

Nature-based Urban Surface Water Management

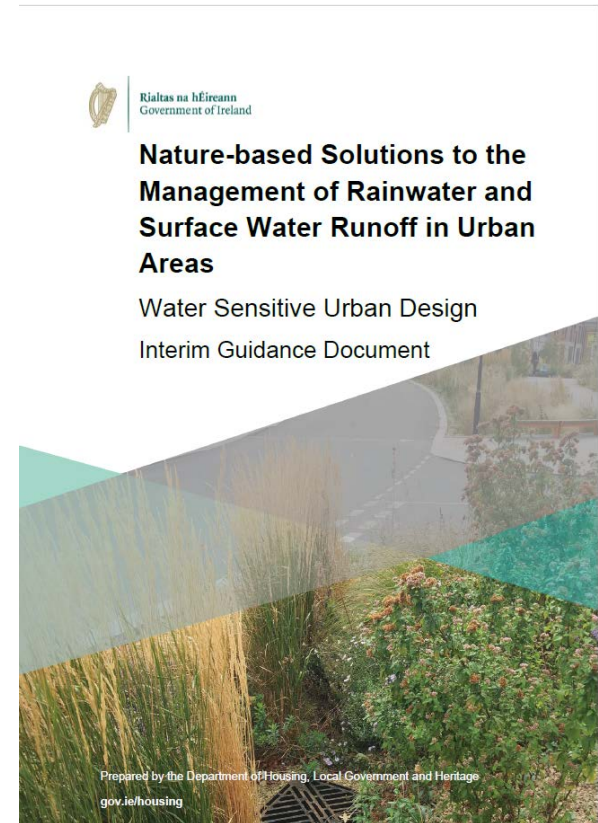


Rialtas na hÉireann
Government of Ireland

National Implementation
Strategy

Interim Guidance Document

Presentation to Webinar
30/11/21



Executive Summary

1. Introduction
2. Scope & Purpose of Guidance Document
3. Understanding Rainfall in Urban Environment
4. Climate Adaptive & Resilient Urban Design
5. Water Sensitive Urban Design and NBS
6. Implementation
7. Care and Maintenance

Appendices



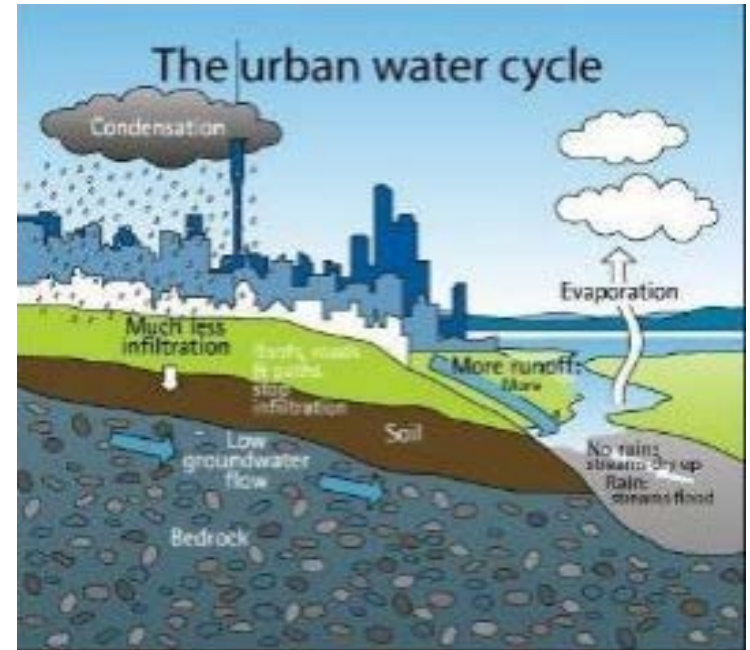
Introduction and Scope

- Regulatory Background – WFD and RBMP (3rd. Cycle)
- Planning Background – NPF 2018 – in particular, National Policy Objectives 57 and 58
- Climate Change and Adaptation
- Flood Risk from urban impermeable surfaces
- Use of NBS to enhance Placemaking and Biodiversity
- Plan-led and integrated approach



Rainfall in Urban Environment

- Natural water cycle compared to Urban
- Urban Creep and Impermeable surfaces
- Environmental Impact of runoff:
 - Direct Impact on water bodies of urban runoff
 - Combined Sewer Areas and CSOs
 - Culverting and channelisation of water bodies
- Pluvial Flood Risk in a changing climate

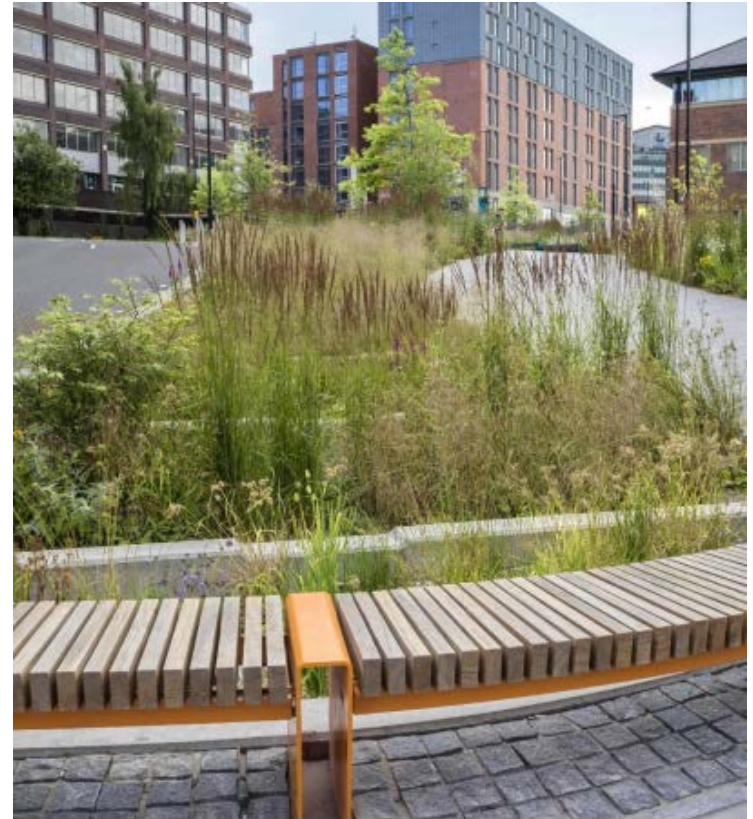


Urban Water Cycle

- **Climate Change and Rainfall**
 - Impact of Climate Change on “Return Periods” and modelling of urban rainwater
- **Climate Adaptive and Resilient Urban Design**
 - Climate Adaptive Design: the capacity of an urban area to adapt over time as climate and rainfall patterns continue to change.
 - Climate Resilient Design: the extent to which an urban property or area, having experienced flooding, can be restored to normal use.

Nature-based Surface Water Management / WSUD

- Definitions and Concepts
- A Plan and Design-Led Multidisciplinary Approach
- Managing Rainfall through Three-Dimensional Planning & Design
- Overland Flow Routing to Identify Opportunities to Store and Treat Urban Runoff



Nature-based Surface Water Management / WSUD

- Changes to Traditional Urban Roads and Street Designs to Facilitate WSUD
- Multiple Use of Urban Spaces, Public Realm, Open Spaces, Amenity Areas, Car Parks
- Urban Planting
- Buildings and their Curtilage



Rain Garden



Channel



Filter Strip



Swale

Implementation

- Identifying Opportunities at an early stage
- The Role of Planning
- The Role of Funding Agencies and Assessment of Projects
- Project Terms of Reference / Brief
- Stakeholder and Community Engagement
- Project Design, Management and Delivery



Care and Maintenance

- Designing For Long Term Care and Maintenance
- Use of Contracted Maintenance Period
- Responsibility For and Funding Of Ongoing Care and Maintenance
- Community Involvement in Care and Maintenance of Green or Planted Areas
- Public Health and Safety



- **Appendix 1** Pollution arising from Urban Rainwater Runoff
- **Appendix 2** Three-Dimensional Planning and devising a Rainwater Management Plan
- **Appendix 3** Urban Planting
 - Appendix 3a Planting in relation to buildings – Green Roofs, Green Walls etc.

- **Appendix 4** Nature-based Solutions, Funding and Economics
 - Appendix 4b Project Briefs / Terms of Reference
- **Appendix 5** Water Sensitive Urban Design and the Implementation of Nature-based Solutions to the Management of Rainwater & Surface Water Runoff in Urban Areas



Next Steps

- Interim Guidance Document to be made available to Local Authorities, Government Departments, Relevant Statutory Bodies, Funding Agencies.
- Further Statutory Guidance Documents to be issued in 2022 promoting use of NBS in Urban Areas.
- Incorporation of principles of NBS and WSUD into relevant policy and funding documents and into procurement documents

It is now over to each of you to take that first step, identify the opportunities and incorporate appropriate Nature-based management of urban rainwater into your own area and your own projects.

We need Champions and Examples

Thank You

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