role includes providing coastal and river flood warnings and supporting other emergency responders in the event of flooding.

4.5.2 Funding

The Environment Agency is a national organisation with an annual budget of over £1 billion. Its funding is split across many different areas of environmental work, but more than half is spent on flood risk management. This includes the construction of new flood defences, the maintenance of the river system and existing flood defences together with the operation of a flood warnings system and the management of the risk of coastal erosion. Most of the funding for flood defence comes directly from the Department for the Environment, Food and Rural Affairs (Defra).

4.6 Internal Drainage Boards (IDBs)

IDBs are public bodies which have an important role in reducing flood risk through management of water levels and drainage in their districts. Much of their work involves the maintenance of rivers, drainage channels, ordinary watercourses, pumping stations and other critical infrastructure within their districts. Some IDBs date back to 1252; however, most today's IDBs were established by the national government following the passing of the Land Drainage Act 1930, and today predominantly operate under the Land Drainage Act 1991 under which an IDB is required to exercise a general supervision over all matters relating to water level management of land within its district. Each of the IDBs operating within Cambridgeshire have their own byelaws established to support the management of those water bodies.

Historically, there were 63 IDBs within Cambridgeshire prior to the amalgamation of a number of IDBs within the county. They have permissive powers to undertake water level management within drainage districts. The area of an Internal Drainage Board is not determined by county boundaries, but by water catchment areas within a given region. The role of Internal Drainage Board in the management of flood risk within Cambridgeshire is vital. Figure 8 shows the areas in which Drainage Boards within Cambridgeshire operate. Appendix 1 lists the Internal Drainage Boards within Cambridgeshire. A more detailed background on The Fens can be found in Appendix 2.

4.6.1 North Level District Internal Drainage Board (NLD IDB)

NLD IDB is a land drainage authority responsible for the drainage and evacuation of surplus water from 33,000 hectares of land. The NLD IDB Board is responsible for the improvement and maintenance of some 613 kilometres of drains within the area and for the operation of 12 pumping stations.

4.6.2 Bedford Group of Drainage Boards

The Bedford Group of IDBs comprises of 3 IDBs within the upper reaches of the Great Ouse catchment. The Group manages a total of 1147 km of watercourses within its Drainage District, serving an agricultural area of 37736 ha and an urban area of 7176 ha.

4.6.3 Middle Level Commissioners (MLC)

The Middle Level Commissioners are a statutory body with powers and duties under general and local legislation relating to flood risk management and navigation. The Commissioners maintain an arterial system of 120 miles of watercourses and associated apparatus. The Commissioners also act as consultants for the Whittlesey and District IDB, East of Ouse, Polver and Nar IDBs. The Commissioners also administer 27 IDBs, within Cambridgeshire, acting as consultants to both these and Ramsey IDB and the Whittlesey Consortium of IDBs.

4.6.4 Ely Group of Internal Drainage Boards

The Ely Group consists of ten Internal Drainage Boards (IDBs) and crosses over three different counties. Eight of the Boards are in Cambridgeshire and cover an area of approximately 39,990ha served by 26

pumping stations. The Ely Group was formed to take advantage of cost savings and efficiency improvements that are made by sharing staff, labour, and plant.

4.6.5 Water Management Alliance/ King's Lynn IDB

The Water Management Alliance is a group of six IDBs, one of which, is the King's Lynn IDB. King's Lynn IDB are responsible for managing the water level across 35,771ha with a population of approximately 100,000 people.

Coir roll in bank stabilisation

Erosion to the banks of watercourses and rivers have the potential to undermine those banks and potentially cause a collapse or slip in the bank as well as increasing the volume of sediment carried downstream. Traditional approaches to repairing these banks tend to include the use of hard materials such as stone, timber or metal sheet piles. As well as being more costly and time consuming to install, these harder solutions also have less potential to other wider benefits.

Pre-planted coir rolls can be used to prevent the erosion, the roots of the plants grow into the bank and create a natural revetment and prevent small bank slips becoming more significant which would then lead to a need for harder materials to be introduced. As well as reducing damage to the bank it can be used to improve the water margin and is water vole friendly. Middle Level Commissioners incorporated such a solution on the Sixteen Foot River near Bedlam Bridge in 2009 and vegetation such as Purple loosestrife and Burr Reed quickly became established which will provide a living defence against future erosion. More examples of this type of work can be found in the Middle Level IDB Biodiversity Manual.

Coir rolls at Sixteen Foot River Credit: Cliff Carson

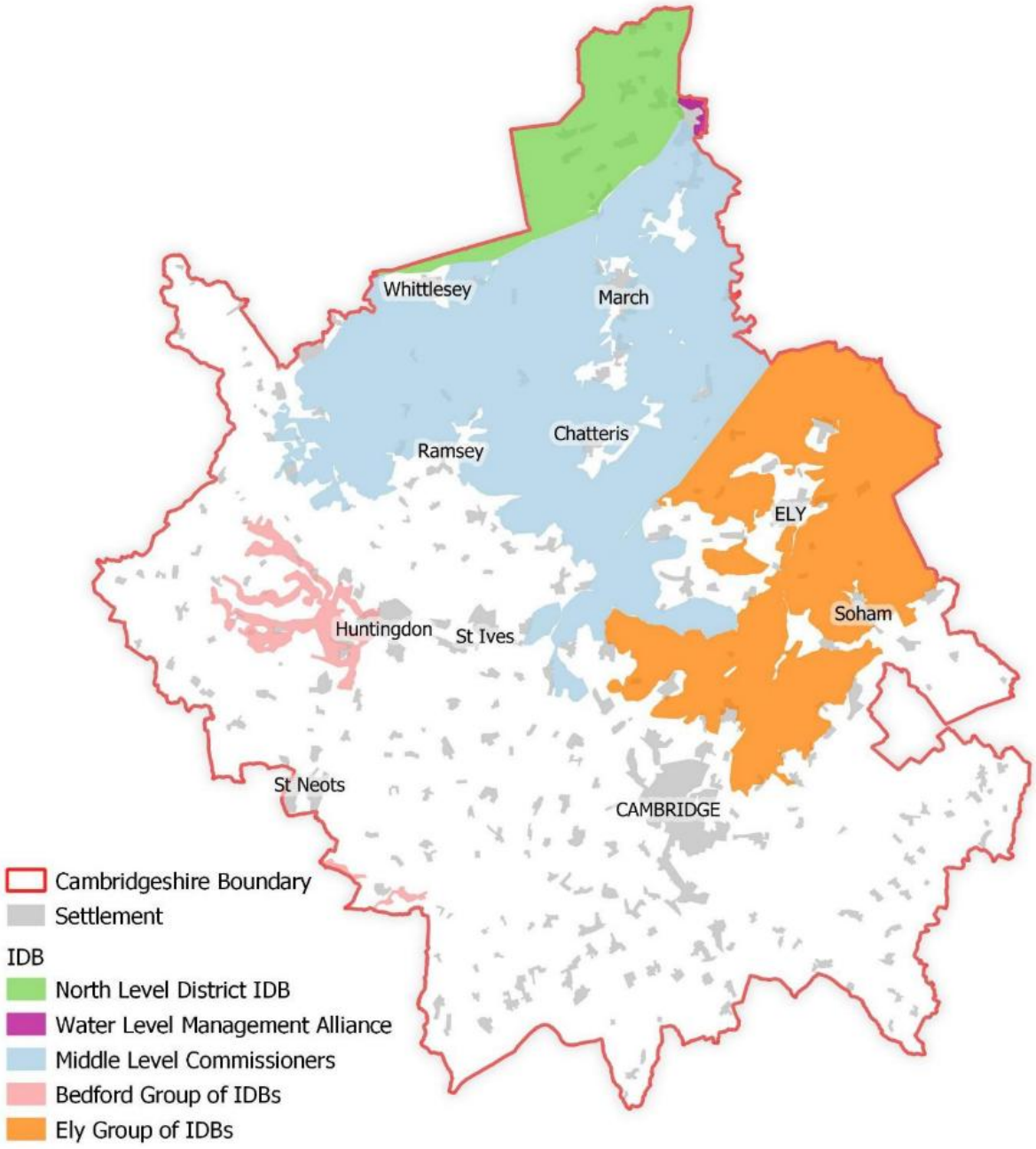


Figure 8: Drainage Board Districts

4.6.6 Funding

Each of these drainage authorities is funded by rates paid by the landowners in their area. This can be broken down into Drainage Rates and Special Levies. Drainage rates are paid by agricultural landowners direct to the IDB based on the area of their property. Where land in the IDB's district is not in agricultural use, the owner instead pays their levy to Cambridgeshire County Council as part of their Council Tax. The relevant amount is then separated out from the Council Tax and paid to each IDB. This is known as a Special Levy.

4.7 Anglian Water Services Ltd

4.7.1 Water and Sewerage Undertaker

Anglian Water (AW) has a statutory obligation to supply water and wastewater services to its customers. AW currently has the responsibility to effectually drain their area and maintain their foul, surface and combined public sewers. Anglian Water also own significant reservoirs in the area which are assessed for flood risk they may pose.

4.7.2 Funding

Funding for water companies comes principally from water bills that residents and businesses pay. Larger investment can also come from shareholders and investors. Ofwat (the Water Services Regulation Authority) agrees the cost of water bills for each water company as part of a regular five year review process called the Periodic Review process. This process sets the management plan for water companies for the next Asset Management Period, Asset Management Period 7 is underway between 2020-2025. The next Periodic Review will be in 2024.

4.8 Local Resilience Forum

The Cambridgeshire and Peterborough Local Resilience Forum (CPLRF) is responsible for developing multi-agency emergency management arrangements in accordance with the Civil Contingency Act, 2004 within the County of Cambridgeshire. The CPLRF covers an area of over 2000 square miles and serves a combined population of approximately 866,000 people. This is a multi-agency partnership made up of representatives from local public services, including the Emergency Services, Local Authorities, NHS England, and the Environment Agency, which are all Category 1 responders under the Civil Contingencies Act 2004. The LRF is also supported by Category 2 responders, such as National Highways and utility companies.

There are several sub-groups in the Cambridgeshire and Peterborough Local Resilience Forum that cover the specific emergency subjects. The work for flooding emergency and response is covered by the severe weather sub-group.

The CPLRF have identified several risks with Cambridgeshire which they publish within the CPLRF Risk Register. The top risks for the county include severe weather, flooding events and pandemic influenza.

4.9 Cambridgeshire and Peterborough Flood and Water Management Partnership

Anticipating the requirements of the Flood and Water Management Act 2010 and noting the Government's response to the Pitt Review recommendations, Cambridgeshire County Council formed Cambridgeshire's Flood Risk Management Partnership in June 2009. This later became the Cambridgeshire and Peterborough Flood and Water Management Partnership (the CPFloW Partnership) as partnerships serving both Cambridgeshire and Peterborough which were merged to provide efficiencies to partners and reflect the closer working relationship between Peterborough City Council and Cambridgeshire County Council.

The partnership is made up of representatives from Cambridgeshire County Council (including the elected member that sits on the Regional Flood and Coastal Committees), district councils, Environment Agency, Anglian Water Services Ltd, Cambridgeshire's Internal Drainage Boards, Cambridgeshire Fire and Rescue Service and Cambridgeshire Constabulary.

The partnership is responsible for ensuring that the objectives and actions agreed in this strategy are delivered where possible; thus, enabling Cambridgeshire County Council to fulfil its leadership role in flood risk management.

The partnership has data sharing agreements in place to ensure that data is handled professionally and confidentially between partners. For example, Cambridgeshire County Council and Anglian Water Services have a licence agreement in place that stipulates how data can be shared and used.

Following on from major flood events Local Flood Forums have been established to share information relating to those events. Currently there are no local flood forums established to meet on a regular basis, although there are strong community groups who can share local knowledge and inform investigations.

4.10 Regional Flood and Coastal Committees

The Regional Flood and Coastal Committees play an important local role in guiding the Environment Agency's flood and coastal activities, approving programmes of work for their areas, and continuing to raise local levies under existing arrangements to fund local priorities.

Regional Flood and Coastal Committees help to provide governance for the Environment Agency flood and coastal erosion risk management functions and cover all flood risks that are not the responsibility of the water companies. Membership consists of elected members from the relevant Lead Local Flood Authorities and independent members with relevant experience appointed by the Environment Agency. They have three key purposes:

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

To promote efficient, targeted and risk-based investment in flood and coastal erosion risk management that optimises value for money and benefits for local communities. This includes managing the spending of both Government Flood Defence Grant in Aid and Local Levy paid by Lead Local Flood Authorities; and

To provide a link between the Environment Agency, Lead Local Flood Authorities, other flood risk management authorities and other relevant bodies to engender mutual understanding of flood and coastal erosion risks in its area.

Cambridgeshire is split between two different Regional Flood and Coastal Committees, Anglian Northern and Anglian Great Ouse. Regional Flood and Coastal Committees are the key decision making bodies for allocating funding from both Flood Defence Grant in Aid, local levies which are raised from Lead Local Flood Authorities, precepts which are collected from Internal Drainage Boards and general drainage charges which are raised from landowners. These are the key streams of funding for flood alleviation schemes from fluvial, coastal, and local flooding. They also contribute towards individual property flood resilience schemes and the river maintenance programme. These committees, therefore, have a hugely important role in deciding which areas receive support for flood risk management activities. More detail on funding is discussed section 6 of this document.

4.11 Cam and Ely Ouse Partnership

The Cam & Ely Ouse (CamEO) catchment partnership works to restore and improve the quality and resilience of the water environment in the catchment and, in doing so, protect and enhance the benefits it provides to nature, communities, and businesses locally. The principal role of catchment hosts, Anglian Water and The Rivers Trust, is to enable the development of inclusive cross-sector partnerships

between stakeholders and community action groups to deliver improvements to river and riparian environment health.

4.12 Water Care Partnership

The Water Care Partnership is a Catchment Partnership – these Partnerships are active across England and consist of groups of partners (led by a host organisation) who collaborate to improve the water environment in a catchment area. The Water Care Partnership is concerned with the Old Bedford including Middle Level catchment and the host organisation is Cambridgeshire ACRE. Partners include Middle Level Commissioners, Angling Trust, RSPB, Inland Waterways Association, Middle Level Watermen's Club, WWT Winey, Cambridgeshire County Council, NFU, Anglian Water, Environment Agency (EA), Wildfowlers Association, Hundred Foot Washes IDB and Histon and Impington Angling Club. Catchment Partnerships are funded by the EA and supported by the Rivers Trust via the Catchment Based Approach.

4.13 Upper and Bedford Ouse Partnership

The Upper and Bedford Ouse Partnership is a catchment partnership hosted by Bedfordshire Rural Communities Charity which aims to bring together around 20 partners from across the catchment to plan and deliver projects across the catchment. The projects focus on delivering improved water quality, channel structure, habitat, and biodiversity.

4.14 River Nene Regional Partnership

The River Nene Regional Partnership (RNRP) was originally established in 2004 to co-ordinate green infrastructure activities (planning, economic development, regeneration, and leisure) in Northamptonshire and along the Nene. It is now an independent Community Interest Company which develops, enables, and implement green infrastructure projects at a sub-regional level. The RNRP has produced the Nene Catchment Plan, an integrated management plan for the River Nene from its source to its tidal limit. This was also one of the Government's original ten catchment pilots.

4.15 Local Groups

4.15.1 Town and Parish Councils

Flood events can affect whole communities within a parish or town with households which do not suffer from internal flooding still potentially being trapped as roads are blocked. Coordinated assistance is also critical in helping to support and provide shelter to neighbours who have suffered from flooding. Communities know better than anyone the level of flood risk that they face, town and parish councils can make important contributions to helping manage the levels of flood risk in their communities.

Some parish councils and residents' associations engage actively in flood risk management, appointing a local flood warden to be a main point of contact between the residents of their area, the Local Authorities, and the Environment Agency. The extent of their role is decided by the groups/individuals but often includes staying up to date with local flood risk management news; helping to gather a picture of flood risk in their area; raising awareness among their neighbours of risk and of what to do during an emergency and being the principal emergency contact during flood events

OxCam Property Flood Resilience Pathfinder Project

Cambridgeshire County Council has worked closely with a number of other organisations as a part of a government funded project aimed at increasing awareness of property flood resilience measures. Being a part of this project has enabled the County Council to be involved in the development of resources which, not only increase awareness of property flood resilience, but also provide essential engagement tools such as the Flood Mobile which has been made available to support community engagement events since summer 2021 and will continue to be seen in Cambridgeshire in coming years.

https://www.floodtoolkit.com/ox-cam/

OxCam Flood Mobile

4.15.2 Flood Action Groups and Volunteers

There are many flood action and voluntary groups across Cambridgeshire that engage actively in flood risk management. The format of these various from place to place, in some communities Flood Wardens act as a main point of contact between the residents of the area and Risk Management Authorities. The extent of their role is decided by the groups/ individuals but often includes staying up to date with local flood risk management news; helping to gather a picture of flood risk in their area; raising awareness among their neighbours of risk and of what to do during an emergency and being the principal emergency contact during flood events.

The local knowledge provided by such groups can be essential to partners in investigating flooding or trying to progress projects, equally the County Council and its partners may have powers or experience which can be utilised by local groups. The County Council is keen to ensure that there are open communication channels between the Lead Local Flood Authority and any representatives of local communities. Reporting of flood events to the County Council will ensure that local knowledge is incorporated into long term plans and used to influence funding bids and strategic projects.

As a part of the Community Flood Action Programme, Cambridgeshire County Council are looking to improve support available to those communities and other Risk Management Authorities by;

- Developing guidance on riparian watercourse management (see 4.16)

- Establishing a flood group network
- Delivering flood risk management training for communities
- Developing a new one-stop shop flood risk information website
- Improving the flood reporting system
- Improving the mapping of watercourses across the county

The County Council will look to engage with and support all communities and groups equally, although it is important for those groups to be aware that becoming a constituted group with a more formal structure will enable the group to apply for funding and enter into legal agreements in its own right.

The County Council and its partners will support communities in developing local Flood Action Plans where they are not already in place and help to provide training to those taking up new roles, this is described in the actions of this strategy. Those communities who are interested should contact the county council for more information.

4.15.3 Property owners and residents

It is the responsibility of householders and businesses to look after their property, including protecting it from flooding. While in some circumstances other organisations or property owners may be liable due to neglect, there will be many occasions when flooding occurs despite all parties meeting their responsibilities. Consequently, it is important that house holders, whose homes are at risk of flooding, take steps to ensure that their home is protected, and this may include reporting the flooding to the emergency services. Promotion of measures householders can take to protect themselves and their properties will be an ongoing action for local partners.

From 1 October 2008 the permitted development rights that allow householders to pave their front garden with hard standing without planning permission have changed in order to reduce the impact of this type of development on flooding and on pollution of watercourses. Householders will not, however, need planning permission if a new or replacement driveway of any size uses permeable (or porous) surfacing, such as gravel, permeable concrete block paving or porous asphalt, or if the rainwater is directed to a lawn or border to drain naturally. If the surface to be covered is more than five square metres planning permission will be needed for laying traditional, impermeable driveways that do not provide for the water to run to a permeable area. Communities and Local Government has produced a leaflet called 'Guidance on the permeable surfacing of front gardens and more information can be found online.

There are rights and responsibilities relating to watercourses for those owning or occupying land, as described in section 4.16. These responsibilities are transferred to new owners when land is sold but are not always clear on property deeds, especially if assets are underground or outside of property boundaries. For new developments the Flood and Water Supplementary Planning Document sets out requirements for identifying maintenance responsibilities as a part of the planning process, including the impacts both upstream and downstream.

For more information on 'Who manages what?' please see Figure 9.

4.16 Living next to a watercourse

Riparian rights and responsibilities exist for those who own or tenant land on or next to a watercourse, with riparian rights being to receive the flow of water from upstream and riparian responsibilities being to maintain the free flow of water for those downstream. In the absence of anything in conveyancing documents to state otherwise, where a watercourse is the boundary to the land then riparian

responsibilities are assumed by common law to lie with those responsible for that land, and therefore the maintenance responsibilities, up to the centre line of the watercourse.

Riparian rights are modified by other duties to the community and to the environment, but in general riparian rights include:

- protect their property from flooding
- protect their banks from erosion
- In many cases consent is required from a relevant drainage authority (see activity 2.5M) for any works other than routine maintenance and cleansing (section 23 of the Land Drainage Act 1991) and from the Environment Agency for abstraction
- a duty to accept water from an upstream neighbour and allowing it to transfer to a downstream neighbour
- not causing or perpetuating a nuisance, such as causing obstruction to the flow of water. It is important that access is preserved to the banks for maintenance and safety purposes through controlling vegetation and considering appropriate locations for fencing and access tracks
- ultimate responsibility in perpetuity for the water body

The Environment Agency, Internal Drainage Boards and the Lead Local Flood Authority share certain powers under the Land Drainage Act 1991, for enforcing riparian responsibilities.

Riparian guidance documents

National guidance for owning a watercourse is available online; www.gov.uk/guidance/owning-a-watercourse. More specific and detailed local guidance is being developed as a part of the Community Flood Action Programme in Cambridgeshire and will be available on the council website in early 2022. This will include;

- Non-technical summary
- Riparian Guidance Survey Analysis
- Riparian Rights and Responsibilities for Maintenance
- Roles and Responsibilities for Flood Risk Management Authorities
- The Riparian Maintenance Guide
- The Riparian Guide for Reinstating a Watercourse
- Resources

Risk Management Authorities can also have riparian maintenance responsibilities. Just like any other organisation, if they own or tenant land that contains or is next to a watercourse or water body. However, for the majority of watercourses and water bodies in Cambridgeshire this is not the case, and so flood risk management authorities are mainly responsible for water management not maintenance. A full explanation of Cambridgeshire County Council's flood risk management roles and responsibilities as the lead local flood authority is available in section 4.2 of this document.

A range of guidance, listed below, on riparian rights and responsibilities has been prepared by Cambridgeshire County Council and can be found on the Cambridgeshire County Council website. Landowners with queries are encouraged to contact the Environment Agency, their local Internal Drainage Board, or the county council. Guidance on owning a watercourse can also be found on Gov.UK, setting out responsibilities and rules.

Who to Contact Reference Guide

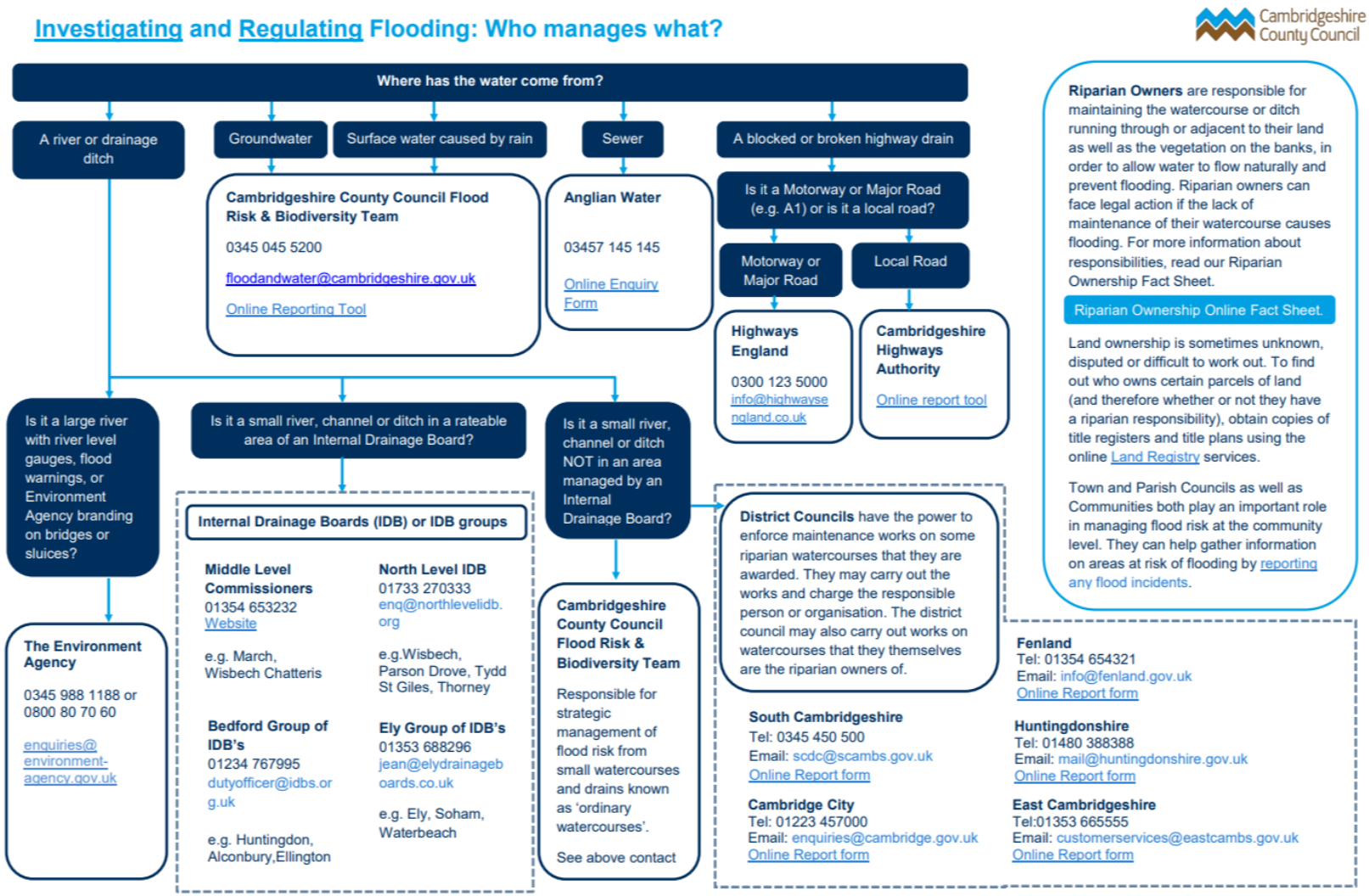


Figure 9: Contact reference guide for queries

5 The Risk to Cambridgeshire

5.1 Introduction

This section looks at each type of flood risk that Cambridgeshire is susceptible to and explains how the types of flooding differ, the broad distribution and level of risk in Cambridgeshire and how to find out more. This section is predominantly concerned with flooding caused when the received rainfall or river flows exceeds the design capacity of the drainage and flood risk management systems.

As well as natural flood risk from weather systems flooding can happen anywhere due to operational issues such as blockages, bursting of pipes or failures of defences. It is harder to predict the likelihood, location and impacts of flooding caused by operational issues and these can only be prevented by appropriate maintenance of assets. It is important to note that flooding resulting from breaches or bursting of pipes can have a more significant impact than the gradual overtopping of watercourses or surcharging of sewers because the impacts can occur very suddenly, creating a flow of water at speed.

The level of resilience to flooding in Cambridgeshire is not static and will vary over time, there are many factors explored in this strategy that can affect this change such as the climate, levels of maintenance or changes to the characteristics of the catchments. Whilst this section looks to highlight the differing sources of flood risk, it also highlights historic events where flooding occurred or was exacerbated by a combination of different factors.

5.2 What is risk?

To understand flood risk the meaning of 'risk' needs to be clear. Risk is the likelihood of a hazard occurring multiplied by the impact of the hazard when it occurs.

Risk = Likelihood x Impact

With flooding it is normally the likelihood of it occurring which is discussed. This likelihood is stated in terms of annual exceedance probability (AEP). The most commonly discussed probabilities are shown in below.

Annual Exceedance Probability (AEP)	AEP as a fraction	Example
3.3%	1 / 30	The largest rainfall event for which surface water sewers are designed not to flood
1.3%	1 / 75	A common risk threshold used by the insurance industry
1%	1 / 100	A common design standard for Main Rivers defences
0.5%	1 / 200	The largest flood event for which defences on the tidal Nene are designed to defend against
0.1 0.01%	1 / 1000 1 / 10,000	The Flood Storage Reservoirs are designed to provide differing levels of protection according to the receptors at risk, this includes the washlands around Cambridgeshire

In the past the likelihood of flooding has been described using the term 'return period'. This is, however, no longer standard practise as it caused confusion by implying that a '1 in 100' flood event would only happen once every 100 years. The probability is really a 1% chance of the event happening every year,

as such the term Annual Exceedance Probability is now widely used. The smaller the % the lower the risk of the event occurring but once an event has been experienced it does not make it less likely to reoccur again in future.

5.2.1 Standards of protection for defences

In this section you will also find mention of standards of protection of various flood defences. The standard of protection (SoP) of a drainage system or flood defence is the level up to which it is expected to provide protection against a particular type of flood event. For example, a flood defence could be designed and built to have a SoP of 1% (1 in 100) from river flooding. This means that it would provide protection against flood events that have an annual occurrence of up to 1% (1 in 100). If larger and less probable flood events occur, these could overtop these defences. It cannot be assumed that a SoP against one type of flooding will protect against all risks.

5.2.2 Resilience against flooding

The National Strategy calls for the nation to adopt a resilience and adaptation approach in the face of a changing climate. This includes providing protection but also encompasses improving the capacity for communities to plan for, respond to and recover from events such as flooding. Measures have been identified within the National Strategy to establish how these improvements will be quantified, resourced, and delivered. Increased resilience and adaptation will vary between communities depending on several factors such as the types of risks those communities face. It is widely accepted that the level of resilience will decrease over time as ageing infrastructure faces increased intensity of rainfall from a changing climate.

5.2.3 Differing probabilities for river flood events and heavy rainfall events

A rainfall event of annual exceedance probability 1% (1 in 100) will not necessarily cause a river flood event of annual exceedance probability 1% (1 in 100). The complexity of different river catchments and landscapes means that the probabilities of rainfall events and river flooding are not comparable. For example, there will be spatial variations in rainfall across a catchment and rainfall could be landing on ground which is either already saturated or dry, this would impact on the volume of runoff. Due to the influence characteristics of the landscape and weather events leading up to a flood event can have on the response of the catchment, the probability attached to a rainfall event rarely manifests in the same way.

5.2.4 Building in climate change

Climate change is expected to lead to greater extremes in weather, in many locations this changing level of risk is already being felt. Simplistically, at a local level this change is expected to manifest as hotter drier summers combining droughts and intense rainfall events and warmer wetter winters with prolonged rainfall events and saturated ground.

To represent this long term risk and ensure decisions such as those around infrastructure and new developments are robust for the future, assessments of risk and design standards for new drainage and flood risk assets incorporate additional allowances to reflect the anticipated impacts of climate change. National and Local Planning policy set out how this is to be considered, with the Cambridgeshire Flood and Water Supplementary Planning document and associated guidance providing assistance on how this is considered in the county.

There are a range of sources available detailing the potential impacts of climate change, above and beyond those already being felt. These are regularly updated and monitored by Risk Management

Authorities and applied to their roles. The impacts described in those sources have been incorporated into this strategy and the activities and actions proposed. For completeness these include;

- UK Climate Change Projections (UKCP)
- Cambridgeshire and Peterborough Independent Commission on Climate Change report
- UK Climate Change Risk Assessment
- National Adaptation Programme
- Climate Change Committee reports
- Technical guidance supporting National Planning Policy Framework

5.2.5 Risks to physical and mental health

Flooding is devastating, many people experiencing such traumatic events will experience immediate shock and distress and often increased levels of anxiety in future. This can be exacerbated by extended periods out of the home during the recovery process. The risks that communities and emergency responders are faced with are wide ranging, with more visual risks associated with deep, fast moving, or contaminated water to the longer term hidden mental health implications. Public Health England have studied many of these risks and provide advice for both the public and responding professionals.

Future flood risk schemes can look to minimise the risk of flooding to reduce this impact and also identify opportunities for partners and communities to be able to plan, respond and recover more effectively. There will also be opportunities for partners to promote wider benefits for communities as a part of flood risk schemes such as improved access to public open space or using sustainable drainage systems to mitigate against urban heat islands.

5.3 Coastal and Tidal Main River flooding

This occurs when either or both sea and river defences are overtopped or breached. Flooding from the sea and tidal rivers is often sudden and the extreme forces driving it present a significant danger to life. Although Cambridgeshire is predominantly land locked, it is affected by tidal influences in the River Nene, in areas such as Whittlesey and Wisbech. There are also tidal influences in Cambridgeshire from the Great Ouse Tidal River along the Ouse Washes and just upstream of Earith. In the Anglian Region coastal flooding occurs particularly when storms in the North Sea coincide with spring tides, causing the overtopping of coastal sea defences. This occurred in 1953 in East Anglia and more recently in 2013 along the east coast. Much of Cambridgeshire is low lying close to or even below sea level, most recent Environment Agency predictions can be found on Gov.uk and highlight estimated sea level rises, sea level rises not only increase the risk associated with storm surges but also would result in less draining by gravity of the lowland rivers in turn, increasing the periods of time that Cambridgeshire's rivers are tide locked and increasing the chances of combined events illustrated in Section 5.5.5.

5.4 Reservoir flooding

The likelihood of Cambridgeshire flooding from large, raised reservoirs (ones that hold over 25,000 cubic metres of water – equivalent to approximately ten Olympic sized swimming pools) is very low. Flooding would need to happen either from the reservoirs either being overtopped (gradual) or failing (catastrophic). The former is unlikely because the water level of large reservoirs is carefully managed, and water can be transferred in and out through pipe and Main Rivers systems. The latter is unlikely because the Reservoirs Act requires that, regardless of the level at which a large reservoir might overtop,

there must be no risk of catastrophic breach from in an event with an annual exceedance probability of occurrence of less than 0.01% (1 in 10,000) where there is risk to life. All large reservoirs must be inspected and supervised by reservoir panel engineers. There has been no loss of life in the UK from reservoir flooding since 1925 at Dolgarrog in North Wales.

While flooding is very unlikely, if a reservoir dam did fail, a large volume of water would escape at once with little or no warning. Therefore, to ensure that this can be planned for by emergency responders and those living near reservoirs, the Environment Agency produces a map show the extent of flooding that could occur if a reservoir failed. This map can be found on their website.

There are other smaller reservoirs in Cambridgeshire that are privately owned e.g. by farmers and landowners to provide water supply for irrigation. These are not subject to as stringent legislation.

5.5 Main River flooding (non-tidal)

Certain watercourses in England have been historically designated by the Secretary of State for Environment, Food and Rural Affairs as 'Main Rivers'. This enmainment process is now carried out by the Environment Agency. A Main River is defined as a watercourse marked on a statutory Main River map held by the Department of Environment, Food and Rural Affairs and the Environment Agency. This can include any structure or appliance for controlling or regulating the flow of water into or out of the channel. Enmainment is carried out based on the flood risk importance of a river. The larger arterial watercourses are therefore normally designated, but some smaller watercourses have also been included due to the important function they carry out.

The Environment Agency does not own Main Rivers but has permissive powers to maintain and improve these rivers to manage flood risk. It is important to note that the ultimate responsibility for maintenance of any river sits with the landowner.

Areas at risk of flooding from Main Rivers (Figure 10) are usually those low-lying areas adjacent to the river. The area immediately next to a river where the river is expected to flood, or where it would flood if there were not defences, is called floodplain. The size of the floodplain depends on the size and flow of the river and the surrounding landscape.

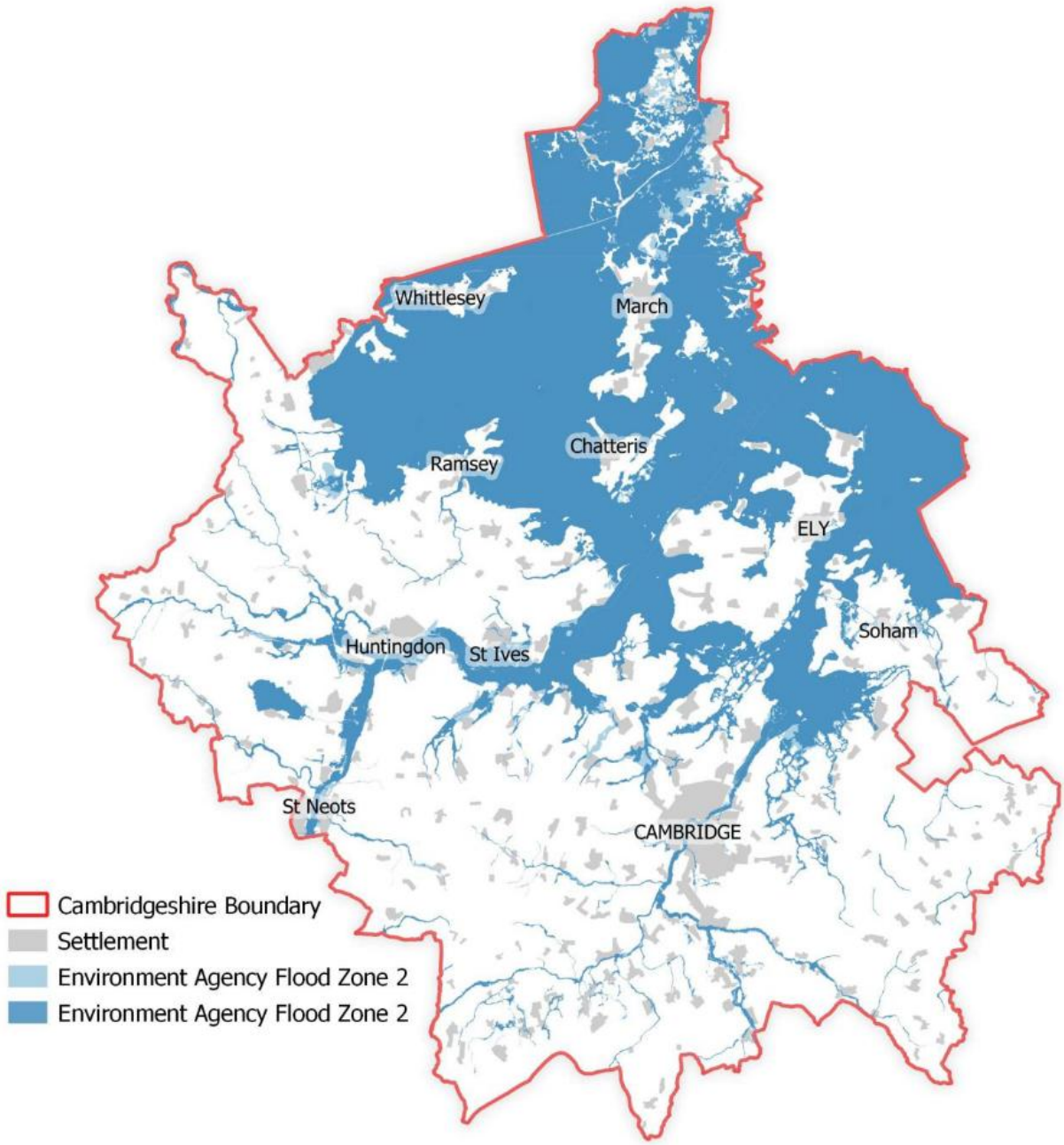


Figure 10: Flood Zones in Cambridgeshire

Whittlesey Washes (River Nene) and the Ouse Washes (River Ouse) in Cambridgeshire are designed to flood when river levels are high and flow rates exceed the discharge capacity of their respective downstream sluices, in that instance the Washes will begin to fill up. This is possible even in low tide conditions (i.e. when the sluice gate is open). The Washes therefore provide flood protection from Main River flooding. Illustrations of Further information about the role of the Washes during high tides and diagrams to illustrate how they function is available in section 5.5.5.

5.5.1 Find out about the risk of flooding in your area from Main Rivers

The Environment Agency produces two different maps that can be used when looking at flood risk from rivers and the sea. These maps include the risk of flooding from tidal events, Main Rivers, and other watercourses with a catchment greater than 3km^2.

5.5.2 Risk of Flooding from Rivers and the Sea map

This map shows the actual risk of flooding on a scale of very low, low, medium, and high as well as the flood extents. The map takes flood defences and management actions into account. However please note that flood defences can be overtopped or fail (e.g. conditions greater than the risk that the defence was designed for or if the defences are in poor condition). Therefore, some areas behind defences are still shown as having a level of risk. The map uses the following risk bands:

Flood Maps

To view the maps described below and the risk for your area please visit:

https://www.gov.uk/check-flood-risk

Flood Warning Service

To sign up for flood warnings please visit:

https://www.gov.uk/sign-up-for-flood-warnings

- High – each year there is a chance of flooding of greater than 3.3% (1 in 30)
- Medium – each year there is a chance of flooding of between 3.3% (1 in 30) and 1% (1 in 100)
- Low – each year there is a chance of flooding of between 1% (1 in 100) and 0.1% (1 in 1000)
- Very low – each year there is a chance of flooding less than 0.1% (1 in 1000)

5.5.3 Flood Map for Planning (Rivers and the Sea)

This map is designed for use in the planning system when allocating development to appropriate sites and when assessing submitted applications. The map does not show the presence of defences because of the risk that these can fail or be overtopped and the need for development to consider lower risk areas where minimal flood risk management works are needed before considering higher risk development sites. The Flood Map for Planning shows the flood extents possible from a flood event of annual exceedance probability:

- of up to a 1% (1 in 100). This is often referred to as Flood Zone 3.
- of up to 0.1% (>1 in 1000). This is often referred to as Flood Zone 2.
- less than 0.1% (<1 in 1000). This is often referred to as Flood Zone 1 and is considered to be the area of lowest risk.

5.5.4 Impacts of Main Rivers water levels on other sources of flooding

Water levels in receiving systems such as Main Rivers can easily impact upon flooding from other sources. Most ordinary watercourses, smaller Main Rivers and sewers flow or outfall into another water body. If the downstream system has high water levels, excessive siltation, or blockages from debris such as trees and fly tipping, then the smaller watercourse or sewer will not be able to discharge freely and may back up. This is often called flood locking and can cause flooding higher up the network potentially quite far from a Main River. This risk can sometimes be unclear as there is often no visual link between the different assets forming the network.

5.5.5 Combined high tides and river flows

As described at the start of this section, when high tides occur sluices are closed to prevent tidal waters flooding homes, businesses, and land. When a high tide occurs at the same time as a high river flow on the Rivers Nene or Ouse the closure of the sluice gates means that water cannot flow out to sea. For this reason, excess water from the Nene and Ouse are channelled into their respective washes flood storage reservoirs. When the tide begins to go out and river levels have reduced the stored water is released back into the main river downstream. This is demonstrated for both washes in Figure 11 and Figure 12 below.

Due to the classification of these washes as reservoirs the standard of protection from their failure is greater than the main river upstream and downstream. Breaches can take place when defences are weakened e.g. by continued severe weather or by the actions of humans (insufficient maintenance) or animals (burrowing). The Environment Agency carry out work as required to ensure that the probability and impact of such a breach is minimised.

The worst case situation for communities in nearby flood zones is one where very intense local rainfall or snow melt, coincides with maximum flow in the main river for several days and a North Sea spring tidal surge occurs meaning that the sluice has to be closed often. This is because the chances of the Washes reaching its design capacity is increased and once this happens there is an increased risk that water will start to overtop the main river in various places. Wetter winters, more intense summer storms and sea level rises associated with climate change will increasingly add to this combined risk.

Significant local rainfall amounts would also mean that ordinary watercourses and sewers are likely to be unable to discharge into Main Rivers and hence surface water flooding will occur around low points, manholes, and where ordinary watercourses overtop.

5.5.6 Operation of sluice gates on the River Great Ouse

The Great River Ouse is a significant catchment which collects flows from as far as upstream as Buckinghamshire and Northamptonshire, this water then flows through Bedfordshire and into Cambridgeshire. In Cambridgeshire the river passes through a number of settlements including St Neots, Huntingdon, and St Ives. Near Earith the river enters its tidal reach and flows alongside the Ouse Washes (Figure 11 and Figure 12), passing through the Fens and out into the Wash.

There are complex control structures down stream of Earith to control the impact of the tidal waters. Upstream of Earith sluices are automatically controlled and primarily used in conjunction with weirs and locks to maintain water levels for the purposes of navigation, irrigation, and water supply. There are no sluices on the Great River Ouse, upstream of Earith, that are manually operated or that could have a significant impact on flood risk downstream. During high river flows these assets become drowned out and cannot influence the flow of the river.

Variations in the peak flows travelling downstream are as a result of the many tributaries of the River Great Ouse contributing peak flows at different times, meaning river levels downstream can rise and fall during floods as different parts of the catchment contribute to the flow of the river.

5.5.7 Cambridgeshire Lodes

The Cambridgeshire Lodes are a network of historical man-made waterways which are believed to be almost 2,000 years old and created to provide navigation between settlements. Originally these waterways would have navigated through undrained fenland. Since that time the land surrounding the Lodes has been drained and used for agriculture, this process has led to the shrinkage of peat and over time resulted in the Lodes being raised, embanked watercourses. The Lodes are still used to convey water into the River Great Ouse and during recent flood events many of these Lodes became close to capacity.

The Lodes were not originally designed to be raised embankments and the material used over time to build up those embankments was not ideal for that purpose. The partners within Cambridgeshire are aware of this legacy issue and a measure was introduced by the Anglian Flood Risk Management Plan to investigate opportunities within these catchments.

1947 Case Study

The winter of 1947 was extremely cold and noted by the Met Office as being the snowiest winter of the twentieth century. A flurry of snow at the beginning of March was followed by a raise in temperature and rainfall landing on frozen ground, this led to localised surface water flooding, riverbanks overtopping and a gradual inundation of the lowland areas. This flow downstream into the Fens coincided with a high tide and strong winds which prevented the drainage of the Fens as there was nowhere to pump water to. Breaches along riverbanks occurred in locations such as Bluntisham and the local community responded alongside rivers authorities, the military and even prisoners of war to temporarily repair those breaches. Further material is available on the Prickwillow Museum website.

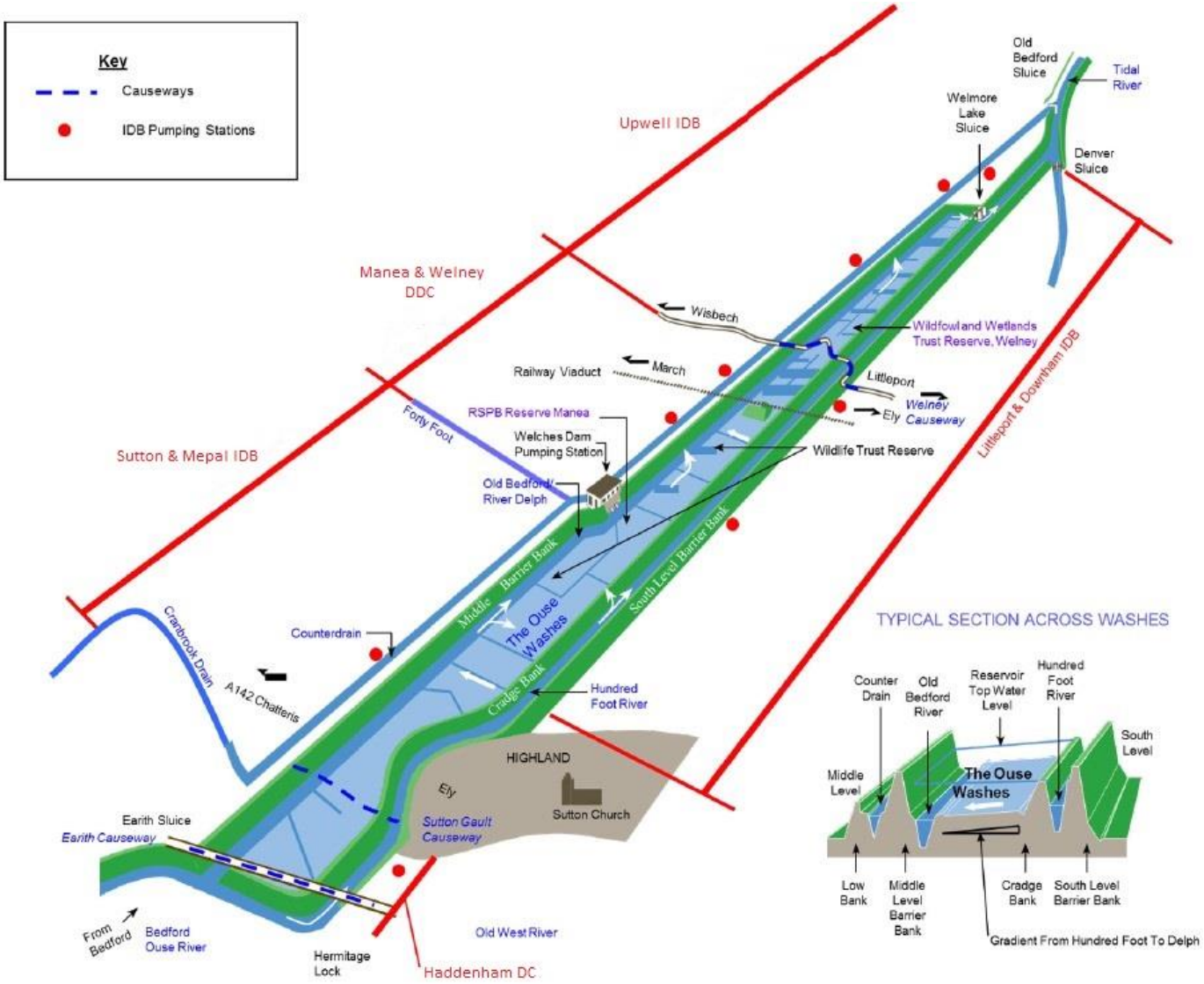


Figure 11: Diagram of the Operation of the Ouse Washes

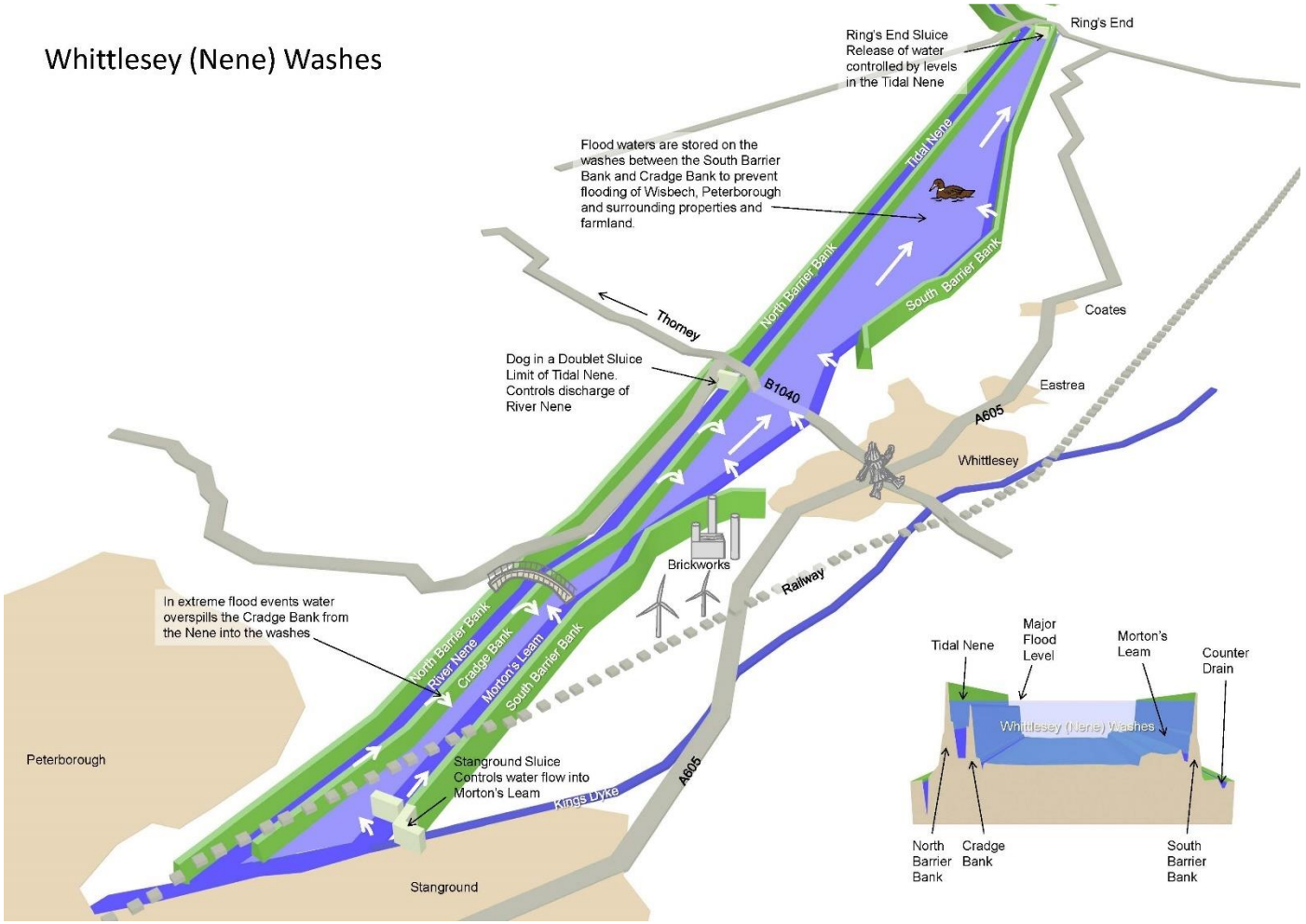


Figure 12: Diagram of the operation of the Whittlesey Washes

5.5.8 Worst case impact on IDB systems

IDB systems are a secondary defence. While the section below discusses the local risks of flooding from IDB systems, the large-scale failure of an IDB system depends on the overtopping or failure of its primary defences, the Main Rivers defences of the Ouse or Nene. Intense local rainfall puts pressure on IDB systems and combined with overtopping from Main Rivers this could weaken an otherwise robust system. IDBs have several pumps they can use depending on demand and in such an event all pumps would be in use trying to remove water from the land as quickly as possible. In effect a circular motion could be created where water spills onto their land as quickly as they can pump it off.

It is this kind of event, potentially combined with the power outages that can occur during flooding, that would cause the large-scale failure of the IDB systems and result in the widespread flood extents that are shown on the Environment Agency's Flood Map for Planning. This map shows the extent of flooding without considering defences and hence returns the Fens to an area of periodic flooding as would have been the case prior to the formal drainage of them in the 17th Century. The catastrophic events of 1947 demonstrate the type of mechanisms that may lead to this failure.

As a part of the baseline work for the Future Fens Flood Risk Management project there was an assessment of the level of funding required to sustain existing levels of protection which was estimated at £1.8 billon for the next 100 years. Some drainage catchments within the Great Ouse Fens were specifically identified as requiring more innovative funding in future as current funding mechanisms would not allow the level of investment required on the infrastructure in those areas to sustain the existing levels of protection and prevent long term widespread flooding. Partners will work closely together as a part of the Future Fens projects to address these concerns.

5.6 The Fens and Internal Drainage Board watercourses

The Fens is a wide expanse of flat prime agricultural land, much of which is below sea level. To drain the land, water from Cambridgeshire's fens is generally pumped via a large grid-like network of open watercourses (classed as ordinary watercourses) into the downstream tidal sections of the Ouse and Nene, and from there out to sea. The area managed by Bedford Group of IDBs is drained through gravity upstream of the tidal range. In most areas the gradient across the land to the watercourses is very low and hence water must be pumped by large diesel and electric pumps within the network. These pumps are housed in pumping stations as shown within Figure 13.

Future Fens: Flood Risk Management

Section 2.3.5 describes the Future Fens – Flood Risk Management work already underway in the Fens of the Great Ouse catchment.

As a part of this work all partners have signed up to a Tactical Plan that covers capital and revenue spending over the next 15 years across the area. Further information on this and ongoing progress can be found online: www.ada.org.uk/future-fens

This partnership work is being delivered in three phases over a period of 15+ years

1. Base lining for a shared understanding of existing infrastructure and risk
2. Develop an adaptive plan for the next generation of flood infrastructure
3. Delivery of options

In drier months the role of an IDB can be more about managing water levels in the channels for water resources or navigation, than about draining the land.

Source: North Level District IDB

Figure 13: Cross Guns Pumping Station inside (left) and outside (right).

More detailed information about the wider area of the Fens covering Lincolnshire, Cambridgeshire, Peterborough, Norfolk, and Suffolk is included in Appendix 2.

Protection for the Fens is effectively provided on three to four different levels; primary coastal defences (remembering that IDB districts extend much further towards the Wash than the boundary of Cambridgeshire County Council); Main River defences and flood risk management assets e.g. on the Ouse and Nene; the network of IDB watercourses, pumping stations and other associated water level management structures. Therefore, Cambridgeshire's Fens effectively have three different levels of risk. In order of approximate likelihood of occurrence these are:

- the risk of individual ordinary watercourses overtopping.
- the risk of Main River defences being locally overtopped.
- the risk of complete system failure due to an 'combined high tide and river flow event', where a spring tide in the North Sea coincides with intense rainfall in the wider catchment and high river levels from upstream.

The standard of protection of the IDB systems, including the ordinary watercourses and related infrastructure is known to be at least 2% (1 in 50) i.e. the watercourses are not expected to overtop in an event of lower probability than this. However, given investment in the network in previous years it is believed that these systems have a higher standard of protection of approximately 1.33% (1 in 75). In places modelling has been developed to support this.

The intensity of rainfall is more of a problem for IDB watercourses than the length of the rainfall period. For example, in January 2014 four times the average expected monthly rainfall was experienced in some locations, this total was distributed over the whole month and the IDB pumps could continue to pump the water away. This increases the cost of the water level management (more pumps need to be used for longer) but is well within the capacity of the system. During a very heavy rainfall event all the IDB pumps would need to be operating and if the intensity was greater than that of a 1% (1 in 100) probability rain event the watercourses could be overtopped in some locations. This would cause localised flooding in some parts of the district but is unlikely to cause a complete failure of the system as intense rainfall tends to be localised.

It should be noted that risk to power supplies is an important factor in protecting our fen areas as IDB systems depend on this. To increase their resilience, some have both electric and diesel pumps, and these are serviced regularly.

5.7 Ordinary watercourse flooding

Ordinary watercourses include every river, stream, ditch, drain, cut, dike/dyke, sluice, sewer (other than a public sewer) and passage through which water flows and which does not form part of a Main River.

Ordinary watercourse flooding can be caused when intense or long duration rainfall drains to the channel and results in water levels overtopping of the banks of the channel on to surrounding land. Flooding from ordinary watercourses can also take place when blockages occur, from a lack of maintenance or fly tipping. If left unmaintained the ability for the watercourse to store and convey water is inhibited and can increase the risk of flooding. In addition to this flooding may be experienced when these watercourses are unable to discharge into downstream systems, this could be because of pump failures or main rivers which may already be running at a high level. This will be felt more significantly in flatter landscapes as water will have nowhere to go.

No extensive detailed modelling of the risk level from ordinary watercourses has been undertaken. At present there are no flood warning services available for ordinary watercourses.

2015 Case Study

Following a period of hot weather at the start of July 2015 there were localised thundery downpours in Cambridgeshire in the early hours of 17th July, as much as 70mm in 3 hours estimated in Barrington. The average rainfall for the month of July in Cambridge is 47.5mm.

Cambridgeshire Fire and Rescue Service recorded over 50 calls that night with Cambridge being the area worst affected area. Flooding was caused because of the intensity of the rainfall exceeding the capacity of sewers and watercourses in the drainage system. Flooding was experienced in homes, educational establishment, shops and most notably the Hospital.

5.8 Surface runoff / surface water

Flooding from surface runoff tends to be localised because the most intense rainfall within a storm is often itself localised. The existence on the ground of structures or land heights that may channel water into certain locations also adds to this. Whatever the source, surface runoff will tend to flow towards low spots where it collects. Flooding can occur both to land or property which lies in the flow path of the water or to property situated in the low spot where the water finally collects. While flooding tends to be localised the actual risk is well spread across Cambridgeshire indicating that surface water flooding can happen almost anywhere.

The term **surface water** is normally used in relation to surface runoff, particularly with regards to the naming of **surface water sewers** that take rainwater from roofs and highways.

These sewers (also sometimes called storm water sewers) do not take water to be treated, but to local watercourses. It is therefore important that contaminants that need treating are not put down drains in the highway or drains at the bottom of household or commercial downpipes.

In practice if heavy rainfall is particularly intense or occurs for long periods of time it can be difficult to differentiate it from other sources of flooding. Heavy rainfall can quite quickly cause flooding from surface water sewers, from ordinary watercourse flooding or from groundwater if the groundwater in the catchment is quick to respond. Ultimately full surface water sewers and ordinary watercourses can lead to increased levels in the Main Rivers and flooding from this source. The levels of those receiving rivers and watercourses can also cause the tributaries and sewers discharging into them to back up.

It is quite common for parts of Cambridgeshire to experience small scale flooding of highways, footpaths, and private gardens from surface runoff, as surface water sewers (sometimes called storm water sewers) are only designed with a standard of protection of 3.3% (1 in 30), although many may provide a lower level of protection in older developments. There have been a significant number of homes flooded from surface runoff in the past so both new development and existing maintenance practises need to take this risk into consideration.

Table 9: Summary single rainfall events reported to have affected 20 or more homes internally*

Date	Location (number of homes with reported internal flooding)	Short Description
Dec 2020/ Jan 2021	Cambridgeshire wide (200+)	Prolonged rainfall on saturated catchment affecting multiple locations
Aug 2020	Cambridgeshire (28) including Chatteris, March, St Ives, and St Neots	Intense summer storm
Dec 2017	Elsworth, Elm, March, Soham	Widespread heavy rainfall affecting a number of locations across the county
July 2015	Barrington, Soham, Waterbeach, Longstanton, Lode, Cambridge	Localised intense rainfall overnight
Aug 2014	Cambridgeshire wide	Intense summer storm
Summer 2012	Cambridgeshire wide	Intense summer storms on an already saturated catchment
October 2001	Cambridge and wider Cam catchment	Heavy rainfall over 24 hour period
Easter 1998	Ouse and Nene catchments	Slow moving heavy rainfall followed by more localised heavy rainfall two days later
May 1978	River Nene from coast to upstream of Wisbech	Tidal surge and defence breach
March 1947	Ouse and Nene lowlands	Heavy rain and snow melt

*as reported to Cambridgeshire County Council This list is not exhaustive.

Different impacts for different homes

During a flood event many homeowners will be able to move their belongings upstairs to keep it safe and dry, they may have other places they can stay and be able to make it too safety without assistance. Not all residents have the same capability or wider family support and may struggle to get themselves or their belongings to safety.

It is important that any vulnerable members of the community are made known to the necessary authorities so that they can be identified as of special need during an emergency.

Anglian Water maintain a Priority Services Register which records customers who need additional support. Available either online or by phone: 03457 919155

Historically the level of protection provided against the risk of surface water flooding has always been lower than that of other sources and the flow paths of any flood water that is unable to enter drainage

systems has not been widely considered as a part of urban expansions. This coupled with a diffuse range of responsibilities, asset ownership, comparatively high costs of potential solutions and no one partner with statutory responsibility to deliver catchment wide improvements can make the delivery of schemes complex and fall short of funding rules. These considerations for new developments became more widespread in the 1990s as National Planning Policy for this risk developed.

There are a range of factors which can influence the level of risk for surface water flooding, these include but are not limited to;

- The amount of permeable surface in a catchment and the type of vegetation or tree canopy cover -
- Frozen, saturated, or even hard dry ground can speed up the runoff of surface water and reduce infiltration into soils
- Rainfall depths exceeding the capacity of the local drainage network leading to overland flows
- Absence of a local drainage network, either not built or has been removed
- Receiving drainage network, such as watercourses and rivers are already full
- Raising of ground or building of bunds which displaces flood waters
- Faults, failures, or blockages in the drainage network which constrain flow downstream, this could include fly tipping, a lack of maintenance or inappropriate culvert sizing
- Snow melting due to rainfall
- High ground water levels reducing the effectiveness of soakaways and seeping into drainage networks resulting in a reduced capacity
- Local geology aiding the conveyance of water which can emerge in unexpected locations

The frequency of prolonged wet winters and intense summer storms is expected to increase in future with recent events highlighting the potential risk we may face more frequently in future.

Highway gullies owned by Cambridgeshire County Council can drain to a variety of sources, highways sewers, surface water sewers owned by Anglian Water, watercourses or even soakaways. As the increased future impacts of heavier rainfall and severe weather are better understood, the use of sustainable drainage systems needs to become more common to make Cambridgeshire more resilient. As with all drainage systems the importance of maintenance in all parts of the network by all partners is critical to ensure they function effectively.

The localised nature of thunderstorms with intense downpours makes it very difficult to accurately forecast and provide warnings for surface water flooding. Rain totals experienced even in neighbouring wards can vary significantly. Since water follows flow routes based on land heights and runs towards low spots, properties in one part of a street may well be affected while those further along the street may be fine. The county council recommends that communities and businesses check their risk level online and keep abreast of weather forecasts and weather warnings issued by the Met Office to give them as much notice as possible. To find out about the surface water risk in your area see box below.

5.8.1 Risk of Flooding from Surface Water map

This map shows the risk of surface water flooding and are available through the links listed under 5.5.2. Put simply this uses topographical data, rainfall depths and an allowance for rainfall to infiltrate to ground or into drainage systems. The map does not take thresholds heights of individual properties into account and therefore cannot be used to identify properties that will flood from surface water. It can only give an indication of the broad areas at risk and not accurately reflect all areas of risk due to the nature of the data being used. This modelling is used to inform a high level national assessment of Flood

Risk Areas which should be considered for the Preliminary Flood Risk Assessment. The data and assessment process are not managed locally.

The map uses the following risk bands:

- High – each year there is a chance of flooding of greater than 3.3% (1 in 30)
- Medium – each year there is a chance of flooding of between 3.3% and 1% (1 in 30 and 1 in 100)
- Low – each year there is a chance of flooding of between 1% and 0.1% (1 in 100 and 1 in 1000)
- Very low – each year there is a chance of flooding less than 0.1% (1 in 1000)

Risks associated with new development

Section 2 sets out the national and local policy relating to flood risk. The strength of this policy and the related evidence base for that has improved in recent decades but a number of gaps remain. These are most notable in the understanding of the connectivity of different assets at a local level and with the ongoing maintenance of the assets created.

The way in which risks associated with new development are currently managed by partner organisations is briefly described in Section 7 and covered in more detail in the documents described in Section2. Examples of some of those risks include;

Urban Creep
Incremental increases of hard paving or building extensions being laid over more permeable areas such as grass increase the volumes of water entering our drainage networks.

Increased runoff volumes
Significant development in a catchment can reduce the ability for ground water recharge to occur, meaning that whilst the rate of the water runoff can be controlled, the overall volume of water leaving a developed area over time can potentially be greater than before.

Increased pressures on existing systems
New developments have an automatic right to connect to sewers and can add pressure onto the receiving system.

Unadopted drainage assets
Assets which are not adopted by a responsible organisation often fall on the new landowners to maintain, this can include creating multiple owners on a single asset and increasing risks associated with maintenance

Inadequately constructed or absent drainage assets
In some instances across Cambridgeshire developments may be constructed with drainage and flood risk assets which are either not built as originally designed or are incomplete this has led to complex legacy flooding issues which are not easily resolved.

Managing groundwater
New development has significant potential to impact on the way in which groundwater recharges and the direction of flow hidden underground.

Last year Government advised that they will be looking to review current rules relating to planning, the right to connect and asset adoption in 2022.

5.8.2 Surface Water Management Plans

Surface Water Management Plans are a tool to understand and manage surface water flood risk on a local basis. The output of a Surface Water Management Plan is an action plan that defines measures to reduce the risk, maintenance needs and links into development framework and emergency plans.

The Cambridgeshire Surface Water Management Plan was undertaken in 2010 and revised in 2014 by the Cambridgeshire Flood Risk Management Partnership to help the partnership understand the level of flood risk in Cambridgeshire.

The initial broad-brush assessment in this plan identified numerous areas, called 'wet spots', at risk of varying levels of surface water flooding. The assessment then prioritised the 'wet spots' by considering how a community would be affected in the event of a flood. For example, the effect on housing; critical infrastructure, water recycling centres; traffic infrastructure; and vulnerable sites such as a residential care home and schools. Following the strategic assessment, the 'Top 10' wet spots were identified based on how badly they would be affected in the event of a flood (shown in Table 10 and Figure 14).

Since the development of the Cambridgeshire SWMP other localised SWMPs have been developed for a number of settlements in Cambridgeshire including;

- Cambridges and Milton
- Histon and Impington
- Ely
- Girton
- March
- St Neots

Historical flooding information was provided by stakeholders and members of the public as part of the Flooding Memories project, the Environment Agency's National Receptor Database and Flood Maps for Surface Water, Information from city and district councils, town and parish councils, Internal Drainage Boards, the council's Highways Team, Emergency Management Team and the Flood Risk and Biodiversity Team Section 19 flood investigations. The data used to inform the original assessment of wet spots is constantly changing as is the understanding of local flood risk which is informed by flooding events. These wet spots will be reviewed as a part of future actions.

Table 10: Cambridgeshire Wet Spots

Wet Spot	Council
Cherry Hinton	Cambridge City
Kings Hedges and Arbury	Cambridge City
March	Fenland
St Ives	Huntingdonshire
North Chesterton	Cambridge City
St Neots	Huntingdonshire
Sawtry	Huntingdonshire
Coldhams Common	Cambridge City
Huntingdon	Huntingdonshire
Ely	East Cambridgeshire

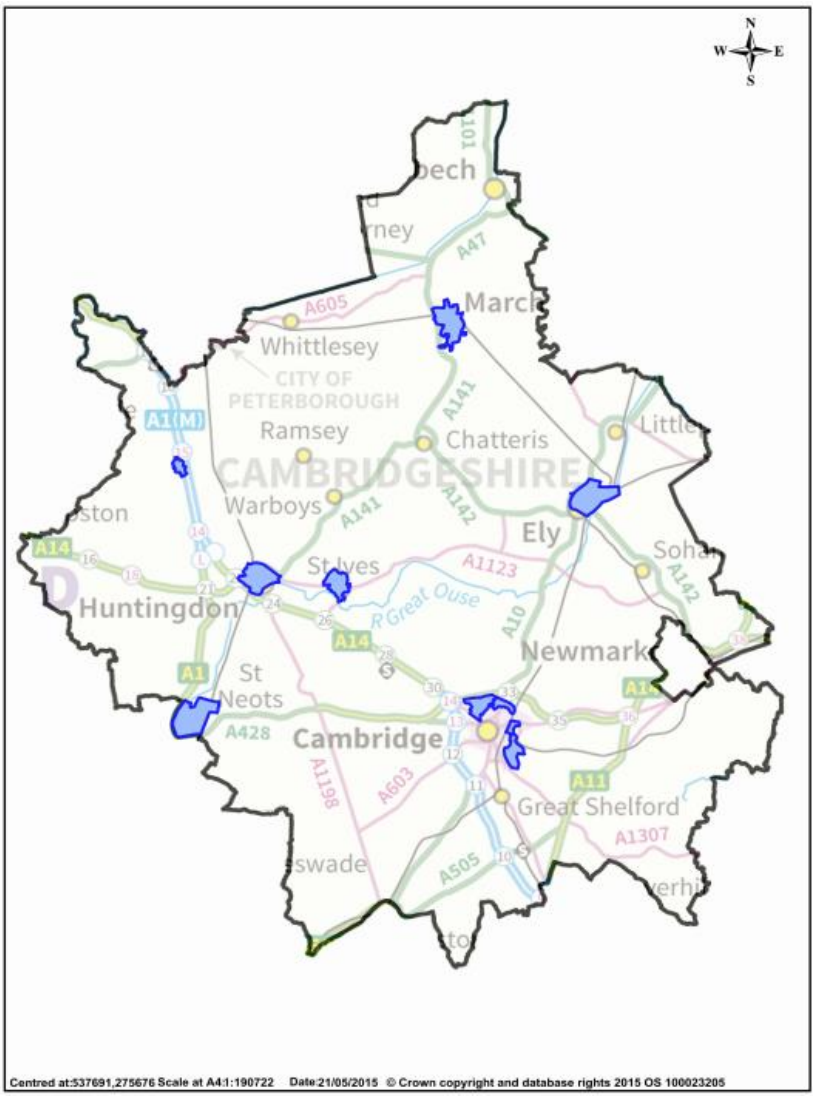


Figure 14: Map showing the top 10 wet spots in Cambridgeshire

5.8.3 Flood Investigation Reports

One of the duties of the County Council highlighted in Table 8 is the requirement for Cambridgeshire County Council to investigate flooding reports as key thresholds are met. Whilst the County Council will prioritise the investigations required by statute, they will also act on all flooding reports they receive as resources allow and where necessary act as a mediator between different parties. Further details on the investigation thresholds and process are described in 1.3M in Section 7.

The findings of these investigations help to provide greater evidence of the risk in Cambridgeshire but it is important to highlight that this is viewed alongside the predicted risks described in 5.8.1 as this will indicate areas that may be at risk which have not yet experienced any flooding. This requirement to investigate certain flood events started with the creation of the Lead Local Flood Authority following the advent of the Flood and Water Management Act in 2010. However, whilst the county council may not have investigated incidents preceding this it welcomes sharing of local knowledge to build the evidence base that informs and helps to prioritise investigations, projects, and planning responses.

Flood Investigations Reports are published on the county council website once completed, Table 11 below shows a list of the reports already carried out by the council or in the process of being completed. This is up to date as of January 2022. Figure 15 shows the spread of flooding reports received between 2019 and January 2022 according to the parish or settlement area, this includes all reports and not just

those resulting in Flood Investigation Reports. Copies of these reports are available on the county council website.

Table 11: Section 19 Flood Investigation Reports carried out by Cambridgeshire County Council

Year	Flood Investigation Reports
2014	Waterbeach, Stretham, Stibbington, Oakington, Newmarket, Meldreth, March, Longstanton, Kimbolton, Doddington, Caldecote, Bar Hill
2015	Barrington
2019	March (Updated with repeated flood incidents)
2020	St Ives, St Neots, Woodwalton, Swavesey, Old Hurst, Offords, Brampton, Broughton, Alconbury, Ramsey, Sawtry, Buckden, March
2021	Linton

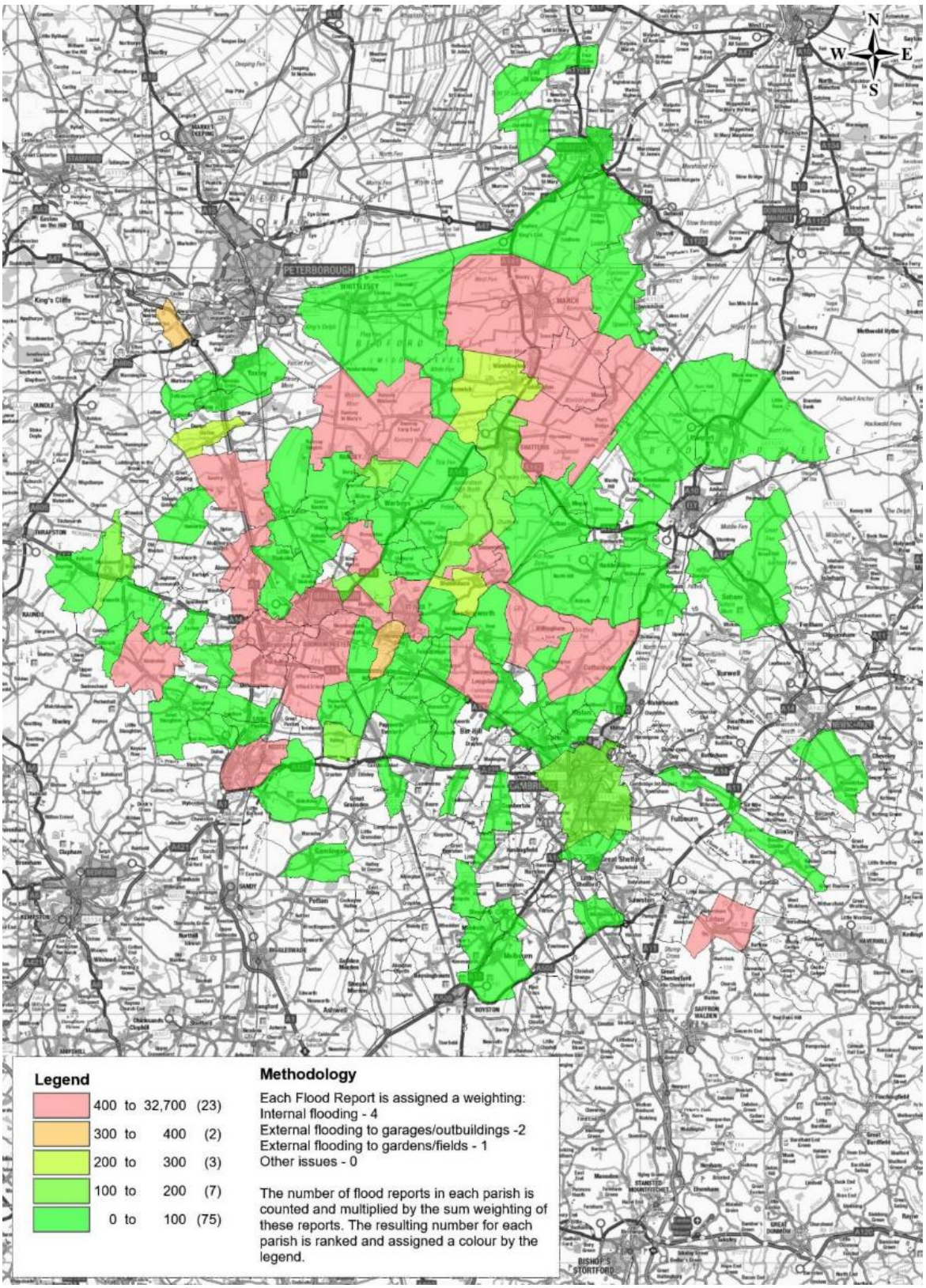
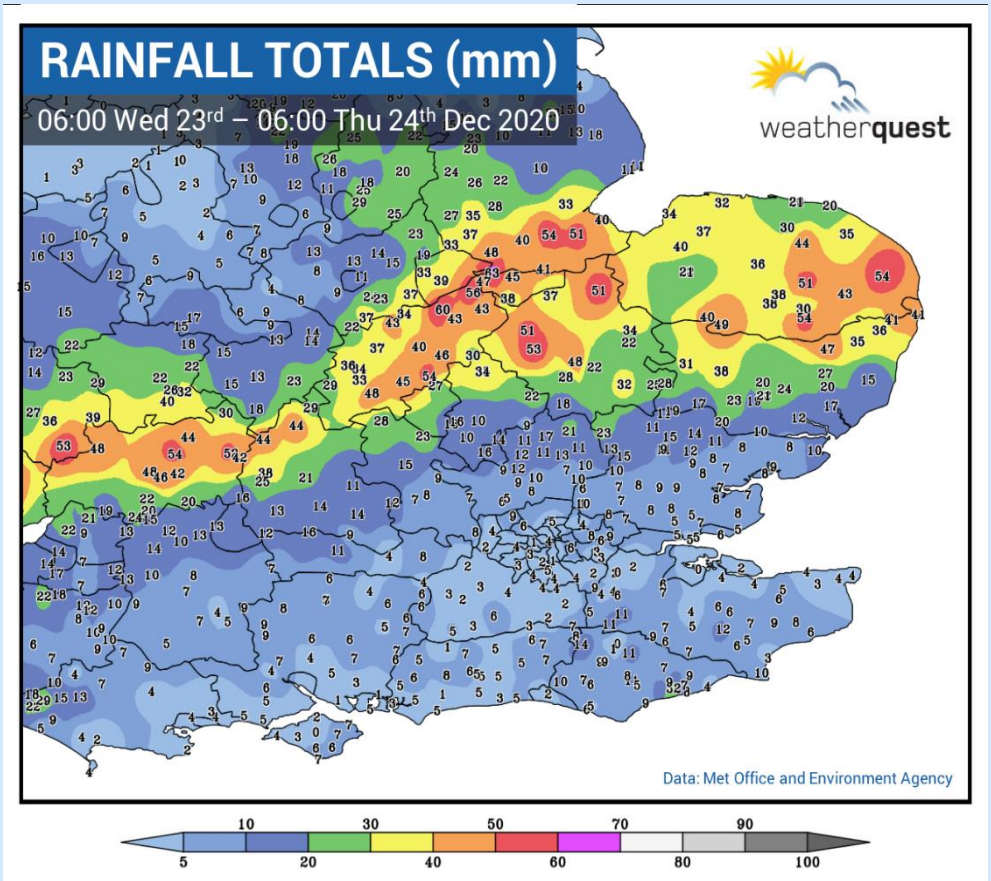


Figure 15: Flood incidents reported to Cambridgeshire County Council displayed by parish, based on number of flood reports and impact between 2019 and 2022

December 2020 case study

Throughout the autumn of 2020 rainfall was well above the long term average, with the second wettest December recorded since 1981 creating a catchment of saturated soils with limited capacity to absorb further rain. Then, over the 23rd and 24th December 55mm of rainfall fell in a 24 hour period leading to over half the river gauges in the Great Ouse catchment to record their highest ever levels.



Rainfall recorded preceding flood events. Credit: Weather Quest

A major incident was declared on 23rd December but all partners, including the emergency services became overwhelmed. Over 700 reports of flooding were received with at least 200 incidences of internal flooding, it is believed the true extent of flooding was unreported.

Flooding from ground water, sewers, surface runoff, watercourses and rivers were all experienced in different locations with causes ranging from ground water ingress into sewer networks, rivers out of bank and downstream systems being full or blocked and preventing drainage networks from discharging.

The county council are publishing a series of reports to detail investigations and any immediate or potential future works within these catchments. The outcomes of these reports will be monitored actions within this strategy.

5.9 Groundwater flooding

Groundwater flooding tends to occur after long periods of sustained rainfall where infiltration into the ground raises the level of the water table and/or cause springs to have greater flow. Low-lying areas, where the water table is more likely to be at shallow depth, can be most at risk. Groundwater flooding

is particularly associated with sands, gravels, limestone, and chalk because groundwater levels tend to fluctuate more, but it can occur from any water bearing ground.

Flooding from groundwater can also result from rivers being in flood over land that is very permeable as groundwater levels have a natural tendency to balance out other water levels across the area. Many of the County's floodplains contain permeable alluvial deposits of sand and gravels and hence this can be a risk. In some locations these permeable deposits lay on top of a less permeable underlying rock, this creates the conditions for perched aquifers and can often be realised as higher ground becomes saturated or springs activate.

Groundwater flooding relates to the movement of water through the soils and bedrock and is different to land being waterlogged. Clay, for example, can become easily waterlogged after long periods of rain. The water is held in the soil which becomes boggy and new rainfall is unable to drain away and instead becomes surface water runoff. Large areas of Cambridgeshire have clay–based soil. However, in chalk, sands and gravels water moves through the soils due to the gaps between soil particles. This means that water can flow under the surface of the ground and hence springs and/or flooding can occur in areas not directly next to a river, or some distance from where the heaviest rainfall has fallen.

British Geological Survey (BGS) mapping identifies approximately 26% of Cambridgeshire as being at a very high or high risk of groundwater flooding based on their areas Susceptible to Groundwater Flooding dataset. However, the BGS note that the susceptibility data is suitable to establish relative, but not absolute, risk of groundwater flooding at a resolution of greater than a few hundred metres. In all cases it is strongly recommended that the data is used in conjunction with other groundwater flooding data.

On occasion previous changes to the landscapes or the installation of underground infrastructure can act to block or convey ground water flow. These flood mechanisms are hidden from view, difficult to predict and often exacerbate existing risks in sewers.

In future, wetter winters, like those experienced in December 2020, may become more common, resulting in increased groundwater flow to feed rivers, and also ensure that groundwater levels are kept high, this has the potential to impact on the performance of sewers and infiltration features such as soakaways.

5.10 Sewer Flooding

Cambridgeshire has three different types of sewers: surface water sewers, foul sewers, and combined sewers. Surface water runoff caused by surface water sewers reaching their capacity is covered under surface water risk. This section discusses the risk from foul sewers which carry foul water from homes and businesses (e.g. from washing machines and toilets) and the risk from combined sewers which carry both foul water and rainwater.

5.10.1 Combined sewer flooding

Combined sewers are generally associated with having the greatest risk of flooding within the wastewater network; during intense rainfall events large quantities of rainwater can take up the capacity in the sewers. This can cause foul water to back up from manholes or inside homes e.g. from toilets. The older parts of many established settlements in Cambridgeshire contain combined sewers and this risk should be borne in mind when opportunities arise to make these areas more resilient for the future. The interconnectivity of many of these drainage systems make the separation or future isolation of foul water flows from rainfall an incredibly complex and costly process. Many foul sewers are unknowingly behaving as combined sewers as incremental minor developments connect their downpipes to the foul where there is no alternative drainage strategy.

Right to Connect

Under Section 106 of the Water Industry Act there is an absolute right for landowners or developers to connect to a public sewer and contribute additional flows to those assets. The water companies are unable to refuse this connection which can add additional pressure on the existing infrastructure and potentially increase the risk of flooding, especially in periods of intense rainfall.

The right to connect was intended to be removed by Schedule 3 of the Flood and Water Management Act 2010 but this is yet to be enacted. More recently the EFRA Select Committee highlighted the need for this in their Flooding Report of February 2021.

The County Council and its partners will continue to work together with developers to ensure development delivered in the county is sustainable and not increasing flood risk elsewhere.

5.10.2 Foul sewer flooding

There are not many locations in Cambridgeshire which are classified as being at risk from foul flooding due to a lack of capacity in the network. This is because resolving foul flooding is a key priority for water and sewerage companies. Anglian Water is obliged to report to Ofwat where there are properties at risk of internal flooding due to hydraulic incapacity in the system. This is known as the DG5 register. The location of properties in Cambridgeshire on the DG5 register is not discussed within the LFRMS due to very localised nature of this flooding; the implications for the property itself and because the register changes regularly as issues are resolved or in some cases as new problem areas are discovered.

Cambridgeshire has also experienced foul flooding due to operational issues. Since these events can happen anywhere no specific levels of risk are formally associated with different parts of Cambridgeshire. There are two main operational issues that the area suffers from:

Blockages or power outages in the network which prevent pumping stations from working and hence can create significant risk to properties on the same network as the blockage. Blockages are often caused by wet wipes, nappies, fats, oils, and greases which are put down the drains at home and at work. The sewer system is not designed to be able to cope with these materials which act to clog up the pipes and removal is generally expensive.

Surface water and ground water infiltrating into the foul system (for which it is not designed) and caused capacity issues and surcharging. Most foul systems are not vacuum sealed, and water can get into them through structures like manholes. However, it is when very large volumes appear in the network that this causes flood risk and investigation is needed into how the water is getting there.

Foul network Facts

Foul water sewers carry used water from sinks, baths, showers, toilets, dishwashers and washing machines.

These sewers take water to be treated at sewage treatment works. Discharge containing chemicals should go into the foul network and not into surface water sewers. Detergents from car washes or oil leaks from cars are two examples of contaminants that often end up going into road gullies, in turn, surface water sewers (and therefore untreated into rivers) when they would ideally go into the foul network.

The ‘waste’ from sewage treatment works is very often recycled into products for use in industrial and agricultural processes. For this reason, sewage treatment works are now referred to as water recycling plants.

5.11 Flooding related to operational issues

Although flooding is usually caused by heavy or long duration rainfall, it can be easily made much worse by the presence of operational issues. The following are counted as operational issues:

- Fly tipping – large waste items e.g. tyres, sofas etc.
- Littering – smaller items.
- Plant and tree roots growing into piped systems and reducing the capacity.
- Damaged pipes from wear and tear, vandalism, or movement of the ground.
- Collapse of banks of a watercourse e.g. gradually over time (lack of maintenance) or suddenly due to ground instability or movement.

Since it can never be known exactly when such issues may occur, flooding from a watercourse could be caused after less rainfall than would be expected for a more natural flood event. The LFRMS cannot provide details of the risk of operational issues occurring, but it does give details of the approach which is taken to minimise this type of event in Cambridgeshire e.g. regular maintenance.

Effective operations and maintenance of drainage and flood risk assets by all is a key function of providing communities with resilience to flood risk.

5.12 Summary

Cambridgeshire is at risk from many different types of flooding; main river, the larger combined tidal and river events and flooding from surface water or combined sewers. However, groundwater and sewer flooding can still have devastating effects within localised areas. Further efforts to promote an understanding of surface water flood risk are included with the action plan along with plans to better understand and trial projects with ground water interaction such as with Chalk Streams.

The most recent flooding highlights again how events are rarely related to a single risk or cause, they are often complex with a wide range of assets in diffuse ownership, interacting together to cause flooding due to low spots, pinch points, or weaknesses in the catchment, often requiring a range of interventions to increase resilience rather than a single solution. It should be noted that flooding does not always occur at the point of failure but is often felt elsewhere in the catchment, hence the need for a catchment approach in managing risk. The ability to deliver this range of interventions in discussed in the Section 7 with potential funding mechanisms described in the next section.

Flooding from operational issues in any part of Cambridgeshire's watercourse or sewer network is almost impossible to fully model and map but remains a significant risk and is identified as an area of work for Cambridgeshire's risk management authorities. Maintenance of the existing infrastructure is critical to flood resilience, however, future deterioration of these assets and increased flows experienced through a changing climate and new development contributions will mean investment is still required across Cambridgeshire's catchments to be able to maintain our current level of resilience, in many instances these projects struggle to score highly against current funding mechanisms.

New development of any size can contribute to changing levels of resilience, from the cumulative impact of property extensions and driveways being hard paved to large scale development. New development can have a positive as well as a negative influence if properly considered, although many of the factors controlling the impact of development, such as the right to connect to sewers, are outside the control of local Risk Management Authorities.

Large scale failure of the drainage board systems is of considerably lower probability and would have to coincide with significant flooding elsewhere in Cambridgeshire and the region. Whilst Cambridgeshire's fenland areas are carefully managed, there is a growing recognition of the increasing pressure from rising sea levels and the impacts that can have, including, the increased risk from storm surges or resultant impact on the ability for main rivers to discharge to the sea, this pressure partnered with others is driving the future fens projects.

The likelihood of flooding from reservoirs is so low that even with widespread consequences the overall risk remains small.

6 Partnership Funding

6.1 Introduction

It is important that the local strategy sets out how the proposed actions and measures identified in this strategy will be funded and resourced in Cambridgeshire. Cambridgeshire County Council, along with other key stakeholders in the county has a limited budget to deliver flood risk measures. So it is important to identify how and from where resources will be available to fund flood risk management activities.

This section provides background on the different types of funding which may contribute towards a flood management action or a water environment action proposed in Cambridgeshire. National funding is explained in the most detail as this system often attracts questions.

Expenditure for all flood risk and water management schemes is split down into capital works (that create, purchase, significantly improve or replace assets) and revenue works (operational maintenance). Maintenance is often funded by the owner of, or the organisation responsible for, a certain type of watercourse or asset. Capital funding tends to require more levels of approval and often comes from external sources.

Whilst this section focuses on financial contributions, there are other contributions partners can provide for in a project of multiple partners such as expertise, tools, land, or asset adoption, these are valued as a part of the projects. It should also be noted that many of these funding mechanisms do not provide for staff time to manage projects which is a considerably constraint in delivery of those schemes.

6.2 National funding

There are two primary national funding mechanisms for the water environment, Flood Defence Grant in Aid, and the Water Environment Investment Fund, these are described below along with a short summary of other national funding mechanisms.

6.2.1 Flood Defence Grant in Aid

The way that flood risk management projects are managed and funded changed in 2012 with further amendments to the calculation process coming periodically, most recently in 2020. Since April 2012 the new government policy Flood and Coastal Resilience Partnership Funding has controlled how money is allocated to capital projects. The amount of national funding, known as Grant in Aid (GiA) available to any capital project will directly relate to the outcomes the project delivers. GiA for flood risk management projects is called Flood Defence Grant in Aid (FDGiA). The outcomes measures (OM) for capital flood risk management schemes have been set by Defra and are as below:

- OM1a – Economic benefits
- OM1b – People related FCERM benefits
- OM2a – Households at risk today being better protected against flood risk
- OM2b – Households at risk by 2040 being better protected against flood risk
- OM3 – Households at risk from coastal erosion
- OM4 – Environmental Improvements

Each outcomes measure has a payment rate associated with it. These payment rates change depending on factors such as the deprivation categories which are set out in the English Indices of Deprivation (2019). However even in this instance there will likely be need for additional non-Government funding to enable any scheme to be delivered.

Defra have produced a spreadsheet calculator which allows flood risk management authorities to calculate what percentage of costs might be covered by central government through GiA funding and what other contributions they will need to raise locally. It is intended that beneficiaries to the scheme will contribute in some way, whether they be LLFAs, IDBs, parish councils, communities, or private companies. As well as direct financial contributions, agreements to carry out maintenance or other in-kind contributions that a cost could be put against may also be considered. Any contribution put towards the scheme improves the overall Partnership Funding score of the scheme. Every scheme must score a minimum of 100% to be eligible for GiA.

Schemes requesting FDGiA need to be submitted to the Environment Agency's / RFCC's six year programme. The six year programme of works sets out what the RFCC would like to deliver subject to funding, further development of business cases and final scheme approvals. This is similar to the idea of the Cambridgeshire LFRMS action plan, but for the Anglian region. Projects to be delivered in Cambridgeshire that require FDGiA need to be in both the LFRMS and the six year programme. Risk Management Authorities would need to approach the RFCC that covers the area of any project, for Cambridgeshire County Council this could either be the Anglian Northern RFCC which covers the Nene catchment or the Anglian Great Ouse RFCC which covers the Upper and Bedford Ouse, Old Bedford and Cam and Ely Ouse.

There is a limited pot of central government funding so FDGiA payments to approved projects will be subject to availability of funds. Each year competing projects will be prioritised by RFCCs to ensure projects provide good value for money and to achieve national and regional targets.

It is expected that through the need to work in partnership all schemes proposed will consider management of flood risk in an area from all sources, proposing joint solutions that reduce the overall flood risk to a community or area. Those schemes which are not designed to address all risks will attract less GiA and require greater local contributions.

The inclusion of amenity benefits for local communities is one way of attracting wider support for schemes from local communities and helps to draw in local contributions.

All schemes are also encouraged financially to include the delivery of multiple benefits related to other themes of water management other than flood risk.

All schemes seeking GiA funding within the Fens will need to adhere to the Tactical Plan which looks to provide efficiencies in the distribution of funding in preparation of the long-term options for the Future Fens Flood Risk Management.

6.2.2 Water Environment Investment Fund

For schemes where the main driver is environmental improvement, the source of Government funding is instead Water Environment Investment Fund (WEIF). These schemes may include work to improve habitats, increase biodiversity, remove obstacles to fish and eel migration, and improve water quality. Ultimately the schemes should bring about an improvement to, or help to prevent, a deterioration in the status of a watercourse under the Water Framework Directive.

The investment plan in which all such schemes need to be entered is called the Water Environment Investment Fund Programme. This is the equivalent of the flood risk management six-year programme. The process for submitting projects is largely like that for flood risk management and schemes will need to demonstrate how they meet the programmes outcome measures to attract funding.

If schemes deliver significant benefits to flood risk and to the water environment, they can be entered into the six-year programme and the WEIF and apply to use both funding streams.

6.2.3 Other national funding opportunities

Funding opportunities arise periodically through government, these tend to be focused on specific elements of the water environment or flood risk in response to policy or strategy such as the Surface Water Management Action Plan. To make the most of these opportunities the county council and its partners need to be prepared to respond, this can be best achieved by increasing awareness of risk and sharing ambitions to improve our readiness and the prospect of securing new funding. Examples of previous opportunities include;

- Partnership Approach to Catchment Management (PACM) – A pilot with the objective to create a catchment approach in the management of systems, aligning objectives of each partner to develop a sustainable long-term vision for the catchment with supporting maintenance. One such pilot took place on Morton's Leam which runs along the southern boundary of Whittlesey Washes.
- Boosting Action on Surface Water – A fund to help deliver against actions on the government's surface water management action plan. In Cambridgeshire a successful bid helped to target limited local improvements to the surface water flood risk mapping.
- Natural Flood Management Pilots – In 2017 the government announced £15m towards pilot schemes using natural techniques to manage flood waters, one such pilot is being developed upstream of Alconbury.
- Property Flood Resilience Initiatives – In 2019 funding was available to three programmes of work to improve research and try to improve uptake in property level flood resilience. Cambridgeshire are a member of the Oxford-Cambridge Pathfinder led by Northamptonshire County Council.
- Resilience Innovation Programme – The government set aside £150m for 25 projects across the country to demonstrate innovation in building resilience against flooding. Locally this bid was unsuccessful but has been used to inform future workstreams such as the community flood action programme
- Property level resilience grants – these are grants available to households to make their homes more resilient to future flood events, unfortunately at the time of writing the funds are constrained to certain storm events and communities who can identify against certain criteria meaning it is not available to all. Some property level interventions have previously been installed in Cambridgeshire and the county council will continue to work with partners to understand how the council may support residents in protecting their homes.

6.3 Public contributions

6.3.1 Environment Agency funding

The majority of the Environment Agency's funding for flood and coastal risk management comes directly from the Department for the Environment, Food and Rural Affairs (Defra). This is the same for water environment works to meet the Water Framework Directive. For new capital schemes, the Environment Agency need to put their projects on the six year programme and IEP and submit project bids to Defra for GiA in the same way that LLFAs and IDBs can. Therefore, there is no additional source of Environment Agency funding that could be added to a bid, e.g. as a local contribution, in order to raise the partnership funding score.

6.3.2 Regional Flood and Coastal Committee

Section 4 explains the role of the Regional Flood and Coastal Committees. Part of this role is to oversee the six year programme of flood risk management schemes in the region. Within each region of the Regional Flood and Coastal Committees the gross expenditure of the Environment Agency includes money collected from Local Levy, General Drainage Charges and IDB Precepts - Regional Flood and Coastal Committees raise local levies under existing arrangements to fund local flood risk management

priorities. The members of Regional Flood and Coastal Committees have a role to approve the spending for managing flood and coastal erosion risk within their committee boundaries. This spending is set out in the revenue programme (promoted by the Environment Agency), and the capital programme (promoted by all Risk Management Authorities). The committees have a role to consent both programmes. The funding sources for these programmes include Central Government funding which is called Flood and Coastal Risk Management Grant in Aid; local levies which are raised from Lead Local Flood Authorities; precepts which are collected from Internal Drainage Boards; and general drainage charges which are raised from landowners. These are the key streams of funding for which the committees take an oversight.

The RFCC collects and allocates IDB Precepts, General Drainage Charge and Local Levy funding which can be used as match funding for capital schemes requiring FDGiA or to support delivery of the revenue maintenance programme. For very small schemes that are deemed locally significant, it is sometimes possible for these to be funded directly from these sources. Therefore any schemes hoping for regional contributions need to be submitted to the six year programme - Cambridgeshire falls within two Regional Flood and Coastal Committee catchments - 'Anglian Central', which is in the Environment Agency's Cambridgeshire and Bedfordshire area, and 'Anglian Northern' which is in the Lincolnshire and Northamptonshire area. The committees take a direct interest in how local levy funding is allocated, as this funding is raised through the Lead Local Flood Authorities represented on the committees by elected members. Decisions on how and where local levy funds are spent are made by the members of each committee for the area rather than on a county or unitary boundary basis. Therefore, funds may be allocated to schemes inside or outside of Cambridgeshire's County boundary. Examples of schemes within Cambridgeshire which have received Local Levy funding include Cherry Hinton surface water management scheme; Kings Hedges surface water management scheme; and the Godmanchester flood alleviation scheme.

Under the FWMA 2010 and the Environment Agency (Levies) (England and Wales) Regulations 2011, local levy is collected annually from all Lead Local Floods Authorities in the area of the RFCC. The levy is agreed annually in January and are often based on an average increase of between 0% and 5%. The total levy payment is shared between all contributing bodies in the committee area on the basis of the number of Council Tax Band D equivalents that each has.

6.3.3 General drainage charges

General Drainage Charges are charged directly to agricultural landowners who are not in an IDB area. The charge is deemed to be a contribution towards the management of water and flood risk for those landowners. It is calculated on a rate per hectare basis using the Council Tax Base of Band D equivalent properties.

6.3.4 IDB precepts

Precepts are paid by IDBs to the Environment Agency for works done by the Environment Agency on channels or defences that affect or are in an IDBs area. The works are normally maintenance based. The formula for calculating the precept is complex but is approximately based on the number of hectares of land protected.

6.3.5 Lead Local Flood Authority funding

Money spent by the county council on flood and water related actions comes from un-ringfenced Government flood risk grants, from allocating a share of the corporate budget to this area. LLFA expenditure goes on:

- relevant staff salaries and on-costs for delivery of statutory services;
- delivery of required flood risk reports or policies
- training and software; and
- flood awareness community events
- preparation for and contributions to flood and water management projects

The budget described excludes the drainage and flood risk sums collected through Council Tax each year which are then:

- paid as a Local Levy contribution to the Environment Agency for management by the RFCC; or
- transferred to the IDBs as a Special Levy.

The Lead Local Flood Authority do not hold the statutory responsibilities or budgets for delivering capital schemes to improve resilience to flooding or maintenance work. Despite this the county council will work towards their ambitions to improve flood resilience for local communities.

6.3.6 District and City Councils in Cambridgeshire

The city and district councils are responsible for managing several hundred kilometres of watercourses in the county. Some such as South Cambridgeshire District Council, Fenland District Council, Cambridge City Council and East Cambridgeshire District Council hold a modest budget to enable them to undertake essential maintenance work.

6.3.7 Community Infrastructure Levy (CIL)

There is now an increased emphasis on CIL as a funding mechanism for flood risk management schemes. It is absolutely necessary that the flood risk impacts of all new developments are assessed and planned for within the communities. There needs to be an integrated approach between various organisations within the local communities to ensure that new developments take existing risks into consideration. Local planning authorities will have to undertake infrastructure assessments, which should include a review of the flood risk assessments. The setting and approval of pricing schedules for Community Infrastructure Levy should also be decided by the appropriate local planning authorities.

The ultimate use of Community Infrastructure Levy will be determined by the appropriate approval body within each local authority. Due to a lack of development viability CIL had not been introduced in Fenland at the time of writing the LFRMS.

6.3.8 Town and Parish Councils

Under a new Government order town and parish councils have been given the General Power of Competence (under the Localism Act) and can now spend money on flood alleviation schemes in excess of limits that were set at £7.36/head in 2015/16 under the Section 137. This means that is parish councils meet the necessary eligibility requirements then they could have a part to play in partnership funding contributions for flood alleviation schemes in the future. Parish Councils are also able to apply for Public Works loans, at preferential rates, to enable them to contribute to more comprehensive flood risk management schemes.

6.3.9 Section 106 funding – developer contributions

Under Section 106 of the Town and Country Planning Act 1990 local planning authorities can enter into an agreement with a developer or landowner as part of the planning application process to gain funds to support the provision of services or infrastructure. This would include funding to reduce flood risk

which is caused by or increased by a new development. With the introduction of the CIL Regulations on the 6 April 2010, Section 106 Planning Obligations are predominantly directed towards on-site mitigation, including site-specific flood mitigation measures.

6.3.10 National Highways - Environmental Designated Funds

National Highways have allocated £936m across four funding streams running alongside their investment period between 2020-2025. This funding is open to both public and private bodies. One of the four funding streams is Environmental and Wellbeing and this includes nine themes against which applications can be made, those applications need to highlight a clear link with the Strategic Road Network operated by National Highways.

6.3.11 Public Works Loan

Government offers low-cost loans for housing infrastructure and public services through the Public Works Loan Board. A new framework is being developed and is expected to accompany a reduction in the interest rates associated with these loans.

6.4 Internal Drainage Board funding

As discussed in section 4.6.6 drainage boards are funded by rates paid by the landowners in their area. This can be broken down into Drainage Rates and Special Levies. Drainage rates are paid by agricultural landowners direct to the IDB based on the area of their property. Where land in the IDB's district is not in agricultural use, the owner instead pays their levy as part of their Council Tax. The relevant amount is then separated out from the Council Tax and paid to each IDB. This is known as a Special Levy.

6.5 Use of public sector co-operation agreements

The use of public sector co-operation agreements can enable organisations such as councils, the IDBs and the Environment Agency to work in partnership to deliver services in a very efficient and more cost effective way. The agreements can be used for example, to cover maintenance and emergency response work, where the following criteria is met by the agreement:

- it must be a genuine co-operation between the participating contracting authorities, aimed at jointly carrying out their public service tasks (different in character to a contract for services);
- involves co-operation only between public entities;
- is non-commercial in character (no profit is generated and only reimbursement of actual costs), ad
- is governed solely by considerations and requirements in the public interest and is of little interest to a private sector supplier.

The Environment Agency have historically had such agreements in place with some IDBs in Cambridgeshire, and it is hoped that in future the county council may also have agreements in place with some of its flood risk partners.

6.6 Private contributions (community and commercial)

Partnership funding guidance intends that those benefitting from the proposed flood management scheme contribute towards its costs. This could be local residents, a parish council, or a local business, for example. Securing contributions from private sources is not easy, especially as it is a relatively new system, and therefore Cambridgeshire County Council will endeavour to engage with all beneficiaries

as early as possible in the process of developing new schemes. If there is an expectation that others will contribute, then it is important that they are involved in designing the scheme.

6.6.1 Anglian Water

Contributions from water companies count as private contributions. To secure funding from Anglian Water, projects need to be part of the company's five yearly Asset Management Plan (AMP) which is agreed by Ofwat, the water company regulator. The current AMP period is called AMP 7 and covers 2020 to 2025. Prices are set by Ofwat at the beginning of each AMP period as a part of a Price Review, following submissions from the water company about what it will cost to deliver their business plan.

6.6.2 Cambridge Water

Cambridge Water operate a fund for biodiversity, habitat and community improvements called PEBBLE, which can provide contributions of up to £10,000 to projects.

Case study of River Mel Improvements

A partnership project involving local community members, River Mel conservation group and Wild Trout Trust, partly funded by Cambridge Water's PEBBLE fund.

The River Mel is a Chalk Stream in South Cambridgeshire

Measures installed on the River Mel Credit: Wild Trout Trust

The project started by providing daylight to the channel, by removing vegetation which would allow new margin plants to become established. Later the sinuosity was increased by using faggot bundles which were installed with volunteers. This change to the flow regime helps the river to naturally manage fine sediment and encourages fish to travel upstream.

7 Management and Action Plan

7.1 Introduction

This section provides the context to the different management activities and actions of Cambridgeshire's flood and water management organisations. The section is intended to be read alongside the proposed action plan in Appendix 6.

Since the introduction of the FWMA 2010 the organisations managing flood risk in Cambridgeshire have come a long way in terms of working together to understand and manage risk. The Cambridgeshire and Peterborough Flood and Water Management Partnership, as described in section 4, has been established and many actions have been delivered in partnership. There has been a significant increase in the consideration of surface runoff and groundwater flooding.

A major role of the LFRMS is to set out measures or actions for the future that are proposed to meet the objectives set out below. These measures can be found in the action plan. The tasks and projects are split in two;

Management Activities: these are statutory functions or those highlighted as National Level Measures, they are described to help the reader understand work that is delivered to achieve each of those activities on a day to day basis. These are included in this section divided up according to the objective they work towards.

Actions; these have been identified based on input from a wide range of stakeholders and an understanding of the need and are typically not classified as National Level Measures. These are listed in Appendix 6.

For the proposed measures to become deliverable actions, each item on the action plan will need to be worked up in more detail and tested for deliverability and viability through a business case process. The key dependencies and risks affecting the actions are discussed in the 7.1.3.

7.1.1 National Level Measures

The Environment Agency have created a set of measures (called National Level Measures) which look to capture core risk management functions and avoid repetition of measures within the Flood Risk Management Plans and Local Flood Risk Management Strategies of actions which may be considered business as usual. It should be noted that some of the National Level Measures that have been identified are not statutory or business as usual functions for a Lead Local Flood Authority, for the purposes of this strategy those measures are noted against the actions but if the county deem these to be actions beyond business as usual then those items are listed as Actions and not as Management Activities. A copy of these measures is included in Appendix 4, these measures are subject to change and those changes will be reflected in the Anglian Flood Risk Management Plan.

The meeting of LFRMS objectives allows the achievement of the objectives in the National Flood and Coastal Risk Erosion Management Strategy, illustrated in Table 12. Below is a reminder of the LFRMS objectives:

1. Understanding flood risk in Cambridgeshire
2. Managing the Likelihood of flooding
3. Helping Cambridgeshire's citizens to manage their own risk
4. Ensuring appropriate development in Cambridgeshire
5. Improving flood prediction, warning, and post flood recovery

7.1.2 Consistency of Cambridgeshire's objectives

The objectives of Cambridgeshire's LFRMS are set out in Table 12. The objectives were developed at a local level in partnership with Cambridgeshire's Risk Management Authorities as a part of the original LFRMS. These objectives are still appropriate and shape the content and intentions of the LFRMS.

The LFRMS is required to be consistent with the National Strategy. The alignment between the LFRMS objectives and the National Strategy objectives is therefore shown in the table. A list of the national objectives is listed in Appendix 3.

Table 12: Objectives and their consistency with the National Strategy

Cambridgeshire LFRMS Objectives	Consistent with national objectives
1. Understanding flood risk in Cambridgeshire	A, 1.1, 1.2, 3.1 and 3.4
2. Managing the Likelihood of flooding	B, 1.1, 1.2, 1.4, 1.5, 2.3, 2.4, 2.5 and 2.6
3. Helping Cambridgeshire's citizens to manage their own risk	1.1, 1.2, 1.5, 2.4, 2.5, 3.1, 3.2 and 3.3
4. Ensuring appropriate development in Cambridgeshire	1.1, 1.2, 2.1, 2.3, 2.2 and 2.8
5. Improving flood prediction, warning, and post flood recovery	1.1, 1.2, 3.2 and 3.3

The Actions and Management Activities are related back to the LFRMS objectives to show how these will be met. It should be noted that in addition to the guiding National Objectives there are also measures from the Anglian Flood Risk Management Plan and local priorities that inform the selection of Actions in the Strategy.

The Action Plan for this strategy will not look to duplicate the contents of the Regional Flood and Coastal Committee 6 year programme, details of which can sought directly from the committee.

7.1.3 Considerations in the delivery of Flood Risk Management Activities and Actions

All the schemes proposed in the strategy will require individual business cases to be developed by the lead partner. They will not be able to progress beyond the proposal stage unless approval is obtained. The benefits and impacts of the actions will be assessed and include climate change, environmental and equality impacts. The following list of dependencies is not exhaustive and risk affect the actions listed in the action plan.

- **Funding** - appropriate funding needs to be secured from a range of different sources to meet the requirements of that funding. This may result in some schemes being delayed until these requirements are met.
- **Resources** – the ability to deliver activities and actions can be limited if resources such as staff time of access to specific skills or expertise is constrained. Where possible funding opportunities that include financing of resources will be explored. Where resources are constrained by responding to flood events or the impacts of external factors such as those experienced through the Covid pandemic, it may result in non-statutory functions such as project delivery being delayed.
- **Climate change assessments and carbon foot printing** – the County Council and its partners have all set targets for activities to become Net Zero and projects will require differing ranges of

assessments, depending on the funding source, to assess both carbon impacts and consideration of future adaptation as a part of project development

- **Environmental impacts** - Schemes must look to incorporate habitat and biodiversity improvements where possible. Aligning of such ambitions is likely to be essential to the success of future funding bids as singular outcomes are finding it increasingly harder to achieve the necessary funding requirements. Guidance on the delivery of partnership projects and resources to help assess wider benefits can be found on the Catchment Based Approach website. The range of disciplines and expertise across the County Council and its partners increases the potential for multiple benefits of a scheme, aligning ambitions such as flood resilience improvements and doubling nature. Newly developed Habitat Opportunity Mapping can help to inform this process.
- **Historic environment** – The water environment has had a significant impact on Cambridgeshire throughout history and many of the important pieces of infrastructure that still serves to protect communities from flooding today are in fact designated sites or Scheduled Ancient Monuments. In addition to this the actions carried out by partners has the potential to impact on historic environment including assets which may be at risk from flooding and those hidden artifacts that rely on being waterlogged to be preserved. The potential to protect or preserve such assets will need to be considered as any project developments.
- **Equality Impact Assessments** – where activities may impact on the community it is important to consider who that impact will be felt by and if those impacts disadvantage or unfairly impact on a particular sector in the community those delivering the project will need to consider mitigation for that impact, removing it where possible. Projects may also offer opportunities to provide betterment for communities such as improving access to public open space and the potential health benefits this can provide. As such the health, level of vulnerability and any protected characteristics of those affected by the flooding will need to be considered.
- **Planning related consents and assessments -** Some projects may require planning permission, environmental impact assessments, scheduled monument or listed building consents or be affected by other constraints such as Tree Preservation Orders.
- **Land ownership and maintenance agreements** - If third party land is required for a scheme, the landowner's approval will need to be sought. It is also essential that an agreement is put in place about the long-term maintenance of any structure or feature being constructed.
- **Flood defence or ordinary watercourse land drainage consent** - Changes to watercourses require consent under the Land Drainage Act 1991. Consent requires the project to demonstrate that there will be no negative impacts on flood risk elsewhere, on the watercourse or on elements of the habitat and water quality that are governed by the Water Framework Directive.
- **Timescale and priority changes** - Priorities may need to change, for example, as a result of updated information about the flood risk in an area (i.e. from investigations), the specific risks associated with delivering the project, and /or the availability of resources to deliver the schemes.
- **Traffic regulation orders -** Works taking place near roads or on highway drainage may require a traffic regulation order to be put in place.

7.2 Objective 1 - Understanding flood risk in Cambridgeshire

Table 13: Management activities for objective 1

1.1M	Flood Risk Management Plan Update
1.2M	Preliminary Flood Risk Assessment Update
1.3M	Flood investigations and Section 19 reports
1.4M	Local Flood Risk Management Strategy update

1.1M Flood Risk Management Plan Update

Lead RMA	Environment Agency and Cambridgeshire County Council
Other partners	All risk management authorities
Timescale	2027

As described in section 2.3.2 the Environment Agency and Lead Local Flood Authorities have a duty to prepare and periodically update Regional Flood Risk Management Plans. All partners will work with the Environment Agency to update this Plan as a part of their respective duties. The update of this plan includes a number of measures specific to the Cambridgeshire area which will be reflected in the Action Plan.

1.2M Preliminary Flood Risk Assessment Update

Lead RMA	Cambridgeshire County Council
Other partners	Environment Agency
Timescale	2023

As described in section 2.3.8 the county council have a duty to prepare and periodically update the Cambridgeshire Preliminary Flood Risk Assessment (PFRA). This was last updated in 2017 and is informed by national surface water mapping which highlights nationally significant Flood Risk Areas (FRAs) relating to local flood risk. Local experience can form part of this process, but detailed modelling and understanding would be required to change any of the FRAs put forward by the national screening of surface water flood risk mapping. Any updates to Flood Risk Areas which the PFRA has to put forward will be reflected in the Anglian Flood Risk Management Plan, measures to investigate or manage those areas are then created in partnership with the Environment Agency and will act to inform actions in future iterations of this strategy.

1.3M Flood incident investigations and Section 19 reports

Lead RMA	Cambridgeshire County Council
Other partners	All partner Risk Management Authorities
Timescale	Continual

Section 19 of the FWMA 2010 sets out that LLFAs have a duty to investigate flooding incidents within their area, to the extent that the LLFA considers necessary or appropriate.

The aims of flood investigations are to provide an understanding of the possible causes of flooding and potential cost effective long-term solutions. The council will carry out investigations to provide a clear and thorough understanding of flooding situations and circumstances. However, the process of undergoing an investigation, does not guarantee that problems will be resolved and the LLFA are unable to enforce the investigations conclusions into action. Decisions about the next steps must be made in partnership by the parties involved.

Figure 16: Examples of flow restrictions found through Section 19 investigations (2021)

Where there is more significant or widespread flooding a Section 19 report may be produced for any investigations as required and will identify the authorities that have an involvement in a particular flood incident and clearly outline their responsibilities or actions as necessary. Section 19 reports will involve consultation with the relevant risk management authorities, landowners and private organisations involved, all of whom are expected to cooperate and provide comments.

The decision on whether to investigate a flood or not and in turn whether a Section 19 report is required, relies on there being sufficient confusion or ambiguity over the cause of flooding or who is responsible. The LLFA have the overriding decision on whether an investigation or Section 19 report is required to take place. Cambridgeshire County Council has defined the following eligibility criteria for Section 19 reports:

Thresholds

Where there is internal flooding* of one property on more than one occasion in the last five years;

Where there is internal flooding of five or more properties in close proximity** in a single flooding event;

Where flooding on public roads significantly disrupts the flow of traffic.

*Definition of internal flooding: only properties where internal flooding is above threshold level. This does not include the flooding of gardens and garages. **Definition of close proximity: where it is reasonable to assume that the affected properties were flooded from the same source or interaction of sources

After a flooding incident, the Investigating Officer will follow the eligibility criteria for flood investigations to determine whether an investigation should be carried out. Whilst the council understand that any flooding is significant for those experiencing it, there may be times where a number of incidents meet the eligibility criteria and officers are required to prioritise flood investigations.

Prioritisation will take into consideration factors such as the extent, depth and duration of flooding, history of flooding at that location, the number of properties affected and the impact on infrastructure including roads, utilities, or service providers such as emergency services.

Where a Section 19 has been completed, a report will be published in due course.

1.4M Local Flood Risk Management Strategy updates

Lead RMA	Cambridgeshire County Council
Other partners	All partner Risk Management Authorities
Timescale	2027

Cambridgeshire County Council will be required to monitor progress against this strategy and carry out periodic reviews. The Cambridgeshire and Peterborough Flood and Water Partnership will lead annual reviews of progress against the Action Plan, considering new developments and arising priorities.

A more thorough review of this Strategy will then take place in conjunction with the National Strategy and regional Flood Risk Management Plan.

7.3 Objective 2 - Managing the Likelihood of flooding

Table 14: Management activities for objective 2

2.1M	Asset Register
2.2M	Designation of Assets
2.3M	Maintenance of watercourses, structures, and other assets
2.4M	Cambridgeshire and Peterborough Flood and Water Partnership
2.5M	Ordinary Watercourse Consents
2.6M	Enforcement roles
2.7M	Asset Register
2.8M	Designation of Assets

Management Activities

2.1M Asset register

Lead RMA	Cambridgeshire County Council
Other partners	N/A
Timescale	Continual

Section 21 of the Flood and Water Management Act 2010 gives the county council a duty to maintain a register of structures or features which, in the opinion of the authority, are likely to have a significant effect on flood risk in its area such as a culvert in a housing estate. It also has a duty to develop a record of information about each of those structures or features, including information about ownership and the state of repair. Any local knowledge gained through other activities will be incorporated into this register.

The register of flood risk assets is published on the county council's website.

2.2M Designation of assets

Lead RMA	Cambridgeshire County Council
Other partners	Partner Risk Management Authorities
Timescale	Continual

Under Section 30 and Schedule 1 of the FWMA 2010 a designating authority (the Environment Agency, an LLFA or an IDB) can designate a *"structure or natural or man-made feature of the environment"* whose existence or location influences flood risk.

Designation is a form of legal protection reserved for key structures or features that are privately owned and maintained and that contribute to the management of flood and coastal erosion risks.

Designation aims to ensure that owners do not in advertently alter structures and features and potentially increase flood or erosion risk to themselves, their neighbours, and the wider community.

A designation is a legally binding notice served by the designating authority to the owner of the structure or features and the notice is also a local land charge.

Designating authorities are:

- Cambridgeshire County Council;
- Environment Agency;
- District and City councils; and
- Internal Drainage Boards.

They may 'designate' features or structures where the following four conditions are satisfied:

- The designating authority thinks that the existence or location of the structure or feature affects flood risk;
- The designating authority manages the risk affected;
- The structure or feature is not already designated by another authority;
- The owner of the structure or feature is not a designating authority.

If an asset becomes 'designated' its owner cannot alter, remove it, or replace it, without prior consent from the designating risk management authority.

In order to ensure that there is consistency in designating across all the designating authorities, the list of proposed designations will be circulated to Cambridgeshire Flood Risk Management Partnership members prior to each quarterly meeting, and any contested designations would be discussed and agreed in the meeting.

Internal Drainage Boards and second tier authorities also may use their bylaws to protect the integrity of flood risk assets where such byelaws are in place.

2.3M Maintenance of watercourses, structures, and other assets

Lead RMA	All partner Risk Management Authorities
Other partners	Cambridgeshire County Council LLFA
Timescale	Continual

The water management organisations in Cambridgeshire undertake a variety of maintenance activities to look after their infrastructure and ensure that it continues to function. Each organisation also undertakes upgrade schemes in specific locations depending on the areas of greatest need and the funding available.

Within Cambridgeshire's Drainage Board areas this includes extensive maintenance of pumped catchments, Bedford Group IDBs systems are gravity drained and include attenuation features, the watercourses are then ranked by risk with maintenance being carried out based on that risk and condition of those assets. In delivering their maintenance functions the IDBs will have consideration for

the impact this maintenance on the wider environment, this is demonstrated, for example, by Bedford Group IDBs Conservation Best Practice Manual and Middle Level Commissioners Biodiversity Action Plan.

In addition to existing conservation and biodiversity best practice the maintaining authorities are increasingly looking to review the carbon implications of their activities and any asset upgrades. Due to the rural location of pumping stations and their power requirements, it will be a considerable challenge to find an alternative energy source to the existing diesel.

Maintenance is critical to sustaining the ongoing level of resilience. A Joint report between FloodRE and the Association of British Insurers in May 2021 suggested that for every £1 spent on maintenance almost £7 is saved in capital spending. This report focuses primarily on main river assets but sets the context for the importance of looking after assets that are already in place as a part of keeping communities resilient to flooding.

Cambridgeshire County Council, as a local highways authority, carry out proactive maintenance of assets including approximately 100,000 road gullies and offlets, any blockages or faults can be reported online through the Cambridgeshire County Council website.

Cambridgeshire Lead Local Flood Authority do not operate or maintain any flood defence or drainage assets but are able to act as an intermediary where failure of an asset may cause an increase in flood risk. Please contact the Flood and Water team for advice in such an instance, flood.andwater@cambridgeshire.gov.uk.

2.4M Cambridgeshire and Peterborough Flood and Water Partnership

Lead RMA	Cambridgeshire County Council and Peterborough City Council
Other partners	All partner Risk Management Authorities
Timescale	Continual

The CPFlow Partnership will continue to act as a group to oversee flood risk management activities in Cambridgeshire, including sharing best practice, updates on new policies and legislation as well as provide the opportunity to discuss risk and flood events.

The Partnership will oversee the annual review of this strategy and consider any new priorities arising.

2.5M Ordinary watercourse consents

Lead RMA	Cambridgeshire County Council, Internal Drainage Boards
Other partners	N/A
Timescale	Continual

Under the Flood and Water Management Act 2010 the county council has a duty to be responsible for consenting of ordinary water courses outside of Internal Drainage Boards under the Land Drainage Ac1 1991. The duty transferred from the Environment Agency to the county council in April 2012. In IDB districts these duties are held by the IDB. This responsibility is supported by the presence of Local Byelaws in most IDB areas and in South Cambridgeshire.

The county council, IDBs and districts are responsible for ensuring that works to an ordinary watercourse such as a mill, dam, weir, or culvert that may affect the flow of water through the ordinary water course gains the proper consents prior to any work taking place. This enables the county council to ensure that any work will not cause a flood risk. Therefore, if riparian owners wish to culvert an ordinary watercourse or insert any obstruction, consent will be required.

An application for consent can be made through a form that is available on either the Cambridgeshire County Council, or Internal Drainage Board website (as appropriate). There will be a charge and conditions may be applied to any consent granted. The county council offers a changeable pre-application service for consenting.

An Internal Drainage Board or county council must liaise with the Environment Agency before carrying out any such work to ordinary watercourses and they must have regard to any guidance issued by the Environment Agency.

Similar activities on main rivers are regulated by the Environment Agency through the environmental permitting process.

Cambridgeshire County Council do not recommend the culverting of watercourse, as they increase flood risk, are a maintenance liability and reduce biodiversity. Please refer to the Cambridgeshire Culvert Policy on the County Council website for more information.

2.6M Enforcement

Lead RMA	Cambridgeshire County Council, Local Planning Authorities, Drainage Boards, Environment Agency
Other partners	N/A
Timescale	Continual

On occasion there are instances where investigations identify a lack of maintenance or inappropriate structures or barriers to flow within watercourses that contravene the Land Drainage Act or local byelaws. Several bodies within Cambridgeshire have enforcement powers to require those responsible to maintain the flow of water in watercourses and to modify/remove inappropriate structures within or around the watercourses (including main rivers, ordinary watercourses and awarded watercourses).

The County Council and its partners will always look to engage with those responsible in a constructive manner, only using enforcement powers where it is necessary to do so.

7.4 Objective 3 - Helping Cambridgeshire's citizens to manage their own risk

Table 15: Management activities for objective 3

3.1M	Dissemination of investigation results; open and transparent
3.2M	Promotion of Flood Warning services
3.3M	Offer support and advice on responsibility for flooding and potential solutions

Management Activities

3.1M Dissemination of investigation results; open and transparent

Lead RMA	Cambridgeshire County Council
Other partners	N/A
Timescale	Continual

The County Council will continue to publish Section 19 reports online and make findings available to others. The results of investigations will be shared with partners to review and communicate through members of the Cambridgeshire and Peterborough Flood and Water Partnership.

3.2M Promotion of Flood Warning Services

Lead RMA	Environment Agency
Other partners	All partner Risk Management Authorities
Timescale	Continual

All risk management partners will continue to ensure that messages related to flood warning service or annual awareness raising events are communicated as widely as possible. Where necessary improvements will be investigated to ensure that all communities or varying abilities can receive and understand communications and be aware of how to respond. The promotion of this will take place alongside any community engagement work that is planned.

3.3M Offer support and advice on responsibility for flooding and potential solutions

Lead RMA	All partner Risk Management Authorities
Other partners	N/A
Timescale	Continual

The principal areas of communication which are required are:

- Making people aware of flood risk in their area (outside of flood events) and ensuring they know where to look and who to contact for further information.
- Ensuring property owners are aware of their responsibility to protect themselves from identified flood risks.
- Warning people of imminent flooding.
- Highlighting the issues associated with increased hard standing and the impact this has on local risk.
- Encouraging people to prepare themselves mentally and physically for flooding and make their homes more resilient.
- Encouraging and supporting communities and parish councils to prepare their own emergency plans.
- Helping people to understand what organisations and processes are currently in place to manage flood risk in their area and who to contact.
- Making homeowners aware of the need for pipes to be connected to the right drainage systems and the flood risk and environmental issues that can occur if pipes are misconnected.
- Being clear about things that residents, businesses, developers can do to make sure that they do not increase flood risk such as not paving over gardens with impermeable materials or putting fats, oils, greases and other 'unflushables' such as baby wipes down the sink, drains or toilets.
- An awareness raising campaign about the responsibilities of riparian owners (those owning land, which is alongside, or which contains a watercourse) and the flood risks that are caused when appropriate maintenance is not carried out. Many residents and organisations in Cambridgeshire, including the county council, the Environment Agency, and Anglian Water, are riparian owners. If we can ensure that watercourses do not get forgotten about and receive an appropriate level of co-ordinated maintenance this will reducing the changes of flood risk being caused by blockages or a lack of care. In Cambridgeshire, tree clippings, rubble and fly tipping have all been dumped in watercourses from time to time. Each time this happens these will significantly increase the risk of flooding for those living alongside that watercourse or within the catchment it serves.
- The communication messages will be delivered through a range of mediums such as website updates, flood warden training sessions and larger scale public events.

The Community Flood Action Programme is anticipated to generate new materials for this purpose and new connections with communities to make residents more aware. After the CFAP is completed the ongoing communication with communities will continue as business as usual to build on awareness of risk and responsibilities.

Sandbags

Sandbags are a typical but controversial response to flood events. It is understood that the presence and actions of council and emergency services officers on site helping local people is important. However, there is no requirement on councils to provide protective equipment such as sandbags during an emergency and many do not. This is because while they can slow and divert floodwater if used correctly, they can rarely stop flood water entirely; they provide no protection if the flooding is due to rising groundwater; and after the floods the disposal of large numbers of contaminated sandbags can

be difficult, expensive and an environmental hazard. In addition to this the resources to distribute sandbags in an emergency is likely to be very limited.

Property Flood Resilience

Efforts can sometimes be better focused on investing in other, more reliable, and reusable defence or resilience measures. Other property level resilience measures are more likely to protect property, make it more resilient to flooding and aid a quicker recovery. However, the county council are aware that the central government funding for those measures is limited to certain storm events and communities at present, as such these measures remain beyond the affordable reach of many homes. Therefore, the county council and its partners will continue to explore other opportunities. It is worth highlighting that the availability of passive devices is increasing which means those who are unable to lift or move barriers during a flood event may not have to if the right measures are installed.

The Know Your Flood Risk Campaign (https://www.landmark.co.uk/products/know-your-flood-risk/) offers free guides for residents and businesses to understand their risk and also what might be done to minimise the risk or the damage. A directory of manufacturers and suppliers can be found in their Homeowners guide.

The National Flood Forum also provide information and advice on how to prepare for and recover from flooding. It can be found here: http://www.nationalfloodforum.org.uk/.

7.5 Objective 4 - Ensuring appropriate development in Cambridgeshire

Table 16: Management activities for objective 4

4.1M	Contribute to achieving sustainable development
4.2M	Support development of SFRAs, WCSs and LPs
4.3M	Planning enforcement

Management Activities

4.1M Contribute to achieving more sustainable development

Lead RMA	All partner Risk Management Authorities
Other partners	Local communities
Timescale	Continual

The roles of different organisations to respond to planning applications of new developments is described in Section 4, with the references to the national and local policies described in Section 2. These roles look to ensure that all new development in Cambridgeshire is low risk to itself and will have no detrimental effect on flood risk elsewhere.

This also involves considering what makes appropriate access and egress routes for sites that are at risk of flooding, what emergency plans should consist of and the consideration of alternative designs that may be appropriate.

Figure 17: Flood waters impede access to riverside homes

Cambridgeshire County Council requires sustainable drainage in all new developments. Strengthened planning guidance plus the county council's in-house expertise will be used to help developers design drainage strategies and systems that reduce flood risk while also delivering the other benefits of SuDS such as water quality, amenity, and biodiversity improvements.

Figure 18: Example of a Sustainable Drainage System

Cambridgeshire's flood risk management organisations will continue to work closely with developers to this aim. For detailed guidance on SuDS, planners and developers are referred to the Flood and Water Management SPD, the Cambridgeshire Surface Water Guidance for Planning and the Government's technical standards.

4.2M Support the development of Strategic Flood Risk Assessments, Water Cycle Studies or Local Plans

Lead RMA	All partner Risk Management Authorities
Other partners	Local communities
Timescale	Continual

To work with Local Planning Authorities (LPA) when they update their Strategic Flood Risk Assessments (SFRA) and other flood risk related evidence for Local Plans. SFRAs should be updated regularly to ensure continued relevance with regards to changing flood zones and new flood risk data. Where possible partners should consider the application of an Integrated Water Management approach.

Critical Drainage Areas are no longer widely used but continue to be recognised as areas that are in Flood Zone 1 but that have special drainage requirements. These can include:

- existing flood records
- capacity issues which, with extra flows, would create increased surface water flood risk.
- sensitive receiving environments
- the potential for development to significantly change drainage patterns

The formal definition in the Town and Country Planning (General Development Procedure Amendment 2, England) Order 2006 for these is: *"an area within Flood Zone 1 which has critical drainage problems, and which has been notified [to] the local planning authority by the Environment Agency".*

It is expected that work carried out by the county council to better understand flood risk, as a part of this strategy, will be used to inform future risk assessments. The County Council will work with partners to address knowledge gaps in local risk and encourage a catchment-based approach with consideration of the wider water environment.

4.3M Planning Enforcement

Lead RMA	Cambridgeshire County Council and Second Tier Authorities
Other partners	N/A
Timescale	Continual

The planning application process is supported by a system of enforcement, which ensures that development has planning permission and has been built in accordance with approved plans and that any conditions on an application are met by the developer according to agreed timescales.

The second tier authorities are responsible for the enforcement of their areas of decision making (housing, business, and other types of development). Cambridgeshire County Council is responsible for the enforcement of county matters (mineral extraction and mineral processing, waste disposal and recycling and county council services e.g. schools, libraries, roads, and transport infrastructure.).

Where enforcement action is considered necessary, both planning and flood and water management officers will need to work closely together to decide what enforcement actions may be required having had regard to the relevant flood risk enforcement policy. In some cases, it may be possible to achieve an agreed solution through the submission of a new planning application or amending the drainage designs to meet approval requirements.

7.6 Objective 5 - Improving flood prediction, warning, and post flood recovery

Table 17: Management activities for objective 5

4.1M	Carry out emergency response and recovery functions
4.2M	Responding to a flood emergency

Management Activities

5.1M Emergency planning

Lead RMA	All Local Flood Resilience Forum partners
Other partners	N/A
Timescale	Continual

Under the Civil Contingency Act 2004, Cambridgeshire County Council and many of the other flood management organisations are also emergency responders. There are two categories of emergency responder:

- Category 1 – the core responders. Includes the 'blue-light' services (Police, Fire and Rescue, Ambulance Service), the NHS, local authorities, and the Environment Agency.
- Category 2 – co-operating responders that act in support of the category 1 responders. Includes utility companies such as Anglian Water and UK Power Networks, and transport organisations such as Highway's England.

In planning for flooding the following different roles exist under this legislation:

- Warning and informing people – all
- Putting joint response plans in place - all
- Response actions – blue light services
- Recovery – Local authorities i.e. Cambridgeshire County Council

All local authorities will have an emergency flood plan. It is intended now to create one plan covering both Cambridgeshire and Peterborough local authority areas as this would then align with the area over which the Emergency Services operate, making response more efficient. The plan would be used by all emergency responders and is therefore to be called a Multi-Agency Flood Plan. The Environment Agency will also be involved in the development of both this plan and others from surrounding areas to ensure full coverage of all catchments.

As part of their role in managing flood risk from Main Rivers, the Environment Agency provide a Main River forecasting and flood warning service. It is their intention to continue this service, to work with local communities and other risk management authorities to promote awareness of flood risk and the warning service.

5.2M Responding to Flooding

Lead RMA	All Local Flood Resilience Forum partners
Other partners	N/A
Timescale	Continual

Response to flooding can be varied subject to the level and severity of the flooding. The relevant Cambridgeshire and Peterborough Local Resilience Forum Flood Plan sets out the process and procedures for responding to flood emergencies.

There are several activation routes for the response to the flooding. Each flood plan details these arrangements, which is normally first to convene a Flood Advisory Service Teleconference or a Severe Weather Teleconference. Partners will share data such as locations of vulnerable individuals during an emergency.

The plan defines the roles and the responsibilities of the agencies involved in the response to flooding emergency. They are summarised in Table 18:

Table 18: Resilience responsibilities of each organization

Risk Management Authority	Resilience Role	Resilience Responsibilities
Cambridgeshire County Council	Support emergency services during the response and coordinate the recovery	Prepare and maintain the Cambridgeshire and Peterborough Local Resilience Flood (Fluvial) Plan. Monitor warnings issued by the EA or the Met Office. Implement road closures. Resource Contact / Call Centres to take the lead in dealing with general enquiries from the public during and after major flooding. redirecting calls to other organisations when appropriate. Coordinate incident reports and response prior to formation of Tactical Coordinating Group. Manage the Recovery phase of the incident(s). Employ resources to mitigate the effects of the Emergency. Emergency Feeding and Housing of victims / evacuees. Provide welfare and counselling. Coordinate humanitarian assistance and the voluntary sector. 'Clear Up' Operations on site; and Restoration of normality.
Cambridgeshire Constabulary	Lead a coordinated response to protect life and property	Lead the multi-agency command and control, including coordination of Major Incident and Inter-Operability communications with other Agencies. Coordinate road closure and traffic management. Coordinate incident reports and response on formation of the Tactical Coordination Group; and Lead media liaison in line with the Cambridgeshire and Peterborough Local Resilience Flood Plan Communications Plan.
Cambridgeshire Fire and Rescue Service	The coordination of all rescue measures and the provision of specialist equipment.	Coordination of the rescue of trapped people/casualties. Managing the safety of personnel in the inner cordon; and Information gathering and risk assessment.
East of England Ambulance NHS trust	Treatment of all casualties at the scene and where necessary transporting casualties to hospital	Provide the focal point for medical resources. Treatment and care of injured at the scene. Triage of casualties at the scene; and Liaison with nominated hospitals.
Environment Agency	Provide information, specialist knowledge and support to local level	Provide warnings. Maintain defences. Support local emergency planners. Provide public information about flooding; and Chair Flood Advisory Service Teleconference.

	emergency planning.	

7.7 Monitoring and Review

The CPFloW Partnership meetings will provide a method for monitoring the progress on activities listed with the LFRMS's action plan. Actions will be rated as:

- Completed
- Progress
- Some obstacles
- At risk
- Not started

The Partnership will then be able to work together to try and progress past any arising barriers to ensure that schemes can be delivered. Part of the process will also be about ensuring that the actions do deliver the LFRMS objectives.

The LFRMS should be updated every 5-6 years. The CPFloW Partnership may wish this to be done to best co-ordinate with updates to the Environment Agency's Flood Risk Management Plans. Some of the background sections may change very little but updates may be needed to the risk, climate change and management sections.

It is intended that the Action Plan will be reviewed every year at a CPFloW Partnership meeting alongside monitoring progress on the existing actions. In addition progress against the council's activities and actions will be reported to the full Council each year.

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List of Associated Documents and Appendices

Associated documents

1. Public Summary – Non technical summary of LFRMS
2. Action Plan – Plan showing the identified actions proposed for future delivery
3. Strategic Environmental Assessment – Assessment of the environmental impacts of the proposed actions

Appendices

1. A complete list of all internal drainage boards partly or wholly in Cambridgeshire

2. The Fens

3. National Objectives

4. National Level Measuresa

5. Flood Risk Management Plan Measures

6. LFRMS Action Plan

7. Flood Warning Service

8. Glossary

Appendix 1 - A complete list of all internal drainage boards partly or wholly in Cambridgeshire

Table 19: IDB boards by District

Internal Drainage Boards	Applicable to the Relevant District Council Area
North Level Drainage Board	Fenland District Council
Ramsey IDB	Huntingdonshire District Council
Whittlesey and district IDB Feldale IDB Holmewood and District IDB Woodwalton Drainage Commissioners Whittlesey IDB	Fenland District Council Huntingdonshire District Council
Bedford Group of IDBs (In Cambridgeshire) Alconbury and Ellington IDB Bedfordshire and River Ivel IDB	Huntingdonshire District Council
IDB that have agreed to be represented by Ely Group: Burnt Fen 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 Middle Level Commissioners: Benwick IDB Bluntisham IDB Conington and Holme IDB Curf and Wimblington Combined IDB Euximoor IDB Haddenham Level Drainage Commissioners Hundred Foot Washes IDB Hundred of Wisbech IDB Manea and Welney District Drainage Commissioners March West and White Fen IDB March East IDB March Fifth District Drainage Commissioners March Sixth District Drainage Commissioners March Third District Drainage Commissioners Middle Level Commissioners Note Needham and Laddus IDB Nightlayers IDB Over and Willingham IDB 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	East Cambridgeshire District Council Fenland District Council Huntingdonshire District Council South Cambridgeshire District Council

Appendix 2 – The Fens

As a part of the previous Local Flood Risk Management Strategy a section on 'The Fens' was developed in partnership with Peterborough City Council, Lincolnshire County Council, Suffolk County Council and Norfolk County Council, and Internal Drainage Boards in the Fens, this has been retained to provide background for this strategy but edited to reflect more recent updates in this area.

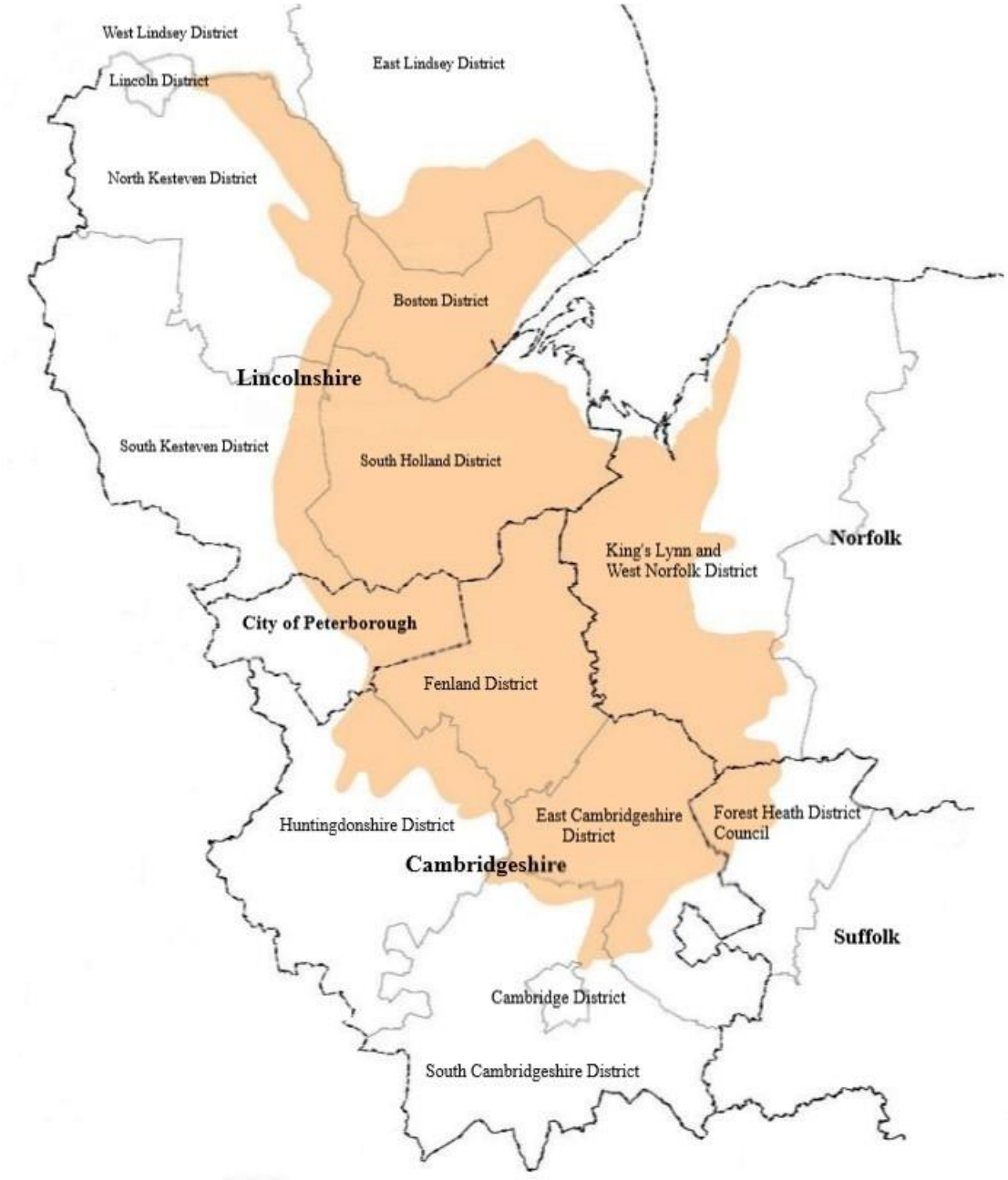


Figure 19: Map showing Fen area

Since that time there have been developments with the Fens becoming incorporated into the National Flood and Coastal Erosion Risk Management Strategy and catchment studies led by Anglian

Water and the Environment Agency. At present those studies are in the early stages and not yet at consistent stages of development across the Fens as a whole.

Local strategies will integrate the needs and opportunities of the local Fens and fenland communities with those of the rest of the local Lead Local Flood Authorities area and promote a consistent approach across the Fens as a whole. This consistency is crucial, for example, to Internal Drainage Boards, who often span more than one local authority and whose practices will be similar throughout their area. As such Cambridgeshire will continue to work closely with other Lead Local Flood Authorities and other risk management authorities to achieve this aim.

Background to the Fens

It is important to consider the history of the Fens when considering the areas future management. Systematic water management first commenced in the mediaeval period, but localised attempts had been known since Roman times. Large scale drainage of the Fens first began in the 17th century, when the 'Fens' as we now know it began to take shape. The creation of the Ouse Washes was one of the initial phases of draining the fens and is still a critical part of the flood risk management system. All these attempts met with setbacks, and it was not until the introduction of mechanised pumps in the industrial age that successful year-round water management was achieved across the area.

The Fens form around the Wash which is internationally designated for animal and plant biodiversity. There are also numerous local sites, ranging from Sites of Special Scientific Interest to Local Nature Reserves which need to be protected; for example, the Nene and Ouse Washes are internationally protected wetlands. The Fens also represent a unique archaeological and historic environment, where human activity has shaped the land, with evidence of the earliest drainage schemes going back to Roman times and containing many designated and undesignated heritage assets. Like any watercourses, Fenland Rivers and roddons (former channels) can contain significant archaeological materials and deposits.

Specific to the Fens, the peat deposits in the fen basin overlie internationally important prehistoric remains, such as the Bronze Age sites and boats from Must Farm, Whittlesey. The band of the silt fen to the north provides a contrast of mediaeval villages and towns. More information on this or any other aspect of Cambridgeshire's historic environment can be obtained from the Historic Environment Record at the county council.

Cambridgeshire's waterways have helped define its past. They have acted as routes for communication, conquest, and trade, as sources of food and other requirements, provided power for industry, defined territories, and acted as refuges and protection for the population. As such, they contain many remains of this past, from fish weirs to abandoned cargos, bridges to treasure hoards, all of which needs to be remembered when before suggesting changes to them.

Today this artificially drained landscape is home to approximately half a million people. The Fens cover an area of almost 1,500 square miles, divided between eleven district and five county councils. The Fens covers a large area of eastern England, stretching from the Wash to Lincoln, Peterborough, and Cambridge. The Fens encompasses five different rivers – the Witham, Welland, Glen, Nene and Ouse, carry water from surrounding uplands through the Fens and into the Wash.

Well maintained coastal and fluvial flood defences are essential to providing the conditions in which Internal Drainage Boards can maintain extensive artificial drainage of the area.

Across the Fens, Internal Drainage Boards maintain 3,800 miles of watercourse, 200 miles of watercourse embankment and 286 pumping stations. Coupled with over 60 miles of coastal sea walls and 96 miles of river embankments, the Fens in the most part has a high level of protection and is classified as a defended flood plain.

The Internal Drainage Boards within the Fens have been established over many years because of the special water level and drainage management needs existing within this area, and the particular need

for lowland and inland local flood risk management activities. These local works are funded in the main from funds levied locally by Internal Drainage Boards.

Well maintained coastal and fluvial flood defences, supporting an extensive drainage infrastructure are essential in promoting sustainable growth in the Fens. Housing, jobs, essential infrastructure (such as roads and railway lines) and services (such as utilities) that meet the needs of the market towns and the rural communities can only happen if drainage and flood risk is well managed. Growth in the Fens will need to be embraced in a sustainable way; balancing development needs with the need to promote and protect open spaces, natural habitats, landscapes, the built environment and the unique qualities of the Fens. It is therefore essential that Risk Management Authorities, utilities and local communities continue to work closely with local planning authorities, so that consideration of sustainable drainage in particular and flood and water management in general are an integral part of the forward planning and development control process.

Farming contributes significantly to the success of the local economy, supporting a large number of businesses involved in the production of food and rural tourism.

The important role that farming plays in the Fens is emphasised by the steady decline in self-sufficiency in the UK, and the Government's renewal of the food security agenda. The Fens account for 50% of all Grade 1 agricultural land in England, producing 37% of all vegetables and 24% of all potatoes grown in the country, as well as enough wheat to make 250 million loaves of bread every year.

The area also supports significant livestock, dairying and outdoor pig production. This in turn supports a large well-established food processing industry.

It is critical, therefore, that appropriate flood risk and drainage management measures are taken to protect this nationally important food production area. In addition to food production, the Fens is popular for tourism, attracting numerous visitors each year. The Fens provide a unique and rich habitat for wildlife and include the Ouse and Nene Washes which, while providing flood storage capacity, are also important wildlife sanctuaries and designated as such.

There are major transport networks, road and rail, as well as homes, critical infrastructure, water, gas and electricity that would be affected if fenland areas were to flood.

The impacts of climate change in the Fens

Climate change, poses a serious threat to the Fens and a continued programme of investment in flood defences and drainage systems will be needed for existing standards of protection, including provision for the potential impact of climate change, to be maintained in the medium and long term.

Beyond the short to medium term, the likely impacts of climate change on flood risk management over the next 100 years poses future challenges we need to address to enable everyone who may be affected to start planning for the future. Both these and the associated funding challenges are being discussed as a part of the future fens work.

Currently the standards of protection provided by the defences is generally high, between 0.8% (1 in 120 years) to 0.2% (1 in 500 years). However, section 5 of this document sets out a number of risks which are likely to impact on the Fens more in future; rising sea levels that reduce the amount of time the main rivers can discharge through gravity, increased peak river flows from climate change and continued shrinkage of peat among others. These factors, which are likely to require an increase in flood storage in the area to maintain existing standards, also work in combination to hinder the drainage of local surface water networks which can become flood locked or increase the risk of inundation in the IDB catchments.

Further information on the long-term risk and infrastructure serving fens is available online as a part of the Future Fens Flood Risk Management project. Challenges highlighted as a part of that process include;

- Future funding needs not aligning to existing funding mechanisms
- Scale of funding needs
- Pressures associated with climate change impacts, including sea level rises and changes to rainfall patterns which may increase risk of both flood and drought
- Ageing infrastructure

Appendix 3 – National Objectives

Table 20: Objectives from National Strategy

Reference	Objective
Future funding and investment	
Strategic Objective A	Between now and 2025 the Environment Agency will have better evidence to inform future risk and investment needs for managing all sources of flood and coastal change
Strategic Objective B	Between now and 2030 risk management authorities will make greater use of funding and financing from non-public sector sources to contribute to the investment needs of flood and coastal resilience
Climate resilient places	
1.1	Between now and 2050 the nation will bolster its resilience to flooding and coastal change
1.2	Between now and 2050 risk management authorities will help places plan and adapt to flooding and coastal change for a range of climate scenarios
1.3	Between now and 2050 risk management authorities will help coastal communities transition and adapt to a changing climate.
1.4	Between now and 2030 risk management authorities will use nature based solutions and improve the environment through their investments in flood and coastal resilience.
1.5	By 2030 risk management authorities will work with farmers and landowners to help them adapt their businesses and practices to be resilient to flooding and coastal change
Today's growth and infrastructure resilient in tomorrow's climate	
1	Between now and 2030 all new development will contribute to making places resilient to flooding and coastal change.
2.2	Between now and 2030 risk management authorities will encourage environmental net gain in all new development to support resilience to flooding and coastal change.
2.3	Between now and 2030 risk management authorities will support investments to manage flooding and coastal change that enables growth in a sustainable and climate resilient way.
2.4	Between now and 2040 risk management authorities will work with the finance sector and other partners to mainstream property flood resilience measures and to 'build back better' after flooding
2.5	Between now and 2030 owners of flood and coastal defences will understand and take responsibility for achieving flood and coastal resilience
2.6	Between now and 2030, owners and operators of large, raised reservoirs will ensure they are safe in a changing climate
2.7	By 2030 water companies will plan for their infrastructure to be resilient to flooding and coastal change.

2.8	Between now and 2050 risk management authorities will work with national infrastructure providers to contribute to more flood and coastal resilient places
A nation ready to respond and adapt to flooding and coastal change	
3.1	Between now and 2050, people will understand the potential impact of flooding and coastal change on their lives and livelihoods and will take action to reduce that impact.
3.2	Between now and 2030 people will receive the information and support they need to transform how the nation better prepares and responds to flooding and coastal change
3.3	Between now and 2030 people and businesses will receive the support they need from all those involved in recovery after flooding so they can get back to normal quicker after flooding
3.4	Between now and 2030 the Environment Agency will have an oversight of skills and capabilities across the flooding and coastal change sector to identify gaps and future needs
3.5	Between now and 2030 the nation will be recognised as world leader in researching and managing flooding and coastal change

Appendix 4 – Draft National Level Measures

Prevention

Between 2021 and 2027, lead local flood authorities will maintain, keep under review, apply and monitor a local flood risk management strategy in their area to prioritise local flood management approaches.

Between 2021 and 2027, lead local flood authorities will implement relevant government guidance on taking climate change into account where necessary for flood risk decision making in their area to mitigate the effects of climate change.

Between 2021 and 2027, lead local flood authorities may start implementing steps to work towards net zero carbon in their area to mitigate the effects of climate change.

Between 2021 and 2027, lead local flood authorities will continue to work in partnership with other risk management authorities in their area to reduce the risk of flooding from all sources.

Between 2021 and 2027, lead local flood authorities may provide information to inform spatial and infrastructure planning, development and regeneration in their area to manage the current and future risk of local sources of flooding.

Between 2021 and 2027, lead local flood authorities will act as a consultee for major planning applications in their area to promote sustainable surface water drainage arrangements in new developments.

Between 2021 and 2027, lead local flood authorities may work with other risk management authorities to provide information where necessary to update flood maps in their area to better understand the risk of flooding.

Protection

Between 2021 and 2027, lead local flood authorities may work with other flood asset owners and riparian landowners to raise awareness of, and where necessary enforce, maintenance responsibilities in their area to reduce the risk of flooding.

Between 2021 and 2027, lead local flood authorities may work with other risk management authorities to identify a programme of nature based approaches in their area to reduce the risk of flooding from all sources.

Between 2021 and 2027, lead local flood authorities may designate third party flood risk assets and maintain a register of designated flood risk assets in their area to manage the risk of flooding from local sources.

Between 2021 and 2027, lead local flood authorities will take a risk based approach to develop and maintain a register of flood risk assets/features in their area to manage the likelihood of flooding from local sources.

Between 2021 and 2027, lead local flood authorities will regulate the condition of, and third party activity on, ordinary watercourses and review new works on ordinary watercourses in their area to reduce the likelihood of flooding.

Between 2021 and 2027, lead local flood authorities may work with other risk management authorities to support the delivery of flood projects in their area to reduce the risk of flooding from all sources.

Between 2021 and 2027, lead local flood authorities may plan flood risk management projects to achieve wider environmental benefits where appropriate in their area to work towards biodiversity net gain.

Preparedness

Between 2021 and 2027, lead local flood authorities may support communities to increase their resilience to flooding in their area to reduce the risk of flooding.

Between 2021 and 2027, lead local flood authorities may support emergency response partners and communities to plan, prepare and exercise for future flood scenarios in their area to reduce the consequences of flooding from all sources.

Recovery and review

Between 2021 and 2027, lead local flood authorities will investigate local flood events where appropriate and necessary in their area to identify actions that may be taken to reduce future flood risk.

Between 2021 and 2027, lead local flood authorities may work with others to support communities through the recovery phase of a significant flood event in their area to support them to return to their homes and businesses.

Appendix 5 – Flood Risk Management Plan Measures

Between 2021 and 2027, Cambridgeshire County Council:

Will assess future flood risk in Huntingdon to better understand the risk of climate change to the community and critical infrastructure in the Huntingdon, Anglian Flood Risk Area.

Will (alongside critical infrastructure owners), prioritise the need for flood risk management interventions in Huntingdon to inform the need for a future programme of works in the Huntingdon, Anglian Flood Risk Area.

Will (alongside Cambridge City Council) continue the existing programme of works in Cambridge to increase flood resilience in the Cambridge, Anglian Flood Risk Area.

Will (alongside Cambridge City Council) investigate known wet spots across the city in Cambridge to prioritise the need for flood risk management interventions and inform the future programme in the Cambridge, Anglian Flood Risk Area.

Will (alongside partner Risk Management Authorities) work together to explore opportunities to overcome existing barriers in March to identify new delivery mechanisms for flood risk schemes in the March, Anglian Flood Risk Area.

Will (alongside partner Risk Management Authorities) support riparian asset owners and the community in March to understand the impact of flooding on their lives and livelihoods and the importance of working together to manage risk in the March, Anglian Flood Risk Area.

Will (alongside partner Risk Management Authorities) work in partnership in March to create a strategic approach to managing water in the high ground in the March, Anglian Flood Risk Area.

Between 2021 and 2027, Cambridgeshire County Council:

Will continue as a valued partner in the Future Fens Flood Risk Management Project in Cambridgeshire to support engagement with communities around the vision for the Fens and what infrastructure is needed in the Fens and Lowlands Strategic Area.

Will work with partners to better understand and trial measures required to increase the resilience of chalk streams in Cambridgeshire to inform future work and local policies in the Cam and Ely Ouse Management Catchment.

Will (alongside partner Risk Management Authorities) investigate flooding events and identified new opportunities for Flood Risk Management Schemes in Cambridgeshire to plan and deliver improved resilience to flood risk in the Cam and Ely Ouse Management Catchment.

Will have greater strategic integration with the Local Highways Authority in Cambridgeshire to encourage better engagement with impacts on local flood risk and uptake of appropriate solutions in the Cam and Ely Ouse Management Catchment

Appendix 6 – LFRMS Actions

The Action Plan is held as a separate working document and reviewed on an annual basis.

Appendix 7 – Flood Warning Service

The Environment Agency provides a flood warning service throughout the country in areas at risk of flooding from rivers or sea. They monitor rainfall, river levels and sea conditions and forecast the possibility of flooding. If flooding is forecast, flood warnings are issued via a number of different channels including Floodline Warning Direct, Environment Agency website, Facebook, FloodAlerts' app, local media etc. There are a number of the flood warning areas across Cambridgeshire where many properties and critical infrastructure (e.g. schools, care homes, and fire stations) are at risk of flooding. For example, a combined number of 6,519 properties are affected by the River Great Ouse including 11 schools, 4 fire stations, 2 police stations and 1 ambulance station.

The Environment Agency uses three different warning codes – Flood Alert, Flood Warning and Severe Flood Warning. Each warning code is communicated to the public and requires a different response from residents and the emergency responders. The relevant information about the warning codes is listed below.

<table>
<tr><th colspan="2">Flood Alert</th></tr>
<tr><td rowspan="2"> 
</td><td>Key message: Flooding is possible. Be prepared.</td></tr>
<tr><td>Timing: 2 hours to 2 days in advance of flooding.</td></tr>
<tr><td colspan="2">Trigger: Forecasts that indicate that flooding from rivers may be possible and forecast intense rainfall for rivers that respond very rapidly, and /or forecasts of high tides, surges, or strong winds.</td></tr>
<tr><td colspan="2">Resident's actions:

Be prepared for flooding and prepare a flood kit of essential items;

Avoid walking, cycling or driving through flood water;

Farmers should consider moving livestock and equipment away from areas likely to flood

Call Floodline on 0845 988 1188 for up-to-date flooding information;

Monitor local water levels on the Environment Agency website www.environmentagency.gov.uk</td></tr>
<tr><td colspan="2">How communicated: Flood warning direct, Floodline and the internet.</td></tr>
</table>

Flood Warning	
	Key message: Flooding is expected, and immediate action required. Timing: Half an hour to 1 day in advance of flooding.
Trigger: High tides, surges coupled with strong winds, and / or heavy rainfall forecast to cause flash flooding of rivers, and / or forecasting flooding from rivers.	
Resident's actions: Protect yourself, your family and help others move family, pets and valuables to a safe place. Turn off gas, electricity and water supplies if safe to do so and put flood protection equipment in place. If you are caught in a flash flood, get to higher ground. Call Floodline on 0845 988 1188 for up to date information.	
How communicated: Flood warning direct, Floodline, the internet and media	

Severe Flood Warning	
	Key message: Severe flooding and danger to life. Timing: When flooding poses a significant threat to life and different actions are required.
Triggers: Actual flooding where the conditions pose a significant risk to life and / or widespread disruption to communities, and /or on-site observations from flooded locations, and / or a breach in defences or failure of a barrier that is likely to cause significant risk to life, and /or discussions with partners	
Resident's actions: Stay in a safe place with a means of escape; Be ready should you need to evacuate from your home; Co-operate with the emergency services; Call 999 if you are in immediate danger; and	

Call Floodline on 0845 988 1188 for up-to-date flooding information.
How communicated: Flood warning direct, Floodline, the internet and media

Warning Removed
Key message: No further flooding is currently expected for your area.
Timing: Issued when a flood warning or severe flood warning is no longer in force.
Trigger: Risk of flooding has passed, and / or river or sea levels have dropped back below severe flood warning or flood warning levels, and / or no further flooding is expected, and / or professional judgment and discussions with partners agree that a severe flood warning status is no longer needed.
Residents' actions: Be careful. Flood water may still be around for several days and could be contaminated. If you've been flooded, bring your insurance company as soon as possible.
How communicated: Flood warning direct, Floodline, and the internet

The Environment Agency also provides the flood warning services for the emergency responders. A web-based service will provide the responders with a targeted and efficient service which will enable them to easily monitor their assets that are at risk of flooding. The responders can manage the information in the system and will be alerted by email when their assets are at risk from flooding.

There are currently no warning systems in place for flooding from ground water, surface water or ordinary watercourse. Risk Management Authorities in the area will monitor progress on the development and practicalities of such warning systems.

Appendix 8 – Glossary

Adaptation
The process of change to respond to the pressures of flood risk and climate change

Annual Exceedance Probability (AEP)
Probability that a flood event may occur in any year, expressed as, for example, 1% or 1 in 100 chance

Aquifer
Layer of permeable rock, sand, or gravel which is capable of storing groundwater

Attenuation
The process of holding back water and slowing down the rate of flow to reduce peak flow downstream

Awarded Watercourse
This term is used to describe the range of ordinary watercourses managed some of the lower tier authorities and IDBs under the Enclosures Act

Biodiversity
The variety of species of life in a given habitat including plants and animals

Breach
Flooding caused by the constructional failure of a flood defence such as a bank, wall, or gate.

Catchment
An area of land where rainwater gathers and flows to the same place e.g., to supply a river

Combined Sewer System
Sewer system that carries both foul water and surface water to a place of treatment, most commonly found in historic settlements as new developments are built with separate foul and surface water sewer networks.

Conveyance
Movement of water from one location to another

Critical Infrastructure
A term used to describe the assets that are essential for the functioning of a society and, economy.

Cross connection
Sometimes known as a misconnection, this describes the connection of surface water sewers with foul sewers that could increase the likelihood of pollution of surface water, flooding or activation of combined sewer overflows

Culvert
A structure used to pipe or fill in part of a watercourse.

Discharge rate
The rate of flow of water – how fast water moves.

Ditch
A long narrow manmade excavation made to hold or convey water. Ditches are often located at the side of a road or field.

Downpipes or drainpipes
A pipe to carry rainwater from a roof to a soakaway, watercourse, sewer or to runoff over the ground

Dykes
Synonym for a ditch or watercourse

Exceedance flows
Excess water that flows and pools on the surface once the conveyance capacity of a drainage system is exceeded

Exceedance routes
The route that exceedance flows take across land

Flash flood
A significant flood occurring very suddenly because of localised intense rainfall

Flood Defence
A structure that inhibits the natural flow of water to reduce the risk of flooding. A defence may be 'formal' (a structure built and maintained specifically for flood defence purposes), such as a river wall or flood gate or 'informal' (a structure that provides a flood defence function but has not been built and/or maintained specifically for this purpose), such as a garden wall or roadside kerb.

Flood Resilience
Actions taken to reduce the damages to properties from internal flooding, and speed up recovery, helping residents to get back into their homes more quickly after flooding.

Flood Resistance
Actions taken to reduce the risk of flood water entering a property by sealing the points of ingress. Flood Resistance measures may include property flood resilience products such as flood barriers, flood gates, flood doors, specialist air bricks and non-return valves.

Floodplain
Area of land that over which water is stored in time of flood.

Flood Zones
Flood Zones are defined in Government's National Planning Policy Framework. They indicate land at risk by referring to the probability of flooding from river and the sea, if river and coastal defences were not present.

Fluvial
The processes associated with rivers and the deposits and landforms created by them

Fluvial Flooding
This type of flood occurs when the water level in a river rises and overtops the banks or river walls onto floodplains, shores and neighbouring land. Fluvial flooding is often a result of excessive rainfall or snowmelt.

Foul Sewer
An underground pipe or tunnel system that transports sewage and wastewater from houses (e.g., baths, showers, toilets, and sinks)and commercial buildings to water recycling centres for treatment before discharge into watercourses

Groundwater
Water located beneath the ground surface, either in soil pore spaces or fractures in rocks such as chalk and limestone

Groundwater Flooding
This type of flood occurs when water rises from the underlying soil, rocks or throughflow of water from springs and nearby watercourses; or when the ground is saturated, and rainfall cannot drain away. Groundwater flooding tends to occur after long periods of sustained heavy rainfall. Groundwater flooding usually lasts for a very long time.

Gully

A pit at the edge of a road covered by a metal grate, sometimes connected to an underground pipe or "lateral". Gullies serve to drain water from roads to a receiving soakaway, watercourse, or sewer. On private roads they are responsibility of the adjacent landowner. On adopted highways these are maintained by the Local Highway Authority. On A-roads, dual carriage ways and motorways they may be designed to take heavier loads and are maintained by National Highways.

Infiltration
The movement of surface water through permeable ground

Impermeable Area
Non-porous surfaces such as tarmac, some types of paving, and heavily compacted ground that do not allow rainwater to penetrate through and infiltrate into the ground, causing surface water to run off into receiving drainage systems.

Internal Flooding
Flooding which enters a building

Lead Local Flood Authority
A term given to a unitary or county council under the Flood and Water Management Act 2010

Main River
Watercourse shown on the statutory Main River maps held by the Environment Agency and the DEFRA and can include any structure or appliance for controlling or regulating the flow of water into, in or out of the channel. The Environment Agency has permissive power to carry out maintenance and improvement works on these rivers.

Modelling
Flood Risk modelling is computer modelling using mapping data such as topographic surveys, impermeable area surveys and surveys of drainage systems, sewers, rivers, and watercourses to predict which properties will flood for a variety of scenarios. Scenarios may include different degrees of heavy rainfall – e.g., a 1%, 3%, or 5% chance of occurring each year Flood risk modelling is used to help inform decisions about flood alleviation schemes and projects, and decisions about drainage design for new developments.

National Flood Forum
A British charity who support individuals and communities who have been affected by flooding and consults on legislation related to flooding

National Planning Policy Framework (NPPF)
Framework developed by the Ministry of Housing, Communities and Local Government (MHCLG). It is designed to streamline planning policy by substantially reducing the amount of planning guidance and bringing it all together into one set of guidelines.

Natural Flood Management
A Nature Based Solution, to manage flood risk using natural processes and methods for the conveyance and storage of floodwater

Offlets
A pipe or channel that discharges water or other fluids. Often used as a synonym for kerb gullies.

Ordinary Watercourse
Any watercourse which is not designated as a Main River

Outfall
The point where a pipe discharges to a watercourse or body of water.

Peak flow
The maximum flow rate of water during a storm, usually measured in cubic metres per second m^3/s, which is colloquially known as cumecs.

Permeable surface
A surface through which water can infiltrate or soak into the ground beneath, such as permeable paving

Permissive Powers
Legal term meaning an organisation or body has authority to take an action, (for example to undertake maintenance), but is distinctly different from a duty to undertake such actions, as the organisation is not always funded to undertake the action in question and therefore cannot have a duty.

Pluvial
Direct surface water runoff as a result of rainfall and the processes associated with it

Precipitation
Describes the processes involved in rain, sleet, hail, snow, and other forms of water precipitating (turning from gas to liquid or solid) and thereby gaining weight and falling from the sky

Residual Risk
The risk which remains after all risk resistance, resilience, reduction, and mitigation measures have been implemented.

Return Period
The probability of a flood of a given magnitude occurring within any one year e.g., a 1 in 20 return period has a 5% chance of occurring each year.

Risk Management Authority (RMA)
Risk management authorities are the organisations responsible for flood risk management as outlined in the Flood and Water Management act 2010:
(a) the Environment Agency
(b) a lead local flood authority
(c) a district council for an area for which there is no unitary authority
(d) an internal drainage board
(e) a water company
(f) a highway authority.

Scheduled Monuments
Archaeological sites or historic buildings considered to be of national importance by Historic England.

Sewer (public and private)
A sewer is a pipe which carries and removes either rainwater (surface) or foul water (or a combination of both) from more than one property. A sewer can also be categorised as being a private or public sewer . A Private Sewer is solely the responsibility of the occupiers/owners of the properties that it serves. A Public Sewer is a sewer that has been adopted and is maintained by a sewerage undertaker

Sewer Flooding
The consequence of sewer systems exceeding their capacity and overflowing during a rainfall event or from an operational failure such as a blockage or collapse in the pipes

Sewerage Undertaker
Organisation who adopts and maintains public sewers under the Water Industry Act 1991. In Cambridgeshire this is Anglian Water.

Source control
The management of rainfall at or close to the place where it lands, with the aim of slowing down and cleaning water before is runs off into receiving systems.

Statutory Consultee
Organisations which planning authorities are legally required to consult before reaching a decision on relevant planning applications. The Lead Local Flood authority is a statutory consultee on planning applications for major developments under the Flood and Water Management act 2010.

Sustainable Drainage Systems(SuDS)
An approach to surface water management that combines a sequence of management practices and control structures designed to drain surface water. SuDS principles include the mimicking of natural processes, managing surface water on the surface and at the source as much as possible. This includes providing benefits to water quality, biodiversity, and amenity.

Surface Water Flooding
This type of flooding is a result of the rainwater not draining away through the existing drainage systems or soak into the ground, so it lies on or flows over the ground, either due to a blockage or due to system overload. This type of flooding usually follows heavy downpours of rain and can be widespread or extremely localised, and difficult to predict/provide warning for.

Surface Water Runoff
Rainwater (including snow and other precipitation) which: is on the surface of the ground and may pool at topographic low points, soak into the ground, or flow over the ground surface, discharging to a receiving watercourse or sewer. If there is an excess of surface water runoff which cannot soak into the ground or discharge to a watercourse or sewer (e.g., if these systems are saturated or full) then surface water flooding may occur.

Surface Water Sewer
Surface water sewers carry rainwater that runs off from roofs and impermeable surfaces like roads and pavements, directly to a river, watercourse, or soakaway

Surface Water Management Plans
Surface Water Management Plans are used to assess flood risk and asset date and identify areas vulnerable to flooding. The areas can then be prioritised for further investigation, flood alleviation schemes and mitigation where economically viable.

Unadopted
In this context, this refers to roads or sewers which are not maintained by a responsible authority. For example, the local highway authority may adopt roads and sewerage undertakers may adopt sewers. In the event of any features not being adopted they remain the responsibility of private owners.

Urban Creep
Cumulative impact on villages, towns and cities of gradual increases in impermeable areas, for example by property owners paving over front gardens or extending buildings.

Watercourse
A natural or artificial channel or pipe, above or below ground, that conveys water

Water Framework Directive (WFD)
WFD came into force in the UK as the Water Environment (Water Framework Directive) Regulations 2017. The regulations aim to prevent deterioration of surface water and ground water bodies whilst supporting the achievement of the environmental objectives for those water bodies through delivery of River Basin Management Plans.

Wet Spots
Areas of Cambridgeshire were assessed for surface water flood risk as a part of the 2015 Local Flood Risk Management Strategy and subsequent surface water management plans, this work was informed by national risk mapping and not from historical experience. The locations of highest risk were classed as wet spots and could be used to help prioritise future interventions.

Acronym Glossary

AEP	Annual Exceedance Probability
AMP	Asset Management Period
CCA	Civil Contingencies Act 2004
CFMP	Catchment Flood Management Plan
CFMP	Cambridgeshire Flood Risk Management Partnership (Now CPFloW)
CIL	Community Infrastructure Levy
CPFloW	Cambridgeshire and Peterborough Flood and Water Management Group
CSO	Combined Sewer Overflow
DEFRA	Department for environment, food, and rural affairs
FRMP	Flood Risk Management Plan
FWMA	Flood and Water Management Act
GiA	Grant in Aid
IDB	Internal Drainage Board
LLFA	Lead Local Flood Authority
LPA	Local Planning Authority
LRF	Local Resilience Forum (In Cambridgeshire we have the Cambridgeshire and Peterborough LRF – CPLRF)
NBS	Nature Based Solutions
NFM	Natural Flood Management
NPPF	National Planning Policy Framework
Ofwat	Water Services Regulation Authority (Office of Water)
PFR	Property Flood Resilience (Previously PLR – Property Level Resilience, and PLP – Property Level Protection)
PFRA	Preliminary Flood Risk Assessment
RBMP	River Basin Management Plan
RFCC	Regional Flood and Coastal Committee
RMA	Risk Management Authority
RoFSW	Risk of Flooding from Surface water mapping (Previously UKFMfSW)
SEA	Strategic Environmental Assessment
SFRA	Strategic Flood Risk Assessment
SoP	Standard of Protection
SPD	Supplementary Planning Document
SSSI	Sites of Special Scientific Interest
SuDS	Sustainable Drainage Systems
SWMP	Surface Water Management Plan
UKFMfSW	UK Flood Map for Surface Water (Now RoFSW)
WEIF	Water Environment Investment Fund
WFD	Water Framework Directive

Appendix 6 - Cambridgeshire Flood Risk Management Strategy

ACTION PLAN

Introduction

This appendix sets out the actions required to achieve the objectives of this strategy, this Action Plan will be reviewed annually with details being subject to change as project considerations or dependencies influence local priorities and deliverability.

Navigating this Action Plan

The actions in this appendix are listed under the objectives that they look to address. There is a range of information included within each action to describe the ambitions for those actions these include;

- The objective titles
- Titles and reference numbers for each action
- **Description –** This text box looks to provide an overview of the action with details where they are available. Annual progress will be included here. In some instances the actions are already progressing or nearing completion as such there is a range in the levels of detail provided. This area will also be used to record potential opportunities and barriers to delivery.
- **Timescale –** This box incorporates the approximate period over which the project is expected to be carried out, many of these timescales span to the end of this strategy in 2027, this may be for a number of reasons including instances where multiple interventions are required in a catchment to achieve an action and some elements of these actions require greater preparation work to be delivered.
- **Cost –** Where possible cost brackets have been included, in many instances further investigations will be required before costs can be estimated. Details of what may be required, such as officer time, are highlighted where they can be predicted. If funding is secured it will be noted.
- **Drivers –** This sets out the primary influence in the need for the action or the way in which it will be delivered, more information about these drivers can be found in the Strategy document or through external sources.
- **Lead partner/ Other bodies –** A list of potential stakeholders for that action
- **District –** This will set out the District in which the action is expected to occur, county wide actions will be noted as 'All'
- **Progress –** The progress of a given action will be recorded here and updated annually as; Not started, Progress, Completed, At risk, Some obstacles

Objective 1: Understanding flood risk in Cambridgeshire		
1.5A – Investigations into Flood Risk in Huntingdon		
Huntingdon has been identified through both the Preliminary Flood Risk Assessment and the development of the Drainage and Wastewater Management Plan as being a priority location for a better understanding of local flood risk and whether there is a need for further interventions in the drainage network, including combined sewers. As described in section 3.3.1, local experience of flooding at these locations has been comparatively low historically. Future risk needs to be reviewed and future interventions prioritised against that risk. This assessment will need to consider asset data, historic flood events and changes to risk that may be bought about by climate change. Any interventions that are proposed will need to consider the impacts on the natural and historic environment. This action is reflected in the Anglian Flood Risk Management Plan and is anticipated to be included within Anglian Water's Drainage and Wastewater Management Plan. The county council have already been in touch with partners to provide input into strategic work in the area. Delivery of this action will need to be jointly delivered with partner organisations and links closely to 1.10A.		
Lead partner: Cambridgeshire County Council **Other Bodies:** Anglian Water, Huntingdonshire District Council	**Cost:** Officer time plus site investigations/modelling <£50k	**Timescale:** 2022 – 2027
Drivers: Flood Risk Management Plan, Drainage and Wastewater Management Plans, Local Flood Risk Management Strategy, National Level Measures	**District:** Huntingdonshire	**Progress:** Ongoing
1.6A – Updating wet spots and understanding of the impact of changes in climate		
As a part of the original Local Flood Risk Management Strategy the county council carried out an assessment to better understand areas of greatest risk in Cambridgeshire based on the national surface water flood risk maps. Similar to the process carried out as a part of the Preliminary Flood Risk Assessment, this highlights anticipated risk based on flood risk models but does not necessarily incorporate existing knowledge or make allowances for Climate Change. National Flood Risk Assessment 2 (NaFRA 2) is currently underway and due to provide updated maps by 2024. NaFRA2 is anticipated to provide predictive estimates for the impacts of climate change. In the interim the county council is updating the wet spots to incorporate locations where flooding has been reported and flood risk investigations have taken place, this will provide an updated list of wet spots which will therefore express both the predicted risk and experienced flooding. This updated list is anticipated in 2022 and a review of this will be considered after the release of NaFRA2 in 2024, at which point any further flooding reports and local understanding can also be incorporated. This local understanding is expected to be improved by the delivery of many of the actions within this strategy. Should funding opportunities arise the county council will look to improve local modelling which can then be considered within these updates. The list in the strategy would then be updated at the next review point in 2027-2028.		
Lead partner: Cambridgeshire County Council **Other Bodies:** All	**Cost:** Officer time plus site investigations/ modelling <£50k	**Timescale:** 2022 - 2027
Drivers: Local Flood Risk Management Strategy, National Level Measures, Flood Risk Regulations, Climate Change and Environment Strategy	**District:** All	**Progress:** Ongoing

1.7A – Developing solutions to improve catchment understanding		
Investigations into flood events can highlight gaps in knowledge in areas such as the functionality and connectivity of surface water assets, a part of the investigations is to improve that understand with partners and as such this was identified as National Level Measure. Whilst there is no statutory function for the county council to explore catchment interactions beyond the investigation there are clear benefits for gathering this knowledge, including sharing that learning with local communities or partners to help coordinate flood risk management activities, support future funding bids and to provide a better baseline of evidence for the Lead Local Flood Authority to respond to planning applications for new developments. Resources in this are constrained but the county council has looked to proactively secure funding for this purpose, including submissions to Defra's Resilience Innovation bid. Previous progress in this area includes successfully obtaining national funding to deliver some localised modelling of flood risk and being a partner in the Anglian Rain Gauge project which will provide an opportunity to better understand how catchments react to differing rainfall events. The County Council is currently working with partners across the Cambridgeshire and Peterborough Flood and Water Management Partnership to compile improved mapping of assets which is included as a part of the Community Flood Action Programme 3.5A.		
Lead partner: Cambridgeshire County Council **Other Bodies:** All	**Cost:** Officer time plus site investigations/ modelling <£50k	**Timescale:** 2021 – 2027
Drivers: Local Flood Risk Management Strategy, National Level Measures, Flood Risk Regulations	**District:** All	**Progress:** Ongoing
1.8A – Future Fens: Integrated Adaptation partnership working		
Cambridgeshire County Council will continue to work with Anglian Water and other partners on the development of the Future Fens: Integrated Adaptation programme and explore opportunities for projects which can provide flood risk improvements and wider benefits for residents and the environment within the Fens. The nature of the strategic approach to the environment, water resources and flood risk management will result in this work affecting all of Cambridgeshire and is likely to overlap at times with a number of other projects including the Future Fens Flood Risk Management (1.9A) and OxCam Growth Arc strategic work (4.8A) Projects will be planned and incorporated into future updates of the Local Flood Risk Management Strategy Action Plan. Anglian Water have introduced this project to partners locally and also as a part of the seminars in COP26.		
Lead partner: Anglian Water **Other Bodies:** All	**Cost:** Officer time	**Timescale:** Long term
Drivers: Local Flood Risk Management Strategy, Climate Change and Environment Strategy	**District:** All	**Progress:** Ongoing

1.9A – Future Fens: Flood Risk Management partnership working		
Cambridgeshire County Council will continue to work with the Environment Agency and other partners to support engagement on and develop, the vision for the Future Fens: Flood Risk Management within the Fens and Lowlands Strategic Area. This helps to deliver National Strategy objectives for the Fens. The nature of the strategic approach to flood risk management and wider benefits will result in this work affecting all of Cambridgeshire and is likely to overlap at times with a number of other projects including the Future Fens Integrated Adaptation (1.8A) and OxCam Growth Arc strategic work (4.8A). Projects will be planned and incorporated into future updates of the Local Flood Risk Management Strategy Action Plan. A significant amount of work has already been carried out on baseline evidence for this project which is available on the Association of Drainage Authorities website, this highlights the scale of the challenge that is faced in the future for the fens in the River Great Ouse catchment and the future phases of the project. In future the intention is for this approach to be rolled out more widely across the fens in the Anglian region which will all face similar challenges.		
Lead partner: Environment Agency **Other Bodies:** All	**Cost:** Officer time	**Timescale:** Long term
Drivers: Flood Risk Management Plans, National Strategy Objectives, National Level Measures	**District:** All	**Progress:** Ongoing
1.10A – Drainage and Wastewater Management Plan partnership working		
As discussed in this strategy the Drainage and Wastewater Management Plan will help to inform future investment in infrastructure that will support future development and improve the resilience against existing flood risk. These plans have considered the development areas set out in the District and City Councils Local Plans. At the time of writing there is no statutory requirement for Risk Management Authorities to be involved in the development of these plans but by doing so Risk Management Authorities can provide local knowledge and share ambitions so solutions can potentially provide multiple functions where necessary. This work will include consideration of the impacts on combined sewers. Cambridgeshire County Council has been contributing to the development of Anglian Water's Drainage and Wastewater Management Plan alongside other local Risk Management Authorities to share local knowledge. A draft of this plan is anticipated to be released for public consultation in the summer of 2022 with a final version later in the year, that plan will cover the period 2025-2050. More information on this can be found on Anglian Water's website.		
Lead partner: Anglian Water **Other Bodies:** All	**Cost:** Officer time	**Timescale:** 2022
Drivers: Local Flood Risk Management Strategy	**District:** All	**Progress:** Ongoing
1.11A – IDB catchment modelling		
Internal Drainage Boards use models and live data to manage their catchments. North Level District Internal Drainage Board are currently looking at updating some of the models for their district catchments.		
Lead partner: North Level IDB **Other Bodies:** Anglian Water, Internal Drainage Boards and LLFA partners	**Cost:** Officer time <£50k	**Timescale:** 2022 - 2027
Drivers: Partnership scheme	**District:** Fenland	**Progress:** Ongoing

1.12A – Completion of Anglian Rain Gauge project		
Cambridgeshire County Council is working in partnership with a number of other Lead Local Flood Authorities, Anglian Water and the Environment Agency to install a network of rain gauges and supporting software that can provide data to support future projects and flood investigations. This project will incorporate data from existing partners assets and be hosted on a platform shared by partner organisations. Locations for the rain gauges have been identified to ensure a spread of gauges that considers the location of existing rain gauges and access to secure sites owned by partners that could sustainably host those gauges. The project is nearing completion with installations anticipated during 2022. Opportunities to share the data will be explored following installation.		
Lead partner: Essex County Council and Cambridgeshire County Council **Other Bodies:** Four other Lead Local Flood Authorities, Anglian Water, Internal Drainage Boards and the Environment Agency	**Cost:** Installations funded by Great Ouse Regional Flood and Coastal Committee. Officer time plus maintenance costs <£50k	**Timescale:** 2021-2022
Drivers: Local Flood Risk Management Strategy Objectives	**District:** All	**Progress:** Ongoing
1.13A – Integrated model for March		
Following the delivery of a surface water management plan for March in 2014 the council have been working with partners to deliver the actions in that plan, however, significant barriers to delivery have consistently hindered progress. Project viability means progress as part of the normal capital programme is not always feasible. Comprehensive modelling of all flood risk is needed to fully quantify the flood risk in the town, identify innovative solutions, and unlock more funding for the projects. March is highlighted as a nationally significant Flood Risk Area, has experienced repeated flooding and is also a priority catchment for the Drainage and Wastewater Management Plans. Success with securing funding and the ability to deliver projects has been mixed. The county council and its partners continue to look for opportunities to improve the resilience to flood risk in March. Outputs from the Integrated model will be used to inform future proposals under 2.10A		
Lead partner: Anglian Water **Other Bodies:** Cambridgeshire County Council	**Cost:** Officer time, site investigations, modelling <£50k	**Timescale:** 2021-2027
Drivers: Flood Risk Management Plan, Surface water management plans and Section 19 investigations	**District:** Fenland	**Progress:** Ongoing

1.14A – Ground water investigations/ studies		
With all sources of flood risk there are gaps in knowledge which the county council and its partners will continually work to improve on. One of the more notable areas where improvements could be made is in relation to understanding of ground water across the county. This knowledge is incrementally developed through data provided by flood risk projects, new developments and flood investigations. The county council will continue to work with partners to gather information to inform this area. Particular areas where future progress is anticipated include; - Links between ground water levels and flood risk in chalk stream catchments such as the Granta; - Investigative works into the impacts of surface and ground water ingress into sewers - Flood investigations where high water tables have exacerbated flooding, such as in the Fens and areas with sand and gravel deposits		
Lead partner: Cambridgeshire County Council **Other Bodies:** All	**Cost:** Officer time and surveys <£50k	**Timescale:** Long term
Drivers: Local Flood Risk Management Strategy Objectives	**District:** All	**Progress:** Ongoing
1.15A – Anglian Water to investigate capacity issues in Alconbury and consider mitigation measures		
To investigate capacity within public sewers and the impact associated with high water levels in the adjacent brooks. Connectivity between this and other projects within the Alconbury area will be explored where appropriate.		
Lead partner: Anglian Water **Other Bodies:** Cambridgeshire County Council	**Cost:** Officer time plus project costs	**Timescale:** 2022-2027
Drivers: Flood Risk Management Plan	**District:** Huntingdonshire	**Progress:** Not started
1.16A – Brampton: Explore opportunities for flood resilience schemes		
Identification and delivery of flood alleviation schemes following outcomes of the area Flood Investigation Report. These measures would be in addition to any investigative or enforcement activities carried out by the county council following flood events.		
Lead partner: Cambridgeshire County Council **Other Bodies:** All	**Cost:** Officer time and Project Contributions	**Timescale:** 2021 - 2027
Drivers: Section 19 Investigations	**District:** Huntingdonshire	**Progress:** Ongoing
1.17A – The Offords: Explore opportunities for flood resilience schemes		
Identification and delivery of flood alleviation schemes following outcomes of the area Flood Investigation Report. These measures would be in addition to any investigative or enforcement activities carried out by the county council following flood events.		
Lead partner: Cambridgeshire County Council **Other Bodies:** All	**Cost:** Officer time and Project Contributions	**Timescale:** 2021 - 2027
Drivers: Section 19 Investigations	**District:** Huntingdonshire	**Progress:** Ongoing

1.18A – Swavesey: Explore opportunities for flood resilience schemes		
Investigative or enforcement activities carried out by the county council following flood events to improve catchment understanding and potentially identify options to improve flood resilience.		
Lead partner: Cambridgeshire County Council **Other Bodies:** All	**Cost:** Officer time and Project Contributions	**Timescale:** 2021 - 2027
Drivers: Section 19 Investigations	**District:** South Cambridgeshire	**Progress:** Ongoing
1.19A – Broughton: Explore opportunities for flood resilience schemes		
Investigative or enforcement activities carried out by the county council following flood events to improve catchment understanding and potentially identify options to improve flood resilience. Partners are initially working together to explore Natural Flood Management opportunities within the catchment.		
Lead partner: Cambridgeshire County Council **Other Bodies:** All	**Cost:** Officer time and Project Contributions	**Timescale:** 2021 - 2027
Drivers: Section 19 Investigations	**District:** Huntingdonshire	**Progress:** Ongoing
1.20A – Godmanchester: Explore opportunities for flood resilience schemes		
Investigative or enforcement activities carried out by the county council following flood events to improve catchment understanding and potentially identify options to improve flood resilience. Previous projects proposed to manage the local flood risk issues within the catchment have struggled to be viable against existing funding mechanisms. As such alternative funding arrangements and alternative solutions for the catchment will need to be considered in future where the opportunities arise.		
Lead partner: Cambridgeshire County Council **Other Bodies:** All	**Cost:** Officer time and Project Contributions	**Timescale:** 2021 - 2027
Drivers: Section 19 Investigations	**District:** Huntingdonshire	**Progress:** Ongoing
1.21A – Ramsey: Explore opportunities for flood resilience schemes		
Investigative or enforcement activities carried out by the county council following flood events to improve catchment understanding and potentially identify options to improve flood resilience.		
Lead partner: Cambridgeshire County Council **Other Bodies:** All	**Cost:** Officer time and Project Contributions	**Timescale:** 2021 - 2027
Drivers: Section 19 Investigations	**District:** Huntingdonshire	**Progress:** Ongoing

1.22A – Sawtry: Explore opportunities for flood resilience schemes		
Investigative or enforcement activities carried out by the county council following flood events to improve catchment understanding and potentially identify options to improve flood resilience.		
Lead partner: Cambridgeshire County Council **Other Bodies:** All	**Cost:** Officer time and Project Contributions	**Timescale:** 2021 - 2027
Drivers: Section 19 Investigations	**District:** Huntingdonshire	**Progress:** Ongoing
1.23A – Buckden: Explore opportunities for flood resilience schemes		
Investigative or enforcement activities carried out by the county council following flood events to improve catchment understanding and potentially identify options to improve flood resilience.		
Lead partner: Cambridgeshire County Council **Other Bodies:** All	**Cost:** Officer time and Project Contributions	**Timescale:** 2021 - 2027
Drivers: Section 19 Investigations	**District:** Huntingdonshire	**Progress:** Ongoing
1.24A – Wimblington: Explore opportunities for flood resilience schemes		
Investigative or enforcement activities carried out by the county council following flood events to improve catchment understanding and potentially identify options to improve flood resilience.		
Lead partner: Cambridgeshire County Council **Other Bodies:** All	**Cost:** Officer time and Project Contributions	**Timescale:** 2021 - 2027
Drivers: Section 19 Investigations	**District:** Fenland	**Progress:** Ongoing
1.25A – Chatteris: Explore opportunities for flood resilience schemes		
Investigative or enforcement activities carried out by the county council following flood events to improve catchment understanding and potentially identify options to improve flood resilience.		
Lead partner: Cambridgeshire County Council **Other Bodies:** All	**Cost:** Officer time and Project Contributions	**Timescale:** 2021 - 2027
Drivers: Section 19 Investigations	**District:** Fenland	**Progress:** Ongoing

1.26A – Cambridgeshire Lodes		
The Anglian Flood Risk Management Plan includes a measure for the Environment Agency and County Council to work in partnership to investigate catchment wide opportunities to within the areas served by Beck Brook, Bar Hill Brook, and Cottenham Lode to reduce flood risk from all sources for Bar Hill, Oakington, Girton and Cottenham. This will include investigating opportunities for attenuation, in providing more space for water in the catchment and slowing flows, through measures such as natural flood management. The extent and source of funding needs to be identified, delivery of interventions could potentially be spread across a number of locations and over a period of time and this is reflected in the timescale. Some investigative work in Bar Hill was carried out as a part of previous flood investigations and an action for the delivery of this work is incorporated as 2.12A in this Action Plan. Similarly, options are being explored through 2.20A in relation to surface water flooding in Cottenham. In addition to this, partners will continue to monitor for opportunities associated with the wider network of the Cambridgeshire Lodes.		
Lead partner: Environment Agency **Other Bodies:** Cambridgeshire County Council	**Cost:** Officer time and project costs	**Timescale:** 2021 - 2027
Drivers: Flood Risk Management Plan	**District:** South Cambridgeshire and East Cambridgeshire	**Progress:** Not started

1.27A – Identifying new opportunities to improve flood resilience		
The Anglian Flood Risk Management Plan identifies a measure for the county council to investigate flooding events and identify new opportunities for improving resilience in the catchment. Investigations by the county council and its partners will help to highlight areas of flood risk where steps could be taken to improve the resilience of that community. This could come from sources such as Section 19 reports or operational findings and any proposed actions will be discussed with partners and possible funding bodies. Where schemes are identified for delivery they will be incorporated into this Action Plan in future assigned to the appropriate objective. In some instances there will be overlaps between this action and 1.28A.		
Lead partner: Cambridgeshire County Council **Other Bodies:** All	**Cost:** Officer time, investigative costs and project costs	**Timescale:** Long term
Drivers: Local Flood Risk Management Strategy Objectives and Flood Risk Management Plan	**District:** All	**Progress:** Ongoing

1.28A – Explore opportunities for Nature Based Solutions across Cambridgeshire		
The Anglian Flood Risk Management Plan includes a measure to work in partnership across the Cam catchment to explore opportunities for Natural Flood Management schemes and alternative land management practices to benefit the water environment. This measure has been expanded to incorporate all catchments across Cambridgeshire and to include both Natural Flood Management and Sustainable Drainage Systems to increase resilience, these are often collectively known as Nature Based Solutions. Investigations by the county council and its partners will help to highlight areas of flood risk where steps could be taken to improve the resilience of that community. This could come from sources such as Section 19 reports or operational findings and any proposed actions will be discussed with partners and possible funding bodies. Where schemes are identified for delivery they will be incorporated into this Action Plan in future assigned to the appropriate objective. In some instances there will be overlaps between this action and 1.27A. Examples of this could also include exploring the expansion or improvement of existing schemes such as the balancing ponds serving Histon and Impington.		
Lead partner: Environment Agency and Cambridgeshire County Council **Other Bodies:** LCs and Districts and Catchment Partnerships	**Cost:** Officer time, investigative costs and project costs	**Timescale:** Long term
Drivers: Flood Risk Management Plan and Local Flood Risk Management Strategy Objectives	**District:** South Cambridgeshire, East Cambridgeshire, and Cambridge	**Progress:** Ongoing
1.29A – Catchwater Drains Study		
A study of Catchwater Drains in the Ely Group Internal Drainage Boards catchment		
Lead partner: Ely Group of Internal Drainage Boards **Other Bodies:** Environment Agency	**Cost:** Officer time and project contributions	**Timescale:** 2025
Drivers: Partner Scheme	**District:** East Cambridgeshire	**Progress:** Ongoing

Objective 2: Managing the Likelihood of flooding		
2.7A – St Neots: Explore opportunities for flood resilience schemes		
There have been a number of flood events in St Neots historically, investigations into more recent events in August and December 2020 led to flood investigation reports being generated. The flooding experienced was from both surface water and main river sources. A number of maintenance activities and remedial actions were required following the investigations with findings also highlighting capacity issues and pinch points where potential measures may be required both in St Neots and on tributaries upstream of St Neots to reduce future flood risk. Initially priority will be given in pursuing opportunities associated with existing projects around the town and the potential for partnership working will be explored as a priority. This includes looking for opportunities to increase drainage attenuation capacities as a part of the St Neots Future High Streets project and also in slowing flows from upstream as a part of A428 improvements. Additional activities such as raising awareness of riparian responsibilities (3.6A), greater support of community groups (3.5A) and promotion of property flood resilience measures (3.4A) will continue alongside this, building on the community engagement event of October 2021. As investigations continue additional opportunities for increasing resilience will be explored.		
Lead partner: Cambridgeshire County Council and Environment Agency **Other Bodies:** Anglian Water, National Highways, Network Rail, Developers, Huntingdonshire District Council, St Neots Town Council and Local Communities	**Cost:** Officer time and project contributions £100-500k partnership funding to be secured	**Timescale:** 2021 - 2027
Drivers: Section 19 Investigations	**District:** Huntingdonshire	**Progress:** Ongoing
2.8A – St Ives: Explore opportunities for flood resilience schemes		
Following flood events in August and December 2020, flood investigation reports were generated. The flooding experienced was from both surface water and main river sources. A number of maintenance activities and remedial actions were required following the investigations with findings also highlighting capacity issues and pinch points where potential measures may be required to reduce future flood risk. Interactions between surface runoff, sewers, watercourses and main rivers were exacerbated by saturated ground conditions. Extensive maintenance and remedial work has been carried out following flood events. The Environment Agency have commissioned modelling to assess the impact of blockages on the local river network and provide an evidence base for reviewing maintenance operations. An independent report into the potential impacts on commercial and industrial areas has been commissioned locally. That report highlights the need for maintenance across the catchment, the potential impact of landscape management upstream and the exacerbation of the flooding caused by saturated ground. The need for interventions and potential opportunities is being explored, the county council is working in partnership with other parties to identify potential interventions and ensure that those interventions do not have any detrimental impacts on other sources of risk. Additional activities such as raising awareness of riparian responsibilities (3.6A), greater support of community groups (3.5A) and promotion of property flood resilience measures (3.4A) will continue alongside this, building on the community engagement event of November 2021.		
Lead partner: Anglian Water, Cambridgeshire County Council and Environment Agency **Other Bodies:** Huntingdonshire District Council, St Ives Town Council and Local Communities	**Cost:** Officer time and project contributions	**Timescale:** 2021 - 2027
Drivers: Section 19 Investigations	**District:** Huntingdonshire	**Progress:** Ongoing

2.9A – Cambridge: Explore opportunities for flood resilience schemes		
Historic flood events in Cambridge have led to the development of a series of interventions in the city being investigated and delivered by both the city and county councils. Some of these are specifically mentioned later in this Action Plan (2.16A and 2.17A). As set out in the Anglian Flood Risk Management Plan, the county council will continue support Cambridge City Council in the development and delivery of flood resilience measures.		
Lead partner: Cambridgeshire County Council and Cambridge City Council **Other Bodies:** Anglian Water and Local Communities	**Cost:** Officer time and project contributions	**Timescale:** 2021 - 2027
Drivers: Flood Risk Management Plan, Section 19 Investigations	**District:** Cambridge	**Progress:** Ongoing

2.10A – March: Explore opportunities for flood resilience schemes		
March has suffered from multiple flood events in recent years, details around the extent of those events and the locations around March experiencing those issues can be found in the March Section 19 reports available online. A previous surface water management plan for March also highlighted potential solutions. A range of interventions will be required at multiple locations around March, whilst some have already been identified, there has been a number of difficulties in delivery for historic projects in the town, challenges include progressing legal agreements, an absence of infrastructure, difficulties securing of partnership funding or connectivity of assets on the ground have slowed or halted projects in the past. Many of the more historic areas in March are served by combined sewers which carry both the foul water from the town and the surface water from rainfall and can be prone to intense rainfall. Exploring how to overcome these barriers will require innovation in areas such as funding. Funding previously secured is anticipated to be available for future projects if deliverable schemes can be identified. March is highlighted as a nationally significant Flood Risk Area, has experienced repeated flooding and is also a priority catchment for the Drainage and Wastewater Management Plans. Future partnership working is anticipated to increase the delivery potential of projects. Progress against 1.13A will work to inform this action. Additional activities such as raising awareness of riparian responsibilities (3.6A) will continue alongside this.		
Lead partner: Cambridgeshire County Council **Other Bodies:** Anglian Water, Fenland District Council, Middle Level Commissioners and Local Communities	**Cost:** Officer time and project contributions £500-1m	**Timescale:** 2022 – 2027
Drivers: Flood Risk Management Plan, Section 19 Investigations, Surface Water Management Plan, National Strategy Objectives	**District:** Fenland	**Progress:** Ongoing

2.11A – Scheme development and delivery in Chalk Stream catchments		
The are a number of projects already underway within the Chalk Streams of Cambridgeshire. The County Council and it's partners will look to support these and identify new opportunities for schemes to restore the chalk stream and incorporate flood risk benefits. Those examples include; The Granta Resilient Catchment Programme, a Catchment Management Plan was drafted in partnership in 2021 and looks to consider a whole catchment approach to the management of this important Chalk Stream. A range of measures have previously been identified on the main river section of the catchment and are being progressed by CamEO. The county council is working with partners, including landowners, to identify and plan delivery of measures upstream to provide improvements to the chalk streams including using nature based solutions to slow flow, clean water and recharge the ground waters. The Greater Cambridge Chalk Streams Project is a joint venture between the Cambridgeshire and Peterborough Combined Authority, Cambridge City Council and South Cambridgeshire District Council which has secured £420,000 to fund restoration work on a number of chalk streams. Nationally, Catchment Based Approach have released a Chalk Stream Strategy setting out a number of recommendations. An implementation plan is anticipated to follow in October 2022.		
Lead partner: Cambridgeshire County Council, Cambridge Water, landowners' group, CamEO, Water Resources East, South Cambridgeshire District Council, Cambridge City Council and the Cambridgeshire and Peterborough Combined Authority **Other Bodies:** Local communities	**Cost:** Officer time and project delivery £500-1m	**Timescale:** 2021 - 2027
Drivers: Flood Risk Management Plan, Climate Change and Environment Strategy	**District:** South Cambridgeshire, Cambridge	**Progress:** Ongoing
2.12A – Bar Hill Flood Alleviation Scheme		
Following previous flood investigations in Bar Hill, a study into flood alleviation scheme(s) has been developed and funding for the resultant scheme has been secured from the Anglian Great Ouse Regional Flood and Coastal Committee. The County Council continue to work with the Parish Council in the delivery of this scheme.		
Lead partner: Cambridgeshire County Council **Other Bodies:** Bar Hill Parish Council	**Cost:** Officer time and project delivery£100-500k	**Timescale:** 2021 - 2025
Drivers: Section 19 Investigations	**District:** South Cambridgeshire	**Progress:** Ongoing
2.13A – Public Sector Co-operation Agreements covering Cambridgeshire area		
The county council will investigate opportunities for cost savings and maintenance rationalisation through partnership working with other authorities, including potential Public Sector Co-operation agreements with partners to co-deliver work at cost. A draft agreement has been created and is being considered by partners.		
Lead partner: Cambridgeshire County Council **Other Bodies:** Internal Drainage Boards and Districts	**Cost:** Officer time	**Timescale:** 2021 - 2024
Drivers: Local Flood Risk Management Strategy Objectives	**District:** All	**Progress:** Ongoing

2.14A – Greater integration between Cambridgeshire Lead Local Flood Authority and Local Highways Authority		
Cambridgeshire LLFA and LHA to work together to better coordinate roles in enforcement, investigation, and potential scheme delivery		
Lead partner: Cambridgeshire County Council **Other Bodies:**	**Cost:** Officer time	**Timescale:** 2021 - 2027
Drivers: Flood Risk Management Plan and Local Flood Risk Management Strategy Objectives	**District:** All	**Progress:** Ongoing
2.15A – Birch Fen OWC improvements		
Delivery of programmed watercourse improvements by Fenland District Council		
Lead partner: Fenland District Council **Other Bodies:**	**Cost:** Officer time and project contributions £100-500k	**Timescale:** 2023
Drivers: Partner Scheme	**District:** Fenland	**Progress:** Ongoing
2.16A – Kelvin Close SW Scheme		
Delivery of programmed surface water flood alleviation scheme for Kelvin Close		
Lead partner: Cambridge City Council **Other Bodies:**	**Cost:** Officer time and project contributions £50-100k	**Timescale:** 2025
Drivers: Partner Scheme	**District:** Cambridge	**Progress:** Ongoing
2.17A – Brunswick SW Scheme		
Delivery of programmed surface water flood alleviation scheme for Brunswick		
Lead partner: Cambridge City Council **Other Bodies:**	**Cost:** Officer time and project contributions £50-100k	**Timescale:** 2025
Drivers: Partner Scheme	**District:** Cambridge	**Progress:** Ongoing

2.18A – Alconbury: Explore opportunities for flood resilience schemes		
Identification and delivery of flood alleviation schemes including measures in the Anglian Flood Risk Management Plan to address the identified Flood Risk Area. These schemes would complement those already identified within the action (Notably 1.15A, 3.8A and 5.8A) The Environment Agency, landowners and Flood Group have already delivered a number of actions in the area including putting a Community Flood Plan in place, tree planting and delivery of multiple Natural Flood Management features upstream in the catchment.  Leaky woody dam in Alconbury catchment		
Lead partner: Environment Agency, Cambridgeshire County Council, Parish Councils, community groups and landowners **Other Bodies:** All	**Cost:** Officer time and project contributions	**Timescale:** 2021 - 2027
Drivers: Section 19 Investigations and Flood Risk Management Plan	**District:** Huntingdonshire	**Progress:** Ongoing
2.19A – Linton: Explore opportunities for flood resilience schemes		
Identification and delivery of flood alleviation schemes pending outcome of Flood Investigation Report. Cambridgeshire County Council will work closely with partners to ensure that opportunities arising from river improvements in the Granta Catchment (2.11A) provide for benefits to the flood risk in Linton. These measures would be in addition to any investigative or enforcement activities carried out by the county council following flood events.		
Lead partner: Cambridgeshire County Council **Other Bodies:** All	**Cost:** Officer time and project contributions	**Timescale:** 2021 - 2027
Drivers: Section 19 Investigations	**District:** South Cambridgeshire	**Progress:** Ongoing

2.20A – Cottenham Surface Water scheme		
Continued investigation with partners to identify potential options to improve resilience of the village against surface water flood events.		
Lead partner: Cambridgeshire County Council **Other Bodies:** South Cambridgeshire District Council, Local Highways Authority and Parish Council	**Cost:** Officer time and project contributions	**Timescale:** 2021 - 2027
Drivers: Section 19 Investigations	**District:** South Cambridgeshire	**Progress:** Ongoing

Objective 3: Helping Cambridgeshire's citizens to manage their own risk

3.4A – Promotion of property flood resilience and associated funding

Cambridgeshire County Council were a part of the OxCam Property Flood Resilience Pathfinder Project funded by central government. The main aim of this project is to increase awareness of property flood resilience measures. Promotional events associated with this project were delivered in summer 2021 at locations prioritised in early 2020, the project ended in September 2021.

Resources from this project have continued to be used as a part of the Community Flood Action Programme (3.5A) for engagement events, notable those who have experienced flooding more recently. Further events are taking place and continued to be planned for 2022 and beyond.

The County Council will continue to work with partners to expand the resources and information available to communities to assist in delivering 3.3M.

Lead partner: Cambridgeshire County Council **Other Bodies:** All	**Cost:** Officer time, supporting and educational resources <£50k	**Timescale:** 2021-2027
Drivers: Local Flood Risk Management Strategy objectives, Climate Change and Environment Strategy and National Level Measures, Flood Risk Management Plan	**District:** All	**Progress:** Ongoing

3.5A – Community Flood Action Programme

In 2021-22 the Community Flood Action Programme started with the aims to

- Develop guidance on riparian watercourse management
- Establish a flood group network
- Deliver flood risk management training for communities
- Develop a new one-stop shop flood risk information website
- Improve the flood reporting system
- Improve the mapping of watercourses across the County

The Flood Risk Management Plan sets a measure to engagement specifically with communities at risk in March, the county council will look to work more widely with priority communities across the whole of Cambridgeshire. This work will consider the individual needs of the different communities affected by risk and look at how to overcome their challenges. Further information and guidance relating to this work is available on the County Council website, with more anticipated to be released in 2022.

Lead partner: Cambridgeshire County Council **Other Bodies:** Fenland District Council, Huntingdonshire District Council, East Cambridgeshire District Council, South Cambridgeshire District Council	**Cost:** Officer time, supporting and educational resources £500-1m	**Timescale:** 2021 - 2022

Drivers: Local Flood Risk Management Strategy objectives, Climate Change and Environment Strategy and National Level Measures	**District:** All	**Progress:** Ongoing
3.6A – Riparian responsibilities engagement		
Since the last iteration of this strategy the county council has developed riparian guidance and shared this widely among other Lead Local Flood Authorities and partners of the Cambridgeshire and Peterborough Flood and Water Partnership. More recent flood events have highlighted the risk associated with a lack of maintenance on drainage and flood risk assets, notably including the lack of riparian maintenance. Ensuring that watercourses are maintained to prevent flooding is crucial. Section 5 discusses riparian rights and responsibilities. The county council, the Environment Agency and Internal Drainage Boards have permissive powers under the Land Drainage Act 1991 that they can use, funding permitting, for certain essential works and to enforce prohibitions on obstructions being placed in watercourses. Legislation related to fly tipping may also be used where this is appropriate. Any obstructions to the flow of watercourses could increase local flood risk. The Flood Risk Management Plan sets a measure for engagement specifically on riparian responsibilities in March. The county council will look to work more widely with priority locations across the whole of Cambridgeshire. This work will initially form a part of the Community Flood Action Programme and then continue thereafter. Additionally, there are other water management schemes that landowners may have already engaged with, which bring a wide range of other benefits to Cambridgeshire. Farm stewardship schemes encouraged by Natural England and Nene Park Trust seek to reduce soil erosion into nearby water bodies and therefore improve water quality. Anglian Water is also increasing the scale of its catchment advisory scheme which aims to help reduce the impacts of chemical fertilisers and pesticides in our water supply. It is important that any new schemes relating to riparian responsibilities are complimentary and do not create unnecessary burden for agricultural landowners or detract from these existing beneficial schemes.		
Lead partner: Cambridgeshire County Council **Other Bodies:** All	**Cost:** Officer time <£50k	**Timescale:** 2021 - 2027
Drivers: Local Flood Risk Management Strategy objectives, Flood Risk Management Plan and National Level Measures	**District:** All	**Progress:** Ongoing
3.7A – Awareness raising campaign in Oakington, notably for riparian responsibilities		
Environment Agency to work in partnership with others to raise awareness of risks and responsibilities in the catchment, alongside delivery of other measures in the Anglian Flood Risk Management Plan to address the identified Flood Risk Area in Oakington. The county council will look to incorporate any specific communities into the programme of engagement and support being planned.		
Lead partner: Environment Agency **Other Bodies:** Cambridgeshire County Council	**Cost:** Officer time and modelling or investigation costs <£50k	**Timescale:** 2025
Drivers: Local Flood Risk Management Strategy objectives, Climate Change and Environment Strategy and National Level Measures	**District:** South Cambridgeshire	**Progress:** Not started
3.8A – Engagement plan for Alconbury developed in partnership		
The Environment Agency will work with the Parish Council and County Council to develop an engagement plan in Alconbury to promote partnership working and raise awareness of risk. This action has been pulled from the Anglian Flood Risk Management Plan but it is recognised that the Environment Agency is already working closely with communities in this area and as such other partners will look to support this function as required.		
Lead partner: Environment Agency **Other Bodies:** Cambridgeshire County Council and Local Communities	**Cost:** Officer time	**Timescale:** 2021 - 2023

Drivers: Local Flood Risk Management Strategy objectives, Climate Change and Environment Strategy and National Level Measures	**District:** Huntingdonshire	**Progress:** Ongoing

Objective 4: Ensuring appropriate development in Cambridgeshire		
4.4A – Build the evidence base for local flood risk to inform future development and investment decisions		
As a part of the county council's role to better understand local flood risk and act as statutory consultee in major planning applications it is crucial that the LLFA have the best information available to assess the risk and to help inform future reviews of planning guidance or development proposals. The development of this evidence base is important for the county council and its partners to address the risks set out in Section 5.8.1. The county council will continue to gather information from flooding reports to help inform future decisions and look to explore new opportunities to build the evidence base.		
Lead partner: Cambridgeshire County Council **Other Bodies:** Local Planning Authorities	**Cost:** Officer time and modelling or investigation costs <£50k	**Timescale:** 2021 - 2027
Drivers: Local Flood Risk Management Strategy objectives, Climate Change and Environment Strategy and National Level Measures	**District:** All	**Progress:** Ongoing
4.5A – Update Cambridgeshire Flood and Water Supplementary Planning Document (SPD)		
This SPD is a formally adopted part of Cambridgeshire's suite of planning policy documents. One of the principal actions set out in the Local Flood Risk Management Strategy is to ensure that the SPD is used, understood, and followed by planners working on new development. The SPD provides planning guidance on: · How to assess whether or not a site is suitable for development based on flood risk grounds. · The use of different sustainable drainage measures within Cambridgeshire. · The protection of aquatic environments and how development can contribute positively to the Water Framework Directive. An update of the SPD would allow consideration of the evolution to local and national policies and consideration of the need for new development to be ready to adapt to changing risks. The review process will provide an opportunity to reassess the risks associated with development (5.8.1) and the measures that may be required to manage this.		
Lead partner: Cambridgeshire County Council **Other Bodies:** Local Planning Authorities and Environment Agency	**Cost:** Officer time	**Timescale:** 2023 - 2024
Drivers: Local Flood Risk Management Strategy objectives, Climate Change and Environment Strategy	**District:** All	**Progress:** Not started
4.6A – Surface Water Management Guidance document for Planning		
This guidance document was updated in June 2021 and all changes to industry guidance has been considered as a part of that update. The county council will monitor further progress on National guidance and best practice and review this guidance as required.		
Lead partner: Cambridgeshire County Council **Other Bodies:** Local Planning Authorities	**Cost:** Officer time	**Timescale:** 2027
Drivers: Local Flood Risk Management Strategy objectives	**District:** All	**Progress:** Not started

4.7A – Seek opportunities to work with those delivering development and infrastructure projects to improve existing flood risk		
The Partnership Funding process described in section 7 will not fund flood risk management works to 'new' development. This is defined as any development built since 1st January 2009. This is because the appropriateness, design, and safety of all new developments with regards to all sources of flood risk should have been fully considered as part of the planning process. If funding is required for schemes that relate to new development or redevelopment it will be sought through developer contributions from organisations with an interest in the land or improved infrastructure. The potential for funding from CIL, POIS and S106 is explained further on each website of the Local Planning Authorities. Environmental net gain introduced by the Environment Act will require new development to provide environmental betterment, it is anticipated over time that this could include local flood risk and the wider water environment. The county will work with its partners to share ambitions and prepare for such opportunities.		
Lead partner: All **Other Bodies:** Local communities	**Cost:** Officer time and project contributions	**Timescale:** 2021 - 2027
Drivers: Climate Change and Environment Strategy, Local Flood Risk Management Strategy objectives, Doubling Nature and 25 Year Environment Strategy	**District:** All	**Progress:** Not started
4.8A – Work with OxCam group to influence regional development guidance		
The OxCam Growth Arc described earlier in this Strategy will have significant impacts on the environment in the region, with a potential to increase flood risk, increase pollution and demand for water among other concerns. In response to these challenges several initiatives have started to prepare for the planned new development, examples of this include the OxCam Local Natural Capital Plan, a strategic review of flood risk known as the Great Ouse Strategic Interventions Study and a government commitment to develop a Spatial Framework to cover the Arc. A three stage OxCam Integrated Water Management Framework (IWMF) is underway to consider flooding, water management and related nature recovery holistically at the OxCam scale. A Flood Risk Investment Study will consider the optimum level of flood infrastructure investment for a range of growth and climate change scenarios. Together, these studies are expected to identify strategic adaptation and resilience approaches, and ways of working to bring them about. The county council already work closely with the Lead Local Flood Authorities in other parts of the Arc on a regular basis and will build on these relationships through engaging with this work. The county council and Local Planning Authorities have guidance and assessments in place to help guide development and will incorporate developments into that evidence base as required. Cambridgeshire lies downstream of much of the proposed development in the Arc and this work is expected to provide opportunities to further explore the catchment wide impact of development and influence the development which will impact on the level of risk in the county. This work is likely to overlap at times with a number of other projects including the Future Fens projects (1.8A, 1.9A).		
Lead partner: All **Other Bodies:** N/A	**Cost:** Officer time	**Timescale:** 2021-2027
Drivers: Climate Change and Environment Strategy, Local Flood Risk Management Strategy objectives, National Level Measure	**District:** All	**Progress:** Ongoing
4.9A – Alignment of ambitions to inform Net Gain opportunities		
Anticipated legislative changes are expected to provide opportunities to improve the existing state of the environment within Cambridgeshire. To be fully prepared for such opportunities and improve the potential for partnership working, Risk Management Authorities across Cambridgeshire should share their ambitions and identify opportunities for delivery and efficiencies. There are a number of investigative and mapping actions underway which will help to inform this work in future such as the habitat opportunity mapping delivered across Cambridgeshire and Peterborough.		
Lead partner: Cambridgeshire County Council, Fenland District Council, Huntingdonshire District Council, East Cambridgeshire District Council, South Cambridgeshire District Council **Other Bodies:** All	**Cost:** Officer time	**Timescale:** Long term
Drivers: Climate Change and Environment Strategy	**District:** All	**Progress:** Ongoing

4.10A – SuDS in Schools support		
As a part of development requirements there will be a continued increase in Sustainable Drainage Systems within schools, the Lead Local Flood Authority (LLFA) will work to support the development of those schemes as a part of their planning consultation process. The LLFA will also look to work closely with colleagues in education to identify opportunities for retrofitting Sustainable Drainage Systems to the existing schools to alleviate flood risk. Where possible this will be supported by awareness raising events through the schools. The county council is actively seeking funding for this project.		
Lead partner: Cambridgeshire County Council **Other Bodies:** N/A	**Cost:** Officer time	**Timescale:** Long term
Drivers: Climate Change and Environment Strategy	**District:** All	**Progress:** Ongoing

Objective 5: Improving flood prediction, warning, and post flood recovery		
5.3A – Review of processes associated with Highway flood related closure		
Cambridgeshire has several roads which are managed by the Cambridgeshire Highways Authority that are prone to closures periodically because of flooding. This includes the A1123 east of Earith and B1040 north of Whittlesey. These closures can have a considerable diversion route and as such have an impact of the isolation of rural communities, a potential carbon impact as well as financial implications for local businesses and residents. The process for the closure of these roads is reviewed periodically by the Local Highway Authority and technological changes will be monitored to see if economic solutions can be identified to improve the local service.		
Lead partner: Cambridgeshire County Council **Other Bodies:** N/A	**Cost:** Officer time and potential infrastructure	**Timescale:** 2025
Drivers: Flood Risk Management Plan, Local Flood Risk Management Strategy Objectives	**District:** All	**Progress:** Ongoing
5.4A – Review of emergency response plans		
As described in 5.1M, emergency response plans are developed by members of the Cambridgeshire and Peterborough Local Resilience Forum to set out processes for responding to significant events. This includes Plans for responding to severe weather and flooding events. The plan relating to flooding is awaiting a government review before it can be updated, government response was anticipated in the autumn of 2021. Updates will then be incorporated into that plan with an intention to test that plan as a part of a regional event in 2022. As a part of the review of the plans, consideration will be made with regards to how vulnerable individuals are identified in an emergency and how it is possible to ensure that they can be supported during an incident. In addition to these emergency response plans there are also business continuity plans and as outlined in the Climate Change and Environment Strategy, the county council intend to ensure that flooding and other climate relating risks are covered within the business continuity plans.		
Lead partner: Cambridgeshire And Peterborough Local Resilience Forum **Other Bodies:** Cambridgeshire County Council	**Cost:** Officer time and event costs	**Timescale:** 2023
Drivers: Climate Change and Environment Strategy, Local Flood Risk Management Strategy Objectives, National Level Measure	**District:** All	**Progress:** Ongoing

5.5A – Explore the use of telemetry in projects, operation and emergency management		
As technology develops there are better ways to use data, either live or after events, to improve responses to floods, provide warnings, find efficiencies in maintenance delivery, or provide a greater evidence base to validate projects. As opportunities to trial technologies are available, the council will work with partners to explore how services can be improved for communities. Where possible data will be made available through open sources to encourage citizen and help all stakeholders to understand the performance of the catchments across Cambridgeshire. Examples of such opportunities include; • The regional installation of rain gauges (1.12A) which can be used to provide live data to a number of partners and assist in Flood Investigations • Trial installation of water level telemetry (5.9A) which will be investigating the benefits to partners of live water level data Evidence gathered through this process will help to inform investigations and project development through Objectives 1 and 2 but also potential future investment and strategic decisions (4.4A)		
Lead partner: Cambridgeshire County Council **Other Bodies:** All	**Cost:** Officer time and infrastructure costs <£50k	**Timescale:** 2021-2027
Drivers: Climate Change and Environment Strategy, Local Flood Risk Management Strategy Objectives	**District:** All	**Progress:** Ongoing
5.6A – Flood Risk built into Business contingency plans in council		
Recent changes to council assets will require a review of contingency plans held by the county, the Climate Change and Environment Strategy detailed a need to consider climate change threats within those plans. Flood Risk, as one of the identified risks needs to be fully considered in the impact on the delivery of services.		
Lead partner: Cambridgeshire County Council **Other Bodies:** All	**Cost:** Officer time	**Timescale:** 2023
Drivers: Climate Change and Environment Strategy, Local Flood Risk Management Strategy Objectives	**District:** All	**Progress:** Not started
5.7A – Cambridgeshire and Peterborough Local Resilience Forum to be involved in national event to test response plans		
The Cambridgeshire and Peterborough Local Resilience Forum maintain plans which are activated during an emergency to inform emergency responders of the processes to follow during an emergency, these plans are regularly reviewed and tested. Future plans include a National test of emergency plans which the Cambridgeshire And Peterborough Local Resilience Forum will be involved in.		
Lead partner: Cambridgeshire County Council **Other Bodies:** All	**Cost:** Officer time, venue, and possible resource support <£50k	**Timescale:** 2023
Drivers: Civil Contingencies Act, Local Flood Risk Management Strategy Objectives	**District:** All	**Progress:** Not started

5.8A – Flood warning exercise in Alconbury		
As a part of delivery of other Flood Risk Management Plan measures, the Environment Agency will work with the county to lead a flood warning exercise in Alconbury to practice and refine how the community and partners respond to receiving a flood warning which will include using the community flood kit.		
Lead partner: Environment Agency **Other Bodies:** Cambridgeshire County Council	**Cost:** Officer time <£50k	**Timescale:** 2023
Drivers: Flood Risk Management Plan	**District:** Huntingdonshire	**Progress:** Not started

5.9A – Water Level Telemetry in Cambridgeshire		
The County Council and Huntingdonshire District Council will work with partners to trial the implementation and use of water level telemetry across Cambridgeshire as a part of the Connecting Cambridgeshire Project. A range of locations will be selected to allow partners to test the benefits of devices in a variety of circumstances such as road closures, alerts and in projects to ground truth modelling as required for funding bids. As a part of the project partners will look at how data can be made widely accessible. At trial stage this data will not be integrated as a part of the Environment Agency's formal warning and informing process.		
Lead partner: Cambridgeshire County Council, Huntingdonshire District Council and Combined Authority **Other Bodies:** District Councils, Highways Authority and Communities	**Cost:** Officer time <£50k	**Timescale:** 2021-2024
Drivers: Local Flood Risk Management Strategy Objectives	**District:** All	**Progress:** Ongoing

Sunnica Solar Farm proposal

To:	Environment and Green Investment Committee
Meeting Date:	3rd March 2022
From:	Steve Cox, Executive Director, Place & Economy
Electoral division(s):	Soham North and Isleham; Burwell
Key decision:	No
Forward Plan ref:	N/a
Outcome:	The Committee's endorsement of Cambridgeshire County Council's Relevant Representations produced by technical officers in response to the Sunnica proposals, to allow a submission to be made to the Planning Inspectorate (PINS) in line with the formal consultation deadline of 17th March 2022.
Recommendation:	It is recommended: (a) To endorse the draft Relevant Representations in Appendix 3 for submission to the Planning Inspectorate; and (b) Delegate to the Executive Director (Place and Economy) in consultation with the Chair and Vice Chair of the Committee the authority to make minor changes to the Relevant Representations.

Officer contact:
Name: David Carford
Post: Project Manager
Email: David.carford@cambridgeshire.gov.uk
Tel: 01223 699864

Member contacts:
Names: Cllr. Lorna Dupré, Cllr. Nick Gay
Post: Chair/Vice-Chair
Email: lorna@lornadupre.org.uk / Nick.Gay@cambridgeshire.gov.uk
Tel: 01223 706398

1. Background

1.1 Sunnica Limited are proposing a solar energy farm to the east of the County and crossing the border into Suffolk. The proposed development is considered to be a nationally significant infrastructure project (NSIP) by virtue of the fact that the generating station is located in England and has a generating capacity of over 50 megawatts (see section 15(2) of the 2008 Act).

1.2 As an NSIP application (for which a Development Consent Order (DCO) is required) the proposed solar farm will be determined by Secretary of State (for Business, Energy and Industrial Strategy). Responsibility for accepting and examining the NSIP applications rests with The Planning Inspectorate (PINS) on behalf of the Secretary of State.

1.3 The County Council has a distinct role in this process as one of the four 'host' authorities (with the others being Suffolk County Council, East Cambridgeshire District Council, and West Suffolk Council). The Local Authorities have a role in informing the process and providing local specialist knowledge.

1.4 The Sunnica Energy Farm Project has already undertaken its pre-application consultations with the general public, alongside pre-application discussions with key specialisms within the four 'host' authorities, to help inform their proposal prior to the submission of their application to PINS.

1.5 Appendix 1 sets out the six stages involved with a NSIP application and Appendix 2 clarifies the role of the local authority at each of the stages (excluding the decision). PINS guidance[1] is clear that a local authority and the local community are consultees in their own right. Whilst local authorities should have regard to what the community is saying, it is not intended that they necessarily adopt all of those views put to them. In this context, local authorities in particular must conduct themselves in line with the National Policy Statements and the relevant guidance.

1.6 The Environment and Sustainability Committee that took place on 11th March 2021 approved delegated authority for submitting documents to PINS where there is insufficient time to take them to Committee. This aligns with PINS guidance to local authorities. Some of the deadlines in the process can be as short as 14 days. It is noted that PINS as the Examining Authority may disregard late responses.

1.7 Sunnica submitted to PINS their application for a DCO in November 2021. PINS accepted the application for examination on 16th December 2021. As part of the

[1] Planning Inspectorate (PINS) National Significant Infrastructure Project (NSIP) Guidance and Advice Notes;
https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/

current pre-examination stage of the process there is a relevant representation period. This is the first time during which comments on an application can be submitted to PINS for consideration by the inspector/inspectors (referred to as the Examining Authority (ExA)). For local authorities the relevant representation should include a summary of what the local authority agrees and/or disagrees with in the application, what they consider the main issues to be, and their impact. The content of relevant representations is used by the Examining Authority to help inform their initial assessment of principal issues for examination.

1.8 Relevant representations have been able to be submitted to PINS since the 3rd February 2022, with a closing date of 17th March 2022. Sunnica publicised these dates (in a Section 56 notice) in local and national newspapers, and the London Gazette on 27th January 2022. A second Section 56 notice was published in local newspapers on the day the relevant representation period began i.e. 3rd February 2022. The four host authorities whilst continuing to co-ordinate together to best inform the process are submitting separate representations.

1.9 A draft of Cambridgeshire County Council's relevant representation produced by technical officers can be found in Appendix 3 of this report for the committee's consideration. If the recommendations within this paper are approved, it will allow officers to submit the Council's relevant representations to PINS to meet the deadline of 17th March 2022.

2. The Proposal

2.1 Sunnica proposals are for a new energy farm with solar photovoltaic (PV) and energy storage infrastructure connecting to the Burwell National Grid Substation. This seeks to provide 500MW of electricity which is equivalent to providing for approximately 100,000 homes.

2.2 The proposed solar energy development spans four 'Sites':
- Sunnica East Site A, near Isleham
- Sunnica East Site B, near Freckenham and Worlington
- Sunnica West Site A, near Chippenham and Kennett
- Sunnica West Site B, near Snailwell

These four sites are proposed to be linked by a cable corridor to the National Grid at Burwell Substation.

2.3 Sunnica's DCO application can be found on The Planning Inspectorates web site[2].

[2] PINS Project Page for Sunnica Energy Farm NSIP Project; https://infrastructure.planninginspectorate.gov.uk/projects/eastern/sunnica-energy-farm/?ipcsection=overview

3. Planning Policy

3.1 The policy framework for determining an NSIP application is set out in Section 104 of the Planning Act 2008 (as amended)[3], set out below:

In deciding the application the Secretary of State must have regard to:

(a) any national policy statement which has effect in relation to development of the description to which the application relates (a "relevant national policy statement");
(aa) the appropriate marine policy documents (if any), determined in accordance with section 59 of the Marine and Coastal Access Act 2009;
(b) any local impact report (within the meaning given by section 60(3)) submitted to the Secretary of State before the deadline specified in a notice under section 60(2);
(c) any matters prescribed in relation to development of the description to which the application relates; and
(d) any other matters which the Secretary of State thinks are both important and relevant to the Secretary of State's decision.

3.2 The relevant documents in relation to this application from the Cambridgeshire perspective are the National Policy Statements for Energy; the Cambridgeshire and Peterborough Minerals and Waste Local Plan (July 2021); the East Cambridgeshire Local Plan (2015); and any Local Impact Report submitted during the Examination. The National Planning Policy Framework (NPPF) 2021[4] is also a material consideration.

4. Main issues

4.1 The following is a summary of the main issues raised by technical officers that are included in full in the draft Relevant Representations response set out in Appendix 3.

4.2 Cambridgeshire County Council (CCC) has a number of concerns relating to the quality of the information shared in the Environmental Statement. More evidence is required to allow CCC to fully understand the impacts of the scheme and have a view to whether the mitigation measures proposed are sufficient. There are a number of issues related to the quality of the assessments and assumptions used. In addition, more detail is needed at this stage of the process to assure

[3] Planning Act 2008 (as amended);
http://www.legislation.gov.uk/ukpga/2008/29/contents
[4] The National Planning Policy Framework (NPPF) (2021)
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf

the county council aspects of the scheme are deliverable.

4.3 The County Council seeks these matters to be resolved ahead of any consent given to the scheme.

Key concerns

4.4 The following is a summary of the key concerns identified by technical officers:

4.4.1. Transport and Access. There is a lack of evidence supporting assumptions made and the conclusions to assessments provided. Consequently, there are several impacts CCC is of the opinion are not sufficiently assessed.

4.4.2. The draft DCO has not got sufficient highway provisions to ensure the local highway authority is adequately engaged and protected.

4.4.3. Cultural Heritage Archaeology. CCC's Historic Environment Team (Archaeological Service) has been working with the applicant on the design and carrying out of archaeological evaluation work since the early stages of the project. The mitigation strategy is currently vague and requires development. Relevant documents in the submission pack will need to be revised once an agreed mitigation strategy has been developed: for example, APP-257 Schedule of Environmental Mitigation, and APP-123 ES Appendix 16C Framework Construction Environmental Management Plan (FCTMP) and Travel Plan. An Historic Environment Management Plan should be prepared to provide a mechanism by which specific sites will be suitably protected.

4.4.4. Ecology and Nature Conservation. The ES provides inadequate detail in its assessments. This includes insufficient evidence to demonstrate the Biodiversity Net Gain (BNG) for the scheme. More supporting information and clarification is required. Until such time as these details are provided, CCC cannot be satisfied the scheme has adequately mitigated its impacts.

4.4.5. Flood Risk, Drainage and Water Resources. There is a lack of data to evidence the feasibility of the approach adopted and measures proposed. There is no flood zone compensation proposed. More detail of the Sustainable Drainage Systems (SuDS) features is required.

4.4.6. Socio-Economic and Land Use. Whilst the Agricultural Land Classification (ALC) has been provided, the capability to produce crops seems to be understated. Grade 3 soils in Cambridgeshire can produce a great deal more than a Grade 3 soils in other areas of the country. The assessment needs to reflect this. Also suitable mitigation measures need to be in place to address soil compaction on sites during construction, operation and decommissioning.

4.5 Appendix 3 has the full draft of the Relevant Representations that has been produced by technical officers, which expands upon that above.

5. NSIP Application Process

5.1 The DCO application has been accepted by PINS for examination which will be carried out in public. As part of this pre application stage the local authorities will be notified of the preliminary meeting to discuss procedural matters. After which an Examination timetable should be set, including deadlines for when information needs to be submitted to PINS. Agreement on any remaining issues should be sought and/or negotiations continued. There may also be the need to continue negotiation in respect of any compulsory acquisition affecting any local 'host' authority's land holdings or interests. Reaching agreement on as many issues as possible in advance of the examination is likely to lead to a more focused and expedient examination process for all participants.

5.3 During the Pre Examination and examination stages, the local authorities will:

• Respond to the Examining Authority's (ExA's) written questions which are normally based on an initial assessment of the application, (including the principal issues of the proposed scheme), and the representations received from interested parties;
• Prepare and submit to PINS a Local Impact Report (LIR), setting out the likely impacts of the proposed scheme on the County Authority's area, by using local knowledge and robust evidence, and set out the relevant local planning policy framework and guidance;
• Prepare and submit to the Planning Inspectorate a Statement of Common Ground (SOCG), a joint written statement between the applicant and the County Council and/or other parties or 'host' authorities, setting out matters that they agree or are in disagreement on; and
• Represent the County Council and make oral representation at the issue specific hearing(s) and if necessary the open floor hearing(s). The subject of the hearings is based on specific elements / issues of the application that are raised during the NSIP process.

5.4 There is also provision in the Planning Act 2008 (as amended) for the applicant to apply for other consents, for example Compulsory Purchase Order (CPO) and drainage consents, deemed by a DCO.

5.5 To avoid any undue delay to the NSIP process and Examination it is important that the tight deadlines set out in the Examination Timetable are met. The delegated authority approved by Environment and Sustainability (E&S) Committee in March 2021 enables the County to meet tight deadlines. Irrespective of delegations passed to officers to meet the necessary timescales set by legislation, the following is proposed to be followed to ensure good practice and ensure an open and transparent decision making process:

• Key documentation and updates to be provided to members of the Environment and Green Investment (E&GI) Committee that replaced the former E&S

Committee and local County Councillors by e-mail at the earliest opportunity to ensure that key deadlines are known in advance and any comments on the documentation provided as early as possible, particularly during the 14 and 28 day deadlines;
• Responses to PINS to either be circulated to members of E&GI Committee and local County Councillors by e-mail for their records, or where time is permitting the draft response taken to E&GI Committee for endorsement; and
• Where deemed necessary, member briefings or specific topic meetings will be set up to provide guidance on the NSIP process and technical responses provided.

6. Alignment with corporate priorities

6.1 Communities at the heart of everything we do

As this is not a County Council proposal there are no specific significant implications identified by officers for this priority. However, Local Authorities are statutory consultees in their own right for any proposed NSIP within their area. Cambridgeshire County Council is a statutory consultee in the NSIP process. Any NSIP response provided by the County Council will (where applicable) ensure that the information produced is capable of assessing this priority before a recommendation is provided by PINS and a decision reached by the Secretary of State.

6.2 A good quality of life for everyone

As set out in paragraph 6.1.

6.3 Helping our children learn, develop and live life to the full

As set out in paragraph 6.1.

6.4 Cambridgeshire: a well-connected, safe, clean, green environment

As set out in paragraph 6.1.

6.5 Protecting and caring for those who need us

As set out in paragraph 6.1.

7. Significant Implications

7.1 Resource Implications

The following bullet points set out details of significant implications identified by officers:

• Finance – As the application is handled by PINS no planning application fee is received from the applicant. Officers are currently negotiating a Planning Performance Agreement with Sunnica for both these latter pre examination discussions following the submission of the DCO and the examination stages, to recover the costs of resources to the project. Mechanisms to recover costs associated with any discharge requirements (like planning conditions) that would arise from any consent granted are also actively being sought as part of the discussions for the DCO. This is in addition to existing pressures from other NSIP projects in Cambridgeshire. Unfortunately, confirmation of the formal PPA agreements is still outstanding so the financial risks to the Council are yet unknown.

• Staff – As a statutory consultee in the initial NSIP process and post NSIP decision if granted, the resources to deal with the application are taken from the County Council statutory consultee staffing resources that are already stretched.

7.2 Procurement/Contractual/Council Contract Procedure Rules Implications

The following bullet points set out details of significant implications identified by officers:

• Procurement – Where specialist officer advice does not exist within the Council(s) relevant specialists may be procured to ensure that the Council(s) has guidance on the key specialist areas. This is to ensure the authorities have the relevant specialist advice to allow officer comments to be provided on technical matters.

• Contractual / Council Contract Procedures – Any specialist advice required to inform this project will need to ensure it meets Council procedures, in addition to the financial implications discussed in paragraph 7.1 above.

7.3 Statutory, Legal and Risk Implications

There are no significant implications for this priority, other than the financial and resource implications required to support this project, which has the potential to include significant legal advice. Officers are currently discussing the potential to share legal resources with colleagues at East Cambridgeshire District Council, but to date this has not been confirmed. As such, there is the potential for additional financial pressures to be placed on the Council if we need to procure separate legal advice for this scheme.

7.4 Equality and Diversity Implications

There are no significant implications for this priority that are not capable of being addressed through comment on the applicant's DCO application. The applicant

is required to satisfy the Equality Impact Assessment requirements as part of their DCO submission.

7.5 Engagement and Communications Implications

There are no significant implications for this priority that were not addressed as part of the Council's response on the Adequacy of Consultation to the Planning Inspectorate.

7.6 Localism and Local Member Involvement

The following bullet points set out details of implications identified by officers:

• Localism – As this proposal is deemed to be a Nationally Significant Infrastructure Project (NSIP) the decision will not be made by the County Council. It will be essential therefore that the Council as a statutory consultee provides the 'local' knowledge to help inform the Secretary of State's decision.
• Local Member Involvement – PINS guidance sets out the role of the local authority, and officers will ensure that local members are kept informed at key stages in the NSIP process.

7.7 Public Health Implications

There are no significant implications for this priority that are not capable of being addressed through comment on the applicant's DCO submission.

7.8 Environment and Climate Change Implications on Priority Areas

There are no significant implications for this priority that are not capable of being addressed through comment on the applicant's DCO submission.

Have the resource implications been cleared by Finance? Yes
Name of Financial Officer: Sarah Heywood

Have the procurement/contractual/ Council Contract Procedure Rules implications been cleared by the LGSS Head of Procurement? Yes
Name of Officer: Clare Ellis

Has the impact on statutory, legal and risk implications been cleared by the Council's Monitoring Officer or LGSS Law? Yes
Name of Legal Officer: Fiona McMillan

Have the equality and diversity implications been cleared by your Service Contact? Yes Name of Officer: Elsa Evans

Have any engagement and communication implications been cleared by Communications? Yes Name of Officer: Ken McErlain

Have any localism and Local Member involvement issues been cleared by your Service Contact? Yes Name of Officer: Emma Fitch

Have any Public Health implications been cleared by Public Health? Yes Name of Officer: Kate Parker or Iain Green

8. Source documents

Planning Inspectorate (PINS) National Significant Infrastructure Project (NSIP) Guidance and Advice Notes;
https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/

NSIP Energy Policy Statements;
https://www.gov.uk/government/publications/national-policy-statements-for-energy-infrastructure

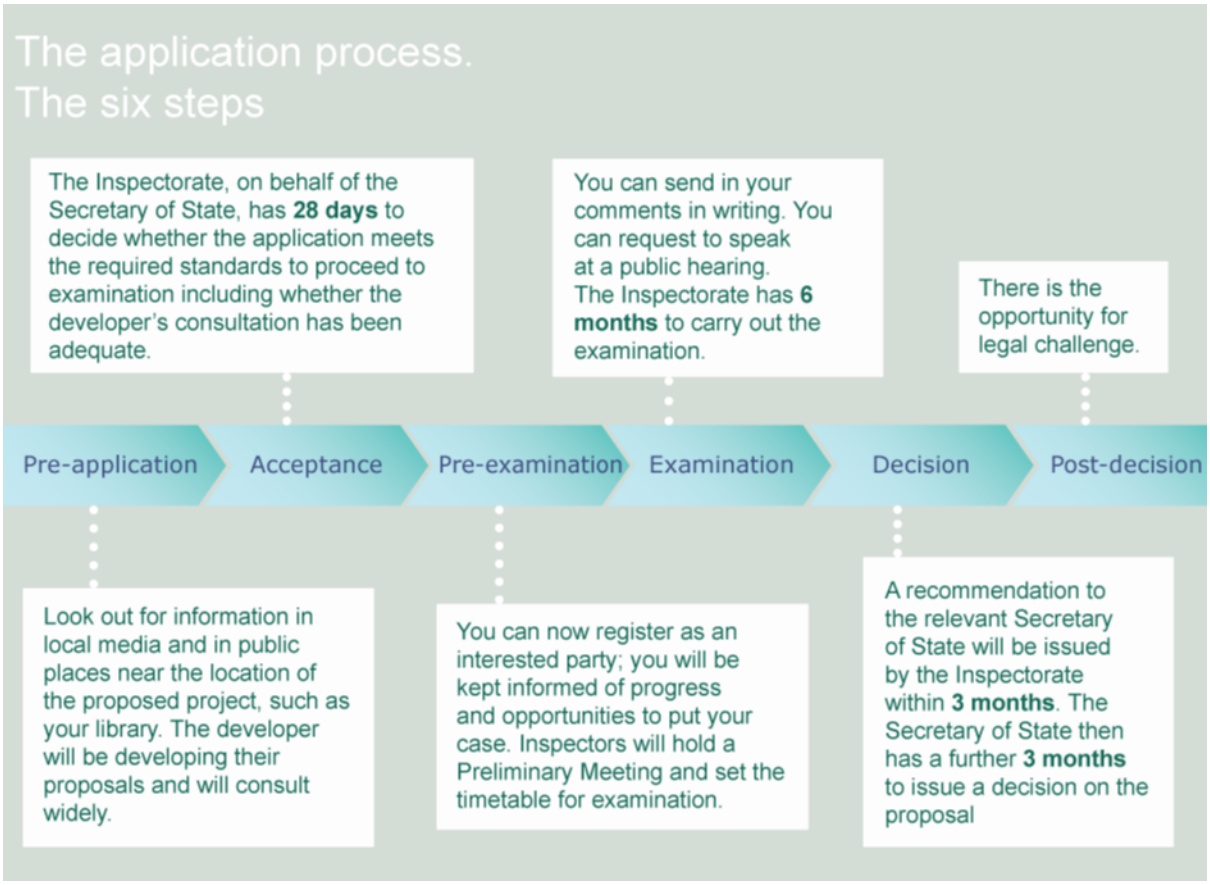
Planning Act 2008 (as amended);
http://www.legislation.gov.uk/ukpga/2008/29/contents

Sunnica Energy Farm Project website;
https://www.sunnica.co.uk/

PINS Project Page for Sunnica Energy Farm NSIP Project;
https://infrastructure.planninginspectorate.gov.uk/projects/eastern/sunnica-energy-farm/?ipcsection=overview

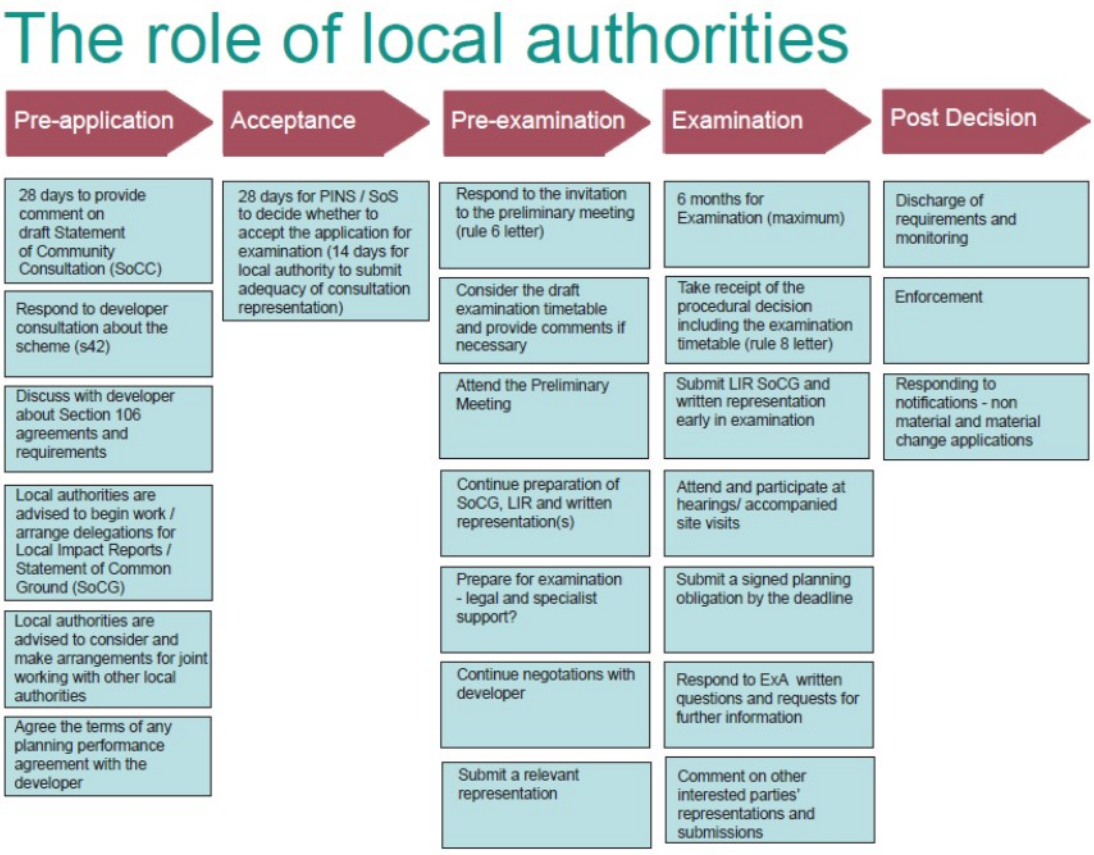
The National Planning Policy Framework (NPPF) (2021)
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf

Appendix 1 - The six steps of the NSIP DCO process under the 2008 Act



Source PINS website https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2013/03/Application-process-diagram2.png

Appendix 2 - The role of local authorities



Source PINS Advice Note 2 https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2015/03/Advice_note_2.pdf

Appendix 3 – Cambridgeshire County Council Draft Relevant Representations

Contents

1 Introduction

1.1 Throughout the pre-submission period Cambridgeshire County Council (CCC) has worked closely with the other host local authorities: Suffolk County Council (CCC), East Cambridgeshire District Council (ECDC) and West Suffolk Council (WSC). The four local authorities have submitted joint responses to the applicant's non-statutory and statutory consultations. To simplify matters for the Examining Authority (ExA) and all parties, the four local authorities intend to submit a joint Local Impact Report (LIR) at Deadline 1.

1.2 We will also endeavour to pool resources during the examination to the extent possible, with one local authority taking the lead on topics which relate to their functions or expertise in their geographical area. These arrangements are for practical purposes to avoid undue duplication, and all local authorities will reserve the right to express their views individually if they consider it necessary.

1.3 Notwithstanding this, each authority is submitting their relevant representation on an individual basis to ensure that the ExA is fully informed of the matters of concern to those authorities and the communities and interests that they represent.

2 Summary

2.1 Cambridgeshire County Council has a number of concerns relating to the quality of the information shared in the Environmental Statement. More evidence is required to allow CCC to fully understand the impacts of the scheme and have a view to whether the mitigation measures proposed are sufficient. There are a number of concerns related to the quality of the assessments and assumptions used. In addition, more detail is needed at this stage of the process to assure the county council aspects of the scheme are deliverable.

2.2 The County Council seeks these matters to be resolved ahead of any consent given to the scheme.

Key concerns

2.3 The following is a summary of the key concerns identified by technical officers. More details are provided in the following chapters.

2.3.1. Transport and Access. There is a lack of evidence supporting assumptions made and the conclusions to assessments provided. Consequently, there are several impacts CCC is of the opinion are not sufficiently assessed.

2.3.2. The draft Development Consent Order (DCO) has not got sufficient highway provisions to ensure the local highway authority is adequately engaged.

2.3.3. Cultural Heritage Archaeology. CCC's Historic Environment Team (Archaeological Service) has been working with the applicant on the design and carrying out of archaeological evaluation work since the early stages of the project. The mitigation strategy is currently vague and requires

development. Relevant documents in the submission pack will need to be revised once an agreed mitigation strategy has been developed: for example, APP-257 Schedule of Environmental Mitigation, and APP-123 ES Appendix 13C Framework Construction Environmental Management Plan and Travel Plan. An Historic Environment Management Plan should be prepared to provide a mechanism by which specific sites will be suitably protected.

2.3.4. Ecology and Nature Conservation. The ES provides inadequate detail in its assessments. This includes insufficient evidence to demonstrate the Biodiversity net gain. More supporting information and clarification is required. Until such time CCC cannot be satisfied the scheme has adequately mitigated it's impacts.

2.3.5. Flood Risk, Drainage and Water Resources. There is a lack of data to evidence the feasibility of the approach adopted and measures proposed. There is no flood zone compensation proposed. More detail of the SUDS features is required.

2.3.6. Socio-Economic and Land Use. Whilst the Agricultural Land Classification (ACL) has been provided, the capability to produce crops seems to be understated. Grade 3 soils in Cambridgeshire can produce a great deal more than a Grade 3 soils in other areas of the country. The assessment needs to reflect this. Also suitable mitigation measures need to be in place to address soil compaction on sites during construction, operation and decommissioning.

2.4 The remainder of this document gives further details of CCC's comments. Further detail of which will follow in the LIR to be provided jointly with the other host authorities.

2.5 The headings below align with the Environmental Statement chapter headings. The comments under these headings may make reference to other relevant parts of the application.

3 Cultural Heritage *(Chapter 7 of the Environmental Statement)*

Archaeological Mitigation

3.1 The archaeological mitigation strategy is incomplete. However, the scheme will adopt the 'Rochdale Envelope approach', which allows flexibility in the approach to mitigation and fixing the design after submission of the DCO application. This approach is understood for Sunnica Solar Energy Farm (SEF) for three reasons:

3.1.1. The evaluation reports for the scheme had not been completed by the time of the submission of the DCO application.

3.1.2. The cable routes within the solar farm do not yet have fixed locations and there is subsequent scope to alter the design and layout of the panel strings.

3.1.3. Archaeological and other assessments of the cable route to Burwell National Grid Substation have not yet taken place.

3.2 While the archaeological mitigation strategy is still in development, the trench-based evaluation results will be assessed alongside the geophysical survey plots to validate or change the scope and areas where diverse archaeological mitigation work is needed. Currently areas for protection have only been developed from geophysical survey data.

3.3 Relevant documents in the submission pack will need to be revised once an agreed mitigation strategy has been developed: for example, **APP-257** Schedule of Environmental Mitigation, and **APP-123** ES Appendix 16C Framework Construction Environmental Management Plan and Travel Plan.

3.4 Positive Embedded Design Mitigation for archaeology includes the removal of ten areas of significant (high value) archaeological sites from construction impacts: seven in Cambridgeshire and three in Suffolk (APP-039 7.6.2). Although they constitute non-designated heritage assets, the character of some of the sites (particularly in ECO5) suggests that they may be of equivalent status to designated heritage assets. An Historic Environment Management Plan should be prepared to provide a mechanism by which these sites will be suitably protected under pasture, managed and maintained - indicating by whom throughout the life of the solar farm, along with proposals for what will happen to them should the site be decommissioned and dismantled.

3.5 According to **APP-039** (6.1 ES Chapter 7 - Cultural Heritage), a Detailed Archaeological Mitigation Strategy (DAMS) will be prepared and will respond to the requirements of the local authority archaeology brief (see 7.6.8). The Mitigation Design Brief is available from CCC upon request. We look forward to discussions to finalise and agree the mitigation strategy with the Applicant.

3.6 There is currently little to agree or disagree with at this stage as the mitigation concept is vague and requires development.

3.7 The post-consent programme of archaeological investigation, monitoring and reporting will need to be secured through DCO Requirements and Conditions.

<u>APP-019 3.1 Draft Development Consent Order</u>
<u>Part 4 Supplemental Powers: Section 15: Removal of human remains</u>

3.8 We recommend that this section is amended as it does not cover provisions for the removal of archaeological human remains (over 100 years old). The Applicant is advised to insert provisions to ensure this is covered including reference to the need to acquire relevant exhumation licences from the Ministry of Justice.

<u>Section 17: Authority to survey and investigate the land</u>

3.9 Part 1 (a) and (c) provide welcome authorisation for archaeological investigation work and to demarcate areas for long term protection of archaeological sites and monuments, where no landscaping or construction impacts are to occur. Access to areas of archaeological protection should also be included for future management and maintenance proposes. Who will be responsible for the management of these areas is to be clarified.

APP-035 ES 6.1 ES - Chapter 3 - Scheme Description
3.5 Electricity Export Connection to National Grid

3.10 The cable will be constructed in two concurrent phases over 30 weeks within the cable route corridor, which is not yet fixed. Should Sunnica Energy Farm gain consent, the timing of the advance archaeological programme including the procurement of a professional archaeological contractor to survey and evaluate the cable corridors and the Burwell NG Substation expansion site, and to conduct advance excavations where needed, is critical.

4 Ecology and Nature Conservation *(Chapter 8 of the Environmental Statement)*

4.1 The Council is concerned that the proposed scheme does not adequately avoid, mitigate or compensate adverse impacts to biodiversity, including designated sites, protected species, priority habitats and notable species. Further details are required to demonstrate how the scheme accords with requirements to protect biodiversity within the Overarching National Policy Statement for Energy (EN-1).

4.2 The scheme will result in adverse impact to functional land of the Brecklands Special Protection Area (SPA) and its population of Stone Curlews (for which it is designated). It is unclear why the scheme has not been designed to avoid destruction of Stone Curlew habitat. The Councils are concerned that the proposed compensatory measures are not sufficient to off-set this adverse impact.

4.3 Impact to Chippenham Fen and Snailwell Poor's Fen, including Fenland Special Area of Conservation (SAC), Chippenham Fen Ramsar / National Nature Reserve (NNR), Chippenham Fen and Snailwell Poor's Fen Site of Special Scientific Interest (SSSI) has not been adequately considered / justified. For example, insufficient evidence has been provided to demonstrate that the impact to the sites' aquatic invertebrates and potential effect on ground water.

4.4 The Council is concerned that the proposed mitigation measures are inadequate to mitigate adverse impact to Havacre Meadows and Deal Nook County Wildlife Site.

4.5 The Council is concerned that the impact of Battery Energy Storage System (BESS) fire safety measures on watercourses and hydrologically linked wildlife

sites, wetland habitats and associated species has not been adequately assessed.

4.6 The scheme does not adequately avoid, mitigate or compensate the losses of priority habitat. For example, the scheme does not protect arable field margins supporting notable arable plants of county and district importance.

4.7 The scheme does not provide sufficient details to determine whether adverse impacts on protected species will be adequately mitigated / compensated. For example, it is not clear how the proposed landscape scheme will create habitat to support breeding bird populations of district / county importance. In addition, the environmental statement does not accurately reflect the impact of the scheme on protected species (e.g. the loss of bat roosts at Burwell Substation).

4.8 Adverse impact to invertebrates from solar panels has not been adequately assessed / justified. Further mitigation measure may be required.

4.9 It is not possible to determine whether or not the scheme will deliver Biodiversity Net Gain (or at least no net loss) during either the operational or decommissioning phases.

4.10 The Construction Environmental Management Plan (CEMP) does not provide sufficient details to demonstrate that biodiversity will be adequately mitigated through the construction phase.

4.11 The proposed landscape scheme does not demonstrate how the scheme will deliver adequate biodiversity mitigation / compensation and deliver biodiversity net gain. For example, the landscape masterplan doesn't show all proposed habitats and the Landscape Environmental Management Plan (LEMP) does not provide any detailed design, management or monitoring of the proposed habitats / key features.

4.12 The scheme, including the Decommissioning Environment Management Plan (DEMP), provides insufficient details of the decommissioning phase to determine whether the scheme will result in long-term adverse impact on biodiversity. For example, no landscape masterplan has been submitted to show what habitats will be retained. The Council is concerned there is no long-term management / monitoring for these habitats, as well as any compensatory habitat / reinstatement of original habitats created as part of the decommissioning phase.

4.13 More detail will be provided within the Local Impact Report.

5 Flood Risk, Drainage and Water Resources *(Chapter 9 of the Environmental Statement)*

5.1 Infiltration rates - It appears that the scheme is to utilise infiltration for the disposal of surface water. However, infiltration testing has not been undertaken to assess the feasibility for this approach across the site. Intrusive ground investigations must be undertaken for the LLFA to accept infiltration. Until this testing has been undertaken, it must be assumed that infiltration is not feasible, and an alternative point of discharge proposed.

5.2 The Lead Local Flood Authority (LLFA) would also expect groundwater vulnerability to be reviewed in any areas where groundwater could be at risk from infiltration. This includes a minimum clearance of 1.2m between the base of any infiltration feature and peak seasonal groundwater levels. If infiltration is proposed in areas where groundwater bodies are vulnerable to pollution, this must be suitably considered within the design.

5.3 Clarity and delineation of boundary - It would be helpful in the review of the information to clearly delineate where the boundary between Cambridgeshire and Suffolk is, as there are separate LLFA teams reviewing the information.

5.4 Attenuation volumes - Quick Storage Estimates (QSE) have been used to review the required level of attenuation for the scheme. It is acknowledged that this is a large site, however there is an uncertainty within the QSE calculation. The current proposals have used a storage requirement of the average for the site, assuming infiltration works. However, the LLFA requests that the maximum level of the QSE is used assuming a worst-case scenario, with no infiltration, to ensure that the capacity is available at the site. Alternatively, a conservative approach to calculate the attenuation required for the proposed impermeable area of the scheme should be undertaken.

5.5 FEH (Flood Estimation Handbook) rainfall data is now required on all applications to ensure the hydraulic modelling is an accurate representation of the proposed network.

5.6 It also appears that this model has not been made available for review. The system will be required to have a surface water hydraulic model for the proposed system for the LLFA to support the scheme.

5.7 Development in Flood Zones - The proposals include development within flood zones. No flood zone compensation appears to have been proposed within the scheme. This must be discussed with the Environment Agency (EA) to address compensation requirements within the scheme.

5.8 Drainage layout - whilst it is acknowledged that this is in the early stages of proposals, a more detailed drainage layout plan must be provided to demonstrate the different SuDS features in use across the site. This should also include all proposed drainage management systems for the battery storage and solar station areas.

5.9 Exceedance Plans – Plans demonstrating the exceedance routing of surface water in the event of system exceedance or system failure should be provided. This should ensure that any overland flows do not adversely impact any surrounding land or property.

5.10 Maintenance tracks - No details are currently provided on the maintenance tracks around the solar farm and how water will be managed from these surfaces. As these would be subject to use by vehicles, any surface water management scheme for these surfaces must treat water suitably to ensure that pollutants are not discharged into groundwater.

6 Landscape and Visual Amenity *(Chapter 10 of the Environmental Statement)*

6.1 Cambridgeshire County Council has concerns for the impact of the scheme on the landscape. The scheme is of a significant scale and needs to be appropriately assessed with a mitigation strategy that recognises the number of landscape character types.

6.2 East Cambridgeshire District Council are leading on landscape and visual amenity (including historic landscape heritage) with respect to Cambridgeshire, and will be included in their relevant representations.

6.3 More detail will be included in the joint LIR.

7 Socio-Economic and Land Use *(Chapter 12 of the Environmental Statement)*

7.1 The methodology adopted regarding Agricultural Land Classifications (ALC) appears to be to the Council's satisfaction and reflect the results the County Council has found in the surrounding area. However, the capability to produce crops seems to be understated. Grade 3 soils in Cambridgeshire can produce a great deal more than a Grade 3 soils in other areas of the country. The assessment needs to reflect this.

7.2 The loss of land capable of food production is less well documented and would be significant as is the array of crops, most of which are of high value.

7.3 We disagree with the assumption that construction traffic will be similar to agricultural vehicles and require mitigation measures to be in place to address soil compaction on sites during construction, operation and decommissioning.

7.4 There appears to be a lack of consideration to the cumulative impact of solar farms in the area. There are a number identified in Appendix 5A to be taken forward to stage 3 and 4 of assessment, that is not documented in this and other relevant parts of the ES.

8 Transport and Access *(Chapter 13 of the Environmental Statement)*

8.1 Consultation by the applicant on transport matters has been minimal. There have been only two meetings since consultation late 2020. These took place in March 2021 and August 2021 for which little detail was provided and no draft documents have been shared.

8.2 The current DCO and supporting documents contain insufficient detail to assess the impacts upon the highway network and the general travelling public. We are therefore unable to provide a meaningful and comprehensive assessment of the scheme. The main issues being:

8.2.1. The information provided is largely comprised of generic information with little site specific detail. It is therefore difficult for the Local Highway Authority (LHA) to understand the likely impacts and make an informed view in relation to the proposed scheme.

8.2.2. As far as can be determined traffic flows (including deliveries and muck away vehicles) have not been provided for each individual access (including those on the cable route) so it cannot be determined if the locations of compounds and accesses are appropriate, feasible or if mitigation works are needed. It is noted that the applicant claims local operatives will travel directly to local sites and are 'not expected to have a significant impact' (ES Appendix 13B Paragraph 6.3.1) but movements cannot be qualified fully.

8.2.3. What site specific information is provided, is often to such limited detail to be little more than schematic in nature. It does not provide the necessary local detail, and it cannot be determined whether existing highways are geometrically adequate to cater for the intended traffic levels, whether the access arrangements proposed are adequate and safe, or whether off site mitigation is needed.

8.2.4. Other than the indicative layout of the two main carparks, we have been unable to locate specific details of internal arrangements such as internal tracks, buildings, loading area, turning provision etc. While such issues may be considered with respect to the Framework Construction Traffic Management Plan (FCTMP), it is not possible to consider whether adequate capacity (including those on the cable route) that will be available post construction.

8.2.5. The application documents appear to lack a schedule of proposed works meaning it is not possible to meaningfully review the impacts of the scheme. For example, the Works Plan (EN010106/AAP/2.2) and 2.3 Access and Rights of Way Plan indicates broad areas of highway works, but do not clearly indicate what these works comprise to enable full consideration of whether the works are acceptable in layout, geometry, and safety terms. It is

yet to be determined if the works are feasible within the constraints of the public highway or land within the applicant's control.

8.2.6. References are made to a minibus for construction staff, but there is no supporting detail relating to routing, frequency, stop locations etc. or any meaningful commitment to this.

8.2.7. 7.2.30 of Appendix 13C indicated that staff will be transported from the main site car parks to other site compounds on internal routes where possible but provides no detail to support what will be achievable internally, nor provide details the impact that internal movements may have on the use of accesses along the cable route.

8.3 Whilst it may be conceivable to address some of these issues through later submissions, a certain level of detail should be provided at this time such that the impact of the proposals on the Local Highway network can be determined, and indeed whether the works proposed are adequate and deliverable to mitigate the impact of the development. At a minimum, designs for access and all mitigation within the highway should be provided, supported by the necessary supplementary information (See below).

Draft Development Consent Order

8.4 A number of articles (for example Article 9(1)) do not give the local highway authority (LHA) any role in agreeing the design or standard of construction of proposed alterations to the highway. It also makes no reference to any amendments that may be required to the Public Right of Way (PROW) network. This sort of engagement is essential in ensuring that the proposed works are completed to the "reasonable satisfaction" of the LHA as mentioned in article 10(1), by collaboratively developing a framework for the undertaker to work within. Relevant articles are needing to be amended to include a requirement for the consent from the LHA. Equally there is no methodology for how Sunnica will seek approval from the LHA. It is important a process is agreed in the design, inspection, and approval of works.

8.5 There should also be clauses affording protection to the highway authority by permitting it the right to carry out inspections and to certify that the altered highways (including PROW) have been constructed to an acceptable standard.

8.6 See Appendix 1 for comments against specific articles.

8.7 Based on experience with other DCO schemes, the Council recommends that such matters can be dealt with through a legal side agreement, which should be agreed before any Examination of the draft DCO process starts. CCC does not agree with the current draft DCO and requires the insertion of clauses into the draft DCO to ensure it is able to better protect the interests of the public, to clarify

areas of responsibility in relation to the proposed scheme, and to enable it to interact with the undertaker more efficiently during implementation of the proposed works. This will also enable smooth delivery of the scheme and lessen the likelihood of delays.

Individual Accesses

8.8 The application is largely comprised of generic information and little site-specific detail. It is therefore difficult for the LHA to understand the likely impacts and make an informed decision in relation to the proposed scheme.

8.9 Indicative access locations have been provided in Annex C to Appendix 13c. Detail of design is insufficient as is the supporting information. Many roads are narrow, have limited visibility, poor surface quality and subject to national speed limit. Mitigation regarding highway safety, particularly large vehicles routed on constrained highways need to be shown in greater detail. This information should include:

- Vehicle tracking and visibility splays are needing to be provided for each access in sufficient detail to allow the LHA to assess.
- Any works need to consider ditches. Detailed designs need to show any work to ditches that would require consent from the LLFA.
- The number of journeys between sites throughout the day to each access. This information is needed to be able to assess if safe accesses are deliverable. Safe access is too fundamental to consider at a later stage in a Construction Traffic Management Plan.

8.10 Section 5.2.5 of Appendix 13c refers to a review being undertaken of road width on key road locations where a majority of HGV trips will occur. It is asked Sunnica seeks clarification from the LHA as to the lateral width of the highways for all routes. This is needed to ensure all impacts are identified and that any works proposed or undertaken within the DCO area do not unlawfully encroach upon the highway or have a negative impact on the users of the network. This applies equally for roads and PROWs.

Works within Highways

8.11 Works within the highway (include PROW) must be undertaken to the satisfaction of the LHA and to the relevant specification and standards. The applicant must clarify how this will be secured. Temporary works in the highway must also be undertaken to the same standard and specification.

8.12 Mitigation of the impact of HGVs use on the highway network need to be addressed through a Construction Traffic Management Plan and agreed with the LHA.

8.13 Crossroads are proposed onto the B1085. This would not normally be accepted on a rural high speed road, but may be considered in context of the proposed use and under traffic management during the construction phase, however further information relating to the cross-traffic movement will be required.

Framework Construction Traffic Management Plan and Travel Plan

8.14 The Framework Construction Traffic Management Plan (FCTMP) and the Travel Plan App 6.2 provides daily HGV, cranes and abnormal vehicles single direction movements. Routing and the split across each access has not been provided and therefore consider the data incomplete.

8.15 CCC requires anticipated flows for routes on minor roads linking to each individual cable route/minor access.

8.16 The vehicle occupancy assumption based on the 2020 transport assessment of Sizewell C DCO in Suffolk is not evidenced as being applicable to this scheme that is very different in nature.

8.17 The restricted movements at the A11/A14 junction 38, (vehicles west bound on the A14 are unable join the A11 north, and need to travel on to junction 37 of the A14 to cross over onto the east bound to return to junction 38), means it is likely light vehicles will travel cross country between the A11 and A14 through Red Lodge, Kennet or Tuddenham as reflected in the applicants forecast (Transport Assessment Annex F). The layout of this junction has a significant impact on traffic movements associated with this development which is not reflected in the TA (3.4.3).

Public Rights of Way (PROW)

8.18 The visual impact mitigation measures do not consider temporary mitigation whilst planting grows to a suitable height.

8.19 The Preliminary Environmental Impact Report 4.7.5 predicts the effects of noise to be negligible. This needs to be assessed in the context of inverters, switch gear and associated equipment in proximity to PROW and equestrian users that are sensitive preceptors to such noise. Sufficient detail of the location of such equipment is needed and where necessary mitigation provide.

8.20 There are a number of inaccuracies and missing information associated with the Access and Rights of Way (A&ROW) Plans and Permissive Paths Schedules 1 and 2. These will be amended to CCC's satisfaction.

8.21 Any new roads, footways, or other means of access into the development from the highway maintainable at public expense should, where they meet the highway, be constructed to a standard acceptable to the County Council as

Highway Authority. The Council requires that a Highway Standards specification be agreed with the Applicant that is included in a legal side agreement. The County Council requests liaison with Sunnica regarding this aspect of the development as soon as possible.

9 Air Quality (Chapter 14 of the Environmental Statement)

9.1 We do not consider as stated in paragraph 14.2.16 "Exhaust emissions from road vehicles may affect the concentrations of the principal pollutants of concern (NO2, PM10 and PM2.5),". We would suggest that with over 50 HGV movements a day that emissions from road vehicles are very likely to affect concentrations.

9.2 Clarity is needed to understand the assumptions for the performance of HGVs behind the modelling exercise referred to in Paragraph 14.6.1 and table 14.6.

9.3 More detail is required for how that in the Construction Logistic Plan (CLP) is delivered, and the measure to ensure all contractors and subcontractors and suppliers co-operate.

10 Human Health (Chapter 15 of the Environmental Statement)

10.1 Further clarification is needed with regard to the impact on local primary schools and potential safe routes to school for walkers and cyclists. (15, paragraph 15.6.18).

10.2 The duration of time for severance of PROW needs to be provided to inform the impact for users.

Battery and Fire Safety

10.3 One concern which has been raised by the local community is over the safety, in the event of a fire, of a considerable number of Battery Energy Storage Systems (BESS).

10.4 Suffolk Fire and Rescue Authority has led in responding to the proposals. This included comments made in the host authorities joint consultation response, requesting the risk characteristics of a potential lithium-ion battery fire are considered, and inform the design of BESS and mitigation of the risk.

10.5 The applicant has produced an Outline Battery Fire Safety Management Plan.

10.6 This will be explored in more detail in the joint Local Impact Response (LIR), to evaluate the submitted appendix on Unplanned Atmospheric Emissions from Battery Energy Storage System.

Appendix 1: Detailed Transport and Access Comments

1. Based on the level information which has been provided, the following commentary is provided, divided into key headings.

Access

2.1 The proposed locations of construction and operational accesses are ambiguous, with all access appearing to be retained for potential future use during the operational period. For the purpose of this application, all accesses will need to be considered as permanent works carried out to CCC's specification.

2.2 Indicative access locations have been provided in Annex C to Appendix 13c. These designs appear to be based on high-level mapping and/or aerial imagery. The detail of the design is insufficient as is the supporting information. For each access onto a CCC highway, we would expect to see an outline level of design (at scale) supported by appropriate visibility splays and swept path analysis (vehicle tracking). Further information relating to CCC's requirements for visibility and tracking is outlined below.

2.3 Many of the proposed accesses to compounds and construction sites are from minor roads with narrow carriageways, limited visibility, poor surface quality and which are subject to the national speed limit. We are therefore unable to advise, with the information provided, if access can be safely achieved. For example, the designs show accesses which (appear) to be sized for the swept path of construction vehicles, but it is unclear if any accommodation works on the main carriageway would be needed.

2.4 Crossroads are proposed onto the B1085. This would not normally be accepted on a rural high speed road, but may be considered in context of the proposed use and under traffic management during the construction phase, however further information relating to the cross-traffic movement will be required.

2.5 As indicated in supporting documents, some of these accesses will serve hundreds of daily vehicles. Given the anticipated levels of use, the detail provided is not sufficient. The design of safe accesses is considered too fundamental to be addressed at a later date in a Construction Traffic Management Plan. It is also unclear from the submitted documents if any vehicular trips between the various sites are proposed throughout the working day.

2.6 Trunk road slip roads are classified as being 'very low' sensitivity. Being an integral part of the network to be used connecting to the trunk roads these are of strategic importance and the assessment should reflect as much.

3 Visibility

3.1 At the location of each proposed access, the applicant should demonstrate that inter-vehicle visibility splays can be achieved which are proportionate to the signed speed limit (speed does not appear to have been provided for all access points). Based on the specifics of the access proposals and location, other visibility splays may be

required to ensure highway safety will not be compromised e.g., forward visibility, tangential visibility, pedestrian visibility splays.

3.2 All visibility splays must be achieved fully within land under the control of the applicant or within public highway. Such splays will need to be retained clear from obstruction from at least a height of 0.6m while the access is in place. Visibility has been highlighted in Annex C of the Framework Construction Traffic Management Plan (FCTMP), but it does not appear that all visibility splays shown fall within land under the applicants control or public highway, an example of this being the access to Sunnica West Site B access D, visibility appears to cross significant areas of private land. The plans detailing visibility splays currently provided are too small a scale to assess the achievable visibility or to assess the impact on adjacent land or features. The verified highway boundary must be shown on all submission drawings, details of which can be procured by following the instructions in the link below. It should be noted that ditches do not normally form part of the highway and would normally be expected to be in riparian ownership.
https://www.cambridgeshire.gov.uk/business/highway-searches

3.3 Many accesses are proposed for minor rural roads which are subject to the national speed limit. This means that an inter-vehicle visibility splay of 2.4m x 215m. CCC accept reductions in visibility requirements based on the 85th percentile observed speed limit, provided that a speed survey is undertaken in line with the requirements of the DMRB document CA185 ‘Vehicle Speed Measurement’.

3.4 In other words, the access junction designs and locations cannot be accepted until the applicant has demonstrated that the above visibility requirements can be met.

3.5 While visibility requirements may be reduced during the construction phase with the introduction of reduced speed limits as proposed in table 6-1, or alternative traffic management, sites where appropriate visibility cannot be fully achieved within the public highway or land within the applicant’s control would not be considered suitable for any intensification of use or potentially retention during the operational period. It should be noted that any temporary speed limit would be subject to a successful Temporary Traffic Regulation Order.

4 Vehicle Tracking

4.1 Some vehicle tracking has been provided to support this application, but this is considered insufficient to demonstrate the suitability of accesses designs or any necessary mitigation on the public highway network. Vehicle tracking must be shown for the proposed works, not side-by-side imposed on the existing layout.

4.2 Many of the rural accesses proposed utilise existing narrow field access crossing ditches and it is often unclear from the information provided whether the swept path and proposed access arrangements can be accommodated without amendment to the existing ditch, which would require the consent of the LLFA or relevant Water Authority.

4.3 We are unable to determine the exact tracking movements which are necessary in absence of detailed traffic flow diagrams; where sites are reasonably trafficked, the guidelines set out below should be adhered to:

- For accesses with large flows of construction vehicles, deliveries or other HGVs, tracking is needed for two-way flows of the largest vehicles which are anticipated to use the access.
- For accesses with moderate flows of construction vehicles, deliveries or other HGVs, tracking is needed for the largest vehicle which is anticipated to access the site and a car/van exiting the site at the same time (and the reverse).
- For accesses to contractor parking areas, tracking of two large vans entering and exiting at the same time should be provided.
- Tracking for any abnormal vehicle is needed for the entire length of their journey from the Strategic Road Network.
- Tracking of site compounds is needed to demonstrate that turning is achievable off highway for HGVs and other construction vehicles.
- While turning of HGV's in a single direction in/out may be acceptable during the construction phase (providing no onward movements to other sites/accesses will be necessary), the access must be able to accommodate two-way movement in both directions by the largest class of vehicle that can be anticipated to use that access during the operational phase.

4.4 The above is a rough guide only, and we cannot provide further commentary with the level of information with which we have been provided. It's key that the applicant demonstrates through tracking, that no vehicle will be required to reverse on the public highway and that the construction traffic and the access design will not obstruct the operation of the highway.

4.5 Vehicle tracking for a Crane has been provided in Annex D of the FCTMP. A number of movements require temporary removal of highway assets which would require consent from the LHA. Other movements, particularly those through built up areas appear to pose a risk to the public where the vehicle crosses or overhangs footway or verge. Where such movements are necessary, they must be performed under escort and with banksman. Where local widening works are needed, these must be in place prior to the commencement of the development.

4.6 For purposes of feasibility, where any widening works are required to accommodate cranes or other HGV movement, it must be established that the proposal is located within public highway or land within the applicant's control and that any works consider the proximity of any ditches. It is not clear from the plans provided whether this has been considered; for example, Figure 44 of Appendix 13c shows proposed junction works at Weirs Drove, Burwell which appears to indicate works over ditches.

5 Traffic Modelling

5.1 CCC considers that there are shortfalls in the Transport Assessment that should be addresses. These include:

- Fundamental issues around the assessment of the development's impact based on 12-hour day shift patterns.

- The assessment of driver delay quantifies impacts in terms of changes to traffic flow but does not in terms of delay (e.g. increasing in journey time).
- There are a number of assumptions made without evidence to support them.
- Concerns remain regarding the accuracy of the ratio used to determine baseline flows in the development peak hours. The data used to calculate these reductions should be submitted for review particularly as Table 3-13 indicates a range of differences between these hours particularly for the AM.
- Dismissing traffic impact of construction traffic on Saturday is not accepted without evidence. The ending of a shift at 1300 may coincide with the peak on Saturday.
- Removing the minibus movements (59 single direction trips i.e. 118 movements) should not be dismissed from the modelling.
- Impacts are often dismissed based on their comparison to the peak hour (such as paragraph 13.8.227), this is not considered a valid reason for dismissing impacts given the assessment is to test the development's impact, not whether the network operates better during certain other periods.

5.2 CCC notes the operational stage is anticipated to require 17 permanent staff which has led to the operational stage being scoped out of the assessment. However, clarity is needed regarding maximum levels anticipated associated with maintenance described in the Chapter 13 Transport and Access, paragraph 13.8.254. “There will also be a requirement for additional staff to attend the sites when required for maintenance and cleaning activities”.

6 Mitigation

6.1 It is unclear what mitigation is needed on the surrounding highway network.

6.2 Mitigation is based on a number of key measures being implemented, although the mechanisms to ensure these are delivered are not demonstrated. These include staff 12 hour working shift, vehicle occupancy, staff routing, parking access and permits, staff minibus. CCC seeks more supporting documentation to give weight to the mitigations proposed.

6.3 Regarding highway safety, mitigation may be required where large vehicles are routed on constrained highways and could include enlarged junctions, widened carriageways, passing points etc. To advise if mitigation is needed, we would need detailed contractor/construction traffic routing (incl. details of heavy vehicles), vehicle flows and appropriate vehicle tracking in relation to each access.

6.4 Such mitigation that is indicated is shown on high scale mapping/aerial imagery making its suitability impossible to determine. Any resubmission should be provided on a corroborated OS base as a minimum, or topographical survey where necessary to provide appropriate detail.

6.5 It is noted that section 5.2.5 of Appendix 13c refers to a review being undertaken of road width on key local roads where the majority of HGV trips will occur. It is suggested that such a study be extended to all roads effected by these proposals so that this can be considered alongside traffic volume and speed in determining suitable mitigation measures such as road widening or provision/ improvements to passing places. While a 4.8m width may be considered appropriate for two vehicle to pass in

Manual for Streets, this should not be considered suitable for all road and traffic conditions which must be considered in relation to the nature of the road, level of use and speed of traffic. Failure to provide sufficient carriageway width may result in overrunning of verges, damage to the haunch and fabric of the highway, which in turn can contribute to loss of control accidents.

7 Works within CCC Highways

7.1 Works within highway must be undertaken to the satisfaction of the LHA and to the relevant specification and standards. The applicant must clarify how this will be secured.

7.2 Further, the reasonable fees of the LHA in approving and inspecting works must be met by the applicant and further clarification and undertaking by the applicant will be required in this respect.

7.3 Temporary works in the highway must also be undertaken to the same standard and specification. The applicant must clarify which works are to be removed post construction and the nature of its reinstatement.

7.4 Where all works within the public highway (even temporary works) will need to conform with CCC's specification, this is available from the link below:
https://www.cambridgeshire.gov.uk/residents/travel-roads-and-parking/roads-and-pathways/highways-development

7.5 Wherever possible the 132kV cables should be laid in private land, not in the public highway. Where cables have to be laid in the public highway, ie where it laterally crosses the highway, the cables should be adequately protected, marker posts used to indicate the presence of the underground cables and recorded on a publicly available national underground asset register. On decommissioning, any apparatus laid in the public highway should be removed and not left in-situ.

8 Framework Construction Traffic Management Plan and Travel Plan

8.1 A Framework Construction Traffic Management Plan (FCTMP) and Travel Plan (EN010106/APP/6.2) has been provided to support this application. Both will need to be agreed with the LHA.

8.2 Tables 2-1 and 2-2 of this documents outlines daily HGV, cranes, and abnormal vehicle single direction movements. The subsequent text (paragraph 2.4.5) detail that during peak construction 1,393 additional staff trips per day (or 937 vehicles) are forecast on the network. Routing and the split across each access which correlates to the above has not been provided. We therefore consider this data to be incomplete.

8.3 The 1,393 additional staff trips per day assumes the busiest month across the two sites according to the phased construction. However, there is the potential for a higher peak if the phasing changes. When adding the peaks for each site the number of trips per day is higher. West month 12 + East month 8 = 1,521. It can be argued this is the worst case scenario against which to assess. Clarification is needed as to peak used in the assessment.

8.4 It is noted that a vehicle occupancy has been assumed based on the 2020 Transport Assessment for Sizewell C's DCO in Suffolk. Due to varied location, the same occupancy does not necessarily apply in this instance. Further information is needed on the workforce for this project to determine the most appropriate vehicle occupancy.

8.5 The FCTMP has been written with reference to CCC's Advisory Freight Map which is welcome. The FCTMP focuses on HGV movements to the two mains sites, but it is unclear on the number of movements will be required to serve construction along the cable route or other minor access points. While some indication is given in Figures 8 and 9 of Appendix 13c of HGV routes through this area, we have been unable to locate any details of anticipated flows, nor indication of routes on minor roads linking to each individual cable route/minor access. This must be clarified.

8.6 Any temporary road closure or proposal for speed limit reduction though TTRO will require consent from the Street Works / Policy and Regulations Team under the relevant statutory process.

8.7 While it is acknowledged that this is a framework document, it is strongly advised that a detailed document be provided in relation to each individual site access prior to the determination of the DCO. In addition to the above commentary, it is recommended that such documents should include the following items:

- The routes proposed for HGV access from the nearest A or B class road.
- A condition survey of the route from the nearest A & B class road, the methodology of which is to be agreed.
- The location of any onsite buildings, welfare facilities, parking, loading, and turning areas to be maintained during the operational phase.
- The proposed manoeuvring area for delivery/muck away vehicles, this should include a swept path analysis for the largest vehicle to deliver to the site to demonstrate that this can enter and leave in a forward gear.
- If it is not possible to deliver on site or turn within the same, then details of how such deliveries will be controlled will need to be included, for example if delivering to the site while parked on the public highway how will pedestrian, cycle and motor vehicle traffic be controlled?
- Delivery times. If the site is served off a main route though the county (and this does not necessarily need to be a A or B class road), or other areas of particular traffic sensitivity then delivery and muck away times will need to be restricted to 09.30-16.00hrs Monday to Friday.
- Any access used by vehicles associated with the site be paved with a bound material (for at least 15m for larger sits) into the site from the boundary of the public highway (please note this is not generally the edge of carriageway), to reduce the likelihood of debris entering the public highway.
- Any works within the highway constructed to CCC specification.
- Any temporary gates used for site security must be set back at least 15m from the boundary of the public highway to enable a delivery/muck away vehicle to wait wholly off the public highway while the gates are opened and closed, or they must remain open throughout the entire working day.

- All parking associated with the proposed development should be off the public highway.
- Within the area designated for contractor/staff parking each individual bay must be at least 2.5m x 5m, with a 6m reversing space. However, given the nature of the construction industry i.e., that staff tend to arrive and leave site at approximately the same time spaces may be doubled up, i.e., 10m in length, 2.5 wide with a reversing space. A list of number of operatives, staff and trades that will be on site at any one time should be provided to ascertain if the number of spaces being proposed will be acceptable.
- It is likely that debris may be dragged on to the public highway the applicant should provide details of how this will be prevented. If a wheel wash or similar is proposed, the details of how the slurry generated by this will be dealt with must be provided, please note it will not be acceptable to drain such slurry onto to over the public highway.
- The public highway within the vicinity of the site shall be swept within an agreed time frame as and when reasonably requested by any officer of the Local Highway Authority.
- It is recognised that construction traffic occasionally damages the public highway, and the developer should include a note stating that such damage will be repaired in a timely manner at no expense to the Local Highway Authority.

9 Public Rights of Way (PROW) network and Permissive Rights of Way

9.1 The Council requires that the Applicant agrees a *PROW Specification* schedule as part of the Highway Standards specification to cover surface reinstatement of any PROW affected by the scheme and principles for permanent boundary treatment including landscaping. These issues are explained in more detail below.

Glare and Shielding Landscaping:

9.2 The planning layout shows that the applicant intends to plant additional hedges or woodland alongside these PROW to reduce visual impacts of the development. The Applicant should provide more detail to ensure a minimum width of two metres must be left between the legal boundary of a PROW and any new planting, to allow for growth without unlawful obstruction of the highway. The Council welcomes this measure in principle and requests this is made a planning condition if this application is granted, together with the caveat as to distance from the highway.

9.3 The Council points out that it will take a number of years for hedges to grow to a suitable height to shield the development from path users. Mitigation in the short term is required. Therefore it also requests that temporary fencing with shielding netting is erected alongside all Public Rights of Way and these are maintained by the Applicant until the hedges are of suitable state to shield users from the visual impact of the solar farm. The same consideration is made for the permissive paths, which provide valuable additional Non-motorised User (NMU) connectivity for local communities.

Noise:

9.4 At this stage there is insufficient detail provided in the documents to consider the location of the Solar Stations containing inverters, switchgear and other associated

equipment. The Preliminary Environmental Information Report in section 4.7.5 predicts the effects of noise to be negligible. However, The British Horse Society advice on Solar Farms noise explains that noise from inverters can be intrusive, and could potentially be disturbing to equestrian users of the Bridleway 204/5. It should be noted that a horse's range of hearing is wider than a humans and sounds are audible at lower decibels. The assessment needs to consider such impact and implement mitigation where appropriate.

Access and Rights of Way plans, version 00, 18 November 2021

9.5 The Council considers a number of changes are needed to the draft DCO in relation to a number of problems with the Access and Rights of Way plans ('A&ROW plans'), as set out below.

9.6 The A&ROW plans' do not show the County Boundary. Displaying the County Boundary on the plans would assist in identifying which affected assets are complete within or straddle the boundary, reducing the potential for gaps or overlaps in comments made by either LHA.

9.7 The A&ROW plans do not show the pre-existing extent of the highway. Nor do they display the effect that the proposed works might have on the extent of the highway once physical changes are delivered on the ground. Therefore, it is difficult for the highway authority to assess if all proposed works are within or will be within the highway, or to determine whether there will be changes to CCC maintenance liability once the proposed works are complete.

9.8 The A&ROW plans also do not show any proposed diversions for temporarily stopped up PROW. Therefore, the highway authority is unable to consider whether the applicant's proposals are acceptable in terms of the impact on the users of the affected PROW.

9.9 A&ROW plan number 10 shows a site for proposed work within the highway with reference AS-20. This reference appears to be missing from Schedule 5 of the draft DCO, so the highway authority cannot fully consider this proposed work.

9.10 A&ROW sheet 19 shows a street labelled as Little Fen Drove, in the parish of Burwell. Please note that this name is not recorded for that section of road in the highway authority's Local Street Gazetteer (LSG). The LSG record for the affected stretch of road uses the name Factory Road. The official street name can be checked with the street naming authority, East Cambridgeshire District Council.

9.11 Site reference AS-40 is incorrectly labelled in Schedule 5 as being within East Cambridgeshire District. In fact, it is within Suffolk and must be corrected in the draft DCO.

9.12 Permissive Paths: Schedule1 – Authorised Development " *"permissive paths" means new access tracks providing restricted public access within the Order limits along the route shown on the access and rights of way plans;"* The permissive paths are not shown on the Access and Rights of Way plans. It is necessary for the proposed permissive paths to be shown on these plans so that their position and

connectivity with other PROW is clear. Therefore, the highway authority is unable to consider whether the applicant's proposals are acceptable.

9.13 Permissive Paths Schedule 2 – Requirements *"final routing of each permissive path to be provided, such routing to be substantially in accordance with the routing as shown on the plans contained within the outline landscape and ecological management plan;"* The Application plans do not include outline landscape and ecological management plan; and they are not shown on the 2.6 Nature Conservation Habitats of Protected Species and Important Habitats Plan. It is necessary for the proposed permissive paths to be shown on these plans so that their impact on biodiversity can be considered.

Articles within the draft DCO, version 00, 18 November 2021.

9.14 The following comments relate to concerns held by the LHA in relation to certain articles within the draft DCO.

9.14.1 Article 9(1). This article does not give the LHA any role in agreeing the design or standard of construction of any proposed alterations to the layout of streets. It also makes no reference to any amendments that may be required to PROW.

9.14.2 Article 9(2) and 9(4). Article 9(2) No methodology is proposed for how the undertaker should seek approval from the highway authority for such works. The Council requests that the article is amended to include a requirement for the undertaker to engage with the LHA in terms of the design, inspection and approval of works that emerge in addition to those specified by the DCO, in addition to requiring that the LHA consents to the works. Simply requiring the undertaker to seek "consent" (as in in article 9(4)) does not offer the LHA sufficient control over proposals that will affect its network, particularly when the nature of the potential works referenced in article 9(2) are unspecified and may be wide-ranging.

9.14.3 Article 9(3) and Article 11(1). Articles do not specify only those PROW within the order limits, or those that are required to be used for the delivery of the scheme, may be temporarily stopped up. This should be made clear. The Council requests that the article is amended to include 'How the applicant propose to seek approval from the LHA for making such changes'.

9.14.4 Article 10(1). There should be clauses affording protection to the highway authority by permitting it the right to carry out inspections and to certify that the altered highways (including PROW) have been constructed to an acceptable standard.

9.14.5 Article 11(1)(a). This clause permits the applicant to authorise the use of PROW by motor vehicles. In order to reduce future maintenance liabilities falling on the highway authority, the applicant should also be liable for restoring any such PROW to a condition that is satisfactory to the highway authority, following use by motor vehicles (or if used for temporary works purposes as outlined in article 11(6)).

9.14.6 Article 11(2). The LHA should have the opportunity to comment on any proposed diversionary routes for temporarily closed PROW, to safeguard against unreasonable

negative impacts on user convenience and safety. Engagement is sought on this matter, and the Council requests that this matter is covered through the FCTMP.

9.14.7 Article 11(4). There is no timeframe for the consultations specified in this article. The highway authority requests that a period of consultation is built into the requirements of the DCO. Typically in other DCOs affecting Cambridgeshire this has been 28 days and is considered reasonable.

9.14.8 Article 13. This article highlights the need for the Applicant to engage with the highway authority to agree procedures related to works they propose to undertake within the highway. This would cover several different aspects of the scheme, from commencement of detailed design through to completion and handover of assets to the LHA, as broadly outlined below.

- Agreement of construction standards for works in the highway and for PROW in a Highway Standards document attached to a legal side agreement;
- Agreement of process for approving detailed design of works proposed within the highway
- Co-ordination of site inspection by the highway authority, and project assurance during construction
- Carrying out RSAs where necessary
- Provision of asset data for amended highways
- Agreement of the asset liabilities once each work is complete
- Agreement of a certification and adoption process whereby works within the highway are returned to the highway authority for operational maintenance.
- Procedures for defects resolution during the 12-month maintenance period outlined in article 10(1) and 10(3).

9.14.9 Based on experience with other DCO schemes, the Council recommends that all these matters can be dealt with through a legal side agreement, which should be agreed before any Examination of the draft DCO process starts. The Applicant may intend to reach a separate legal agreement with the LHA in respect of these matters, as article 13 alludes. However, in the absence of such an agreement at time of writing, CCC requires the insertion of clauses into the draft DCO to cover the above items, to ensure it is able to better protect the interests of the public, to clarify areas of responsibility in relation to the proposed scheme, and to enable it to interact with the undertaker more efficiently during implementation of the proposed works. This will also enable smooth delivery of the scheme and lessen the likelihood of delays.

END

SuDS (Sustainable Drainage Systems) in Schools

To:	Environment and Green Investment Committee
Meeting Date:	3 March 2022
From:	Steve Cox, Executive Director - Place and Economy
Electoral division(s):	Cottenham & Willingham; Papworth & Swavesey St Ives South & Needingworth; Sawtry & Stilton
Key decision:	No
Forward Plan ref:	n/a
Outcome:	To agree to provide funding through the Environment Fund of £75,000 for a Sustainable Drainage Systems (SuDS) in Schools project covering five schools across Cambridgeshire.
Recommendation:	Members are asked to: a) Note the background and opportunities regarding the implementation of SuDS in schools b) Approve expenditure of £75,000 from the Environment Fund to unlock partnership funding and implement SuDS schemes in five schools across Cambridgeshire

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1. Background

1.1 Significant areas of Cambridgeshire are at risk from surface water flooding and as a Council we have a responsibility under the Flood and Water Management Act 2010 for managing flooding from this source. Within these risk areas there are a number of schools, some of which already experience regular flooding which is not only costly in terms of repair work, drying out and insurance claims, it is also disruptive to the education of pupils.

1.2 The Council's Climate Change and Environment Strategy and Action Plan (published 2022) place an action on the Council to work with schools to enhance and manage their sites for natural capital such as Sustainable Drainage Systems (SuDS) and biodiversity enhancement. Similarly, within the draft Local Flood Risk Management Strategy (2021-2027) there is an action to support schools in implementing SuDS. An opportunity has arisen via the Department for Education who are interested in working with delivery partners such as the County Council to contribute towards SuDS in schools to reduce surface water flooding and enhance biodiversity.

1.3 The Council has a £16million Environment Fund in its budget plan to support delivery of its commitments and near-term targets set out in the Climate Change and Environment Strategy (such as that outlined in 1.2 above).

1.4 More generally, the Council has also set out 15 priority areas relating to the environment including: 'Adaptation – innovation to enable us to better cope with unpredictable extreme weather events and work with partners to develop a network of green space and water assets which can deliver quality of life and environmental benefits'

1.5 The intended outcome of this report is therefore to agree expenditure from the Environment Fund to enable implementation of SuDS schemes at 5 schools across Cambridgeshire.

2. Main Issues

2.1 For many years, rainwater has been treated as waste and it has been channelled away into conventional underground drainage systems. In some areas this then spills into the sewage system which can release foul water into streets, buildings and rivers. To help reduce this, SuDS can be used to manage rainwater at the point it hits the ground or roof. SuDS slow the water down whilst cleaning it at the same time through features such as swales, rain gardens and ponds.

2.2 The Department for Education (DfE) has made funding available to contribute towards SuDS projects in schools with the aim of reducing surface water flood risk, enhancing biodiversity and providing educational resource. Their contribution is reliant on partnership funding and is limited to 50% of the scheme cost up to a maximum amount of £30,000 per school depending on a variety of factors including their own internal assessment of risk. Anglian Water also run a partnership funding programme and have expressed interest in contributing towards SuDS in Schools schemes in Cambridgeshire, with the amount dependent on the overall benefit to the public sewer network (in the majority of cases this will be limited to match funding any DfE contribution). In addition to a financial contribution, Anglian Water have offered to host interactive sessions for the schools around water and flooding linked to the curriculum.

2.3 In partnership with the Council's Education Capital team we have identified five schools in Cambridgeshire that are at risk of surface water flooding and that experience some degree of flooding on a regular basis. These schools could benefit from a SuDS scheme to reduce risk on their own site as well as in the surrounding area. These schools are Willingham Primary School, Swavesey Primary School, Sawtry Infant School, Westfield Junior School (St Ives) and Eastfield Infant School (St Ives). These schools were chosen through a combination of the following: consultation with the Education Team around existing known flooding issues; the flood risk classification of the schools on national surface water mapping, internal analysis of surface water risk ranked by severity; and location of the schools relative to the most recent flooding in December 2020.

2.4 The flooding of schools is costly and disruptive. If a classroom is damaged by flooding it can cost in the region of £10,000-£15,000 to re-equip with chairs, tables, carpets, flooring, and storage. Indeed this was realised following flooding of Willingham Primary School which resulted in direct costs in the region of £13,500 plus indirect costs of disruption and emergency response. In some cases flooding may mean that a classroom is not able to be used which requires the hiring of temporary classroom accommodation. Typically, per single classroom it would cost between £53,000 and £86,000 per 6 months to hire a temporary building including ancillary costs such as delivery, installation, dismantling and removal. If other rooms such as the school hall or kitchen were flooded the cost would be much greater as specialist buildings would need to be hired. As well as the cost, there would be significant disruption to the serving of lunches, exam periods and indoor sport. In the worst case scenario a school may need to close for a period of time to undertake repair works.

2.5 The installation of SuDS schemes will help reduce the risk of flooding, presenting a cost saving to both the County Council and the individual schools alongside a reduction in the risk of disruption.

2.6 It is initially estimated that the SuDS schemes would cost a total of £375,000 across the five schools (including consultation, design, and construction). A contribution of £75,000 by the County Council would potentially unlock £300,000 of funding by the Department for Education and Anglian Water to cover the total cost of the schemes (see Figure 1below).

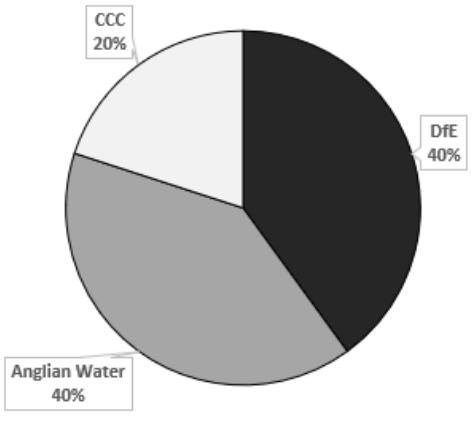

Figure 1: Pie Chart Showing Contributions to SuDS in Schools Schemes

2.7 The funding offered by the DfE is time limited and unlikely to be available again for several years. It provides an exciting opportunity to work in schools to reduce flood risk, improve water quality and enhance biodiversity whilst contributing towards the achievement of two Council targets.

2.8 By installing SuDS schemes at these schools there are additional benefits other than just reduced flood risk. They help us adapt and respond to climate change and water pollution whilst offering an opportunity to connect children and adults to nature and water. They provide an attractive, stimulating, and sensory learning environment to raise awareness of environmental issues and the water cycle. Additionally SuDS deliver attractive green spaces for biodiversity by creating new habitats or improving existing ones. They can provide shelter, food, and breeding opportunities for a variety of wildlife including amphibians, invertebrates, birds and mammals.

2.9 Well designed SuDS are often cheaper than traditional approaches to drainage and SuDS for schools are easy to maintain. They typically require little more than standard landscaping maintenance which in most instances can be undertaken by pupils and community members. Initial engagement with the schools to date suggests they would be happy to incorporate the maintenance of SuDS into their existing landscaping maintenance programmes, provided there is not a significant increase in required work or skills.

2.10 It is recognised that obtaining engagement and buy in from those at the schools is of great importance and this includes pupils, parents, staff and governors. Unfortunately the timing of the application window for DfE funding (14 December 2021 to 14 January 2022) coincided with school Christmas holidays meaning that only limited engagement has been possible, however each of the schools contacted have expressed they are keen to be involved. We expect to hear the outcome of our application to the DfE by 31 March 2022.

2.11 The schemes would commence in financial year 2022/23.

2.12 We have already discussed with Anglian Water the possibility of expanding the SuDS in Schools programme to other areas in the absence of future DfE funding to ensure greater coverage of the County. They have provided in-principle agreement to this, subject to further detail and achievable benefit to the public sewer network. The Flood and Water team will continue to liaise with Anglian Water to identify potential future schemes.

3. Alignment with corporate priorities

3.1 Communities at the heart of everything we do

The following bullet points set out details of implications identified by officers:

- Using SuDS to manage rainfall delivers exciting opportunities and a range of benefits for schools and their local communities including the provision of learning and play space.
- Pupils, parents and the wider community can be involved in the design, planting and maintenance of SuDS features. Child led eco-councils can provide guided tours of SuDS features for other students, parents and guests. A case study of similar work

with Anglian Water and a school in Newmarket can be found here: https://www.youtube.com/watch?v=ggSu7oCBOzI

3.2 A good quality of life for everyone

The following bullet points set out details of implications identified by officers:

- SuDS offer an opportunity to connect children and adults to nature and water which improves wellbeing.
- SuDS are attractive features that can provide amenity space and contribute to good health
- Reducing the flood risk for the school will reduce the impact on the wider community to make them more resilient during times of flood

3.3 Helping our children learn, develop and live life to the full

The following bullet points set out details of implications identified by officers:

- Features like ponds and raingardens enable lessons to be held locally in outdoor classrooms and SuDS more widely can be linked to science by including nature gardens and food growing as well as features like water wheels and bug hotels

- SuDS provide an attractive, stimulating and sensory learning environment and add interest to landscapes that can include features like mini water wheels and water sculptures that support play and child led learning.

3.4 Cambridgeshire: a well-connected, safe, clean, green environment

The following bullet points set out details of implications identified by officers:

- SuDS can clean water flows into receiving watercourses, reducing the risk of pollution incidents associated with significant rainfall events
- Reducing the burden on sewers can reduce the risk of foul water flooding into properties and the natural environment.
- SuDS can soften urban landscapes and provide aesthetically pleasing communal green space

3.5 Protecting and caring for those who need us

The following bullet points set out details of implications identified by officers:

- A report into schools and climate change published by the London Assembly in August 2020 states '*children are particularly vulnerable to the impacts of climate change because of their limited capacity to respond to severe weather events, due to lack of experience of changing conditions, lack of knowledge to help them adjust their behaviours and – if of early years or school age – their dependency on teachers and other adults for guidance'*. Implementing SuDS schemes alongside a tailored education programme will help increase the resilience of children to adapt to climate change

4. Significant Implications

4.1 Resource Implications
There are no significant implications within this category.

4.2 Procurement/Contractual/Council Contract Procedure Rules Implications
Procurement for the design, consultation and construction of the SuDS schemes will be undertaken in line with the Council's procurement policy.

4.3 Statutory, Legal and Risk Implications
Key risks include COVID-19 delays to material supplies and contractor staff shortages.

4.4 Equality and Diversity Implications
There are no significant implications within this category. Implementing SuDS in schools is an action within the Climate Change and Environment Strategy and the draft Local Flood Risk Management Strategy for which there have been comprehensive Equality Impact Assessments undertaken

4.5 Engagement and Communications Implications
Each school has already been contacted to gauge interest and advise of our intention to submit a bid to the Department for Education. If successful with the bids we will work with the Communications team to ensure appropriate internal and external comms are shared. The schools (including pupils, governors etc.) will be consulted throughout the process to ensure any scheme that is designed is appropriate and maintainable into the future

4.6 Localism and Local Member Involvement
This project is an action in the Climate Change and Environment Strategy, developed with a cross-party member working group and the Local Flood Risk Management Strategy which has been subject to member involvement and public consultation.

4.7 Public Health Implications
The following bullet points set out details of significant implications identified by officers:

- The works will need to be undertaken whilst minimising disruption and still adhering to social distancing requirements that may still be in place at the time, due to Covid-19.
- The schemes will need to ensure that safety is considered as part of the design process for SuDS.

Have the resource implications been cleared by Finance? Yes
Name of Financial Officer: Sarah Heywood

Have the procurement/contractual/ Council Contract Procedure Rules implications been cleared by the LGSS Head of Procurement? Yes
Name of Officer: Clare Ellis

Has the impact on statutory, legal and risk implications been cleared by the Council's Monitoring Officer or LGSS Law? Yes
Name of Legal Officer: Fiona McMillan

Have the equality and diversity implications been cleared by your Service Contact?
Yes Name of Officer: Elsa Evans

Have any engagement and communication implications been cleared by Communications?
Yes Name of Officer: Amanda Rose

Have any localism and Local Member involvement issues been cleared by your Service Contact? Yes Name of Officer: Emma Fitch

Have any Public Health implications been cleared by Public Health?
Yes or No Name of Officer:

If a Key decision, have any Environment and Climate Change implications been cleared by the Climate Change Officer? Not key decision Yes or No Name of Officer: N/A

5. Source documents

5.1 Source documents

- Reimagining rainwater in Schools – (Greater London Authority) produced by Ciria, Robert Bray Associates and Business in the Community

5.2 Location

https://www.london.gov.uk/sites/default/files/reimagining_rainwater_in_schools_v1_.pdf

Agenda Item No: 9

Finance Monitoring Report – January 2022

To:	Environment and Green Investment Committee
Meeting Date:	3 March 2022
From:	Steve Cox – Executive Director, Place & Economy Tom Kelly – Chief Finance Officer
Electoral division(s):	All
Key decision:	No
Forward Plan ref:	N/A
Outcome:	The report is presented to provide Committee with an opportunity to note and comment on the forecast position for 2021/2022.
Recommendation:	The Committee is asked to review, note and comment upon the report.

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Member contacts:
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Email: lorna.dupre@cambridgeshire.gov.uk
Tel: 01223 706398

1. Background

1.1 The appendix attached provides the financial position for the whole of Place & Economy Services, and as such, not all of the budgets contained within it are the responsibility of this Committee. To aid Member reading of the finance monitoring report, budget lines that relate to the Highways and Transport Committee are unshaded and those that relate to the Environment and Green Investment Committee are shaded. Members are requested to restrict their questions to the lines for which this Committee is responsible.

2. Main Issues

2.1 Revenue: The report attached as Appendix A is the Place & Economy Finance Monitoring Report as at the end of January 2022. Place and Economy is currently forecasting a £436K underspend, which is a further underspend of £160K since last month. Growth and Development are now forecasting a £99K underspend and the waste position has reduced from a £306K forecast overspend to a £184K overspend.

2.2 Capital: There are no significant changes in the capital programme forecasts to bring to the attention of Committee.

3. Alignment with corporate priorities

3.1 Communities at the heart of everything we do

There are no significant implications for this priority.

3.2 A good quality of life for everyone

There are no significant implications for this priority.

3.3 Helping our children learn, develop and live life to the full

There are no significant implications for this priority.

3.4 Cambridgeshire: a well-connected, safe, clean, green environment

There are no significant implications for this priority.

3.5 Protecting and caring for those who need us

There are no significant implications for this priority.

4. Source documents

None

Place & Economy Services

Finance Monitoring Report – January 2022

1. Summary

1.1 Finance

Previous Status	Category	Target	Current Status	Section Ref.
Green	Income and Expenditure	Balanced year end position	**Green**	2
Green	Capital Programme	Remain within overall resources	**Green**	3

2. Income and Expenditure

2.1 Overall Position

Forecast Variance – Outturn (Previous Month) £000	Directorate	Budget 2021/22 £000	Actual £000	Forecast Variance - Outturn (January) £000	Forecast Variance - Outturn (January) %
-2,685	Executive Director	3,304	672	-2,660	-81
+1,922	Highways & Transport	25,674	18,007	+1,969	+8
+487	Planning, Growth & Environment	41,879	31,636	+255	+1
0	Climate Change and Energy	147	-1,537	0	0
0	External Grants	-6,754	-5,128	0	0
-276	**Total**	**64,250**	**43,649**	**-436**	**-1**

The service level budgetary control report for January 2022 can be found in appendix 1.

Further analysis of the results can be found in appendix 2.

2.1.2 Covid Pressures

Budgeted Pressure £000	Pressure	Revised forecast £000
638	Waste additional costs / loss of income	50
1,500	Parking Operations loss of income	641
300	Park & Ride loss of Income	0
603	Traffic Management loss of income	59
310	Planning Fee loss of Income including archaeological income	126
400	Guided Busway – operator income	155
3,751	**Total Expenditure**	**1,031**

2.2 Significant Issues

Covid-19

Table 2.1.2 details the budget (as allocated in Business Planning) and forecasts within the service relating to the Covid-19 virus. The funding to reflect the additional costs (for waste) is allocated to the respective budget but the funding to reflect the loss of income is held on the Executive Director line with the actual shortfall shown on the respective policy lines. The budget to offset the loss of income arising from the financial impact of covid is £3.1m, and currently it is estimated that £1.0m is actually required and £0.18m is being used to offset the waste pressure, plus £0.4m is being used to offset the short term central costs arising from the Directorate restructuring and the interim staffing costs. It was previously assumed that any of the covid funding not required would be vired back to the corporate centre but instead now it will be retained within P&E to partly offset the Guided Busway litigation costs at the bottom line.

Guided Busway Litigation

Litigation costs relating to the Guided Busway, which are expected to be £3.2m this financial year compared to the £1.3m budget allocated. It is proposed that this pressure is covered by the funding set aside for Covid pressures which are no longer required. Costs of litigation remain in line with expectations overall, this variance represents progress of the case and alongside a case management conference scheduled this financial year.

Waste Private Finance Initiative (PFI) Contract

The waste budget is a large and complex budget and there are various potential pressures and underspends within it. Last financial year there were underspends due to an overall reduction in tonnage of waste being collected and overspends due to increased recycling credits and reduced trade waste income, and volumes are being closely monitored to see if and when they return to pre-Covid levels.

In Business Planning the waste service was allocated £638K to reflect the estimated impact of Covid but the majority of this will not be required for this specific purpose. However, this funding will instead be directed to help address the pressure created by the works required to address the Industrial Emissions Directive (IED) which requires the reduction of odour emissions from the Waterbeach facilities. This pressure was previously estimated to be £850K in this financial year, however the requirement to obtain planning

consent will delay implementation of the works and move the majority of this budget pressure into next financial year.

As part of the annual post-year reconciliation of volumes and payments it has been identified that some of the street-sweeping waste and trade waste which passed through the waste transfer stations were incorrectly attributed to the Council and an adjustment needs to be made for previous years and there is also an impact on in-year expenditure to date (and hence also the forecast). The previous year's reconciliation amount of £460K and the in-year adjustment to the forecast, estimated to be £240K, has been transferred to waste reserves to contribute towards the revenue costs of the IED in 2022/23 and on this basis these adjustments are not shown in the forecast. This has been combined with the £850K identified above so that waste now has a £1.55M reserve to partially offset the revenue impacts of delivering the IED amendments to the Waterbeach facilities now largely expected to be in 2022/23.

The forecast overspend has been updated to reflect the actual data on waste collected so far this year which is forecast to total 250,000 tonnes which has reduced the predicted spend on landfill tax and reduced the forecast outturn from £306K overspend to £184K.

3. Balance Sheet

3.1 Reserves

A schedule of the Service's reserves can be found in appendix 5.

3.2 Capital Expenditure and Funding

Expenditure

No significant issues to report this month.

Funding

All other schemes are funded as presented in the 2021/22 Business Plan.

A detailed explanation of the position can be found in appendix 6.

Appendix 1 – Service Level Budgetary Control Report

Previous Forecast Outturn Variance £000's	Service	Budget 2021/22 £000's	Actual January 2022 £000's	Forecast Outturn Variance £000's	Forecast Outturn Variance %
	Executive Director				
429	Executive Director	190	672	454	238%
-3,114	Lost Sales, Fees & Charges Compensation	3,114	0	-3,114	-100%
-2,685	**Executive Director Total**	**3,304**	**672**	**-2,660**	**-80%**
	Highways & Transport				
	Highways Maintenance				
0	Asst Dir - Highways Maintenance	165	159	1	1%
-0	Highway Maintenance	10,064	3,618	37	0%
-26	Highways Asset Management	442	202	-61	-14%
0	Winter Maintenance	2,744	1,445	-227	-8%
34	Highways - Other	-614	-825	35	6%
	Project Delivery				
0	Asst Dir - Project Delivery	200	1,667	0	0%
1,945	Project Delivery	1,513	2,540	1,945	129%
-362	Street Lighting	10,593	7,545	-348	-3%
	Transport, Strategy & Development				
0	Asst Director - Transport, Strategy & Development	206	180	1	0%
-37	Traffic Management	-186	428	-55	-30%
26	Road Safety	528	709	-22	-4%
290	Transport Strategy and Policy	18	167	291	1630%
-559	Highways Development Management	0	-328	-559	0%
169	Park & Ride	-0	437	291	0%
443	Parking Enforcement	0	64	641	0%
1,922	**Highways & Transport Total**	**25,674**	**18,007**	**1,969**	**8%**
	Planning, Growth & Environment				
0	Asst Dir - Planning, Growth & Environment	90	70	0	0%
54	County Planning, Minerals & Waste	321	191	51	16%
34	Historic Environment	53	178	55	103%
71	Flood Risk Management	1,103	189	63	6%
21	Growth & Development	554	441	-99	-18%
306	Waste Management	39,757	30,566	184	0%
487	**Planning, Growth & Environment Total**	**41,879**	**31,636**	**255**	**1%**
	Climate Change & Energy Service				
0	Energy Projects Director	32	-1,516	0	0%
0	Energy Programme Manager	115	-21	0	0%
0	**Climate Change & Energy Service Total**	**147**	**-1,537**	**0**	**0%**
-276	**Total**	**71,005**	**48,777**	**-436**	**-1%**

Appendix 2 – Commentary on Forecast Outturn Position

Number of budgets measured at service level that have an adverse/positive variance greater than 2% of annual budget or £100,000 whichever is greater.

Executive Director

Current Budget for 2021/22 £'000	Actual £'000	Outturn Forecast £'000	Outturn Forecast %
190	672	454	238%

The forecast overspend is due to the short term central costs arising from the Directorate restructuring and the interim staffing costs. This pressure will be covered by the funding set aside for Covid pressures, which are less than originally projected.

Lost Sales, Fees & Charges Compensation

Current Budget for 2021/22 £'000	Actual £'000	Outturn Forecast £'000	Outturn Forecast %
3,114	0	-3,114	-100

Budget has been set aside to cover expected shortfalls in income due to COVID. The budget has been built on assumptions on the level of income and these are being closely monitored during the year. The level of income is currently greater than the initial assumptions and the surplus is being used to cover the costs of the Busway litigation and costs relating to the Directorate restructure.

Winter Maintenance

Current Budget for 2021/22 £'000	Actual £'000	Outturn Forecast £'000	Outturn Forecast %
2,744	1,455	-227	-8

Winter maintenance is now projecting an overspend. To the end of January there were 25 full runs and 7 part runs. The January forecast is based on an estimated 45 full runs for the year.

Project Delivery

Current Budget for 2021/22 £'000	Actual £'000	Outturn Forecast £'000	Outturn Forecast %
1,513	2,540	+1,945	+129

This forecast pressure relates to the Busway litigation costs, which are expected to be £3.2m this financial year compared to the £1.3m budget allocated. It is proposed that this pressure is covered by the funding set aside for Covid pressures which are no longer required. Costs of litigation remain in line with expectations overall, this variance represents progress of the case and alongside a case management conference scheduled this financial year.

Traffic Management

Current Budget for 2021/22 £'000	Actual £'000	Outturn Forecast £'000	Outturn Forecast %
-186	428	-55	-30

Income from permitting is projected to be lower than the budget set due to COVID. This is currently projected on certain assumptions and these assumptions is being closely monitored during the year. Income to date is higher than expected and this is shown in the reduction in the outturn forecast. Budget to cover this shortfall is held within 'Lost Sales, Fees & Charges Compensation' line.

Street Lighting

Current Budget for 2021/22 £'000	Actual £'000	Outturn Forecast £'000	Outturn Forecast %
10,593	7,545	-348	-3

This budget is currently predicted to underspend due to savings from the PFI contract and vacancy savings in the Commissioning team. Energy inflation costs are increasing but are less than expected, resulting in a further underspend.

Transport Strategy and Policy

Current Budget for 2021/22 £'000	Actual £'000	Outturn Forecast £'000	Outturn Forecast %
18	167	291	1630

The Strategy & Scheme development capital budget is under pressure this year. There has not been much work forthcoming from the Combined Authority due to the change of Mayor revisiting their priorities and about what work they want CCC to do to assist the delivery of their programme.

There are also a number of areas of CCC work which the team are expected to deliver for which there is insufficient funding, this includes A428 Black Cat to Caxton Gibbet Examination which has to be delivered as it is part of CCC's statutory duty.

Use of revenue funding is now being used to cover this pressure.

Highways Development Management

Current Budget for 2021/22 £'000	Actual £'000	Outturn Forecast £'000	Outturn Forecast %
0	-328	-559	0

There is an expectation that section 106 fees will come in higher than budgeted for new developments which will lead to an overachievement of income. However, this is an unpredictable income stream and the forecast outturn is updated regularly.

Parking Enforcement

Current Budget for 2021/22 £'000	Actual £'000	Outturn Forecast £'000	Outturn Forecast %
0	64	+641	0

Income is projected to be lower than the budget set due to COVID. This is projected on certain assumptions and these assumptions are being closely monitored during the year. Currently income is ahead of the initial assumptions but not yet at pre-Covid levels. Budget to cover this shortfall is held within 'Lost Sales, Fees & Charges Compensation' line.

Park & Ride

Current Budget for 2021/22 £'000	Actual £'000	Outturn Forecast £'000	Outturn Forecast %
0	437	+291	0

Income is projected to be lower than the budget set due to COVID. This is currently projected on certain assumptions and these assumptions are being closely monitored during the year.Currently income is ahead of the initial assumptions but not yet at pre-Covid levels. Budget to cover this shortfall is held within 'Lost Sales, Fees & Charges Compensation' line.
The out-turn forecast also includes the £186k cost of erecting emergency safety fencing along part of the Busway route.

County Planning, Minerals & Waste

Current Budget for 2021/22 £'000	Actual £'000	Outturn Forecast £'000	Outturn Forecast %
321	191	+51	+16

Income is projected to be lower than the budget set due to COVID. This is currently projected on certain assumptions and these assumptions are being closely monitored during the year. Currently we do not have enough data to change the assumptions when the budget was set. Budget to cover this shortfall is held within 'Lost Sales, Fees & Charges Compensation' line.

Historic Environment

Current Budget for 2021/22 £'000	Actual £'000	Outturn Forecast £'000	Outturn Forecast %
53	178	+55	+103

Income is projected to be lower than the budget set due to COVID. This is currently projected on certain assumptions and these assumptions are being closely monitored during the year. Currently we do not have enough data to change the assumptions when the budget was set. Budget to cover this shortfall is held within 'Lost Sales, Fees & Charges Compensation' line.

Waste Management

Current Budget for 2021/22 £'000	Actual £'000	Outturn Forecast £'000	Outturn Forecast %
39,757	30,566	+184	0

The waste budget is a large and complex budget and there are various potential pressures and underspends within it. Last financial year there were underspends due to an overall reduction in tonnage of waste being collected and overspends due to increased recycling credits and reduced trade waste income, and volumes are being closely monitored to see if and when they return to pre-Covid levels.

In Business Planning the waste service was allocated £638K to reflect the estimated impact of Covid but the majority of this will not be required for this specific purpose. However, this funding will instead be directed to help address the pressure created by the works required to address the Industrial Emissions Directive (IED) which requires the reduction of odour emissions from the Waterbeach facilities. This pressure was previously estimated to be £850K in this financial year, however the requirement to obtain planning consent will delay implementation of the works and move the majority of this budget pressure into next financial year.
As part of the annual post-year reconciliation of volumes and payments it has been identified that some of the street-sweeping waste and trade waste which passed through the waste transfer stations were incorrectly attributed to the Council and an adjustment needs to be made for previous years and there is also an impact on in-year expenditure to date (and hence also the forecast). The previous year's reconciliation amount of £460K and the in-year adjustment to the forecast, estimated to be £240K, has been transferred to waste reserves to contribute towards the revenue costs of the IED in 2022/23 and on this basis these adjustments are not shown in the forecast. This has been combined with the £850K identified above so that waste now has a £1.55M reserve to partially offset the revenue impacts of delivering the IED amendments to the Waterbeach facilities now largely expected to be in 2022/23.
The forecast overspend has been updated to reflect the actual data on waste collected so far this year which is forecast to total 250,000 tonnes which has reduced the predicted spend on landfill tax and reduced the forecast outturn from £306K overspend to £184K.

Appendix 3 – Grant Income Analysis

The table below outlines the additional grant income, which is not built into base budgets.

Grant	Awarding Body	Expected Amount £'000
Grants as per Business Plan	Various	6,712
Adjustment to Waste PFI grant		+42
Non-material grants (+/- £30k)	N/A	0
Total Grants 2021/22		**6,754**

Appendix 4 – Virements and Budget Reconciliation

Budgets and movements	£'000	Notes
Budget as per Business Plan	64,313	
Centralisation of postage budgets	-40	
Non-material virements (+/- £30k)	-23	
Current Budget 2020/21	**64,250**	

Appendix 5 – Reserve Schedule

Fund Description	Balance at 31st March 2021 £'000	Movement within Year £'000	Balance at 31st January 2021 £'000	Yearend Forecast Balance £'000	Notes
Other Earmarked Funds					
Deflectograph Consortium	31	0	31	30	Partnership accounts, not solely CCC
Highways Searches	175	0	175	0	
On Street Parking	1,876	0	1,876	1,300	
Streetworks Permit scheme	44	0	44	0	
Highways Commutted Sums	1,376	(3)	1,373	900	
Streetlighting - LED replacement	48	(32)	16	0	
Flood Risk funding	20	0	20	0	
Real Time Passenger Information (RTPI)	216	0	216	150	
Waste - Recycle for Cambridge & Peterborough (RECAP)	61	0	61	30	Partnership accounts, not solely CCC
Travel to Work	197	0	197	180	Partnership accounts, not solely CCC
Steer- Travel Plan+	66	0	66	52	
Waste reserve	984	1,550	2,534	2,534	
Other earmarked reserves under £30k	89	18	107	0	
Sub total	**5,184**	**1,533**	**6,717**	**5,176**	
Capital Reserves					
Government Grants - Local Transport Plan	0	0	0	0	Account used for all of P&E
Other Government Grants	3,905	(396)	3,508	0	
Other Capital Funding	3,410	(237)	3,173	0	
Sub total	**7,315**	**(634)**	**6,681**	**0**	
TOTAL	**12,499**	**899**	**13,398**	**5,176**	

Appendix 6 – Capital Expenditure and Funding

Capital Expenditure 2021/22

Total Scheme Revised Budget £'000	Original 2021/22 Budget as per BP £'000	Scheme	Revised Budget for 2021/22 £'000	Actual Spend (January) £'000	Forecast Spend – Outturn (January) £'000	Forecast Variance – Outturn (January) £'000
		Integrated Transport				
0	200	Major Scheme Development & Delivery	0	4	0	0
318	0	- S106 Northstowe Bus Only Link	318	15	20	-298
208	0	- Stuntney Cycleway	177	27	167	-10
1,085	882	Local Infrastructure Improvements	1,179	568	739	-440
101	0	- Minor improvements for accessibility and Rights of Way	97	38	99	2
		Safety Schemes				
1,000	500	- A1303 Swaffham Heath Road Crossroads	980	10	20	-960
344	94	- Safety schemes under £500K	344	345	424	80
907	345	Strategy and Scheme Development work	908	771	914	6
		Delivering the Transport Strategy Aims				
2,808	901	- Highway schemes	2,846	199	793	-2,053
		- Cycling schemes				
0	550	- Boxworth to A14 Cycle Route	0	0	0	0
0	500	- Hilton to Fenstanton Cycle Route	0	0	0	0
0	780	- Buckden to Hinchingbrooke Cycle Route	0	0	0	0
0	272	- Dry Drayton to NMU	0	7	7	7
400	285	- Hardwick Path Widening	305	284	305	0
982	760	- Bar Hill to Longstanton	30	31	37	7
1,000	800	- Girton to Oakington	704	412	482	-222
16	0	- Arbury Road	12	0	12	0
1,562	0	- Papworth to Cambourne	1,335	410	1,335	0
0	0	- Wood Green to Godmanchester	0	1	1	1
150	132	- Busway to Science Park	148	0	148	0
200	0	- Fenstanton to Busway	14	29	29	15
60	0	- NMU Cycling scheme - Washpit Road	57	59	59	2
0	0	- NMU Cycling scheme - Girton Upgrades	0	0	0	0
348	0	- NMU Cycling scheme - Longstanton Bridleway	316	309	316	0
355	445	- Other Cycling schemes	475	39	68	-407
23	23	Air Quality Monitoring	23	2	23	0
25,000	1,000	A14	1,000	-1,000	1,000	0
		Operating the Network				
		Carriageway & Footway Maintenance incl Cycle Paths				
1,115	400	- Countywide Safety Fencing renewals	1,115	31	168	-947
1,249	1,142	- Countywide Retread programme	1,249	798	1,213	-36
481	481	- Countywide F'Way Slurry Seal programme	481	343	500	19
989	989	- Countywide Surface Dressing programme	989	539	985	-4
956	690	- Countywide Prep patching for Surface Dressing prog	956	207	985	29
709	357	- Whittlesey, Ramsey Road Nr Pondersbridge Cway	709	672	720	11
4,182	4,182	- Additional Surface Treatments	4,182	1,362	4,182	0
3,839	2,431	- Carriageway & Footway Maintenance schemes under £500k	3,850	2,003	3,833	-17
140	140	Rights of Way	140	127	182	42

Total Scheme Revised Budget £'000	Original 2021/22 Budget as per BP £'000	Scheme	Revised Budget for 2021/22 £'000	Actual Spend (January) £'000	Forecast Spend – Outturn (January) £'000	Forecast Variance – Outturn (January) £'000
		Bridge Strengthening				
900	568	- St Ives Flood Arches	900	100	100	-800
2,226	1,996	- Other	2,226	1,132	2,737	511
1,407	850	Traffic Signal Replacement	1,407	944	1,460	53
200	200	Smarter Travel Management - Int Highways Man Centre	200	122	195	-5
165	165	Smarter Travel Management - Real Time Bus Information	165	30	165	0
		Highways & Transport				
		Highways Maintenance				
		£90m Highways Maintenance schemes				
839	0	- B1050 Willingham, Shelford Rd Prov.	0	-2	-2	-2
500	0	- B660 Holme, Long Drove C/way resurface/strengthen	638	745	797	159
900	0	- B1382 Prickwillow Pudney Hill Road Carriageway	900	771	845	-55
550	0	- B198 Wisbech, Cromwell Road Carriageway	625	12	625	0
80,627	2,723	- Other	4,403	307	2,431	-1,972
		Pothole grant funding	0	0	0	0
3,074	0	- Additional Surface Treatments	3,074	2,574	3,152	78
3,770	0	- Other	3,767	1,394	3,604	-163
4,000	4,000	Footways	4,000	993	3,539	-461
0	0	Safer Roads Fund	10	2	10	0
		Project Delivery				
49,000	18	- Ely Crossing	58	-1,340	58	0
149,791	4,179	- Guided Busway	100	2	30	-70
0	0	- Cambridge Cycling Infrastructure	0	0	0	0
1,975	0	- Fendon Road Roundabout	275	13	40	-235
350	0	- Ring Fort Path	308	15	15	-293
330	0	- Cherry Hinton Road	330	70	150	-180
1,200	0	- St Neots Northern Footway and Cycle Bridge	0	5	5	5
6,950	2,063	- Chesterton - Abbey Bridge	0	0	0	0
33,500	10,900	- King's Dyke	12,700	8,390	10,102	-2,598
1,098	0	- Emergency Active Fund	785	300	490	-295
2,589	0	- Lancaster Way	792	438	622	-170
150	0	- A14	0	143	0	0
3,971	4,877	- Wisbech Town Centre Access Study	1,883	1,547	1,883	0
158	0	- Spencer Drove, Soham	158	40	47	-111
6,023	0	- March Future High St Fund	336	51	140	-196
8,522	0	- St Neots Future High St Fund	349	51	141	-208
		Transport Strategy and Network Development				
1,000	0	- Scheme Development for Highways Initiatives	437	12	13	-424
2,083	0	- Combined Authority Schemes	2,083	904	1,979	-104
280	0	- A505	143	3	143	0
6,795	0	- Wheatsheaf Crossroads	200	0	30	-170
		Planning, Growth & Environment				
6,634	3,188	- Waste Infrastructure	294	163	290	-4
12,000	0	- Waterbeach Waste Treatment Facilities	4,500	0	0	-4,500
680	0	- Northstowe Heritage Centre	519	94	519	0
		Climate Change & Energy Services				
1,000	0	- Energy Efficiency Fund	306	191	252	-54

Total Scheme Revised Budget £'000	Original 2021/22 Budget as per BP £'000	Scheme	Revised Budget for 2021/22 £'000	Actual Spend (January) £'000	Forecast Spend – Outturn (January) £'000	Forecast Variance – Outturn (January) £'000
8,998	8,835	- Swaffham Prior Community Heat Scheme	8,998	3,321	6,598	-2,400
928	0	- Alconbury Civic Hub Solar Car Ports	583	540	583	0
4,814	3,134	- St Ives Smart Energy Grid Demonstrator scheme	967	0	967	0
6,849	2,161	- Babraham Smart Energy Grid	1,409	643	958	-451
6,970	-	- Trumpington Smart Energy Grid	0	0	0	0
8,266	127	- Stanground Closed Landfill Energy Project	236	-10	0	-236
2,526	-	- Woodston Closed Landfill Energy Project	0	-8	0	0
24,444	22,781	- North Angle Solar Farm, Soham	21,150	13,924	18,480	-2,670
635	550	- Fordham Renewable Energy Network Demonstrator	635	18	635	0
15,000	862	- Decarbonisation Fund	4,074	2,602	4,856	782
200	200	- Electric Vehicle chargers	200	3	200	0
500	500	- Oil Dependency Fund	500	0	65	-435
300	300	- Climate Action Fund	300	0	0	-300
157	0	- Cambridge Electric Vehicle Chargepoints	157	0	173	16
3,145	0	- School Ground Source Heat Pump Projects	3,224	504	1,941	-1,283
45,890	14,937	**Connecting Cambridgeshire**	14,937	1,758	6,198	-8,739
	483	Capitalisation of Interest	483	0	483	0
575,386	**109,878**		**131,663**	**52,153**	**98,165**	**-33,498**
	-25,237	Capital Programme variations	-25,237	0	0	25,237
	84,641	**Total including Capital Programme variations**	**106,426**	**52,153**	**98,165**	**-8,261**

The increase between the original and revised budget is partly due to the carry forward of funding from 2020/21, this is due to the re-phasing of schemes, which were reported as underspending at the end of the 2020/21 financial year. The phasing of a number of schemes have been reviewed since the published business plan and are now incorporated in the table above

The Capital Programme Board have recommended that services include a variation budget to account for likely slippage in the capital programme, as it is sometimes difficult to allocate this to individual schemes in advance. As forecast underspends start to be reported, these are offset with a forecast outturn for the variation budget, leading to a balanced outturn overall up to the point when slippage exceeds this budget. The allocations for these negative budget adjustments have been calculated and shown against the slippage forecast to date.

Appendix 7 – Commentary on Capital expenditure

- S106 Northstowe Bus Only Link

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
318	20	-298	-306	+8	0	-298

Delays in seeking alternative construction procurement following high cost of original target price.

- Stuntney Cycleway

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
177	167	-10	0	-10	0	-10

Construction to be delivered throughout February and March. Anticipated underspend of £10k to allow for any outstanding works to be completed.

- Local Infrastructure Improvements

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
1,179	739	-440	-449	+9	0	-440

There are no projects which are individually material (over £100k), but there are a 51 LHI schemes which are to be delayed and carried forward to 22/23. Some of the project delays are on schemes which need to be safety audited, currently the turnaround is around 10-12 weeks, (usually 6-8weeks), prior to proceeding to formal consultation or target costing. Other delays to date have been due to approval times from parish councils. The delays have also been exacerbated by project team resources. For further information on specific schemes please refer to the LHI report appended to this document.

- A1303 Swaffham Heath Road Crossroads

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
980	20	-960	-900	-60	0	-960

Construction is delayed into 2022/23 and dependant on satisfactory conclusion of land negotiation/transfer.

- Strategy and Scheme Development work

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
908	914	+6	0	0	0	+6

The Strategy & Scheme development budget is under pressure this year. There has not been much work forthcoming from the Combined Authority due to the change of Mayor revisiting their priorities and about what work they want CCC to do to assist the delivery of their programme.

There are also a number of areas of CCC work which the team are expected to deliver for which there is insufficient funding, this includes A428 Black Cat to Caxton Gibbet Examination which has to be delivered as it is part of CCC's statutory duty.
Use of revenue funding is now being used to cover this pressure.

- Delivering the Transport Strategy Aims – Highway Schemes

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
2,846	793	-2,053	-1,372	-681	0	-2,053

Slippage of £2.1m on Delivering the Strategy Transport Aims- Highway Schemes is due the funding allocation and programme not being agreed until September 2021, and together with the required involvement of the various district councils and the complexity of the projects this will mean that expenditure will slip into next financial year. The delays have also been exacerbated by project team resources. It is anticipated that agreement to next year's allocation and programme will be made earlier, so that this year's slipped schemes plus next year's full programme will be delivered and spent within year.

- Hardwick Path Widening

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
305	305	0	-21	+21	0	0

Construction completed during 2021/22.

- Girton to Oakington Cycleway

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
704	482	-222	-115	-107	0	-222

Total spend for 21/22 is forecast at £482,000, leaving approx £222,000 to be carried over to spend in 2022/23 for phase two design work. Further funding is being sought to enable construction of Phase Two.

- Other Cycling Schemes

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
475	68	-407	-407	0	0	-407

Schemes that are to be funded by the Integrated transport block were agreed in September 21 and as a consequence those schemes with significant detail design and longer lead in times are now expected to be delivered in 2022/23.

- Countywide Safety Fencing renewals

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
1,115	168	-947	-920	-27	0	-947

The construction phase of the A505/ M11 Duxford safety fencing renewals have been delayed due to design complexities and coordination with National Highways. The scheme is now expected to be delivered in 22/23.

- Countywide Surface Dressing programme

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
989	985	-4	-149	+145	0	-4

As detailed within the 'Carriageway & Footway Maintenance' section, 3 schemes are being brought forward as they are the most deliverable schemes that can be accommodated at this stage in the financial year.
Work has been overcommitted to be carried out to facilitate maximising expenditure.
The contractor has reassured us that they have the resource to deliver the work and to utilise the full budget, this financial year. Further reassurance has been given to CCC from the Contractor has chosen to subcontract a CCC-preferred supplier to facilitate spending all the budget and there is confidence they will be able to deliver the work by 31 March.

- Carriageway & Footway Maintenance schemes

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
3,850	3,488	-362	-490	+128	0	-362

With the current levels of predicted underspend and unallocated funding, the following three schemes are being bought forward from the published Capital Maintenance Programme

- Brockly Road, Elsworth £180,000
- Church Street, Guilden Morden £132,000
- Balsham Road, Linton £168,000

These schemes are the most deliverable schemes that can be accommodated at this stage in the financial year.

The plan to deliver two highways drainage flood alleviation schemes, where highway water is significantly contributing to the flooding of a number of properties, is now underway. The two drainage schemes are High Street, Buckden, (£312,000) and Ermine Street, Arrington (£280,000). It is proposed that the additional funding required to deliver these schemes is taken from the previously identified Vehicle Restraint System upgrade at the A505/M11 interchange, where funding has previously been approved to be carried forward to 2022/23. The A505 scheme will continue in 2022/23 unaffected however this amendment will ensure the highway drainage improvements can be delivered without undue delay.

Both schemes have now been ordered and work has commenced on site at Buckden, however a considerable amount of ths work will now take place in 2022/23.

- Bridge Strengthening

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
3,126	2,837	-289	-128	-161	0	-289

Reactive Capital works Bridge repairs needs an extra £475k for minor repairs, so funding this year will be moved from the St Ives Flood Arches/ Town Bridge and North of Girton Bridge, both which have been delayed.

- £90m Highways Maintenance schemes

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
6,566	4,696	-1,870	-1,049	-821	0	-1,870

A net underspend is forecast this year mainly due to slippage of 4 main schemes:-
Littleport – Road space issues with Highways England / Suffolk network, 50% of the scheme will be carried out when the diversion route falls within Cambridgeshire (predicted at £452k spend in 2021/22 - £450k spend 2022/23).
Parson Drove/Murrow Bank (£390k) – Works to be programmed in 2022/23 to realise efficiencies by working alongside a 2022/23 Gull Road scheme.
Haddenham (£600k) - 60% of spend expected to occur in this financial year, remainder to fall in 2022/23. This is due to the procurement of the EHF3 contract requiring an exemption waiver, (following committee approval of the £500k+ schemes which form the package of work, and are identified in the report), as we only received 2 tender returns from contractors. A minimum of three is required to meet competition regs and not require an exemption. Delays in the design and tender process were due to current resource levels within the team overseeing the delivery process. Tender period ran through November / December.
Cromwell Road Wisbech (£450k) - Programmed start date: 21/3/2022 (5 week duration) Delayed works due to the scarcity of concrete components with no alternatives on the market that can fulfil the design.

- Pothole grant funding

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
6,841	6,756	-85	-752	+667	0	-85

Ramsey Mereside (£646) - 80% of spend this financial year, remainder to fall in 22/23. This is due to the procurement of the EHF3 contract requiring an exemption waiver, (following committee approval of the £500k+ schemes which form the package of work, and are identified in the report), as we only received 2 tender returns from contractors. A minimum of three is required to meet competition regs and not require an exemption. Delays in the design and

tender process were due to current resource levels within the team overseeing the delivery process. Tender period ran through November / December.
There is a March 2022 programme planned which will use the remainder of the funding.

- Footways

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
4,000	3,539	-461	0	-461	0	-461

A number of Footway schemes have been delayed and will be completed in 2022/23, these include the following:-
Hills Road, Cambridge
Gwydir Street, Cambridge
Oxford Road/Windsor Road, Cambridge

- Fendon Road Roundabout

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
275	40	-235	-235	0	-235	0

Expenditure has been lower than anticipated during 21/22 as remedial work costs to the roundabout were lower than expected. The remaining monies will go back to the original South Area Corridor S106 pot.

- Ring Fort Path

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
308	15	-293	-268	-25	0	-293

Due to ongoing land acquisition negotiations the scheme will not start on-site during 21/22.

- Kings Dyke

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
12,700	10,102	-2,598	0	-2,598	0	-2,598

The project is now at a stage where the Council have a more detailed understanding of the cost forecast and the risk profile. In the period there have been several cost savings, including staffing, Network Rail possession costs including a commitment from Network Rail that the Council will receive a significant refund this financial year. The monthly risk budget has been reprofiled to better reflect when the risk items could occur in the programme, many of which

have been moved into the next financial year. The construction work undertaken to date by the Contractor has also come in below forecast, due to resequencing of the work. The project remains on programme for completion by the end of 2022.

- Emergency Active Fund

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
785	490	-295	-175	-120	0	-295

Following preliminary development of the original 53 schemes, an extended consultation period during Autumn 2021, analysis of the data by Business Intelligence Unit, scheme detailed design, road safety audit and traffic management complexities, plus engagement with the Greater Cambridge Partnership over schemes that formed part of the City Access strategy now being taken forward by the GCP, only some simple and cycle parking projects are programmed to be delivered by end March 2022, with the majority of the schemes programmed for delivery from April to August 2022.

- Lancaster Way

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
792	622	-170	-150	-20	-170	0

There is an expectation that scheme will now underspend against the allocation funding. This scheme is funded by the Combined Authority, so will mean a reduction in the reimbursement claimed.

- March Future High Street Fund

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
336	140	-196	-144	-52	0	-196

Design costs which were factored into this year's budget are being picked up directly by Fenland District Council, so has reduced the forecast expenditure for this year. The overall budget for this scheme will therefore be reduced.

- St Neots Future High Street Fund

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
349	141	-208	-195	-13	0	-208

Design costs which were factored into this year's budget are being picked up directly by Huntingdonshire District Council, so has reduced the forecast expenditure for this year. The overall budget for this scheme will therefore be reduced.

- Scheme Development for Highway Initiatives

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
437	13	-424	-424	0	0	-424

Funding was allocated to enable scheme development for new schemes, however this year no new schemes have been identified that require scheme development work. It is therefore expected that this funding would roll forward into next year.

- Waterbeach Waste Treatment Facilities

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
4,500	0	-4,500	-4,500	0	0	-4,500

A new scheme has been placed into the capital programme to take account of amendments to the Waterbeach waste treatment facilities following changes to the Industrial Emissions Directive to reduce emissions to levels which are able to meet the sector specific Best Available Technique conclusions (BATc) and comply with new Environmental Permit conditions issued by the Environment Agency (subject to determining whether a Qualifying Change in Law applies). This work is not now expected to begin until 2022/23.

- Energy Efficiency Fund

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
306	252	-54	-54	0	0	-54

8 LED lighting projects completed so far and 6 more currently in progress or being planned. 5 more projects are in doubt due to potential asbestos, awaiting survey results and costs to remove asbestos. This means actual spend could increase compared to forecast (due to asbestos removal) or decrease (if we decide not to proceed because costs are too high).

- Swaffham Prior Community Heat Scheme

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
8,998	6,598	-2,400	-2,400	0	0	-2,400

Rephasing of scheme and more costs will fall into 22/23. The priority during 21/22 has been to spend the grant from the Heat Network Investment Project (HNIP) by the end of March 2022.

Delays on the delivery of the energy centre have occurred as a result of site asbestos contamination which need to be cleared and the difficulty getting hold of cladding materials. This has meant that some spend is being reprofiled into 2022/23.

- Babraham Smart Energy Grid

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
1,409	958	-451	-451	0	0	-451

The project accelerated the construction of the 'private wire' between Babraham P+R and Addenbrookes to align with works planned by Cadent and the Greater Cambridge Partnership. As this was prioritised to prevent the path being dug up consecutively this meant the Investment Grade Proposal and contracting for the rest of the scheme was pushed back.

- North Angle Solar Farm, Soham

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
21,150	18,480	-2,670	-2,670	0	0	-2,670

More refined forecasts have become available from Bouygues aligning their construction programme and payment milestones.

- Stanground Closed Landfill Energy Project

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
236	0	-236	-236	0	0	-236

This scheme has been delayed by a year, so costs will now be incurred in 22/23.

- Decarbonisation Fund

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
4,074	4,856	+782	+736	+46	0	+782

20 low carbon heating projects currently underway,one of which is now completed. Government grant from the Public Sector Decarbonisation Scheme partly funds the investment into the heating programme. Covid-19 has had some impact on delivery, in particular material delays and cost.

- Oil Dependency Fund

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
500	65	-435	-435	0	0	-435

Funding was agreed at Environment and Green Investment Committee in December 2021 but government policy to support off-gas communities to decarbonise has only just started coming through. Now we understand Government's direction of travel in the Heat and Building Strategy we have reprofiled the spend.

- Climate Action Fund

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
300	0	-300	-300	0	0	-300

The Climate Change and Environment Strategy has been reviewed August-December 2021 and is being considered by Full Council in February 2022. The revised strategy will direct how the funding will be spent.

- School Ground Source Heat Pump Projects

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
3,224	1,941	-1,283	-1,281	-2	0	-1,283

Confirmation of the Public Sector Decarbonisation grant funding came forward in May 2021 and the priority is to spend the grant by the end of the financial year. The remainder of the budget will be spent next financial year.

- Connecting Cambridgeshire

Revised Budget for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Variance (January) £'000	Variance Last Month (December) £'000	Movement £'000	Breakdown of Variance: Underspend/ pressure £'000	Breakdown of Variance : Rephasing £'000
14,937	6,198	-8,739	-8,739	0	0	-8,739

The Connecting Cambridgeshire spend for this year has been reprofiled and some spend will now be in next year, as the SFBB Phase 4,Contract 2 is now not expected to be completed until mid-2022. There will be a total scheme underspend of £900k from saving from the Openreach SFBB contract 1, Phases 1-3, reducing the original £20m (£16.515m from prudential borrowing, £3.485m from LPSA grant) to £19.1m.

Capital Funding

Original 2021/22 Funding Allocation as per BP £'000	Source of Funding	Revised Funding for 2021/22 £'000	Forecast Spend - Outturn (January) £'000	Forecast Funding Variance - Outturn (January) £'000
13,873	Local Transport Plan	13,599	13,599	0
4,182	Other DfT Grant funding	11,808	11,513	-295
16,426	Other Grants	18,421	12,761	-5,660
8,437	Developer Contributions	3,821	2,087	-1,734
48,447	Prudential Borrowing	59,773	36,757	-23,016
18,030	Other Contributions	23,758	20,965	-2,793
109,395		**131,180**	**97,682**	**-33,498**
-12,254	Capital Programme variations	-24,300	9,198	33,498
97,141	**Total including Capital Programme variations**	**106,880**	**106,880**	**0**

The increase between the original and revised budget is partly due to the carry forward of funding from 2020/21, this is due to the re-phasing of schemes, which were reported as underspending at the end of the 2020/21 financial year. The phasing of a number of schemes have been reviewed since the published business plan.

Funding	Amount (£m)	Reason for Change
New funding/Rephasing (DfT Grants)	3.48	Roll forward of unused pothole grant (£2.695m). Roll forward of Emergency Active travel fund grant (£0.785m)
New funding/Rephasing (Specific Grants)	3.13	Roll forward of Highways England funding for A14 cycling schemes (£0.991m). Roll forward of grant for Northstowe Heritage centre (£0.519m). Roll forward of grant for School Ground Source Heat Pump Projects (£1.88m) Roll forward of CPCA funding for Lancaster Way (£0.642m) Roll forward and rephasing Wisbech Town Centre Access scheme (-£1.055m) CPCA funding for A505 scheme (£0.143m).
Additional Funding / Revised Phasing (Section 106 & CIL)	-4.79	Developer contributions to be used for a number of schemes. Northstowe Bus link (£0.128m) Highway development work (£0.508m). Rephasing Bar Hill to Longstanton cycleway (-£0.730m). Rephasing Girton to Oakington cycleway (-£0.102m). Rephasing of Signals work (£0.557m). Rephasing of Waste scheme (-£0.117m). Rephasing of Guided Busway (-£4.079m). Rephasing of Fendon Road Roundabout (£0.275m). Rephasing of Ring Fort path (£0.308m). Rephasing of Cherry Hinton Road cycleway (£0.330m). Rephasing Chesterton Abbey Bridge (-£2.063m). Repahsing Lancaster Way (£0.150m).

Funding	Amount (£m)	Reason for Change
Additional funding / Revised Phasing (Other Contributions)	5.59	Strategy & scheme development work (£0.149m). Deletion of A14 cycling schemes which are part of phase 2 bid (-£1.830m). Carriageway & Footway Maintenance (£0.420m).Pothole funding (£4.000m). Rephasing King's Dyke (£0.611m). Combined Authority funding (£2.072m) Spencer Drove, Soham (£0.158m)
Additional Funding / Revised Phasing (Prudential borrowing)	14.01	Deletion of A14 cycling schemes which are part of phase 2 bid (-£0.125m). Rephasing of Highways Maintenance funding (£8.056m). Rephasing of Waste schemes (-£2.777m). Rephasing of Energy schemes (£7.19m). Rephasing King's Dyke (£1.189m). Rephasing Scheme development for Highway Initiatives.

Key to RAG ratings

RAG status	Description
RED	Not delivered within the target completion date (financial year)
AMBER	Highlighted concerns regarding delivery by completion date
GREEN	On target to be delivered by completion date

Update as at 01.02.2022

Cambridge City Works Programme

Carried Forward from 2018/19

Total Local Highway Improvement (LHI)_Schemes 27
Total Completed 26
Total Outstanding 1

Local Member & Project Number	Parish/Town	Street	Works	RAG STATUS (Progress measured against 31/03/19 completion date)	Project Update and any Issues or Variance Explanation
Cllr Richard Howitt 30CPX02296	Petersfield	Great Northern Road	**Civils** - Zebra crossing	RED	Road now adopted. NOI consultation starts 03/08. A number of objections received which are currently being discussed and worked through with the local member. Some pressure to relocate the zebra from proposed location despite this being the only available option. This is further delaying the scheme as members now wish to revisit this, although ruled out via safety audit already.

Carried Forward from 2020/21

Total LHI Schemes 24
Total Completed 23
Total Outstanding 1

Local Member & Project Number	Parish/Town	Street	Works	RAG STATUS (Progress measured against 31/03/21 completion date)	Project Update and any Issues or Variance Explanation
Cllr Beckett	Queen Edith	Cavendish Avenue	**Raised Features** - Installation of speed cushions along Cavendish Avenue to reduce vehicle speeds.	RED	Consultation complete. In for pricing. Completion expected before year end.

Current Schemes Forward for 2021/22

Total LHI Schemes 20
Total Completed 5
Total Outstanding 15

Local Member & Project Number	Parish/Town	Street	Works	RAG STATUS (Progress measured against 31/03/22 completion date)	Project Update and any Issues or Variance Explanation
Richard Howitt	Petersfield	Cambridge Place	Parking restrictions - Extend loading restriction into Cambridge Place though the narrow section. Add Diag 816 No Through Road sign.	GREEN	Order raised. Currently waiting on start date from contractor.

Local Member & Project Number	Parish/Town	Street	Works	RAG STATUS (Progress measured against 31/03/22 completion date)	Project Update and any Issues or Variance Explanation
Alex Bulat	Abbey	Occupation Road	Parking restrictions - Yellow lining to only allow parking on one side of the road to allow access for emergency vehicles.	GREEN	Order raised. Currently waiting on start date from contractor.
Richard Howitt	Petersfield	Union road	Signs / Lines - Replace existing DYL waiting restriction with "School Keep Clear" marking with associated amendment to existing traffic order to run the length of school accesses. Refresh existing DYL markings on approaches, add 20 roundels and SLOW markings.	GREEN	Work Complete
Alex Bulat	Abbey	The Homing's	Street lights - Exact amount of lights to be determined upon review and consultation, current allowance for 6 no.	GREEN	Order raised. Currently waiting on start date from contractor.
Elisa Meschini	Kings Hedges	Cameron Road	Raised features - Installation of cushions to help reduce vehicle speeds in the vicinity of the Ship Pub.	GREEN	With contractor for pricing.
Alex Beckett	Queen Edith's	Hills Road	Parking Restrictions - Double yellow lines for length of Hills Road access road - from 321 - 355	GREEN	Order raised. Currently waiting on start date from contractor.
Catherine Rae	Castle	Street Lights - Various	Street Lights - 2 no locations around the ward (Garden Walk / Sherlock Road) which currently have significant areas of unlit path.	GREEN	Currently waiting on lighting design. Delays due to moving location of lighting column following discussion with residents.
Catherine Rae	Castle	Huntingdon Road	Signs / MVAS - Warning signs in advance of zebra crossing and MVAS unit.	GREEN	Work Complete
Neil Shailer	Romsey	Coldhams Ln	MVAS unit.	GREEN	Work Complete
Gerri Bird	Chesterton	Fallowfield / May Way / Orchard Avenue	Street lights - Various locations around Chesterton ward to improve lighting in existing dark spots.	GREEN	Order raised. Currently waiting on start date from contractor.
Richard Howitt	Petersfield	Saxon Street	Access restriction - Provide diagram 619 with sub plate "Except for Access" with relevant legal order. Signs are not legally required to be lit as within a 20mph zone but should be considered as the signs might be very hard to distinguish in the dark.	GREEN	In for costing.
Catherine Rae	Castle	Albert St	Civils - New surface water drainage system, and improvements to the entrance of Albert St off Chesterton Road including imprint paving, new signs and new lining.	GREEN	Design complete. Submitted for pricing WC 01/11
Elisa Meschini	Kings Hedges	Green End Road	Parking restrictions - yellow lining to both sides of the road to allow access for vehicles and increase visibility.	GREEN	Order raised. Currently waiting on start date from contractor.
Bryony Goodliffe	Romsey	Birdwood Rd	Raised Features - Speed cushions	GREEN	Order raised. Work to be delivered during Feb Half Term.
Alex Bulat	Abbey	Riverside Bridge	Civils - Relocation of existing bollards and signs/lines to make it a clearer route for cyclists and pedestrians.	GREEN	Work Complete
Nick Gay	Market	Green Street	Signs / lines - change to NMU route between certain hours of the day to create a pedestrian zone for majority of hours during day	GREEN	Consulting with GCP, City Council, Policy and Regulation and Parking services regarding proposal and enforcement. Awaiting responses to queries before proceeding with informal consultation.
Gerri Bird	Chesterton	Chestnut Grove	Parking restrictions - DYL waiting restriction at junction	GREEN	Order raised. Currently waiting on start date from contractor.
Neil Shailer	Romsey	Coldhams Ln 256 - 258	Civils - Installation of footpath gullies and resurfacing of footpath to remove standing water.	RED	Design work complete by end of Jan then in for costing. Will carryover into 22/23 year due to lead in times.
Bryony Goodliffe	Cherry Hinton	Fishers Lane	Parking restrictions - Double Yellow Lines.	GREEN	Order raised. Currently waiting on start date from contractor.
Elisa Meschini	Kings Hedges	Nuffield Road	MVAS / Signs / Lines - 20mph repeater and road markings as needed	GREEN	Work Complete

Huntingdonshire Works Programme

Carried Forward from 2019/20

Total Local Highway Improvement (LHI) Schemes 21
Total Completed 19
Total Outstanding 2

Local Member & Project Number	Parish/Town	Street	Works	RAG STATUS (Progress measured against 31/03/20 completion date)	Project Update and any Issues or Variance Explanation
Cllr Bywater	Folkesworth & Washingley	Village Area	7.5t Weight Limit	RED	Project's proposal got altered. Weight limit to be implemented. No objections to TRO. TC to be requested in January.
Cllr Gardener	Winwick	B660	30mph speed limit	RED	Works commenced on 15th December

Carried Forward from 2020/21

Total LHI Schemes 25
Total Completed 19
Total Outstanding 6

Local Member & Project Number	Parish/Town	Street	Works	RAG STATUS (Progress measured against 31/03/21 completion date)	Project Update and any Issues or Variance Explanation
Cllr Criswell	Woodhurst	Wheatsheaf Rd & Church Street	Provision of 40mph buffer zones	RED	Works completed except centre line marking. Hydroblasting to be used to remove existing centre line. Once done new centre line marking to be painted.
Cllr Bywater	Sawtry	Gidding Road	Installation of pedestrian crossing	RED	Received street lighting design from BBLP. RSA 1/2 requested. Likely to run into 22/23 FY due to remaining time available to year end.
Cllr West	Great Paxton	High Street	Priority narrowing's	RED	Disconnection works to be carried our w/c 3rd January. Installation works to follow. PC to collect MVAS unit in January.
Cllr Gardener	Catworth	Church Road	New footway leading up to the bus stop	GREEN	Works complete
Cllr Rogers	Abbots Ripton	The main roads through and into the village	Heavy Commercial Vehicles (HCV) survey	GREEN	Work Complete
Cllr Gardener	Winwick	B660, Old Weston Road	Provision of a Mobile Vehicle Activated Sign (MVAS)	RED	Works commenced on 15th December
Cllr Downes	Brampton	The Green, Brampton	Installation of pedestrian crossing	RED	Street lighting design requested. Road Safety comments requested. Likely to run into 22/23 FY due to remaining time available to year end.
Cllr Fuller	St Ives	Footpath crossing Erica Road	Provision of crossing point and installation of knee-rail fence	RED	Request for street lighting design sent to BBLP. Target cost received. Total cost higher than allocated budget. Still awaiting approval from HDC for CIL funding and land take.

Current Schemes Forward for 2021/22

Total LHI Schemes 29
Total Completed 0
Total Outstanding 29

Local Member & Project Number	Parish/Town	Street	Works	RAG STATUS (Progress measured against 31/03/22 completion date)	Project Update and any Issues or Variance Explanation
Ian Gardener	Upton and Coppingford PC	Upton Village, Upton	Reduction in the speed limit from 30mph to 20mph with 30mph buffer limits.	GREEN	Notice of Intent (NOI) advertised on 01/09/21. Target cost received. Higher than anticipated. PC agreed to cover 1/3 of the cost increase.
Simon Bywater	Glatton	B660 (Infield Road) Sawtry Road	Install 1 no. MVAS unit to assist in encouraging greater compliance with the speed limit.	GREEN	Further to previous liaison with UKPN, BBLP asked to provide a quote. Awaiting reply.

Local Member & Project Number	Parish/Town	Street	Works	RAG STATUS (Progress measured against 31/03/22 completion date)	Project Update and any Issues or Variance Explanation
Douglas Dew	MD Community Roadwatch	Sawtry Way (B1090) Mere Way	Reduce speeds (implement changes to the current speed limit) as per feasibility study.	RED	Delegated decision likely required. Expected to be made in February. Likely to run into 22/23 FY due to remaining time available to year end.
Steve Criswell	Woodhurst	Woodhusrt, South Street & Church Street	Supply 1 no. MVAS unit and install two new posts. Lighting columns to be utilised as additional mounting locations.	GREEN	Works Order raised. Awaiting programme dates.
Steve Corney	Upwood and the Raveleys PC	Upwood and the Raveleys Parish	Supply 1 MVAS unit and agree on 5 mounting locations (new posts and lighting columns).	GREEN	Works Order raised. Awaiting programme dates.
Jonas King	Huntingdon Town Council	B1514 / Hartford Main Street	Install an informal pedestrian crossing within the vicinity of the bus stop positioned along B1514, Hartford.	RED	Speed survey results received. In detailed design. RED as road safety audit and consultation still required. Likely to run into 22/23 FY due to remaining time available to year end.
Ian Gardener	Kimbolton and Stonely	B645 / Tillbrook Road	**Supply 2 no. MVAS units and install mounting posts to reduce speed on B645 through the village.** **The above to be implemented on the proviso that PC's contribution is min. 20% of the total cost (not 10%).**	GREEN	Works Order raised. Awaiting programme dates.
Adela Costello	Ramsey	Wood Lane, Ramsey (B1096)	Construct a new footway from the village to the 1940's Camp to aid in pedestrian safety along a busy road.	RED	In pre-lim design. RED as Road Safety Audit still required. Likely to be difficult to deliver on site before year end.
Simon Bywater	Stilton PC	North street, Stilton (North end) B1043 Junction	Install 40mph buffer zone as per feasibility study.	RED	Detailed design completed. Sent for PC approval. Still not received. Likely to run into 22/23 FY due to remaining time available to year end.
Ian Gardener	Tilbrook PC	Station Road, Tilbrook	Supply 1 no. MVAS unit and install two posts to reduce speeds in this narrow roadand improve pedestrian safety.	GREEN	Works Order raised. Awaiting programme dates.
Douglas Dew	Houghton and Wyton	Mill St	Install additional information signs. Level and harden verge used for parking with planings.	RED	In detailed design. Likely to run in 22/23 FY due to remaining time available to year end.
Stephen Ferguson	Great Gransden	Ladies Hill, Meadow Road Middle Street	Priority give way features on Ladies Hill and Middle Street to aid in speed reduction and increase pedestrians' safety.	RED	In detailed design. Further information/ approval requested from PC. Highlighted RED due to lead in times for safety audits. May be difficult to complete on the ground before year end. Likely to run into 22/23 FY due to remaining time available to year end.
Ian Gardener	Old Weston	B660 / Main Street (Old Weston)	Install village gateways and 40mph buffer zones at the entrances to the village. Red coloured surfacing along B660 at the existing 30mph speed limit.	RED	Detailed design completed and sent for PC's approval. Awaiting response. Likely to run into 22/23 FY due to remaining time available to year end.
Simon Bywater	Sawtry PC	The Old Great North Road, Sawtry (Opp Straight Drove)	Install "Pedestrian Crossing" warning signs, SLOW markings and cut back vegetation.	RED	In detailed design. Likely to run into 22/23 FY due to remaining time available to year end.
Simon Bywater	Sibson-cum-Stibbington PC	Old Great North Road, Stibbington	Introduce parking restrictions in a form of double yellow lines.	RED	Proposed plans sent for PC's approval. Site visit requested. Amended plan sent for approval. Awaiting reply further to PC meeting in early January 2022. Next stage TRO for parking restrictions. Likely to run in 22/23 FY due to remaining time available to year end.
Stephen Ferguson	Abbotsley	B1046, Abbotsley	Install 1 no. MVAS unit and mounting posts to reduce speed on B1046 through the village.	GREEN	TC requested in late December
Ian Gardener	Bythorn & Keyston	Thrapston Road	Install MVAS and gateways on Thrapston Road to calm traffic and reduce speeds through Bythorn Village.	RED	Plans to be amended further to PC's comments. TC to follow. Likely to run into 22/23 FY due to remaining time available to year end.
Graham Wilson	Godmachester	East side of London Eoad, Godmanchester	Install parking restrictions in a form of double yellow lines in pre-agreed locations along London Rd.	RED	Detailed design sent for TC's approval. TRO to follow once the plans have been approved. Likely to run into 22/23 FY due to remaining time available to year end.
Ian Gardener	Great & Little Gidding	Mill Road (between Gt Gidding and Little Gidding) Luddington Road	Install 40mph buffer zones on roads leading to Great Gidding village. This will aim to reduce traffic speeds at approaches to the village.	GREEN	TC request sent w/c 13th December 21.

Local Member & Project Number	Parish/Town	Street	Works	RAG STATUS (Progress measured against 31/03/22 completion date)	Project Update and any Issues or Variance Explanation
		(towards Luddington Village)			
Ian Gardener	Perry	Chichester Way, Perry	Amend the TRO to change the current waiting time to a max 30min.	RED	In detailed design. TRO to follow. Likely to run in 22/23 FY due to remaining time available to year end.
Douglas Dew	Hemingford Grey	Hemingford Grey Centre	Proposed 20mph spped limit along various roads across the village.	RED	In detailed design. Further speed data required to confirm compliance. Likely to run into 22/23 FY due to remaining time available to year end.
Keith Prentice	Little Paxton	Great North Road from A1 South (In front of co-op foodstore)	Install parking restrictions in a form of double yellow lines to tackle inconsiderate parking issues.	GREEN	Target cost requested on 9th December 21.
Steve Criswell	Bluntisham	Colne Road, Bluntisham	Improve existing pedestrian Zebra crossing at Colne Road by making it more conspicuous.	GREEN	Works programmed for February 22 half term.
Stephen Ferguson	Great Paxton	B1043 from Harley Ind Estate, Paxton Hill to High St, Great Paxton	Install 40mph buffer zones on the approach to village from Harley Industrial Estate, Paxton Hill to High Street to lower speeds before entry to the current 30mph speed restriction.	RED	In detailed design. Likely to run in 22/23 FY due to remaining time available to year end.
Douglas Dew	Fenstanton	8 - 30 Chequer Street, Fenstanton	To install new hard surface (to act as parking bays) and knee high fence segregating the latter from the footpath. **PC's contribution insufficient. Clarification on increased contribution received.**	RED	In detailed design. Requested PC to undertake local consultation on trees removal. Feedback received. Further liaison with PC needed. Likely to run into 22/23 FY due to remaining time available to year end.
Ian Gardener	Leighton Bromswold	Sheep St / Staunch Hill	Supply 1 no. MVAS unit and install mounting posts to reduce speed on Sheep St and Staunch Hill entry point to reduce speads and improve pedestrians' safety.	GREEN	Works Order raised. Awaiting programme dates.
Steve Corney	Abbots Ripton	B1090 and C115	Existing verge widening (to be used in abcence of footpath) to link Home Farm Close with school, shop and church.	RED	Liaison with structures team with regard to proposed design. An application for Watercourse Consent via Flood and Water Team to be sent.
Simon Bywater	Elton	B671 "Overend" Elton	Initial proposal was for a pedestrian crossing point between Black Horse PH car park and the centre of the village. Installation of a table top. Two of the Local Members scored the proposal based on table top only.	RED	PC proposal's approval received on 21st December 21. Detailed design to be developed and RSA to follow as a road narrowing to be implemented. Likely to run into 22/23 FY due to remaining time available to year end.
Ian Bates	Hilton	B1040 through Hilton	24 hour weight limit TRO to improve safety, reduce noise and pollution, and to prevent further damage from HGVs travelling through narrow roads within the village.	RED	TRO objections received. Delegated decision to be made in February 22. Likely to run into 22/23 FY due to remaining time available to year end.

Fenland Works Programme

Carried Forward from 2019/20

Total Local Highway Improvement (LHI) Schemes 14
Total Completed 13
Total Outstanding 1

Local Member & Project Number	Parish/Town	Street	Works	RAG STATUS (Progress measured against 31/03/20 completion date)	Project Update and any Issues or Variance Explanation
Cllr Connor / Cllr Costello	Pondersbridge	B1040 (Ramsey Road, Herne Road) & Oilmills Road	Traffic calming	RED	Remedial works agreed with Cllr Connor and proceeding to costing. Waiting on Cllr Connor undertaking further consultation with residents.

Carried Forward from 2020/21

Total LHI Schemes 10
Total Completed 7
Total Outstanding 3

Local Member & Project Number	Parish/Town	Street	Works	RAG STATUS (Progress measured against 31/03/21 completion date)	Project Update and any Issues or Variance Explanation
Cllr Tierney	Wisbech	South Brink	Traffic Calming	RED	Draft design complete. Awaiting Member response, member has been chased by CCC Officer. Sent to safety audit 20/10. Stage 1 safety audit received and highlights concerns regarding suitability of give way features in locations with very low opposing traffic flows. CCC officer to discuss with member and PM.
Cllr King	Leverington	Sutton Road/Leverington Common	Speed limit reduction	RED	Cost estimate over budget. Design de-scoped in liaison with parish. Re-submitted for pricing 20/10. Still awaiting costs. To chase contractor and escalate.
Cllr King	Wisbech	North Brink	New one way	RED	To be submitted for safety audit by WE 21/01. Delivery next financial year.

Current Schemes for 2021/22

Total LHI Schemes 10
Total Completed 1
Total Outstanding 9

Local Member & Project Number	Parish/Town	Street	Works	RAG STATUS (Progress measured against 31/03/22 completion date)	Project Update and any Issues or Variance Explanation
Cllr Tierney	Wisbech	Tinkers Drove	Install speed cushions throught the length	RED	RED due to outstanding milestones prior to delivery on site including road safety audit, formal consultation and pricing. Sent for Road Safety Audit 30/09. Still awaiting safety audit.
Cllr Count/Cllr French	March	Creek Road / Estover Road	Footway widening / signing & lining	GREEN	Design complete and approved by town council. In for costing.
Cllr Hoy	Wisbech	New Drove / Leach Close	DYLs at junction	GREEN	Order raised, waiting for start date.
Cllr Connor / Cllr Boden	Whittlesey	Various (20mph)	20mph & associated traffic calming	RED	In detailed design. Survey results indicate can proceed with 20mph zones. Awaiting on approval from Town Council before

Local Member & Project Number	Parish/Town	Street	Works	RAG STATUS (Progress measured against 31/03/22 completion date)	Project Update and any Issues or Variance Explanation
					proceeding to formal consultation. Plans sent 11/11. Still awaiting approval from town council. Officer chased on 21/12.
Cllr Connor / Cllr Boden	Whittlesey	Various (DYLs)	DYLs at junctions	RED	Design approved. Town council to informally consult. Town council to provide consultation results to determine next steps.
Cllr Connor	Doddington	High Street	Adjust kerbing & resurface footway	GREEN	Site visit complete. Design underway. Prelim design complete and to be reviewed by PM before sending to parish for approval. In for costing.
Cllr King	Gorefield	High Road	Footway resurfacing	GREEN	Work Complete.
Cllr Gowing	Wimblington	Fullers Lane / Meadow Way	Extend existing 7.5T weight limit (signing)	GREEN	Working on detailed design, discussions undertaken with street lighting. Street lighting design brief received. Liaise with UKPN over power connection.
Cllr King	Wisbech St Mary	High Road	30mph extension and traffic calming	RED	RED due to outstanding milestones prior to delivery on site including road safety audit, formal consultation and pricing. Submitting to PC for review WC 01/11.Plans sent to parish for approval on 24/12.
Cllr King	Parson Drove	Sealey's Lane	New footway construction	GREEN	Site visit complete. Design underway. In for costing.

East Works Programme

Carried Forward from 2020/21

Total LHI Schemes 13
Total Completed 9
Total Outstanding 4

Local Member & Project Number	Parish/Town	Street	Works	RAG STATUS (Progress measured against 31/03/21 completion date)	Project Update and any Issues or Variance Explanation
Cllr Hunt	Wilburton	High Street	Reduce vehicle speeds	RED	Scheme to be tied in with 2021/22 LHI. Design complete and approved by parish. Statutory consultation complete and in for costing 01/12.
Cllr Shuter	Brinkley	Carlton Road	Buffer zone, speed cushions	RED	Design complete and approved by parish. In for pricing.
Cllr Shuter	Westley Waterless	Brinkley Road	Traffic calming	RED	Cost received for work from contractor. Adjusting design prior to raising works order. Design to be complete and sent to parish 07/01.
Cllr Dupre	Witchford	Main Street	Footway widening	RED	In costing phase with contractor. Overdue. Costs being queried by CCC. Still awaiting costs for revised plans. Officer chased on 21/12.

Current Schemes for 2021/22

Total LHI Schemes 10
Total Completed 0
Total Outstanding 10

Local Member & Project Number	Parish/Town	Street	Works	RAG STATUS (Progress measured against 31/03/22 completion date)	Project Update and any Issues or Variance Explanation
Cllr J Schumann	Fordham	Carter Street	Raised table and speed cushions	RED	In detailed design, site visits complete. RED due to outstanding milestones prior to delivery on site including road safety audit, formal consultation and pricing. Next stage safety audit WC 01/11. Sent to safety audit 17/11. Awaiting safety audit.
Cllr Whelan / Cllr Dupre	Little Downham	B1411	Solar studs	RED	Waiting on footpath resurfacing before progressing with installation of solar studs. Progression dependent on third party. Scheme designed and submitted for pricing.
Cllr Dupre	Witchford	Main Street	Pedestrian crossing near school	RED	Meeting held with Parish Council, they would like a Zebra crossing to be installed (not stated at feasibility). Vehicle and Pedestrian Surveys are required - scheme on hold until children return to school in September. RED due to late request from PC to change type of scheme and outstanding milestones prior to delivery on site including road safety audit, formal consultation, and pricing. Surveys complete. Design underway.
Cllr Goldsack	Soham	Northfield Road	Warning signs & improvements	GREEN	Sent to applicant 26/10 for approval. Sent for costing 09/11. Still awaiting costs. Officer chased 21/12.
Cllr J Schumann	Burwell	Ness Rd / Swaffham Rd / Newmarket Rd	40mph buffer zones	RED	Working on detailed design drawings. In for pricing.
Cllr D Schumann	Stretham	Newmarket Rd	40mph buffer zone & priority give way	RED	Design complete. Parish approved and submitted for road safety audit. Red due to lead in times for consultation and pricing before year end.
Cllr D Schumann	Haddenham	The Rampart / Duck Ln / High St / Camping Cl	20mph limit with traffic calming	RED	In preliminary design. Awaiting speed survey data. RED due to road safety audit and formal consultation still outstanding. Plans to PC for approval WC 08/11.

Local Member & Project Number	Parish/Town	Street	Works	RAG STATUS (Progress measured against 31/03/22 completion date)	Project Update and any Issues or Variance Explanation
					Survey results prove need for calming features on High Street as not self-enforcing. Safety audit required. Plan with parish for approval.
Cllr D Schumann	Wilburton	Stretham Rd	30mph speed limit	GREEN	Tied in with 20/21 LHI. Designed and with PC for approval. In costing.
Cllr Dupre	Coveney	Jerusalem Drove	Gateway with signing & lining	GREEN	Order raised. Waiting on delivery date.
Cllr Sharp	Brinkley	Brinkley Rd / Six Mile Bottom / High St	40mph buffer zone	GREEN	Works programmed for 03/01. Not had confirmation of completion.

South Cambridgeshire Works Programme

Carried Forward from 2020/21

Total LHI Schemes 18
Total Completed 17
Total Outstanding 1

Local Member & Project Number	Parish/Town	Street	Works	RAG STATUS (Progress measured against 31/03/21 completion date)	Project Update and any Issues or Variance Explanation
Cllr Atkins	Hardwick	Cambridge Road	**Civils** - Installation of priority give way build outs along Cambridge Rd.	RED	Works order raised. Waiting on start date from contractor.

Current Schemes for 2021/22

Total LHI Schemes 17
Total Completed 3
Total Outstanding 14

Local Member & Project Number	Parish/Town	Street	Works	RAG STATUS (Progress measured against 31/03/22 completion date)	Project Update and any Issues or Variance Explanation
Ros Hathorn	Histon & Impington	Various - centre of village	Civils / Raised feature / Parking restrictions - High St/The Green change alignment of kerbs to narrow junction & imprint block paving pattern to highlight pedestrian desire line. Brook Close use existing desire line & install flat top hump 5m inset into junction. DYL waiting restrictions on Home Close, disabled parking spaces and refresh lining as required. Additional cycle stands are allowed for, exact locations to be confirmed.	RED	Design work complete. Parish have approved designs. Highlighted RED due to remaining work needed to deliver on site by year end, including formal consultation, road safety audit, and pricing. Parish have responded. Next stage road safety audit, expected lead in 8-12wks.
Maria King / Brian Milnes	Babraham	High St	Raised Features / Speed Limit - Install one single & four pairs of speed cushions along High Street. Single one to go next to existing give way feature. Install a new 20mph zone along High Street from the existing 30mph limit to the pub, moving the 30mph limit out of the village to where the existing cycle path ends.	GREEN	Parish have approved proposals. Order raised, delivery during Feb Half Term
Mandy Smith	Caxton	Village Wide	Civil - Gateway features at village entry's and MVAS post.	GREEN	Parish have approved designs. With contractor for pricing.
Susan Van De Ven	Whaddon	Whaddon Gap - Just past Barracks entrance	Speed Limit / Civils - Installation of new 40mph limit and 2 no central islands.	RED	Parish have approved the design. Have received safety audit back. Issues with ongoing development causing delivery delays. Parish aware. Highlighted amber due to remaining work needed to deliver on site by year end, including road safety audit and pricing.
Michael Atkins	Barton	Village Wide	Speed limit - Additional lining/soft traffic calming in the 50mph limit area south of Barton. 40mph buffer zone on Haslingfield Rd. Comberton Road existing derestricted length sub 600m so infill whole length to 40mph. Dragons teeth and roundels on Wimpole Rd, Haslingfield Rd, Comberton Rd approaches to Barton. New pedestrian crossing for access to recreation ground on Wimpole Road by extending footway on Haslingfield Rd south	GREEN	Works order raised. Waiting on start date.

Local Member & Project Number	Parish/Town	Street	Works	RAG STATUS (Progress measured against 31/03/22 completion date)	Project Update and any Issues or Variance Explanation
Neil Gough	Cottenham	Oakington Road	Civils / Speed Limit - Introduce a 40 mph buffer combined with a chicane feature, with 500mm drainage channel. Install 2 No new MVAS sockets, remark the 30mph roundel plus red surfacing and dragons teeth.	RED	Following feedback from parish and local residents, redesign sent to parish for approval. Highlighted RED due to remaining work needed to deliver on site by year end, including road safety audit, pricing and if possible work needs to be tied in with developer led footpath. Local member aware.
Maria King / Brian Milnes	Newton	Various - centre of village	Parking restrictions - Double yellow lines to prevent vehicles parking too close to 5 way junction in centre of village and limiting visibility.	GREEN	Parish have approved proposals. Order raised, waiting on start date from contractor.
Michael Atkins	Grantchester	Grantchester Road	Civils / Parking restrictions - Install a new give way feature around 20 metres west of farm access. Install double yellow lines on northern side of Grantchester Road from lay-by to point where it meets existing on southern side. Move 30mph east by around 20m. Install dragons teeth and 30mph roundel at new 30mph location, along with a village gateway feature on the inbound lane (in the verge).	GREEN	Submitted to contractor for pricing 24/12.
Mandy Smith	Graveley	Offord Road	Speed limit - Install a new 40mph buffer zone on top of existing 30mph speed limit on Offord Road. To accompany the buffer zone, install chevrons on the right hand bend to highlight it should be navigated at slow speed. Install a 'SLOW' road marking at existing warning sign and dragon's teeth and roundels at the 30/40 terminal signs.	GREEN	Parish have approved proposals. Order raised, waiting on start date from contractor.
Mark Howell	Bourn	Fox Road / Gills Hill / Alms Hill	Raised Features - Install two pairs of bolt down speed cushions at a height of 65mm on the down hill section of Alms Hills from Caxton Road. Includes patching existing road beforehand under road closure.	GREEN	Parish have approved proposals. Order raised, waiting on start date from contractor.
Maria King / Brian Milnes	Harston	Station Road	Signs/Lines - Installation of solar powered flashing school signs and associated road markings.	GREEN	Parish have approved proposals. Order raised, waiting on start date from contractor.
Henry Batchelor	Willingham Green	Village Wide	Speed Limit - New 50mph in place of existing 60mph limit and associated signs/lines.	GREEN	Work Complete - 26/10/21
Sebastian Kindersley	Wimpole	A603	MVAS unit and mounting posts.	GREEN	Work Complete
Sebastian Kindersley	Steeple Morden	Village Wide	Speed limit - 40mph buffer zones on 3 approaches to the village	GREEN	Parish have approved proposals. Order raised, waiting on start date from contractor.
Sebastian Kindersley	Gamlingay	Mill Hill	Civils - Installation of 1.80m wide footpath between existing and farm shop	GREEN	Design work complete. Parish have approved. Submitted to contractor for pricing 25/10/21. Redesign work undertaken by CCC. Target Cost revision outstanding.
Sebastian Kindersley	Litlington	South St / Meeting Lane	Sign / Lines - Improvement to existing lining and signage in vicinity of South St to emphasise the existing one way system.	GREEN	Work Complete
Michael Atkins	Hardwick	St Neots Road	Civils / Speed limit - Village entry treatment at existing 40 limit into village - including central island, section of shared use path widening & 50mph speed limit from A1303 RAB.	RED	To be tied in with third party works at the request of the PC. Design complete. However scheme on hold at request of parish council due to proposals from GCP regarding the Camborne to Cambridge Guided Bus and Active Travel Tranche 2 proposals. Proceeding with 50mph limit only for now - currently out for formal advert.

Trees

Countrywide Summary - Highway Service

Update as at 05.11.2020

Total to date Countywide (starting 1 January 2017)

Removed 202
Planted 2944

Trees	City	South	East	Fenland	Hunts	Total Countywide
Removed 1st January 2017 to 31st March 2019	10	30	8	4	35	87
Planted 1st January 2017 to 31st March 2019	3	1	2752	0	0	2756
Removed 2019/2020	1	14	62	1	16	94
Planted 2019/2020	0	63	32	8	31	134
Removed 2020/2021	1	12	5	1	2	21
Planted 2020/2021	1	34	17	2	0	54

This financial year summary:

Trees	City	South	East	Fenland	Hunts	Total Countywide
Removed 2021/2022	0	3	0	2	7	12
Planted 2021/2022	0	0	3	0	0	3

Comparison to previous month:

Jan-22	Removed	Planted
City	0	0
South	0	0
East	0	0
Fenland	0	0
Hunts	0	0
Total	**0**	**0**

Dec-21	Removed	Planted
City	0	0
South	0	0
East	0	0
Fenland	0	0
Hunts	2	0
Total	**2**	**0**

Please Note: This data comprises of only trees removed and replanted by Highways Maintenance and Highways Projects & Road Safety Teams (inc. LHIs) and Infrastructure and Growth. Whilst officers endeavour to replace trees in the same location they are removed, there are exceptions where alternative locations are selected, as per the county council policy. However trees are replanted in the same divisional area that they were removed.

Key

Background colour	Highlights
Green	Tree Replaced

Cambridge City Tree Works

Total Removed in Current Month JAN 0
Total Planted in Current Month JAN 0

Ward	Cllr name	Location	Number of trees Removed	Reason Removed	Cllr Informed	Number of trees Replaced in Area
Coleridge	Sandra Crawford	**Coldhams Lane**	6	Subsidence	Y	
Castle	Jocelynne Scutt	**Frenchs Road**	1	Obstruction	Y	
Castle	Claire Richards	**Mitchams Corner**	3	Obstruction	Y	
Newnham	Lucy Nethsingham	**Skaters Meadow**	1	Obstruction	Y	3
		Fendon Road	1	Major Scheme - Fendon Road Roundabout, replaces a tree removed previously in the year		1
-	-	**Total**	**12**	-	-	**4**

South Tree Works

Total Removed in Current Month JAN 0
Total Planted in Current Month JAN 0

Parish	Cllr name	Location	Number of trees Removed	Reason Removed	Cllr Informed	Parish informed	Number of trees Replaced in Area
Comberton	Lina Nieto	**Kentings**	1	Diseased / Dead	Y	Y	1
Cottenham	Tim Wotherspoon	**Twentypence Road**	2	Natural Disaster	2017-12-02	2017-12-02	2
Duxford	Peter Topping	**Ickleton Road**	1	Diseased / Dead	2017-02-02	2017-02-02	1
Sawston	Roger Hickford	**Mill Lane**	12	Diseased / Dead	2017-12-02	2017-12-02	12
Little Shelford	Roger Hickford	**Whittlesford Road**	1	Obstruction	2018-10-25	2018-10-25	1
Longstowe	Mark Howell	**High Street**	1	Diseased / Dead	2017-10-10	2017-10-10	1
Oakington	Peter Hudson	**Queensway**	3	Diseased / Dead	2018-10-25	2018-10-25	3
Sawston	Roger Hickford	**Resbury Close**	1	Diseased / Dead	2018-10-25	2018-10-25	1
Bassingbourn	Susan van de Ven	**North End**	2	Diseased / Dead	2018-10-29	2018-10-29	2
Bourn	Mark Howell	**Riddy Lane (behind 3 Baldwins Close)**	1	Diseased / Dead	2018-10-29	2018-10-29	1
Grantchester	Lina Nieto	**Barton Road**	1	Diseased / Dead	2018-10-29	2018-10-29	1
Histon	David Jenkins	**Parlour Close**	1	Damaged	2017-12-02	2017-12-02	1
Girton	Lynda Harford	**Thornton Close**	1	Diseased / Dead	2018-10-25	2018-10-25	1
Grantchester	Lina Nieto	**Mill Way**	1	Subsidence	2018-10-29	2018-10-29	1
Little Wilbraham	John Williams	**O/s 89 High Street**	1	Obstruction	2018-06-01	2018-06-01	1
Waterbeach	Anna Bradnam	**Clayhithe Road**	1	Diseased / Dead	2019-03-11	2019-03-11	1
Bourn	Mark Howell	**Riddy Lane (Church St) corner**	4	Diseased / Dead	2019-11-04	2019-11-04	4
Hardwick	Lina Nieto	**St Neots Rd**	8	Diseased / Dead	2019-11-04	2019-11-04	8
							21
Comberton	Lina Nieto	**Swaynes Lane**	1	Obstruction	2020-02-27	2020-02-27	
Girton	Lynda Harford	**Cambridge Road**	1	Diseased / Dead	2020-04-30	2020-04-20	1
Foxton					2020-09-25	2020-09-25	2
Gamlingay	Sebastian Kindersley	**Stocks Lane**	1	Diseased / Dead	2020-11-02	2020-11-02	2
Gamlingay	Sebastian Kindersley	**Northfield Close**	1	Diseased / Dead	2020-11-02	2020-11-02	2
Grantchester	Lina Nieto	**Coton Road**	1	Dead	2020-12-02		2
Foxton	Caroline ilott	**O/S 73 High street**	1	Dead	2021-01-18	2021-01-18	1
Madingley	Lina Nieto	**The Avenue, Madingley**	2	Diseased / Dead	2021-03-06	2021-03-06	4

Parish	Cllr name	Location	Number of trees Removed	Reason Removed	Cllr Informed	Parish informed	Number of trees Replaced in Area
Bourn	Mark Howell	**Riddy Lane**	3	Dead	2021-03-05	2021-03-05	6
Hardwick	Lina Nieto	**Footpath off Limes Road**	2	Diseased / Dead	2021-03-06	2021-03-06	2
Quy Mill Road	John Williams	**Stow-cum-Quy**				2021-04-00	5
Fowlmere road	Clive Bradbury	**Newton**	1	Diseased / Dead	2021-06-07	2021-06-07	1
Linton Road	Clarie Daunton	**Little Abinton**	1	Obstruction	2021-05-19		
Ickleton	Peter McDonald	**Frogge Street**	1	Dangerous	2021-08-00		
Bassingbourn	Michael Atkins	**Canberra Close**	1	Diseased / Dead	2021-10-00		
-	-	**Total**	**60**		-	-	**102**

East Tree Works

Total Removed in Current Month JAN 0
Total Planted in Current Month JAN 0

Parish	Cllr name	Location	Number of trees Removed	Reason Removed	Cllr Informed	Parish informed	Number of trees Replaced in Area
Ely	Anna Bailey	**The Gallery**	1	Diseased / Dead	2017-09-01	2017-09-01	1
Littleport	David Ambrose Smith	**Queens Road no.5**	1	Diseased / Dead	2017-03-24	2017-03-24	1
Ely	Anna Bailey	**Angel Drove**	1	Diseased / Dead	2017-09-01	2017-09-01	1
Ely	Bill Hunt	**Main St, Lt Thetford No.16**	1	Diseased / Dead	2018-09-20	2018-08-02	1
Ely	Anna Bailey	**St Catherines**	1	Diseased / Dead	2018-07-11	2018-07-11	1
Ely	Anna Bailey & Lis Every	**Lynn Road 83a/85**	1	Natural Disaster	2018-07-11	2018-07-11	1
Ely	Anna Bailey	**The Gallery**	1	Diseased / Dead	2017-09-01	2017-06-22	1
Ely	Anna Bailey	**Witchford Road**	2	Diseased / Dead	2020-07-16	2020-07-16	2
Burwell	Josh Schumann	**Causeway**	1	Diseased / Dead	2018-11-19	2018-11-19	1
Snailwell	Josh Schumann	**The Street**	1	Natural Disaster	2019-05-11	2019-05-11	1
Sutton	Lorna Dupre	**Bury Lane**	1	Diseased / Dead	2019-09-25	2019-09-25	2
Lode	Mathew Shuter	**Northfields**	1	Removed in Error	2020-01-27	2020-01-27	1
Ely	Anna Bailey & Lis Every	**Lynn Road 83a/85**	1	Natural Disaster	2020-02-10	2020-02-10	1
Stow cum Quay / Lode / Swaffham Bulbeck	Mathew Shuter / John Williams	**A1303**	43	A1303 Safety Scheme	2019-11-19	2019-11-19	
Dullingham	Mathew Shuter	**Brinkley Road**	3	Natural Disaster	2020-20-10	2020-20-10	1
Dullingham	Mathew Shuter	**Station Road**	2	Natural Disaster	2020-20-10	2020-20-10	1
Cheveley	Mathew Shuter	**Broad Green**	5	Natural Disaster	2020-20-10	2020-20-10	1
Soham	Mark Goldsack	**Northfields**	1	Natural Disaster	2020-20-10	2020-20-10	1
Snailwell	Josh Schumann	**Newmarket Road**	1	Natural Disaster	2020-20-10	2020-20-10	1
Snailwell	Josh Schumann	**The Street**	1	Natural Disaster	2020-20-10	2020-20-10	1
Chippenham	Josh Schumann	**Chippenham Rd**	1	Natural Disaster	2020-20-10	2020-20-10	1
Cheveley	Mathew Shuter	**Ditton Green**	1	Natural Disaster	2020-20-10	2020-20-10	1
Sutton	Lorna Dupre	**The Row**	1	Dead	2021-01-14	2021-01-14	3
Lt Thetford	Anna Baily	**Ely Rd**	1	Natural Disaster	2020-15-09	2020-15-09	2

Parish	Cllr name	Location	Number of trees Removed	Reason Removed	Cllr Informed	Parish informed	Number of trees Replaced in Area
Ely	Anna Bailey	**Fitzgerald Avenue**	1	Diseased / Dead	2020-06-02	2020-06-02	1
-	-	**Total**	**75**	-	-	-	**30**

Additional Trees

Parish	Cllr name	Location	Number of trees	Replaced Date	**Planted Narrative -** Which trees are being replaced (Location)
Witchford	Lorna Dupre	**plot of land**	70	Phased rollout - On-going	70 Trees agreed to be planted following initiative between the Parish Council and CCC to help reduce the deficit of trees that had been lost countywide.
Witchford	Lorna Dupre	**plot of land**	26	Phased rollout - On-going	26 further trees agreed to be planted following initiative between the Parish Council and CCC to help reduce the deficit of trees that had been lost countywide.
Ely		**Ely Bypass Project**	2678	Project completed in 2018	Number of trees planted as part of the Ely Bypass Scheme
-	-	**Total**	**2774**	-	-

Total planted per area = **2800**

Fenland Tree Works

Total Removed in Current Month JAN 0
Total Planted in Current Month JAN 0

Parish	Cllr name	Location	Number of trees Removed	Reason Removed	Cllr Informed	Parish informed	Number of trees Replaced in Area
Wisbech	Samantha Hoy	**Westmead Avenue**	1	Diseased / Dead	2018-02-20	2018-02-20	1
March	Janet French	**Elliott Road (Avenue Jct with)**	1	Diseased / Dead	2018-02-20	2018-02-20	1
Wisbech	Simon Tierney	**Southwell Rd**	1	Natural Disaster	2018-02-20	2018-02-20	1
March	Janet French	**Elwyndene Road**	1	Diseased / Dead	2018-05-21	2018-10-23	1
Wisbech	Samantha Hoy	**Rochford Walk**	1	Diseased / Dead	2019-08-01	2019-08-01	1
-	-	-	-	-	-	-	3
Wisbech	Samantha Hoy	**Mount Drive**	1	Obstruction	2021-02-02	2021-03-01	2
-	-	**Total**	**6**	-	-	-	**10**

Huntingdon Tree Works

Total Removed in Current Month JAN 0
Total Planted in Current Month JAN 0

Parish	Cllr name	Location	Number of trees Removed	Reason Removed	Cllr Informed	Parish informed	Number of trees Replaced in Area
Eaton Ford	Derek Giles	**Orchard Close**	2	Diseased / Dead	2018-03-27	2018-10-29	1
Elton	Simon Bywater	**Back Lane**	1	Subsidence	2018-03-27	2+C8:G329/10/2018	1
Fenstanton	Ian Bates	**Harrison Way**	1	Diseased / Dead	2018-03-27	2018-10-29	1
Godmanchester	Graham Wilson	**Cambridge Villas**	3	Diseased / Dead	2018-03-27	2018-10-29	3
Hartford	Mike Shellens	**Longstaff Way**	1	Subsidence	2018-03-27	2018-10-29	1
Hemingford Grey	Ian Bates	**The Thorpe**	1	Natural Disaster	2018-03-27	2018-10-29	1
Huntingdon	Graham Wilson	**Coldhams North**	1	Diseased / Dead	2018-03-27	2018-10-29	1
Huntingdon	Mike Shellens	**Norfolk Road**	2	Diseased / Dead	2018-03-27	2018-10-29	1
Huntingdon	Graham Wilson	**Queens Drive**	1	Diseased / Dead	2018-03-27	2018-10-29	1
St Ives	Ryan Fuller & Kevin Reynolds	**Ramsey Rd**	1	Natural Disaster	2018-03-27	2018-10-29	1
Wyton	Ian Bates	**Banks End**	1	Diseased / Dead	2018-03-27	2018-10-29	1
Yaxley	Mac McGuire	**Windsor Rd**	1	Diseased / Dead	2018-03-27	2018-10-29	1
Warboys	Terence Rogers	**Mill Green**	2	Subsidence	2018-03-27	2018-10-29	2
Fenstanton	Ian Bates	**Little Moor**	1	Diseased / Dead	2018-03-27	2018-10-29	1
Hartford	Mike Shellens	**Arundel Rd**	1	Diseased / Dead	2018-03-27	2018-10-29	1
Huntingdon	Tom Sanderson	**Horse Common Lane**	1	Diseased / Dead	2018-03-27	2018-10-29	1
St Ives	Ryan Fuller	**Chestnut Rd**	2	Diseased / Dead	2018-03-27	2018-10-29	2
St Neots	Simone Taylor	**Cromwell Rd**	2	Diseased / Dead	2018-03-27	2018-10-29	2
Yaxley	Mac McGuire	**London Rd/Broadway**	1	Natural Disaster	2018-03-27	2018-10-29	1
Yaxley	Mac McGuire	**Windsor Rd**	1	Subsidence	2018-03-27	2018-10-29	1
Hilton	Ian Bates	**Graveley Way**	1	Diseased / Dead	2018-03-27	2018-10-29	1
Brampton	Peter Downes	**Buckden Road O/S Golf Club**	1	Natural Disaster	2018-10-17	2018-10-17	1
Godmanchester	Graham Wilson	**O/S School**	1	Obstruction	2018-10-17	2018-10-17	1
Huntingdon	Graham Wilson	**Claytons Way O/S no 13**	1	Diseased / Dead	2018-10-17	2018-10-17	1
Ramsey	Adela Costello	**Biggin Lane O/S 29**	1	Natural Disaster	2018-10-17	2018-10-17	1
Ramsey Heights	Adela Costello	**Upwood Rd O/S Clad's Cottage**	1	Diseased / Dead	2018-10-17	2018-10-17	1

Parish	Cllr name	Location	Number of trees Removed	Reason Removed	Cllr Informed	Parish informed	Number of trees Replaced in Area
St Ives	Ryan Fuller & Kevin Reynolds	**Ramsey Rd**	1	Subsidence	2018-10-17	2018-10-17	
Hemingford Grey	Ian Bates	**High St O/S no 2**	1	Diseased / Dead	2018-10-17	2018-10-17	
St Ives	Ryan Fuller & Kevin Reynolds	**Michigan Road**	3	Dead	2019-06-18	2019-06-18	
St Ives	Ryan Fuller & Kevin Reynolds	**Acacia Road**	1	Subsidence	2019-06-18	2019-06-18	
Bluntisham	Steve Criswell	**High St O/S no 2**	1	Dead	2019-07-24	2019-07-24	
Bluntisham	Steve Criswell	**Sayers Court**	1	Diseased / Dead	2019-07-24	2019-07-24	
Hemingford Grey	Ian Bates	**Green Close**	1	Dead	2020-01-09	2020-01-09	
Brington	Ian Gardener	**High Street**	1	Natural Disaster	2020-02-10	2020-02-10	
Great Stukeley	Terence Rogers	**Ermine Street**	1	Natural Disaster	2020-02-10	2020-02-10	
Bury	Adela Costello	**Tunkers Lane**	1	Natural Disaster	2020-02-10	2020-02-10	
Warboys	Terence Rogers	**Ramsey Rd**	1	Natural Disaster	2020-02-10	2020-02-10	
St Ives	Ryan Fuller & Kevin Reynolds	**Harrison Way**	1	Natural Disaster	2020-02-10	2020-02-10	
Hemingford Grey	Ian Bates	**Marsh Lane**	1	Natural Disaster	2020-02-10	2020-02-10	
Ramsey	Adela Costello	**Wood Lane**	1	Natural Disaster	2020-02-10	2020-02-10	
Offord Cluny	Peter Downes	**New Road**	1	Natural Disaster	2020-02-10	2020-02-10	
Godmanchester	Graham Wilson	**West Street**	1	Natural Disaster	2020-02-10	2020-02-10	
Woodhurst	Steve Criswell	**West End**	1	Dead	2020-08-06	2020-08-06	
Pidley	Steve Criswell	**Warboys Road**	1	Dead	2020-09-01	2020-09-01	
Alwalton	Simon Bywater	**Mill Lane**	2	Diseased / Dead	2021-07-26		
Great Staughton	Ian Gardener	**Beachampstead Rd/Moory Croft Cl**	1	Diseased / Dead	2021-11-15		
Ramsey		**Pathfinder Way Ramsey**	1	Diseased / Dead	2021-11-00	2021-11-00	
Hartford		**Desborough Rd Hartford**	1	Diseased / Dead	2021-11-00	2021-11-00	
Ramsey	Adela Costello	**Pathfinder Close**	1	Diseased / Dead	2021-10-00		
Alconbury Weston	Ian Gardener	**Gypsy Corner, Buckworth Road**	2	Diseased / Dead	2021-12-02	2021-12-02	
-	-	**Total**	**61**	-	-	-	**31**

Summary of Place & Economy establishment (P&E) – Data compiled 31st December 2021

The table below shows:

- Number of FTE employed in P&E
- Total number FTE on the establishment
- The number of "true vacancies" on the establishment. We are now only reporting the vacancies from our establishment, which means there is a single source.

Notes on data:

- We can report that the percentage of "true vacancies" in P&E as of 25th November 2021 was 21.8% of the overall establishment of posts. Please note this down from the previous month, which was at 22.5%. This is due to ongoing work with the Heads of Service to delete any posts which have been vacant for a considerable period of time, or which are not actively being recruited to.
-

		Sum of FTE employed	Sum of true vacancies	Total FTE on establishment	Percentage of vacancies
Grand Total		**293.1**	**82.1**	**376.2**	**21.8%**
Planning, Growth and Environment	Asst Dir - Planning. Growth and Environment	1.0	3.0	4.0	75.0%
	Flood Risk & Biodiversity	14.6	2.3	16.9	13.6%
	Historic Environment	10.2	1.0	11.2	8.9%
	County Planning Minerals & Waste	11.3	3.0	14.3	21.0%
	Growth and Development	10.8	3.0	13.8	21.7%
	Waste Disposal including PFI	7.7	3.0	10.7	28.0%
Planning, Growth and Environment		**55.6**	**15.3**	**70.9**	**21.6%**
Climate Change and Energy Service	Energy Projects Director	6.7	1.0	7.7	**13.0%**
	Energy Programme Management	2.9	0.0	2.9	**0.0%**
Climate Change and Energy Service Total		**9.6**	**0.0**	**10.6**	**0.0%**
H&T, Highways Maintenance	Asst Dir - Highways	3.0	0.0	3.0	0.0%
	Highways Other	9.0	2.0	11.0	18.2%
	Highways Maintenance	34.8	9.0	43.8	20.6%
	Asset Management	12.0	4.0	16.0	25.0%
H&T, Highways Project Delivery	Asst Dir - Project Delivery	1.0	0.0	1.0	0.0%
	Project Delivery	14.4	21.0	35.4	59.3%
H&T, Transport, Strategy and Development	Asst Dir - Transport, Strategy and Development	2.0	0.0	2.0	0.0%
	Highways Development Management	18.0	1.0	19.0	5.3%
	Park & Ride	15.0	0.0	15.0	0.0%
	Parking Enforcement	14.8	2.4	17.2	14.0%
	Road Safety	34.4	9.1	43.5	20.9%
	Traffic Management	40.6	8.3	48.9	17.0%
	Transport &Infrastructure Policy & Funding	12.3	3.0	15.3	19.6%
Highways	Street Lighting	5.0	6.0	11.0	54.5%
Highways and Transport Total		**216.3**	**65.8**	**282.1**	**23.3%**
Exec Dir	Executive Director (Including Connecting Cambridgeshire)	11.6	1.0	12.6	8.6%
Exec Dir Total		**11.6**	**1.0**	**12.6**	**7.9%**

Environment & Green Investment Committee Agenda Plan

Published on 1 February 2022
Updated on 22 February 2022

Notes

The definition of a key decision is set out in the Council's Constitution in Part 2, Article 12.
* indicates items expected to be recommended for determination by full Council.
+ indicates items expected to be confidential, which would exclude the press and public.

The following are standing agenda items which are considered at every Committee meeting:

- Minutes of previous meeting and Action Log
- Finance Monitoring Report
- Agenda Plan, Training Plan and Appointments to Outside Bodies and Internal Advisory Groups and Panels

Committee date	Agenda item	Lead officer	Reference if key decision	Deadline for draft reports	Agenda despatch date
03/03/22	Low Carbon Heating Programme	Sarah Wilkinson	2022/018		
	Private Wire, North Angle Solar Farm to Swaffham Prior Community Heat Network	Claire Julian-Smith & Alex Mueller	2022/001		
	Local Flood Risk Management Strategy	Hillary Ellis	Not applicable		
	Sunnica Solar Farm Proposal	David Carford	Not applicable		
	SuDS in Schools	Hillary Ellis	Not applicable		
28/04/22 Reserve date	Northstowe 1 and Phase 2 Section 106 Cost Cap	Colum Fitzsimons	2022/011		

Committee date	Agenda item	Lead officer	Reference if key decision	Deadline for draft reports	Agenda despatch date
	March Household Recycling Centre (HRC) Redevelopment	Adam Smith	2022/041		
	Green Investment Advisory Group - Utilities	Sheryl French	Not applicable		
	Net Zero Programme and Resourcing Plan	Sheryl French	Not applicable		
	March West Phase 1 Planning Application	Stuart Clarke	Not applicable		
07/07/22	Trees and Woodland Strategy- Consultation Draft	Emily Bolton/ Phil Clark	Not applicable		
	Carbon Valuation Update	Sarah Wilkinson	Not applicable		
	Performance Report	Rachel Hallam	Not applicable		
	Risk register Review	Steve Cox	Not applicable		

Future meeting dates: 8th September (Reserve), 13th October, 1st December, 19th January 2023 (Reserve), 16th March and 20th April (Reserve)

Please contact Democratic Services democraticservices@cambridgeshire.gov.uk if you require this information in a more accessible format

Appointments to Advisory Groups and panels

Name of Body	Meetings per Annum	No. of representa-tives	Current representative(s)	Contact
Green Investments and Utilities Advisory Group To build a deeper understanding of green project business cases and new finance mechanisms; To provide a steer on detailed negotiations on new green commercial contracts where risk/rewards need to be balanced; and to inform better decision making at Council meetings for complex green investment project. It is proposed to extend the remit to include the utilities remit from Strategy & Resources. This will require a change to the Advisory Group membership. The following is proposed in line with other cross committee groups. Eight members in total, four from each parent committee drawn from Environment & Green Investment Committee • 1 Con, 1 Ind, 1 Lab, 1 Lib Dem and drawn from Strategy & Resources Committee • 1 Con, 1 Ind, 1 Lab, 1 Lib Dem	6 (or more meetings dependent on the risks and issues implementing green investment projects.)	Currently 7 (This will be increased to 8 in line with other cross-committee groups.)	Cllrs P Coutts (LD) L Dupré (LD) C Rae (Lab) S Ferguson (Ind) M Goldsack (C) J Gowing (C) I Gardener (C) Nominations to the extended Advisory Group to come forward once discussed at Strategy and Resources Committee 28th March 2022. The aim will be to progress with the revised Group from April 2022.	Sheryl French Assistant Director Climate Change and Energy Services sheryl.french@cambridgeshire.gov.uk 01223 728552