

Report title: 2021/22 Essex Capital Flood Programme Update AGENDA ITEM 8 EFPB/04/22	
Report to: Essex Flood Board	
Report author: David Chapman Project Delivery Manager	
Date: 19 th October 2022	For: Discussion
Enquiries to: John Meehan (Head of Environment and Climate Action) john.meehan@essex.gov.uk David Chapman (Project Delivery Manager) dave.chapman@essex.gov.uk	
County Divisions affected: All Essex	

1. Purpose of Report

- 1.1. To update the Flood Board on the 2022/23 Capital Flood Programme

2. Recommendations

- 2.1 The 2022/23 capital programme is made up of 8 priority schemes and 4 reserve schemes. We have a total programme budget of £3.5m, with a target of unlocking 50% of the total budget from external sources. We also have a target of better protecting 215 residential homes from surface water flooding.
- 2.2 For Essex Flood Board Members to note the successes of the capital programme. Using the lessons learned, combined with developing stronger partnerships, the aim is to continue the upwards trend and we hope to retain this level of service, and where possible improve it for future years.

3. Summary of issue

3.1 The Floods capital programme has now completed 8 years. Over this period, we have delivered several projects ranging in size and complexity, been nominated and won awards but we continue to push the boundaries in terms of design interventions and achievable benefits.

3.2 During the current programme we have demonstrated the success achieved and the benefits delivered to residents of Essex. During the life of the programme, the team have investigated more than 85 sites for the potential to deliver capital schemes.

3.3 By the end of the current programme, over £9.0m pounds worth of external funding will have been generated through the delivery of schemes on the capital programme and reduced surface water flood risk to over 1700 residential properties.

3.4 The knowledge gained from these projects will help to unlock more funding in the future and reduce the risk of surface water flooding to more residential properties in Essex. To deliver schemes on the Flood Programme, we are using several consultants and in-house expertise to design and build bespoke mitigation projects.

3.5 The Capital Flood Programme is broken down into 2 elements

- 1) Property Flood Resilience (PFR) is a scheme that offers residents of previously flooded properties an opportunity to apply for individual property protection. The applications are then vetted and prioritised.
- 2) Capital funded Flood Alleviation Schemes (FAS) forms the bulk of our programme; this area focuses on delivering projects on the ground in the areas most at risk of surface water flooding.

Below is more specific detail on the Capital Programme FAS.

- West Mersea – Construction is in week 47. Construction has paused while design changes to the final foundation section are reviewed. Due to construction difficulties, access issues, increased costs and the resident group being disbanded. A review of the scheme so far and a decision on whether to deliver phase 2 this financial year will be made when phase 1 is complete.
- Brent D Ursuline School – Currently seeking costs to carry out additional desilting work at the request of the school.
- Guilfords, Old Harlow – Planning has been agreed and we are expecting tender returns in the next 2 weeks. Archaeological surveys have been carried out and works are estimated to start on site within the next 8 weeks.
- Wivenhoe – This scheme will see 3 leaky dams and additional in channel storage created upstream of Wivenhoe. The legal agreement with the landowner is complete and we are awaiting a start date.
- Ashingdon, Rochford – Awaiting final design, modelling, and benefit calculations from before commencing. Legal agreements are ongoing
- Rawreth, A scheme has been designed to desilt existing sections of the River Crouch. This will improve the hydraulics of the system and increase capacity and has been programmed to start in October – this is subject to a water vole survey.
- Spains Hall Estate – ECC have partnered with the EA, Water companies and Spains Hall Estate to deliver phase 2 of the beaver project.
- 3 feasibility studies are ongoing, and 5 projects are in the optimisation/detailed design stage. These projects will form priority delivery schemes for future years of the capital programme.

To note this programme will contribute towards ECC's ambitions to meet climate change commitments by delivering schemes that offer flood mitigation, Green Infrastructure, habitat creation and biodiversity net gain. The following strategic policies will also be met when delivering the floods capital programme;

- Improve the health of people in Essex
- Help to secure stronger, safer, and more unneighboring communities

- Help to secure sustainable development and protect the environment
- Facilitate growing communities and new homes
- Develop the capability, performance, and engagement of our people

4. Links to Essex Vision

4.1 This report links to the following aims in the Essex Vision

- Strengthen communities through participation
- Develop our County sustainably
- Connect us to each other and the world
- Share prosperity with everyone

For more information visit www.essexfuture.org.uk

4.2 This links to the following strategic aims in the Organisational Plan:

- Help create great places to grow up, live and work
- Transform the council to achieve more with less

5. Financial implications

5.1 Over the completed 8 years of the programme we have developed strong working relationships with a wide range of stakeholders such as the Environment Agency, Anglian Water and District Councils. During this process the Flood and Water Management team has been able to attract external contributions and income to support several functions, these include

- Feasibility and assessment studies
- Delivery of capital flood alleviation schemes
- Delivery of Property Flood Resilience projects

5.2 We have a target of generating 25% of our annual budget from external stakeholders, but this year we aim to raise this to 50%.

Previous contributions to the flood programme are as follows;

- £125,771 contributions secured in 2014/15
- £225,227 contributions secured in 2015/16
- £436,490 contributions and income secured in 2016/17
- £1.63m contributions secured in 2017/18
- £1.57m contributions secured in 2018/19
- £1.53m contributions secured in 2019/20
- £1.68m contributions secured in 2020/21
- £400k contributions secured in 2021/22

6. Equality and Diversity implications

- 6.1 The Public Sector Equality Duty applies to the Council when it makes decisions. The duty requires us to have regard to the need to:
- (a) Eliminate unlawful discrimination, harassment and victimisation and other behaviour prohibited by the Act. In summary, the Act makes discrimination etc. on the grounds of a protected characteristic unlawful
 - (b) Advance equality of opportunity between people who share a protected characteristic and those who do not.
 - (c) Foster good relations between people who share a protected characteristic and those who do not including tackling prejudice and promoting understanding.
- 6.2 The protected characteristics are age, disability, gender reassignment, pregnancy and maternity, marriage and civil partnership, race, religion or belief, gender, and sexual orientation. The Act states that 'marriage and civil partnership' is not a relevant protected characteristic for (b) or (c) although it is relevant for (a).
- 6.3 The equality impact assessment indicates that the proposals in this report will not have a disproportionately adverse impact on any people with a particular characteristic. *(Describe the specific equality and diversity implications of the proposal, any adverse findings from the equality impact assessment and your proposed mitigation measures)*

7. List of appendices

- Equality Impact Assessment

8. List of Background papers

- 2022/23 FBC

HELP CREATE GREAT PLACES TO GROW UP, LIVE AND WORK

Final Business Case

Flood Prevention Capital Programme - Year 8 (2022/23), Countywide

Date of document: 22/07/2021

Date of endorsement board: 16/09/2021

Author and main contact: David Chapman

Exec Director / Director: Mark Carroll / Sam Kennedy

Cabinet Member: Cllr Scott

Project Number: TBC

DECISION REQUIRED:

- To endorse the retention of the existing budgetary allocation of £3.500m in the 2022/23 capital programme to deliver year 8 of the Flood Prevention Programme, anticipated to be funded by £1.750m ECC borrowing, and £1.750m from the Environment Agencies (EA) grant in aid and Local Levy funding which is yet to be confirmed. Any shortfall in external funding will be mitigated by an equivalent reduction in scope of activity so that there is no increase to the revenue cost of borrowing of this programme
- To endorse the principle that if costs can be contained below estimates for Priority schemes within this programme, the service can commence work on Reserve schemes listed in section 3 of this FBC to the extent that approved funding will allow.
- To note this is subject to affordability and the recommendations of the Capital Review for de-prioritisation of existing budgetary allocations to accommodate new additions to the programme at nil net cost to the organisation. The Capital review recommends a 20% reduction to the ECC funded flood programme (£6m) over 3 years. This may also lead to a reduction to the EAs match funding of an equivalent amount. The total impact could be up to £2.4m loss of funding towards flood prevention activity over the 3-year period. No recommendation has been made as to how that reduction is to be profiled over the 3-year period, but this Business Case recommends the reduction occurs in years 2023/24 & 2024/25 with no change in 2022/23.
- To note that flood prevention will be a key consideration in the delivery of this programme, seeking improvements in tackling ongoing concerns associated with climate change where physically possible and financially viable Business Drivers

1. Business Drivers

This FBC sets out a case to continue the Capital Flood Programme which commenced in 2015 and has grown from strength to strength, increasing in size and incomes from external partners. The total amount invested by ECC over this period is £12.0m and this has been match funded by £9.0m of external funding bringing the total investment in flood prevention to £21.0m over the 7-year period to date. The programme has upskilled ECC and its partners over that period whilst protecting Essex residents and communities from the economic and personal trauma of flooding. ECC has shown to be a national lead recognised by the EA and seeks to remain as a trail blazer in flooding and improving Essex as a place to live, work and play.

An appraisal of the winter floods of 2015-2016, published on the first anniversary of Storm Desmond, revealed it ranked alongside the devastating flooding of March 1947 as the largest event of at least the last century. Climate change, urbanisation and new farming practices are leading to flooding becoming a major issue for National and Local Government. A Government-funded study carried out by Scott-Wilson showed that South Essex is amongst the top 10 most vulnerable areas at risk of surface water flooding in the UK.

Flooding is a key issue for many of our communities and can have a significant impact upon their quality of life. There is an urgency to protect properties and avoid the blight that flood incidents can place on local communities and economies. We are equipping communities with the skills, support, knowledge, and equipment to protect their own property and the investment from ECC forms a vital part of partnership funding from national through regional to local level.

The Flood Prevention Capital Programme was instigated to reduce the level of surface water flood risk to properties. For the first seven years, the Flood Team have increased the number of properties protected year on year, culminating in over 1600 by the end of 2021/22. The Flood team has also increased the external contributions, year on year, from the EA and other partners by bringing in over £9,000,000 of capital contributions.

The 2022/23 project objectives (detailed plan in Section 3) will be completed when the following is true:

- Delivery of all ECC-led priority schemes - The 'flood assets' have been built, and successfully adopted by third parties and thus presenting no additional costs to ECC.

This programme has been put in place to provide flood management measures, to address the growing number of homes that are at risk from local sources of flooding in Essex.

2. Costs and Benefits

2.1. Financial Costs

The total capital cost associated with delivering the proposed Year 8 of the Flood Prevention programme is £3.5m. This is anticipated to be funded by £1.75m of EA grant which is not yet formally confirmed and £1.75m of ECC borrowing. There is an existing £3.5m budgetary allocation in the approved MTRS and the revenue cost of borrowing is provided for in the revenue budget. Years 9 and 10 of the programme are also included within the MTRS (£3.4m 2023/24 and £3.9m 2024/25) on the same basis assuming 50% match funding subject to affordability. Any shortfall in external funding will lead to an equivalent scope reduction in activity.

As part of the ongoing capital review, it is recommended that the 3 year flood prevention programme funded by ECC borrowing is reduced by 20% (£1.2m) in order to allow other higher priority projects to be funded. This reduction may affect the external match funding that can be secured and the total reduction to the flood prevent programme may be as high as £2.4m over the 3 year period if EA choose to reduce their match funding in line with ECCs own programme reduction. There has been no recommendation as part of the capital review as to how that reduction is to be profiled over the 3 year period however that needs to be set out by the service leads ahead of any decision being made as presented below.

Respecting the financial challenge, officers have accepted the FLT recommendation and are therefore seeking the retention of the £3.5m existing budgetary allocation in 2022/23 and are proposing to apply the 20% reduction to the annual ECC funded allocations in 2023/24 and 2024/25 reducing the proposed budgetary allocations to £3.4m (2023/24) and £3.9m (2024/25) accordingly. It is assumed the external funded element of the programme will remain unchanged but the programme will be descoped to the available financial envelope should there be a shortfall in funding. A request to add a further £4.5m in 2025/26 is not being proposed now, but it is within the capital review pipeline schemes and will be brought forward as funding comes available and in line with the prioritised ranking of the pipeline.

The financial table below includes the requested £1.2m reduction for future years of the capital programme. The savings have been made by reducing the annual budget by £600k in years 2023/24 and 2024/25.

Please select: Business Case Type

Invest to Maintain

Asset Category

Not an ECC asset

	£000	£000	£000	£000	£000	£000	£000	£000	£000
Please only input into those cells shaded yellow	8 Year Total	2021/22	2022/23	2023/24	2024/25	2025/26	Future Years (ongoing per annum)	Prior Year Costs	TOTAL PROJECT COSTS
Capital Costs excluding Contingency	10,800	-	3,500	3,400	3,900	-	-	-	10,800
Contingency	-	-	-	-	-	-	-	-	-
Total Capital Costs (for Capital Programme)	10,800	-	3,500	3,400	3,900	-	-	-	10,800
Capital Funding									
Grant - EA	6,000	-	1,750	2,000	2,250	-	-	-	6,000
S106 contributions	-	-	-	-	-	-	-	-	-
Other (please specify)	-	-	-	-	-	-	-	-	-
Identified External Capital Funding	6,000	-	1,750	2,000	2,250	-	-	-	6,000
Gap - ECC capital funding required	4,800	-	1,750	1,400	1,650	-	-	-	-
Revenue Costs									
Furniture & equipment	-	-	-	-	-	-	-	-	-
Other (please specify)	-	-	-	-	-	-	-	-	-
Total Revenue Costs (excluding borrowing)	-	-	-	-	-	-	-	-	-
Borrowing Costs									
Estimated interest cost of borrowing	167	-	22	45	57	43	-	-	-
Estimated MRP (Minimum Revenue Provision)	4,800	-	-	1,750	1,400	1,650	-	-	-
Total Borrowing Costs	4,967	-	22	1,795	1,457	1,693	-	-	-
Total Revenue Impact	4,967	-	22	1,795	1,457	1,693	-	-	-

Project Financial Statement

Please select: Business Case Type

Invest to Maintain

Asset Category

Not an ECC asset

	£000	£000	£000	£000	£000	£000	£000	£000	£000
Please only input into those cells shaded yellow	8 Year Total	2021/22	2022/23	2023/24	2024/25	2025/26	Future Years (ongoing per annum)	Prior Year Costs	TOTAL PROJECT COSTS
Capital Costs excluding Contingency	10,800	-	3,500	3,400	3,900	-	-	-	10,800
Contingency	-	-	-	-	-	-	-	-	-
Total Capital Costs (for Capital Programme)	10,800	-	3,500	3,400	3,900	-	-	-	10,800
Capital Funding									
Grant - EA	6,000	-	1,750	2,000	2,250	-	-	-	6,000
S106 contributions	-	-	-	-	-	-	-	-	-
Other (please specify)	-	-	-	-	-	-	-	-	-
Identified External Capital Funding	6,000	-	1,750	2,000	2,250	-	-	-	6,000
Gap - ECC capital funding required	4,800	-	1,750	1,400	1,650	-	-	-	-
Revenue Costs									
Furniture & equipment	-	-	-	-	-	-	-	-	-
Other (please specify)	-	-	-	-	-	-	-	-	-
Total Revenue Costs (excluding borrowing)	-	-	-	-	-	-	-	-	-
Borrowing Costs									
Estimated interest cost of borrowing	167	-	22	45	57	43	-	-	-
Estimated MRP (Minimum Revenue Provision)	4,800	-	-	1,750	1,400	1,650	-	-	-
Total Borrowing Costs	4,967	-	22	1,795	1,457	1,693	-	-	-
Total Revenue Impact	4,967	-	22	1,795	1,457	1,693	-	-	-
Revenue Affordability Assessment (funded by)									
Existing allocation in MTRS	4,967	-	22	1,795	1,457	1,693	-	-	-
New funding required	-	-	-	-	-	-	-	-	-
Total Revenue Budget	4,967	-	22	1,795	1,457	1,693	-	-	-

The 2022/23 spend will potentially release further funding from various sources such as those listed below:

- Contributions from district, borough, and city councils
- Anglian/Thames Water partnership funding
- Highways surface water alleviation scheme funding
- EY interreg City Sponge funding and Basildon Hospital funding

The total amount of grants received for the completed 6 years of the programme is over £8m, with a further £1.25m expected with the completion of year 7. Any funding contributions obtained from external partners towards the 2022/23 flood schemes would further reduce the amount of ECC borrowing identified above.

Furthermore, additional grant from the above sources, can potentially unlock further partnership funding from the EA via the Flood Defence Grant in Aid and Local Levy. (See Appendix 5 for estimates). We will only know of any additional EA funding when the detailed projects are submitted.

2.2. Benefits (Financial and Non-Financial)

Non-Financial Benefits:

The Capital Flood Programme specifically delivers a key action in the Organisation Strategy: 'Reduce the impact of flooding, by working with local communities to increase their resilience to flooding'

Additional benefits of the Flood Prevention Capital Programme to ECC include the delivery of capital assets which reduce the risk of flooding without adding to the revenue spend as responsibility for this is taken up by the landowners. In addition, the schemes have the potential to unlock growth in future development areas identified in the Essex Growth Model, they also have ecological and biodiversity benefits that deliver on the newly created Essex Green Strategy.

Environmental statement

To note the contribution this project will help towards ECC's ambitions to meet climate change commitments by including flood mitigation, Green Infrastructure, habitat creation and biodiversity net gain. To endorse the estimated capital costs of implementing net zero aspirations of £3.5m which is included as part of the above total estimate capital cost.

Financial Benefits:

The ECC-led schemes and grant funding projects would result in

- Preventing estimated £23,000,000 in damages to residential and commercial properties and critical infrastructure (roads, hospitals, and care homes). More detail is shown in appendix 6.
- Better flood protection for 215 homes in 2022/23 yielding a cost-benefit ratio of 1 to 2.70.
- Over 1600 homes better protected because of the previous schemes delivered through the ECC Flood Prevention Capital Programme.

Volunteer activities, community engagement and education activities will ensure that the maximum number of people and properties benefit from the Capital programme.

Our focus is to reduce the impact of flooding to properties in Essex. Critical success factors include:

- Delivery of all ECC-led priority schemes – Delivery of quality schemes, on time and budget resulting in the better protection of homes, businesses and critical infrastructure in Essex at risk of flooding.
- Value for money – Schemes will only be progressed where Cost Benefit Ratios are greater than 1.0. I.e., for every £1 invested more than £1 will be returned in benefits, **with the past average being a ratio of 1 to 2.5.**
- Our target for partnership funding is 25%. This means we have the potential of generating approx. £875,000 of external grants with the delivery of the programme. However, following a meeting with the Environment Agency, the amount of grant and Local Levy funding potentially available to ECC in 2022/23 has been increased to £1.750m as a result of the good relationship we have developed over the last 5 years and our proven track record of delivering schemes on the ground. The Environment Agency grant funding can only be achieved through delivery of the ECC Capital Programme and having the capital funds available to do this.

Following conversations with the EA, revisions to the EA/ECC long term programme have been made to re-align with our goals and targets, which have resulted in the 2022/23 capital flood proposal. The priority schemes have increased the potential EA grant allocation available to ECC from £875,000 to £1.750m. It is important to note that the £1.750m can only be accessed provided that there is Capital Programme to deliver the schemes, without this ECC would lose its EA grant and Local Levy allocation altogether.

2.3. Key Financial Assumptions on the above figures are as follows:

Assumption impacting costs/benefits	How will assumption be managed?
The flood risk exposure of 150-215 households will be reduced from 'very significant risk' ($\geq 5\%$) of flooding to 'moderate risk' ($\geq 0.5\%$) i.e. on a scale of 1-3, reducing it from 3 to 1.	Use of the prioritisation matrix to shortlist qualifying schemes.
Inflation rate is based on economic models of 1.4%.	The estimates are based on feasibilities done with 12 months of the delivery, so we expect little inflationary change

3. Delivery Approach

The Flood Team now have 6.5 years of experience managing and delivering a £21.5m budget so far. They have huge experience working with ECC partners Ringway Jacobs and Jacobs, delivering a great variety of schemes from Leaky Dams to Flood Attenuation areas that compliment more traditional engineering methods. The experience gained over the last 6.5 years has made the ECC Floods team a national leader on designing and delivering Capital Flood schemes.

A programme approach has been adopted, with flexibility between the project streams to accommodate movement in the programme overall.

- Part of the delivery approach will be management of the schemes through monthly meetings on feasibility, design, maintenance/adoption agreements, pre-construction information & delivery to ensure that it remains on track.

An options appraisal has been undertaken to determine a shortlist of schemes in the programme. The preferred recommended solution was arrived at from a range of evidence bases including the Outline Process/Matrix for shortlisting scheme delivery (as endorsed by CPMB in the 2015/16 OBC).

The projects shall be procured either via the Highways Strategic Transformation Contract (Ringway Jacobs), the Crown Commercial Services (CCS) and the Next Generation Supplier Arrangement (NGSA) Frameworks, or otherwise in accordance with the Public Contract Regulations 2015. The frameworks that are used to award contracts are competitively tendered using supply chain partners that have met the qualifying criteria.

Below is a list of the 8 priority schemes for delivery in 2022/23 and their headline figures. There are also 4 reserve schemes as fall-back for any in year slippages that may occur with the priority schemes.

Priority Schemes	Construction Cost (£000)	Damages Avoided (£000) (residential and commercial properties and critical infrastructure)	Benefit Cost Ratio
Old Harlow (NHLW09)	510	3,496	3.4
Valley Road (Clacton 1)	490	2,718	2.67
Hutton (BRENT H)	360	2,753	2.95

Lower Shearing CDA3	460	3,350	2.31
Riverside Walk (NBAS011)	510	2,482	1.37
Ashingdon	320	1,977	3.18
Moulsham (CHE12)	310	599	2.56
Thrift Green (BRENT F)	540	5,936	3.19
Total	3,500	23,312,640	2.70
Reserve Schemes	Construction Cost (£,000)	Damages Avoided (£,000) (residential, commercial properties and critical infrastructure)	Benefit Cost Ratio
Southfields (NBAS007)	300	1,738	1.25
Vange (NBAS008)	410	623	1.13
Runwell (NBAS010)	490	1,282	1.37
North Clacton (Clacton3)	480	1,739	1.77
Total	1,680	5,382	1.38

4. Timeline and Key Milestones

Milestone Description	Target Date
Year 8 Programme Endorsed	September 2021
Priority Schemes – Agree programme & task order update with Ringway Jacobs	April 2022
Commence tender process	July 2022
Delivery of Priority schemes	August 2022 to March 2023

5. Key Risks

The table below includes only material or red risks from the project RAID log, the full log can be found in section C of the Appendix (Mandatory Project Documents).

Name and Description	Mitigation	Owner
Risk: Costs for schemes over-run	Actual and forecast spend is monitored monthly. Schemes will be re-prioritised to make sure that they are delivered within the funding.	John Meehan
Risk: Cost estimates are higher or lower than predicted in the FBC	Costs in the FBC are best cost available and based on up to date consultancy work. If costs over run, please see above. If costs are less than predicted, we will bring forward one of the 4 reserve schemes in the table above.	John Meehan
Risk: If capital schemes in the 2022/23 programme don't come to fruition, scheme development costs would need to be treated as revenue expenditure.	Scheme progress and costs are monitored on a monthly basis and any potential 'no-go' costs will be kept to a minimum and within the existing revenue budget. Going forward, the development of a pipeline of schemes will mitigate this risk. FDGiA and Local Levy applications will be made to cover the cost of the early study stages; this will reduce the risk to revenue.	John Meehan
Risk: Insufficient or non-compliant bids are received for the tender opportunities	Suitable tender documentation is developed, and market engagement is conducted to ensure the best possible market response is received for all opportunities	John Meehan Dave Chapman
Risk: The priority schemes and therefore the majority of the	Regular reviews will be conducted with our consultants and internal teams every month to monitor drop out and replace with substitute projects. The Cost benefit ratios	John Meehan

programme cannot be delivered will impact on cost/benefit	are assessed at the Initial Assessment stage and only those greater than 1 go forward. Ensuring that schemes have a BCR above 1 guarantee that for every £1 spent, a scheme delivers more than £1 of benefits in flood damages.	Dave Chapman
Risk: Created assets are not adopted and maintained.	Early engagement with landowners and local planning authorities. Reserve schemes in place if delays occur in year due to ongoing negotiations.	John Meehan Dave Chapman

<p>I approve the above recommendations set out above for the reasons set out in the report.</p> <p>Councillor Lee Scott, Cabinet Member for Cabinet Member for Highways Maintenance and Sustainable Transport</p> <p>Mark Ash, Executive Director for Climate, Environment and Customer Services</p>	Date
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