

LEADING THE WAY PUTTING BLUE - GREEN CITIES INTO PRACTICE

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Waste Water Director
Northumbrian Water

Thursday February 18th 2016

FLOODING – A DEVASTATING CUSTOMER IMPACT



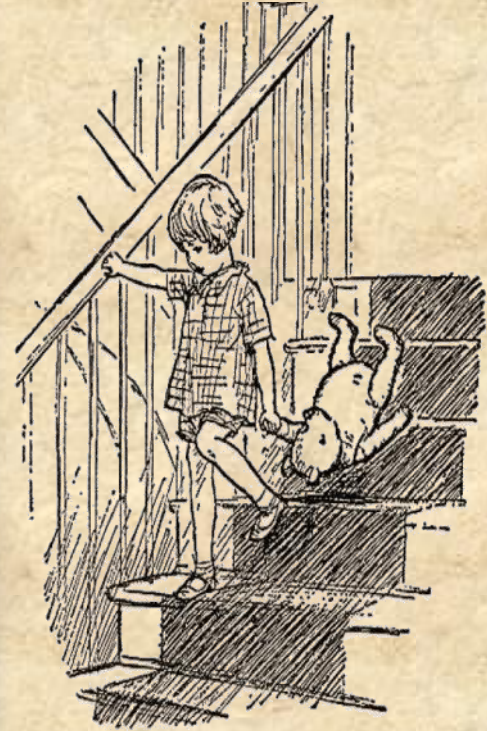
BEING CREATIVE

Traditional approach

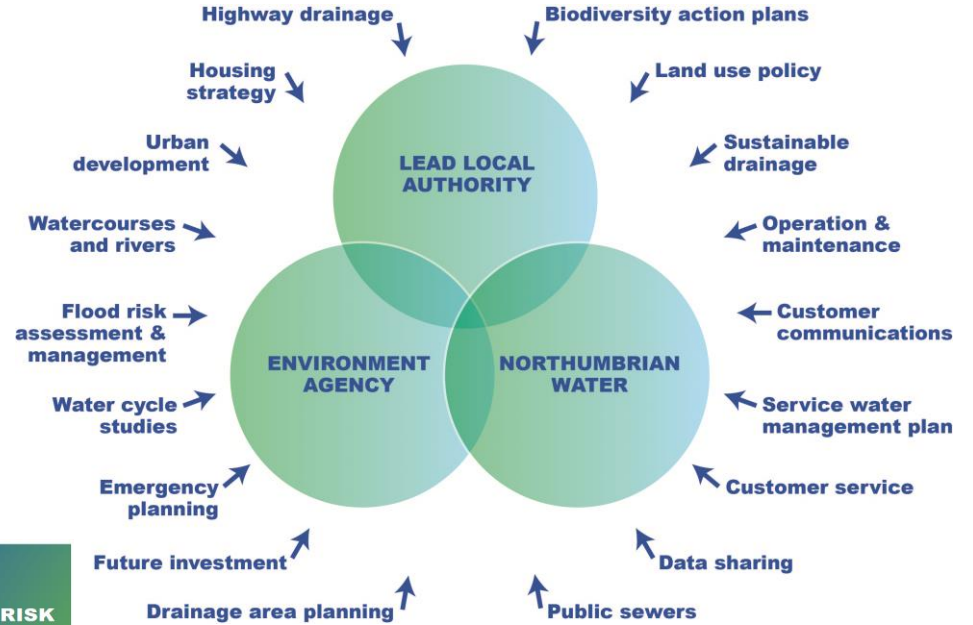
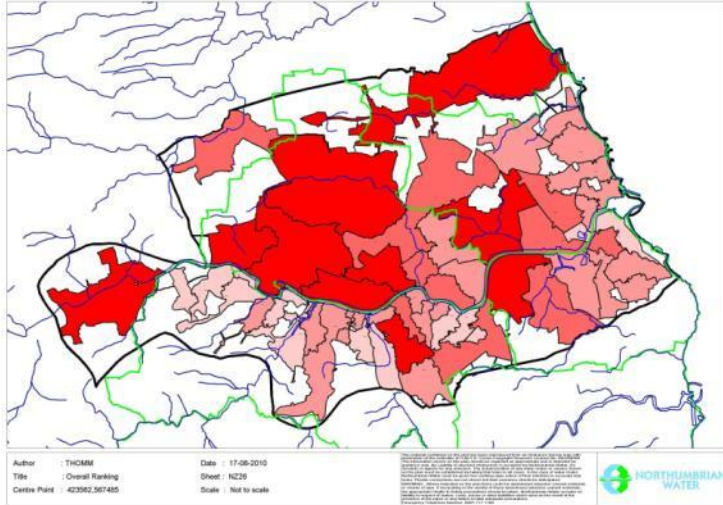


Is there another way?

“ Here is Edward Bear,
coming downstairs now,
bump, bump, bump, on
the back of his head,
behind Christopher Robin.
It is, as far as he knows,
the only way of coming
downstairs, but sometimes
he feels that there really is
another way, if only he
could stop bumping for a
moment and think of it. ”



TYNESIDE SUSTAINABLE DRAINAGE STUDY


































STRATEGIC LEVEL RISK BASED PRIORITISATION METHODOLOGY FOR INTEGRATED DRAINAGE STUDIES

(Organisation logo to be inserted)

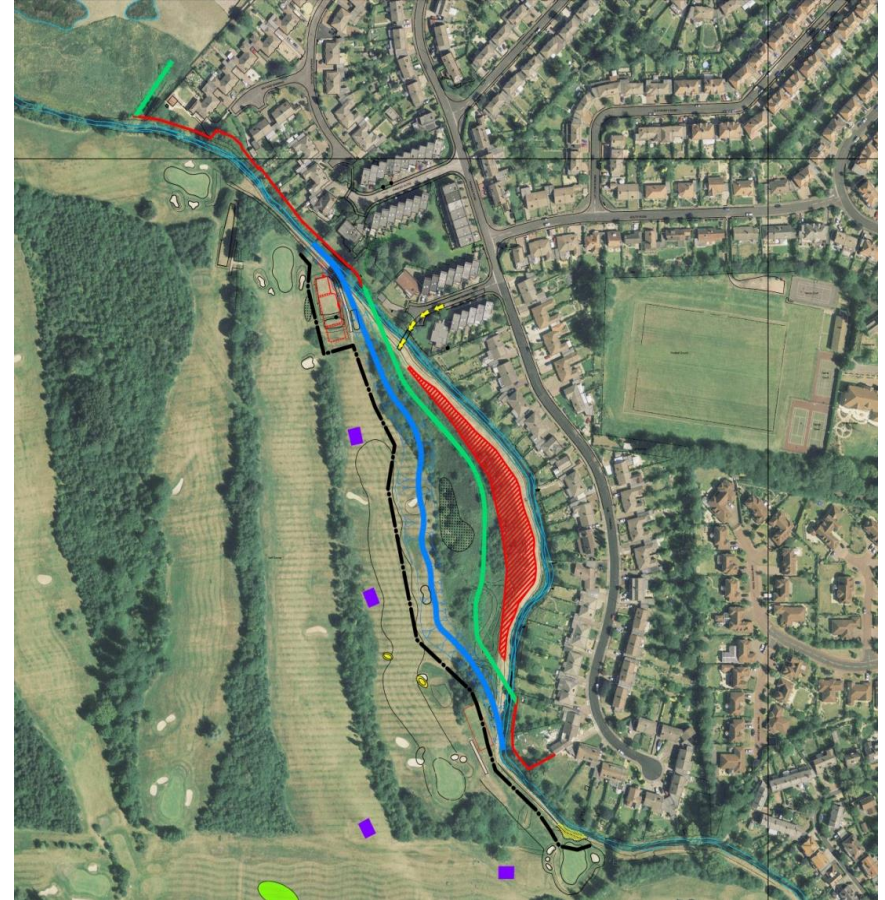
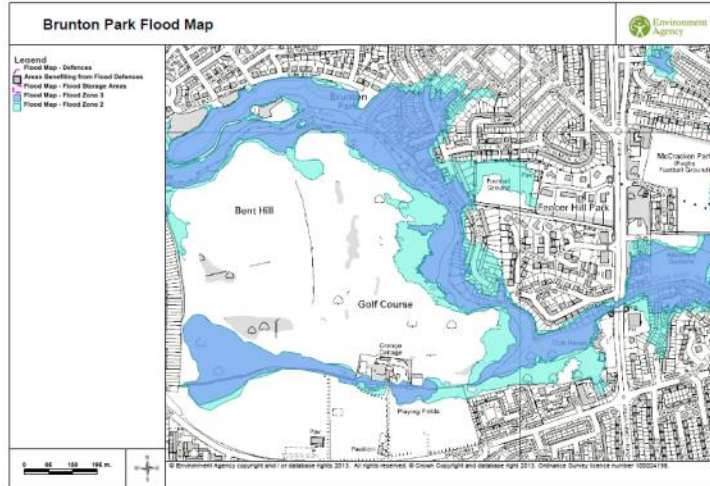
Distribution:
 Newcastle Borough Council, Durham County Council, Environment Agency, Newcastle Council, Hartlepool Borough Council, Middlesbrough Council, Newcastle City Council, North Tyneside Council, Northumbria Integrated Drainage Partnership, North South Coastal Society, North, West & Central Drainage Council, South Tyneside Council, Sunderland City Council, Sunderland City Council, Sunderland City Council



ASSESSING THE BENEFITS

Benefit	Reduces Flooding	Improves Water Quality	Reduces Wastewater Treatment Needs	Facilitates Growth	Reduces Transport Disruption	Increases Recreational Opportunities	Reduces Surface Water Charges	Enhances Habitat	Enhances Amenity	Cultivates Public Education Opportunities
										
Phase 1										
Forest Hall Letch Attenuation										
Killingworth Lake Disconnection from Sewer System & Attenuation										
Attenuation behind Chesapeake Packaging										
Above ground attenuation near West Moor Roundabout										

BRUNTON PARK – PLANNING AND CUSTOMER ENGAGEMENT

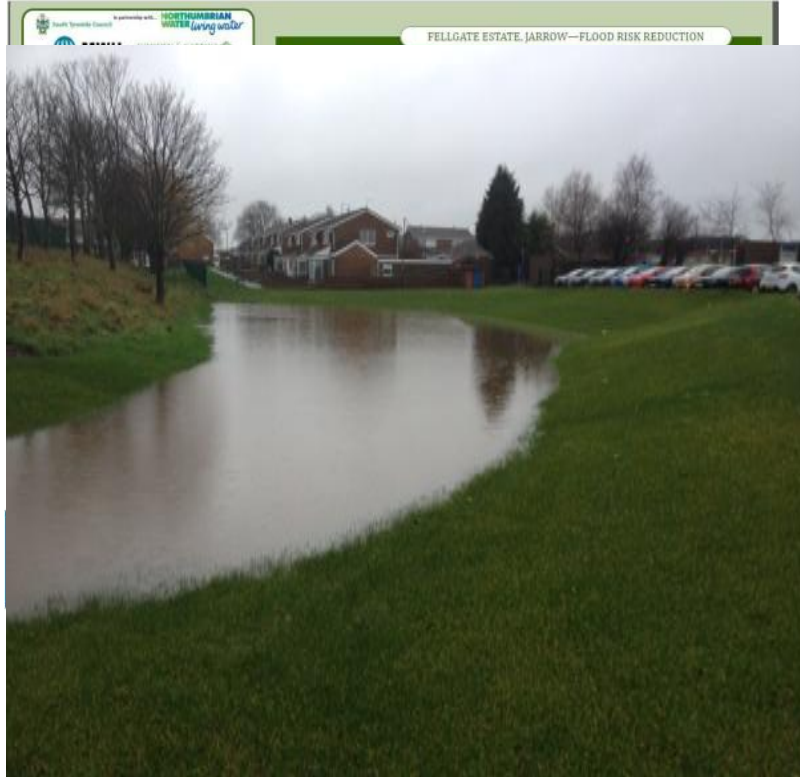


PUTTING BLUE GREEN CITIES INTO PRACTICE – BRUNTON PARK



PUTTING BLUE GREEN CITIES INTO PRACTICE - FELLGATE

Conceptual design

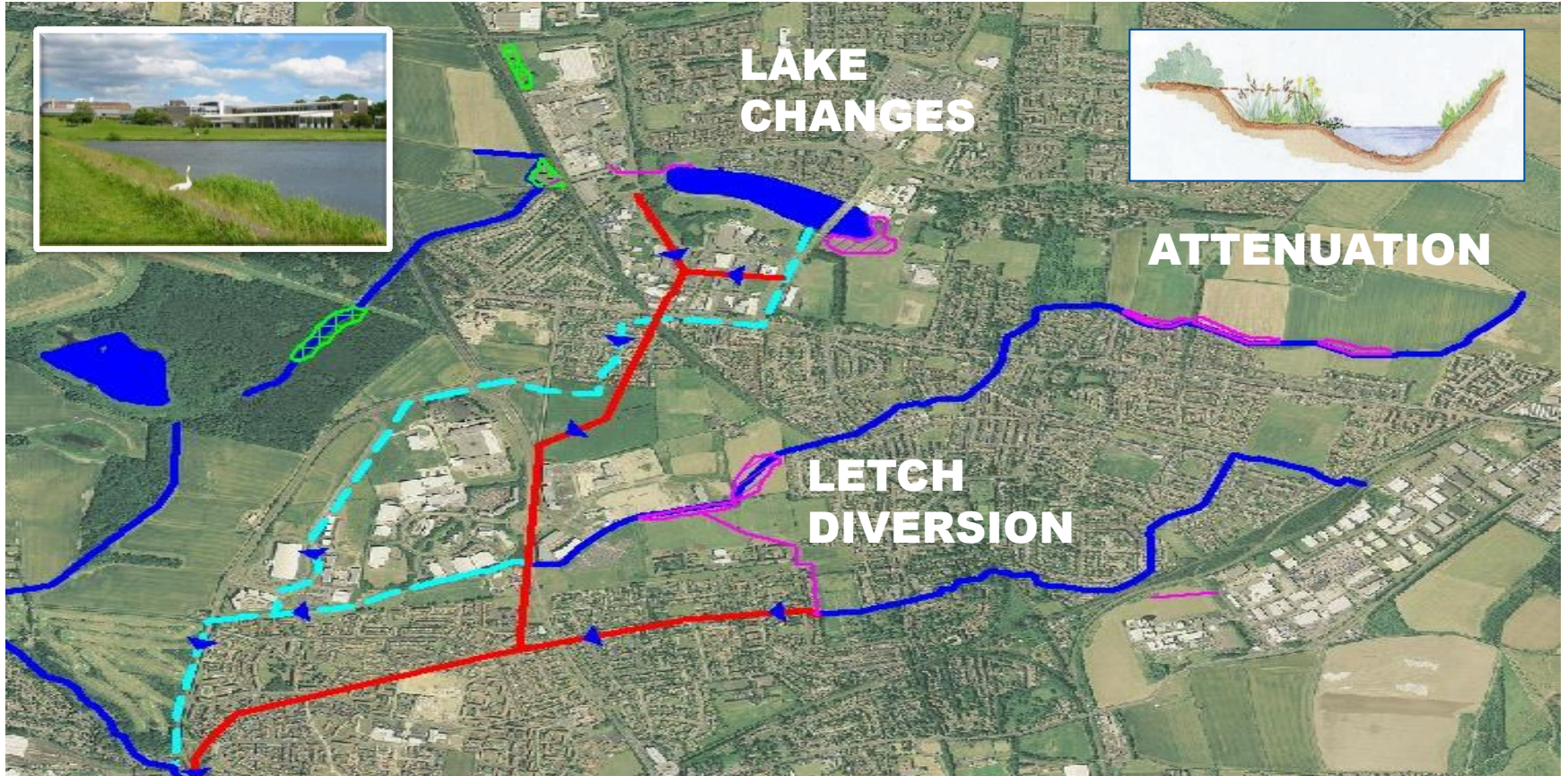


Education & engagement package



Post construction

FURTHER STRATEGIC PLANNING - KILLINGWORTH



SUMMARY

- Innovation
- Do the right thing the right way
- Customers at the heart of decisions and solutions
- Multiple benefits
- Trust, collaboration and enduring partnerships