

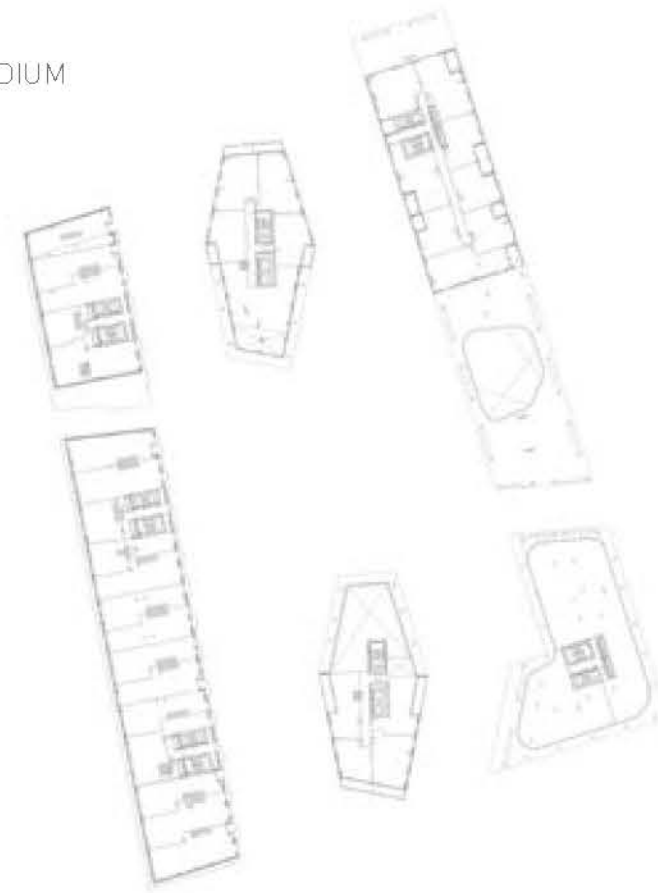
UPPER LEVELS PLANTING STRATEGY

The following diagrams illustrate the planting proposals for the Plot B first floor podium and upper levels of the scheme. A variety of plant types have been proposed including shrubs, small trees and areas of bio-diverse roof.

Planting is used to define space, ensure privacy where required and to characterise each landscape and the whole development.




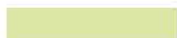

The planting on the upper levels is as important for local bio-diversity as the ground floor proposals. These elevated landscapes need to entice wildlife into the site without compromising the human experience. Details of the particular species proposed for these spaces follows later in this report.

FIRST FLOOR PODIUM



UPPER ROOF LEVELS



-  Hedge. Height: 1 - 1.5 m
-  Shrubs. Height: 0.8 - 1 m
-  Perennial planting or ground covers
-  Lawn
-  Bio-diverse roof

GROUND FLOOR TREE PLANTING STRATEGY:

Trees are a key part of the green infrastructure in any scheme. This is because trees and woodlands bring ecologic value to an area, and benefits to residents, such as improved well-being, air quality and seasonal interest.

The tree planting strategy aims to position the right tree in the right place, with an emphasis on stock quality over quantity.


The planting of trees can provide a number of social, environmental and economic benefits. A summary of the key benefits achieved by tree planting are given below:

- Physiological and psychological health improvements.
- Urban cooling – reduction of the urban heat island effect
- Improvement in air quality
- Maintenance and enhancement of biodiversity
- Drainage – reducing surface run-off and helping to prevent flooding
- Increased land and property values sites
- Influential in developing a sense of place and unique site character.


SINGLE STEM TREES

MULTI STEM TREES


 Small Tree
Girth:16-18 cm
Approx. tree height:4-5 m
Approx. canopy diameter:2 m

 Small Tree
Approx. tree height:2-3 m
Approx. canopy diameter:2 m

 Medium Tree
Girth:20-25 cm
Approx. tree height:5-6 m
Approx. canopy diameter:3 m

 Medium Tree
Approx. tree height:3.5-4 m
Approx. canopy diameter:3 m

 Large Tree
Girth:35-40 cm
Approx. tree height:7-8 m
Approx. canopy diameter:4m

 Large Tree
Approx. tree height:5-6 m
Approx. canopy diameter:4m

APPROXIMATE GROUND FLOOR
TREE PLANTING NUMBER = 300*

* Subject to detail design.

GROUND FLOOR



FIRST FLOOR & UPPER LEVEL TREE & SHRUB PLANTING STRATEGY:

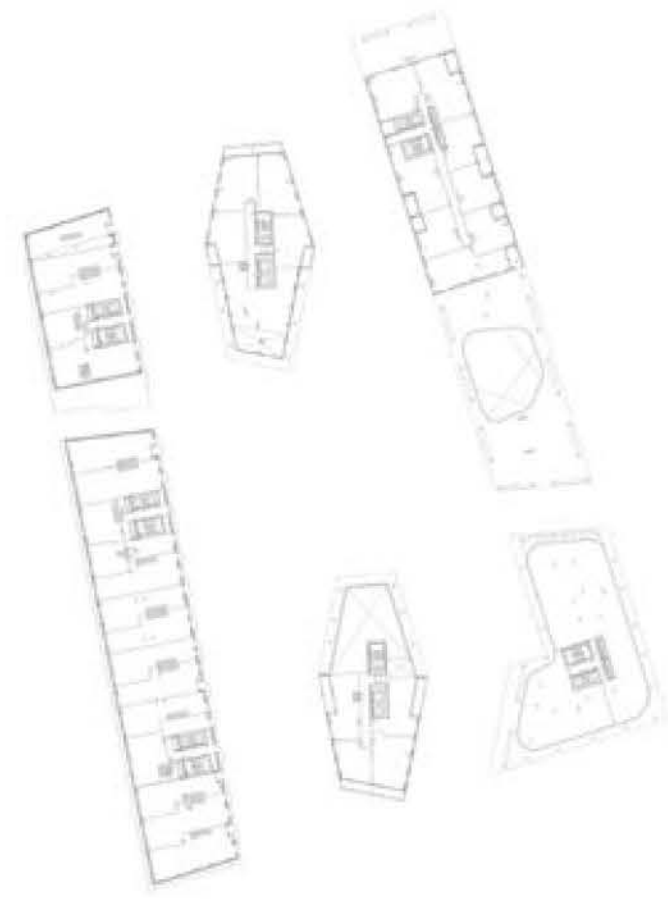
Tree planting also has a very important role with regards to biodiversity. Biodiversity describes the 'variety of life', or the range of plants, animals and habitats that exist in a given area. The proposal is committed to protecting the diversity of nature, to increase the existing tree stock, and to encourage the planting of large-canopied species where appropriate.

Maintaining and planting native trees is proven to optimise the insect population, with some species of tree being especially good in this regard, for example Rowan (Sorbus) and Alder (Alnus).

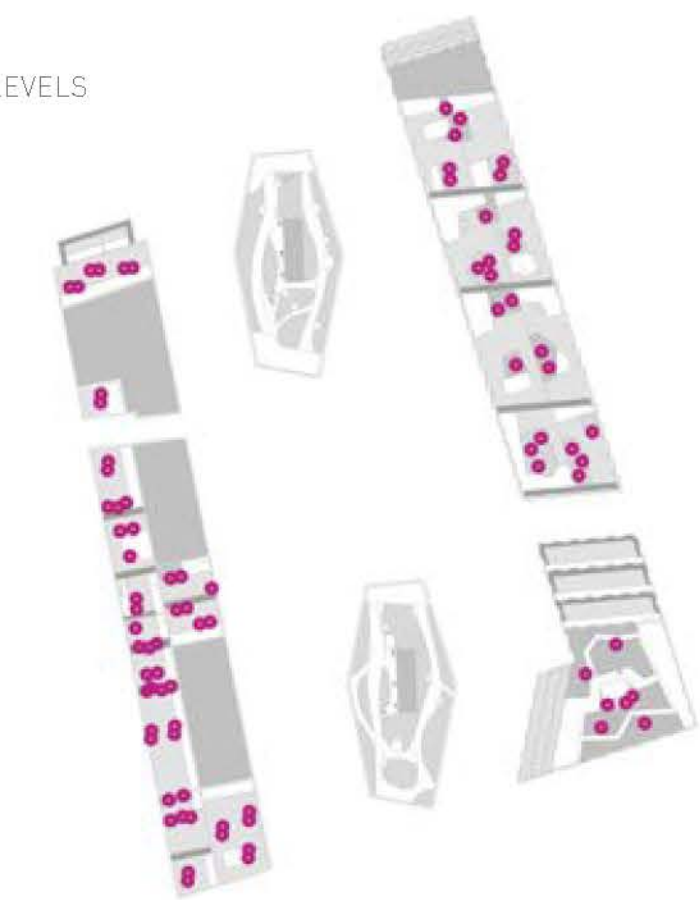
Where practicable, new planting within the site will be comprised of native species of local provenance, including trees appropriate to the local area. The scheme includes native trees such as Birch, Field Maple, Dogwood, Hazel, and Alder.

For more information on tree planting refer to Tree Species Palette section of this report.

FIRST FLOOR PODIUM




UPPER ROOF LEVELS




SINGLE STEM TREES


MULTI STEM TREES

-  Large Tree
Girth: 35-40 cm
Approx. tree height: 7-8 m
Approx. canopy diameter: 4m

-  Small Tree
Approx. tree height: 2-3 m
Approx. canopy diameter: 2 m

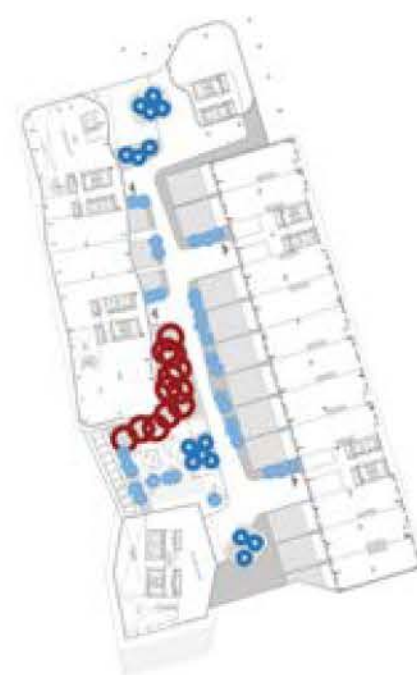
SPECIMEN SHRUBS

-  Medium Tree
Approx. tree height: 3.5-4 m
Approx. canopy diameter: 3 m

-  Specimen Shrub
Approx. height: 150-180 cm
Approx. canopy diameter: 1.5 m

APPROXIMATE UPPER LEVEL PLANTING NUMBER = 190*

* Subject to detail design.



TREE TYPOLOGIES & SIZES

To help communicate the type of trees proposed in the scheme this section sets out examples of the stock sizes currently proposed. The final sizes and specification subject to detail design post planning.

It is important to note the height and rootball sizes of proposed single stem trees varies according to the girth and species selection. The dimensions given are a rough guide only.

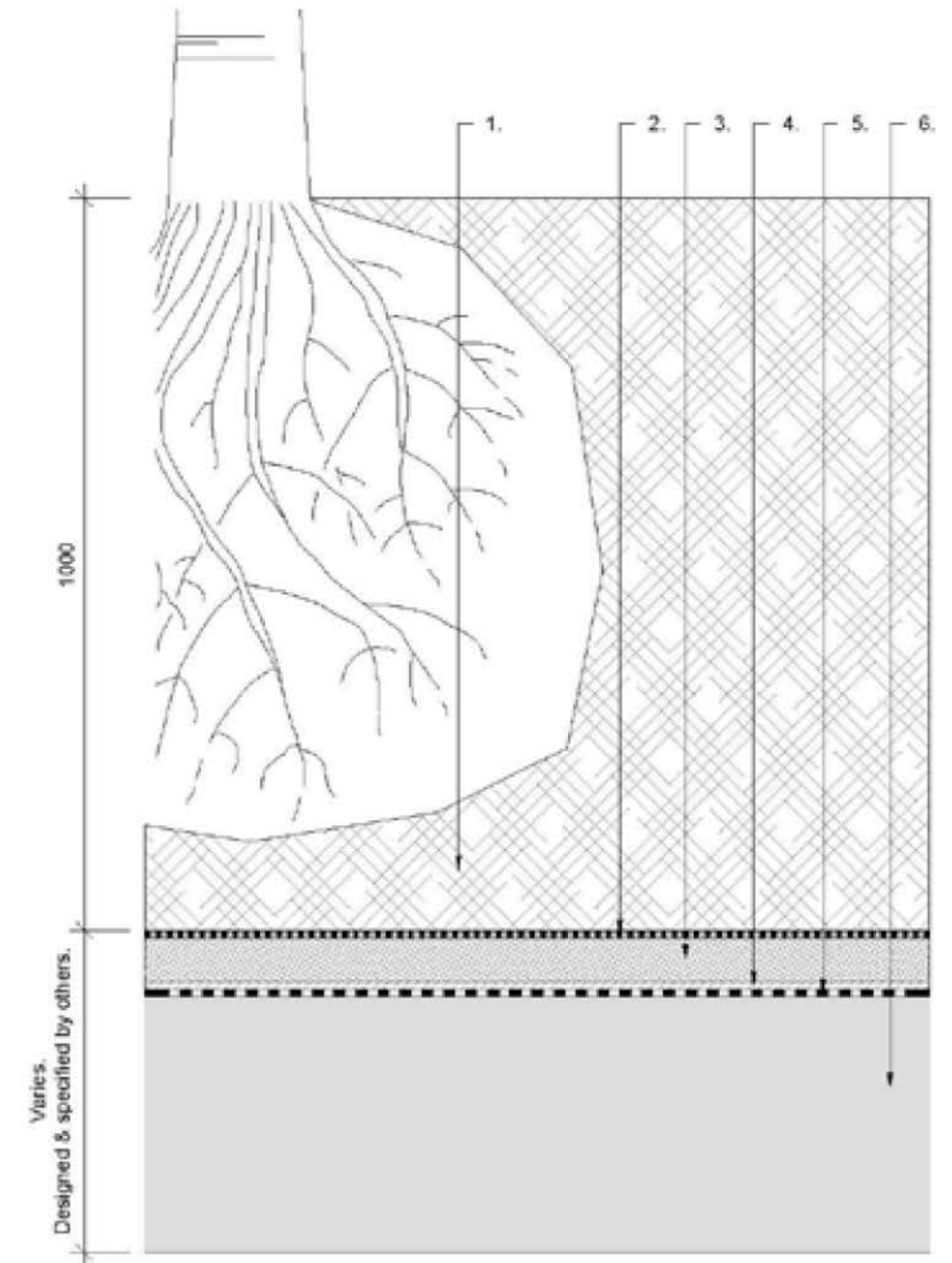
1. Girth 16-18cmg.
Rootball size approx 50cm diameter x 50cm deep.
Heights vary - approx 4.0-5.0 m.
2. Girth: 20-25 cmg.
Rootball size approx 80 cm diameter x 50 cm deep.
Height of plant: approx 5.0-6.0 m.
3. Girth: 35-40 cm (on the right).
Rootball size approx 110 cm diameter x 70 cm deep.
Height of plant: approx 7.0-8.0 m.
4. Girth: 70-80 cm
Rootball size: approx 180 cm diameter x 80 cm deep.
Height of plant: approx 8-10 m.

[Note: Photos of tree sizes taken from Deepdale tree's website.]



TYPICAL BUILD UP DETAIL FOR TREE PLANTING IN AN ON SLAB CONDITION.

1. Specialist green roof substrate
2. Filter fleece
3. Drainage panel
4. Protection layer / root barrier
5. Waterproofing
6. Structural slab



TREE SPECIES PALETTE, GROUND FLOOR ONLY



Clear stem, semi-mature tree has a single, upright, clear stem up to 2 - 2.5 m from the ground before the canopy starts.

These type of trees are proposed along the main pedestrian and vehicular routes and in key landscape areas.



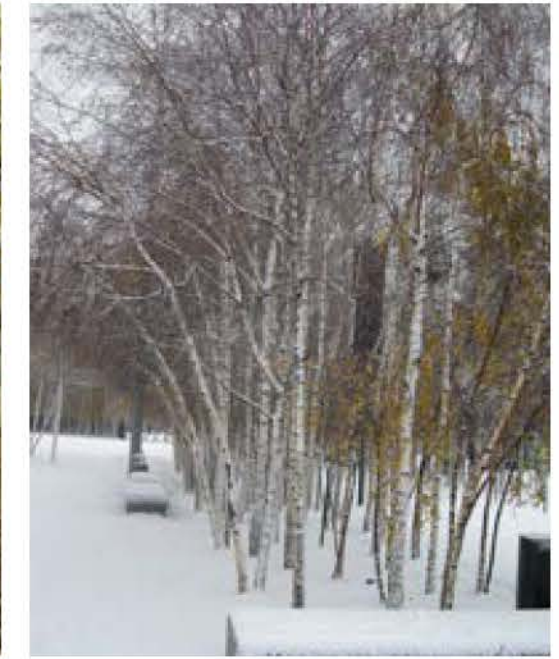
Platanus x hispanica - London plane



Description: P. x hispanica is a magnificent, large deciduous tree with beautiful flaking grey and cream bark. Leaves maple-like, palmately lobed, to 20cm in width. Inconspicuous flowers are followed by clustered, burr-like fruits. Easy to grow in moist, humus-rich, fertile soils.
Ultimate height: higher than 12 metres, Ultimate width: wider than 8 metres.



Betula pendula - silver birch



Description: B. pendula is an elegant medium-sized deciduous tree with slender drooping twigs. Bark white, becoming black and rugged at base. Leaves ovate, yellow in autumn. Flowers in catkins.
Ultimate height: higher than 12 metres, Ultimate width: wider than 8 metres.



Alnus glutinosa - Common alder



Description: A. glutinosa is a deciduous tree, broadly conical in habit when young, with grey-purple buds and young catkins conspicuous in winter, and rounded bright green leaves.
Ultimate height: higher than 12 metres, Ultimate width: 4 - 8 m.

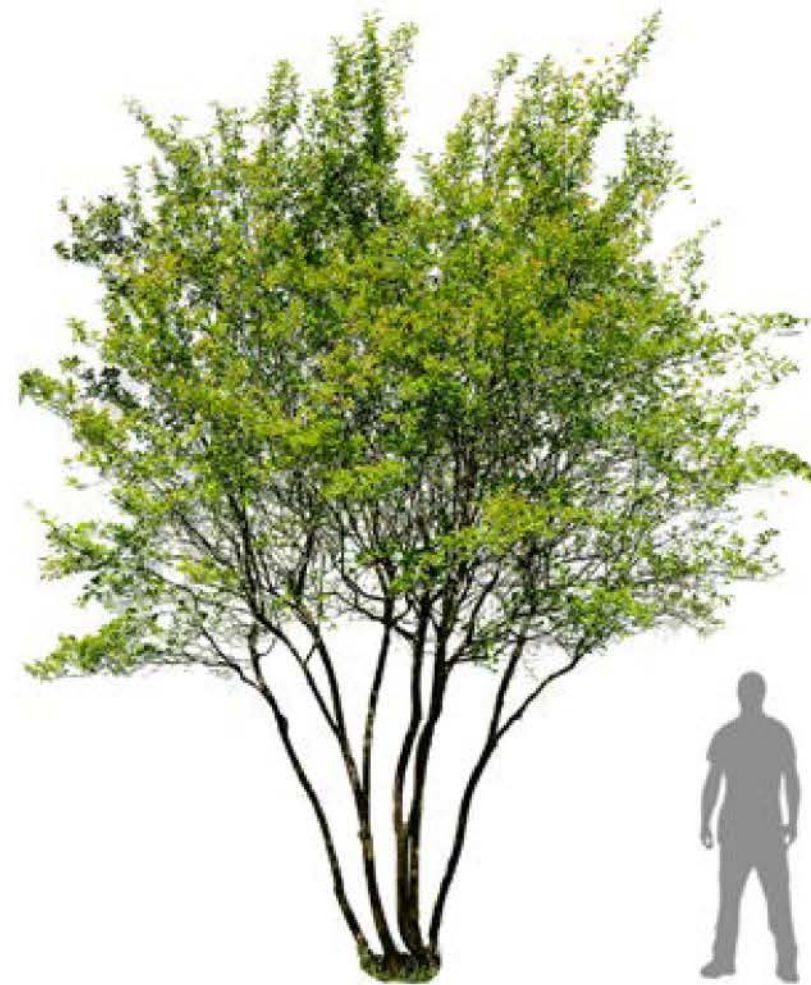


Tilia cordata 'Winter Orange' - small leaved lime



Description: A medium-sized deciduous tree that has red buds and orange winter shoots. Leaf colour in autumn is butter-yellow. Small, fragrant creamy-white flowers are borne in spreading clusters in summer.
Ultimate height: higher than 12 metres, Ultimate width: wider than 8 metres.

TREE SPECIES PALETTE. GROUND FLOOR & TERRACES



A multistem tree: has multiple stems, branching from the ground. The cloud-like canopy starts around 1.5-2 m above ground. These type of trees were used to achieve privacy and help separate the residential and retail areas. They also help mark the key locations in the landscape, such as entrances and access points.



Malus x moerlandsii 'Profusion' - Crab apple 'Profusion'

Description: 'Profusion' is a spreading deciduous tree with purple young leaves, later bronze-green, and reddish-purple flowers followed by deep purple fruits in autumn.
Ultimate height: 8-12 m, Ultimate width: wider than 8 metres.



Malus 'Golden Hornet' - Crab apple 'Golden Hornet'

Description: 'Golden Hornet' is a small deciduous tree with a broad ovoid crown and white flowers followed by a profuse crop of bright, deep yellow fruits 2.5cm in length, which persist well into winter.
Ultimate height: 8-12 m, Ultimate width: wider than 8 metres.



Prunus 'Victoria' - Plum 'Victoria'

Description: 'Victoria' is a reliably fruiting, self-fertile dessert and culinary plum to 2.5-4m in height depending upon the rootstock. Flowers white, dark red fruit in August-September.
Ultimate height: 2.5 - 4 m, Ultimate width: 2.5 - 4 m.



Malus 'Royalty' - Apple 'Royalty'

Description: 'Royalty' is a spreading deciduous tree with ovate deep purple leaves reddening in autumn, and clusters of purplish-red flowers in spring, followed by small, deep purple fruits. Grow in moderately fertile soil; will tolerate partial shade.
Ultimate height: 4 - 8 m, Ultimate width: 4 - 8 m.



Cydonia oblonga - Quince

Description: Cydonia are large deciduous shrubs with simple, ovate leaves and 5-petaled, bowl-shaped pink or white flowers, followed by pear-like fruits, edible when ripe.

Ultimate height: 2.5 - 4 m, Ultimate width: 2.5 - 4 m.



Amelanchier lamarkii - serviceberry

Description: A large erect deciduous shrub or small tree of open habit, with bronze-tinged young leaves turning orange and red in autumn. White flowers in short lax racemes as the leaves unfurl. Fruit a red to dark purple-black berry, soon eaten by birds

Ultimate height: 8 m, Ultimate width: 4 - 8 m



Cercis sp. - Judas tree

Description: is a bushy, deciduous small tree with deep purple, pea-shaped flowers in clusters on the older stems. Leaves are broadly heart-shaped and fruit a conspicuous flattened purplish pod.

Ultimate height: 4m, Ultimate width: 3 - 4 m



Mespilus germanica - Medlar

Description: Mespilus is a small spreading deciduous tree or large shrub with large leaves colouring well in autumn, and white flowers followed by edible fruits. Grow in moderately fertile soil in full sun.

Ultimate height: 4 - 8 m, Ultimate width: 4 - 8 m.



Acer griseum - Paperbark maple

Description: A. griseum is a small spreading deciduous tree with attractive peeling, papery chestnut-brown bark. Leaves with 3 leaflets, downy and whitish beneath, turning brilliant red and orange in autumn.

Ultimate height: 8 - 12 m, Ultimate width: 4 - 8 m



Cornus mas - Cornelian cherry

Description: Cornelian cherry is a deciduous shrub with oval leaves turning purple in autumn; small clusters of tiny, bright yellow flowers open in late winter, to be followed by glossy red, cherry-like fruits. Grow in well-drained soil in sun or partial shade.

Ultimate height: 2.5 - 4 m, Ultimate width: 2.5 - 4 m

HEDGE PLANTING PALETTE



Carpinus betulus - Hornbeam

Description: Hornbeam (*Carpinus betulus*) grows wild in the south and east of England. The bark is grey with a silvery tinge, and the leaves produce attractive yellow and orange autumn colours. The dense, twiggly growth of hornbeam hedges can make a good nesting site for birds such as wren, blackbird, thrush and chaffinch.



Ilex crenata - Japanese holly

Description: This evergreen hedging species is a fantastic alternative to Box hedging as it is resistant to Box blight. Japanese Holly has dark green glossy small leaves and a smattering of white flowers in spring and insignificant, small black berries (poisonous) in autumn.



Clipped shrubs are used to give the private terraces privacy and help separate the residential and public areas.

The required height for the proposed hedges is: 1 - 1.5 m.



Crataegus monogyna - Hawthorn

Description: It heralds the arrival of spring, by bursting into leaf within a few days of the initial buds appearing, has an abundant and spectacular display of white scented blossom, and it develops glossy red haws in autumn, which sustain our native birds (especially starlings, thrushes, blackbirds and redwings) and Hawthorn supports more than 150 species of insect.



Taxus baccata - Yew

Description: Yew is an evergreen conifer native to the UK. Yew hedges in particular are incredibly dense, offering protection and nesting opportunities for many birds.

The fruit is poisonous to humans but eaten by birds such as the blackbird, mistle thrush, song thrush and fieldfare, and small mammals such as squirrels and dormice. The leaves are eaten by caterpillars of the satin beauty moth.

SHRUB PLANTING PALETTE



Salix cinerea - Grey Willow

Description: it grows in woodland and hedgerows, as well as damp areas such as near canals, rivers and streams. It is native to Europe and western Asia.

Value to wildlife: Grey willow foliage is eaten by the caterpillars of a number of moths. It is also a food plant for the purple emperor butterfly.



Salix aurita - Eared Willow

Description: Eared willow is native to Europe and a significant part of the ecosystem. It is considered to be a shrub, rather than a tree, and it can reach 3 metres in height. The stems and branches provide habitat for a number of mosses and lichens, birds, insects and other small animals.



Viburnum opulus - Guelder Rose

Description: Guelder rose is grown as an ornamental plant in the UK due to its pretty flower heads and bright juicy berries. There are many cultivars of it in garden centres. Its berries can be mildly toxic if eaten raw but they can be cooked into jelly or jam. The red berries are an important food source for birds, including bullfinch and mistle thrush. The shrub canopy provides shelter for other wildlife. The flowers are especially attractive to hoverflies.



Corylus maxima 'Purpurea' - Purple Leaved Hazel

Description: Corylus are deciduous trees and large shrubs with broad leaves, and showy male catkins in early spring, followed by edible nuts. Grows well in chalky soil in sun or partial shade.

Ultimate height: 4 - 8 m, Ultimate width: 2.5 - 4 m.

The shrubs were used along the rainwater gardens and as separation between the different functions in the urban realm. They have an important role in the bio-diversity too, because they can provide habitat and food for wildlife animals.

The required height for the proposed shrubs is: 0.8 - 1 m.

SHRUB PLANTING PALETTE, CONTINUED .../



Cornus sanguinea 'Winter Flame' - Dogwood

Description: Dogwood is a small broadleaf shrub, typically found growing along woodland edges and in hedgerows of southern England. It is a popular ornamental plant. The leaves are eaten by the caterpillars of some moths, including the case-bearer moth, the flowers are visited by insects and the berries are eaten by many mammals and birds.



Sambucus nigra - Elder

Description: Elder is a small deciduous tree, native to the UK.

Value to wildlife: The flowers provide nectar for a variety of insects and the berries are eaten by birds and mammals. Small mammals such as dormice and bank voles eat both the berries and the flowers. The flowers and berries are mildly poisonous, so should be cooked before eating.



Sorbaria sorbifolia Sem - Sorbaria

Description: 'Sem' is a small, compact selection, to 1.5m, of this thicket-forming shrub. It has many upright stems and a distinctive leaf colouring; yellow-green flushed with bright reddish-pink and bronze in spring. Leaves become greener in summer, but redden in autumn; colouring is best in good light. Flowers are borne in stiff, erect, rather narrow panicles of small white flowers in summer.



Frangula alnus - Alder buckthorn

Description: It's a colourful tree native to England and Wales. It grows best in wet soils and open woods. Alder buckthorn is the food plant of the brimstone butterfly, whose caterpillars eat the leaves. Its flowers provide a source of pollen and nectar for bees and other insects, and its berries are eaten by birds.



Rhamnus cathartica - Purging buckthorn

Description: It is commonly found growing in scrub and woodland around Britain. Purging buckthorn is the main food plant of the brimstone butterfly, whose caterpillars eat the leaves. Its flowers provide a source of pollen and nectar for bees and other insects. Its dense growth makes it a valuable nesting site for birds.