

Essex Flood Board Members Induction

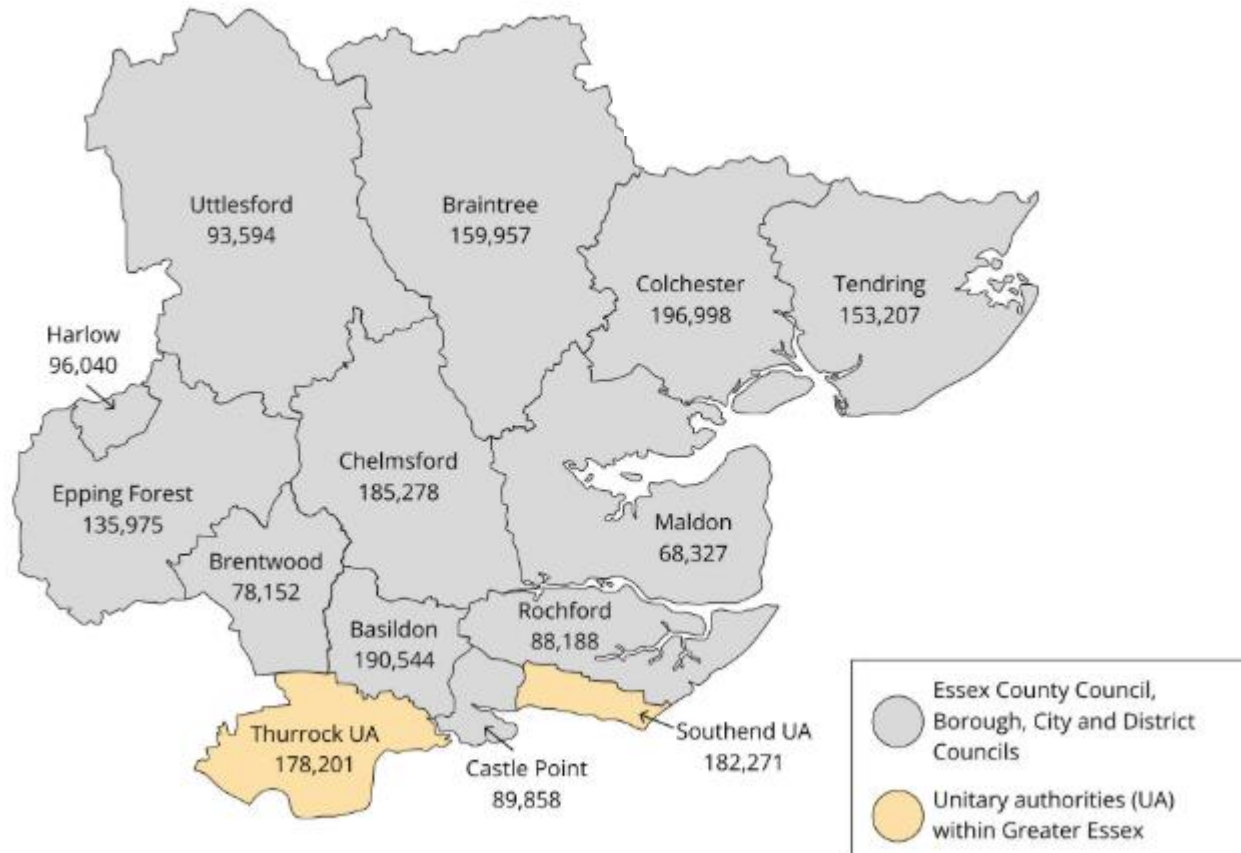
Lead Local Flood Authorities (LLFAs)

Dr Doug McNab

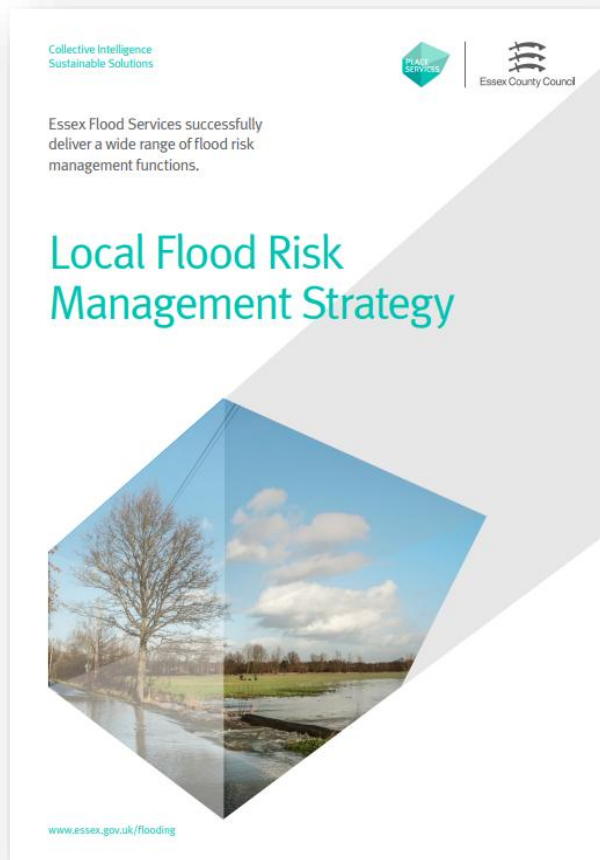
Lucy Shepherd

May 2026

Who are Lead Local Flood Authorities (LLFAs) and what do they do?



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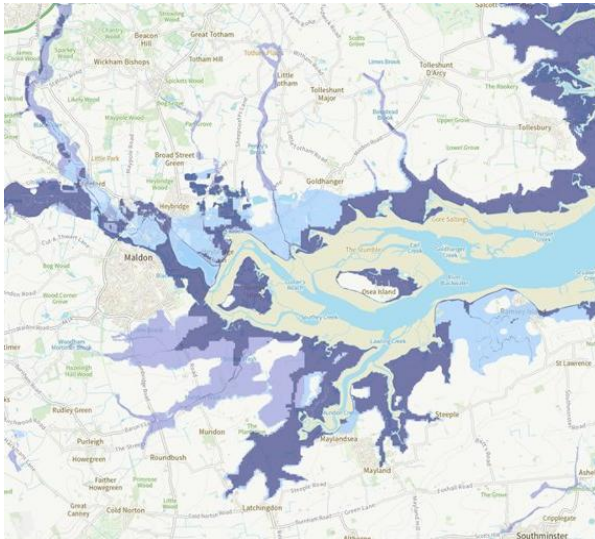


- ✓ Surface Runoff
- ✓ Ordinary Watercourses
- ✓ Groundwater

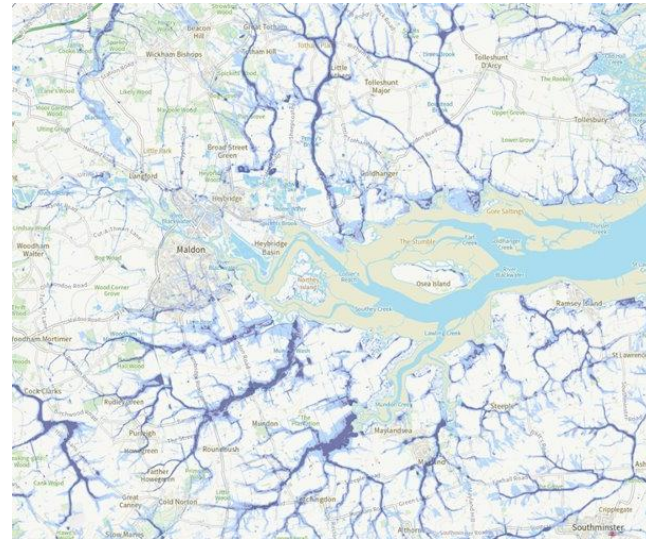


Who are Lead Local Flood Authorities (LLFAs) and what do they do?

Highlighting areas where we can consider focusing our resources to reduce surface water flood risk within local communities.



300,000 properties at risk of flooding across Greater Essex.



- ✓ Local flood mapping
- ✓ Surface Water Management Plans
- ✓ Informing funding opportunities



Who are Lead Local Flood Authorities (LLFAs) and what do they do?



Overseeing changes to watercourses, enforcement powers under Land Drainage Act to reverse unconsented works and maintenance issues.

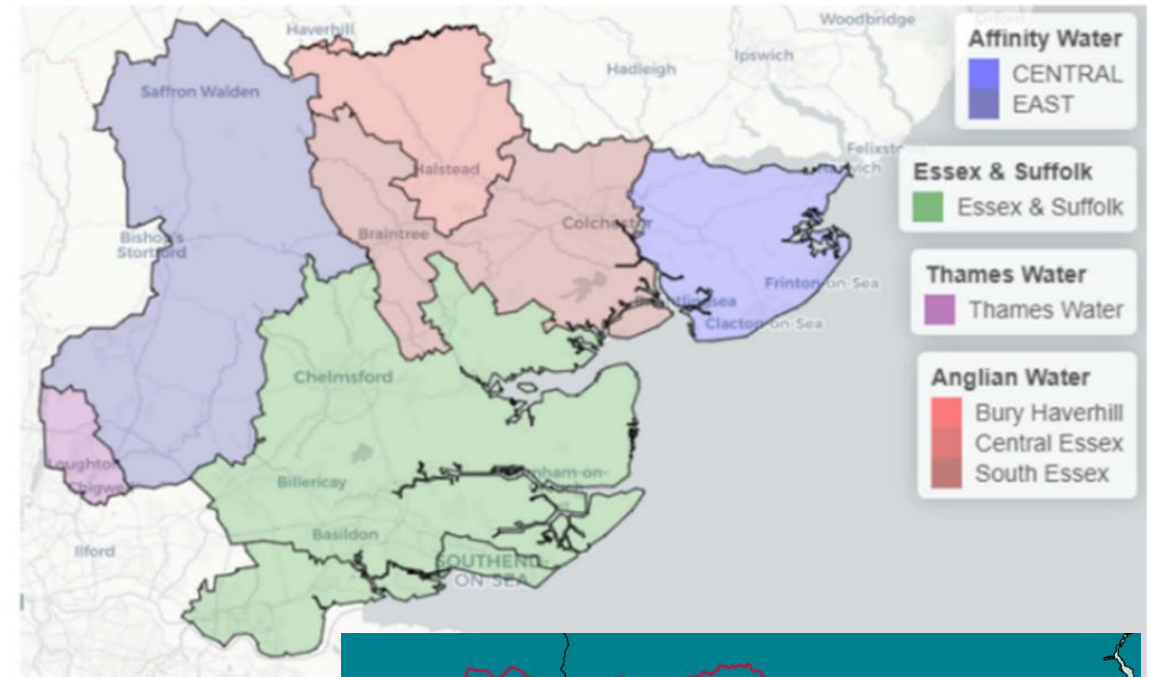
- ✓ Unconsented infilling or piping of watercourses.
- ✓ Conditions where the flow is impeded and flood risk to property is increased.



Essex – a unique water management system

Essex has a very complex system of flood and water management authorities. We have:

- 3 Lead Local Flood Authorities
- 2 Regional Water Planning Companies
- 4 Water Supply Companies
- 6 Water Resource Zones
- 2 Drainage and Wastewater Companies
- 3 Environment Agency/RFCC areas
- 5 Catchment Partnerships



Who to contact when a flood happens...

Flooding from main rivers and sea

Environment Agency

Private Landowner

Have a role to:

- Ensure watercourses and

Flooding from surface water, groundwater, rainfall, ditches and small watercourses

County Council or Unitary Authority
- Lead Local Flood Authority

Flooding of highway blocked highway d

Essex Highways

Essex County Council

Essex Flood Guide

A guide to localised, non emergency flooding issues

Essex County Council

Weather Wise Gardens:

A guide to creating a nature friendly garden for our changing climate.

Resident Survey

Those in risk areas are concerned about flooding but less than half of residents feel well-informed about their local flood risks.

Integrated Water Management was popular with almost all residents. Its main benefits were perceived as efficiency and effectiveness.

9 in
either
prim

78%
felt

INTEGRATED WATER MANAGEMENT (survey description)

Integrated Water Management (IWM) looks at how water is managed within large areas of Greater Essex, including our rivers, coast, drainage, groundwater, urban runoff and water resources.

The idea is to co-ordinate water supply, demand, wastewater, flood risk and water quality to provide sustainable co-ordinated solutions to our water challenges and enhance the water environment.

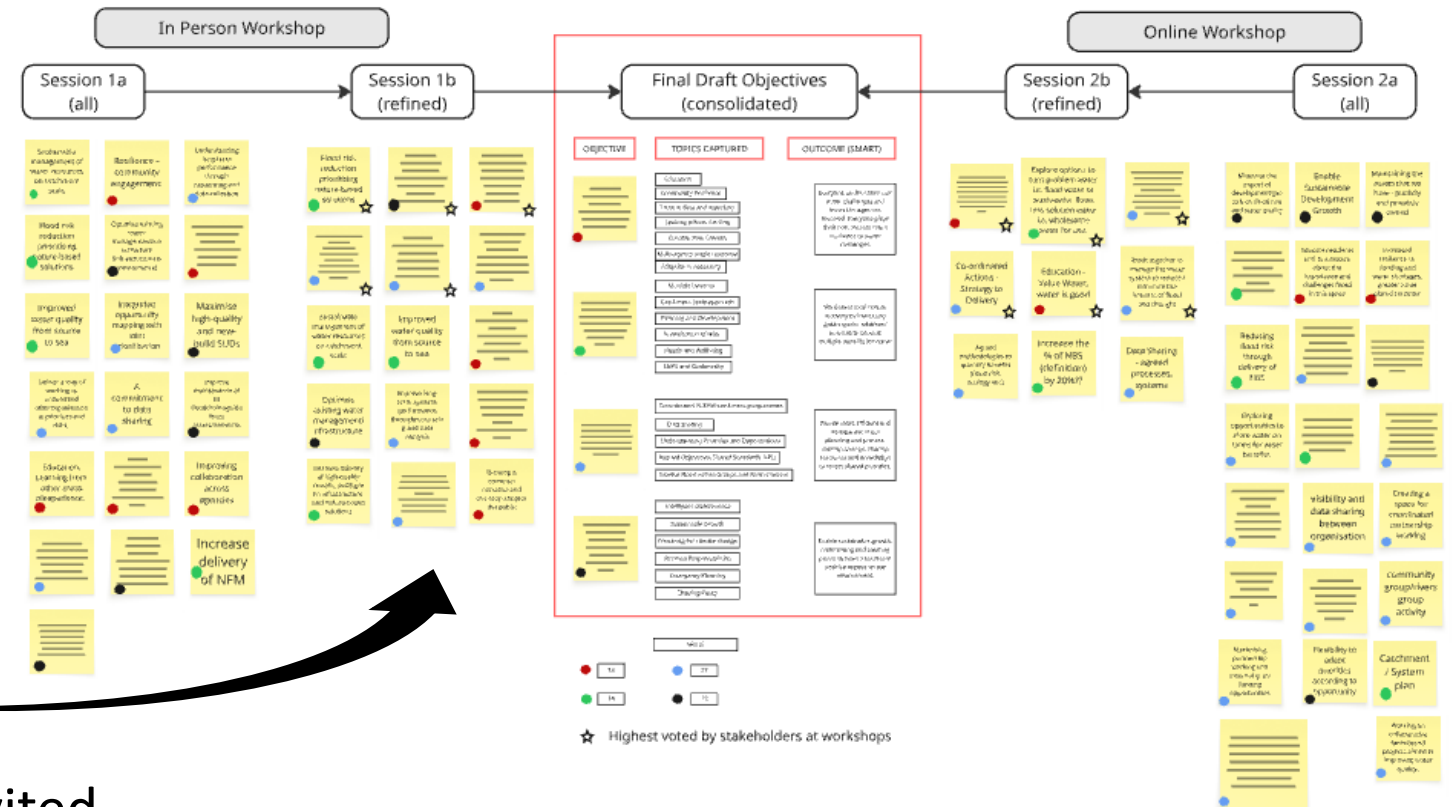
The aim is to shift away from a fragmented approach to managing water, where multiple organisations focus on different elements individually.

The main downside of this approach is that it can be very complex to implement, as it requires significant co-ordination and co-operation across multiple stakeholders/ organisations (e.g. water companies, Environment Agency offices).



Canvey Island Floods 2014

Developing a new Flood Strategy



100+ stakeholders invited
In person and online workshops
Objectives grouped and refined by type

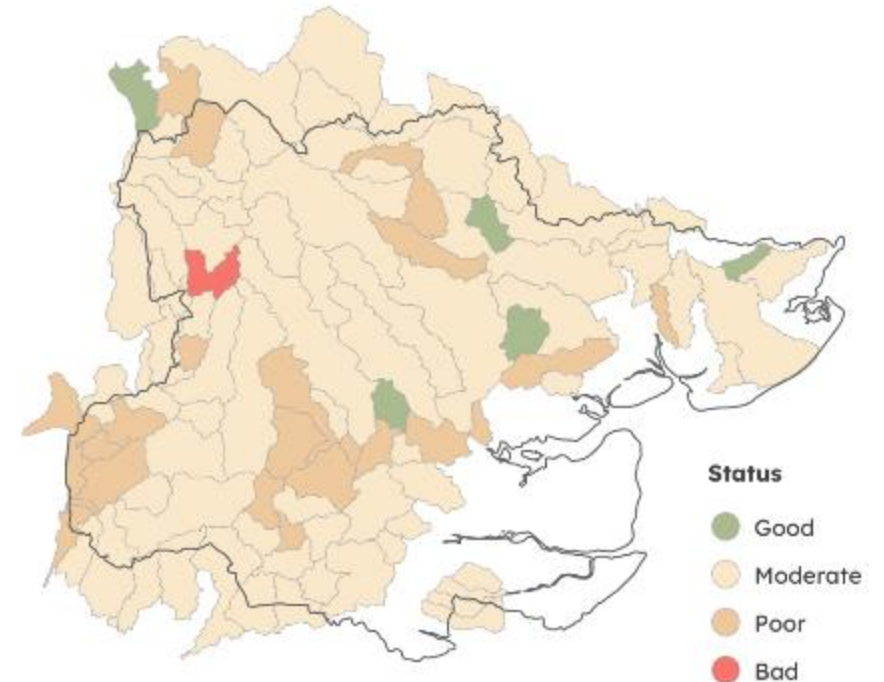
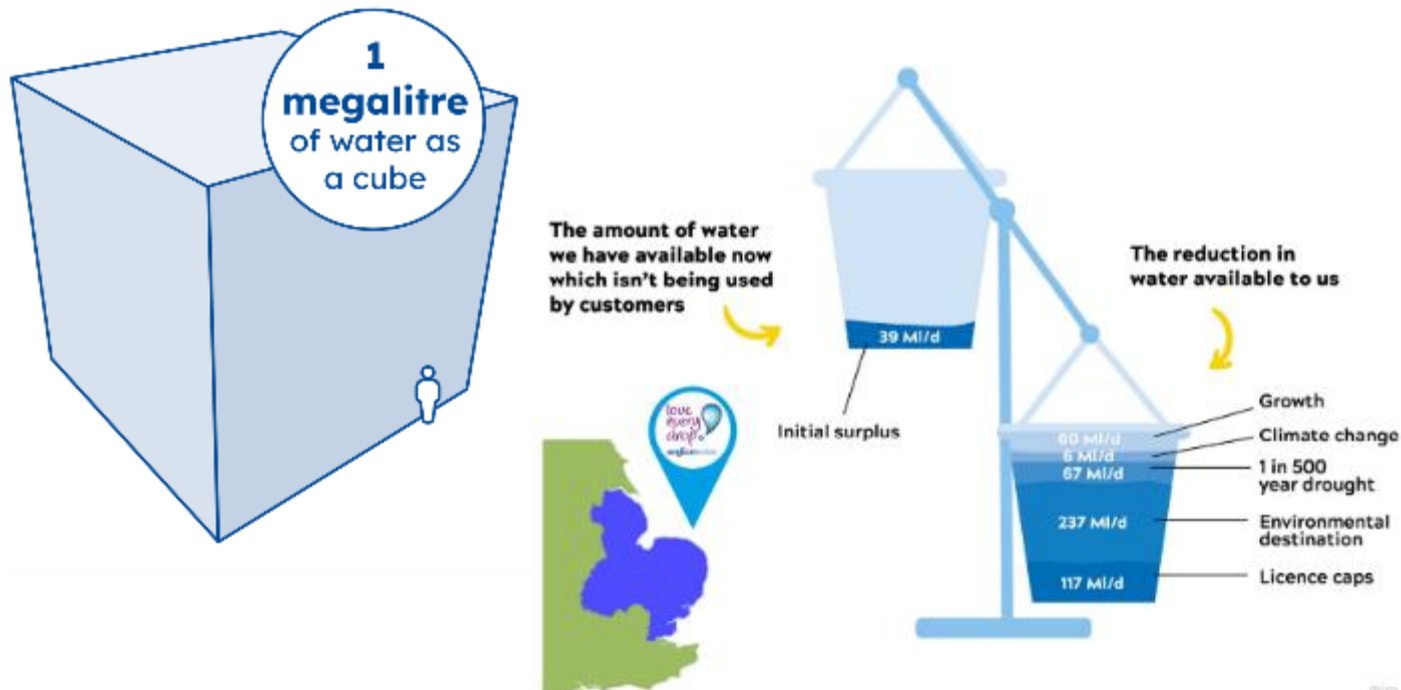
Other water challenges

Public Water Supply is in deficit with projected growth, climate change and environment needs.

- Total Anglian Water area 477ml/d deficit by 2050
- **Essex County overall 147.5 ml/d deficit by 2050**

5 out of 91 water bodies in Essex (5%) achieve '**GOOD**' status (England 16% overall)

18 out of 91 water bodies in Essex (20%) are **POOR** status (England 17% overall)



Storm Babet – a warning of things to come?



This information is issued by:
Essex County Council

Contact us:
floods@essex.gov.uk
<https://flood.essex.gov.uk/>

Essex County Council
County Hall, Chelmsford
Essex, CM1 1QH

 **Essex_CC**

 **facebook.com/essexcountycouncil**

The information contained in this document
can be translated, and/or made available in
alternative formats, on request.

Published July 2026

Essex Flood Board July 2026

Capital Flood Programme: Introduction

Essex Flood Partnership Board: 13th July 2026

What is the Capital Flood Programme?

Exists to take active steps to reduce flood risk to people and properties across Essex

Business Case submitted to Cabinet each year stating:

- Which schemes will be taken forward (priority and reserve options)
- Which stages they will progress through
- Cost for the year (and past/future costs)
- The amount of external grant funding each will receive (and source)

Capital Programme KPI's:

- **Number of schemes completed** (benefits achieved)
- **Number of properties better protected from flooding**
- **At least 50% external grant funding**

Progress on KPI's reported monthly and final position for prior year included in Business Case.

This year targets:

6 schemes completing delivery

230 residential properties better protected



What is the Capital Flood Programme?

YEAR 1. Revenue Funding. No revenue budget so currently 100% funded through external grants or ECC staff time.

YEAR 2. Capital Funding. Grants do not apply for designs so currently 100% ECC funded.

YEAR 3. Capital Funding. Funded jointly by ECC capital and external grants (approx. 50-50).

Justification

Funding Bid

Options
Assessment

Preliminary
Design

Detailed
Design

Procurement
+ Planning

Construction

Close Out +
Handover

Schemes come forwards from:

- SWMPs
- Section 19 Reports
- Partner opportunities
- Specific Issues

Reviewed against scoring matrix, which includes KPI's and other factors, to determine whether progressed or likely to be viable.

Grant funding sources identified through justification and have bids submitted.

For EA and some other partner projects, added to their programming. Some require approval from RFCC.

Work undertaken to determine preferred option scheme, based on KPI's.

Second cost beneficial scheme also identified so that project can be delivered if issues with preferred option.

Includes Hydraulic modelling and initial cost-benefit calculations.

Initial design produced and cost-benefit calculations re-run.

Stakeholder engagement commenced.

Project delivery timeframes updated with grant providers.

Delivery route identified.

Designs refined and amended based on stakeholder engagement to maximise deliverability, benefits and costs.

Designs produced for planning and other Consent applications needed.

Legal agreements around access and maintenance commenced.

Planning application submitted and approved, with conditions discharged.

Legal agreements finalised and signed.

Any grant applications are finalised (OBC's for EA), submitted and approved.

Construction and other contractors procured and contracts awarded.

Scheme constructed.

Progressed monitored by ECC with ongoing stakeholder engagement.

External grant funding drawn down as invoices are received.

Snagging undertaken with key stakeholders and issues rectified. Asset packs received and defects period commences.

Maintenance agreement activates.

Final review of delivery undertaken with final BCR calculated.

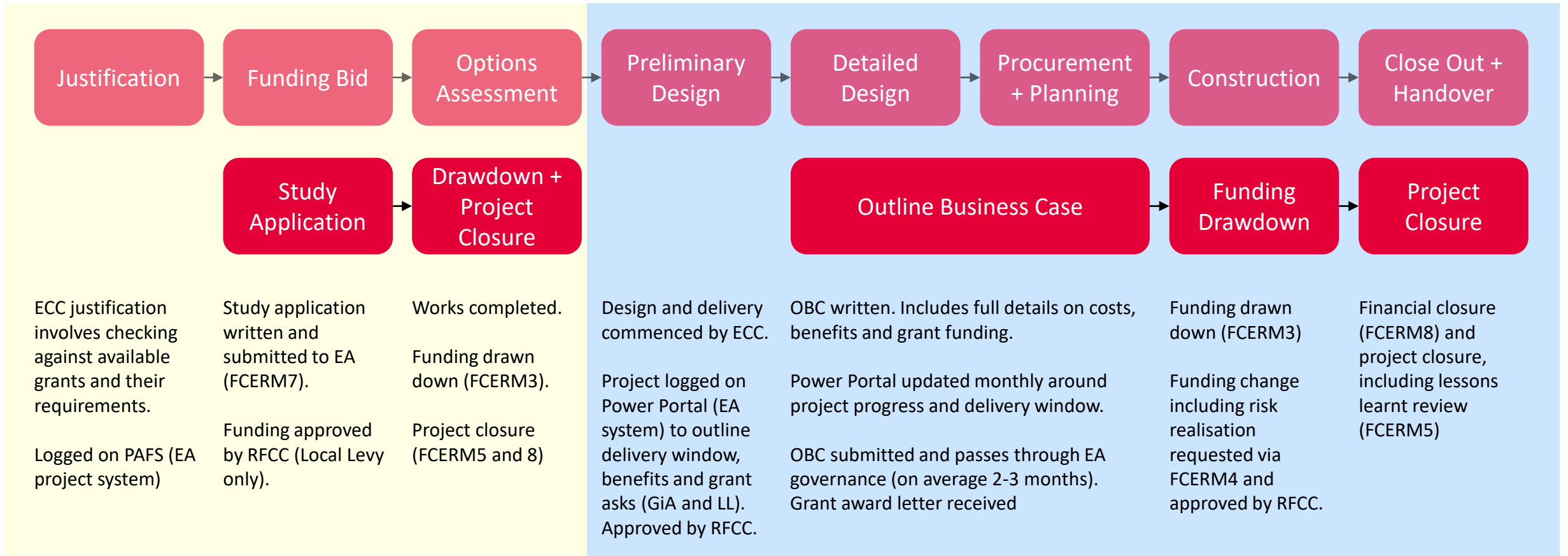
ECC and grant funder accounts closed.

Projects reviewed against KPI's after each stage and go/no-go decision made

Grant Funding Process (Environment Agency)

Most funding from Environment Agency, which is Flood Defence Grant in Aid (FDGiA – national DEFRA funding) or Local Levy (LL – local funding from Local Authority precepts).

Also Receive funding from: Water Companies (Anglian Water, Essex and Suffolk Water, Thames Water, Affinity Water), Department for Education,



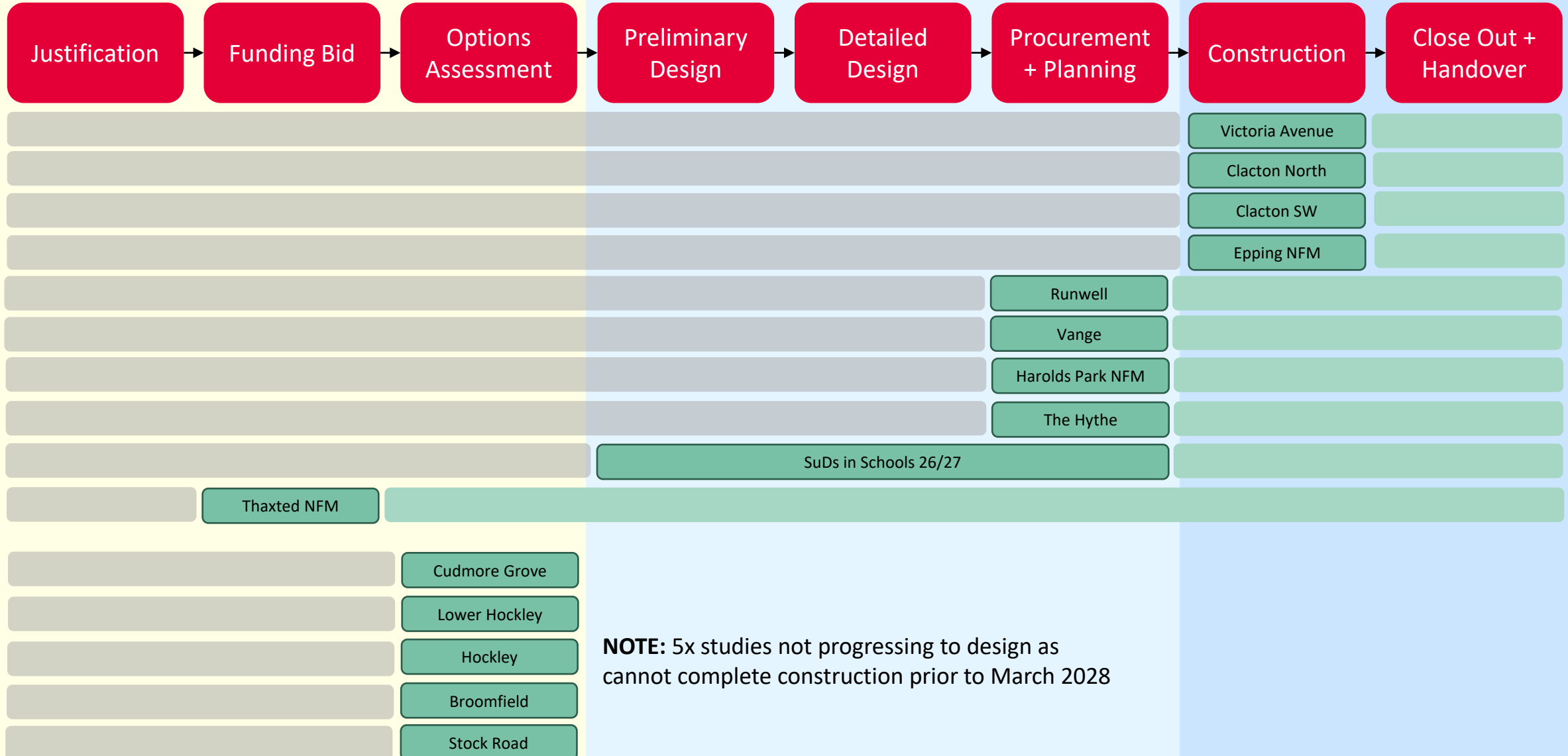
Current Schemes (26/27)

Completed

Current Stage

Completing 26/27

Planned for 27/28



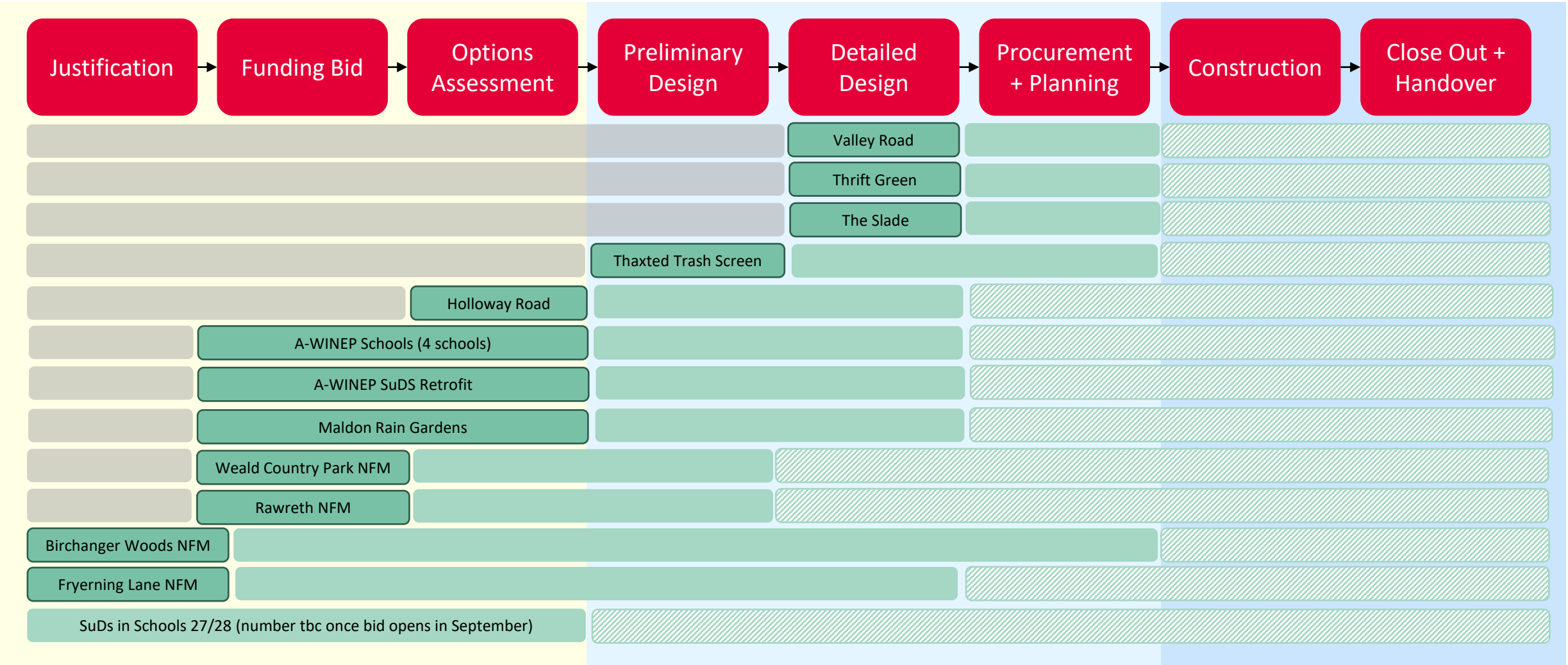
Outline 27/28 Programme

Completed

Current Stage

Completing 26/27

Planned for 27/28



The above schemes will form the basis of the 2027/28 OBC. This is currently being written for consideration by Cabinet in September

Scheme Examples: Attenuation Area

- Large bowls that can capture and slowly release flood water
- Often in public open space
- Landscaped so area can still be utilised
- Planting and additional benches and bins to improve amenity



3D model of Braintree attenuation area: [Polycam Capture - 3D Model on Polycam](#)

Scheme Examples: Wetlands

- Attenuations that have low levels of water in them constantly
- Positioned next to rivers or streams
- Huge benefits to water quality and ecology



Scheme Examples: Leaky Dams

- Wooden debris in a channel that slows and stows water within a channel)
- Stores less water than an attenuation but much cheaper
- Small – require less land
- Flexible – in channel so numbers and positions can be adjusted
- Large environmental and water quality benefits



Scheme Examples: Retrofit SuDS

- Storage crates under verges and footways
- Drop kerbs to allow water entry
- Water infiltrates or releases slowly to existing drainage network
- Designed around existing services and integrates parking
- Planting to absorb water and improve amenity
- Planting also provides barriers between cars and pedestrians
- Planting helps improve air quality and reduce local temperature



Cherry Avenue, Brentwood: [Cherry Ave - Google Maps](#)

Scheme Examples: Planters and Rain Gardens

- Planters: basically large water butts that connect to a downpipe to store rainwater for re-use
- Most include planting to absorb water and improve amenity and biodiversity
- Rain Gardens: basically small-scale SuDS features that allow water to infiltrate into the ground
- Also include planting
- Retrofit to buildings
- ECC mostly deliver in schools – huge education opportunity

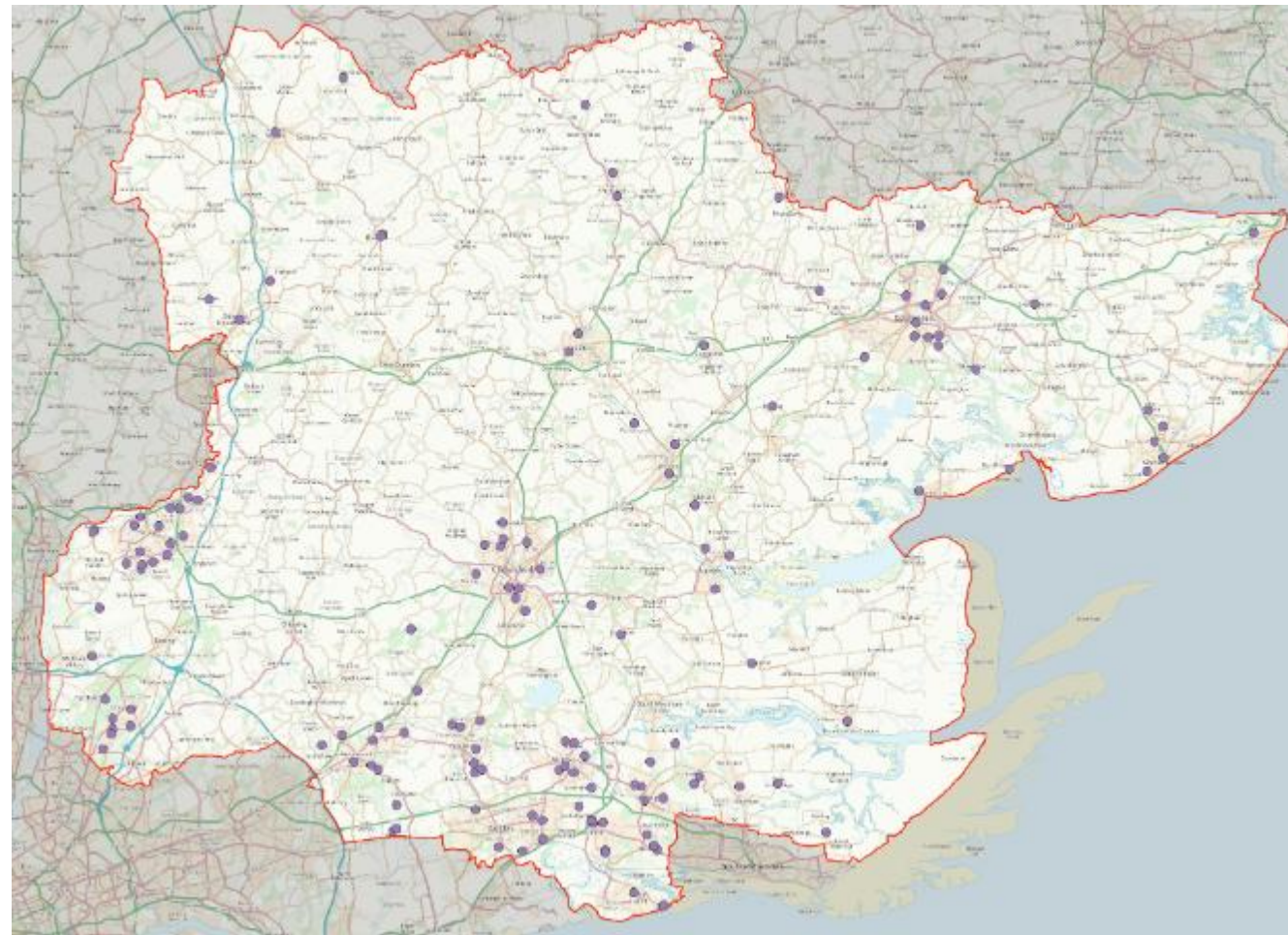


Programme Summary

The ECC Capital programme commenced in 2015. Since then we have:

- Completed delivery of **60 schemes**
- Reduced flood risk to over **2500 homes**
- Reduced flood risk to **20 schools**
- Brought in **over £12m** of external grant funding
- Built very close working relationships with internal departments such as Highway, Public Health and Schools.
- Build strong relationships with external partners and organisations such as the Environment Agency, Water Companies, Highways England, Department for Education, Charities and Universities

Essex is considered as both a regional and national exemplar for delivering innovation, effective and good value flood alleviation schemes (their words not ours!)



Locations where the Justification stage has been completed

Summary and Next Steps

- Large number of ongoing projects.
 - Projects range across different types of scheme and are at different stages to ensure a continuous and resilient programme of works.
 - Long history of working with partners and securing large amounts of grant funding
 - Well regarded programme with exemplar flood alleviation schemes
-
- 2027/28 Business Case being drafted for submission and consideration in September Cabinet Meeting.
 - RFCC meetings quarterly and outline regional programming and national grant allocations. ECC members vote on projects. ECC briefings to be held and introduction sessions organised by RFCCs.
 - Review of criteria justifying scheme inclusion on capital programme to be undertaken
 - Offer of site visits to historic and ongoing schemes

Contact Details

If you would like further details on the Flood Capital Programme, or to discuss any specific capital projects, please contact me using the details below:

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Capital Project Delivery Manager (Floods)

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Essex County Council

www.essex.gov.uk/flooding



Essex Flood Board Members Induction

Matt Moore

Strategic Flood & Partnerships Manager

About Anglian Water



Our purpose
is to bring
environmental
and social
prosperity to the
region we serve
through our
commitment to
Love Every Drop.

We are geographically the
**largest water and sewerage
company** in England and Wales



Serving
7 million
people across the East
of England and Hartlepool

We operate and maintain

39,248km

of water mains.

Laid end to end, this is further
than a trip to Sydney and back

And we operate and maintain

77,300km

of sewers



Laid end to end
this is almost
twice around
the earth's
circumference



88% have
a meter fitted

We employ around **6,000** people, and
work alongside a further **3,000** alliance
partners and contractors.

Our AMP8 plan will
see us create circa **7,000**
new jobs across the region



We pump less water into supply
every day now than we did in
1989, despite supplying

26% more properties

Since privatisation in 1989, Anglian Water has invested **£16.9 billion** improving services in our region.

Anglian Water & Flood Risk



Where do we fit in?

We are a Risk Management Authority (RMA)

Obligation to 'cooperate' with other RMAs

Share data (asset records, modelling, flooding history etc.)

Consultee (not statutory) (at the discretion of the LPA) on developments of > 10 properties in terms of sewer capacity

Work in partnership with other RMAs to fund and deliver schemes which offer mutual benefit

We regularly maintain assets (including those crucial to flood risk e.g. non-return valves)

In a heavy rainfall event, we keep sewers flowing, pumping stations pumping, and treatment works treating. This can mean surcharging still occurs if surface water gets into our foul system, or hydraulics impact the effectiveness of surface water & combined systems

Statutory consultee for local plans. Important for our long term planning.

Common misconceptions



We are not a statutory consultee
for day to day planning
applications

We are not a CAT1 responder
under CCA

Our foul sewer system is not a
backup for surface water or
ground water

We are not liable (unless proven
negligent) for damage caused by
flooding

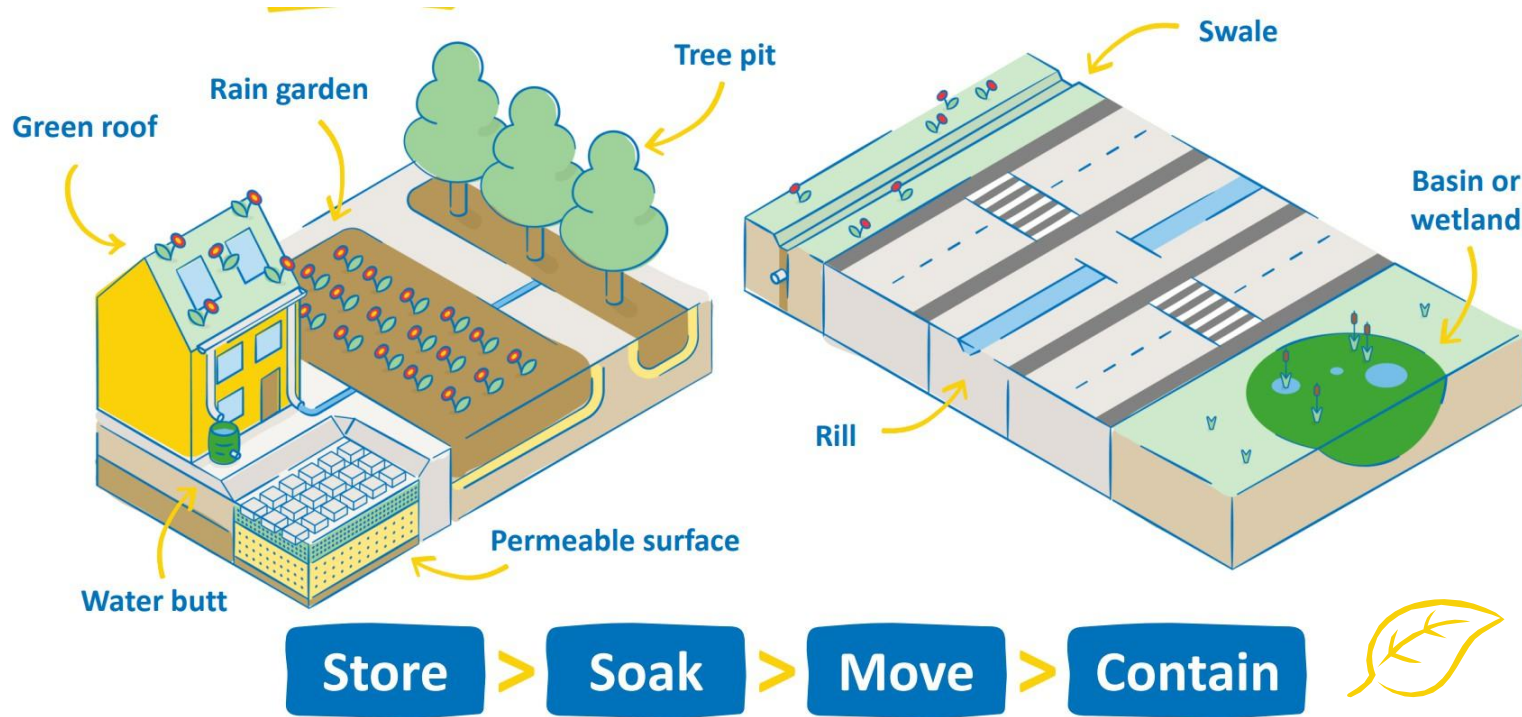


**Between 2020 and 2025, we spent £6M
working in partnership with other RMAs
across our region**

Future areas of work



Surface water management



We champion a nature-first approach to managing water where it falls, enabling growth and building resilience



Any questions?



Flood Risk and Planning

Tim Simpson – Green Infrastructure and Sustainable Drainage Manager





Roles and Requirements

- FWMA 2010 – Schedule 3 highlighted the importance of the LLFA's involvement in the planning process **but has not been enacted.**
- LLFA's were made Statutory Consultees on all Major Planning Applications in 2015
- Review approximately 900 applications a year (+ re-consultations)
- Provide input on local plans and associated documents
- Respond to Development Consent Orders as part of the NSIP regime
- Paid pre-application advice service

What is sustainable Drainage



drainage solutions designed to manage surface water runoff (like rainwater) in a way that mimics natural processes

Water Quantity

- **Discharge rates:**

- Limited to the greenfield runoff rate for the 1 in 1 storm event
- Delivers improvements for larger storms
- Significant improvements for old brownfield sites

- **Storage:**

- Enough space to hold back rainfall from a 1 in 100-year event + allowance to account for increase in rainfall due to climate change.
- discharge location



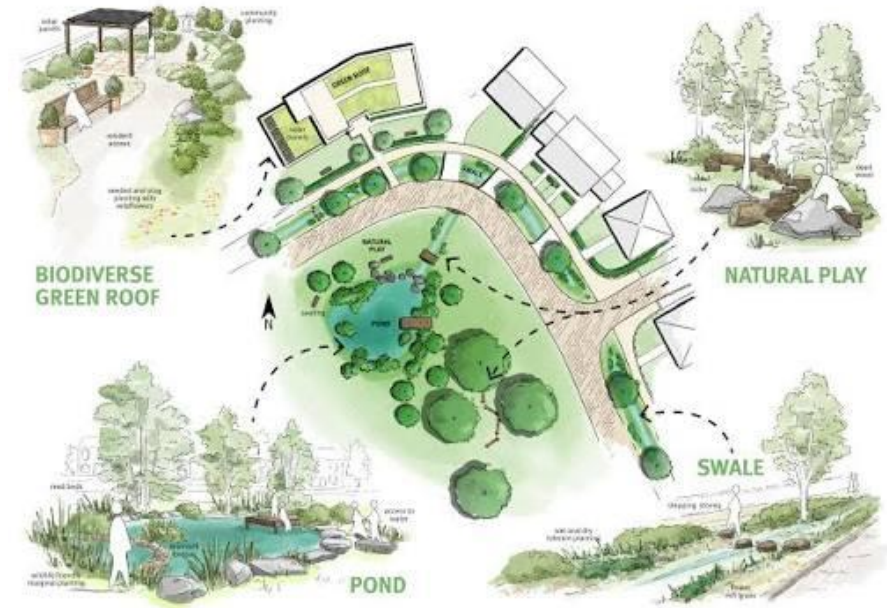
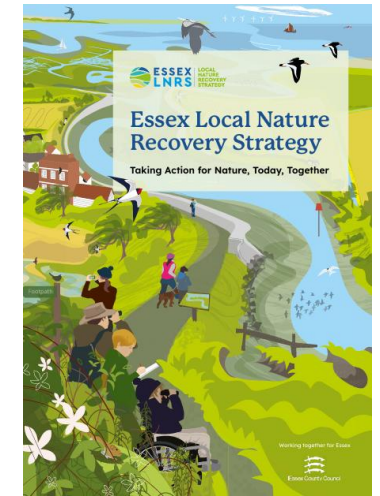


Water Quality

- Ensures water Quality isn't reduced because of the new development
- Treats water near its source
- Simple Index Approach (CIRIA SuDS Manual - C753)
- Considers Hydrocarbons, Suspended Solids (silt), and heavy metals
- Uses natural features to filter runoff whenever possible
- Appropriate maintenance to avoid blockage

Amenity and Biodiversity

- Focus on above ground green features
 - Wetlands, Swales, Basins, Ponds, Rain gardens, filter strips
- Multifunctionality is key
- Helps developers meet BNG targets
- Provides healthier spaces for residents
- Provides green corridors to link new development to natural spaces





**Essex & Suffolk
Rivers Trust**

Working together within Catchment Partnerships

Helen Dangerfield

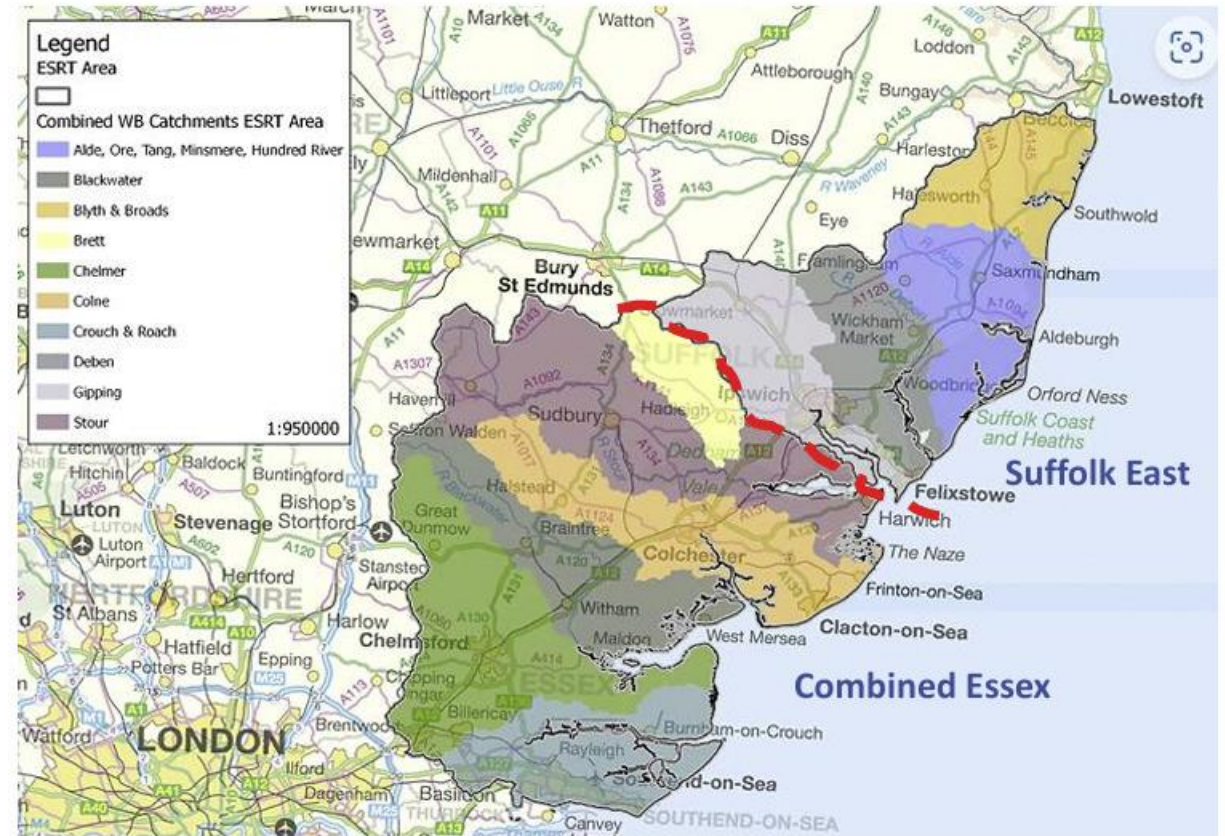
Director of the Essex and Suffolk Rivers Trust



ESRT

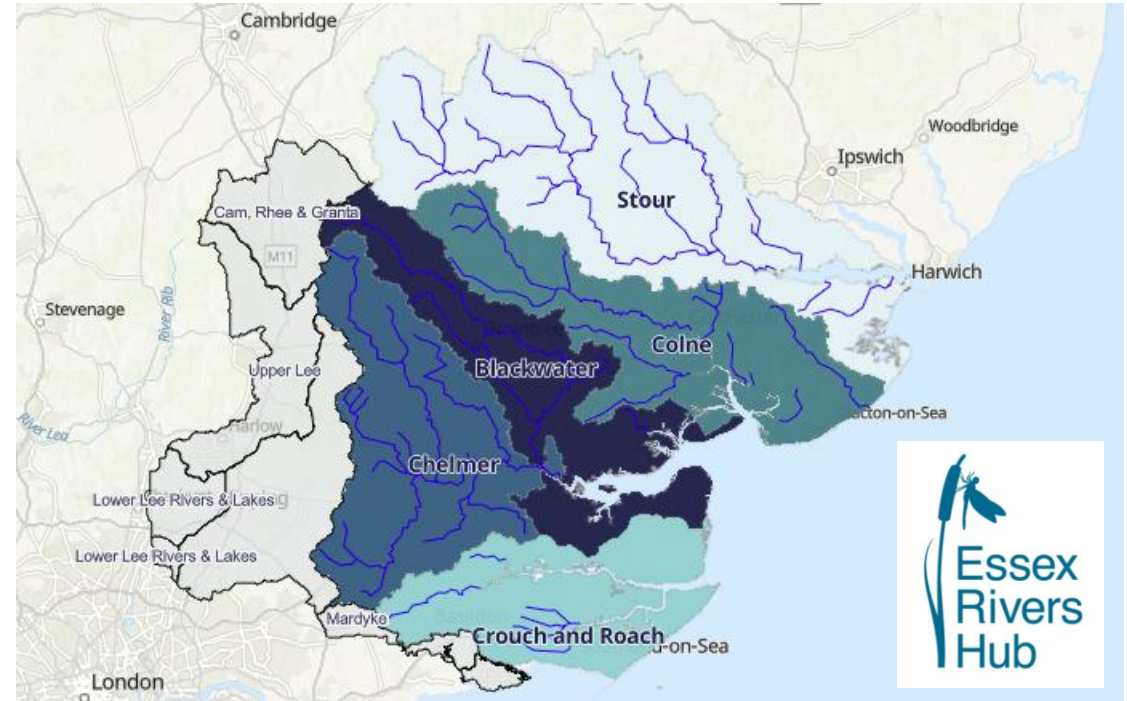
✧ Our strategy to 2030 is to work with partners and communities in four areas to:

- ✧ **Restore natural processes and habitats**
- ✧ **Protect our land and water**
- ✧ **Inspire people to get involved**
- ✧ **Build resilience for future generations.**

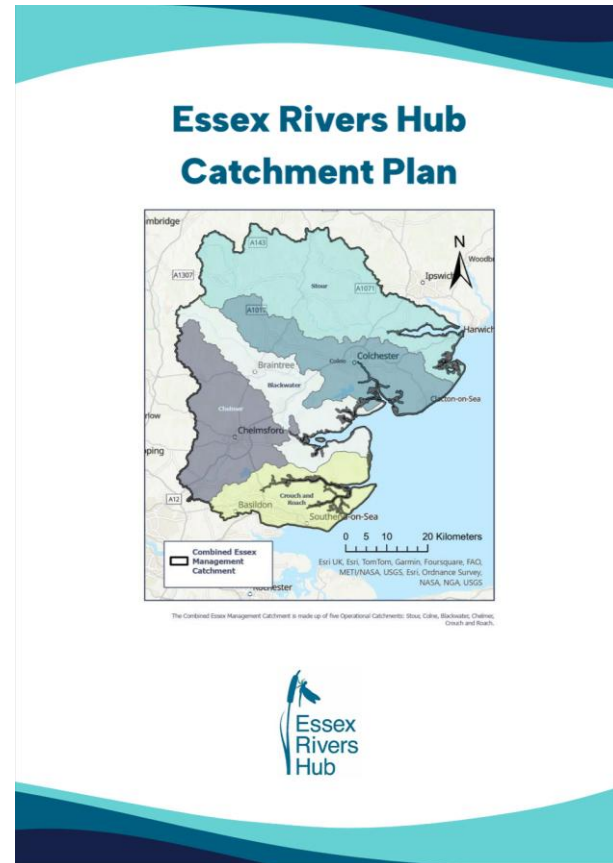


Essex Rivers Hub

✧ The ERH is part of the Catchment Based Approach (CaBA) and is hosted by ESRT and supported by the Environment Agency.



Essex Rivers Hub



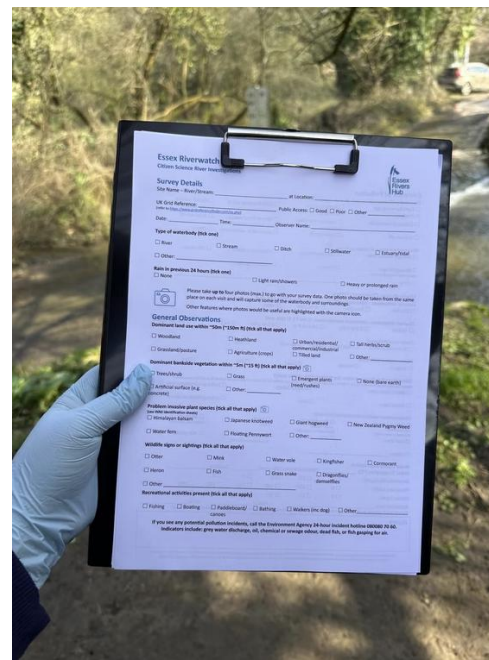
Aim 1: We will make significant progress towards achieving **good ecological status** under the Water Framework Directive

Aim 2: Raise awareness of and enhance engagement with the water environment

Aim 3: Increase resilience to **climate change**



Essex Rivers Hub



Fiddlers Hill

PARTNERS & FUNDERS

The Fiddlers Hill project was delivered in collaboration between the following partners:



**Essex & Suffolk
Rivers Trust**



**Environment
Agency**



**Essex
Wildlife Trust**



Essex County Council

Additional funding for this project has been generously provided by the following organisations:



Bluespaces



Fiddlers Hill



Before



During



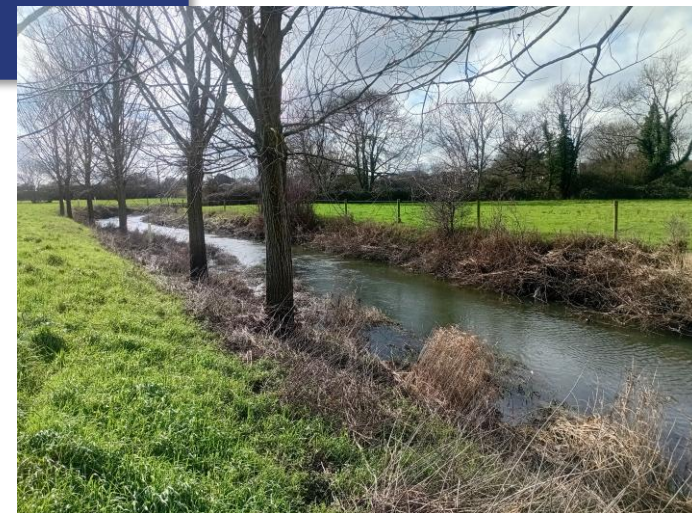
After



River Chelmer

* Since December 2025, the Project Manager is moving forward with projects that include;

- 24 new/repaired leaky dams
- 24 new scrapes covering 2.84ha, each with associated bunds/swales/floodplain management
- 7 landowners plus more in conversation



Thank you for listening

Any questions?

