Grey to Green
Retrofitting SUDS into multifunctional streets and spaces

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Sheffield City Council ©
The Area’s Context

CONSTRAINTS
- Redundant highway capacity & severance
- 2007 Flood Legacy

OPPORTUNITIES
- Developing Riverside character
- Large Scale development opportunities (West Bar)

2014
PRINCIPAL CONCEPTS
Create a safe and attractive setting that draws people and investments within a green and sustainable framework

• Creating a setting for investment
• **SUDS** climate resilience managing rainwater discharge to the river
• **Sustainable transport** and connectivity to the wider city
• Innovative **Meadow** planting and developing the green linear route theme (Environmental benefits)
• **Reclaiming the highways**, activating urban spaces that better reflect the surrounding areas opportunities
• **The City Garden** building on Sheffield’s city centre horticultural excellence.
CONCEPT MASTERPLAN
Sustainable Urban Drainage

SuDS Design

• Retrofit SuDS for climate resilience
• Water becoming an asset to new landscapes and education of water management
• Future proofing increased rainfall events
• Removing flow from combined sewers and rivers
• Mimicking nature – keeping water on or near surface in rain gardens and green streets
• Capture, detention and treatment of pollutants
• Surface capture avoiding pushing water underground through conventional gulley/piped systems
As built model results

• Peak inflow for the 1 in 30 year 60 minute rainfall event is reduced from 47.3l/s to 6.3l/s
• Peak inflow for the 1 in 100 year 60 minute rainfall event is reduced from 69.6l/s to 9.2l/s
• Peak inflow for the 1 in 100 year (+30% CC) 60 minute rainfall event is reduced from 92l/s to 12.1l/s
INFLOW

CONTROL
Planting & ‘Meadow like’ habitats
October
Management / Maintenance

- Scheme has seen an overall reduction in management resource needs for the area
- It’s cheaper than hard construction
- Simplified maintenance is part of the new thinking for the project
- Initial 3 years of experimental maintenance to refine the optimal regime to take forward in the future
CONCLUSIONS

• Is it Working? YES both Function and form

• Has it changed the environment? – YES (Heat Island effects)

• Has it changed peoples perceptions? – YES

• Do people need this in their lives? – YES

• Have developers responded? - YES