

Promoting Green and Blue Infrastructure in the built environment

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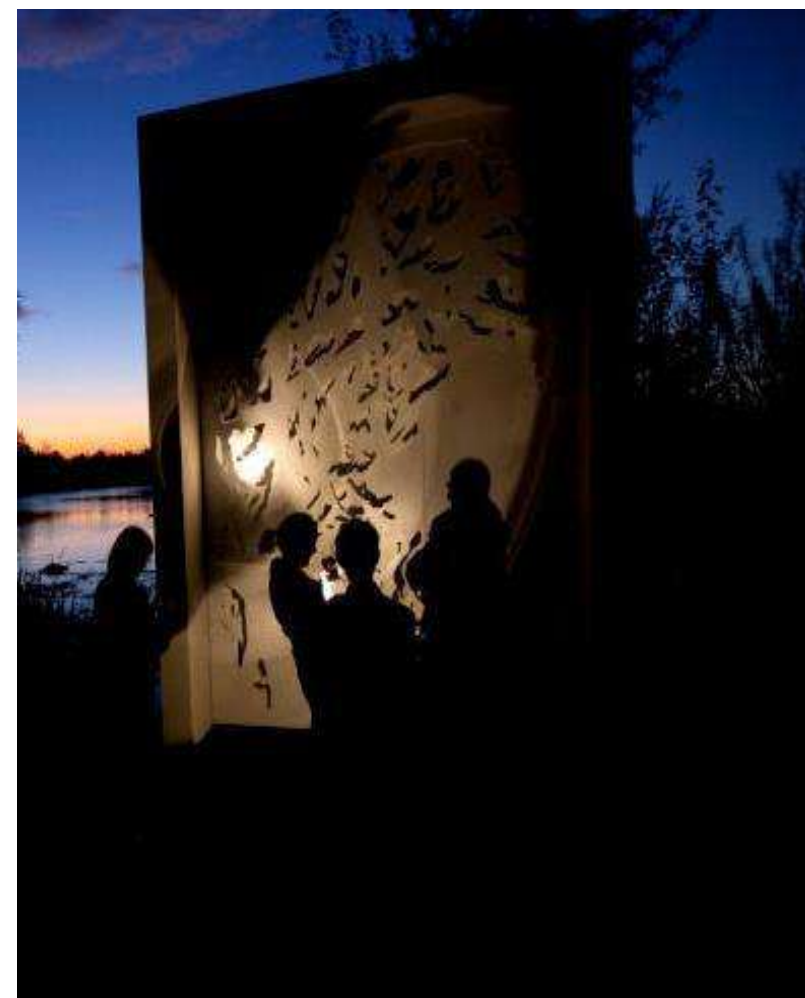
An aerial photograph of a city at sunset. The sky is filled with orange and yellow clouds, and the city lights are visible in the distance.An aerial photograph of a golf course. The green grass and sand traps are clearly visible, and the surrounding landscape is lush and green.

WHO WE ARE

An aerial photograph of a residential development. The houses are arranged in a curved pattern, and there are green spaces and water features integrated into the design.

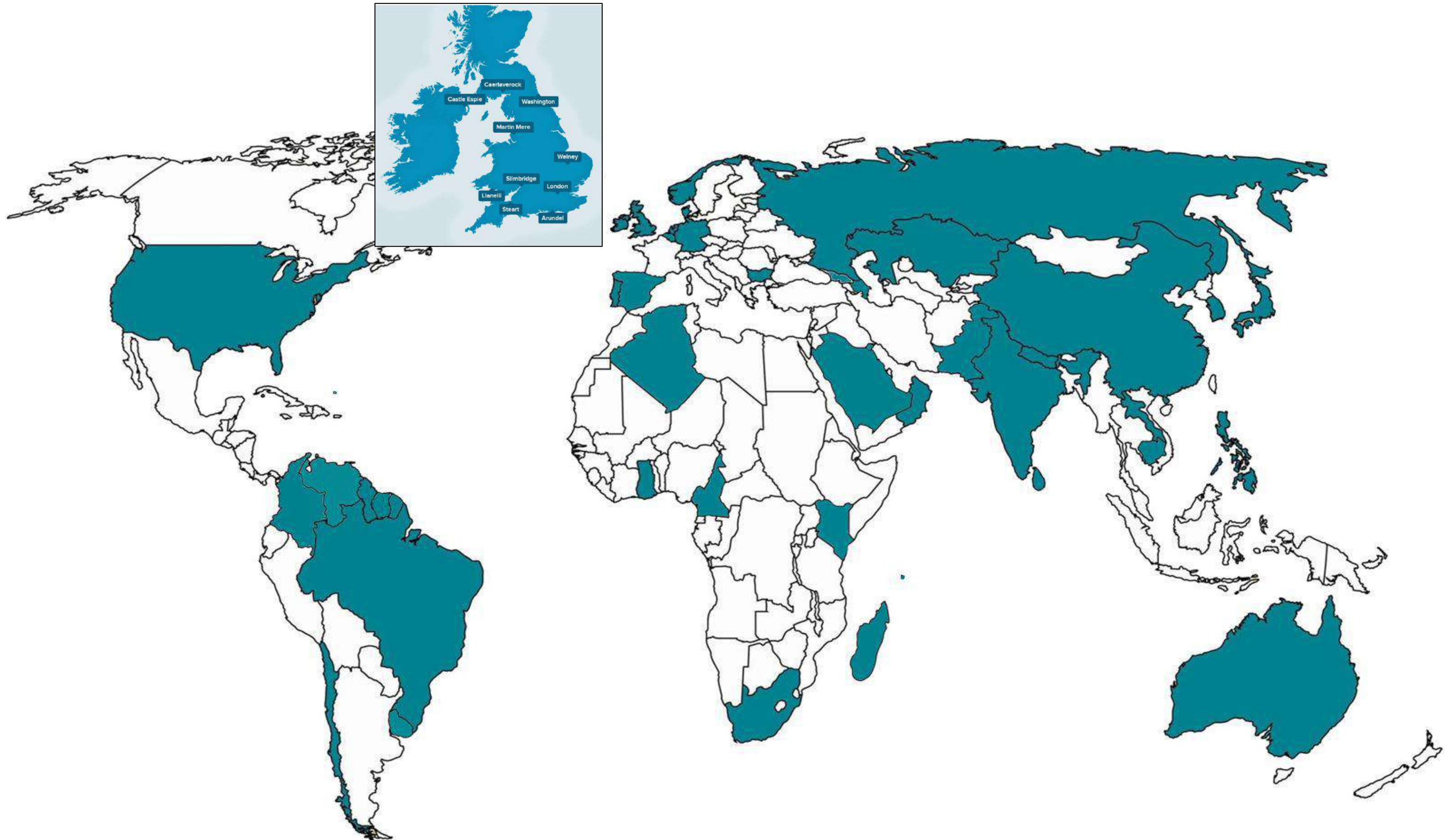
WILDFOWL & WETLANDS TRUST (WWT)

“A world where healthy wetland nature thrives & enriches lives”



WWT – 10 UK VISITOR CENTRES AND RESERVES

WWT CONSULTING – UK & INTERNATIONAL PROJECTS



Ecological Surveys and Assessments



Visitor Centre Planning and Design



Habitat Design and Management



Wetland Treatment Systems



An aerial photograph of a city at sunset. The sky is filled with orange and yellow clouds, and the sun is low on the horizon, casting a warm glow over the city. The city is densely packed with buildings and green spaces, with a river or canal winding through it.

STARTING ON OUR DOORSTEP

An aerial photograph of a golf course and a residential development. The golf course is green and well-maintained, with several sand traps and water features. The residential development is a large, modern housing estate with many houses and a winding road. The houses are built on a hillside, and the overall scene is one of a well-planned and developed area.

Engagement and spreading the word

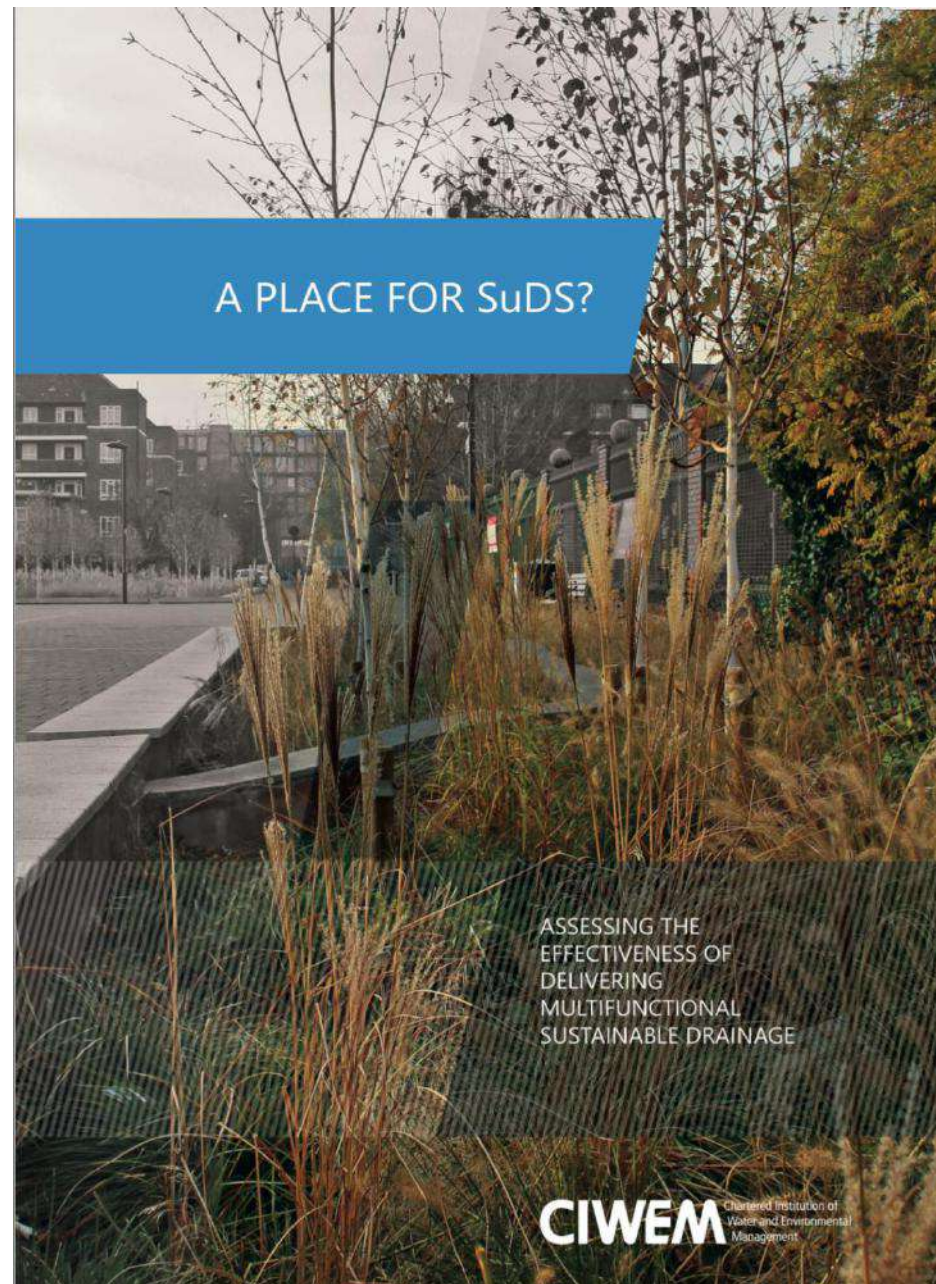
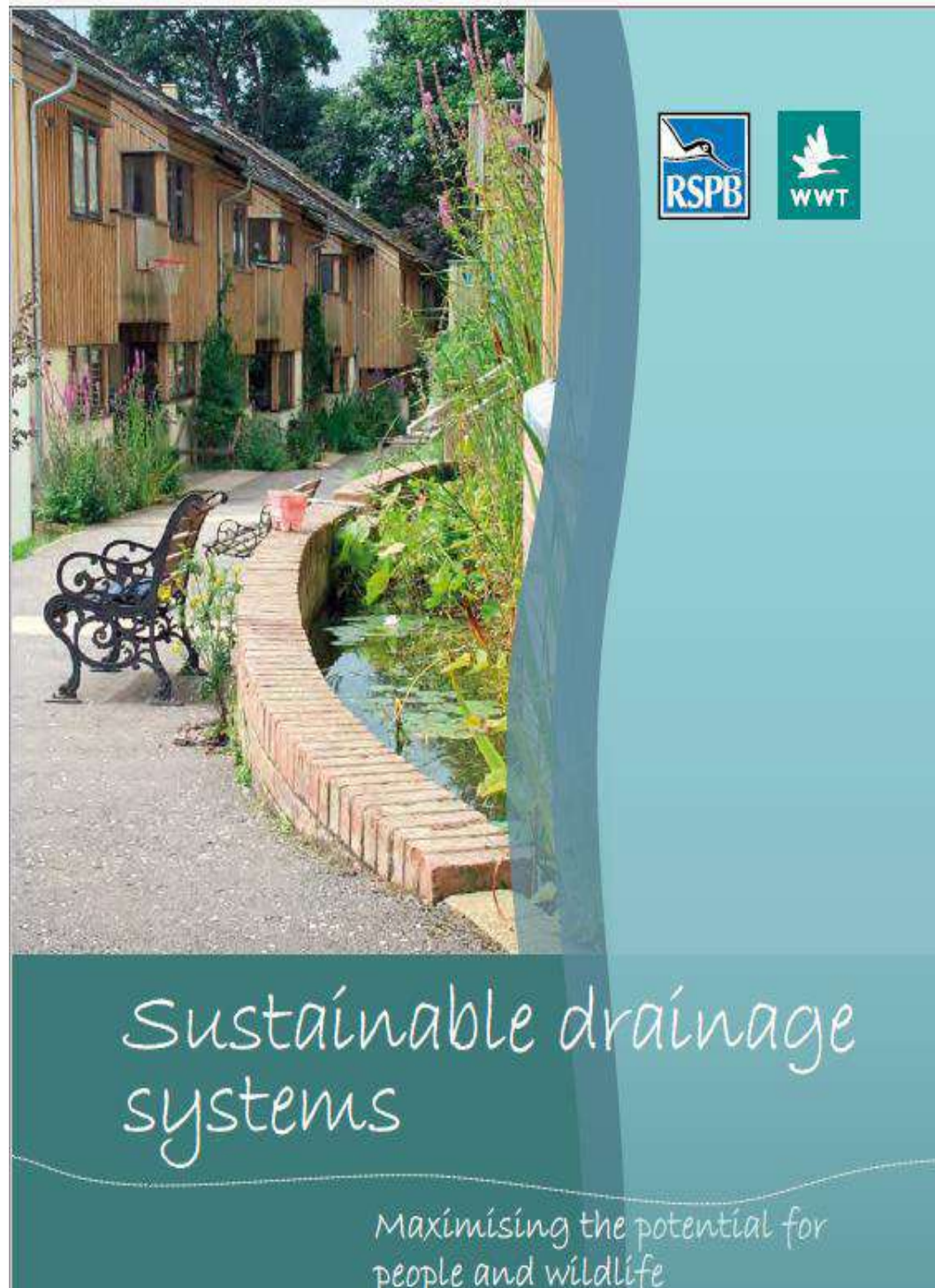
Starting on our doorstep

- Daily audience of visitors and professionals
- Opportunities for demonstration projects on site
- Resources for research and development
- Combine with educational leaflets for visitors to the centre
- Develop a set of scalable solutions from individuals to commercial properties
- Encourage the general public to implement some of the ideas at home



Engagement and spreading the word

Starting on our doorstep



Innovative developers
Conservation organisations



Landscape Partnership Schemes

Engagement and spreading the word

Health and wellbeing study at the London Wetland Centre

Pilot experiment – are there measurable H & W impacts of LWC visits?



Psychological

Physiological

Cognitive



VALUING
NATURE
PROGRAMME

Imperial College
London

An aerial photograph of a city at sunset. The sky is filled with orange and yellow clouds, and the city lights are visible in the distance. A river or canal winds through the city.

WORKING WITH DEVELOPERS

An aerial photograph of a golf course and a residential development. The golf course is green and has several ponds. The residential development consists of many houses with blue roofs, arranged in a curved pattern along a road.

Engagement and spreading the word

Working with developers

- Early involvement at the master-planning stage
- Support through the planning process
- Integrated design approach, working with other disciplines
- Stakeholder engagement
- Working with current legislation and planning for future proofing
- Developing schemes that are adoptable by the local community and authorities
- Scalable options for budget, style and location of properties within the scheme
- Useable public spaces
- Promote GI as an asset to any scheme



An aerial photograph of a city at sunset. The sky is filled with orange and yellow clouds, and the city lights are visible in the distance. A river or canal flows through the city.

WORKING WITH COMMUNITIES

An aerial photograph of a golf course and a residential development. The golf course is green and has several ponds. The residential development consists of many houses with blue roofs, arranged in a curved pattern along a road.

Engagement and spreading the word

Working with communities

- Education and awareness raising
- Creating a sense of ownership
- Public buy-in to any new scheme
- Promoting health and quality of life benefits
- Enhancing under utilized public spaces and 'waste land'
- Creating safe spaces in the urban environment
- Working with schools and community groups



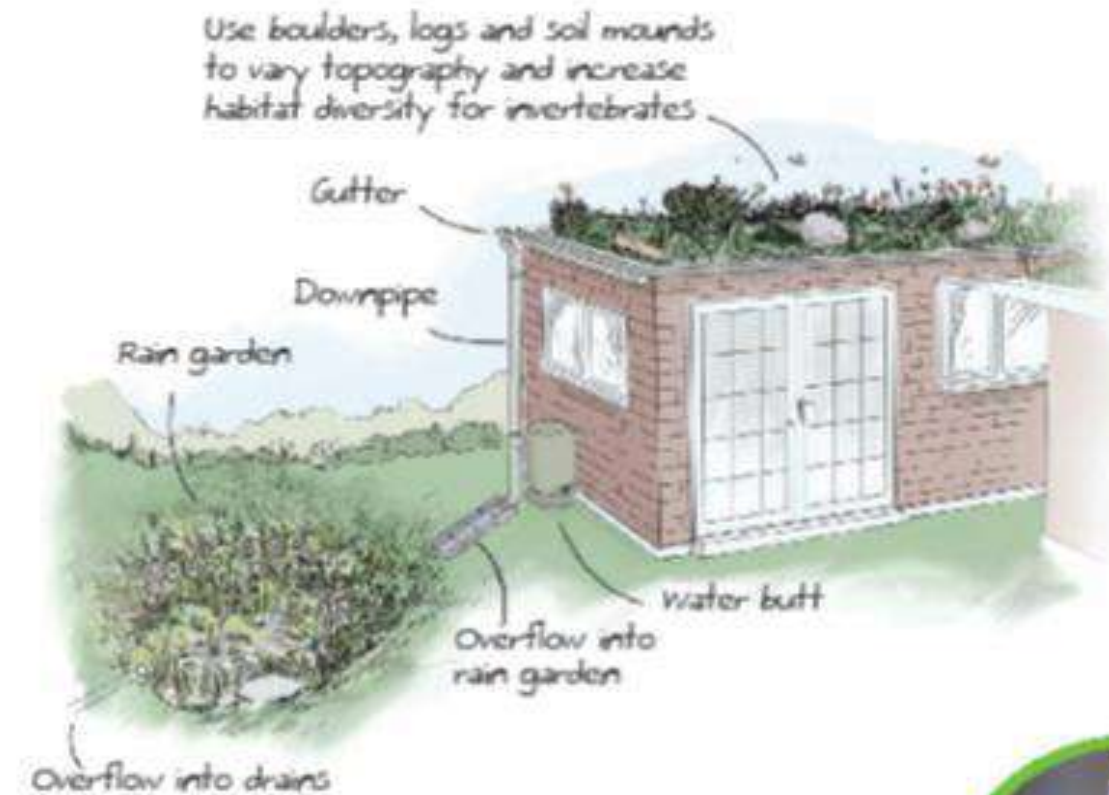
Engagement and spreading the word Working with communities

Rain - Why waste it? ...Use it



SuDS for you

- Help stop flooding by holding water and releasing it slowly
- A source of water for your flowers and veggies
- Nice places for people
- Cooling effect when it gets hot, hot, hot!



Illustrations: John Day and Martin Simmonds

SuDS for wildlife

- Mini wetland habitats for wildlife
- Can provide a network of connected spaces for wildlife to move around
- Can help clean up dirty water from roads before it reaches streams and rivers



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PUTTING THE THEORY INTO PRACTICE

An aerial photograph of a residential development. A large, irregularly shaped pond is the central feature, surrounded by green grass and trees. To the right, there is a cluster of houses with blue roofs. A road curves around the pond and the houses.

Salt Hill Park, Slough, UK



Visualisation showing a rerouted stream channel with rivulets, pebbles, shallow pools and wetland vegetation with nearby picnic area



Day-lighting of a culverted stream with adjacent wetland features and public space

Salt Hill Park, Slough, UK



- Community involvement in elements of construction
- Consultation with the different local communities
- Cultural considerations
- Deprived urban area with many social issues

Eco Village, Stroud, UK



Eco Village, Stroud, UK

- GI and SuDS integrated into the scheme from the initial design stage
- Excellent public consultation throughout the process
- Continued public engagement and education programs
- Involvement of local wildlife charities
- Created a sense of community ownership and therefore ongoing respect and care for the scheme
- Utilization of tight space and available land area
- Creation of community spaces within the scheme

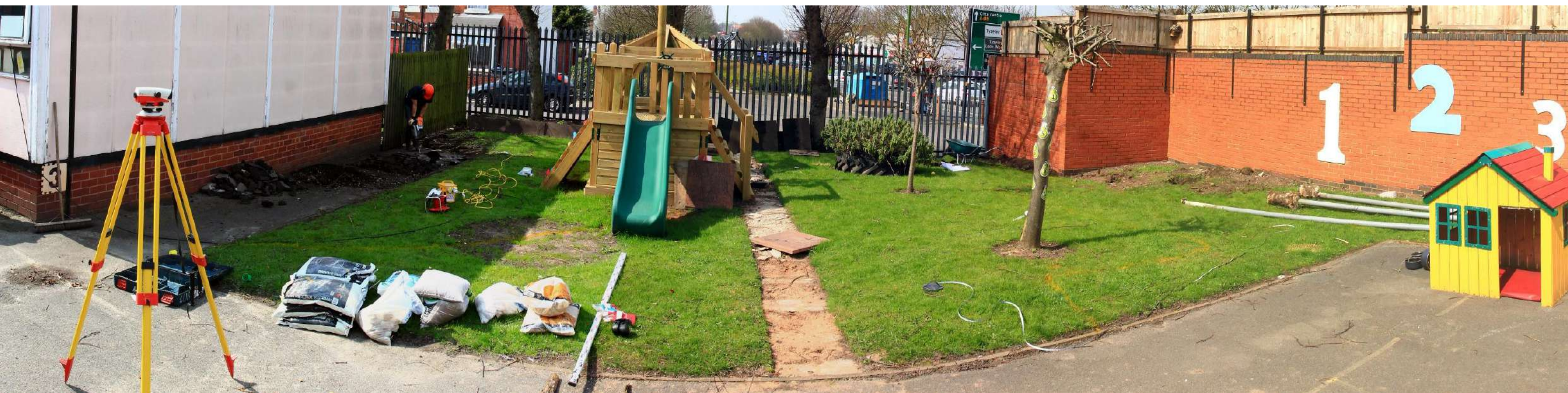


Redhill Primary School, Birmingham, UK

- Engagement with the local school
- Working with the local community
- Inner city site with very little green space
- Ethnically and culturally diverse school in a challenging area
- Education events run alongside construction
- Students involved in planting and final landscaping
- Local businesses volunteered to help with construction
- Extension of the scheme to hopefully include pocket parks in the area



Redhill Primary School, Birmingham, UK



Redhill Primary School, Birmingham, UK



SuDS for Schools, London, UK

- Worked with 10 schools
- In partnership with the Environment Agency and Thames Water
- Engaged with students and parents
- Improved their knowledge of water conservation
- Tackled local water quality on a catchment-wide basis
- Increased local biodiversity and green space
- Created inspirational places for ongoing educational engagement



SuDS for Schools, London, UK – created a range of features

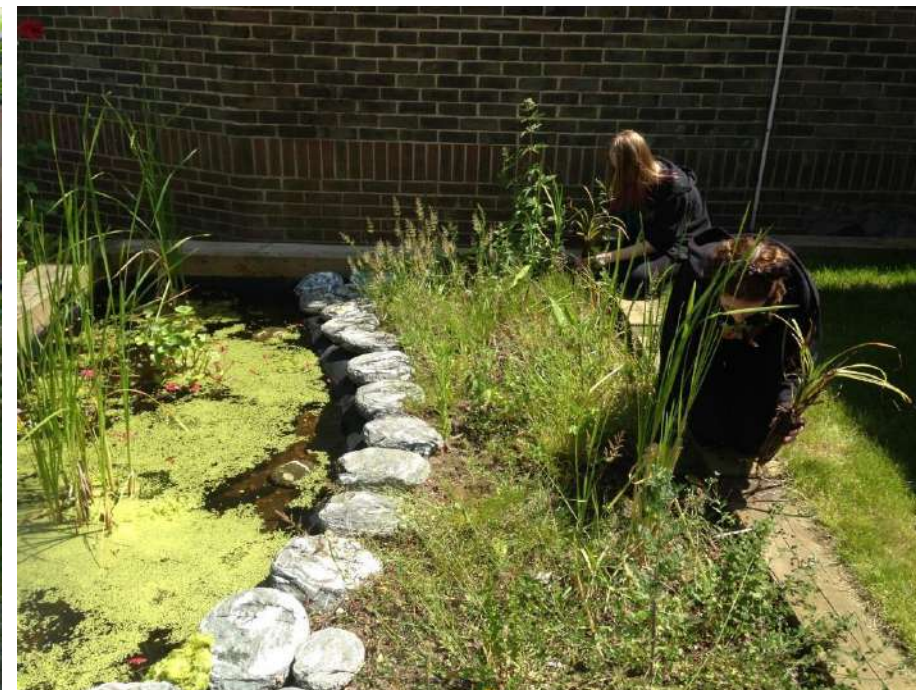
Swales



Rain Gardens



Ponds



Detention Basins



Residential development, London, UK

- Site on contaminated land and challenging to develop
- Adjacent to a nature reserve and sensitive wildlife site
- Requirement for careful management of surface waters
- Early involvement during the master-planning stage
- Stakeholder and public engagement
- Inclusion of social housing
- Public access to parts of the site for other local residents



Residential development, London, UK

- Integrated SuDS and GI
- Community shared spaces
- Close connection with green space and wilder areas
- Protection of the adjacent wildlife reserve
- Remediation of an industrially contaminated site
- Site layout designed around green infrastructure
- Planning for the future with a maintenance levy to fund proper maintenance of the GI and SuDS



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KEY LESSONS LEARNT

An aerial photograph of a residential development. The development features a large, irregularly shaped lake or pond in the center, surrounded by green spaces and trees. To the right of the lake, there is a cluster of residential buildings, including a large, curved row of houses with blue roofs. The overall scene is lush and green, with a mix of natural and built environments.

Key lessons learnt over these and other projects

- Early involvement in the design stage of any scheme is critical
- Engagement of the local community and end users
- Creating a comprehensive design risk register and developing it throughout the design stages
- Good and clear communication within multi-discipline/contractor project teams
- Maintain a fluid design approach, be ready to adapt to the unexpected and last minute decision changes
- Ensure a good ongoing maintenance plan is put in place
- Ensure adequate funding has been allocated/planned for to enable ongoing maintenance
- Adoptability – local authority, community, wildlife or interest group, contractor



GREEN AND BLUE INFRASTRUCTURE EVERYWHERE



THANK YOU

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