

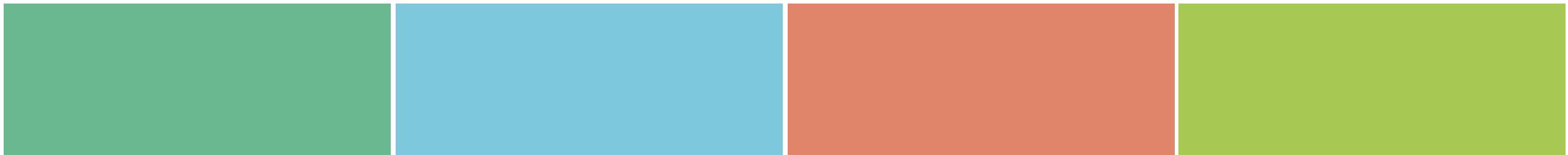
Active Travel and Greenways

Biodiversity and Landscape Treatment of Greenways

Eimear Fox

Landscape Architect

TII



What is Biodiversity

What is..... Landscape

TII focus is on the long-term preservation and enhancement of Biodiversity in the Irish landscape.



What is Biodiversity

What is..... Landscape



TII focus is on the long-term preservation and enhancement of Biodiversity in the Irish landscape.

Think about the Entire Landscape.....not just 'Special ' or 'Protected Landscapes'



What is Biodiversity

What is..... Landscape



What is Biodiversity

What is..... Landscape



What is Biodiversity

What is..... Landscape

Orchids in Dublin city centre thanks to 'No Mow May' campaign

Updated / Míndeo, 3 Iúil 2023 07:37



Rare Irish orchid discovered in Trinity College after lawn mowing is halted

Orchid which requires 'perfect set of circumstances' grew when mowing stopped

32 items



Trinity College gardener, Pádraig Ó Súilleabháin, with a rare orchid discovered in the grounds of the university. Photograph: Niall O'Connell

Olivia Hall
Wed Jul 2 2023 08:01

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Kate McAuley gets the support insurance on special day

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Bee Orchid – (*Ophrys apifera*)



Spotted Orchid (*Dactylorhiza fuchsia*)



Pyramid Orchid – (*Anacamptis pyramidalis*)

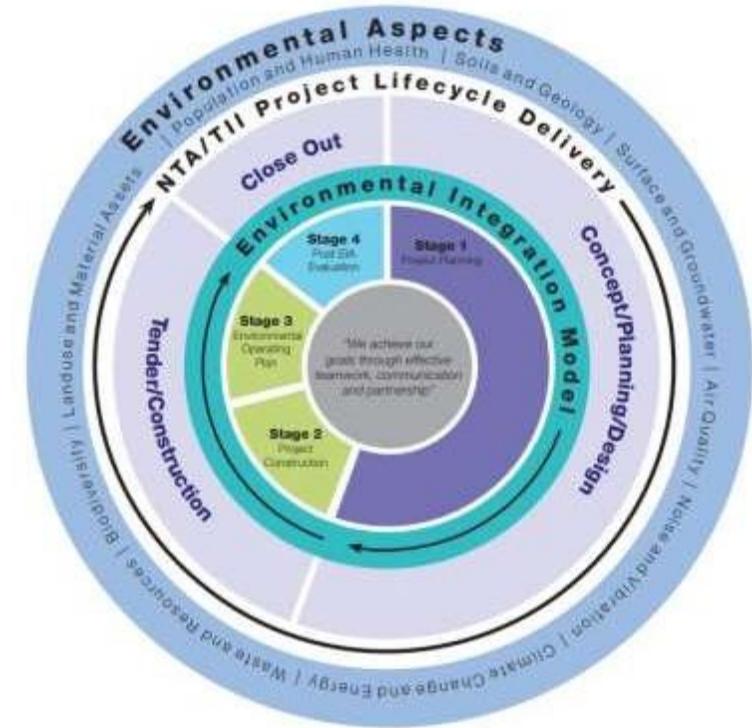
Biodiversity

The key focus is the long-term preservation and enhancement of biodiversity in the Irish landscape. TII takes a holistic view of the long-term sustainable management of the environment by having regard to the quality of the entire landscape.



Landscape

When addressing landscape treatments, the objective is to ensure consistent, cost effective and adaptable design and management practices are achieved in accordance with best practice international and national policies, guidelines and standards on biodiversity and native tree planting.



TII Environmental Model (EIM)



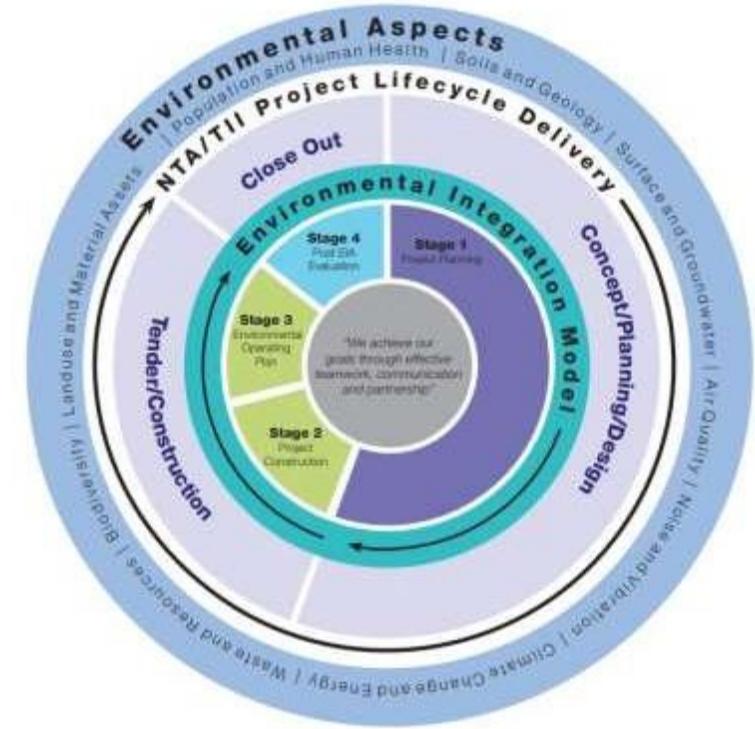
Biodiversity

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Landscape

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TII Environmental Model (EIM)





Help TII to positively address the **climate and biodiversity emergency** in terms of design and management of its landscape.



Landscape and Biodiversity – Understanding Local Context



Where there is Landscape there is Biodiversity.

Biodiversity, is essentially everywhere.

Local Context is key.

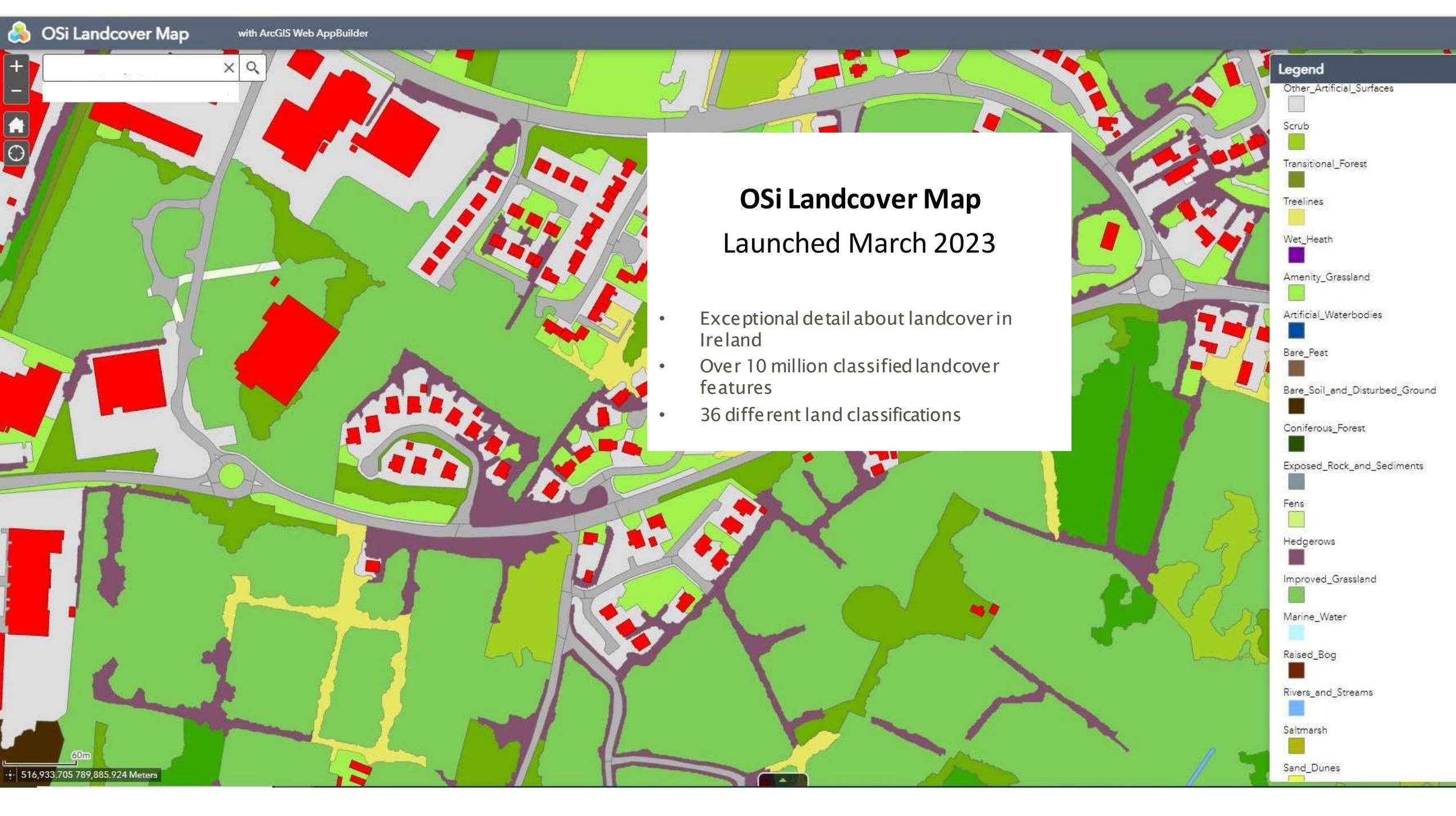


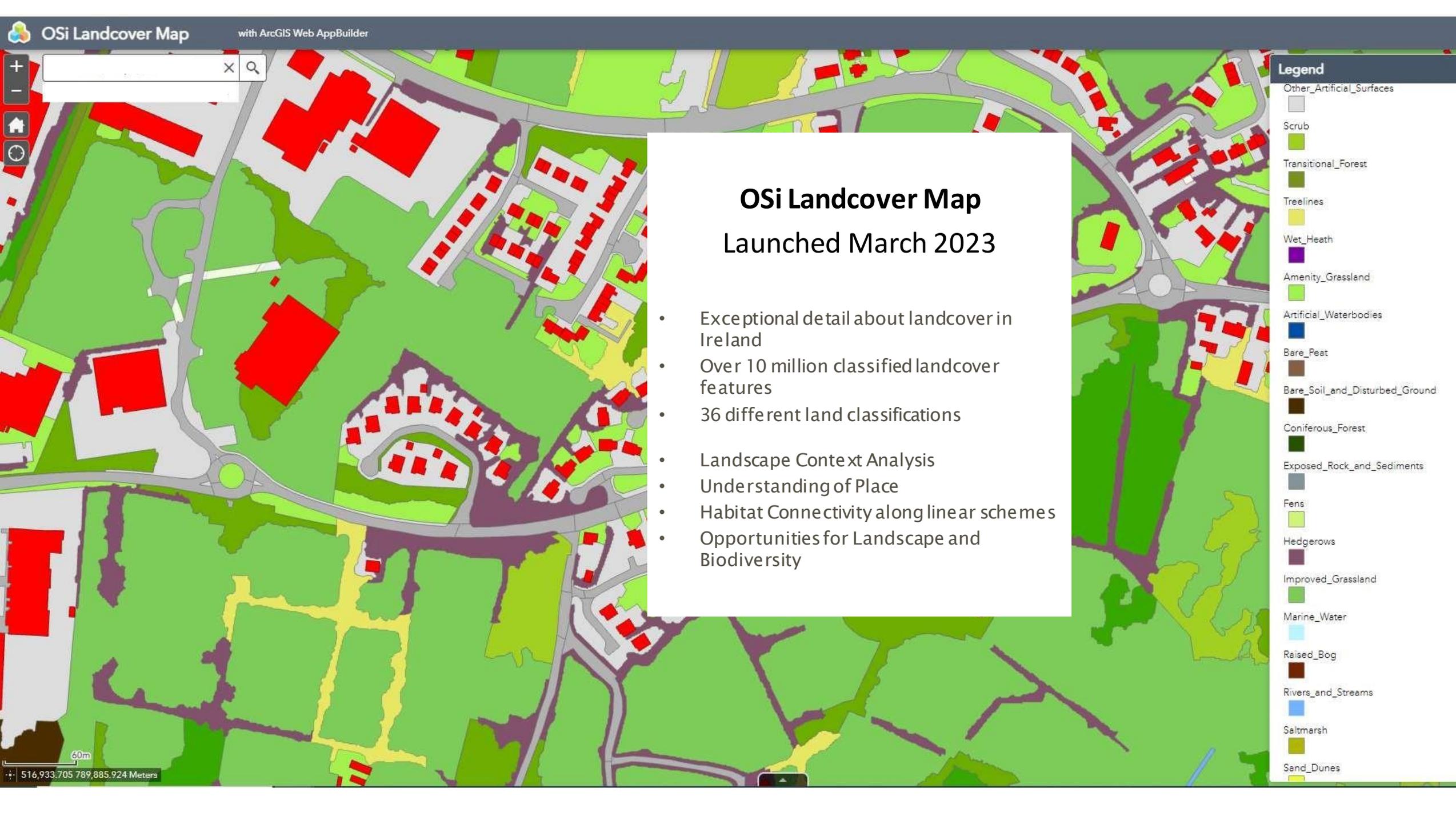
4. Design Considerations

This chapter outlines the design criteria to be used when designing new or improved rural offline cycleways, including national and regional greenway infrastructure.

Rural offline cycleways, including national and regional greenway infrastructure, do not exist in isolation and indeed many are – or will be - located in areas of high landscape value and sensitivity, culturally historic areas, etc. Design of rural offline cycleways should necessarily take account of local context, which will present opportunities for enhancing design, operation, and ultimately user experience.







Search bar with magnifying glass icon and close button.



OSi Landcover Map

Launched March 2023

- Exceptional detail about landcover in Ireland
- Over 10 million classified landcover features
- 36 different land classifications
- Landscape Context Analysis
- Understanding of Place
- Habitat Connectivity along linear schemes
- Opportunities for Landscape and Biodiversity

Legend

- Other_Artificial_Surfaces
- Scrub
- Transitional_Forest
- Treelines
- Wet_Heath
- Amenity_Grassland
- Artificial_Waterbodies
- Bare_Peat
- Bare_Soil_and_Disturbed_Ground
- Coniferous_Forest
- Exposed_Rock_and_Sediments
- Fens
- Hedgerows
- Improved_Grassland
- Marine_Water
- Raised_Bog
- Rivers_and_Streams
- Saltmarsh
- Sand_Dunes

60m

516,933.705 789,885.924 Meters



It requires **different design solutions for different contexts.**

A site plan diagram illustrating ecological corridors and design solutions. The map features a central road network with a roundabout. A prominent cyan dashed line with arrows represents 'Existing Site Ecological Corridors to retain and protect', running along the road and through a wooded area. Black dashed lines with arrows represent 'Existing External Ecological Corridors', connecting various green spaces and wooded areas across the site. Buildings are shown in red, and a yellow-shaded area on the right indicates a specific design context. The background is a topographic map with green and brown tones.

Existing External
Ecological Corridors

Existing Site
Ecological Corridors
to retain and protect

It requires **different design
solutions** for **different
contexts.**

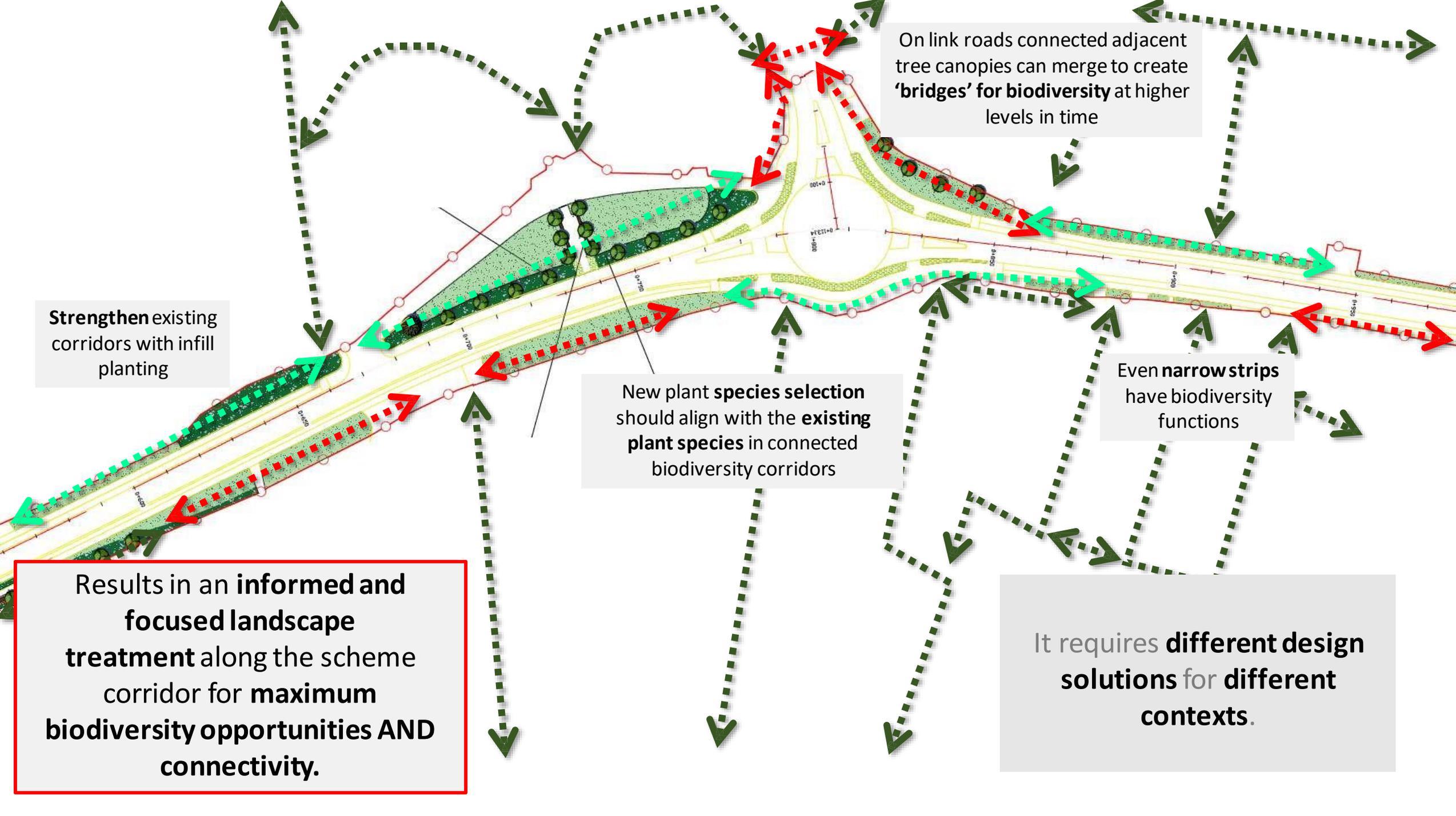
Existing External
Ecological Corridors

Existing Site
Ecological Corridors
to retain and protect

Gaps in Ecological
Corridors

Identify trees and hedgerows to **protect** within the project area which have an **important role** in the local landscape as part of the **existing biodiversity network**.

It requires **different design solutions** for **different contexts**.



On link roads connected adjacent tree canopies can merge to create 'bridges' for biodiversity at higher levels in time

Strengthen existing corridors with infill planting

New plant species selection should align with the existing plant species in connected biodiversity corridors

Even narrow strips have biodiversity functions

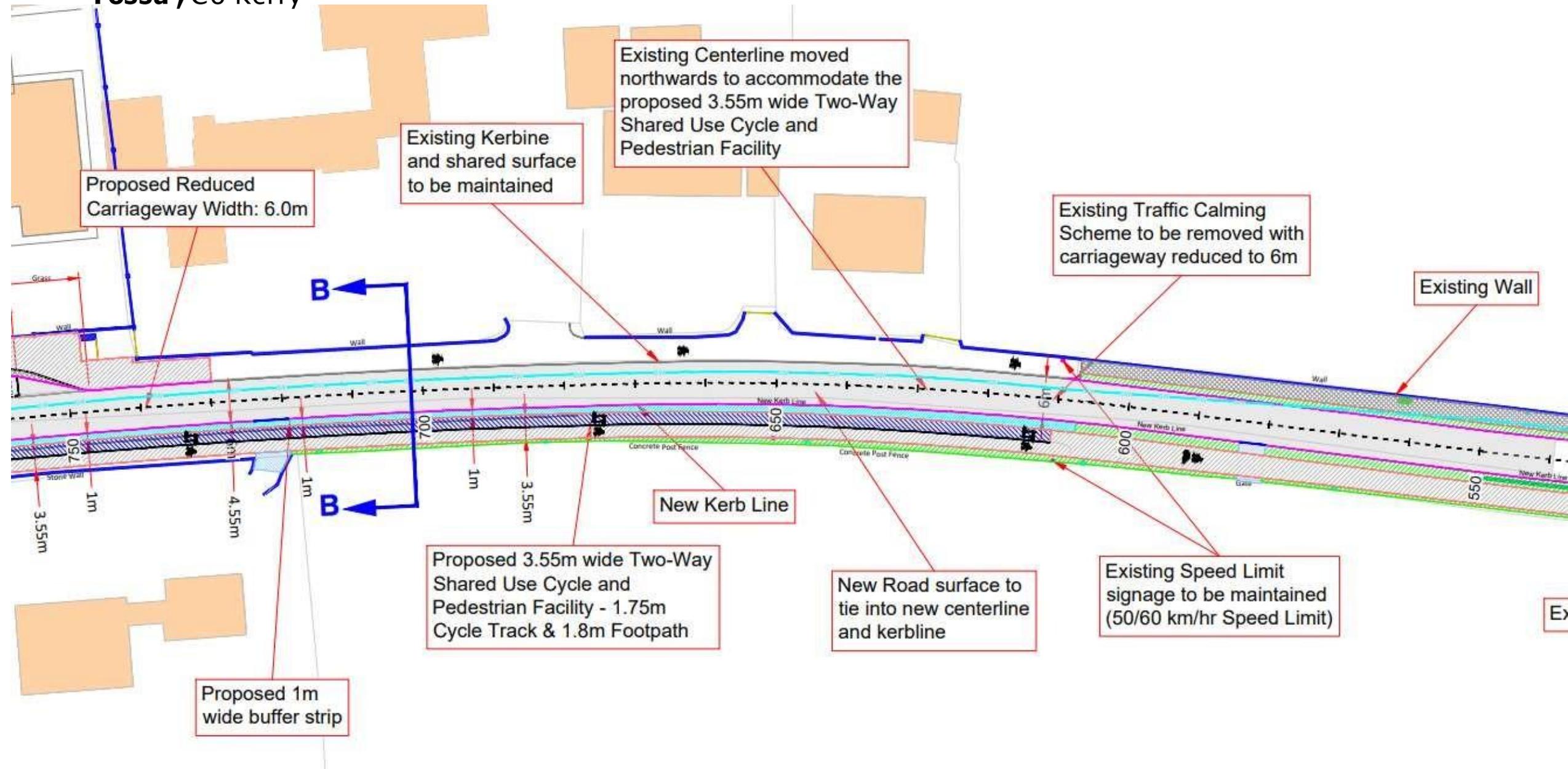
Results in an informed and focused landscape treatment along the scheme corridor for maximum biodiversity opportunities AND connectivity.

It requires different design solutions for different contexts.

Landscape and Biodiversity Opportunities – Design Stage Fossa, Kerry Co Co



Fossa, Co Kerry

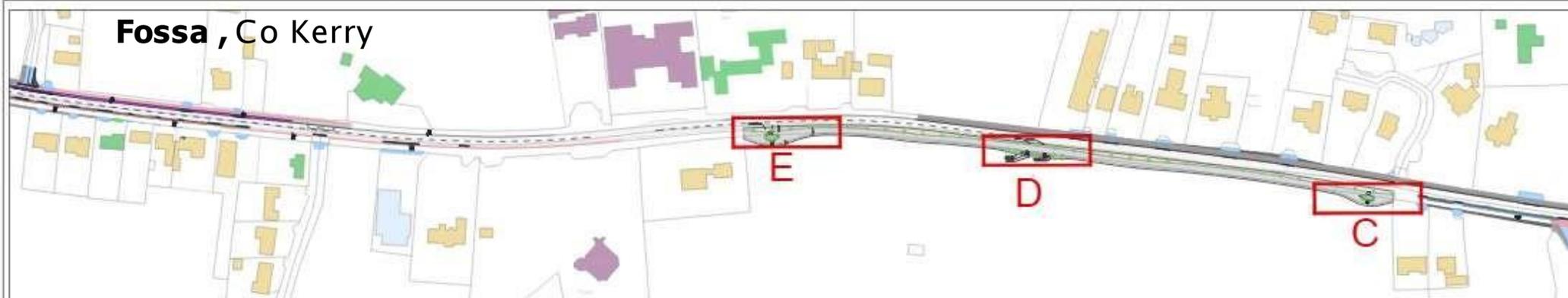




Before, start of cycle and ped lanes
and inspiration from Killarney National Park

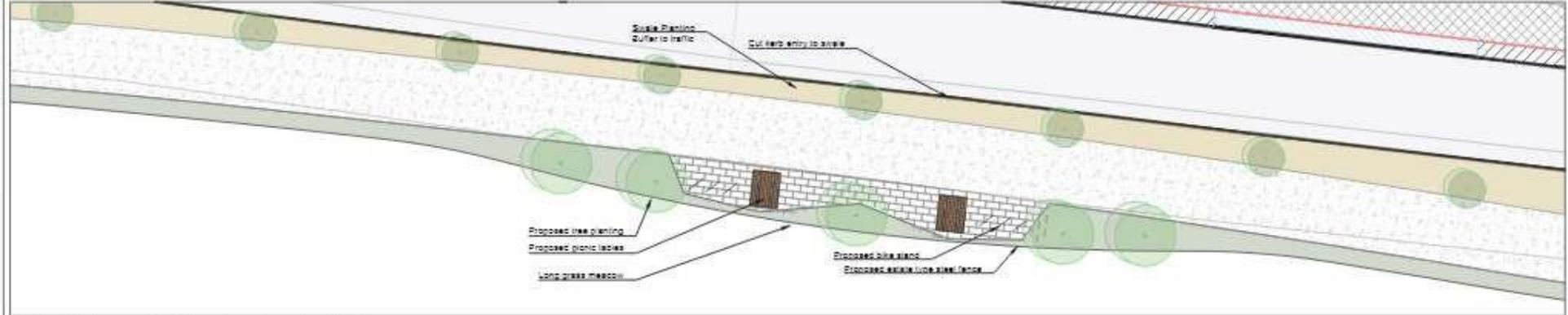


Fossa, Co Kerry

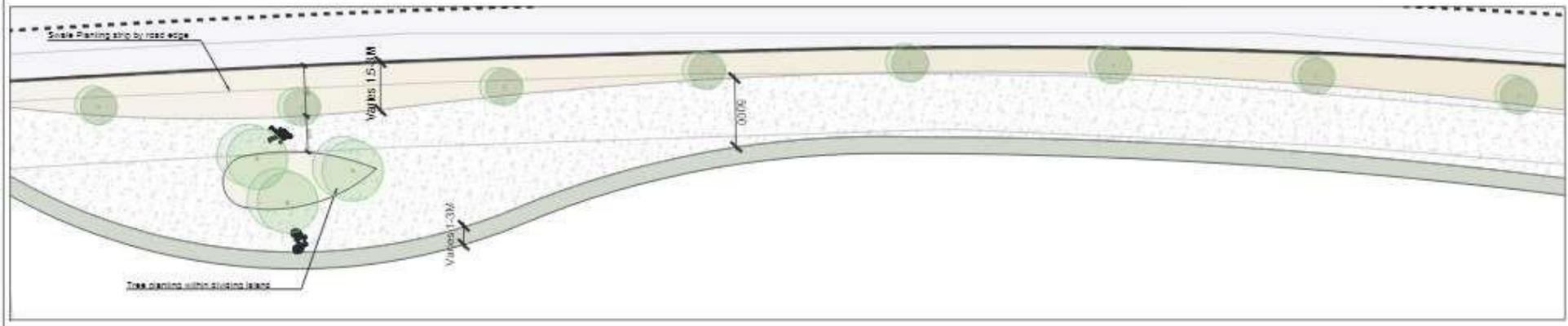


It requires **different design solutions** for **different contexts**.

Location of Cycle and pedestrian facility proposals: Scale 1:2500



D: Rest stop - picnic location, Scale 1:250



C and E: Entry and exit island, Scale 1:250

THIS IS NOT FOR CONSTRUCTION
 This drawing is the property of the author and is not to be used for any other purpose without the written consent of the author. This drawing is not to be used for any other purpose without the written consent of the author. This drawing is not to be used for any other purpose without the written consent of the author.

Cathal O'Meara
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 2 No Shannery St,
 Fossa, Co. Kerry

Chartered member of the Irish Landscape Institute

Client: TTA Kerry Coob
 Project: Fossa Landscape design
 Drawing: Landscape Sketches
 Date: 07/08/2022
 Drawn by: Luis Macleod
 Checked by: Cathal O'Meara
 Issue: Tender
 Draw No: 2221_LASR02
 Rev Date Note

cathal meara
 landscape architects

Scale 1:500, A3

- Tourism route – family groups etc
- School Zone
- Flooding issues
- Scenic location
- Biodiversity
- History
- Link to high quality existing route
- Sensitive Landscape
- Key Views
- Part of a wider journey

Multidisciplinary Design - context led (*Engineers, Safety Team, NTA safe routes to school, Landowner and Landscape Architects*)

Alder Carr
+ Elm

Horse Tail

Carex remota

Scaly Male fern

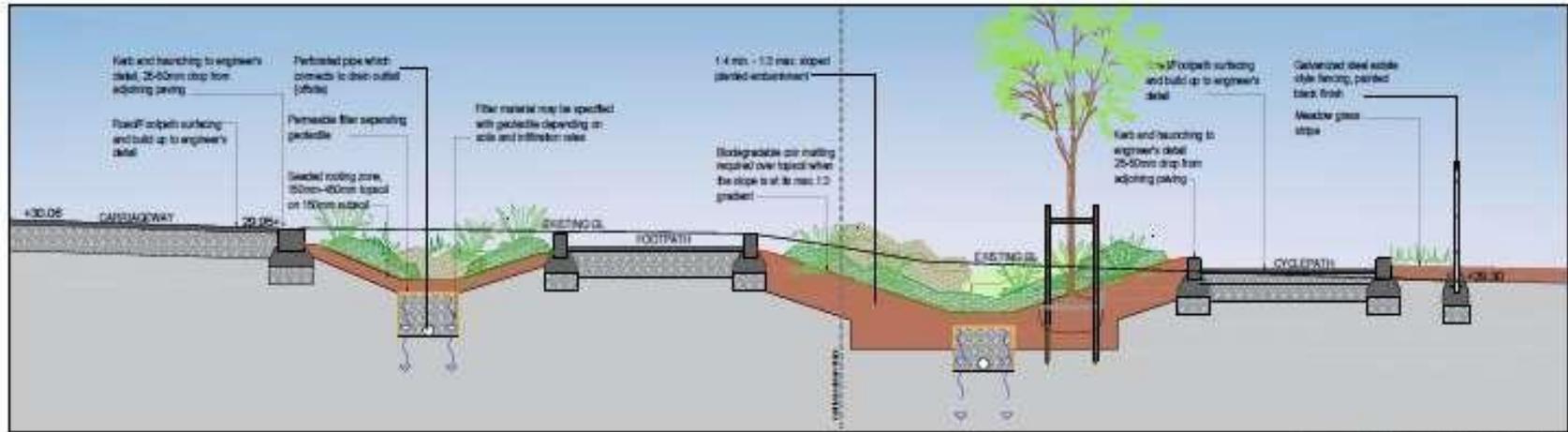
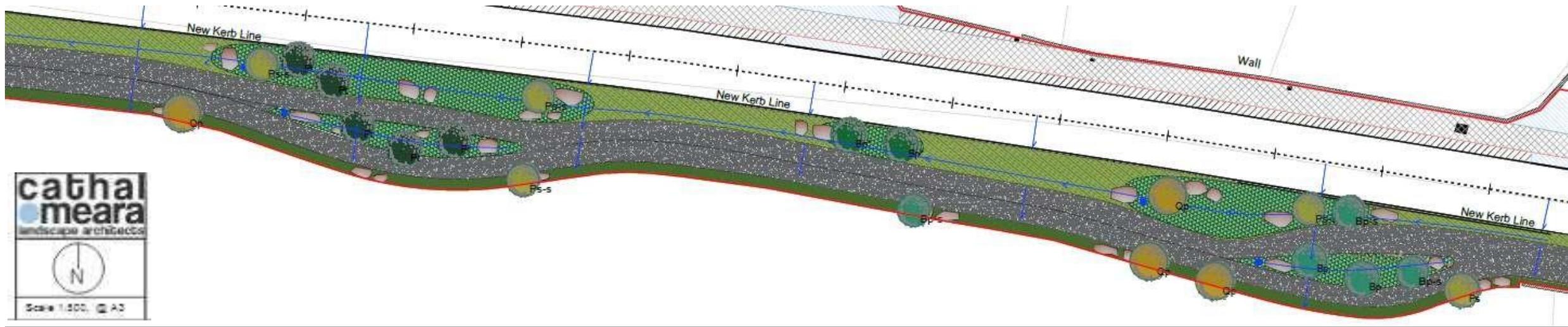
Watercress



Images above from within Killarney National Park showing wet woodland dynamic plant community



Fossa , Co Kerry



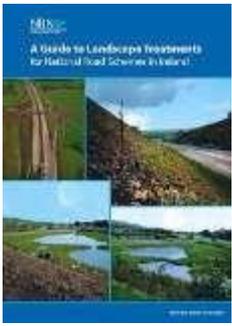
Cross Section A-A, Scale 1:50



Multidisciplinary Design - context led (Engineers, Safety Team, Landowner and Landscape Architects)

Landscape and Biodiversity – Design for Future Management



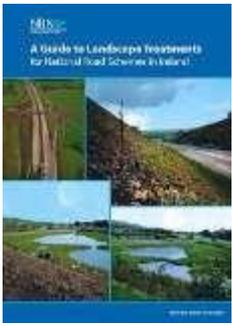


'Our management approach in many areas, once the landscape has established, is a limited intervention and self-sustaining approach.'



Waterford Greenway





'Our management approach in many areas, once the landscape has established, is a limited intervention and self-sustaining approach.'



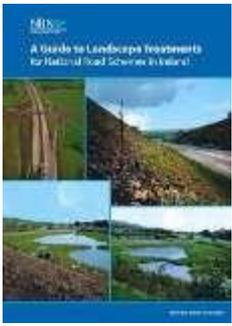
Waterford Greenway

Design for Biodiversity and Landscape maintenance and management

The future maintenance and management of landscape should be an integral part of the design process and considered from early stages in the Project.

Maintenance and **Management** are two separate concepts.





'Our management approach in many areas, once the landscape has established, is a limited intervention and self-sustaining approach.'



Waterford Greenway

Design for Biodiversity and Landscape maintenance and management

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Maintenance and **Management** are two separate concepts.

Landscape Management

Landscape Management actions seek to guide vegetation toward a specific goal.



Rural Road -Maintenance and Management

Design led by landscape context, long term landscape management aims and user requirements.

General aim of each Landscape Management Strategy

- Safety
- Operations
- Function of Greenway
- Biodiversity – Protection and Restoration
- Legal eg Ragwort , Invasives management

Design for Hedgerow Connectivity

- Retain existing hedgerows
- Plant gaps in hedgerows

Manage for Hedgerow Connectivity

- Cut back hedge every 3 years
- Leave verge at base of hedgerows uncut



Lakeshore Forest- Maintenance and Management

Design led by landscape context, landscape management aims and user requirements.

Design for rewilding

- Protect lakeshore vegetation at construction stage
- Install fencing to protect from grazing

Manage for rewilding

- allow native species self seed in selected areas to act as buffers to Lakeshore habitats.
- Remove fence once woody shrubs establish and landscape is self sustaining

Design for Woodland Restoration

- Remove non natives if any trees to be removed when planning route
- Protect retain trees during construction
- Plant native trees to replace conifers felled

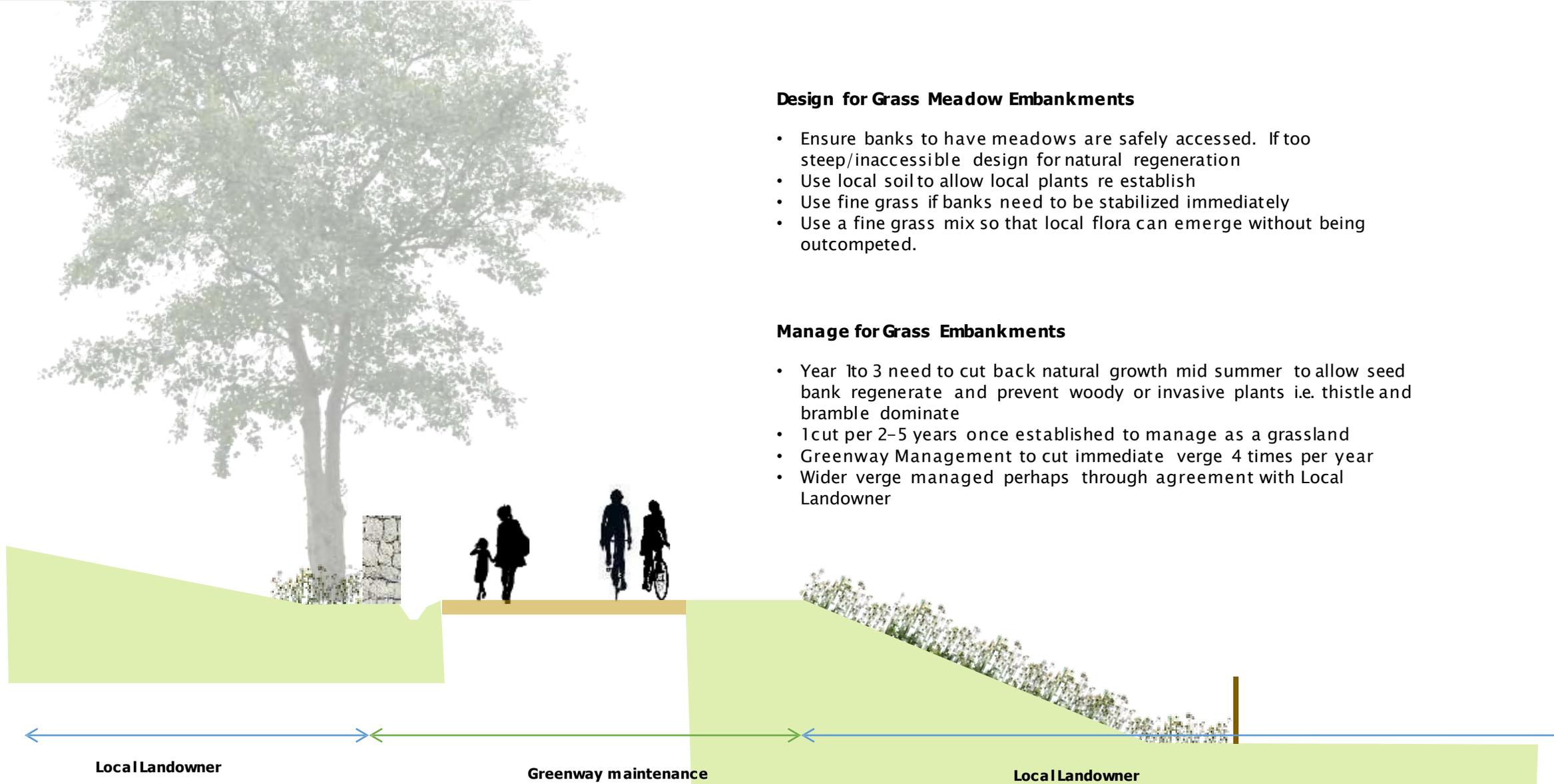
Manage for Woodland Restoration

- Once trees are established limited intervention required
- Survey trees at agreed intervals adjacent to Greenway
- Raise canopy of trees adjacent to Greenway
 - 5-year maintenance Rota



Embankments -Maintenance and Management

Design led by landscape context, landscape management aims and user requirements.



Design for Grass Meadow Embankments

- Ensure banks to have meadows are safely accessed. If too steep/inaccessible design for natural regeneration
- Use local soil to allow local plants re establish
- Use fine grass if banks need to be stabilized immediately
- Use a fine grass mix so that local flora can emerge without being outcompeted.

Manage for Grass Embankments

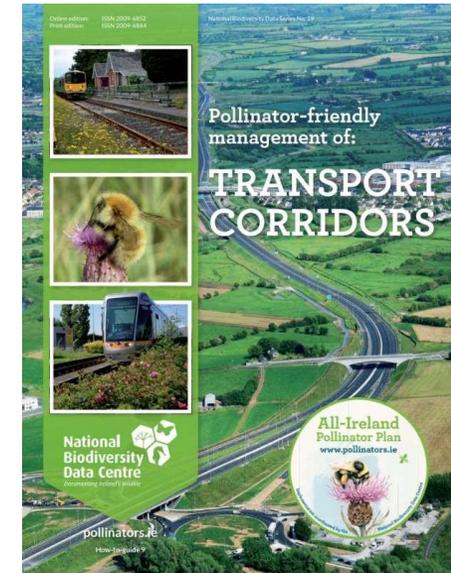
- Year 1to 3 need to cut back natural growth mid summer to allow seed bank regenerate and prevent woody or invasive plants i.e. thistle and bramble dominate
- 1cut per 2-5 years once established to manage as a grassland
- Greenway Management to cut immediate verge 4 times per year
- Wider verge managed perhaps through agreement with Local Landowner

Landscape and Biodiversity – All Ireland Pollinator Plan





AIPP Verge Mowing Regime



Wider Verge

Immediate Verge





Existing Hedgerows Retained

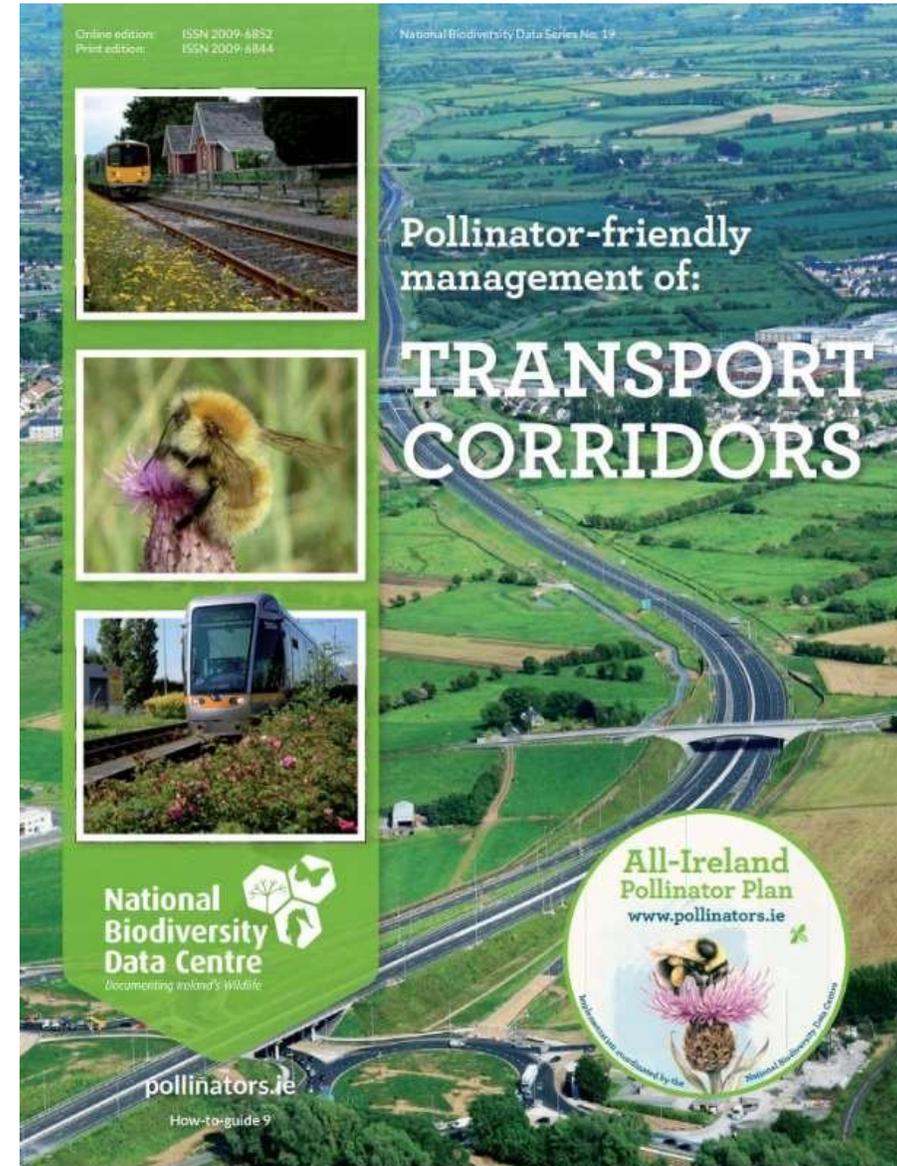
Wild flower layer
Re growing naturally from
local soils—
no imported seeds/grass



New Greenway Checklist Being Developed

- **Design stage:** Identify and protect existing biodiversity areas
- **Development stage:** Pollinator friendly greenway appropriate planting - what and where
- **Management Stage** - Pollinator friendly greenway mowing and maintaince

* Due Autumn 2023



Thank You

Eimear Fox

Landscape Architect

TII

