

Structural planting within character areas

Bath Road Edge

Street Trees

12-14cm girth or 14-16cm girth in streets clear stem 175-200cm.



Sorbus aria 'Lutescens'

Feature Trees

12-14cm girth or 14-16cm girth in streets clear stem 175-200cm.



Ginkgo biloba

Hedging

Pre-formed / instant hedge. 60cm tall.



Photinia 'Red Robin'

Central



Pyrus 'Chanticleer' / Sorbus 'Joseph Rock'



Acer buergerianum

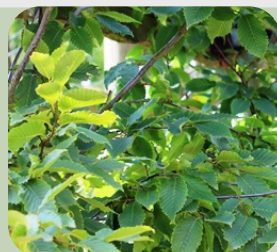


Prunus avium 'Plena'



Ligustrum ovalifolium

The Green



Carpinus betulus 'Franz Fontaine' / Malus 'Golden Hornet'



Liriodendron tulipifera



Prunus lusitanica

Railway Edge



Amelanchier 'Robin Hill' / Malus 'tschonoski'



Prunus serrula



Giselinia littoralis



Osmanthus burkwoodii

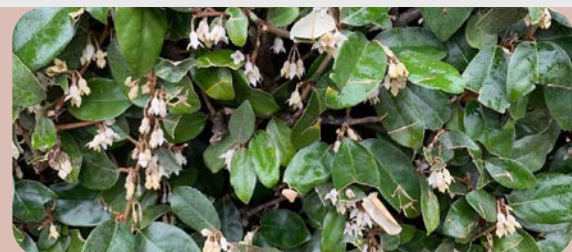
River Edge



Quercus rubra



Liriodendron tulipifera / Acer saccharinum



Elaeagnus ebbingei

Main Street

16-18cm girth, extra heavy standards, clear stem 200cm.



Ulmus 'New Horizon'

Swale Street

14-16cm girth, extra heavy standards, clear stem 200cm.



Acer campestre 'Elsrijk'

Typical plot planting layout

Block and plot layouts vary and so the planting design for each plot requires a unique approach. Plots with wider front gardens may include amenity grass lawns.

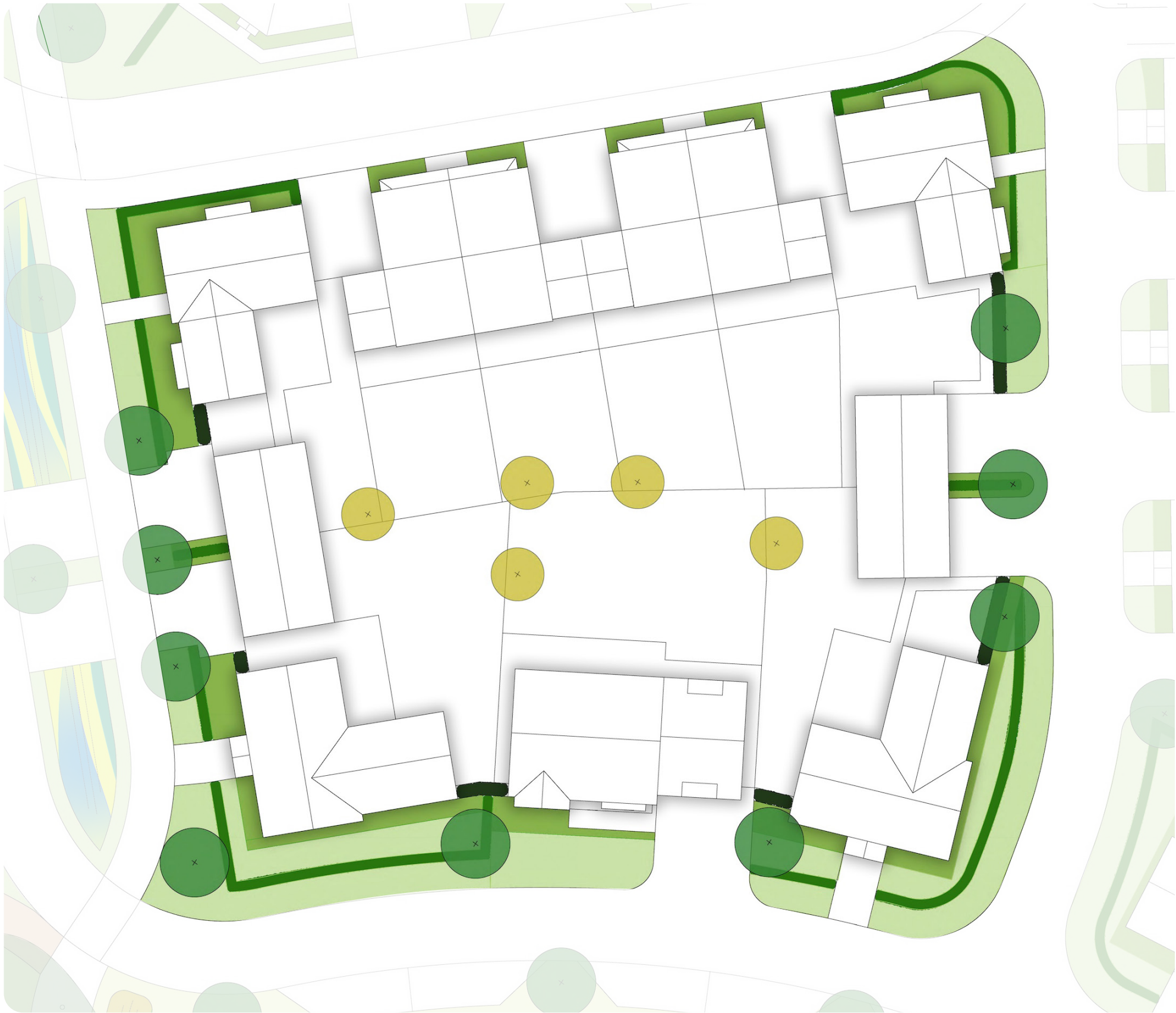
Where possible, hedge boundaries are placed at block corners where they help to define streetscape junctions. Tree planting is generally located to the side of buildings rather than to their fronts.

Ornamental planting comprises a mix of shrubs and herbaceous perennials, with typical palettes indicated overleaf.

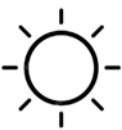
- Species rich amenity grass turf
- Ornamental shrub planting (5ltr pots @ 4 per m2)
- Pre-formed 'instant' hedge 60cm tall
- Pre-formed 'instant' hedge 180cm tall
- Tree planting
- Garden Trees

General planting specifications

- Tree planting with double timber stakes, irrigation tubes and 5cm depth bark mulch
- Native woodland / native scrub planting matrix with biodegradable guards, timber stake and 5cm depth bark mulch
- Shrub planting with 5cm depth bark mulch



Typical ornamental shrub planting



Heavenly Bamboo



Lavender and Stipa



Hebe 'Rakaiensis'



Choisya



Catmint '6 Hills Giant'



Tawhiwhi 'Irene Paterson'



Culver's Root 'Cupid'



Daphne



Spindle 'Emerald Gaeity'



Japanese Sedge



Mahonia ganpinensis



Dogwood 'Midwinter fire'



Heuchera 'Lime Marmalade'



Skimmia 'Kew Green'



Lillyturf



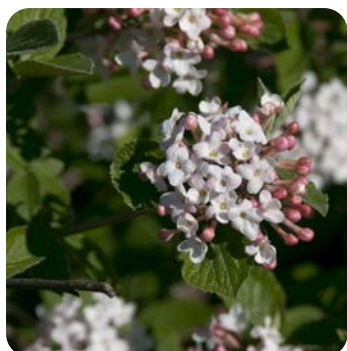
American Sword Fern



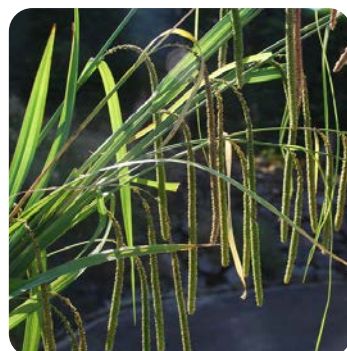
Lenten Rose



Japanese Forest Grass



Judds Viburnum



Pendulous Sedge



Elephant's Ears 'Silberlicht'



A variety of shrub and herbaceous planting mixes will be specified for the front gardens of plots in 5ltr pots at 4 per m2. Similarly, ornamental mixes are also present in open space areas such as the NEAP.

The emphasis for plant selection is on creating a simple, contemporary feel, with seasonal interest.

Planting mixes are tailored to the planting aspect.

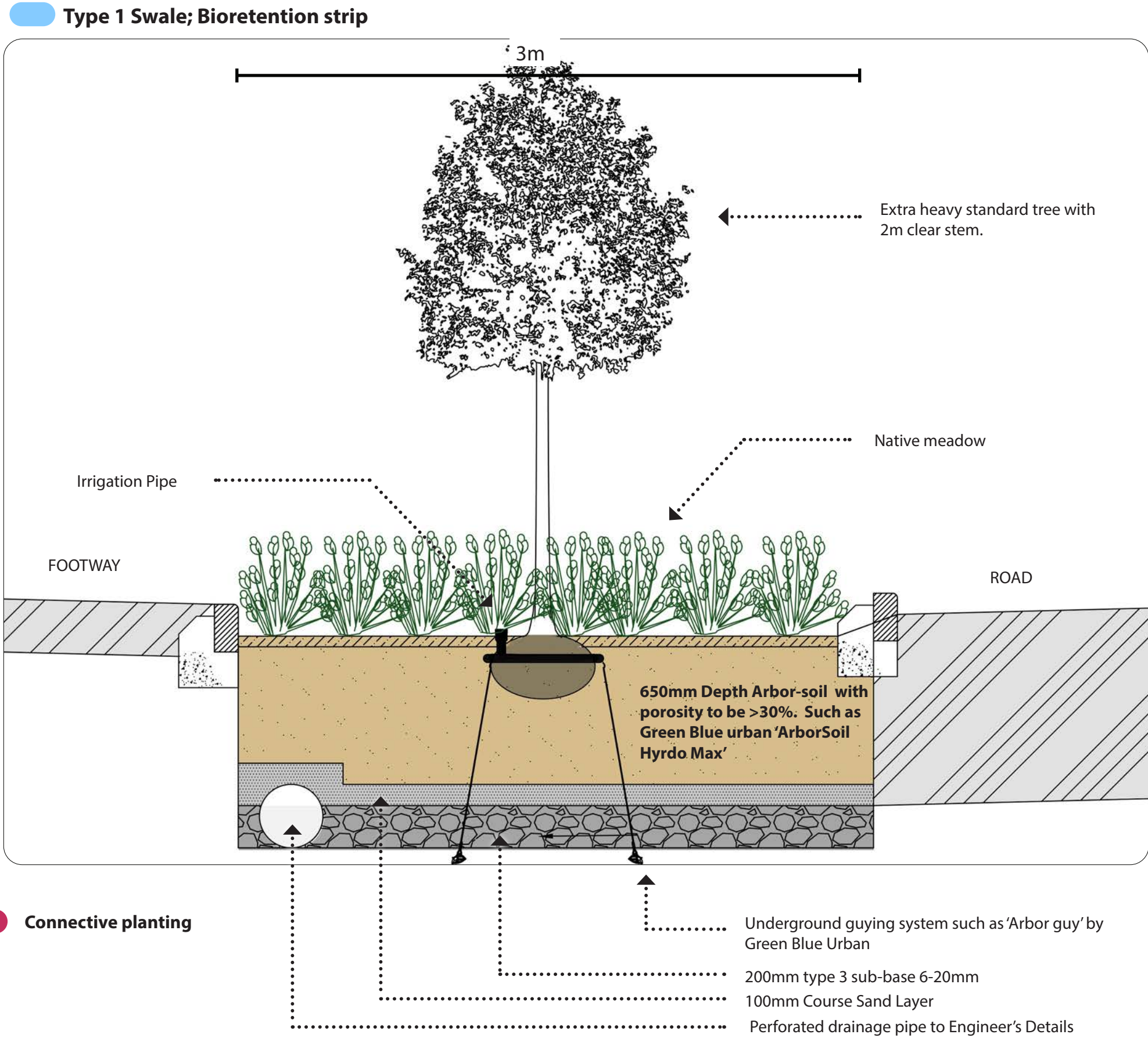
The plants specified will include a mix of hardy shrubs, herbaceous perennials and ornamental grasses, many of which are of known ecological value, for example, to pollinators.



Swales & attenuation areas

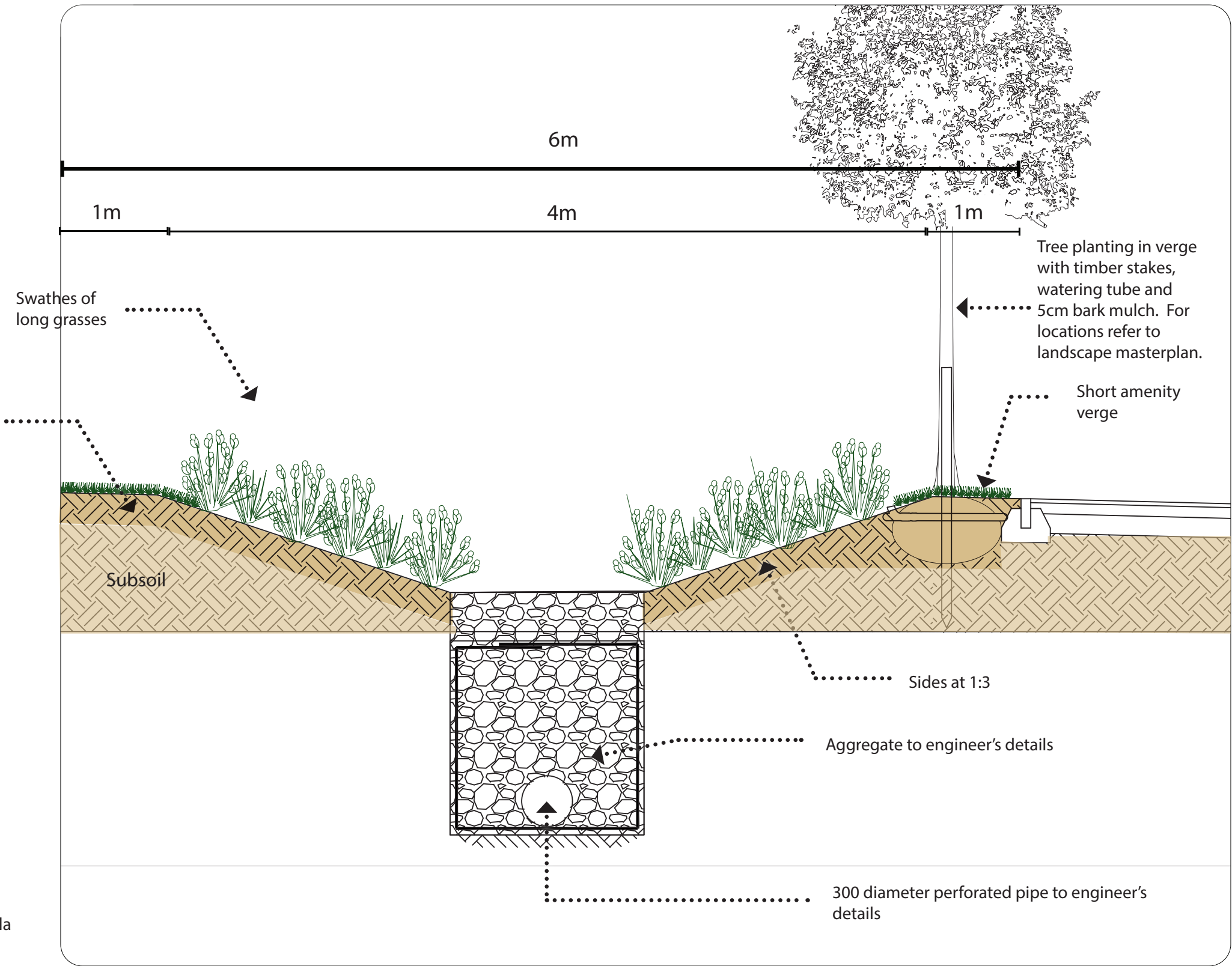
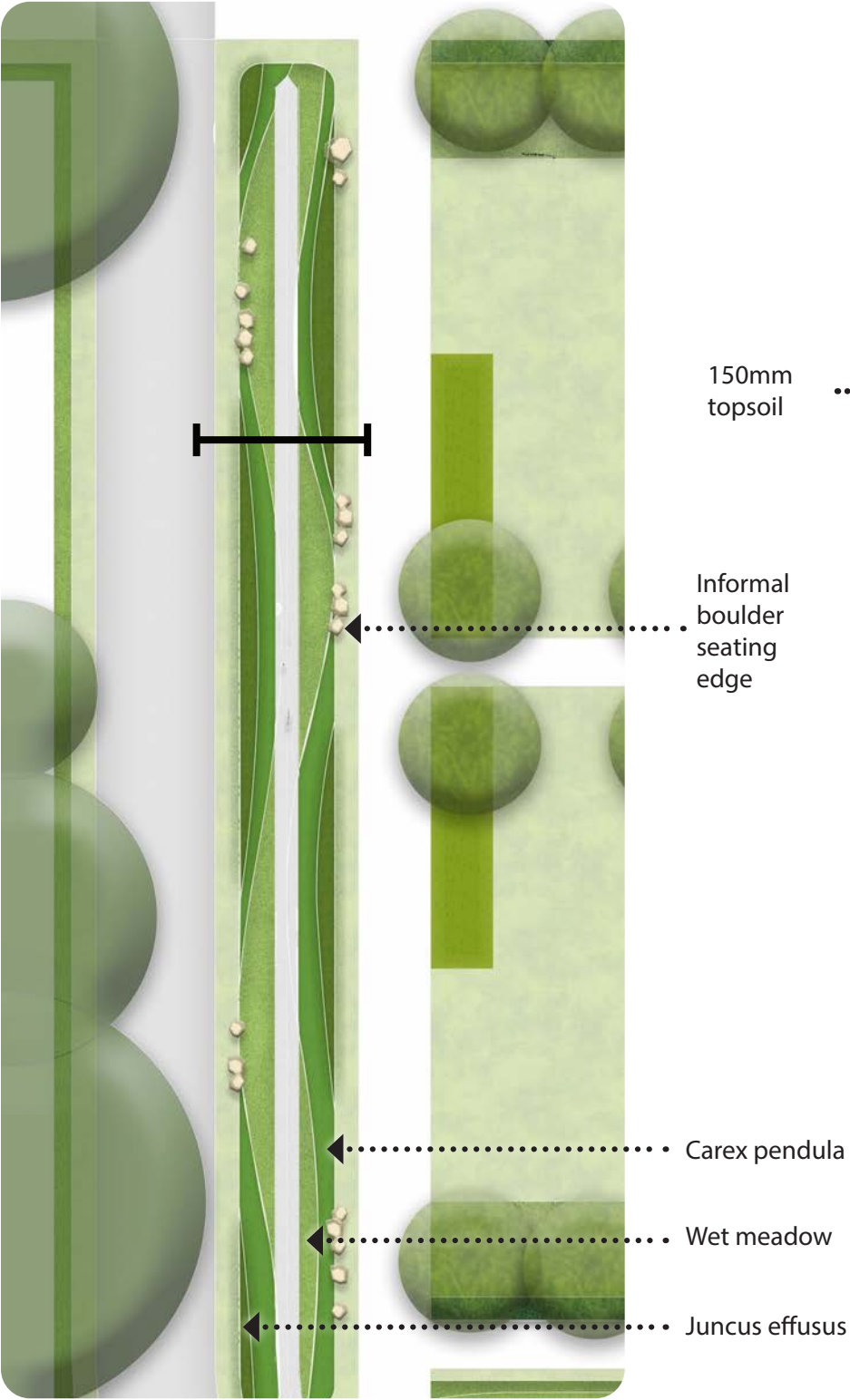


- Swale type 1 (Bioretention Strip) 3m wide**
Type 1 swale runs west - east along streets and includes tree planting
- Swale type 2 ('Riverine Swale') 6m wide;**
5m width swale @ 1:3 with 0.5m amenity grass margins
Type 2 swale runs along the main north - south street and includes meadow grassland and swathes of grasses.
- Attenuation basins**
The attenuation basins will have sloping banks at 1:5 with wet meadow grassland.
- Shallow Scrapes** in the meadow (up to 40cm deep for wading birds to ecologist's recommendations).



Swales & attenuation areas

Type 2 Swale; With Riverine Grasses



Riverine Swales are 6m wide and will be planted with swathes of native grasses and native wet meadow to create a visual feature along the main north-south connection through the development connecting with Muddler's Lane. Trees will be planted along its edge (where houses abut the street). The swale edge will also include boulders as informal seating elements.

Wildflower Turf 'SuDS Turf' or potentially turf to be cultivated from seed collected from the existing riverside grasslands.

Planting swathes (5ltr pots @ 4 per m2); Pendulous Sedge (*Carex pendula*), Soft Rush (*Juncus effusus*), Yellow flag iris (*Iris pseudacorus*).

Swales & attenuation areas

Attenuation Basin

The attenuation basin is designed as an integrated landscape feature. It has shallow 1:4 banks that negate the need for fencing or railings.

Mown paths provide circular routes around it with informal boulder seating set at its edge. Scrub is planted in pockets around its banks and around headwall inlets to soften their appearance..

The basins will be turfed or seeded with native wet meadow (with the potential to use seed harvested from species rich wet grassland in the local area). Areas designed to hold water permanently will include native aquatic planting and native marginal planing at their edges.

Native Marginal Plants;

2Ltr pots @ 4 per m2. Yellow Flag Iris, Marsh Marigold, Pendulous Sedge, Sharp Flowered Rush.

Native Aquatic Plants;

Native Water Lilly, Native Water Hornwort, Native Water Mint, Native Bog Bean.

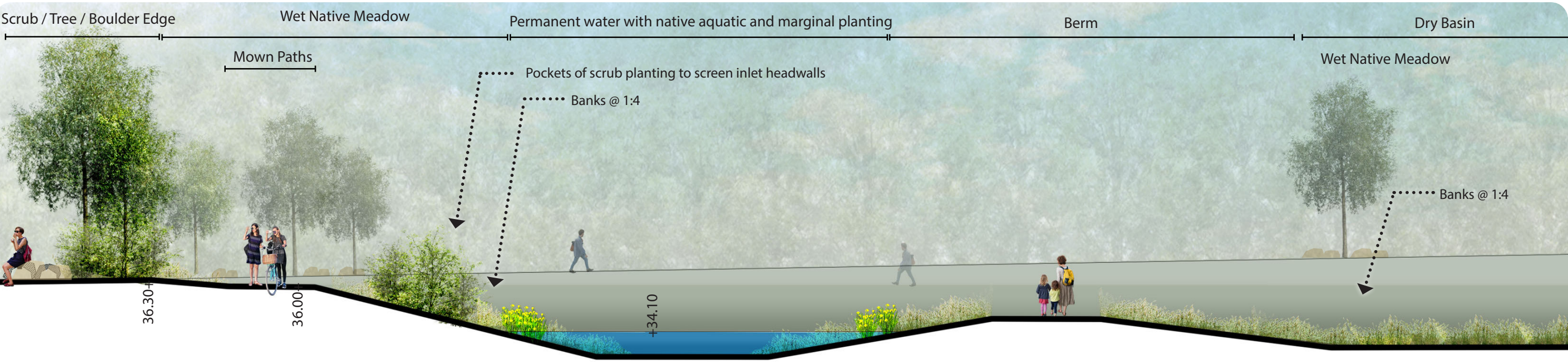
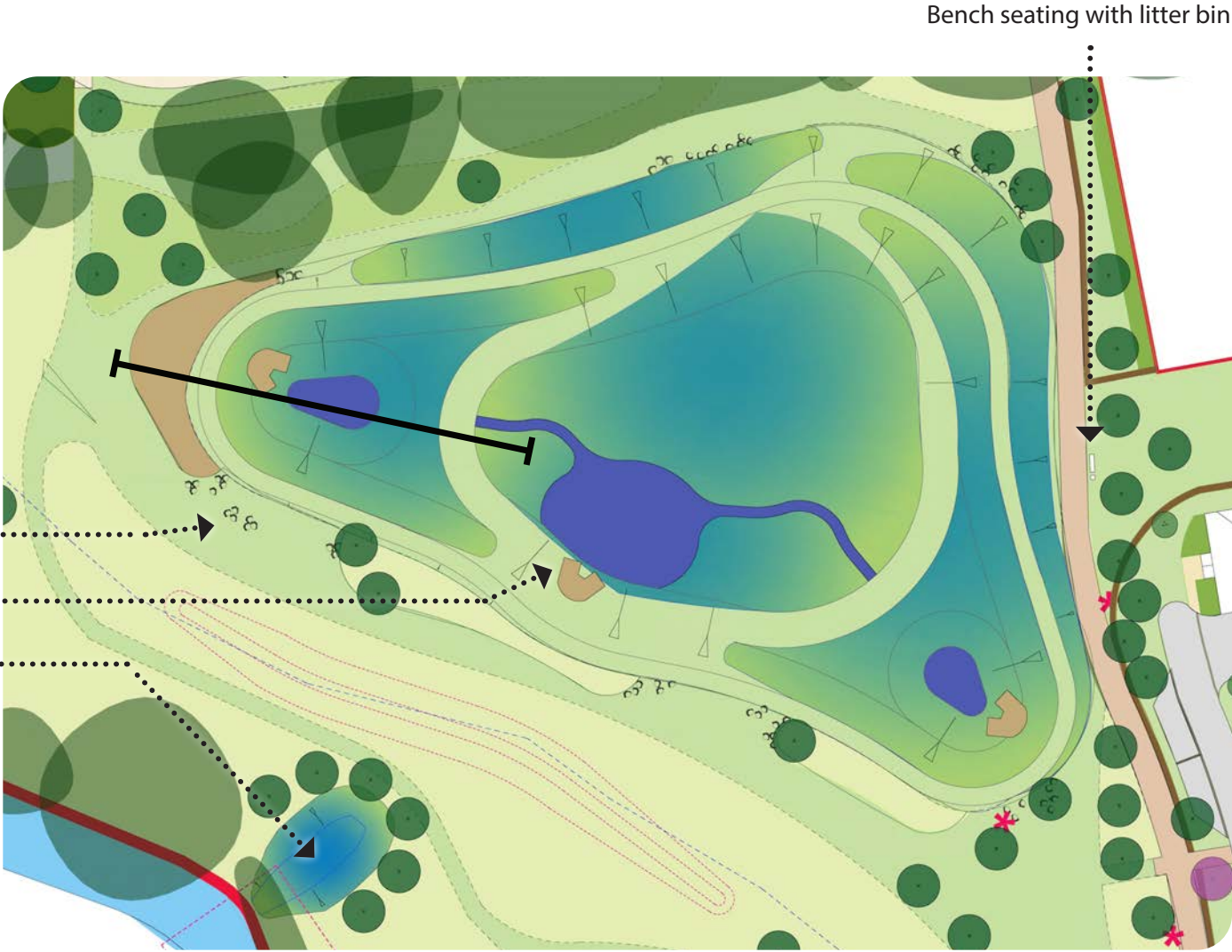
- Native meadow
- Native scrub planting
- Native tree planting
- Species rich amenity grass
- Native wet meadow on banks
- Permanent water with native aquatic / marginal planting

Boulder seating

Headwall inlet

Outfall to river

* Potential informal play elements / creative interpretation and wayfinding signage to be explored through planning conditions



Illustrative cross section of attenuation basin

Connective planting and ecological scrapes

Connective Planting

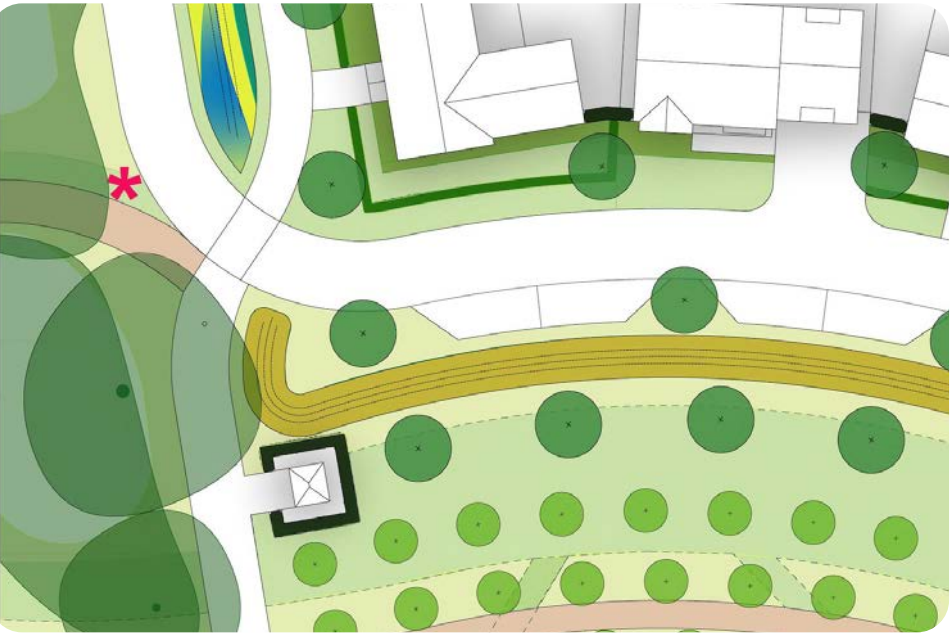
The master plan identifies two areas of 'connective planting'.

Connective planting is in shallow linear depressions that are not part of the engineered drainage. The depressions are 30cm deep and with sides no steeper than 1:3. The shallow depressions will have relatively damp soil conditions and will be planted with suitable mix of native and ornamental plants including;

- Pendulous Sedge (*Carex pendula*)
- North American Wild Hydrangea (*Hydrangea arborescens*)
- Chinese astilbe (*Astilbe chinensis*)
- Lady fern (*Matteuccia struthiopteris*)
- Common rush (*Juncus effusus*)

in 5ltr pots @ 4 per m2.

Connective planting is intended to create a visual link between the swales within the development area and the water meadows.



Connective planting

Shallow scrapes for Wading Birds

Several narrow, shallow scrapes will be made in the water meadow grasslands within the flood area. These become temporarily inundated during flood and provide valuable habitat for wading birds. They will be seeded with native wet meadow.

Further details can be found in the ecologist's reports.



A lapwing wading in a shallow scrape



Ecological scrapes

- Native meadow
- Native scrub planting
- Native Tree Planting
- Species rich amenity grass
- Native wet meadow in basin
- Native marginal & aquatic planting

Tree Canopy Cover

Twyford Neighbourhood Plan Tree Canopy Cover Policy

Policy TW8 of the Twyford Neighbourhood Plan states ‘Development proposals on sites of 0.5 ha or more outside the Village Centre as defined in Policy TW4 and on the Policies Map, should achieve a future canopy cover of 25% of the site area principally through the retention of existing trees and the planting of new trees. Where such an approach would be impracticable for viability, layout or design reasons, the use of other green infrastructure (such as green roofs and walls) should be used where they can offer similar benefits to trees.’

It also states that ‘the policy has been designed to be applied in a flexible way. In specific terms it acknowledges that issues such as commercial viability, site layouts and design may make the expectations of the policy impracticable on a site-by-site basis.’

Areas excluded from the canopy cover policy requirement

The canopy cover calculation methodology allows for the exclusion of ‘retained protected habitat’ and ‘other areas’. At the site, the areas excluded are;

- The Water Meadows where the emphasis is on conservation and enhancement of the existing grassland habitat and where a 25% tree canopy cover would be detrimental to its quality.
- The easement around the existing drainage route that runs through the Water Meadows and Orchard in which tree planting is prohibited.
- The main access to site including the remodelled Bath Road and the new roundabout at the site gateway. This is the subject of a separate application.

The project ecologist (Nicholsons) stated;

‘The new water meadow to be created should be excluded from the canopy cover requirement. This is to ensure that this habitat can be



Landscape Masterplan illustrating tree canopy cover at 25 years (according to Tree and Design Action Trust guidance), and the areas excluded from the calculations

established and maintained to meet its character as a grassland meadow and achieve Moderate condition, as per the BNGA. Increase of tree coverage in this habitat could result in failure of seed germination required to meet the habitat character, or encourage growth of undesired grassland/tree species mix impacting the habitat condition. The proximity to the River Loddon makes this area highly suitable for new wetland meadow creation and this should be prioritised over increase in canopy coverage in this particular area.’

Proposed tree planting and resulting canopy cover proposals

The landscape design retains the vast majority of the site’s existing trees and every effort has been made to create space to include a diverse range of new tree planting distributed throughout the development including along its streets and in green spaces. The tree planting is an integral part of the green and blue infrastructure that runs through the site.

The proposals retain nearly 8,000m2 of existing tree canopy and according to the prescribed methodology will add over 14,000m3 through new tree planting.

According to the methodology, this will result in a canopy cover of 25%.

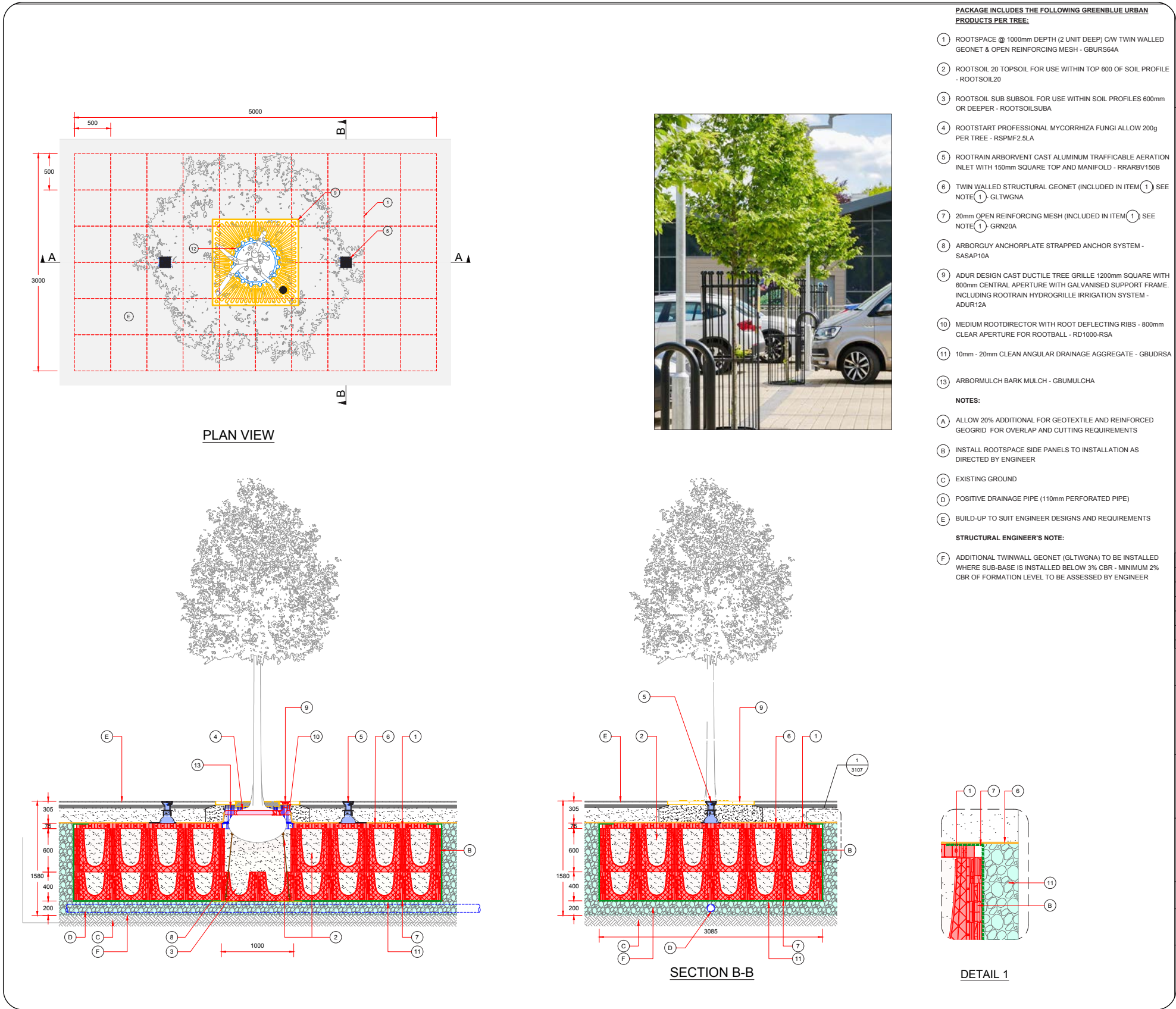
 Areas excluded from the calculations

Trees in areas with constrained ground conditions

The vast majority of trees are positioned in generous areas of soft landscape that provide an adequate volume of growing media for root growth.

Positioning trees in constrained areas with limited growing media is avoided.

Where necessary, root cells will be placed below hard landscape to provide the adequate amount of growing media, as illustrated in the plan opposite, by Green-Blue urban ltd.



Section 106 Open Space Provision

The Section 106 agreement requires the development to deliver a number of open space types of fixed amounts. These are;

-  Amenity Green Space 0.90 Ha
-  Natural and Semi-Natural Open Space 3.24 Ha
-  Parks and Gardens (incorporating 700m2 landscaped Civic Space) 1.02 Ha
-  Children's Play (including NEAP and MUGA) 0.13 Ha

Total Open Space 5.29 Ha

Whilst the amount of open space types to be delivered is fixed, the locations shown at outline stage are nominal.

The plan opposite shows that the locations of open space have been adjusted to fit the design progression expected at the Reserved Matters stage.

The types and quantity of open space shown for reserved matters is equal to that appended to the S106 agreement.

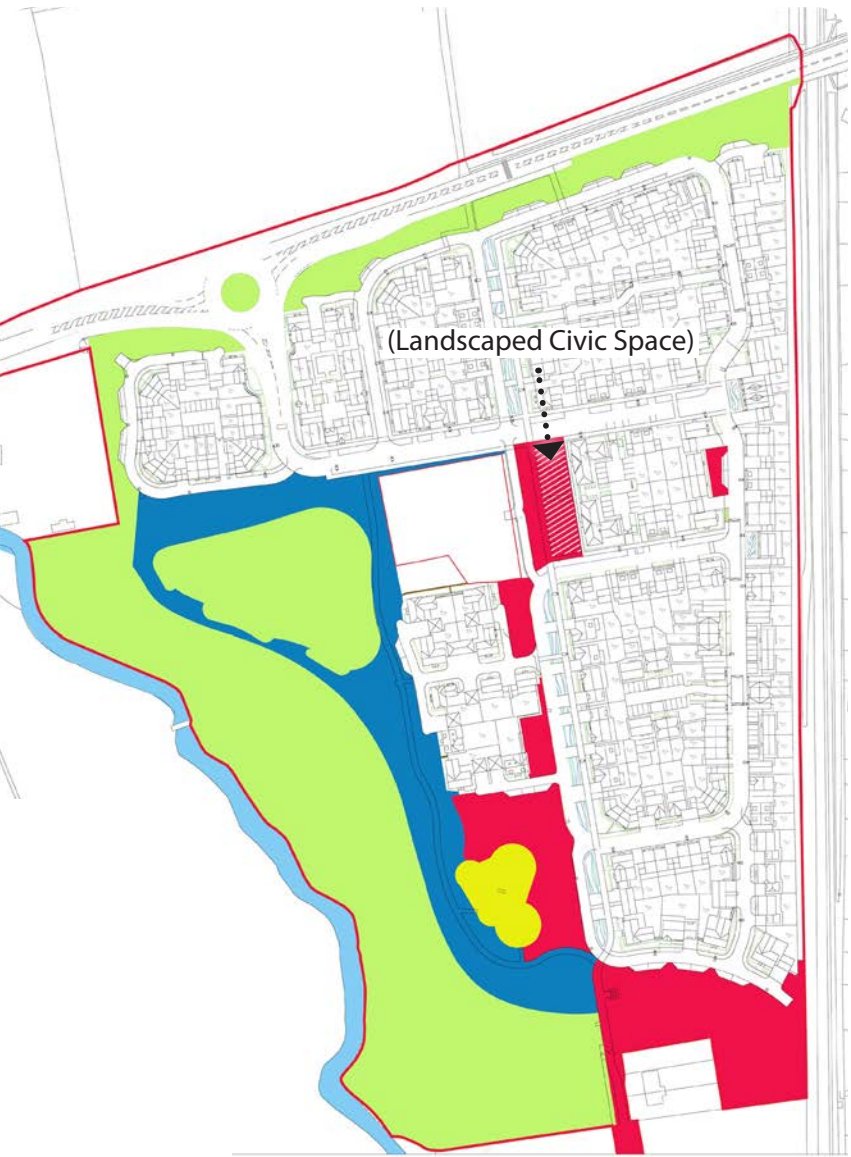
The following pages summarise the guidance for provision of the above open space types according to Wokingham's Open Space, Sports and Recreation Strategy and a subsequent clarification of expectations received from Wokingham. They demonstrate how the design complies.

Outline / S106



Extract from outline 'Open Space Typology Plan' (Paul Brown Architect), appended to the S106 agreement

Reserved Matters



Open Space Typology Plan adapted to the Reserved Matters Layout

S106 Open Space Provision

S106 Amenity Green Space

According to the guidance and clarification;
‘Should be easily accessible to the surrounding community, with well-connected footpaths and cycleways.’
A 3m wide path runs from north to south along the edge of the amenity space, providing an accessible connective route linking with the broader open space network and housing areas.

‘Must accommodate a range of informal recreational activities, including dog walking, relaxation, and social gatherings.’
The main body of the amenity space comprises a large swathe of short amenity grassland suitable for riverside relaxation and a range of recreational activities including informal ball games and gatherings. The short grassland connects with mown paths that run through the broader water meadows area providing a circular route suitable for exercise and dog walking.

‘Should integrate native planting, trees, and wildflower areas while ensuring a safe and welcoming environment.’
The majority of trees in the amenity space are native species set in short amenity grassland, or long native meadow grassland verges. Trees are clear stem ensuring sight-lines beneath their canopies. Most of the amenity space is overlooked by proposed housing.

‘Seating, shade, and opportunities for informal play should be strategically placed to cater to different age groups.’
The space includes bench seating as well as informal boulder seating around the attenuation basin. The landscape master plan indicates locations for potential informal play elements that could take the form of earth mounds / boulder clusters or sculptural elements to be explored through planning conditions.



S106 Amenity Green Space Area

3m wide path

Bench seating and bin



Amenity grasslands suitable for a range of recreational uses

- Native meadow
- Native Tree Planting
- Species rich amenity grass
- * Potential informal play elements / creative interpretation and wayfinding signage / to be explored through planning conditions

S106 Natural and Semi-Natural Open Space

According to the guidance and clarification;

‘These spaces should prioritise native habitats, including woodlands, meadows, wetlands, and hedgerows, to enhance biodiversity and support local wildlife.’

- The majority of the natural and semi-natural open space comprises existing grasslands in the flood-plain that will be conserved and enhanced for biodiversity.
- The attenuation basin provides wetland habitat including marginal grasslands that are temporarily inundated as well as pools of permanent water with native aquatic planting. Shallow scrapes will be formed in long grassland for wading birds.
- The space includes areas of native scrub suited to the damp riverside conditions. Similarly the tree species proposed are native and riverine including Willows, Alder, Downy Birch and Black Poplar.

‘Maintain a naturalistic character with minimal formal infrastructure; paths should be permeable and constructed from natural materials where possible.’

The design will maintain a naturalistic character. Paths through the water meadow are mown grassland.

‘Ensure clear but subtle wayfinding, using sensitive signage that does not detract from the natural setting. Include interpretation boards, nature trails, and opportunities for community engagement (e.g., the bng project).’

The path through the meadows forms a nature trail that can be brought to life through potential creative interpretation and wayfinding signage / sculptural elements that provide directions and/ or narrate the biodiversity and climate change mitigation story of the riverside. These elements are to be explored through planning conditions.



S106 Children's Play; NEAP (Neighbourhood Equipped Area for Play) and MUGA (Multi Use Games Area)

‘Design must adhere to the Wokingham Play Space Design Guide to ensure high quality play provision.’

The design proposals for the Play area are set out on Pages 10 and 11 of this document and are to be developed in detail through conditions.



The existing grasslands will be conserved and enhanced for biodiversity. Mown paths will provide access to nature.

- Native meadow grasslands conserved and enhanced for biodiversity
- Native scrub planting
- Native Tree Planting
- Species rich amenity grass / mown paths
- Native wet meadow in swale / attenuation basin
- Potential creative interpretation and wayfinding signage / sculptural elements
- Ecological scrapes for wading birds

S106 Open Space Provision

S106 Parks and Gardens (incorporating 700m2 landscaped Civic Space)

According to the guidance and clarification;

'These spaces should cater to diverse users, including areas for active recreation, quiet relaxation, community events and activities.'

Loddon Green provides a formal lawned space suitable for a range of community events and activities, whereas The Orchard provides an opportunity for the community to engage in growing. Parks and Gardens connect with the north-south Muddlers Lane and broader recreational routes through the water meadows.

'Incorporate a mix of formal planting, lawns, and structured elements (e.g., sculptures) to create an attractive and engaging environment. Provide step-free access, clear sight-lines, varied seating options, and spaces designed for all age groups and abilities.'

Loddon Green includes formal ornamental shrub planting and lawns. The masterplan indicates locations for creative interpretation and wayfinding signage / sculptural elements to be explored through conditions. Access will be step free with paths no steeper than 1:21. The Orchard and Loddon Green provide bench seating. The Riverine Swale that passes along the western edge of Loddon Green includes informal boulder seating at its edge.

'Ensure natural surveillance through well-planned sight-lines, appropriate lighting, and placement near active frontages. Including drought-resistant planting, SuDS, and tree canopy cover for shade.'

The tree planting proposals in Parks and Gardens are generous and will provide shade. Trees are specified as clear stem (except for orchard trees) allowing sight-lines beneath their canopies. Parks and Gardens are well overlooked by proposed housing. The Riverine swale provides an attractive SUDS element.



S106 Parks & Gardens Area

'Loddon Green' with formal lawns and ornamental planting



Orchard Trees

New woodland planting to enhance existing north-south tree corridor along Muddlers Lane in line with ecologist's recommendations

- Native meadow grasslands conserved and enhanced for biodiversity
- Native Tree Planting
- Orchard Tree Planting
- Species rich amenity grass
- Native woodland planting
- Low native woodland shrub planting

* Potential creative interpretation and wayfinding signage / sculptural elements

Biodiversity Net Gain and Landscape and Ecological Management

Nicholsons Ecology have produced

- Biodiversity Net Gain Assessment
- Biodiversity Enhancement Plans
- Landscape and Ecological Management Plan
- Ecological Permeability Report

The biodiversity net gain assessment found that **the proposed development will result in a net gain in habitat biodiversity of +15.13%** (+5.16 habitat units), **a net gain in hedgerow biodiversity of +146.84%** (+6.30 hedgerow units), **and a net gain in watercourse biodiversity of +15.60%** (+1.07 watercourse units).

The BNG report sets out requirements for habitat enhancement. Of particular note is the existing woodland strip (w1g) that runs down the centre of the site along the north-south 'Muddler's Lane'. Enhancement of this woodland strip will be achieved by removing any invasive or undesirable species to encourage the growth of a shrub layer, and the retention of deadwood features where safe to do so. Wood arising from tree removal (as detailed in the Arboricultural Impact Assessment) will be lain on the ground below the tree canopies.

Biodiversity enhancements include a range of bird, bat and insect boxes as well as 'hedgehog highways'. The native meadow in open space areas provides ample habitat for hedgehogs to form commuting routes. Hedgehog fencing will be specified in the development areas; i.e. with 130x130mm gaps to allow access to, from and between gardens.

Full details of habitat retention, enhancement and creation can be found in Nicholsons Ecology Reports and Plans listed above.



BNG Post Intervention Plan by Nicholsons Ecology.