Wetlands and Woodlands

Environment and Climate Action Scrutiny Panel

Tuesday 12th October 2021

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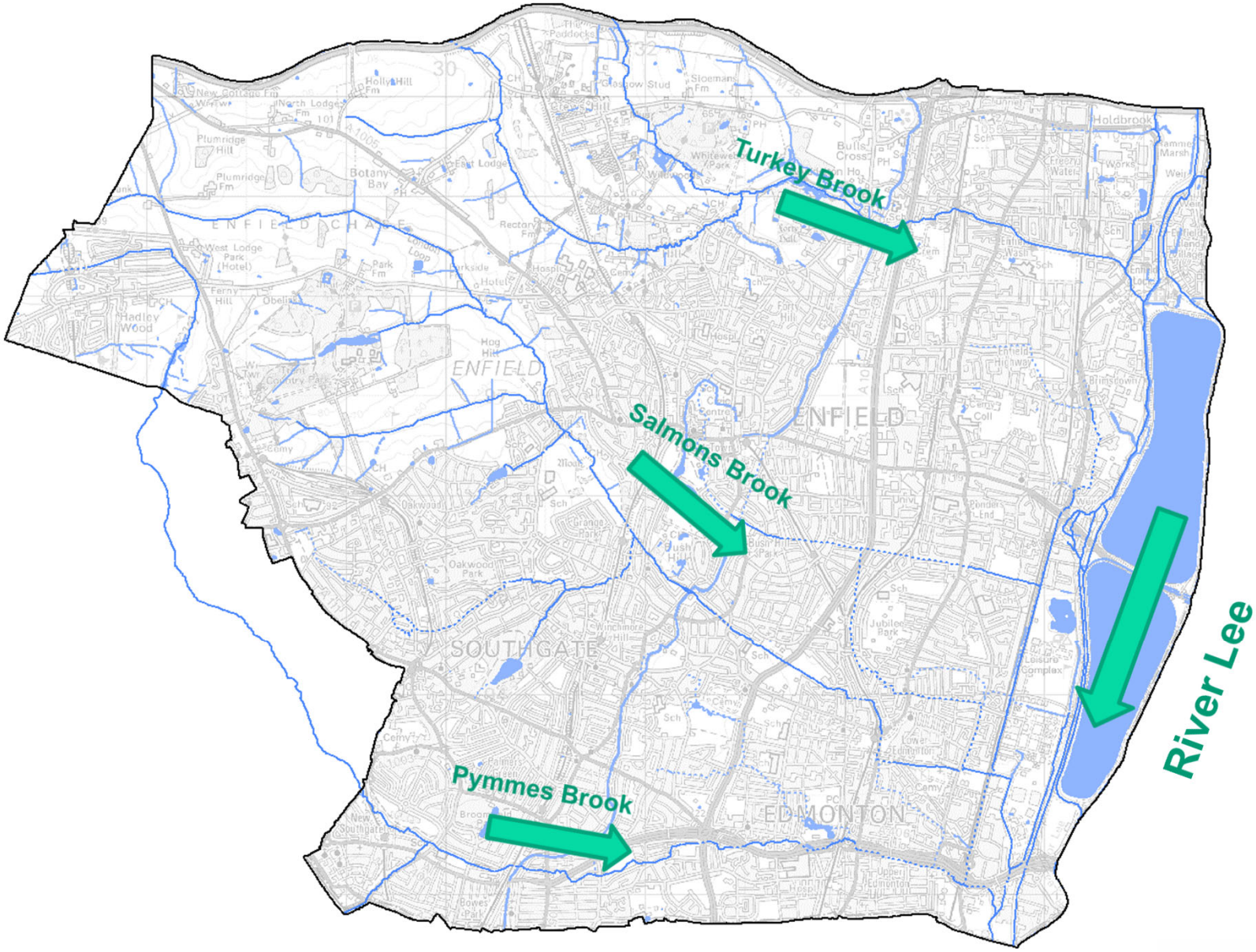

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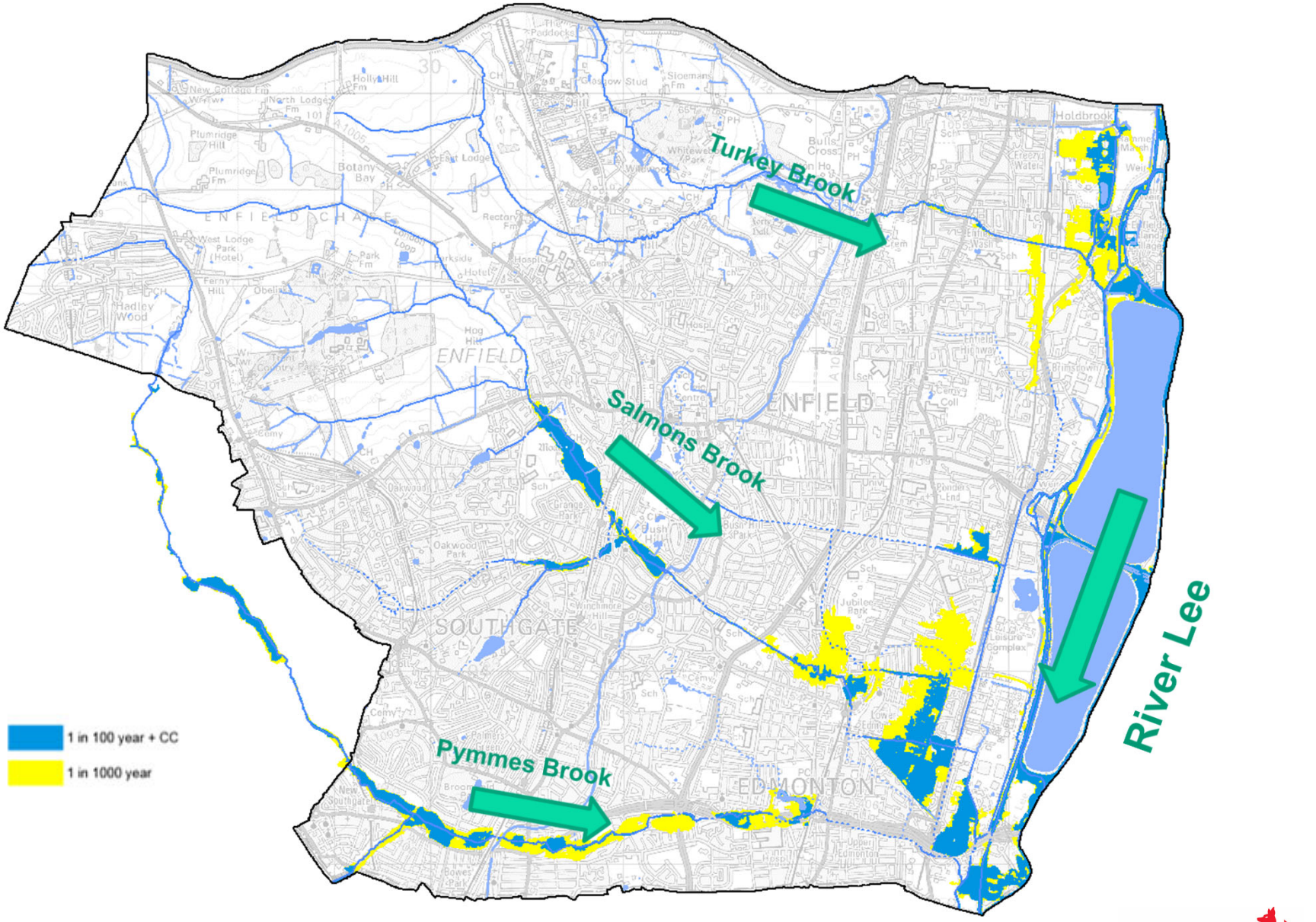

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Unintended consequences of traditional piped drainage

- **Flooding** – the increased speed and volume of surface water runoff leads to increased risk of river flooding
- **Droughts** – the reduction in water soaking naturally into the ground leads to lower baseflow in rivers, increasing the frequency and impact of droughts
- **Blockages** – piped systems are more likely to fail due to blockages or other defects as they are out of sight and difficult to maintain
- **Polluted rivers** – sediments, oils and other pollutants are washed directly into rivers and streams

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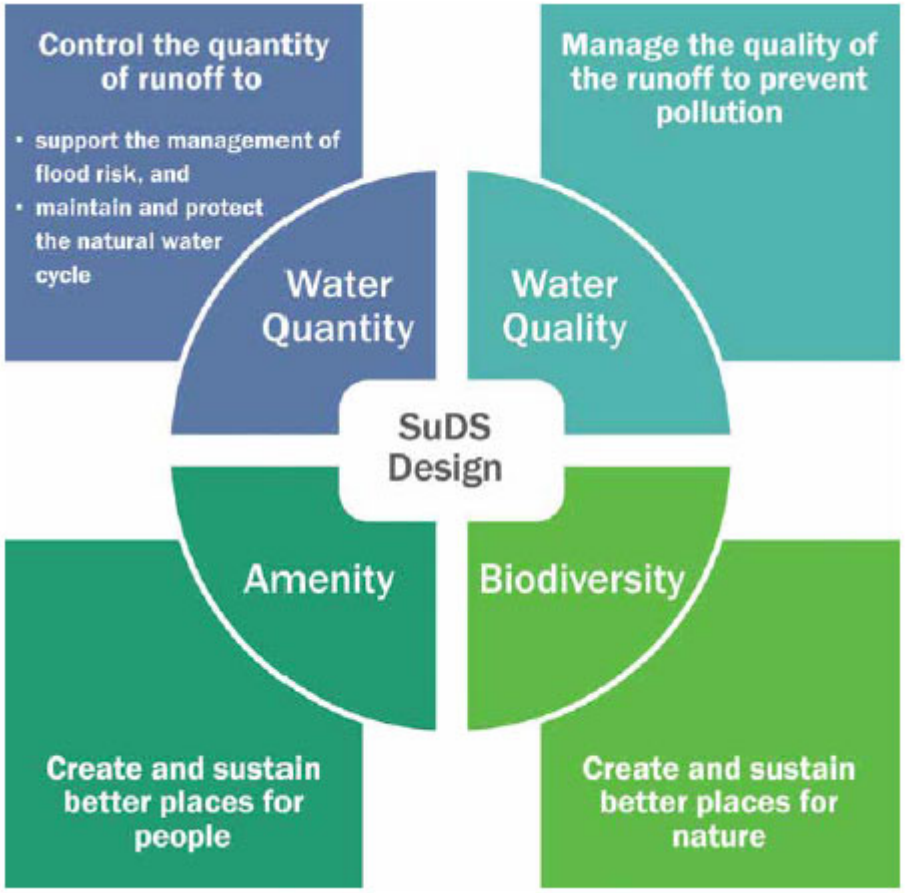
Multiple benefits of wetlands

- Flood storage
- Water quality
- Biodiversity
- Amenity



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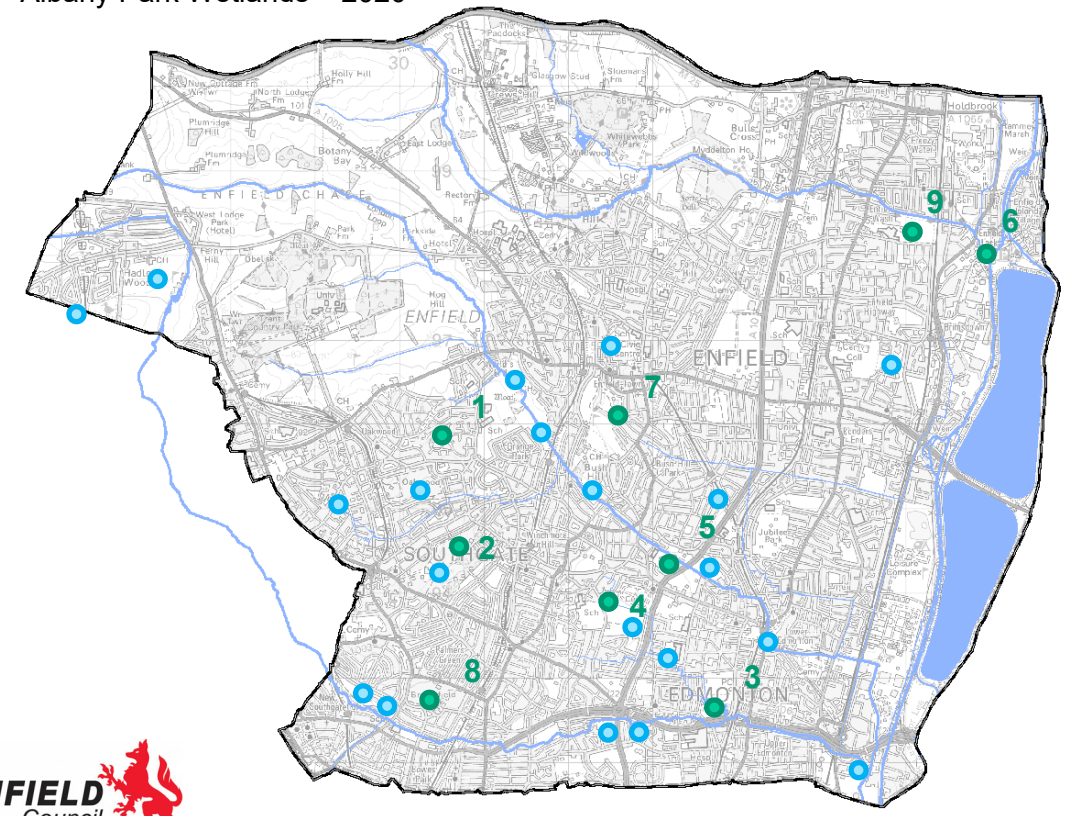
Constructed Wetlands Slow the Flow

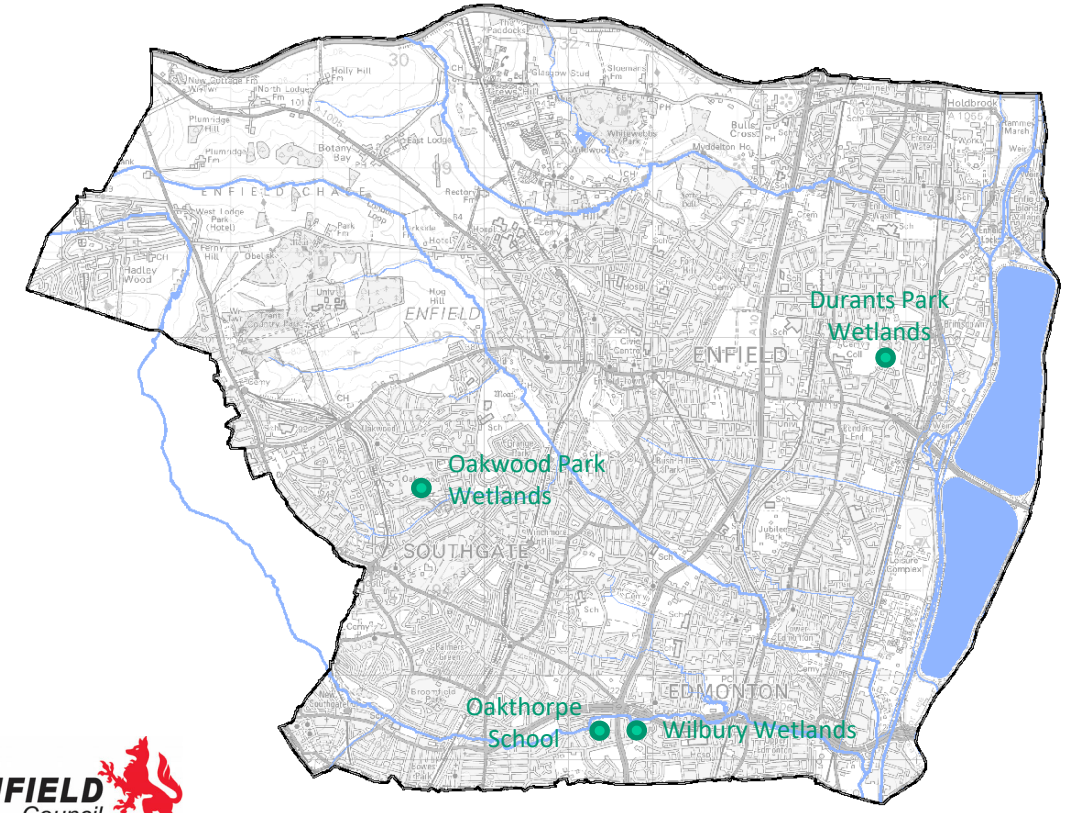
1. Glenbrook SuDS – 2014
2. Grovelands Park SuDS – 2014
3. Pymmes Park Wetlands – 2015
4. Firs Farm Wetlands – 2015
5. Bury Lodge Wetlands – 2016
6. Prince of Wales Wetlands – 2017
7. Enfield Town Wetlands – 2018
8. Broomfield Park Wetlands – 2019
9. Albany Park Wetlands – 2020

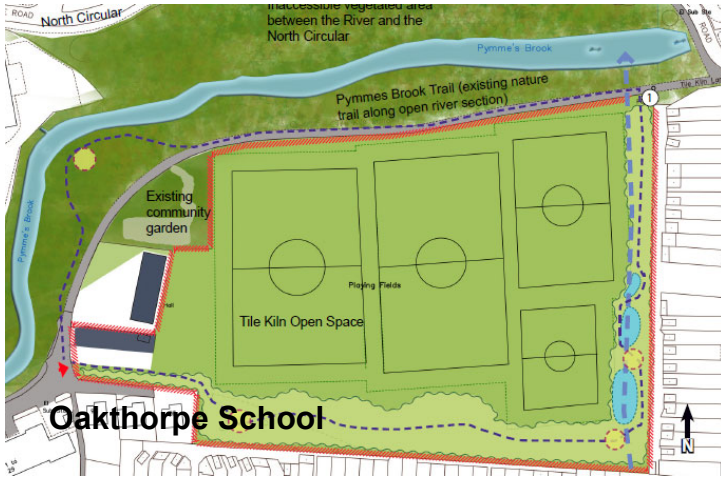


Constructed Wetlands Pipeline Projects

Funding for wetland projects has been provided by a variety of external organisations including:

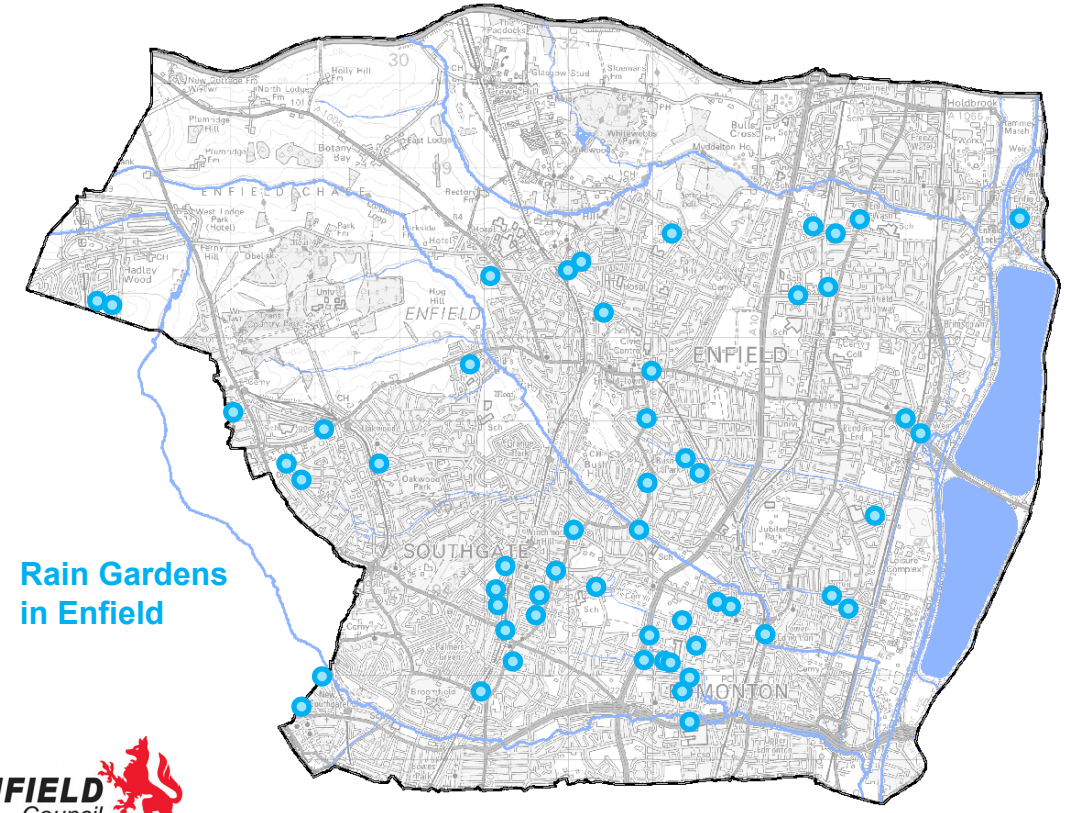
- Environment Agency
- Thames Regional Flood and Coastal Committee
- Greater London Authority
- Thames Water
- Developer contributions
- Coca-Cola Ltd





Rain Gardens Mini-wetlands

- A related programme of work has led to the creation of over 150 rain gardens across Enfield in recent years
- These measures provide similar benefits to wetlands but in an urban environment
- Although they are much smaller than wetlands, if sufficiently numerous and distributed over a wide area, they have significant potential to address flood risk and a range of other urban issues

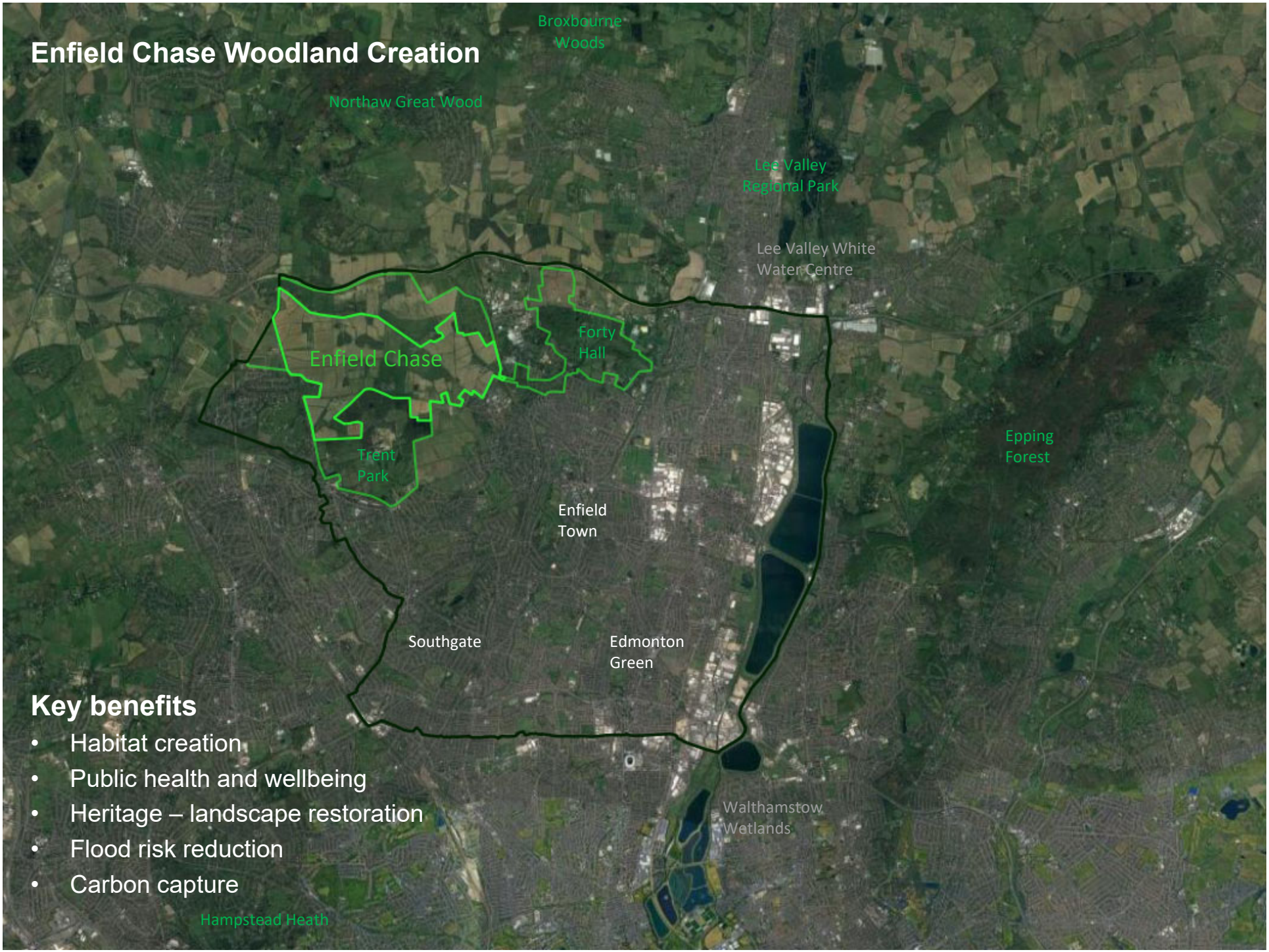


Rain Gardens in Enfield


Four Hills Housing Estate


Westerham Avenue Shops


Clay Hill


Enfield Chase Woodland Creation
Broxbourne Woods
Northaw Great Wood
Lee Valley Regional Park
Lee Valley White Water Centre
Forty Hall
Enfield Chase
Trent Park
Epping Forest
Enfield Town
Southgate
Edmonton Green
Walthamstow Wetlands
Hampstead Heath
Key benefits
• Habitat creation
• Public health and wellbeing
• Heritage – landscape restoration
• Flood risk reduction
• Carbon capture

Enfield Chase farming today

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Enfield Chase wood pasture

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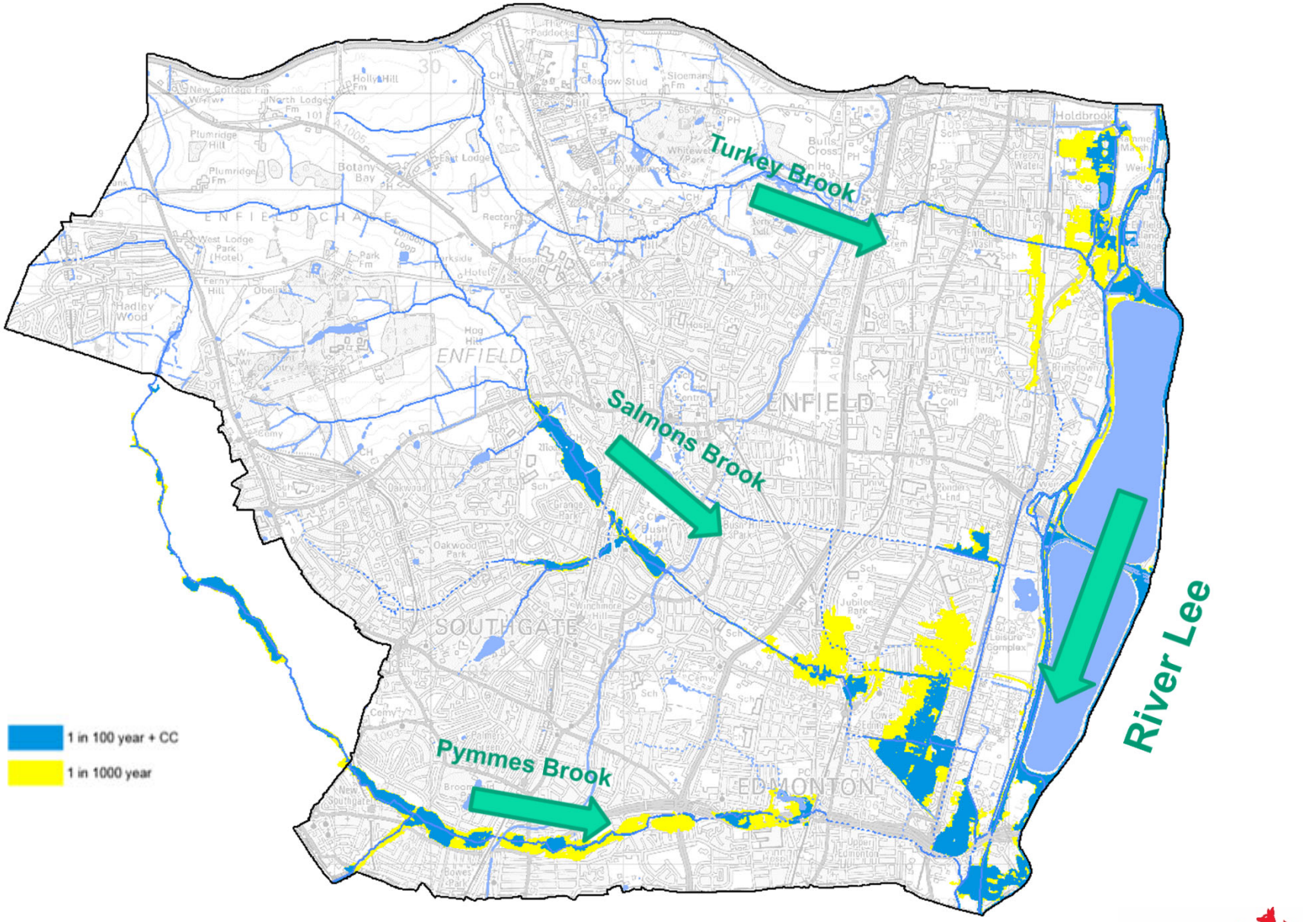

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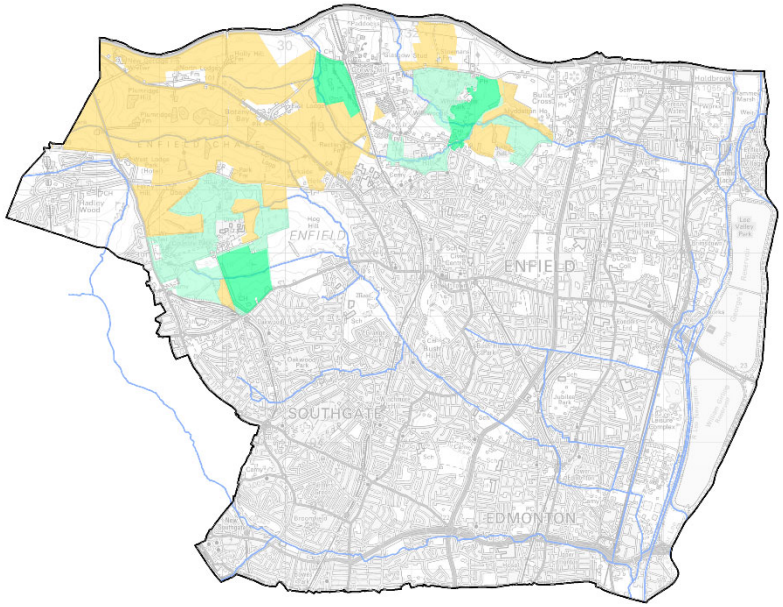
Natural Flood Management measures include:

- Ponds and wetlands
- River restoration
- Re-connecting floodplains
- Woodland creation



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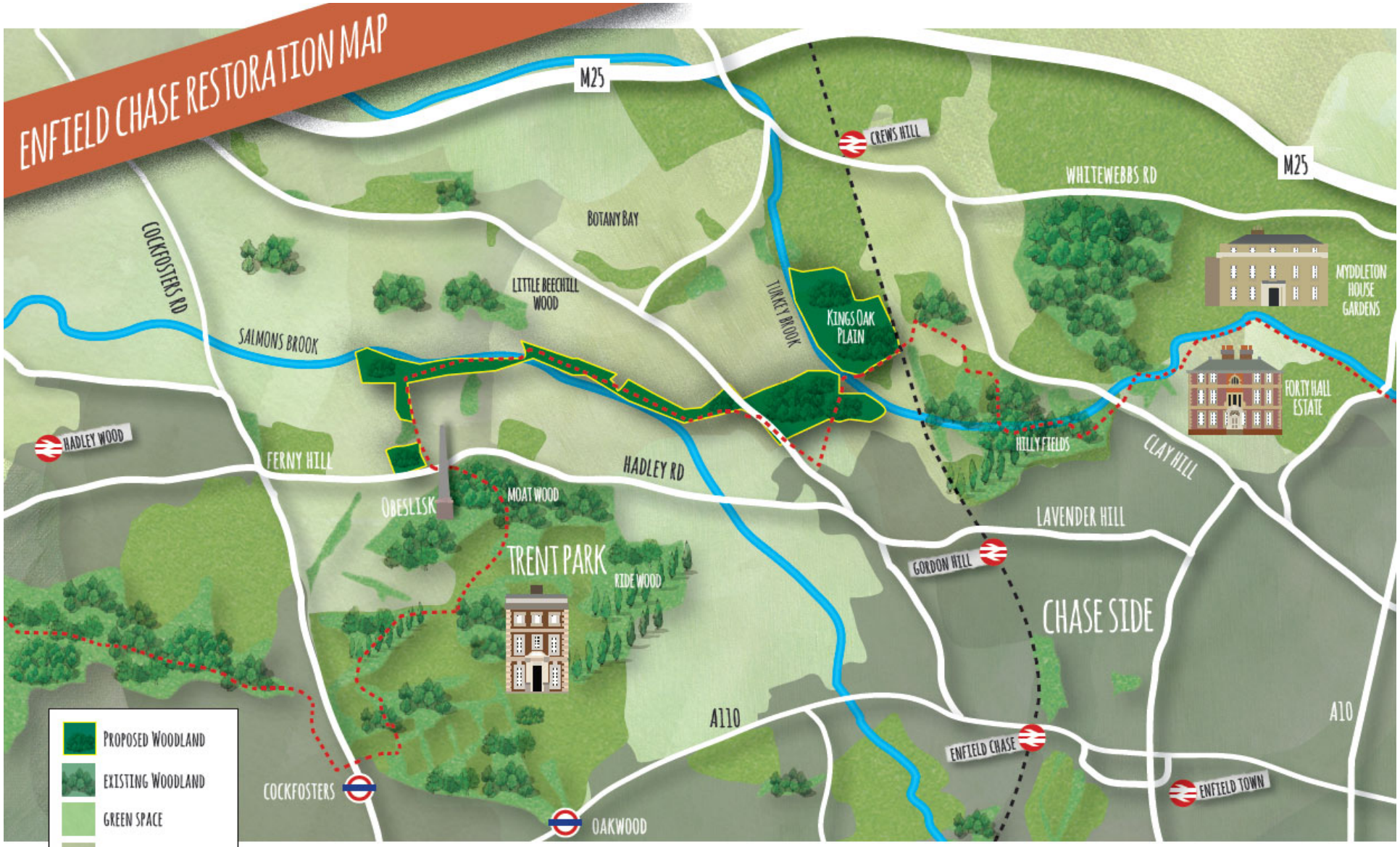


SUPPORTED BY MAYOR OF LONDON £748k

Forestry Commission £344k

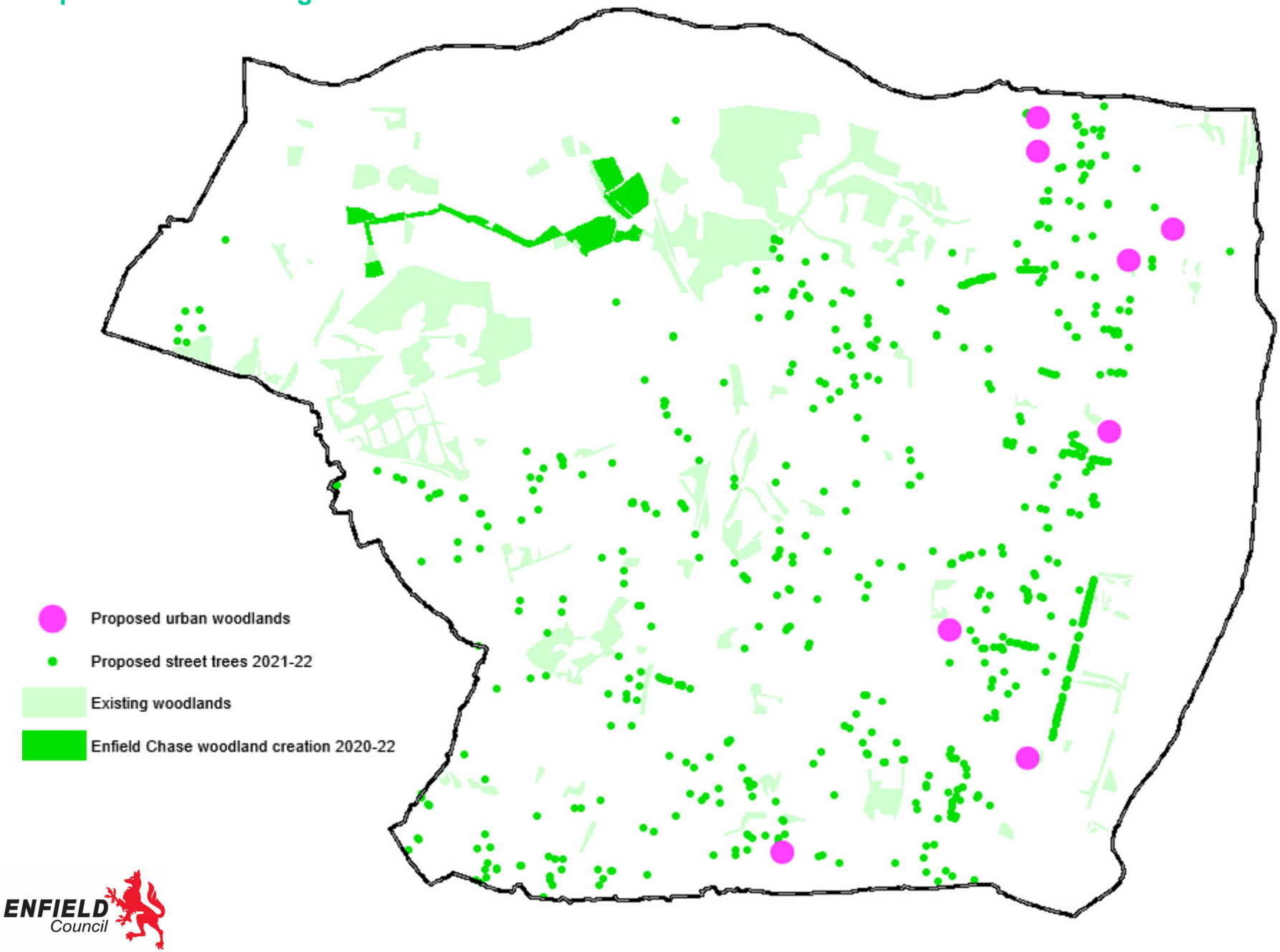
THAMES21

CLIMATE ACTION ENFIELD

ENFIELD Council £150k

£678k National Lottery Heritage Fund

Proposed Tree Planting in Enfield 2021-22



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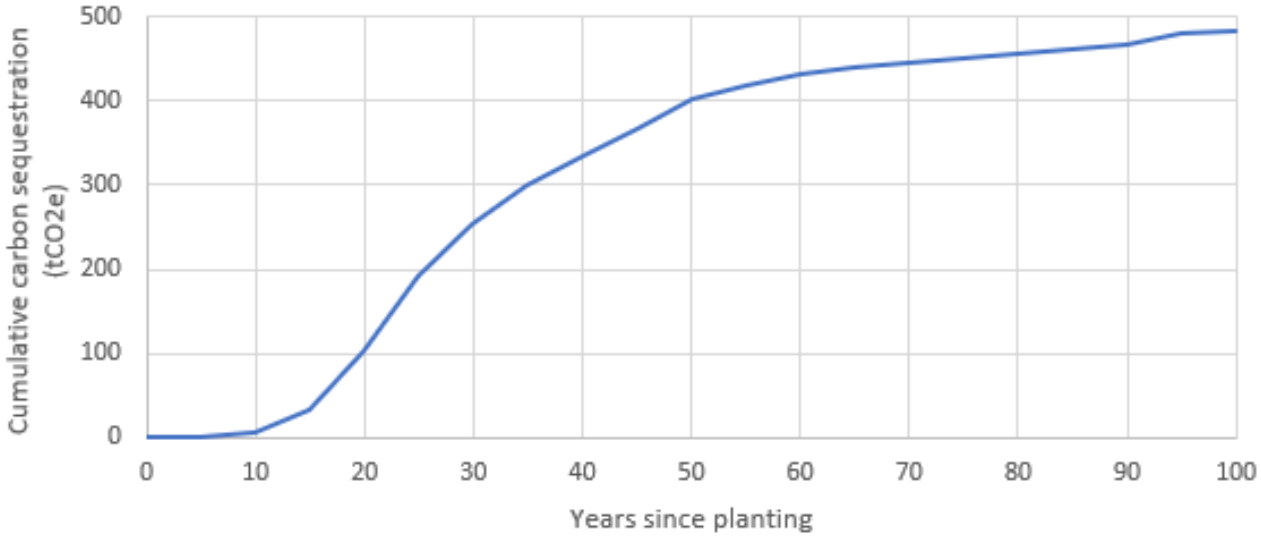
Carbon Capture

- Woodland creation, together with other forms of rewilding and landscape restoration, has significant potential to help achieve Enfield Council's aim of becoming carbon neutral by 2030
- Enfield's **Climate Action Plan** estimates by 2030, following direct action to reduce emissions, there will still be a potential gap of **585 tCO_2e** (tonnes of carbon dioxide equivalent emissions) per year between the emissions the Council continues to produce and the target of zero
- Using a conservative estimate for carbon sequestration of 3.9 tCO_2e/ha/year, estimates of carbon capture can be made for the Enfield Chase woodland creation project

Woodland Creation Targets	Year	Estimate Carbon tCO_2e/year
60 ha (current project)	2022	234
140 ha (Climate Action Plan)	2025	546
300 ha (potential if continue at current planting rate of 30 ha/year)	2030	1,170



Estimated cumulative carbon sequestration for a typical single hectare of woodland over 100 years (www.woodlandcarboncode.org.uk)

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