

# THE WATER HUB

Driving innovation and practical application in the water sector

\\ Innovation Challenge:

## Community scale blue green infrastructure

### WHAT IS THE BUSINESS CHALLENGE?

Community engagement and retro-fitting of cost effective solutions to attenuate rain and surface water at the street and individual house scale in South Moor, County Durham

### CONTEXT

#### NEED:

- Blue-green infrastructure aims to recreate the natural water cycle while contributing to the amenity of an area by bringing water management and green infrastructure together. Finding cost effective solutions to reduce the volume of water entering surface water drains (by increasing infiltration, surface storage and attenuation) remains a key challenge through which there is an opportunity to trial innovative blue-green infrastructure.
- Despite many successful UK schemes being successfully delivered a lack of knowledge, awareness, evidence are key barriers to gaining wider support from local authorities, public and funders. There is a need and opportunity to make use of new monitoring technologies to assess the performance and ongoing maintenance of these schemes to establish exemplar 'demonstration' sites.
- Many schemes are delivered at a community scale and provide an opportunity to realise a wide range of other social and environmental benefits. However there remains a real need to better involve and engage communities in the co-design and adoption of these initiatives for them to be sustainable. Making better use of digital and communication technologies offer a real opportunity to address this need.

### INSIGHT:

- More can be done to improve education and awareness among local communities, council and funders about the benefits associated with blue-green infrastructure schemes. Partnership working is fundamental to change the mind-set required. Over the past 5 years a range of partners have been working together to deliver housing energy efficiency and community regeneration schemes across the South Moor area, in close collaboration with the local Greening Twizell Partnership. This work is on-going and recent funding secured provides an exciting opportunity to trial new products to monitor performance of the scheme and communicate data differently to local audiences.
- The housing regeneration work at South Moor is part of a wider 'place-based' investment which also offer the opportunity to access new data sets and opportunities to develop novel products and processes associated with domestic water and energy efficiency and surface water drainage.

### WHAT ARE THE DESIRED BUSINESS OUTCOMES?

- Establish South Moor as an exemplar site for delivering and assessing the benefits of community scale blue-green infrastructure, which includes:
  - Making best use of new and cost-effective monitoring technologies to assess the performance and ongoing maintenance of any schemes and provide evidence to justify further investment;
  - Involve and engage communities in the co-design to aid adoption, awareness and education of these initiatives through the use of up to date digital and communications technologies;

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## WHAT IS BEING DONE ALREADY TO TACKLE THIS CHALLENGE AND IS IT WORKING?

- As part of the housing regeneration work at South Moor work has recently been completed to deliver a first phase of SuDS to attenuate surface water flows on 1 of 3 target streets in the area. This work has involved a range of partners, including detailed engagement with local residents, though no monitoring is being undertaken.
- Funding is available to undertake the next phase of works on an adjacent street which requires respondents to adopt a collaborative and community centred design approach, engaging with local residents to design and deliver SuDS tree and rear yard infrastructure scheme to attenuate surface water run-off from the South Moor terraces; and install a cost-effective monitoring system that can be applied across all 3 streets to quantify the performance of the scheme.
- The area provides a unique opportunity to combine in one place innovations and ideas for the application of new technologies (such as smart and digital technologies) in water use and efficiency, domestic energy reduction, and community engagement.
- This initial opportunity at South Moor will be enhanced and developed as new funding is generated through the partnership for further water and based energy infrastructure and improvements.

## WHAT STANDS IN THE WAY OF GETTING TO THESE OUTCOMES?

- Reluctance to invest in blue-green infrastructure due to a 'perceived' lack of evidence, knowledge and awareness to support new technologies and approaches among local authorities, statutory bodies and the public. This specifically includes a lack of monitoring and evaluation of schemes after construction has finished, to demonstrate the continued accrual of benefits (hydrological and social).
- Lack of partnership working and need for inclusion of partners not typically involved in surface water management design and discussions.
- Need for improved community engagement and co-design for community led schemes.

## CHALLENGE SPONSOR

- Durham County Council / Environment Agency £50k for a design and delivery contract. Tender documents currently being prepared and expected to go to market on 30th October with deadline for receipt of tender on 27th November 2017. Full tender documents and specification will be made available to any interested parties.