

# Proposed Development at Craddockstown Rd.

Craddockstown, Co.Kildare

Ronan Mac Diarmada & Associates

Landscape Architects & Consultants



## PLANNING

March 2025



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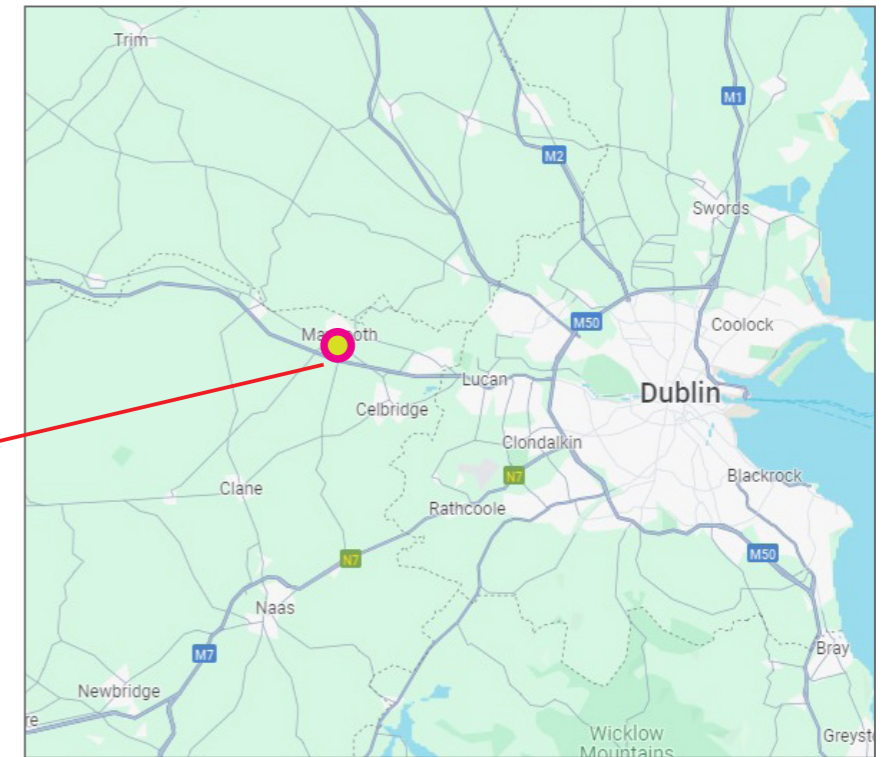
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# 1. CONTEXT

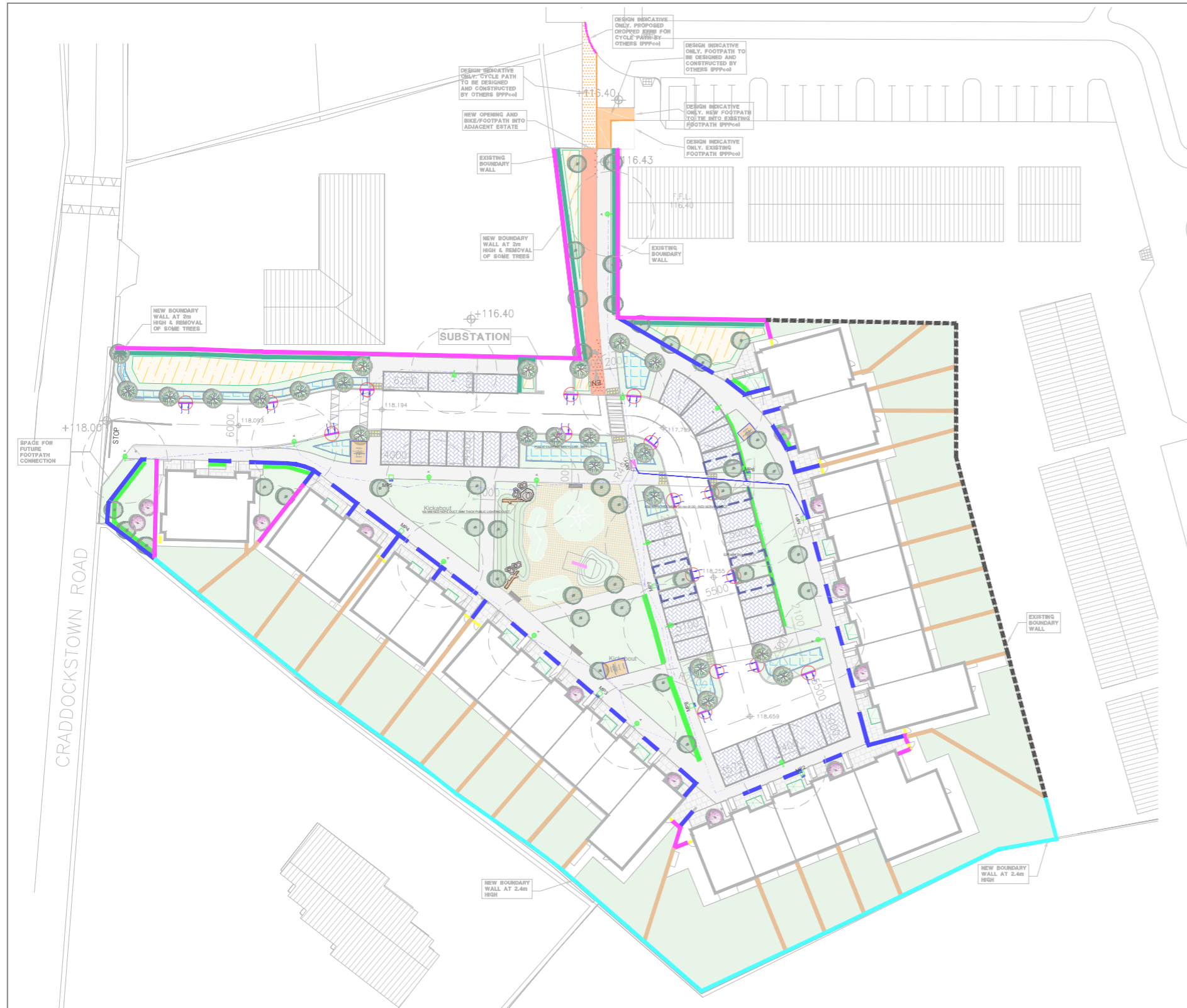


 Subject Lands



## 2. DESIGN PROPOSAL

### Landscape Plan



The landscape design for this residential development strives to create a harmonious and sustainable living environment that blends seamlessly with the surrounding community, addressing both aesthetic and practical considerations. The project encompasses the construction of 33 residential units distributed across 7 1 bed, 14 2 beds, 6 3 beds and 1 4 bed units. Key landscape features include the strategic replacement of Existing Trees and hedgerow, the enhancement of green buffers, and the implementation of sustainable urban drainage systems (SuDS).

The scheme incorporates a variety of native pollinators to boost the site's biodiversity while enhancing its visual appeal, creating a more inviting and dynamic environment.

The main open space are integral parts of the design, fostering community interaction and providing recreational opportunities for residents. Green buffers, including hedgerows, a tree-lined streetscape, and mitigation planting along the boundaries, form a robust planting palette that enhances privacy, reduces noise, and supports local wildlife, contributing to a healthier and more pleasant living environment.

To promote sustainability, the design will incorporate some of SuDS features, such as permeable surfaces. These elements mitigate flood risks, support local biodiversity, facilitate natural water infiltration, reduce surface runoff, and promote groundwater recharge. The streetscape design features shared surface treatments and planted verges enhancing both safety and aesthetic appeal.

Overall, the landscape design prioritizes sustainability, safety, and aesthetic appeal. By replacing problematic trees with more suitable species, respecting the existing context, and implementing sustainable practices, the design aims to enhance residents' quality of life, creating a beautiful, functional, and environmentally responsible community.





### EXISTING TREES RETAINED

# 13no.

A total of 72 trees were identified and assessed.

The condition of trees is generally moderate to good, with the main concentration of higher quality trees located in the west of the site.

### In conclusion, as per the Arborist Report:

"The current development proposals impact significantly upon the tree population. However, most of the trees requiring removal are small and/or low in quality and lack diversity. Ash and wych elm predominate within the native population, and both species may be affected by disease. The majority of the wych elm on the proposed site have been killed by Dutch elm disease, and while ash dieback symptoms are minimal at present on trees within the proposed site, many neighbouring ash trees are in serious decline.

6.13 Retained trees close to construction activities must be protected using barriers as specified in the method statement. Where construction is to take place within the RPAs of retained trees, methods which limit damage to roots such as piling must be utilised.

6.14 The loss of trees and hedgerows can in part be mitigated by the high-quality planting of a mixture of small, medium, and large canopy native trees selected for species diversity, pest & disease resistance, and for climate change resilience. The value (e.g., biodiversity; carbon sequestration) of newly planted trees is not equivalent to that of established trees, and therefore, more trees must be planted than the sum of those removed. "



### EXISTING TREES REMOVED

# 59no.

A total of 72 trees were identified and assessed.

#### As per the Arborist report :

"The loss of trees and hedgerows can in part be mitigated by the high-quality planting of a mixture of small, medium, and large canopy native trees selected for species diversity, pest & disease resistance, and for climate change resilience. The value (e.g., biodiversity; carbon sequestration) of newly planted trees is not equivalent to that of established trees, and therefore, more trees must be planted than the sum of those removed."

We have implemented a range of native tree species and native hedge planting to help mitigate some of the removal of planting.



### PROPOSED TREES

## 73no.

#### Street Trees / Front Garden 14-16cm

- Tilia Tomentosa 'Brabant'
- Pyrus calleryana 'Chanticleer'
- Carpinus betulus 'Fastigiata'
- Sorbus aucuparia
- Tilia cordata 'Greenspire'

#### Open Space 14-16cm / 20-25cm

- |                 |                        |
|-----------------|------------------------|
| Betula pendula  | Pinus sylvestris       |
| Alnus glutinosa | Quercus robur 'Koster' |
| Quercus robur   | Aesculus hippocastanum |
| Fagus sylvatica | Prunus avium           |

#### Front Garden 12-14cm

- Amelanchier lamarckii

#### Multistemmed Trees 12-14cm

- Prunus avium 'Plena'
- Betula utilis var. jaquemontii

Replacing the Cypress Leylandii trees with oak, beech, and hornbeam trees is strategic decision that will offer numerous advantages.

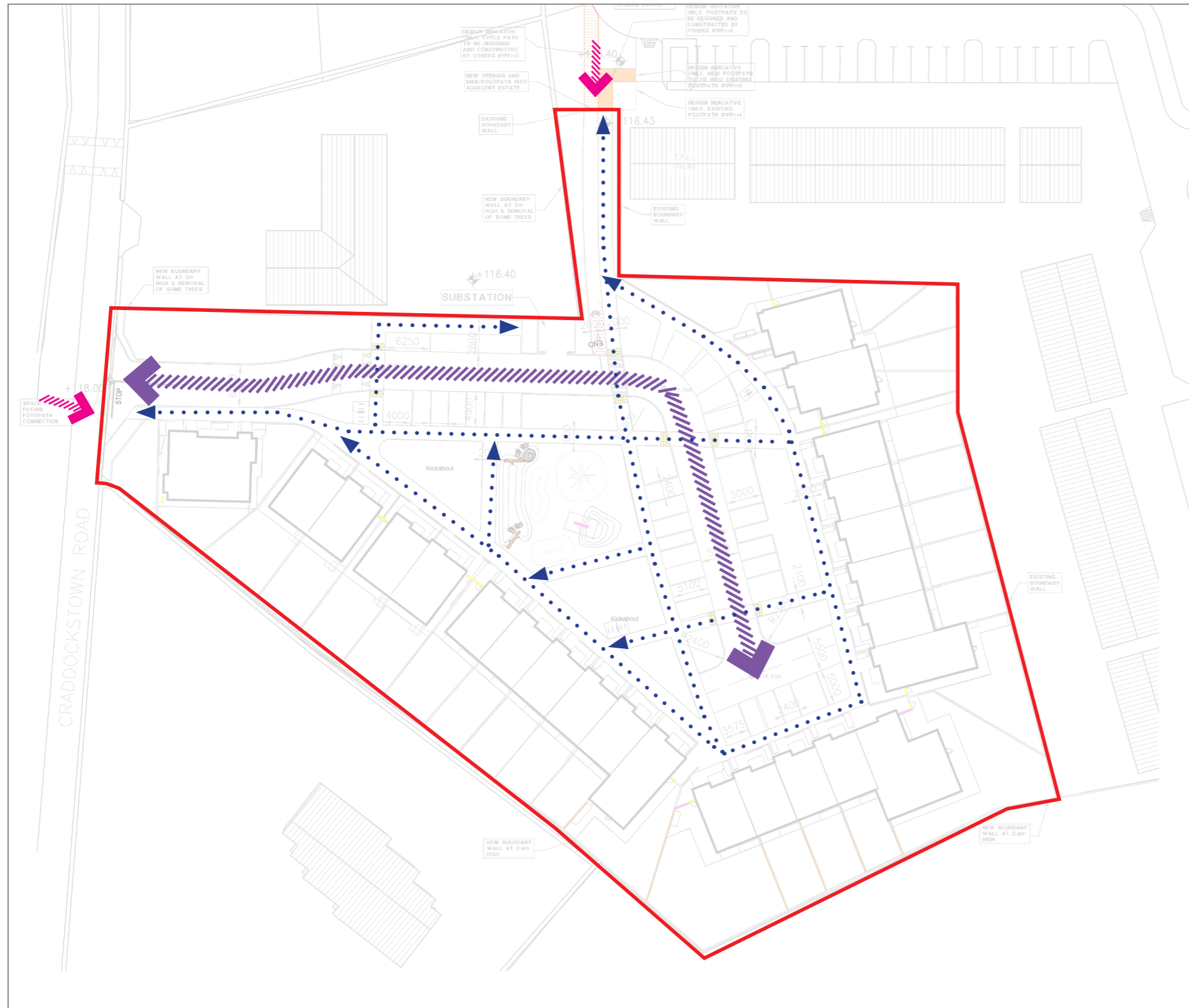
These species grow at a more manageable rate, ensuring they do not overwhelm the streetscape or excessively block sunlight, thus enhancing light penetration to the site and proposed gardens/housing units. They have less invasive root systems, reducing the risk of structural damage to foundations, roadways, and underground utilities.





In terms of safety, these trees are less prone to unmanageable falling parts, significantly lowering the hazards to people and property. Aesthetically, oak, beech, and hornbeam trees provide a more harmonious integration with the landscape, improving views and enhancing the overall visual appeal of the area. They offer seasonal interest with their foliage, creating a dynamic and attractive environment throughout the year. This thoughtful replacement will contribute to a more sustainable, safe, and beautiful community setting.

The proposed trees will be species that are better suited to the current environmental conditions, offering greater benefits such as improved air quality, increased carbon sequestration, and enhanced habitats for local wildlife. This will contribute to the ecological health of the area.

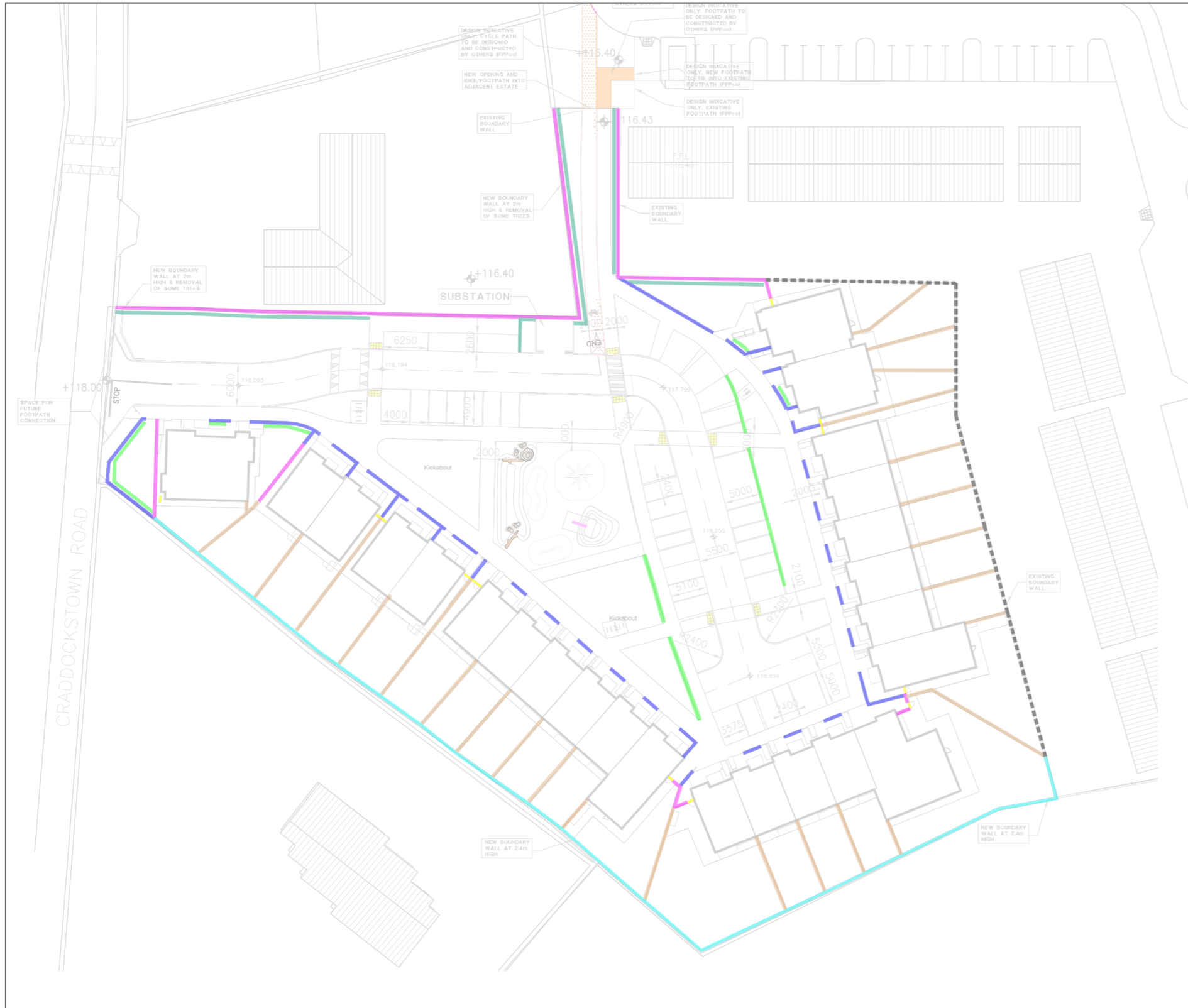
We are confident that these changes will bring substantial benefits to our community, enhancing both the quality of life for residents and the overall appeal of the housing development.





-  Subject Lands
-  Vehicular Links
-  Primary Pedestrian Connections
-  Potential Permeability



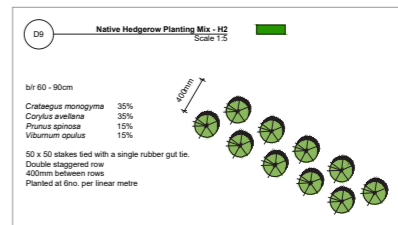
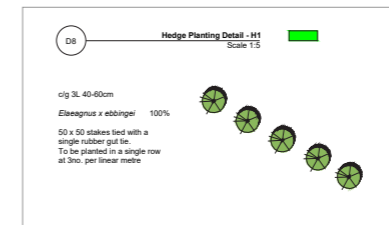
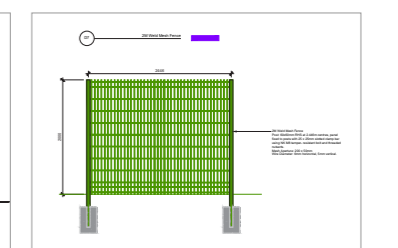
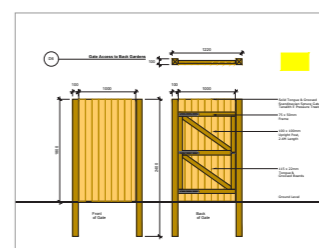
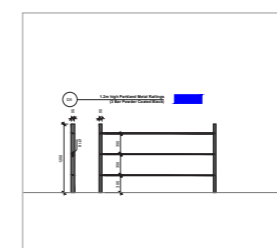
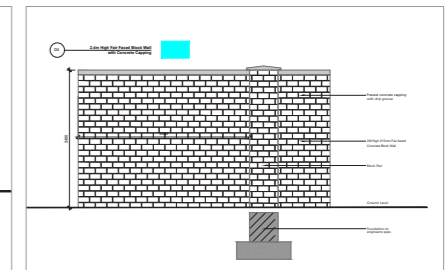
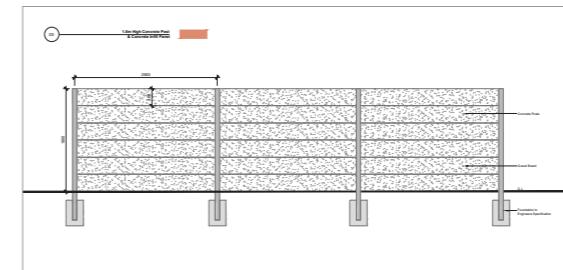
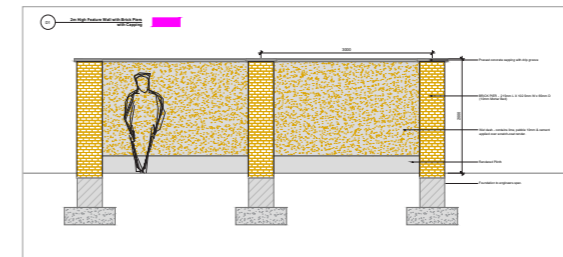


**BOUNDARY TREATMENT**

- Feature Wall (2m high)  
Dry Dash Block Wall with Brick Pier or similar approved
- Residential Boundary Wall (2m high)  
Existing Boundary to be retained and made good where necessary or similar approved
- Residential Boundary Fence (1.8m high)  
Concrete post & concrete infill panel fence, or similar approved
- Residential Boundary Wall (2.4m high)  
Fair-faced Block Wall with Conc. capping, or similar approved
- Parkland Railing (1.2m high)  
(3 Bar Powder Coated Black) or similar approved.
- Gate Access to Back Gardens (1.8m high)  
Solid Tongue and Groove Scandinavian Spruce Gate or similar approved
- Weldmesh Fence  
2m High Weldmesh Fence to Existing Tree Line
- H1 - Structural Hedgerow (450mm topsoil depth / 100cm single row)**

Species Name	Specification	Centres
<i>Elaeagnus x ebbingei</i>	cig 3L 100cm Ht.	500mm
- H2 - Native Hedgerow (450mm topsoil depth / 100cm Double Staggered Row)**

Species Name	Specification	Centres
<i>Crataegus monogyna</i>	cig 2L 40-60cm Ht.	500mm
<i>Prunus spinosa</i>	cig 2L 40-60cm Ht.	500mm
<i>Ilex aquifolium</i>	cig 2L 40-60cm Ht.	500mm
<i>Rosa canina</i>	cig 2L 40-60cm Ht.	500mm
<i>Lonicera periclymenum</i> 'Graham Thomas'	cig 2L 40-60cm Ht.	500mm





## SUDs - Swales & Biodiversity

Swales are versatile drainage features that contribute to the landscape design, create visual amenity and also provide valuable opportunities to create new habitats that support and encourage wildlife on site as well as in the wider environment.

Swales can be planted with a wide variety of damp-tolerating trees, shrubs and groundcover. Particularly here in Ireland, many native plant species will thrive in these conditions and therefore provide an opportunity to augment existing frameworks of green corridors through the landscape, additionally supporting native fauna species with the provision of new, suitable habitats.

### Suggested Lowland Meadow Grasses

Crested dog-tail *Cynosurus cristatus*  
 Common bent *Agrostis capillaris*  
 Sweet vernal-grass *Anthoxanthum odoratum*  
 Red fescue *Festuca rubra*  
 Smooth meadow-grass *Poa pratensis*

### PROPOSED MARGINAL PLANTING

The following marginal plants are to be certified native origin, to be collected as either seed or rootstock from the wild & introduced into the wetland area Stream Area.

Yellow flag iris (*Iris pseudacorus*),  
 Marsh marigold (*Caltha palustris*),  
 Water plantain (*Alisma plantago-aquatica*),  
 Water forget-me-not (*Myosotis scorpioides*),  
 Brooklime (*Veronica beccabunga*),  
 Bogbean (*Menyanthes trifoliata*),  
 Ragged robin (*Lychnis flos-cuculi*).

### Suggested Wetland/Marsh Mix

Marsh bedstraw *Galium palustre*  
 Greater bird's-foot trefoil *Lotus pedunculatus*  
 Sneezewort *Achillea ptarmica*  
 Valerian *Valeriana officinalis* (tall)  
 Purple loosestrife *Lythrum salicaria* (tall)  
 Hemp-agrimony *Eupatorium cannabinum* (tall)  
 Marsh violet *Viola palustris*  
 Angelica *Angelica sylvestris* (tall)  
 Water mint *Mentha aquatica*  
 Marsh marigold *Caltha palustris*  
 Ragged robin *Silene (Lychnis) flos-cuculi*  
 Gypsywort *Lycopus europaeus*  
 Meadowsweet *Filipendula ulmaria* (tall)

### Suggested Wild-Flower Mix

Common knapweed *Centaurea nigra*  
 Ribwort plantain *Plantago lanceolata*  
 Red clover *Trifolium pratense*  
 Bird's-foot trefoil *Lotus corniculatus*  
 Bulbous buttercup *Ranunculus bulbosus*  
 Meadow buttercup *Ranunculus acris*  
 Lady's-bedstraw *Galium verum*  
 Cowslip *Primula veris*  
 Oxeye daisy *Leucanthemum vulgare*  
 Yellow rattle *Rhinanthus minor*  
 Common sorrel *Rumex acetosa*  
 Burnet saxifrage *Pimpinella saxifraga*  
 Autumn hawkbit *Leontodon autumnalis*  
 Rough hawkbit *Leontodon hispidus*



Typical swale in dry weather

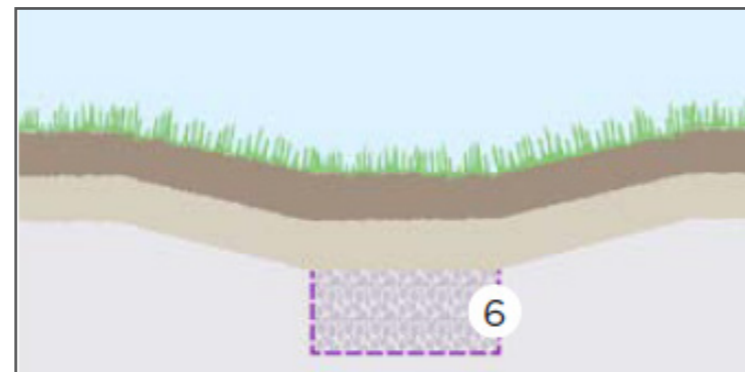
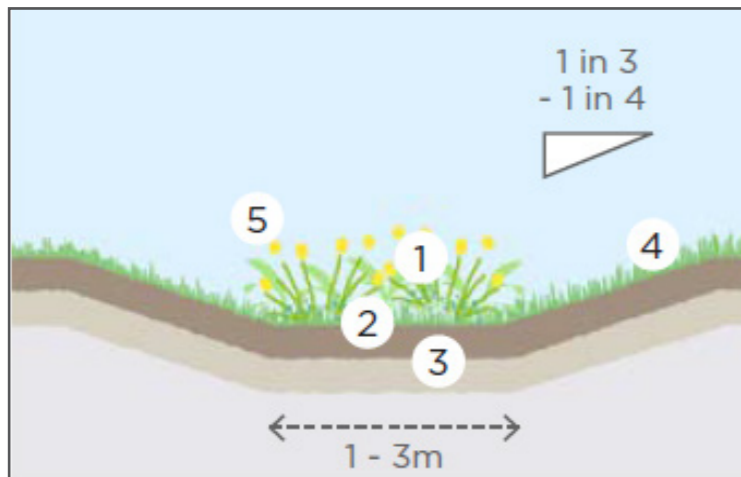


Typical swale in wet weather





## SUDs - Swales Typical Section



Swales are shallow, flat bottomed vegetated channels which can collect, treat, convey and store runoff water.

The basic profile is a 1 in 3 or 1 in 4 side slopes to a flat base falling at no more than 1 in 50 to prevent erosion. Checkdams or terraced swales can be used to mitigate risk of erosion where 1 in 50 falls cannot be achieved.

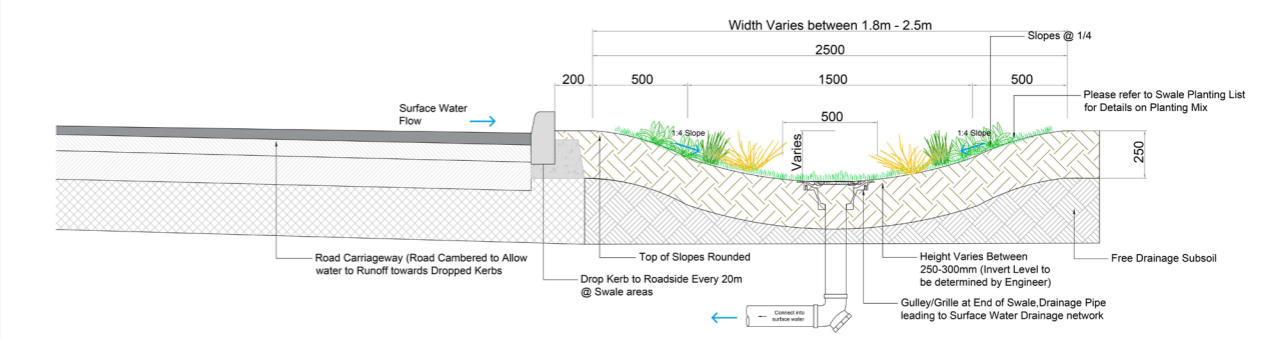
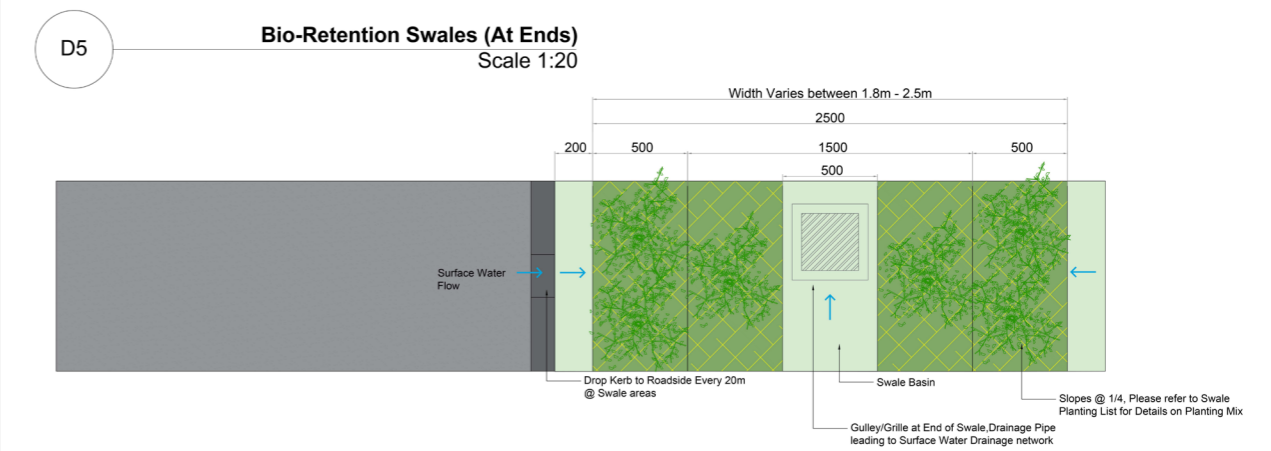
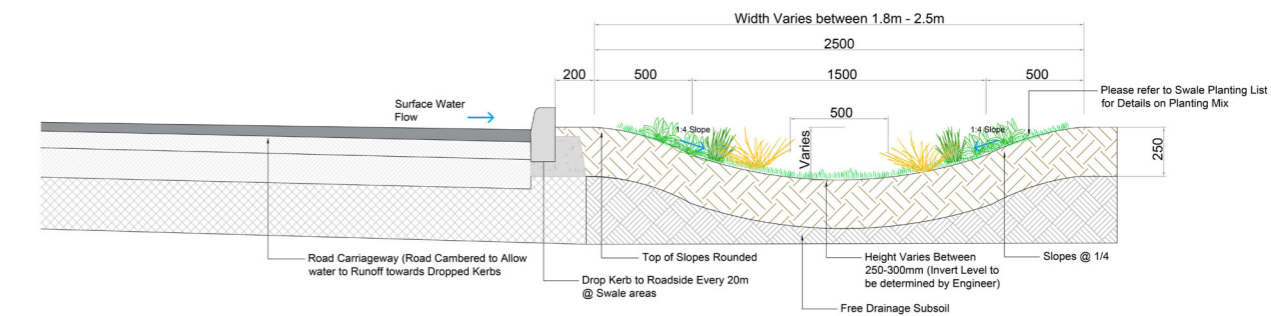
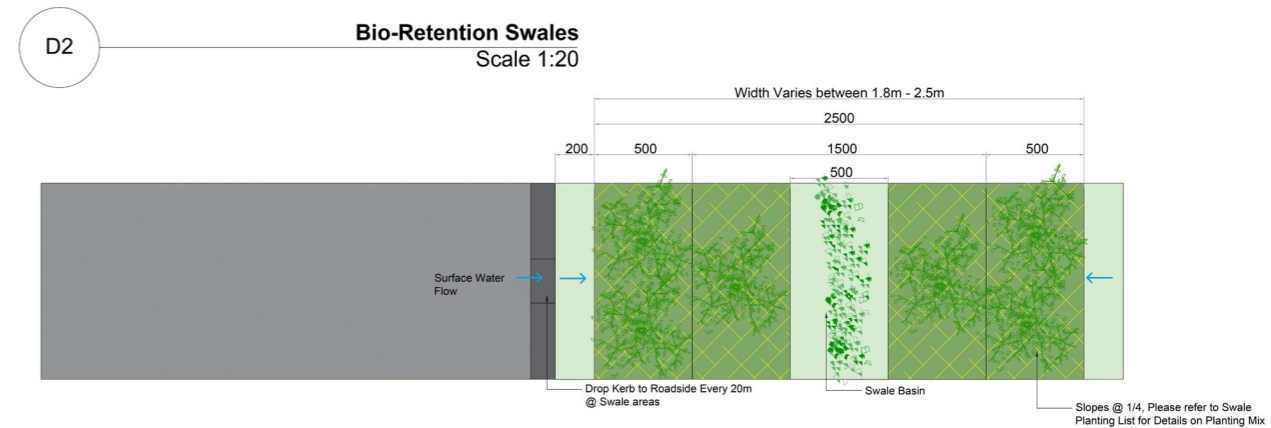
Base width less than 1m wide will increase the risk of erosion and ditch forming, conversely, base width wider than 3m a meandering channel can develop.

150mm clean topsoil over subsoil. Ripping or light harrowing will improve establishment of the swale by providing a key for the topsoil, encourage deep rooting and assist infiltration.

Where swale vegetation is kept less than 100mm, the shoulders at the top of the swale can be 'scalped' leaving bare soil. The shoulders should therefore be rounded to prevent this happening.

Swale can be vegetated with more biodiverse plants to attract pollinators etc.

Swale can be under-drained using a filter drain to create a dry swale.



## SUDs - Swales Typical Planting

### Proposed Wetland Wild Flora Planting (Seasonally Flooded) for Swale Areas

**Native Origin Irish Wildflower Seed Mixtures:** Ecotype Range

**Product Code:** EC05

**Product Name:** Wetland Wild Flora (Seasonally Flooded)

EC05 is a vigorous, medium tall mixture which can compete with the often fertile wetland soils on which many wetlands are situated.

#### Species List: Code EC05 Wetland Wild Flora (Seasonally Flooded)

Devils Bit Scabious

Common Sorrel

Cowslip

Fleabane\*

Greater Trefoil\*

Hemp Agrimony

Lesser Knapweed

Marsh Cinquefoil

Marsh Marigold

Meadow Buttercup

Meadowsweet

Meadow Rue

Oxeye Daisy

Purple Loosestrife

Ragged Robin

Red Clover

Red Rattle

Ribwort Plantain

Selfheal

Sneezewort\*

Tufted Vetch

Water Avens\*

Wild Angelica

Wild Valerian

Yarrow

Yellow Flag Iris

Yellow Rattle

Red Rattle\*

Corn Marigold

Corn Poppy

Corncockle\*

Cornflower\*

Scentless Mayweed

Redshank may be added for very wet soils

Marsh Ragwort is not the Common Ragwort which is a noxious weed.



\*Denotes a species that is either of diminished national geno-type or specific to only a few sites, or whose habitat is increasingly threatened, or the species is uncommon, rare, becoming rare, is endangered, reintroduced or saved from extinction.

In all cases, your purchase contributes to DBN's work of creating crops of Conservation Grade - Native Origin Wildflora. You help us to inform and pay land-owners to manage native species and to assist DBN in handing on our heritage for another generation.

By growing (some will be difficult) these and all other species, you directly help to conserve national and global Biodiversity and protect wildlife. You should also consider yourself another Irish wildflower grower.

**Product Warning:** While this Ecotype mixture contains the seed of edible and herbal species, DBN recommend that this mixture is not for human consumption.



## SUDs - Swales Typical Planting cont.

### Proposed Wetland Wild Flora Planting (Seasonally Flooded) for Swale Areas

**Seed Mixture Specifications:** Total number of seeds per gram: 2450

Native Irish Origin, Wildflower Seed Mixture. EC05

Suitable for soil type: All types of wet soil Clay, Loam, Sand, Heavy Soil, and Peat, as long as it remains wet throughout the year. but not raised Peat Bog.,

Moisture Level: Moist, Very wet or flooded.

pH range: Best between 5.5 - 7.5

**Morphology:**

Aspect: Sunny, part shade and not Shaded.

Life Cycle: Annual / Biennial / Mostly Perennial.

Height Range: <30cm to >140cm

Flowering Period: Spring to May to September.

Fertility Range: Will grow in very fertile soil to poor, if very infertile apply fertiliser (see below).

Wintergreen: No.

The main species which should dominate and persist: Devils Bit Scabious, Fleabane, Greater Trefoil, Hemp Agrimony, Lesser Knapweed, Marsh Marigold, Marsh Ragwort, Meadowsweet, Purple Loosestrife, Ragged Robin, Water Avens, Wild Angelica, Wild Valerian, Yellow Flag Iris,

Annual Species: Red Rattle, The annual Redshank is the best nurse crop on wet soils and is added to this mixture, it will not re-grow after the second year.

Biennial Species: Wild Angelica.

Unusual species: The general public will not be familiar with Devils Bit Scabious, Fleabane, Greater Trefoil, Ragged Robin, Yellow Loosestrife, Red Rattle, Water Avens, Wild Angelica, Wild Valerian, of which only fleabane seem to becoming scarce

Additional species to add to this mixture: From our nursery: Mint, Bittersweet, a climbing shrub, Brooklime, Bugle, Reed Mace & Bulrush (if in stock).

**Design Notes:** If sown without grasses will this mixture will not require a nurse crop.

EC05 will grow on a fertile or poor soil as long as the soil is wet or moist in summer. Cut in late August - Early September as normal until year 3, when you will have to manage the grasses that develop by cutting.

EC05 may require less cutting beyond year 4, but may need to be cut every 2nd or 3rd year once well established if grasses are rampant.

REED BEDS: EC05 or EC06 can be sown on biological filters of reeds.

Most species in this mixture are 'Browse' resistant.

**Sowing Specification:** As Normal, roll or rake into surface to keep out of reach from birds.

Soil Preparation: Normal, create fine tilt on seed bed,

Optimum Sowing Time: Spring and August or early September

Sowing Conditions: Normal, when soil is at its driest. Wetland wildflowers will be difficult to sow due to the nature of the ecotype, seek advice.

Sowing Method: By hand is recommended, if using seed spreaders be careful to insure the small varieties of seed do not drop to the bottom of the seed spreader and get sown all in the one place. Can be Hydrasown.

Fertiliser: None, Powdered or liquid seaweed will aid germination.



**Seed Sowing Rates:** 1.5 grams per metre.

Normal sowing rate 'without added grass seed': 1.5 grams per metre.

High sowing rate 'without added grass seed': Add 3 grams per metre.

Low sowing rate: None

**Grass seed or nurse crop requirement:**

Nurse Crop: No nurse crop is required on soil that is permanently wet. If the wetland is to be sown on a soil that will become winter wet, due to flooding annuals can be included in a spring sowing.

Grass Seed Requirement: None. But sedges can be sown.

Sow with or without grasses: With or without, seek advice.

Sowing rate with grasses: 2 to 4 grams per metre. 50% Flora / 50% grass seed.

If sown without grasses: This mixture will not require a nurse crop.

**Seed Specification:**

Once sown this mixture in normal conditions (mainly in early Autumn and late Spring, when the wetland soil dries out) should germinate 6 weeks after sowing, from then on provided the sward is kept open and a 'Thatch' is not allowed develop, species will continue to germinate and emerge, through to the third year.

Up to 40% of all seed should germinate in the first year.

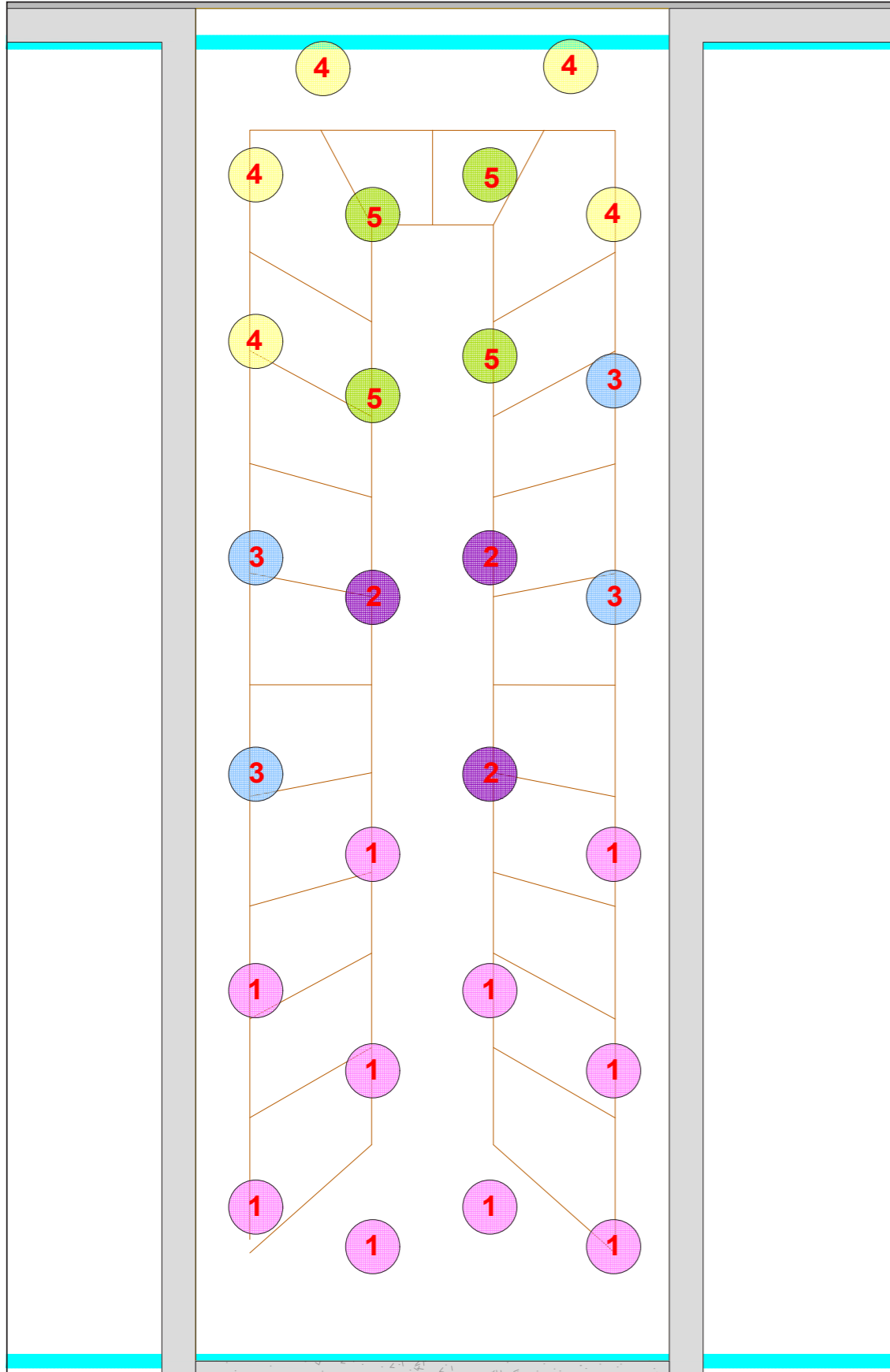
Up to 60% of all species should germinate in 12 months.

Up to 90% of all species should have flowered by the fourth year after sowing.

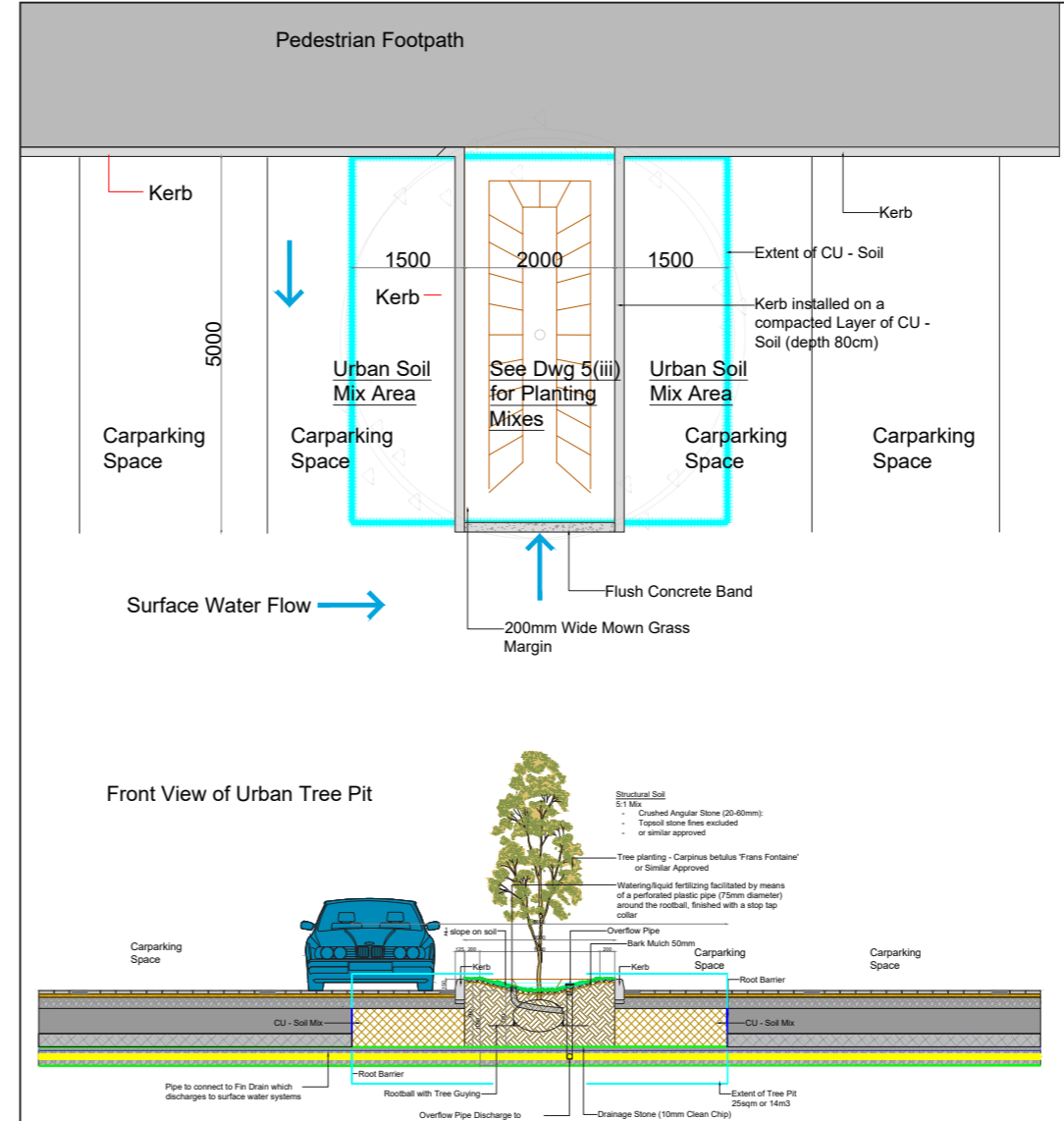
Late Autumn and early Summer sowings may be slow to emerge, depending on the weather.

## SUDs - Tree Pit Typical Detail

### Tree Pit Planting Detail



### Drop /kerb Tree Pit Plan and Elevation

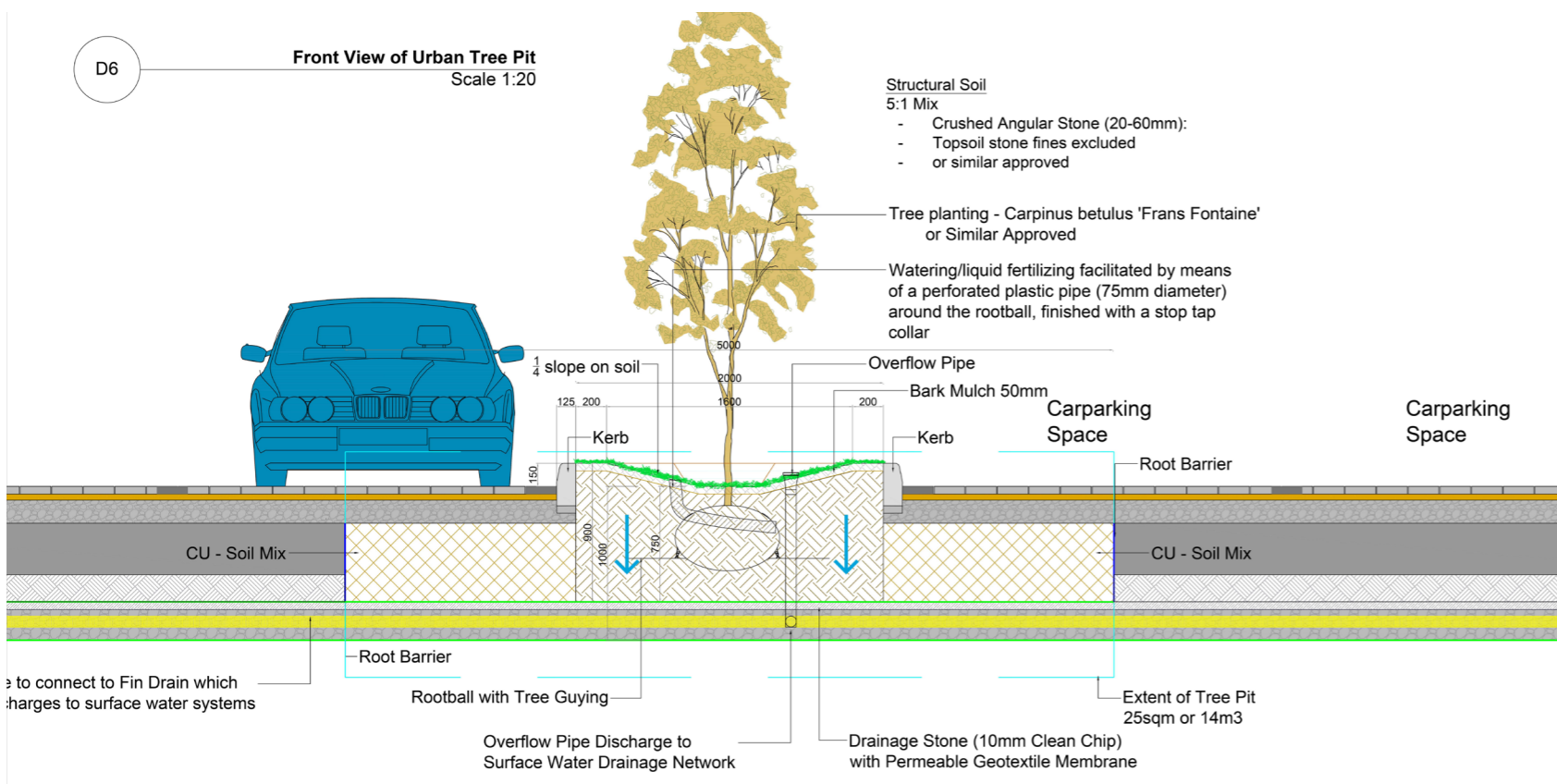
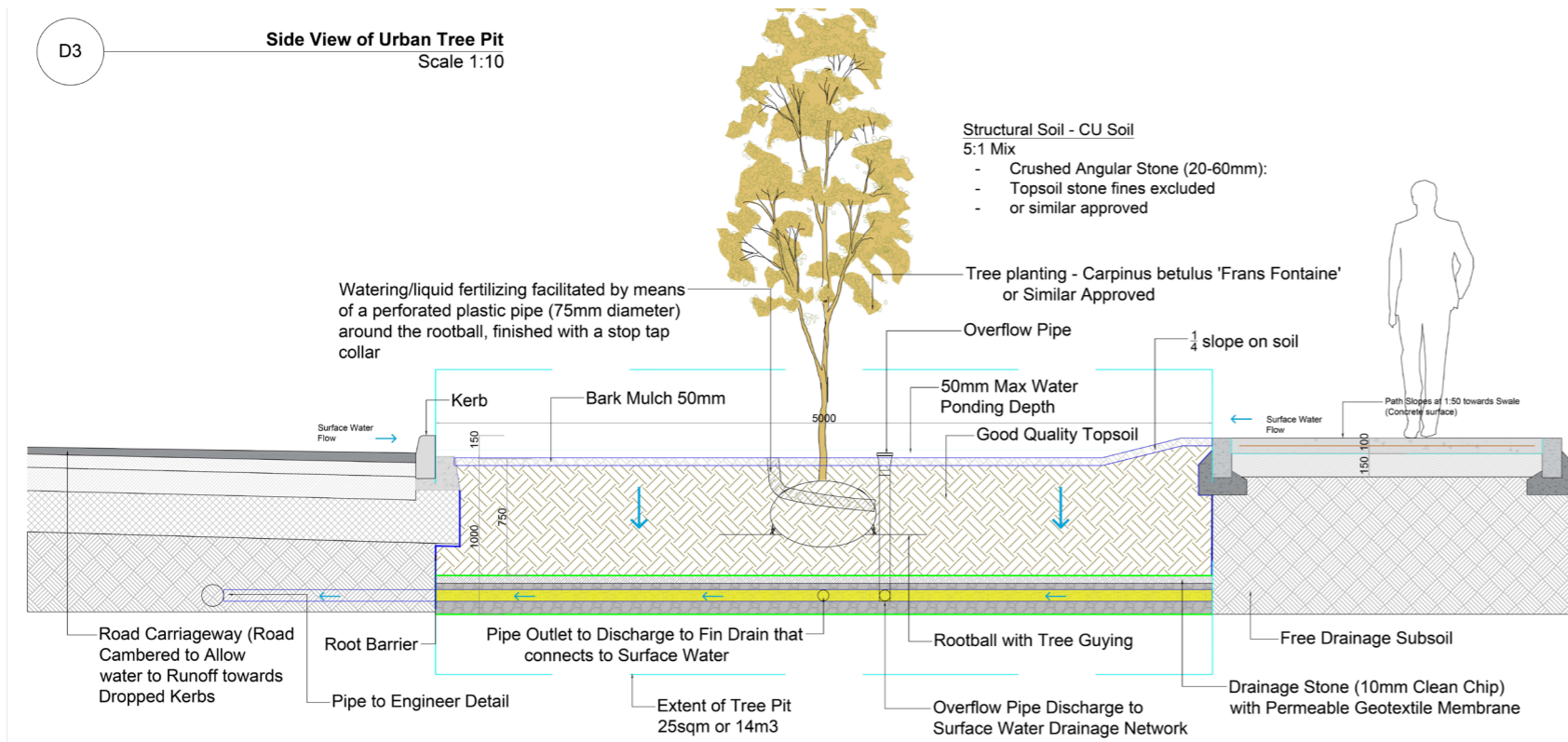


### Planting Mix Detail (subject to availability)

Planting Mix 1 - Tree Pit 12.5m <sup>2</sup>				
No.	Name	Size	%	Qty:
1	Persicaria affine	1Ltr.	40%	10
2	Astible (False spirea)	2Ltr.	10%	3
3	Iris siberica (Siberian Flag)	2Ltr.	15%	4
4	Helleborus (Lenten rose)	2Ltr.	20%	5
5	Carex pendula (Weeping Sedge)	1Ltr.	15%	4



## SUDs - Tree Pit Sections





Permeable surfaces direct rainfall straight into a SuDS structure for cleaning and storage or infiltration into the ground. Utilising:

1. a pervious surface to allow water through the pavement surface
2. an open-graded sub-base layer that provides structural strength to the pavement with about 30% by volume available for water storage. The subbase designed structurally and hydraulically.
3. to avoid silt washing off adjacent landscape areas and leading to localised surface clogging., the following measures have been considered:
  - sloping adjacent landscape areas away,
  - using paved or turfed surfaces to adjacent areas,
  - proposing soil in adjacent planting beds at min. 50mm below the top of kerb with dense ground cover to bind the soil.

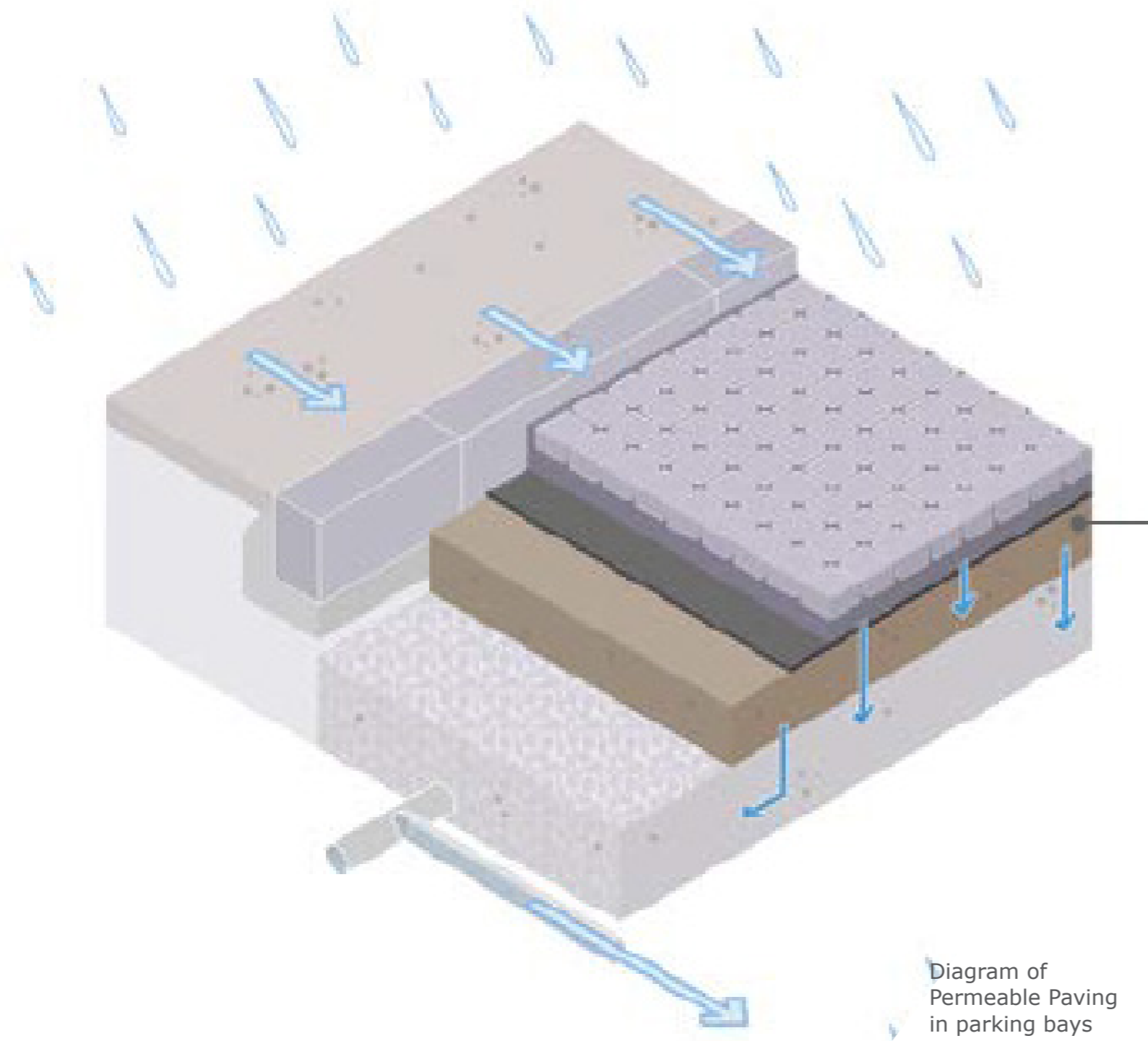
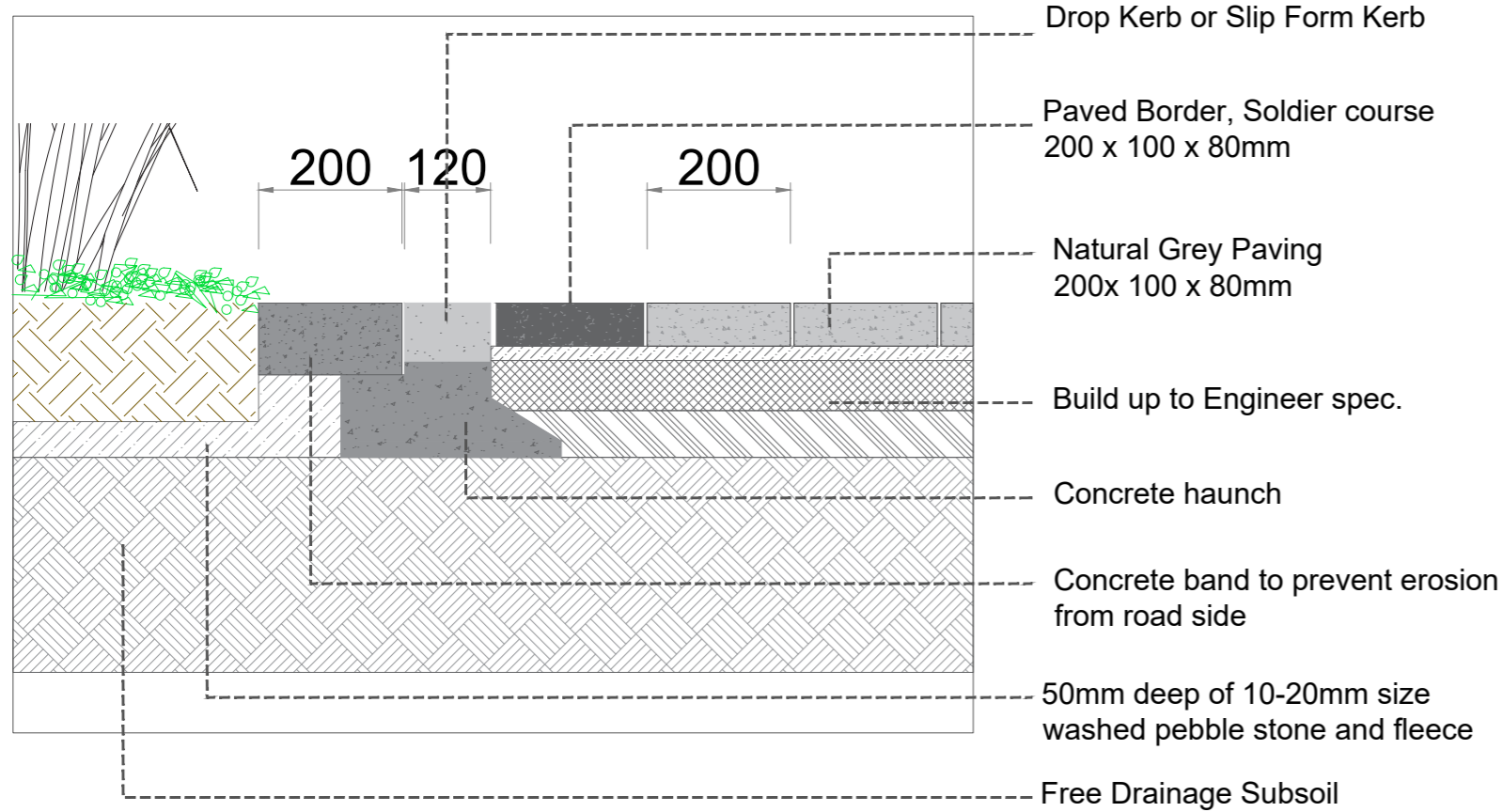


Diagram of  
Permeable Paving  
in parking bays

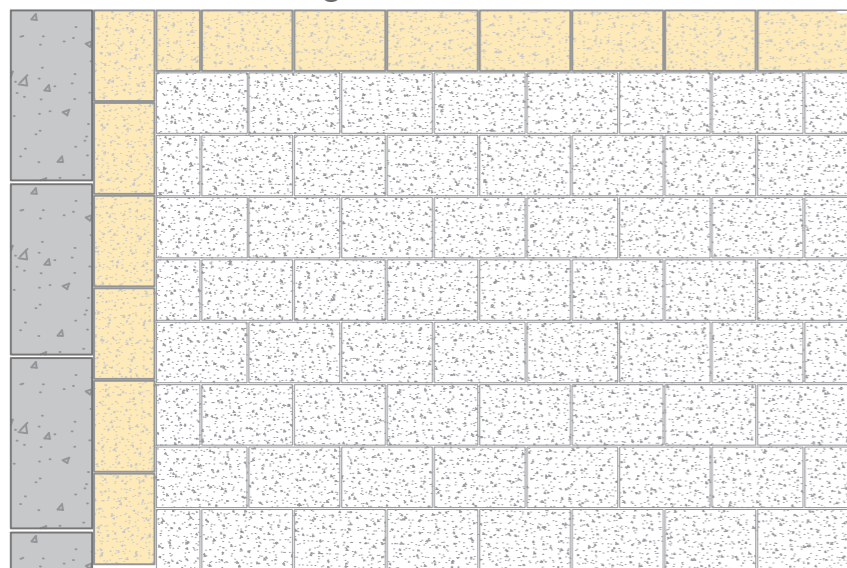


## Kerb Details

Drop Kerb Detail sc 1:10 @ A3



Permeable Paving Detail sc 1:10 @ A3



Drop Kerb Detail



Permeable Paving Detail + Tree Pit

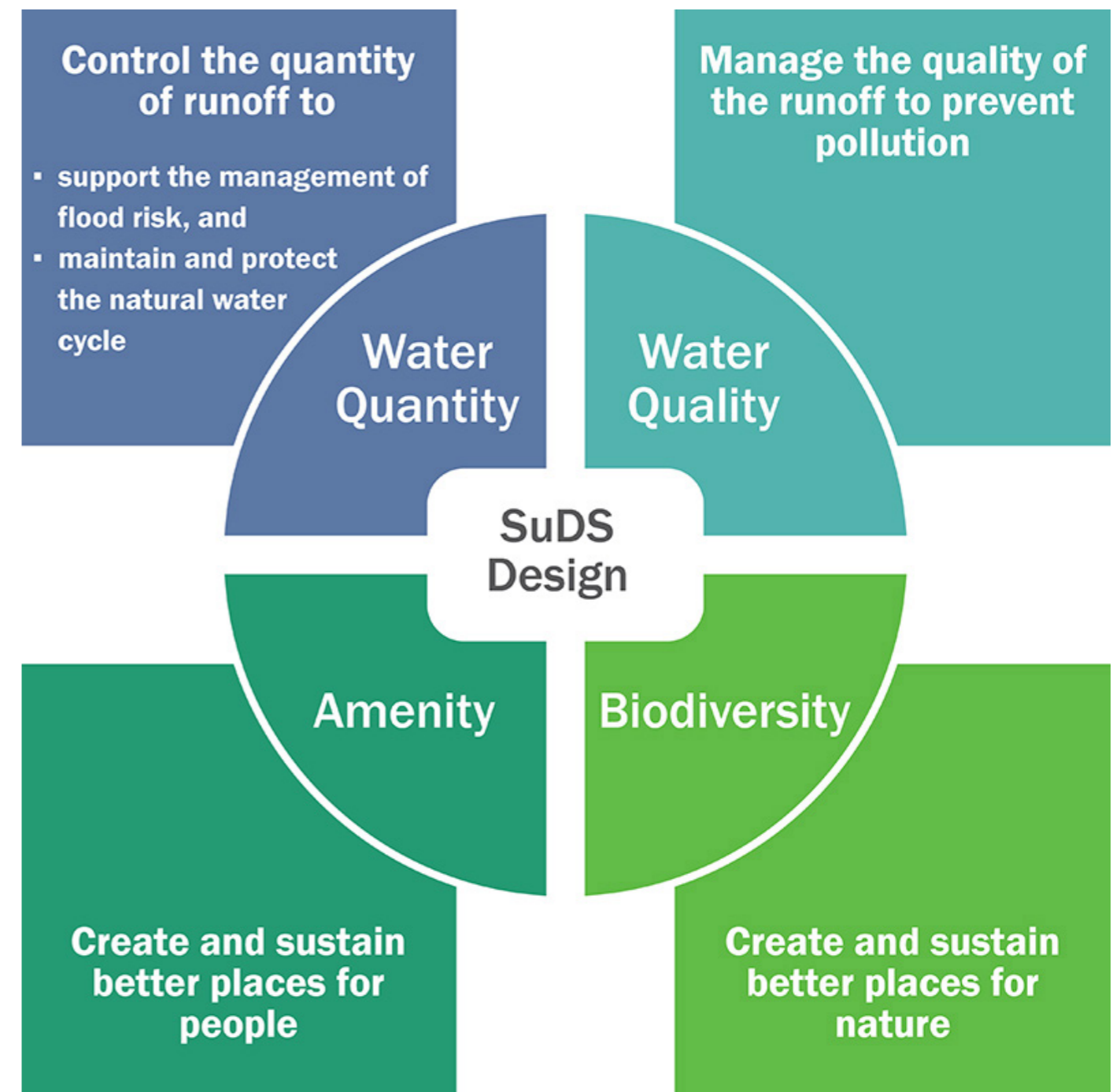




## Green Infrastructure Strategy

The use of nature-based solutions, alongside traditional drainage, in our roads and streets is particularly important with the multiple benefits that it provides, such as:

- Improving water quality in our receiving water bodies thus benefiting human, marine and aquatic health,
- Protecting groundwater recharge,
- Improved road safety through landscape interventions,
- Creating a high-quality public realm,
- Reduced flood risk, water channel erosion and overflows in our drainage and sewer systems,
- Creating more sustainable and climate adaptive urban neighbourhoods,
- Increased biodiversity,
- Provision of shade and reducing the "heat island" effect,
- Reduction of noise pollution,
- Improved air quality,
- Enhanced visual amenity
- Lessening the negative impacts of urban development on the natural environment,
- Potential for lowering capital and operating costs associated with development.



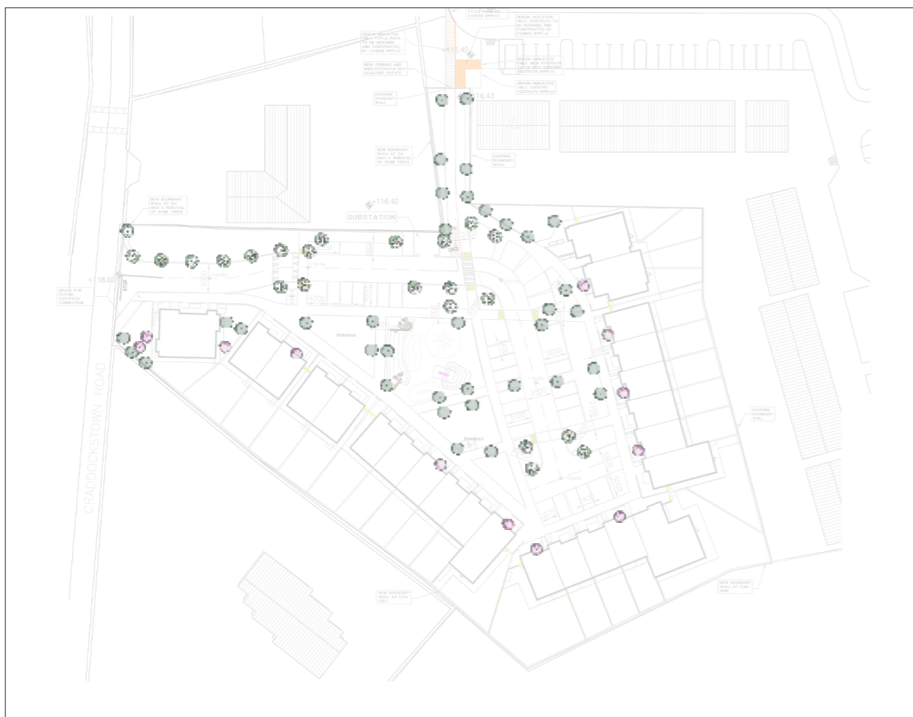




Proposed Tree Planting

Proposed Shrub, Hedge & Bulb Planting

Proposed SUDS Planting





## Proposed Tree Planting Plan

Planting species and sizes were selected for their visual interest, robust and hardiness, habitat, and quality they will bring to spaces.



Acer campestre 'Elsrijk'



Amelanchier lamarckii



Amelanchier grandiflora



Betula pendula



Magnolia soulangeana



Prunus avium 'Plena'



Rhus typhina



Acer palmatum

### Street Trees / Front Garden 14-16cm

Tilia tomentosa 'Brabant'  
Pyrus calleryana 'Chanticleer'  
Carpinus betulus 'Fastigiata'  
Sorbus aucuparia  
Tilia cordata 'Greenspire'

### Open Space 14-16cm / 20-25cm

Betula pendula	Pinus sylvestris
Alnus glutinosa	Quercus robur 'Koster'
Quercus robur	Aesculus hippocastanum
Fagus sylvatica	Prunus avium

### Front Garden 12-14cm

Amelanchier lamarckii

### Multistemmed Trees 12-14cm

Prunus avium 'Plena'  
Betula utilis var. jaquemontii



## Shrub Planting



Prunus 'Otto Luyken'



Lavandula hidcote

## Ground Cover Planting



Vinca minor



Viburnum davidii

## Native Hedge Planting



Rosa canina



Crataegus monogyna



Persicaria affine



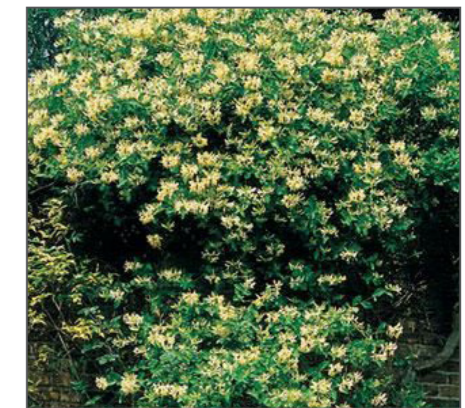
Hebe 'Galway Bay'



Hedera helix 'Hibernica'



Corylus avellana



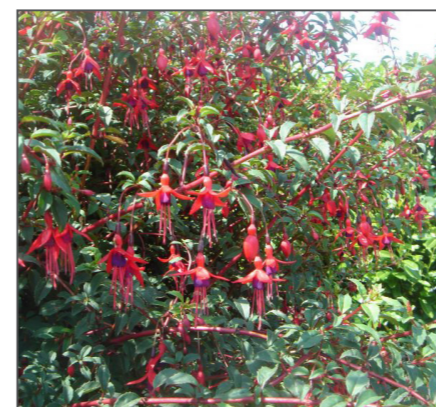
Lonicera periclymenum



Rubus Tricolour

## Hedge Planting

Note: Planting shown throughout rationale are mature and are not indicative of size that shall be planted first.



Fuchsia Riccartonii

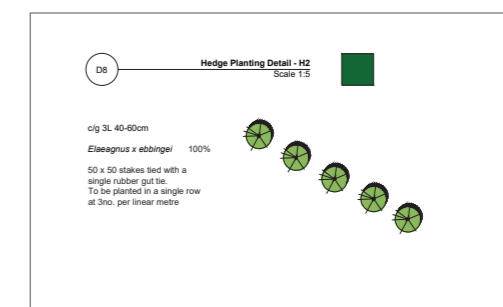
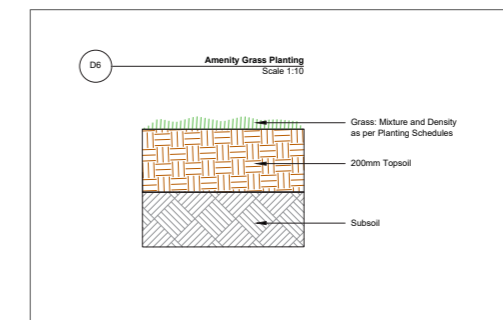
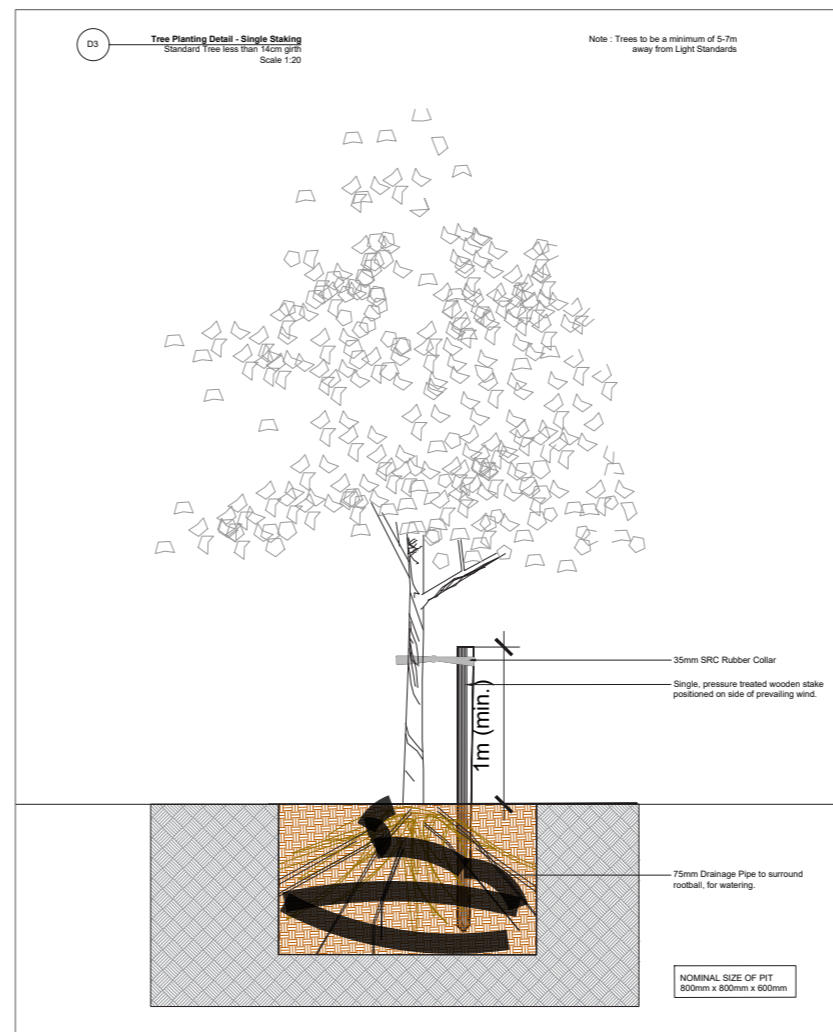
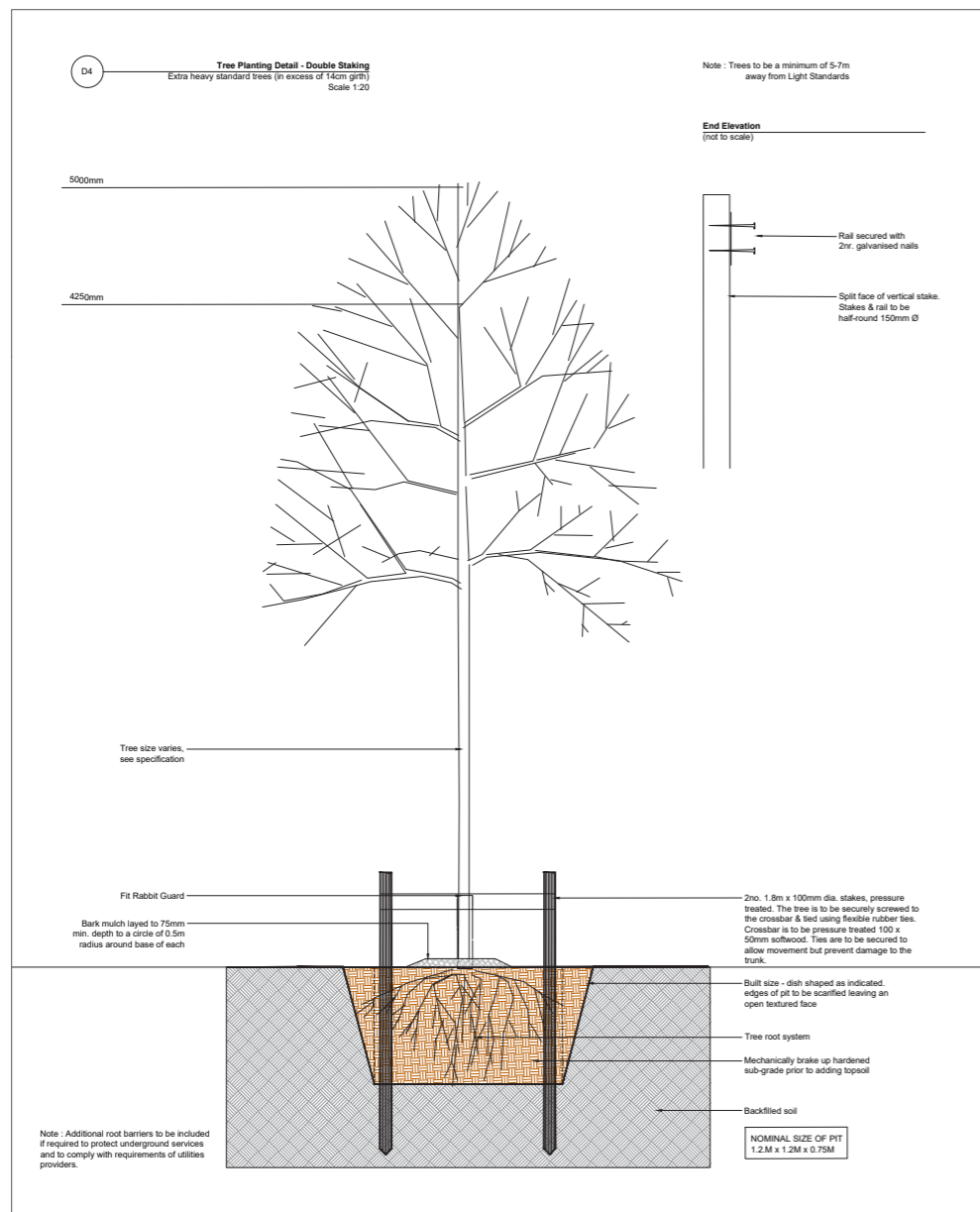
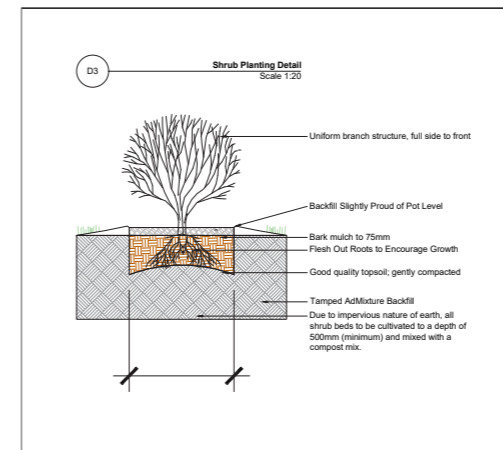
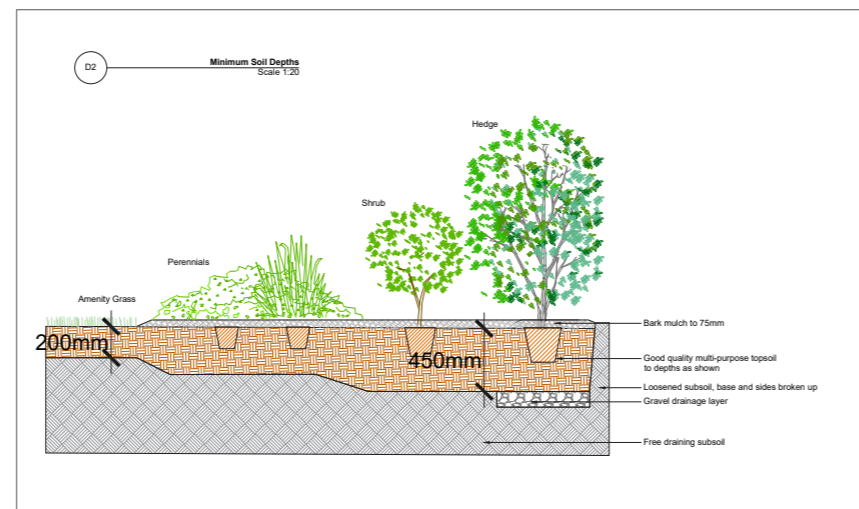
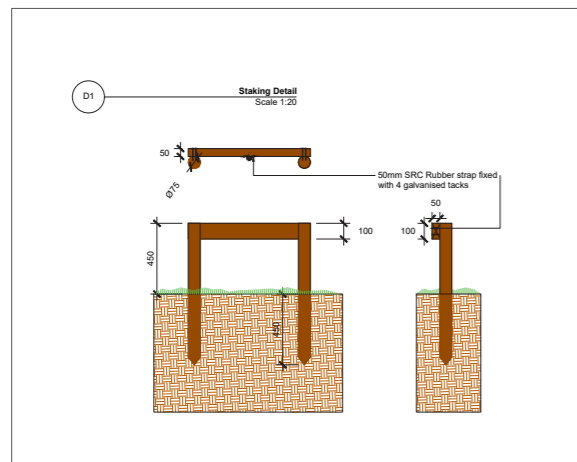


Prunus spinosa



### 3. DETAIL DESIGN

### Soft Landscape Details





## MULTIDISCIPLINARY DESIGN TEAM



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