

Essex Flood Board Member Training

Climate Adaptation & Mitigation (CAM)

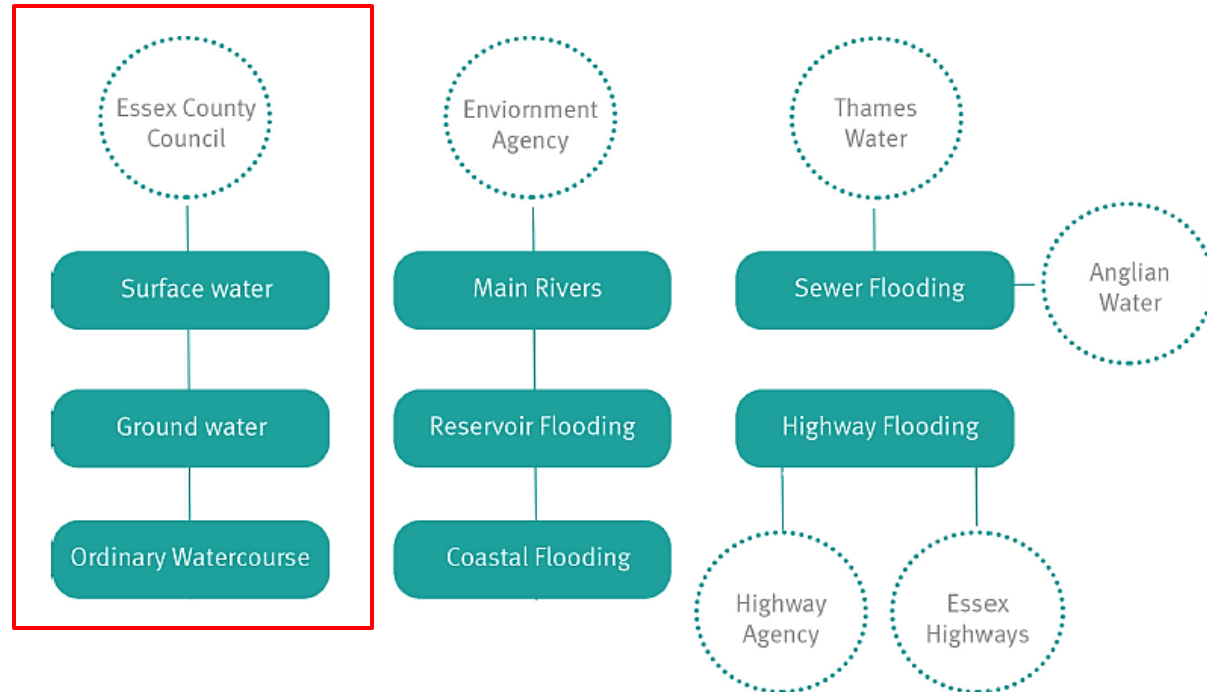
June 2024

Our Partners

The Flood and Water Management Act 2010 defines ‘Flood Risk Management Authorities’ as the following organisations, along with our 12 local councils.

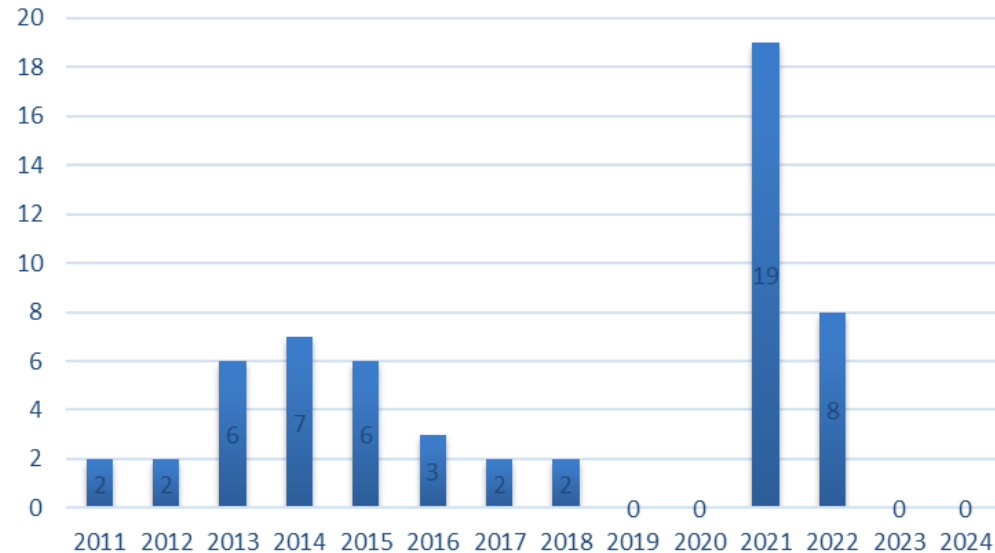
We all meet quarterly as the **Essex Flood Board**.

Regional Flood and Coastal Committees (led by the Environment Agency) also meet to discuss allocation of grant funding and regional partnership projects.



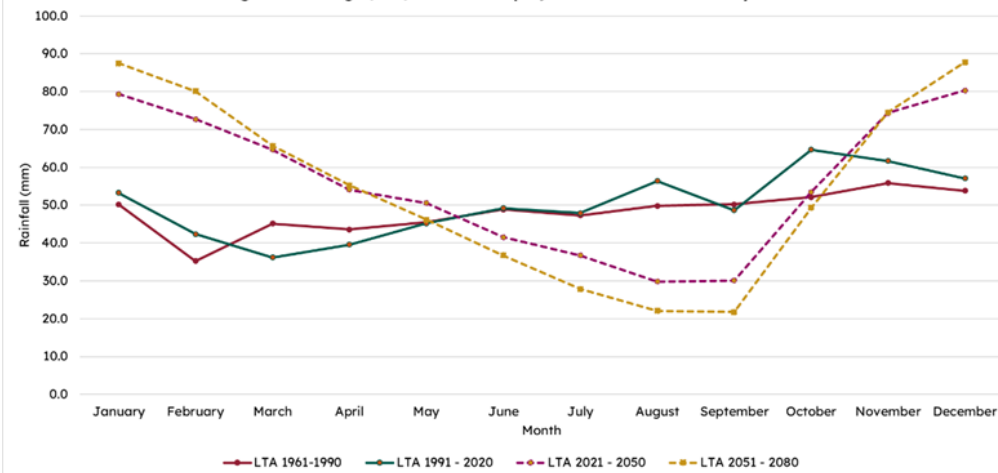
Flood Investigations

Essex S19 Flood Investigations



- Record year for flood investigations in Jan 2021 with 19 individual cases.
- In Aug 2013 it was reported over 1000 properties flooded in a single event in Canvey Island (investigation report which was later government peer reviewed).
- In (2022/23) we received 273 enquiries for non-highway related 'local' flooding.
- UK Climate Predications show we are set for much drier summers and wetter winters.

Long term average (LTA) historic and projected rainfall for Essex by month



Property Flood Resilience (PFR)

PFR contract on it's third iteration.

Last year we have received 48 PFR applications. This year is set to be higher.

Installations funded by Environment Agency with small costs for ECC in 'no-go' processing and project management fees

Sump Pump



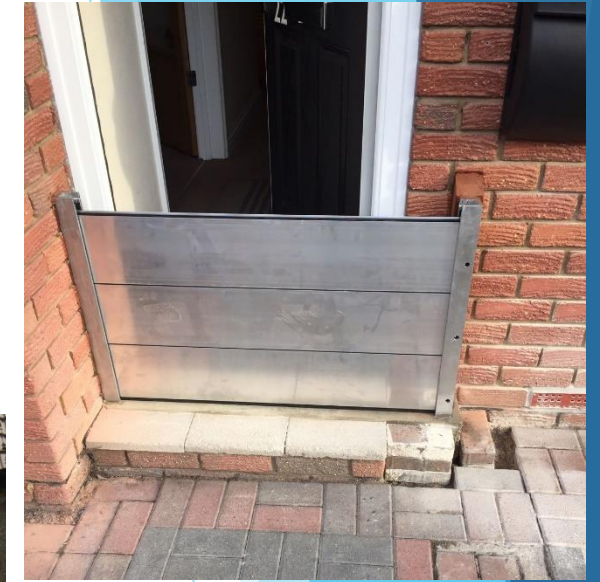
Service NRV



Flood Door



Ftech Barrier



Sealed Cover



Flood Door



SMART bricks



Before



After

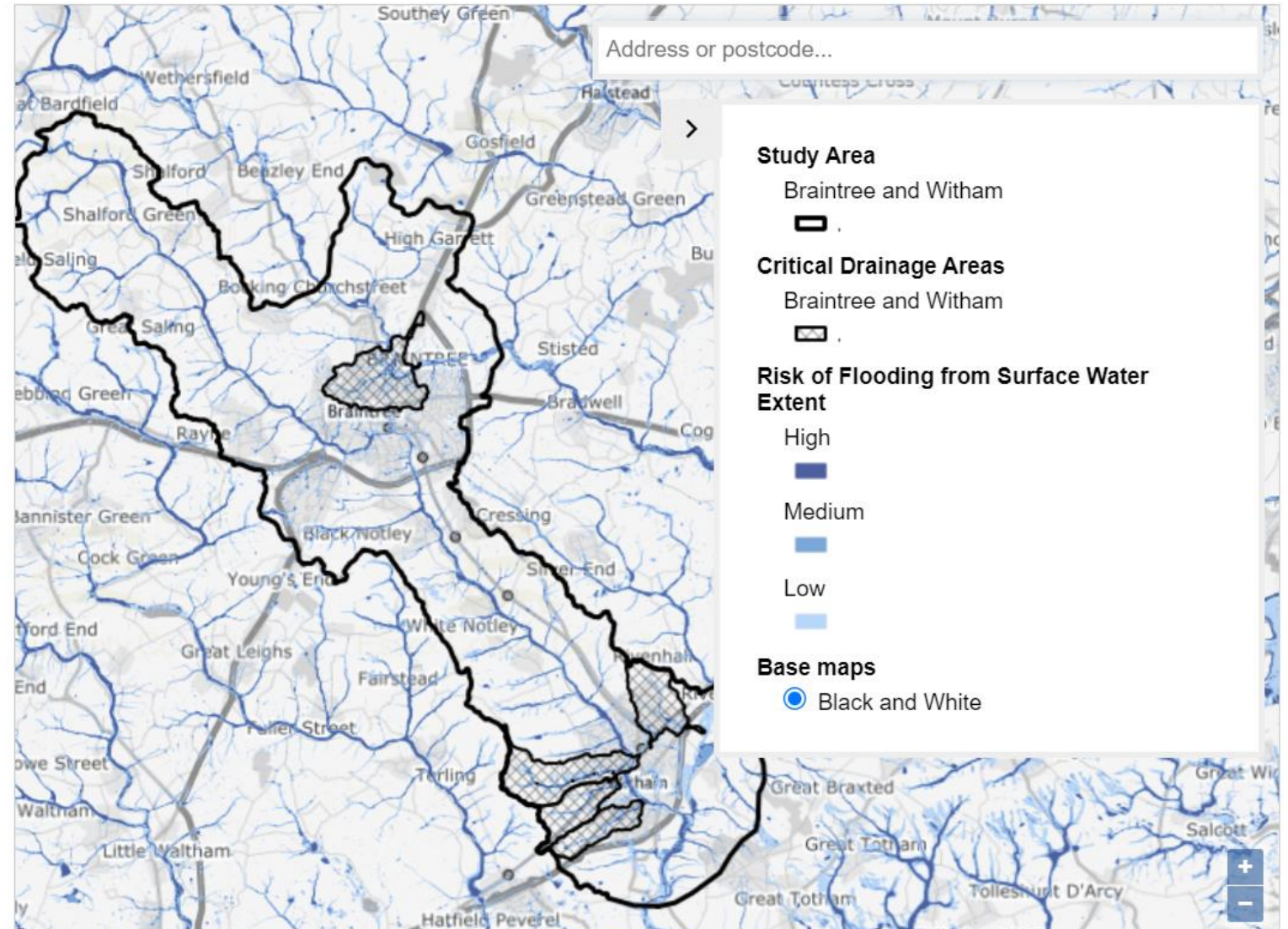


Surface Water Management Plans

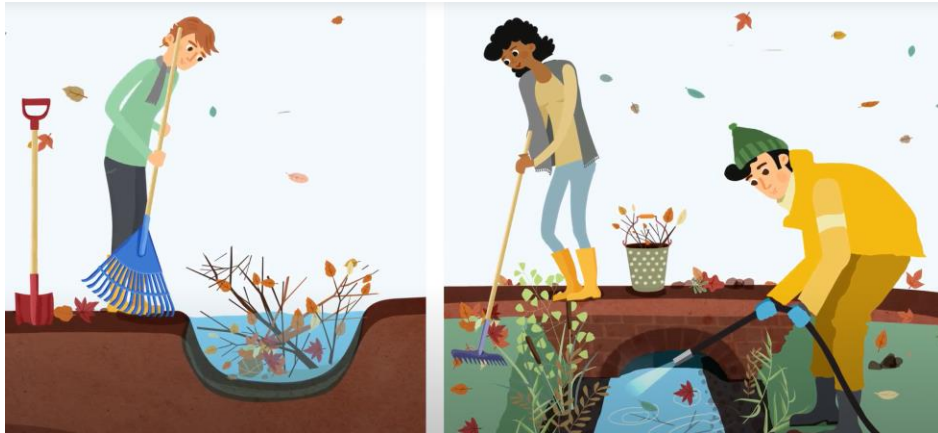
Map of Braintree and Witham Study Area

1. South Essex (Basildon, Rochford, Castle Point)
2. Colchester
3. Chelmsford
4. Maldon
5. Braintree and Witham
6. Brentwood
7. Harlow
8. Loughton
9. Clacton (ongoing)
10. Lower Sheering and Sawbridgeworth

- Strategic studies
- Update flood models
- Inform local residents of surface water risks
- Assist in planning
- Identify and prioritise risk areas
- Identify potential schemes for capital flood programme



Watercourse Regulation



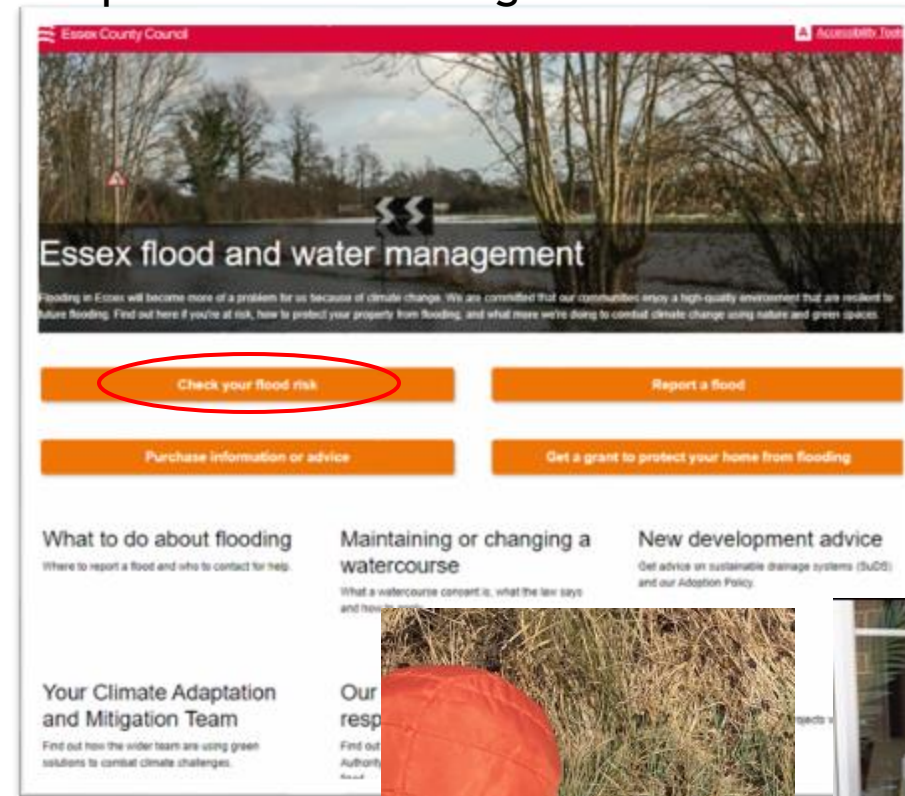
- Determine consents for changes which affect the flow of a watercourse - e.g. pipe/culverts
- Deal with cases of unconsented works
- Deal with issues of lack of maintenance increasing local flood risk
- Encourage and promote landowner responsibilities under the Land Drainage Act 1991
- Common problems with neighbour civil disputes and unregistered land, lack of maintenance agreements.
- Volunteer ditch clearing events offered in some cases.

Public engagement

We have a few methods of communicating with our customers:

- Floods and SuDS Inbox dealing with general and member enquiries
(floods@essex.gov.uk and suds@essex.gov.uk)
- Online platforms
Website informs and links to partner online report/advice where necessary.
Flood and Water Management Facebook Page raises awareness through campaigns.
- Chargeable requests
 - Pre-app planning advice
 - Flood information requests
 - Watercourse regulation advice

<https://floods.essex.gov.uk/>



Wetland Wonder Trail



Water Butt Discount Scheme

LLFA Role in and Emergency

As the Lead Local Flood Authority (LLFA) we have no role to respond in a flood emergency. Our team become involved once the incident has passed and a flood investigation can then take place. We also look to protect properties at risk within our programme and projects.

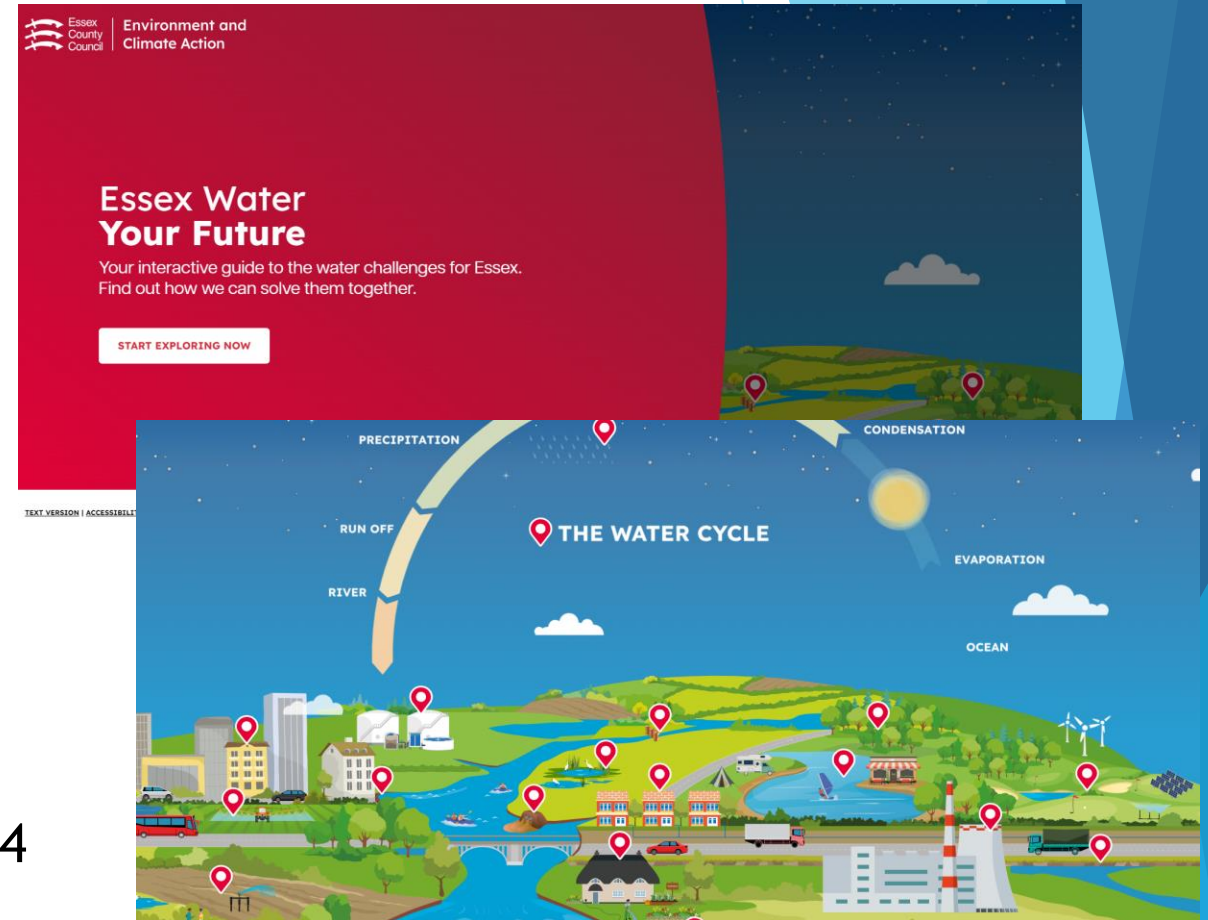
However we appreciate that Essex County Council and Essex Highways do have 24hr emergency response role. We do everything we can to help plan and share information ahead of an emergency so that our response can be better informed.

- We share our Surface Water Management Plans (flood maps)
- We are part of the County Tactical Group (CTG)
- In the run up to an event we take part in multi-agency telecons
- In the run up to an event we share information with other agencies

Integrated Water Management



- New water Strategy launched in March 2024
- Thinking about water quality and water resources.
- [Visit www.essexwateryourfuture.co.uk](http://www.essexwateryourfuture.co.uk)



Member Development Briefing

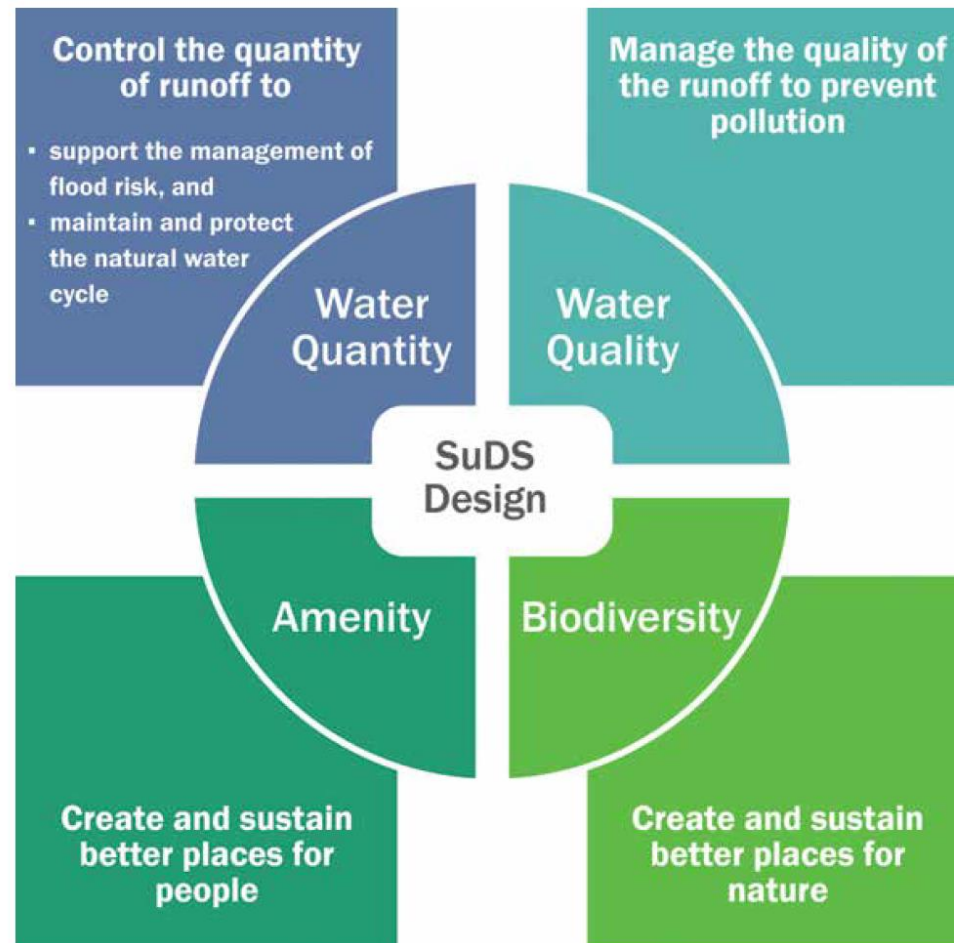
New Development and Flood
Risk - our role in planning and
sustainable drainage systems
(SuDS)


Flood Risk Management in Essex

- ▶ Started our role as Statutory Consultee in 2015
- ▶ We comment on all major development across the county
- ▶ We comment on approximately 500 separate applications a year (700-800 response with re-consultations)
- ▶ And average of 50 pre-application meetings
- ▶ Comment on Local Plan consultations



Why Include SuDS ?





Key SuDS Requirements

- ▶ Limit rates to the greenfield 1 in 1 wherever possible
- ▶ Manage water on site for 1 in 100 year event plus 40 -45% climate change allowance.
- ▶ Details of a viable discharge location
- ▶ Demonstrate appropriate pollution treatment for the whole development
- ▶ Appropriate scheme and feature design (full application)
- ▶ On-going maintenance



What are the challenges we face?

- Staffing resource
- Long term maintenance
- Competing financial pressures
- Public understanding of the planning process
- Local Authority resourcing for follow up checks
- Climate Change

How do we tackle these challenges?

- ▶ Early engagement is key
- ▶ Clearly identifying requirements
- ▶ Promoting multifunctional benefits
- ▶ Regular communication with partners
- ▶ Frequent updates to guidance
- ▶ Formalising temporary staff contracts



Schedule 3 Implementation

- ▶ Due for implementation by the end of 2024
- ▶ Process will run in parallel with planning
- ▶ LLFA will become a SuDS Approval Body (SAB)
- ▶ will also retain out statutory consultee role
- ▶ Will provide comments on all development of 2 houses or more
- ▶ We will review implementation of schemes
- ▶ Will have a requirement to adopt SuDS if they are correctly designed and implemented
- ▶ Estimated staffing requirement 25-30 FTE funded by application fees

The background features abstract, overlapping geometric shapes in various shades of blue, ranging from light sky blue to deep navy blue, creating a modern and professional aesthetic.

Member Development Briefing

Capital Programme Delivery - Award Winning Flood Schemes in Essex

Floods Capital Programme

Flooding is a key issue for many of our communities that 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. Central Government is seeking to encourage more local investment in flood prevention. We are equipping communities with the skills, support, knowledge and equipment to protect their own property and the investment from ECC forms a golden thread from national policy through to a regional and local level.

This programme has been put in place to provide flood management and environment mitigation measures, to address the growing number of homes that are at risk of flooding and to help provide better climate resilient communities.

Critical success factors include:

- Delivery of all ECC-led priority schemes - Delivery of the schemes to quality, time and budget.
- Value for money - Schemes will only be progressed where Benefit Cost Ratios are >1.0. i.e. for every £1 invested more than £1 will be returned in benefits
- Our target for partnership funding is 25% of our annual budget, but we aim for 50%

Financial Benefits

Schemes delivered through the capital programme have unlocked funding from the following partners:

- Environment Agency
- District/Borough and City authorities
- Anglian/Thames Water
- Highways Surface Water Alleviation Schemes (SWAS)

Success measures and benefits



Non-Financial Benefits

The Flood Capital Programme supports the delivery of the Essex Organisation Strategy by contributing to the following Strategic Priorities:

- Provide better climate resilient communities
- Help to secure sustainable development and protect the environment.
- Help to secure stronger, safer and more neighbourly communities.
- Limit cost and drive growth in revenue



Headlines - Capital Programme



- We are in the 10th year of our programme
- In 9 years, we have reduced surface water flood risk to over 1900 residential properties in Essex and unlocked more than £8m worth of external funding
- Over the life of the flood capital programme our schemes will have reduced potential flood damages by over £100m
- The benefit cost ratio of the entire programme is 1-2.5
- The current programme has seen over 90 sites investigated for the potential to deliver capital schemes

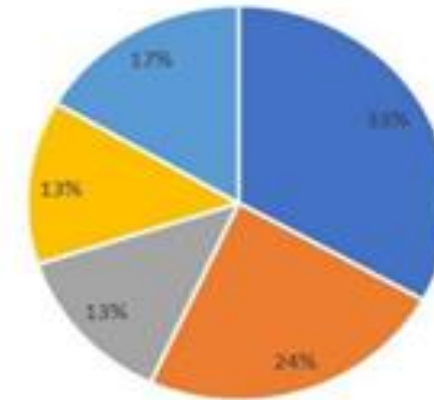
- The external funding generated is 30% of our total programme budget
- Our Basildon SPONGE scheme was been nominated for 3 industry awards
- The NFM leaky dam scheme in Kingsmoor, Harlow won the BCIA Small Scheme of the Year 2018



Headlines - Capital Programme

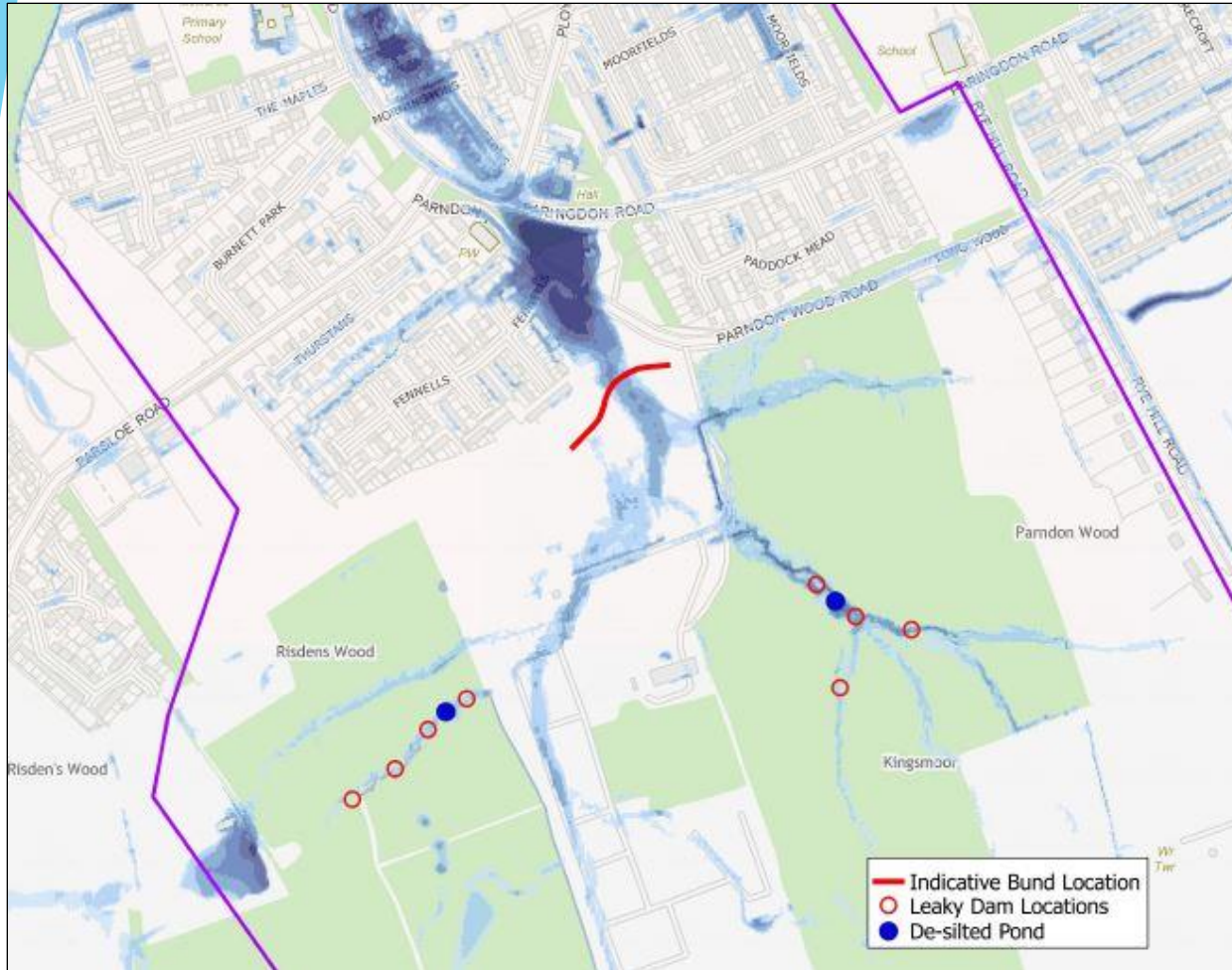
- 26% of the known reasons for moderate and poor water quality in Essex is down to transport and built environment runoff
- Delivery of more projects like Klingsmoor and Basildon Hospital have multiple benefits such as;
 - Environmental enhancements
 - Biodiversity Net Gain
 - Water quality
 - Holistic water management

Top 5 known reasons for not achieving GOOD status



- Water Industry - Sewage discharge
- Agriculture - Poor nutrient management
- Agriculture - Poor Livestock Management
- Transport Drainage
- Urbanisation - Urban development

Kingsmoor scheme development



Feasibility and Option Optimisation studies undertaken by Jacobs

Determined that a large earth bund and storage area provided the greatest benefits

Reviewed in conjunction with Harlow District Council and leaky dams and pond de-silting aspects were proposed to better mitigate against silt

The number and positioning of dams changed after discussions with Harlow DC based on known flood flow routes

Potential dam locations identified and finalised following site meetings

Summary and Key outcomes

Leaky dams completed November 2017; bund completed July 2018

Total scheme costs £440k, pond de-silting and leaky dam aspects £42.8k

Reduced flood risk to 43 properties from a 5% AEP event, depth reductions to over 110 others

Carbon assessment: 94.4t of CO2 saved

Flood mitigation measures can be delivered in sensitive areas!

Flood alleviation works as an opportunity for wider benefits to ecology, biodiversity, water quality and amenity, and for raising flood awareness

Partnership working essential to project success

Woodland clearance's chance to improve wider area (in line with SSSI status)

Ecology and biodiversity in woodland and ponds

Local amenity, promotion of woodland, awareness raising

Education: woodlands frequently visited by schools, local groups and businesses

Earth bund seeded with grasses and wildflowers

Innovative Grassland Management Plan for whole LNR rather than compensatory like for like area replacement

Improved wildlife corridors



Kingsmoor Final.mp4



Basildon Hospital scheme

NEC case study

■ Category of submission: Resilience Project of the Year

SPONGE 2020

The EU-funded SPONGE 2020 project brought together Essex County Council and Basildon Hospital to co-create and implement rainwater gardens in two of the hospital's courtyards, retaining the rainwater from the roof that would otherwise go into the urban drainage system whilst improving the environment for patients, staff and visitors. Building on that, the Council secured further funding from Anglian Water and the Environment Agency and converted disused Anglian Water-owned land next to the site into a washland that helped maximise the volume of water retained on site, so that the stress on the local drainage system in events of severe rainfall is further reduced.

On-site courtyard rain gardens that were completed in 2018

BEFORE AFTER

Visualisation of off-site washland area

Environment Agency | anglianwater | Interreg 2 Seas Mers Zeeën | Basildon and Thurrock University Hospitals NHS Foundation Trust | Essex County Council



Essex SPONGE2020 Pilot Project_v2.mp4