

 **FACTSHEET | DEMO4 SICILY, ITALY**

SUSTAINABLE URBAN DRAINAGE SYSTEMS AND VERTICAL GREENING SYSTEMS FOR WATER MANAGEMENT IN SICILY



The DEMO4

DEMO4 focuses on improving water management in urban settings by addressing challenges related to stormwater runoff, as well as water availability and quality. The demonstration introduces two innovative solutions.

sub-DEMO4.1

Bioretention cells (rain gardens) are incorporated into existing green spaces to capture and manage part of the stormwater runoff. The interventions take place on approximately 4,400 m² of horizontal public land.

sub-DEMO4.2

Involves installing a green facade on three sides of a primary school, which not only enhances the building's appearance but also treats greywater from washbasins for onsite reuse. The interventions take place on 30 m² of vertical surfaces.

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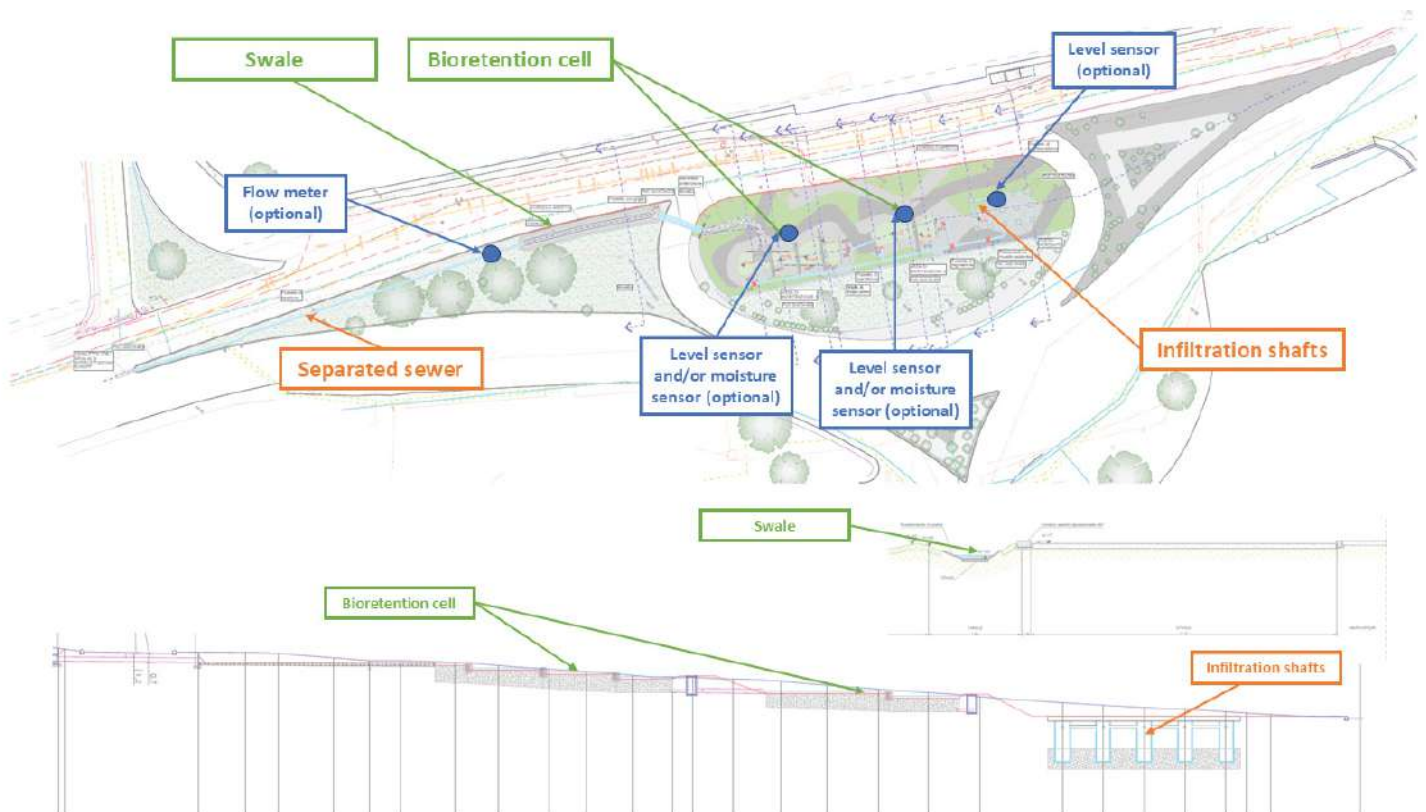
Sustainable urban drainage systems for water management in Sicily



What is the aim of sub-DEMO4.1?

In Catania focuses on improving stormwater management in urban areas through Nature-based Solutions (NbS). The project addresses runoff from Alessandro Doria Avenue and Via del Bosco, where it is intercepted, retained, and infiltrated using a combination of bioswale and bioretention cells (rain garden).

Infiltration shafts have also been retrofitted into green areas around Tondo Gioeni, including the roundabout and surrounding spaces. Covering 4.400 m² of urban public land, this approach not only addresses immediate flooding risks but also fosters long-term urban sustainability and resilience.



Identified Nature-based Solutions



The identified Nature-based Solutions are those mentioned above, specifically:

- Swale
- Bioretention cells (rain garden)

Co-benefits

Stormwater treatment is managed through Nature-based Solutions, allowing for a higher retention, thus reducing drought rate.

Sustainable Development Goals



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Beyond Aesthetics: Wall-based green facade for sustainable water management

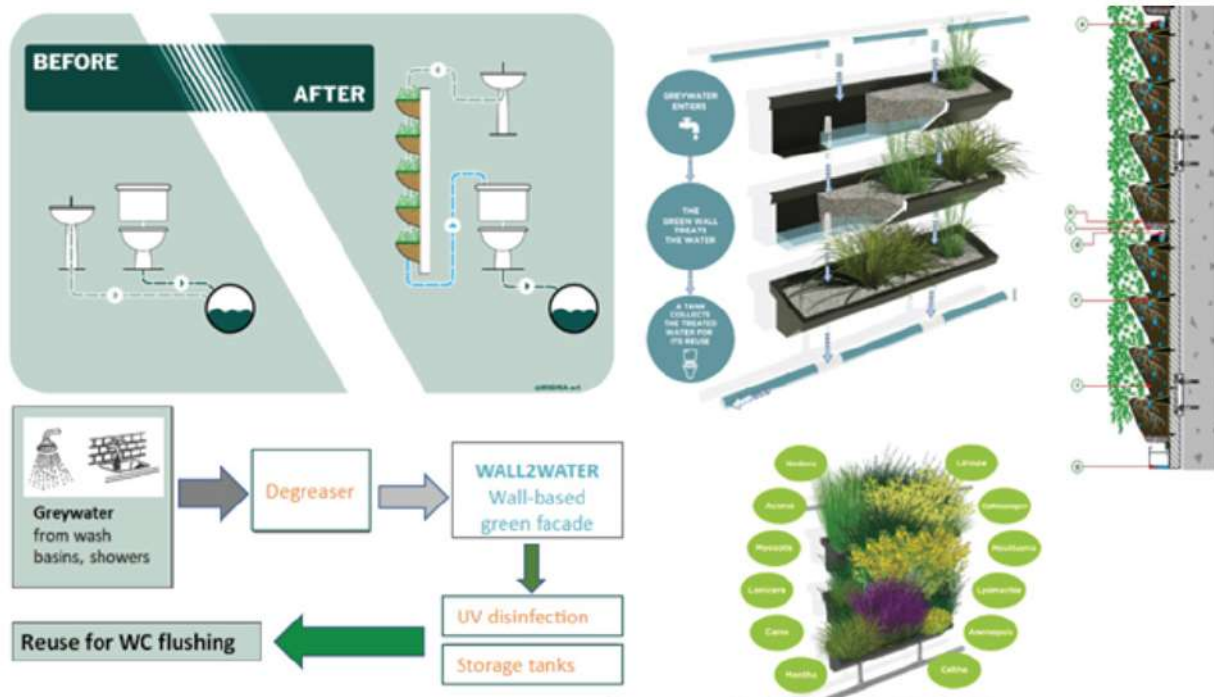


What is the aim of sub-DEMO4.2?

In Ferla, focuses on advancing sustainable water management through the integration of a wall-based green facade system at the Istituto Comprensivo Statale Valle dell'Anapo primary school.

This innovative setup combines the NbS with a degreaser, UV disinfection, storage tanks, flow metres, temperature sensors (3 different orientations: NE, NW, SW) to treat greywater from washbasins. Implemented across three facades of the school, the system not only enhances the building's aesthetic appeal but also plays a crucial role in reducing water usage by repurposing treated greywater for toilet flushing.

Covering a vertical surface of 30 m² of an urban public building, this approach not only conserves valuable water resources but also promotes environmental sustainability, showcasing a forward-thinking model for urban infrastructure.





Identified Nature-based Solutions



The identified Nature-based Solutions are those mentioned above, specifically:

- Wall-based green facade

Co-benefits

Treatment and reuse of wastewater for non-potable civil uses. By using multiple time, the same water for different purposes, the outcome is to reduce clear water usage, which is essential considering the scarcity of this resource.

Sustainable Development Goals



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