

# The London Strategic SuDS Pilot

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on behalf of the LSSP Steering Group



# The case for Distributed SuDS

Strategic delivery of small SuDS is an investable and sustainable approach to adapting to climate change



## Need for change



**“UK struggling to keep pace with climate change impacts”**



**Goal 2: Adapt to protect communities and natural habitats**

## Challenges to address

- Funding mechanisms
- Availability of space
- Appreciation of aggregated benefits
- Time/effort to access funds

# Project Components and Delivery Partners



**GREATER LONDON AUTHORITY**



Funding Calculator

Hydraulic Modelling

Construction

Monitoring

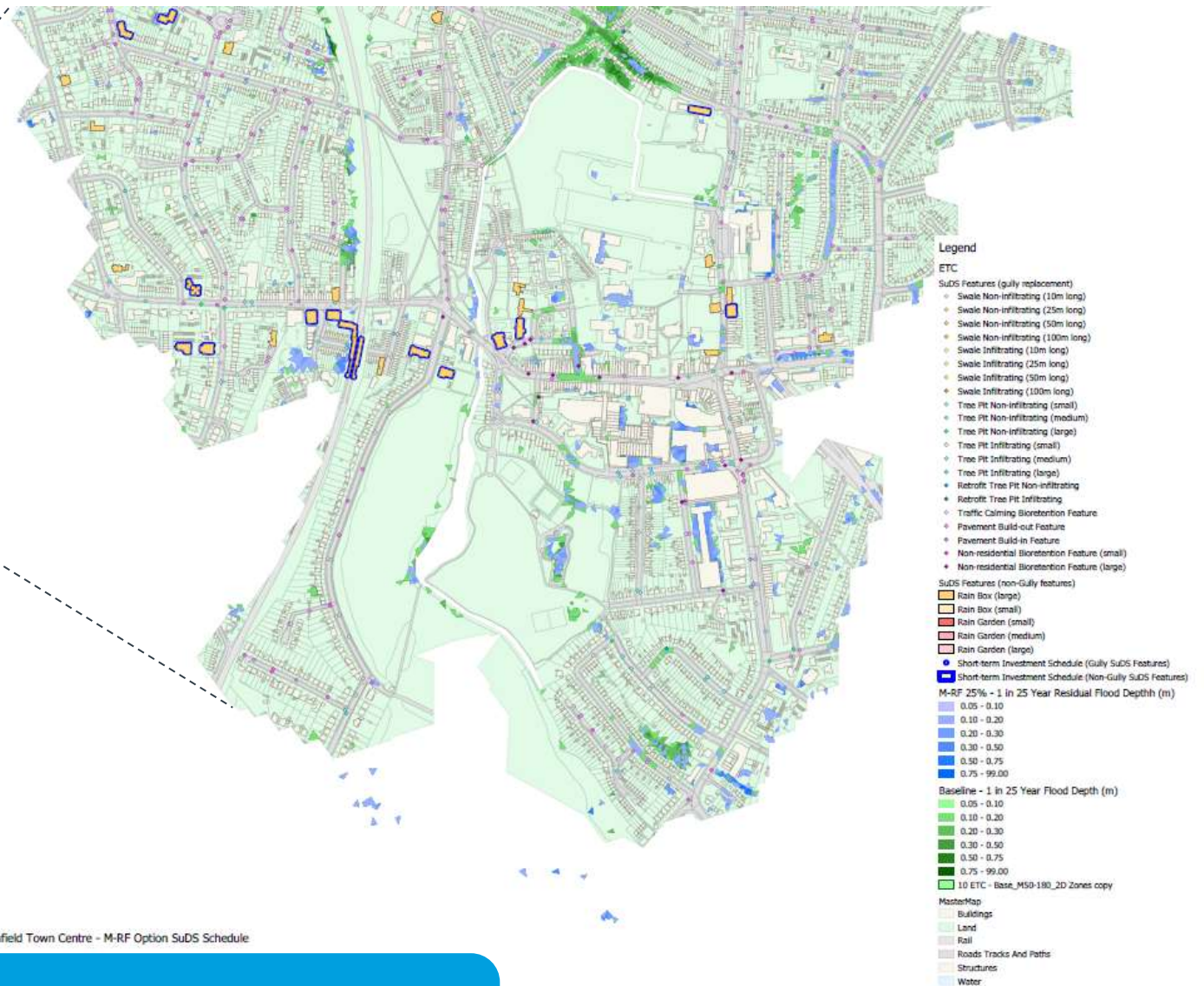
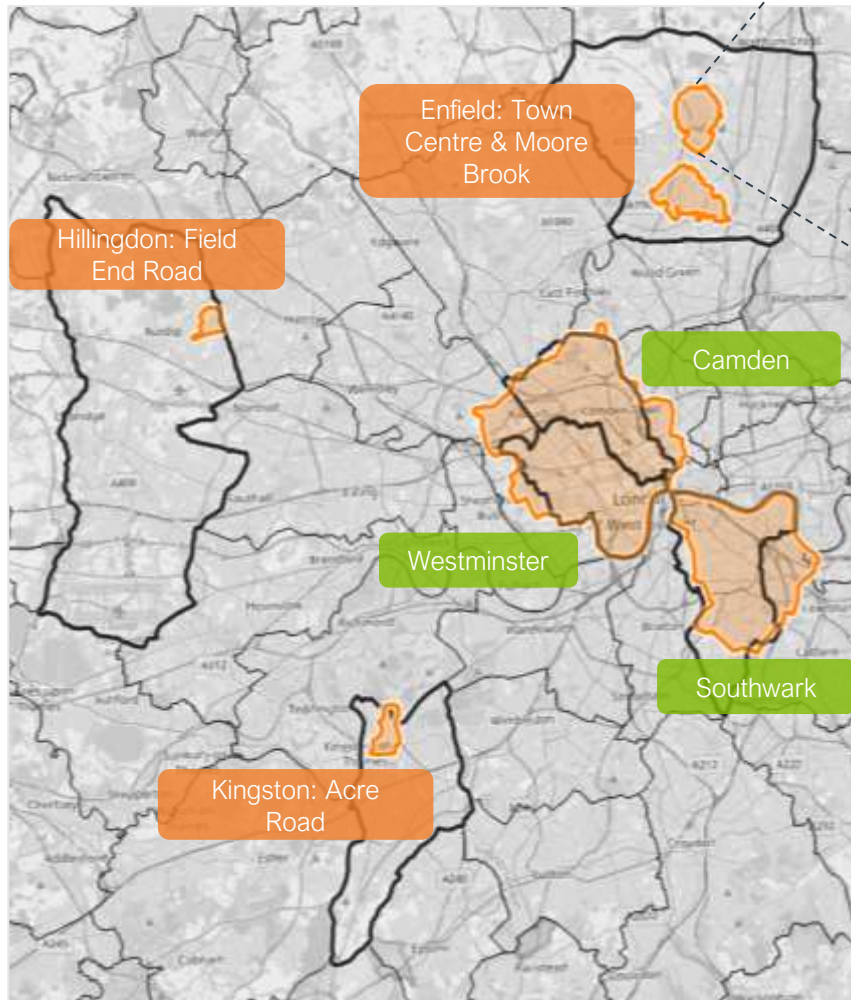
  

Delivery Pilot



# Modelling

## Preliminary Conceptual Development



Enfield Town Centre - M-RF Option SuDS Schedule

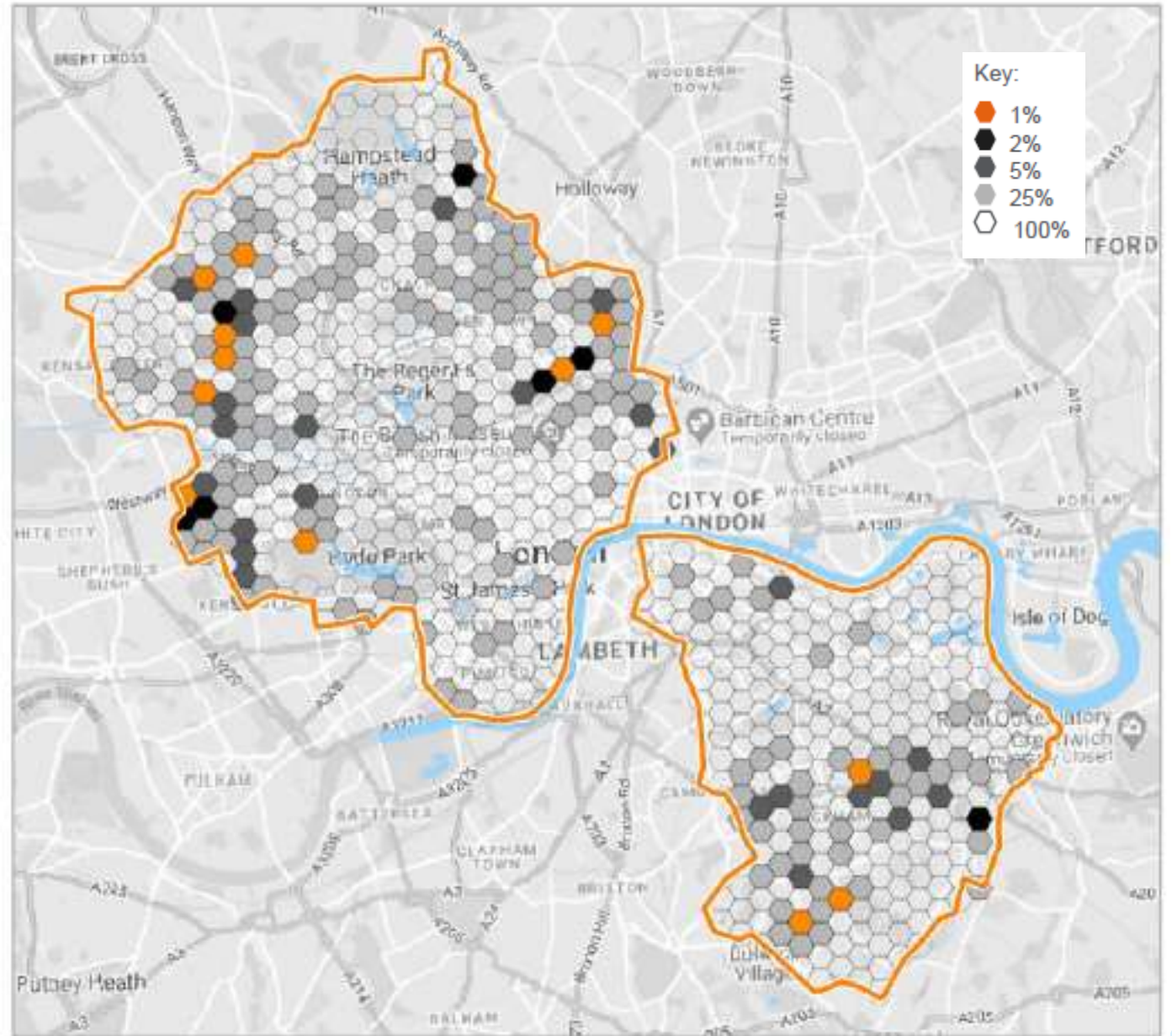
Stage 1 Modelling outputs for Enfield Town Centre



# Modelling - Stage 2

## Comprehensive Economic Valuation

- More ambitious - used sewer models and 2D ground level data
- Modified the selection of SuDS to reflect the more dense urban environment
- Optimisation carried out based on TfL hex grids (modelling >150,000 SuDS features compared to ~ 2,000 in Stage 1)
- Optimisation shows where the most significant hydraulic benefit is likely to be realised with the least investment in SuDS



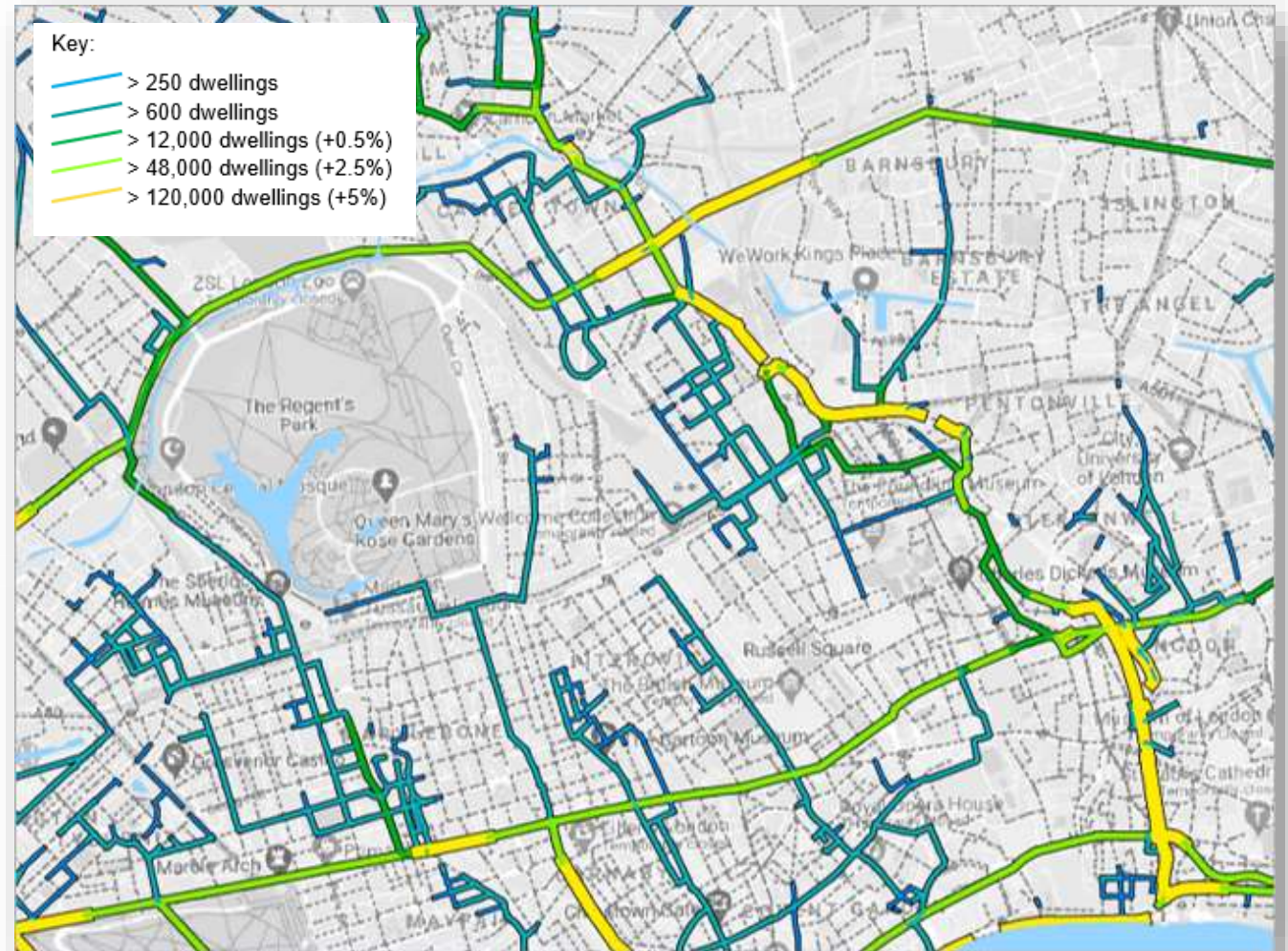
Spatial distribution of the realisation levels for the All Streetscape SuDS

# Modelling results

Opportunities for street SuDS

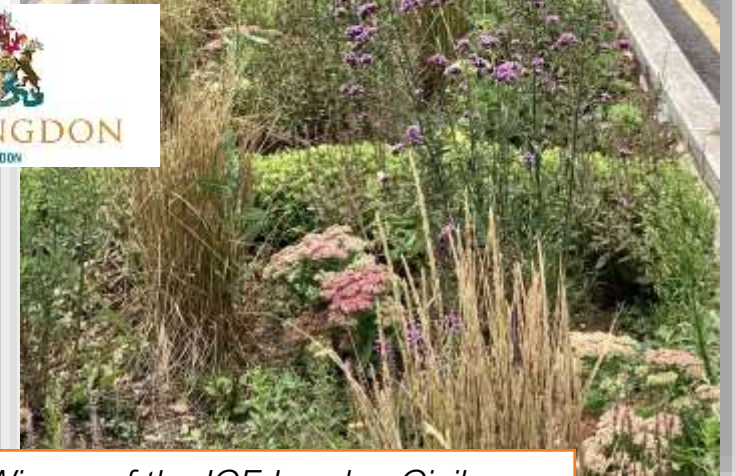


Sewer capacity



# SuDS Delivery

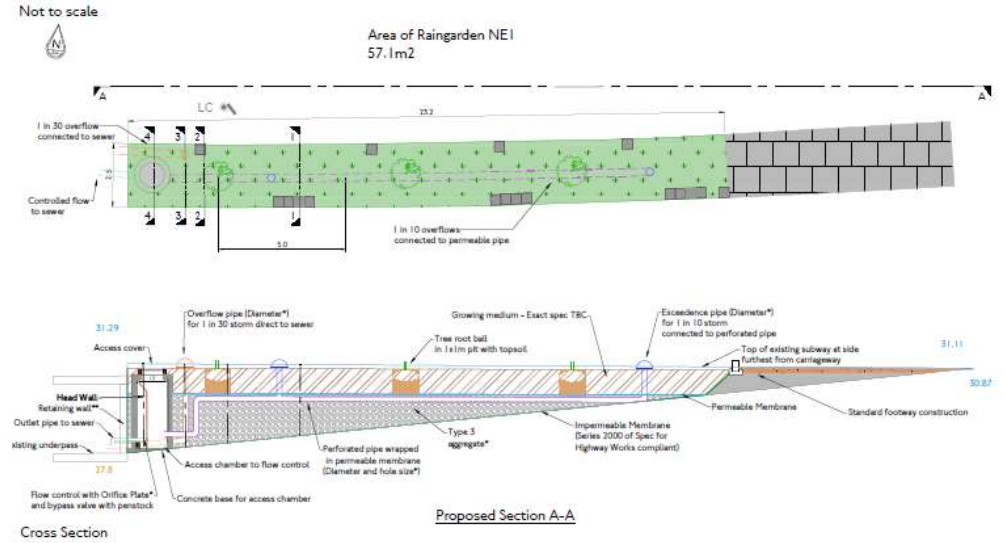
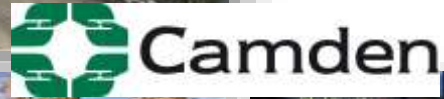
Haselbury Neighbourhood (Enfield), Field End Road (Hillingdon)



*Winner of the ICE London Civil Engineering People's Choice Award 2021*

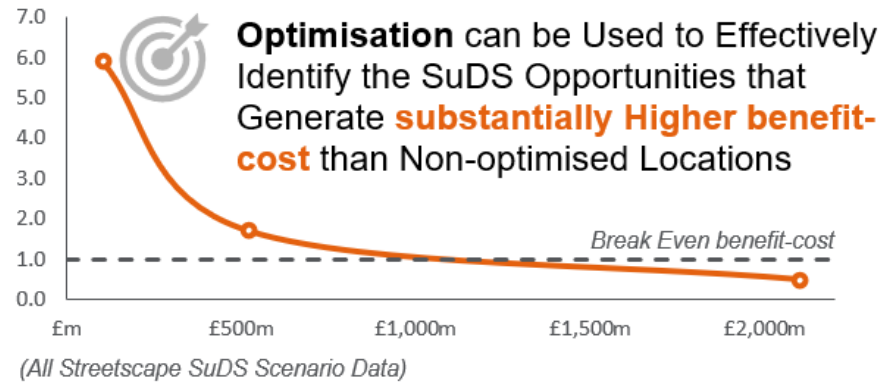
# SuDS Delivery

Camley Street (Camden) and Edgware Road (Westminster)

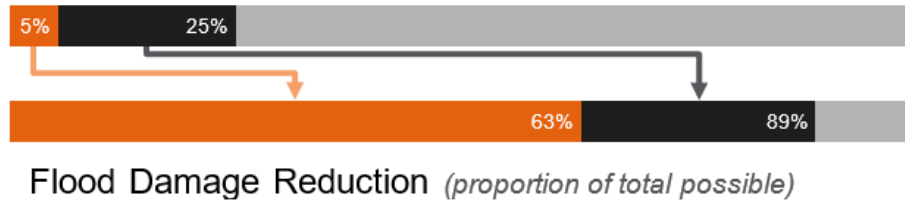




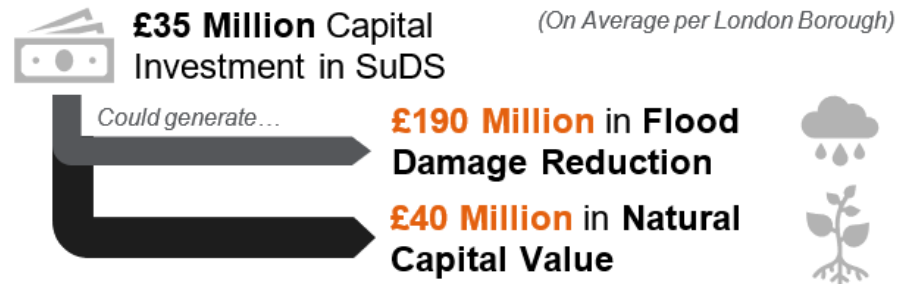
# Key Finding – Optimise Delivery



SuDS Opportunities (ordered by most effective SuDS Features)

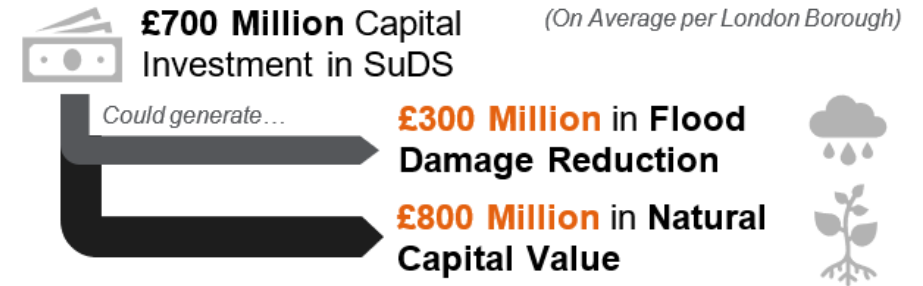


5% of Most Optimal SuDS Features Represent...



**Natural Capital Value** Increases the Benefit-Cost Ratio from **0.4 to 1.6**  
(Average of un-optimised Streetscape SuDS Scenarios)

All SuDS Opportunities (un-optimised)...



Creation of **Wastewater Network Capacity** for between **116,000 and 180,000 additional dwellings**

Requiring **Comparable or Less CAPEX** than Typical Strategies to Create the Same Capacity

(Beckton & Crossness STW Catchments)

**£3 Million** in Street Tree SuDS Improvement Could Secure **Full FCERM GiA Funding**

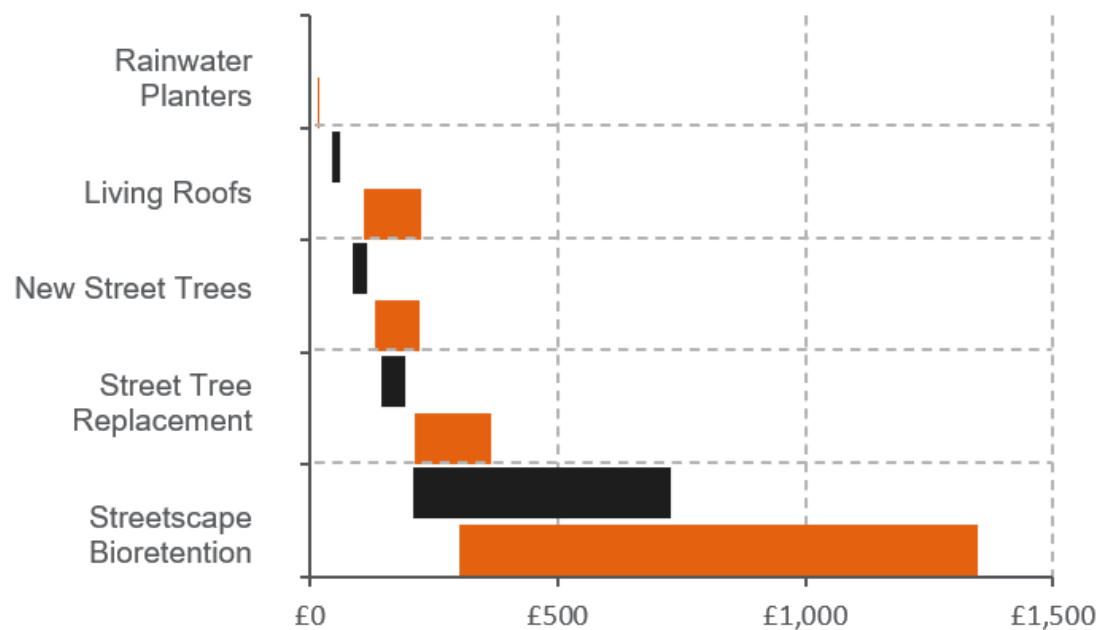
(On Average per London Borough)

Project Already Secured **£600,000** in Short-term **Local Levy Funding**

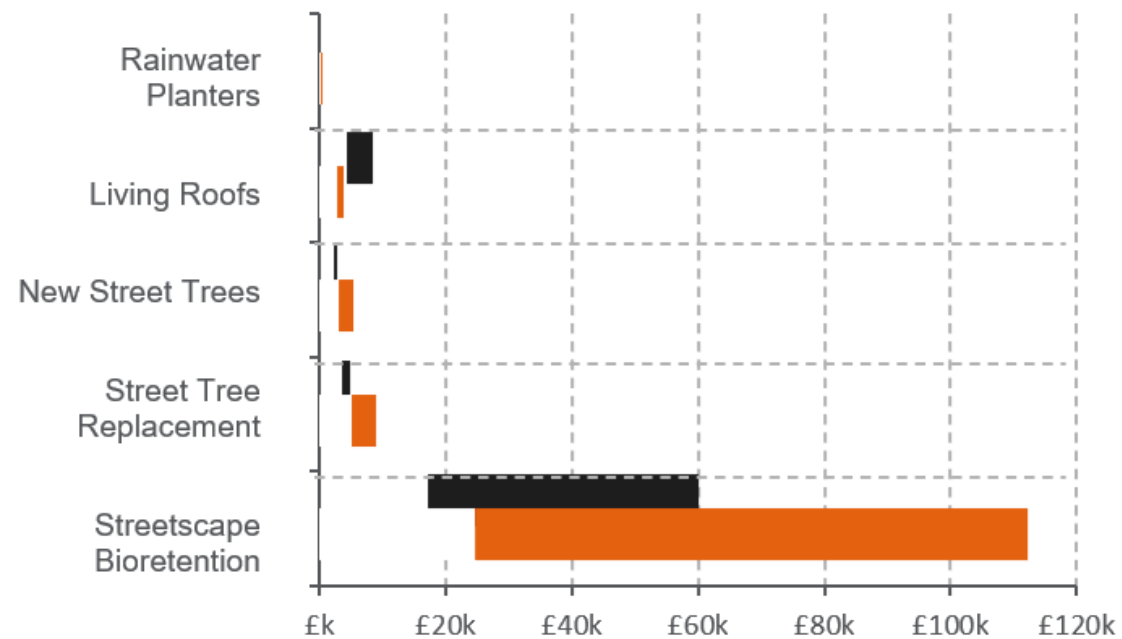
# Key Finding – Delivery needs to be Opportunistic

Integrating SuDS into other streetscape or public realm works can reduce costs and realise additional funding

*Average cost per m<sup>2</sup> of SuDS*



*Average cost per SuDS feature*



Key:

- Opportunistic Delivery Uncertainty Range
- Direct Procurement Uncertainty Range

# Monitoring

- Support the business case for Dispersed SuDS
- Lead by research team from University of East London (UEL) and Thames21
- A physical science and social science monitoring plan
- Evaluate the impact of a wide range of benefits
- Plug knowledge gaps

## Be part of our research

Are you involved in the planning, delivery, and/or stewardship of SuDS or Green Infrastructure?

Take part in our short online survey

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Sign up to read our regular email newsletters

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## Green spaces aren't just for nature – they boost our mental health too

We're beginning to understand just how vital access to natural space is for our mental well-being – with implications for how we design cities worldwide



**ENVIRONMENT** 24 March 2021

**ofwat**

**C-MeX**

C-MeX is the customer measure of experience. It looks at residential customers' satisfaction with their water company

# Recognition

Winner of the Surface Water Management Category at Flood and Coast Excellence Awards 2021



# What next

1. SuDS monitoring research project ongoing
2. Formation of a SuDS Working Group in the Thames RFCC
3. SuDS Delivery Pilot commenced in 2021
4. Extend beyond London
5. Thames RFCC have allocated an additional £1m of levy funding LLFA's can apply for

Study report available on the  
Susdrain website

<https://www.susdrain.org/resources/evidence.html>



Thank You