

HOW CAN GREEN INFRASTRUCTURE BOOST URBAN RESILIENCE?

International Water Security Network

22 March 2018

GREEN INFRASTRUCTURE

Global Examples from Arcadis Portfolio

March 2018

New York: Urban Retrofit of GI

Thousands of green infrastructure assets to reduce Combined Sewer Overflow volume discharged to water



Right-of-Way bioswales

Reduced runoff to combined sewer system by 20%

GreenHUB - interactive online map

GI research and development

Control one inch of precipitation from 10% of the city-wide impervious area by 2030

Wuhan: Planning a Sponge City

An urban environment planned and constructed to soak up almost every raindrop



Climate resilience

Reduce flood risk

Holistic approach

Thinking about water as an opportunity

An integrated and laddered water system

400 projects over 3 years costing \$2.5bn

Bicester: UK's first Eco-town

Natural Capital Benefits Monetised as >£300,000 per year

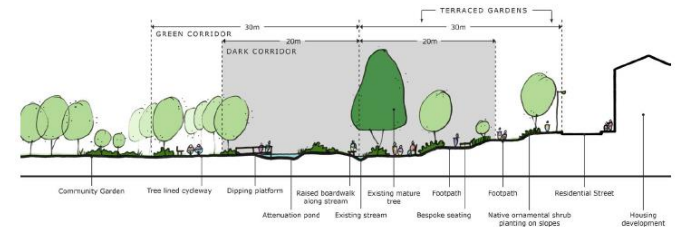


Significant flood risk reduction

Water quality and bio diversity enhancement

Monetised benefits

20% cost savings for developer



40% Green Infrastructure provision in the development

Katwijk: Multifunctional Design

Combining main purpose of flood protection with other functions such as car parking



Legal policies set by the government determine safety levels

National programme cheaper than underwriting household insurance policies

60% of the Netherlands is flood prone and ~26% lies below sea level

Moss Tree

Pollution Absorbing Moss in Newcastle



First in the UK

Filters pollution on leaf surface and binds to biomass

Built in sensors to measure gas concentration, temperature and rainfall

Tackling pollution in cities with green infrastructure