

Moygaddy Castle SHD Maynooth, Co. Meath

LANDSCAPE RATIONALE

Ronan Mac Diarmada & Associates

Landscape Architects & Consultants

August 2022



## Location

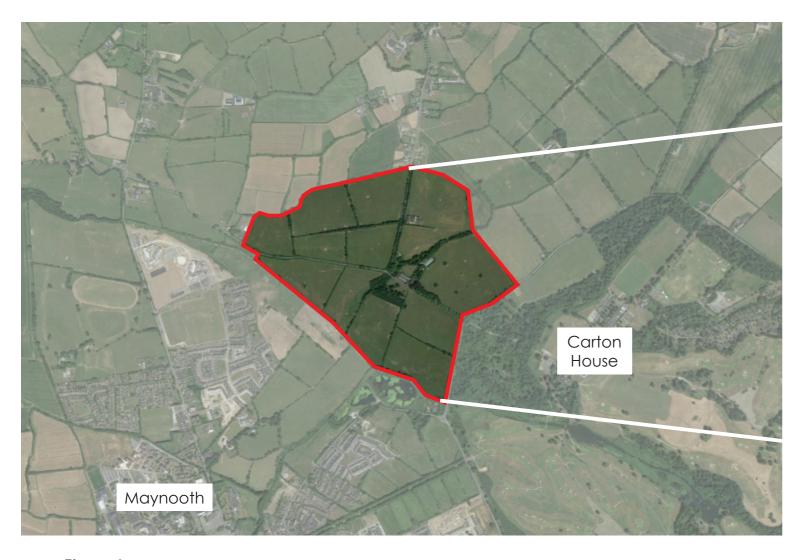


Figure 1



Moygaddy Future Development

The proposed development lands are situated in Moygaddy (Maigh Gadaí), County Meath, just north of Maynooth. The Applicant controls a land bank of circa 240 Acres, as shown in Figure 1, which is earmarked for major infrastructure upgrades and future mixed use development.

The largely greenfield site is bordered by mature trees and hedgerows, with many scenic vantage points which offer elevated views south to Maynooth and the surrounding hinterland. The location of proposed Strategic Housing, which is the subject of this application is shown in Figure 2.



Figure 2



Proposed Site Location

Planning Permission is sought be Sky Castle Ltd. for the development of a site which extends to 19.52 hectares gross site area in the townland of Moygaddy, Maynooth Environs, Co. Meath. The net developable area equates to 7.89 hectares which equates to a residential density of 45.6 units per hectare.





# Spatial Context / Open Space Hierarchy (per Meath County Development Plan)







# Masterplan Phasing







## Site Context

## Views



1. Moygaddy Castle - Tower house in ruins



2. View across lands of elevation change and mature specimen trees.





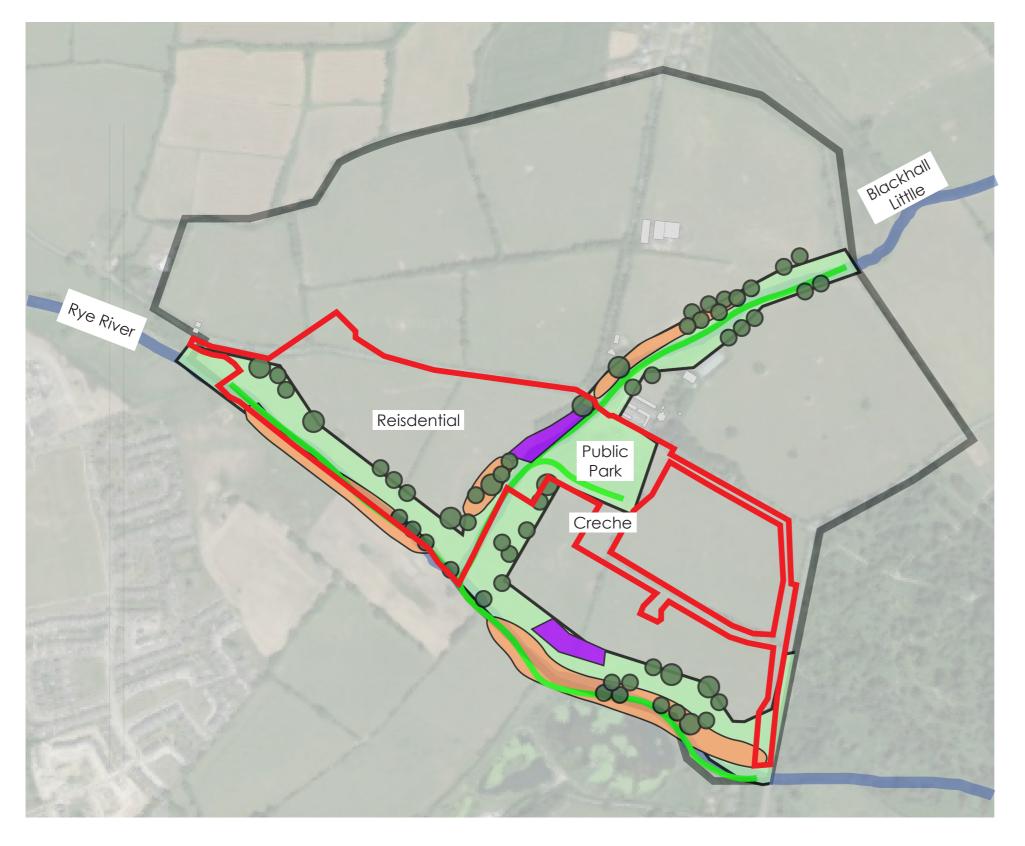
3. Typical agricultural boundary condition found throughout the lands



4. View across the Rye River



## Habitat Retention & Creation

















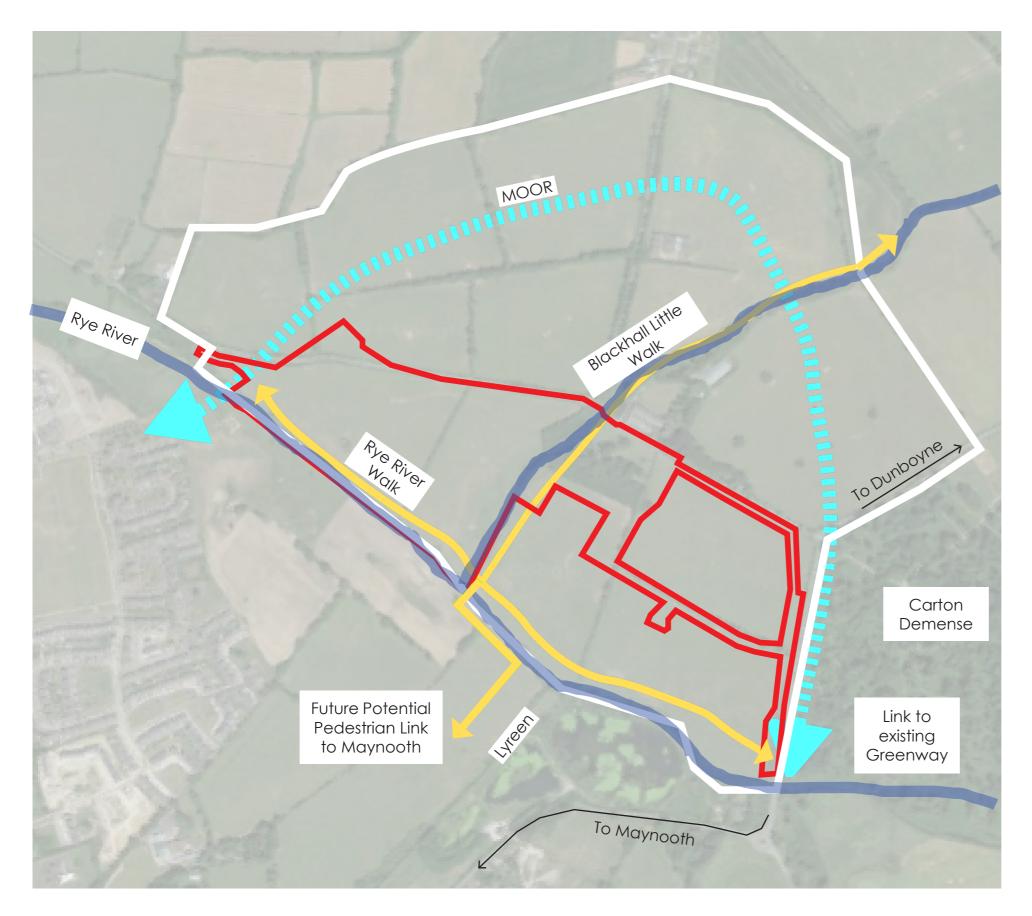
Existing Woodland



Rye River



## **Development Connectivity Context**







#### Connectivity

A key objective of the design brief is to reduce car dependency by providing high quality pedestrian and cycle networks. The provision of green infrastructure and walking and cycle trails will integrate the new development into the existing landscape.

The design brief is to promote permeability throughout the entire masterplan area to facilitate the phased delivery of direct pedestrian and cycle linkages with the town of Maynooth and surrounding amenities and employment and medical zones.

As part of the wider masterplan, this Strategic Housing Development proposal will deliver a section of the Rye Riverside Walk and the Blackhall Little walk which will ultimately be linked to the future residential phases of the masterplan, located to the east. The Rye Riverside and Blackhall Little walks will be delivered in an intergrated and phased manner.





## **DESIGN PROPOSAL**









# Arboricultural Impact



#### **EXISTING TREES**

154no.

A total of 154 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 centre and north of the site.









% of the total number of the existing trees





# Arboricultural Impact



**RETAINED TREES** 

A total of 130 trees will be retained at the site

125no.

Tree protection and enhancement are a key tenet of the proposed design. The main concentration of retained trees are located on the northwest and southeast boundaries and within the proposed public park at Moygaddy Castle Towerhouse









% of the total in category



#### **REMOVED TREES**

# 29no.









% of the total in category

A total of 29 trees will be removed at the site, many of which have been highlighted for removal due to poor condition. The loss of these trees will be offset by new planting.





## Arboricultural Impact

#### **RETAINED TREES**

A total of 88 trees will be retained at the site

Tree protection and enhancement are a key tenet of the proposed design. The proposed public park integrates the existing woodland setting of the Moygaddy Castle & Tower House, retaining all of the existing trees.

# Moygaddy Castle Tower House

#### Retained Trees & Hedgerows

#### MEATH CPP/MAYNOOTH ENVIRONS LAP OBJECTIVES

#### MAY OBJ 10

To require that any development in the Maynooth Environs respects the built and natural heritage of the area, its landscape quality, protected structures, historic demesne, archaeological heritage, natural heritage and general landscape character.

#### MAY OBJ 11

To ensure all development in the area has no negative impact on the Rye Water Valley/Carton SAC site or on the environmental characteristics of the area including woodland, rivers and tributaries.





Aerial View







## Design Proposal

## Hedgerow Impact



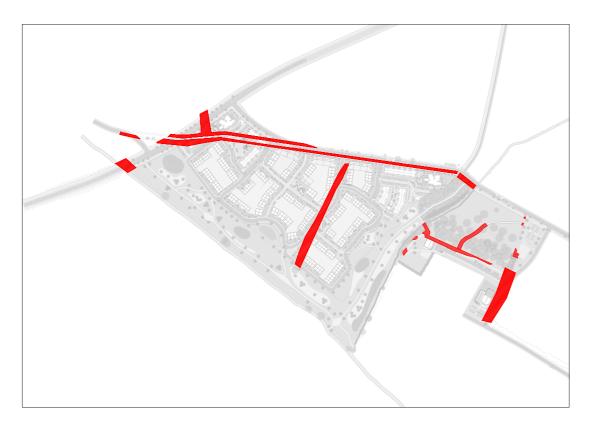
#### **RETAINED HEDGEROWS**



Existing Hedgerows to be retained, and augmented where necessary with native species

The landscape design proposal aims to preserve the former agricultural vernacular by retaining the existing landscape structure of field boundaries, and where possible, by maintaining existing hedges and boundary trees.

This includes the hedgerow along the southern boundary and most of the hedgerow that runs parelled to the Blackhall Little. Retention and protection of mature vegetation and established hedgerows will ensure there is minimal impacts on biodiversity and it will allow the existing hedgerows their continued function as a wildlife corridors for the area.



#### **REMOVED HEDGEROWS**



Existing Hedgerows to be removed to facilitate the proposed development and road infrastructure





# Proposed Tree Planting

#### **PROPOSED TREES**

591no.



Front Garden 12-14cm Amelanchier lamarckii

Total of 130 trees will be retained at the site. Total trees proposed and retained: 731





Street Trees / Front Garden 14-16cm
Tilia Tomentosa 'Brabant'
Carpinus betulus 'Fastigiata'
Tilia cordata 'Greenspire'^
Pyrus calleryana 'Chanticleer'
Sorbus acuparia^







Mulitstemmed Trees 12-14cm
Prunus avium 'Plena'
Malus 'John Downie'^
Betula utilis var. jaquemontii







Open Space 14-16cm / 20-25cm

Betula pendula Pinus sylvestris Alnus glutinosa Quercus robur 'Koster'
Aesculus hippocastanum^

Alnus glutinosa Fagus sylvatica Quercus robur Prunus avium^





## Landscape Masterplan

## Open Space Categories





#### Public Park / Open Spaces

The design brief is to promote a range of high quality Public Open Spaces which cater for the recreational and amenity requirements of future residents of all age groups within the Plan lands.

The Public Open Spaces have been developed with with an integrated path systems that link the new housing scheme with the river walks and ecological habitat areas and the new public park at Moygaddy Towerhouse. We have proposed native woodland tree planting, native transplants & a wild meadow mix to help protect and enhance the natural habitat area.

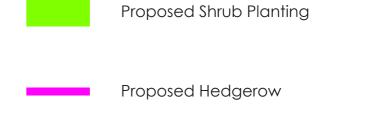




# Landscape Masterplan

## Enhanced Biodiversity





Retention and enhancement of biodiversity ensures

that the natural, cultural, and health requirements of communities are integrated into the new development.

Proposed Wetland / SUDS Areas

This green infrastructure strategy follows an overarching goal of protecting, creating, enhancing, and connecting the natural heritage and biodiversity value of the lands.

The provision of 585no. trees, along with shrub, wildflower, and bulb planting, spread throughout the built environment, connects the pocket parks with the larger parkland areas, maximising the environmental benefits and habitat creation.

Existing hedgerows are to be retained where possible, along the site boundary around which passive and active open space areas are arranged.







The design brief is to develop and integrate public walkways that link the scheme with the existing woodlands and Rye River and Blackhall Little Stream routes that permeate the site.

The river walk park is envisaged as a leading example of sustainable development, that will provide opportunities for habitat management and conservation, recreation, tourism and education.

The primary design intent is for preservation, protection and ecological mitigation of the development, together with the creation of new breakout spaces in the park which will allow for interactions with the diverse landscape.





# Connectivity

## Site Circulation







Riverside Walk

#### Connectivity

The pedestrian and cycle network for the proposed development aims to facilitate legible and comfortable movement within the site and to surrounding opportunities with the wider parklands.

The river walk park is envisaged as a leading example of sustainable development, that will provide opportunities for habitat management and conservation, recreation, tourism and education.

The primary design intent is for preservation, protection and ecological mitigation of the development, together with the creation of new breakout spaces in the park which will allow for interactions with the diverse landscape.





# Connectivity

## Road Network





## Street Hierarchy

The street network for the proposed development aims to provide a permeable street layout that emphasises pedestrian and cyclist priority with a clearly defined hierarchy of street typologies.

Street trees and horizontal deflection will limit traffic speeds and increase pedestrian comfort, while defensive planting defines individual residential homes.





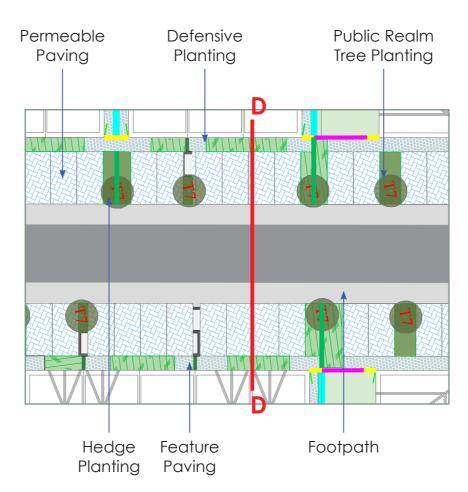
## Road Treatments

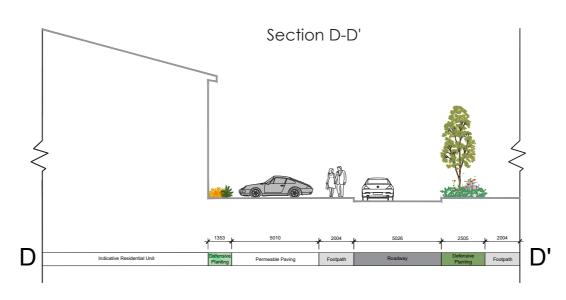
## Main Link Street

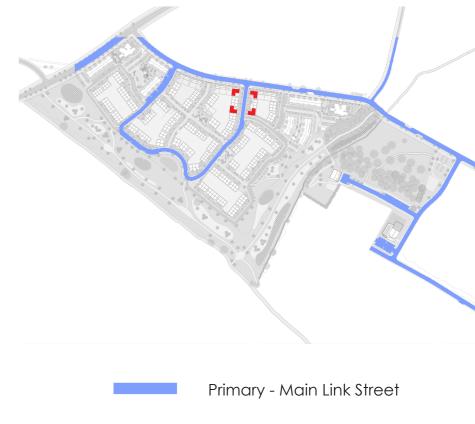












- Public path On Both Sides
- Cyclepath/Route
- Public Trees
- Trees (house side) in Public Domain

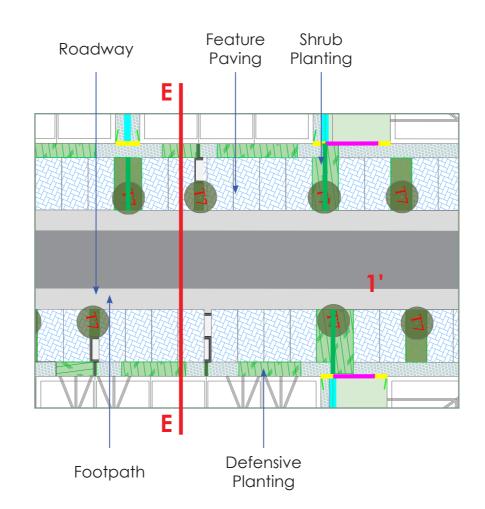




## Road Treatments

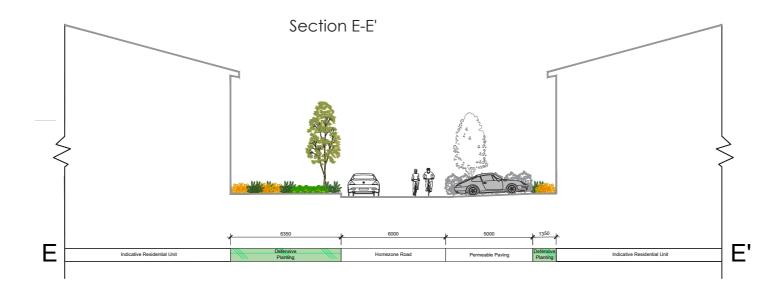
## Local Street











- Public Path (on both sides of road)
- Public Realm Tree Planting





## Road Treatments

## Homezone - Pedestrian Priority

Quieter streets are defined by a homogeneous shared surface providing pedestrian priority (6m width) with kerb delineation. Shared street provision: pedestrians and cyclist share carraigeway with vehicles in a low traffic speed and a low traffic volume environment.

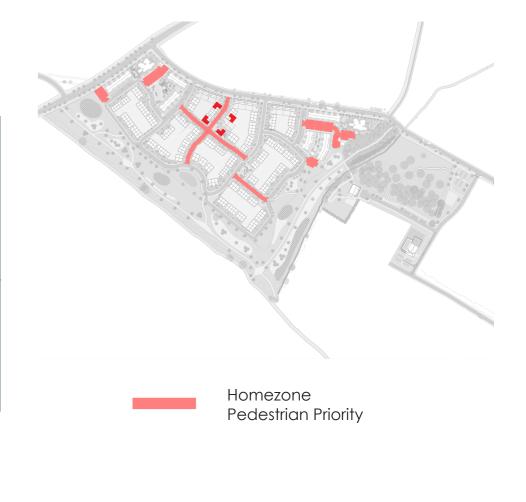
Proposed Planting to include front garden tree, public realm tree, boundary hedge, defensive shrub planting.



Front Garden Permeable
Tree Paving

F

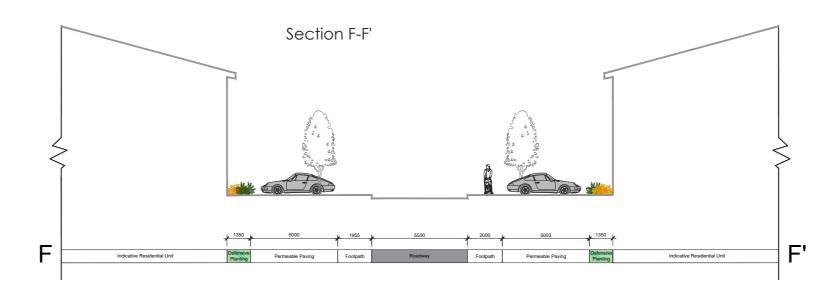
Tarmac w/
coloured chip Planting Planting



Homezone Shared Surface



Tarmac w/ coloured chip



- Shared surface / Pedestrian priority
- Tree to Front Garden
- Coloured tarmac with stone chip
- Path in same material as road.





# **Boundary Treatment**





Structural Hedge Planting



Concrete Post & Wooden Panel Fence

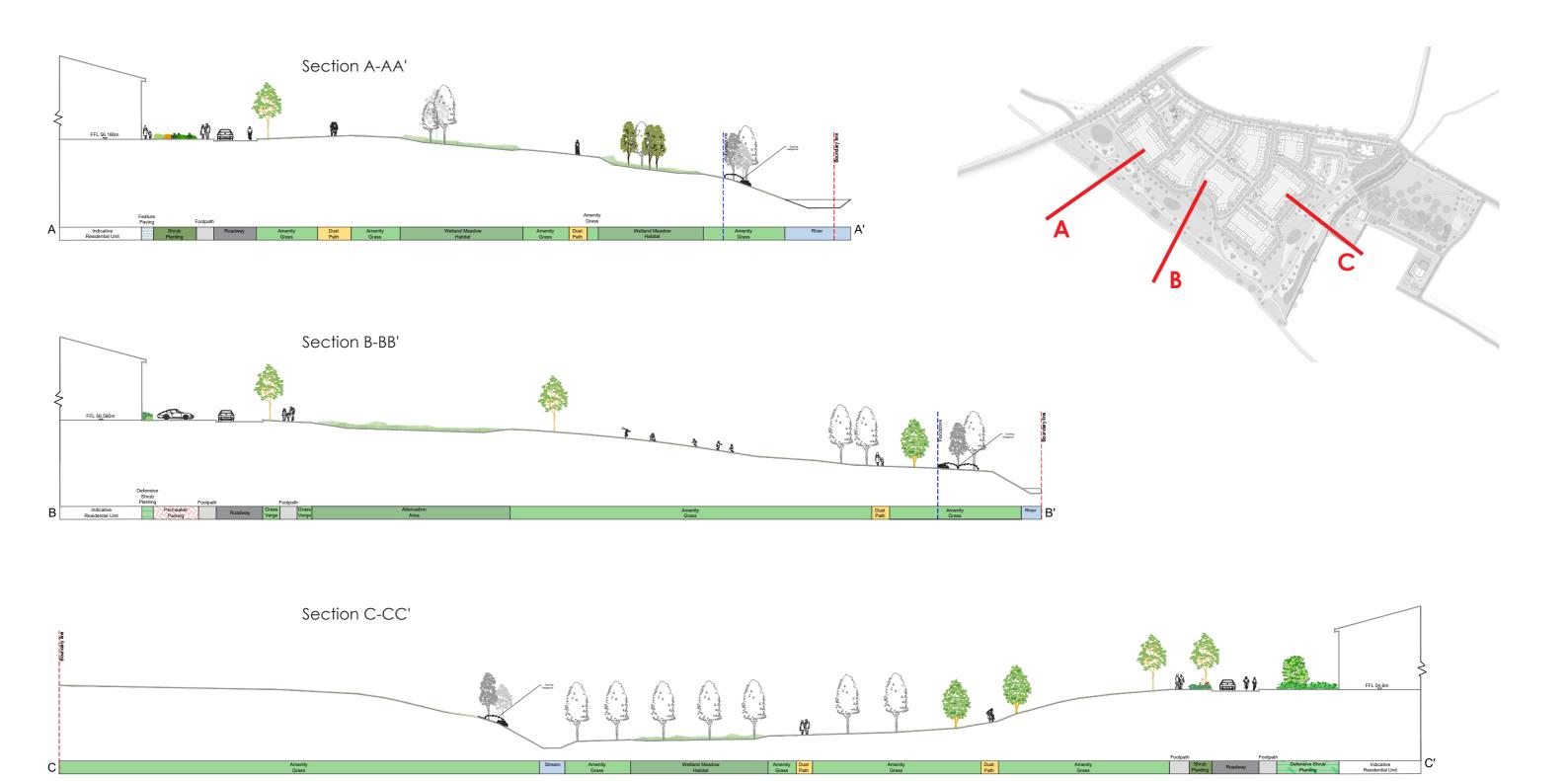


Stone Feature Wall





# Site Boundary Sections







# Concept Development

## Parkland Mood Board







Park Entrance



Seating



Seating Areas



Wildflower Meadows



Natural Play Spaces



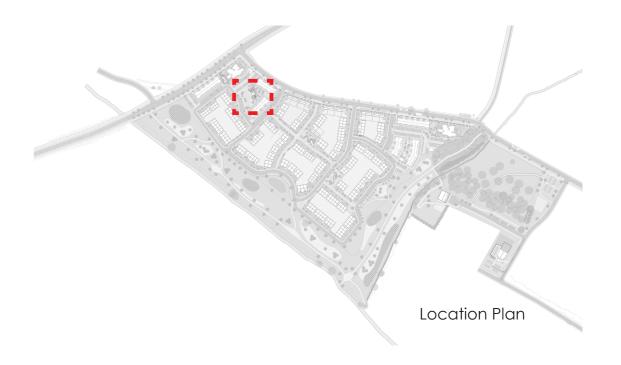
Wetlands Bridge

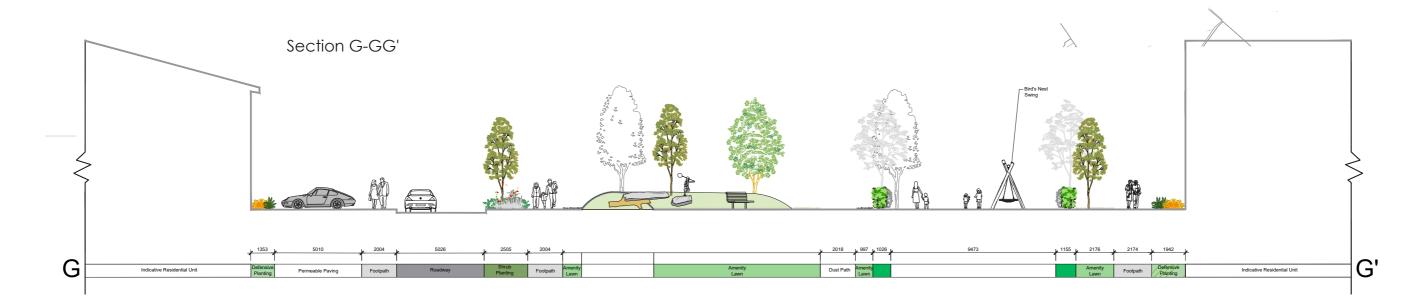




# Public Open Space - Pocket Park

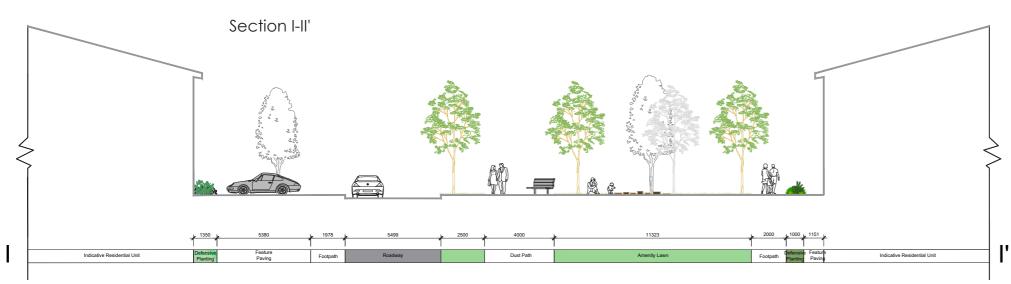


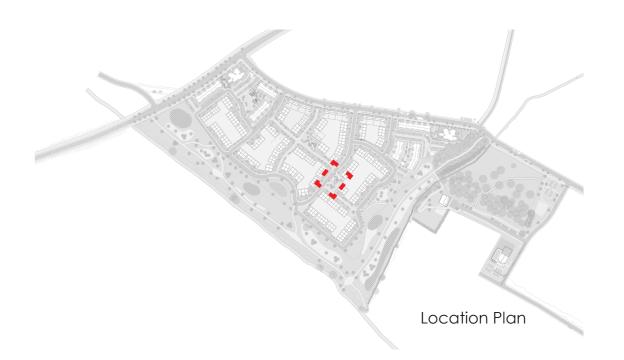




# Public Open Space - Pocket Park







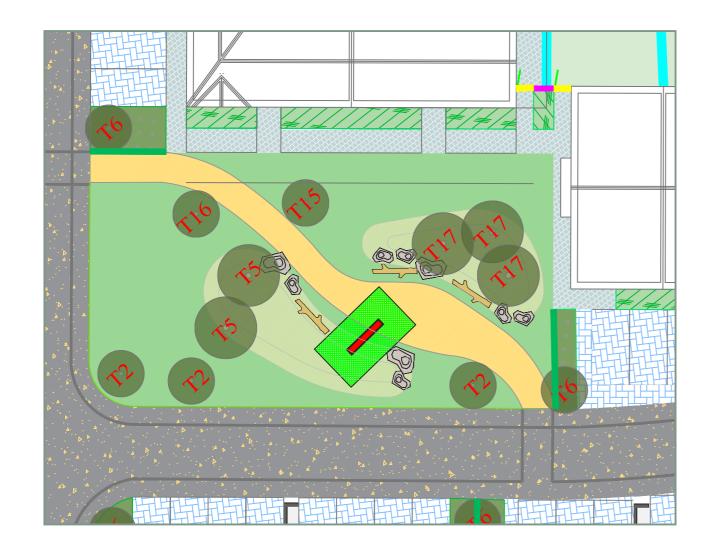


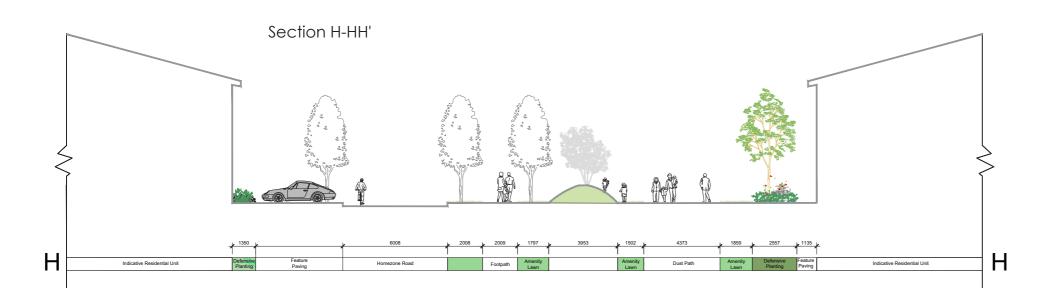
Natural Play

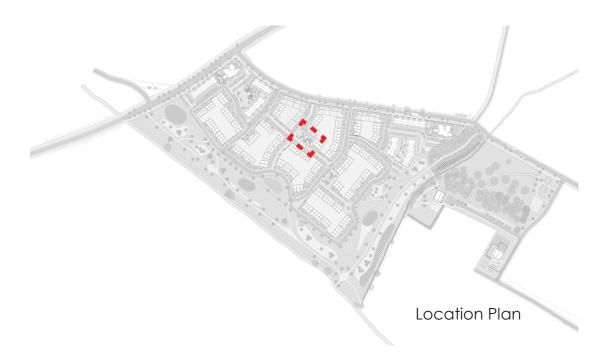




# Communal Open Space









Natural Play







#### Calisthenic Street Workout Stations

- Dip Bench
- Decline Bench
- Incline Press
- Pull Up Station Pro
- Push Up Bars

#### Natural Play Area

- Grass Mounding
- Timber log
- Natural Stepping Stone
- Stepping logs
- Double Balancing Beam
- Embankment slide
- Seesaw
- Combi 4 Calisthenic Station

#### Structured Junior Play (3+ years)

- Timber log
- Climbing pyramid
- Bird's Nest Swing





## Open Space - Playground





**Natural Seating** 





Betula pendula Playground Seating



Wood Fiber Playground Mulch The fibres knit together to form a stable, Long-lasting, slip resistant surface, excellent impact absorption



Prunus 'Otto luyken'



Lavandula angustifolia



Playground Bin

#### Movement

Tree planting and gentle grass mounding are ideal places to hide. These changes in levels are suitable for jumping and running down gentle hills.

Some Wooden seating areas could be suitable for climbing. Proposed playground located in the open space will accommodate climbing.

#### Stimulation of the five sense

Natural elements throughout open space and on podiums provide quiet places, dark and bright areas that appeals to a child senses. Sensory and textured plants planted throughout the spaces will appeals to the senses.

# Experiencing change in the natural and built environment.

Experiencing the seasons The contrast between open space and paving provide opportunities to learn and play. Natural element in open space such as trees will allow Children to experience changes in seasons.

#### **Social interactions**

Meeting points and a number of seating areas will encourage social interaction. Kick about spaces also encourage interaction

#### Playing with identity

Role play, Places to hide in the natural elements of open space.

#### **Experiencing a range of emotions**

This bespoke designed open space will appeal and evoke children's emotions.

#### Capabilities of play such as tumble, chase game.

Extensive grass areas throughout the open space are ideal for kickabout and chasing games.

#### Varied and interesting physical environment.

A bespoke designed space that has gentle grass mounding thus providing a change in levels. This provides a varied and interesting physical play environment.





## Landscape Features

## Swale SUDS





wildflower meadow.

We propose a new habitat to create

a varied & interesting landscape. It

shall take into account the current conditions & shall be implemented

with native flora, ie. trees & plants &

Swale provides temporary storage for storm water & reduces peak flows.



Typical swale in dry weather



Typical swale in wet weather

#### Suggested Wild-Flower Mix

Common knapweed Centaura 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 vulgaris
Yellow rattle Rhinanthus minor
Common sorrel Rumex acetosa
Burnet saxifrage Pimpinella saxifraga
Autumn hawkbit Leontodon autumnalis
Rough hawkbit Leontodon hispidus

#### 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

#### 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)

#### 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).

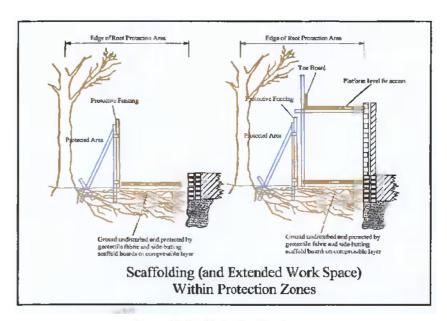




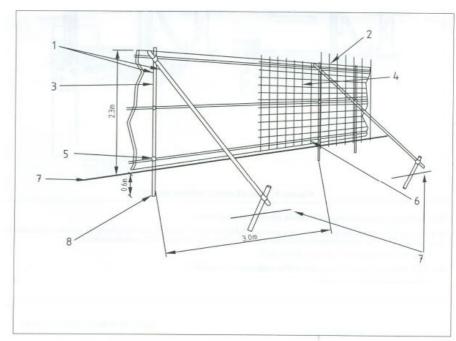
# Landscape Features

## Tree Protection & Detail





Appendix 1. - Protective Barrier



The above displays an example of a suitable protective barrier as recommended by BS. 5837 2012 Trees in Relation to Construction

- 1. Standard scaffold poles
- 2. Uprights to be driven into the ground
- 3. Panels secured to uprights with wire ties and where necessary standard scaffold poles
- 4. Weld mesh wired to the uprights and horizontals
- 5. Standard clamps
- 6. Wire twisted and secured on the inside of fencing to avoid easy dismantling
- 7. Ground level
- 8. Approx. 0.6m driven into the ground

## Tree Protection & Detail



The tree protection fencing is to be erected enclosing the root protection areas around the trees being retained as shown on this drawing and appendix 1. In some areas, the site hoarding may be sufficient to act as the protective fencing if the tree and its root zone are positioned outside and no works are envisaged within the area outside the site hoarding. This will need to be discussed and agreed at the initial site meeting.

Where tree protection fencing is needed, this will need to be 2.3m high and constructed in accordance with figure 2 of BS 5837 2012 (see detail on drawing & appendix 1) using vertical and horizontal scaffold bars or similar well braced together with the verticals spaced out at a maximum of 3m centres. Onto this, weld mesh panels (harris fecne panels) are to be securely fixed with wire or scaffold clamps.

Signs are to be attached to these fences warning people that this is a protective area and that the fencing must be maintained in good condition in accordance with the approved plans and drawings for this development.

Once the protective fence line is erected, then the main construction works can commence on site.

The following is a list of activities that are not allowed within the RPA or within the vicinity of the trees being retained.

- Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials.
- Protect root systems from ponding, eroding, or excessive weting caused during construction operations.
- Do not store construction materials, debris, or excavated material inside tree protection zones. When excavating, place excavated soil on opposite side of trench away from the tree.
- Do not permit vehicles or foot traffic within tree protection zones; prevent soil compaction over root systems.
- o Do not allow fires under or adjacent to remaining trees or other plants.
- Do not attach notice boards, cables or other services to any part of the tree.
- Do not use neighbouring trees as anchor points.
- Do not use high machinery such asTele-porters, cranes or other equipment close to trees to avoid damage to the crown or any other parts.

During the construction works the following is required:

- The main contractor or site manager is to brief all people working on site on the tree protection measures and the procedure if works need to be carried out within these areas.
- Storage of Material, Work Yards and staff car parking

   are to be identified on
  the work drawings prior to the construction works starting. These need to be
  positioned outside the root protection areas around the trees being retained.
- The main contractor or site manager is to check the tree protective fencing daily and carry out any repairs required to ensure its staysupright and
- The main contractor or site manager is to liase with the projectArboriculturist
  if and when works are to be carried out close to or within the root protection
  areas around the trees.
- Any works to occur within the protection areas such as landscaping is to be carried out manually with no machinery allowed. All soft and hard landscaping within the Root Protection Area (RPA) of the trees to be retained are to be carried out manually and the soil levels are not to be lowered or raised resulting in root damage to the trees. Recommendations of sections 8 of BS5837 2012 are to be adhered to during the landscaping within the RPA'S of the trees being retained.

33

 The protective fencing around the trees is to stay in position until all the construction works are complete and are only to be removed following discussions and agreement with the project arborist.

Moygaddy Castle SHD, Maynooth

Ronan Mac Diarmada & Associates

Landscape Architecture

# **Proposed Planting**

# Street and Open Space Trees



Prunus avium 'Plena'



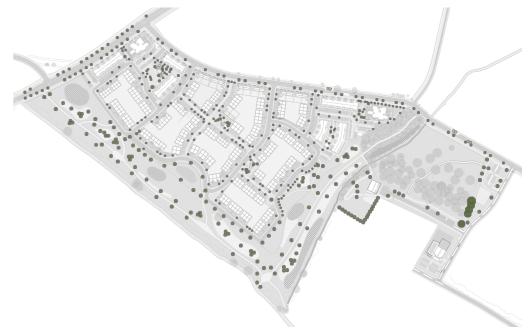
Acer griseum 'Multi-stem'



Fagus sylvatica 'Dawyck'



Betula jacquemontii multi stem



Proposed Trees Location



Acer campestre 'Elsrijk' Underplanted with Prunus 'Otto luyken'



Betula pendula



Carpinus betulus 'Frans fontaine'



Amelanchier lamerkii



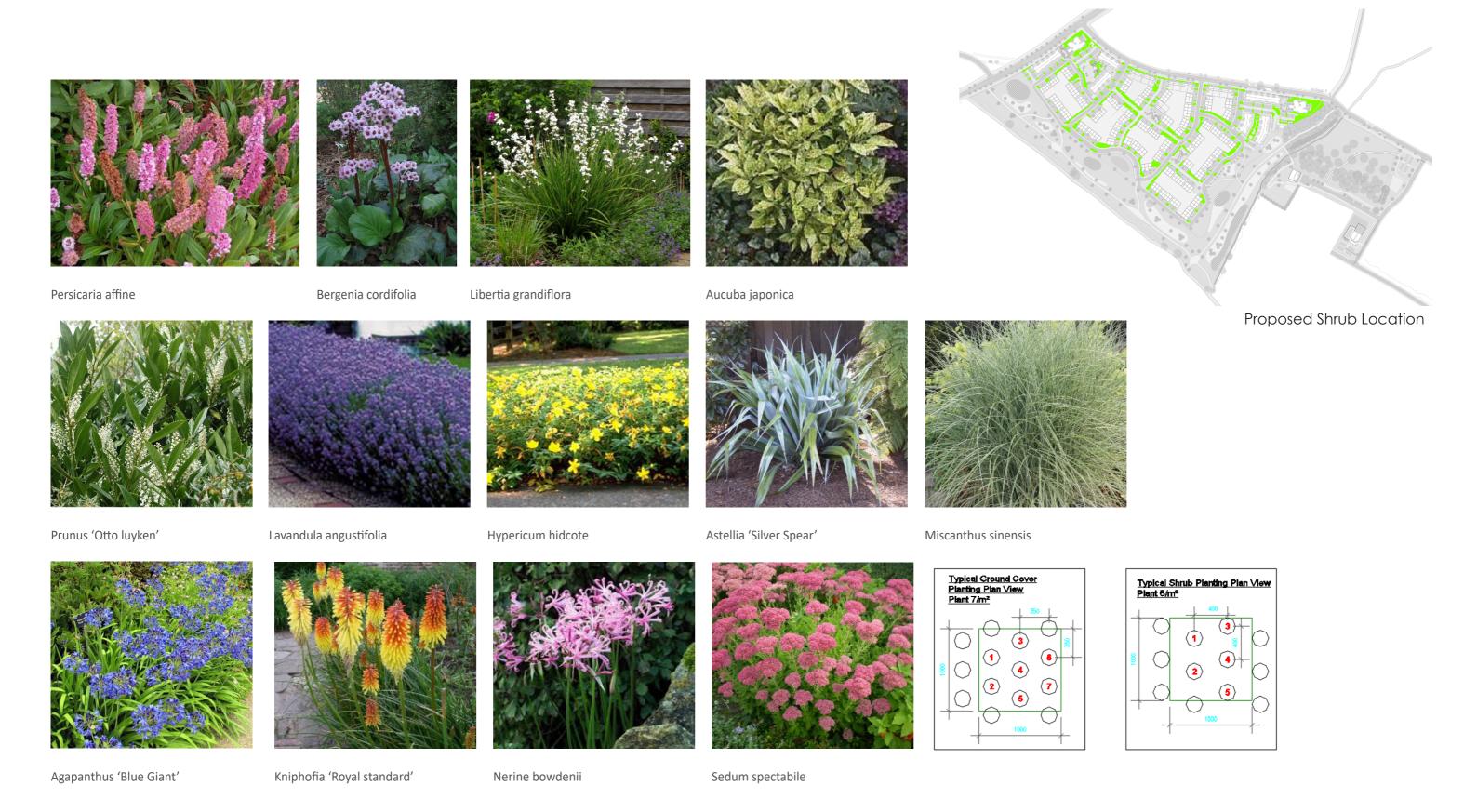
Pyrus calleryana 'Chanticleer'

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





# Shrubs - To Private Spaces



# Hedgerows

## H1 - Hedgerow Planting Detail

Hedge mix 60-90mm

100% Prunus lusitanica

50 x 50 stake tied with a single rubber gut tie.
2 rows @ 500mm centres -400mm apart,

- Private Space Hedegrow
- Noise Barriers
- Property Boundary



Hedge Type 1 Mix Prunus Iusitanica Hedge

## **H2 - Hedgerow Planting Detail**

Hedge mix 60-90mm

Crataegus monogyna Prunus spinosa Ilex aquifolium

50 x 50 stake tied with a single rubber gut tie.
2 rows @ 500mm centres -400mm apart,





Hedge Type 2 Mix - Crataegus monogyna



Hedge Type 2 Mix - Prunus spinosa



Proposed Hedgerow Location



Hedge Type 2 Mix - Ilex aquifolium





## **Proposed Planting**

## Wildflower Mix



Marsh Thistle Cirsium palustre



Common Knapweed Centaurea nigra



Sneezewort Achillea ptarmica



Meadowsweet Filipendula ulmaria



Proposed Wildflower Location



Common Bent Agrostis capillaris



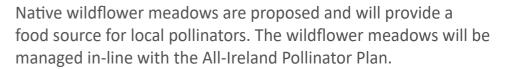
Meadow Foxtail Alopecurus pratensis



Oval Sedge Carex ovalis



Tufted Hair Grass Deschampsia caespitosa



Note: The Wildflower Meadow will need to be cut once in Autumn (Late August/Early September) with a tractor and mower. Leave the mowings for a few days to allow seed to drop to the ground. Then it should be baled and bales removed.



Red Fescue Festuca rubra



Reed Canary Grass Phalaris arundinacea



Smooth-stalked Meadow Grass - Poa pratensis



Devils-bit Scabious Succisa pratensis





#### Elements Palette

#### Paving Palette

#### Surface Palette

#### **Landscape Elements**

Wooden seating element, some areas to incorporate lines of Yeats poems along side of bench



Hartecast HC2001S Bench - 1950x540x450mm



Flush Slipform Sheffield Cycle Stands Concrete Kerb - 1000mm x 1000mm

#### **Feature Paving**

Light coloured flags to maximum light within courtyards w/contrasting paving blocks





Tobermore City Pavers
- Graphite 300x150x100mm



Tobermore City Pavers
- Silver 300x150x100mm

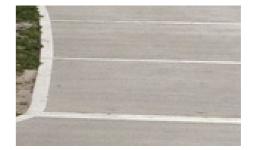
#### In-situ Surfaces



Coloured Tarmac (Homezone)



Coloured tarmac (cycle path)



Brushed Concrete with trowel edge finish (streets)

#### **Tree Pit Grilles**







#### **Traffic Area & Parking**

Permeable Surface dim. 200x100x60mm with contrasting parking dividers



Tobermore Hydropave Pedesta Pavers - Bracken



Tobermore Hydropave Pedesta Pavers - Heather

#### **Resin Bond Paths**

Resin-bound surfacing for high impact areas across the development



Ballylusk Dust Path (pedestrian path)

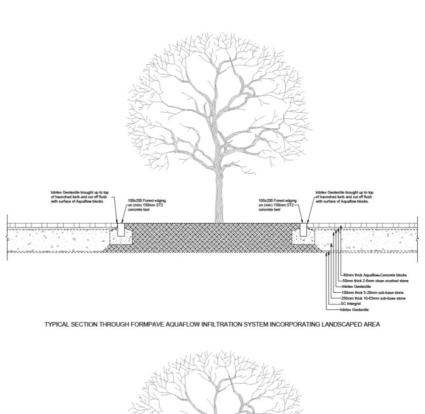


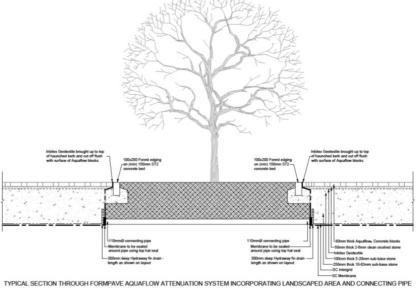
Coloured tarmac (cycle path)

# Landscape Features

## Individual Tree Pit for Public Realm



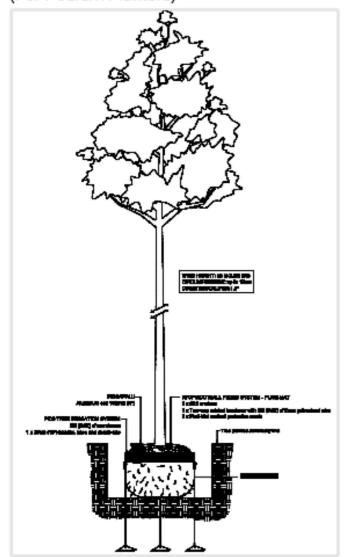




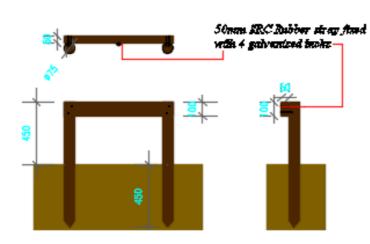




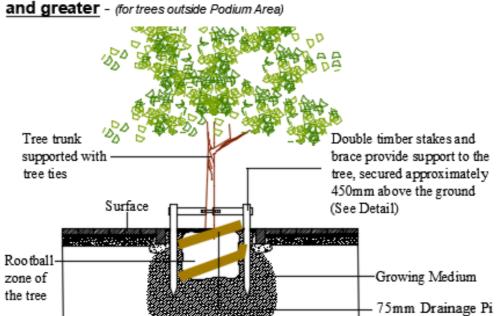
#### Plati-Mat Rootball Tree Anchoring Detail (For Podium Planters)



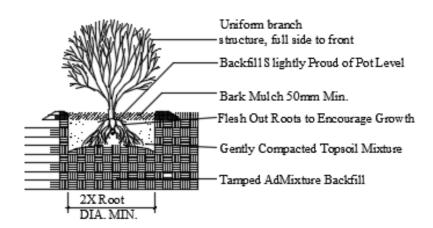
Typical Double Tree staking Detail Scale (1:25)

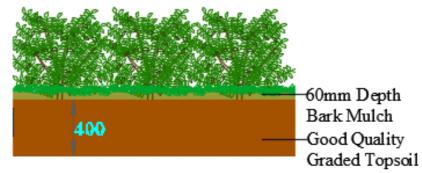


Tree Planting Detail, 12-14cm girth



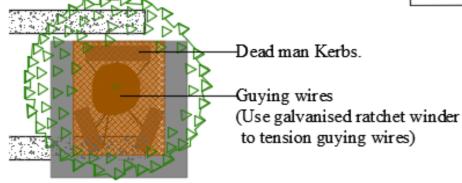
Shrub Planting Detail





Shrub Planting Build-up Detail Scale (1:25)

# Plati-Mat Plan View Scale (1:50)



#### PLANTING NOTES:

surround rootball, 1

ALL TREES, SHRUES AND HEDGEROW PLANTS SHALL COMPLY WITH BS 3936, SPECFICATION FOR NURSERY STOCK, ALL PRE-PLANTING SITE PREPARATION, PLANTING AND POST PLANTING MAINTENANCE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF BS 4428 (1989) CODE OF PRACTICE FOR GENERAL LANDSCAPE OPERATIONS (EXCLIDING HARD SUPFACES).

ALL NEW TREE PLANTING SHALL BE POSITIONED IN ACCORDANCE WITH THE REQUIREMENTS OF TABLE 3 OF BS 5837: 2005T REE IN RELATION TO CONSTRUCTION: RECOMMENDATIONS, WHICH SPECIFIES MINIMUM DISTANCES BETWEEN NEW PLANTING AND STRUCTURES.

#### SCHEDULE OF IMPLEMENTATION:

 ALL TREE AND HEDGEROW PLANTING IS TO BE CARRED OUT DURING THE FIRST WINTER SEASON, LE. NOVEMBER TO FEBRUARY INCLUSIVE.

2. ALL LAWN AREAS ARE TO BE PREPARED AND SEEDED DURING THE GROWING SEASON, I.E. APRIL TO OCTOBER INCLUSIVE.
3. ALL CONTAINERISED SHRUB PLANTING MAY BE CARRIED OUT AT ANY TIME OF WHEN SOIL IS NOT FROZEN, WATERLOGGED OR EXCESSIVE VIEW.

