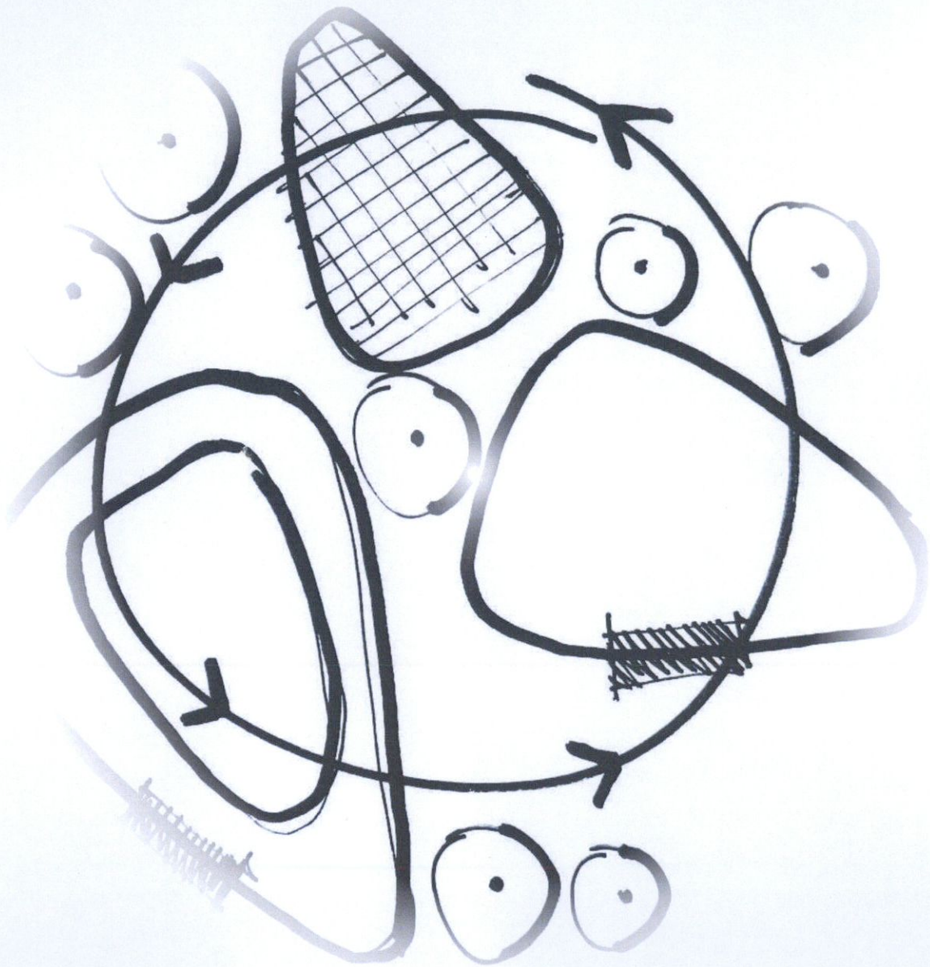
AGE-FRIENDLY DEVELOPMENT

Tay Lane, Rathcoole

DECEMBER 2022



g+a

Gannon + Associates Landscape Architecture

CLIENT: Riverside Projects Limited

PROJECT ARCHITECT: PAC Studio

DEVELOPMENT DESCRIPTION:

The proposed development will principally consist of the construction of a four storey apartment block consisting of 58no. age-friendly residential apartments comprising 20 no. 1-bedroom units and 38no. 2-bedroom units. The proposed development also includes the provision of an ancillary community facility, associated accommodation including refuse stores and cycle stores, car and cycle parking, landscaped communal and public open space and boundary treatment works. Planning permission is also sought for internal access roads and pedestrian / cycle pathways and linkages, public lighting, landscaping, and all associated site and development works to facilitate the proposed development.

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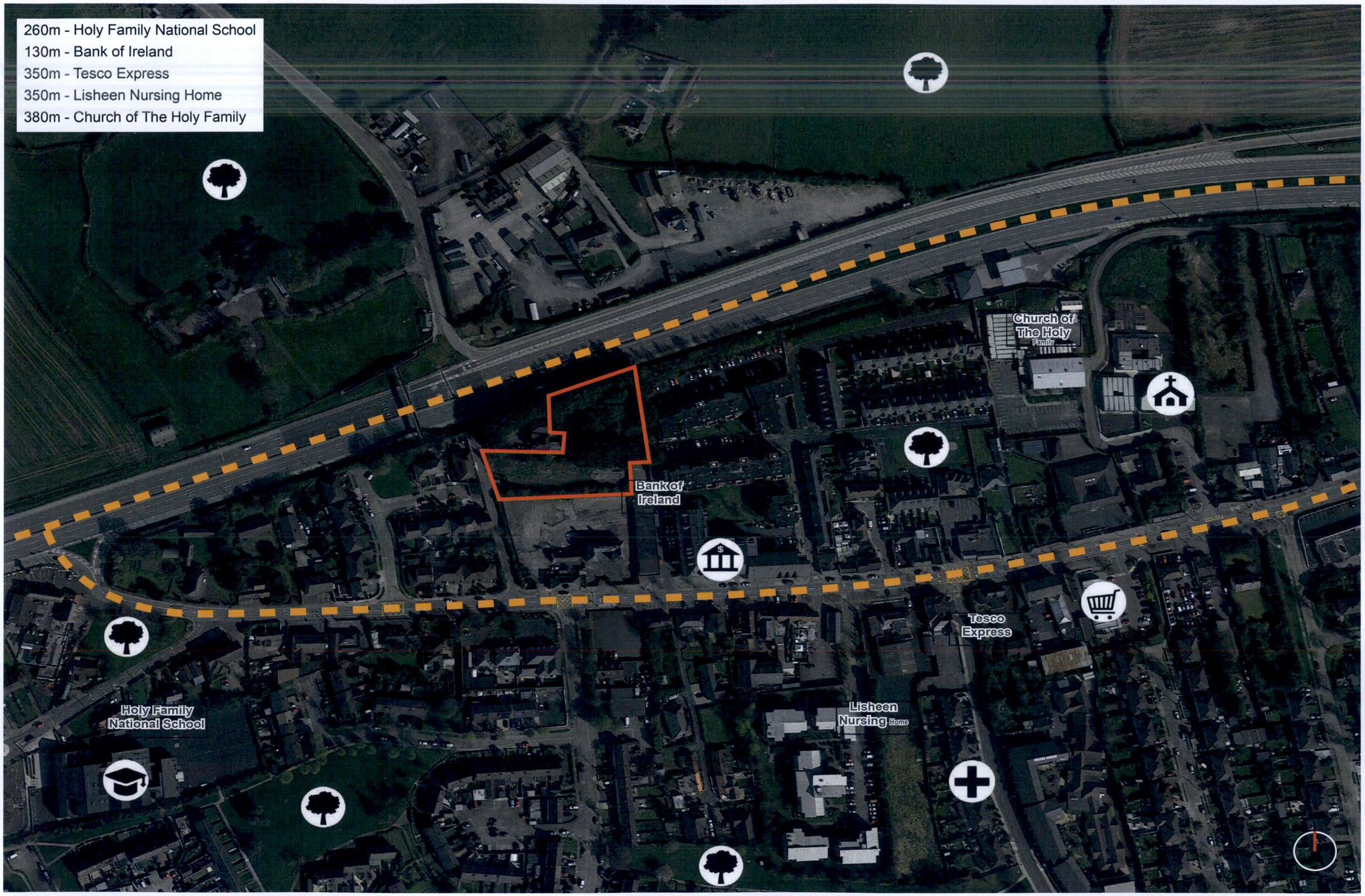
1 / CONTEXT

The application site is located within Rathcoole town in west Co. Dublin. The site is bounded to the north by the N7 and an existing dwelling, to the east and west by residential developments, and to the south by an area of hard-standing. The only structure within the site is a small derelict single storey flat-roofed building that has been damaged by fire.

The existing vegetation on the site can be characterised by 2 tree lines along the north of the site and in the middle of the site and the remaining vegetation is largely scrub and self seeded primary colonizers. Located close to a variety of the urban amenities offered by the town, the site is ideally located for a development of this nature.

1:1 SITE CONTEXT

260m - Holy Family National School
130m - Bank of Ireland
350m - Tesco Express
350m - Lisheen Nursing Home
380m - Church of The Holy Family



1.2 TREE SURVEY

Category A Trees: Trees of high quality / value with a minimum of 40years life expectancy. BS5837: 2012 Category Retention Rating.

Category B Trees: Trees of moderate quality / value with a minimum of 20years life expectancy. BS5837: 2012 Category Retention Rating.

Category C Trees: Trees of low quality / value with a minimum of 10years life expectancy. BS5837: 2012 Category Retention Rating.

Category U Trees: Trees in such a condition that any existing value would be lost within 10years or being recommended for removal by sound arboricultural practice. BS5837: 2012 Catergory Rentention Rating.

T01 Tree Tag number

Existing trees to be retained - including tree surgery works requirements where necessary

Removed due to poor/dead condition

Existing trees to be removed to facilitate construction.

Root Protection Area (RPA)
This area relates the "RPA" radius as defined in the Tree Survey Table and is measured from the tree centre.
This area defines the preliminary Construction Exclusion Zone (CEZ) that must be protected by fencing from the potentially damaging affects of construction activity.

Tree protection fencing to be erected prior to construction and retained for he duration of construction activities. To be monitored regularly,

Cellweb root protection to be installed with no dig method as per detail.

Red Line Site Boundary

Graphic Representation of Tree and Protection Zone

Canopy Extent
Cardinal Radii
Category Code
Stem Circumference

Canopy is drawn to account for any natural asymetry or imbalance. Crown Representation is scaled to account for north, east, west and south radii.

NOTE:
Refer to supporting tree survey report

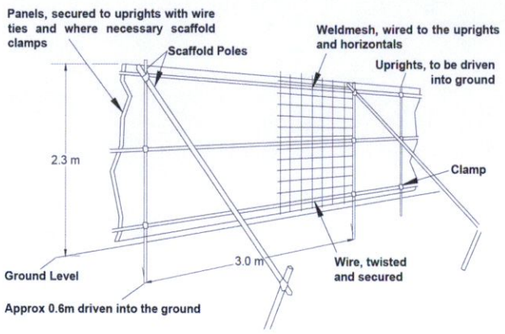
Location of photographs (refer to tree survey report)

Trees to be removed to facilitate construction:

Total 15 no.
9 x *Cupressus × leylandii*
4 x *Acer pseudoplatanus*
1 x *Cupressus macrocarpa*
1 x *Betula pubescens*

Trees to be retained and protected on site:

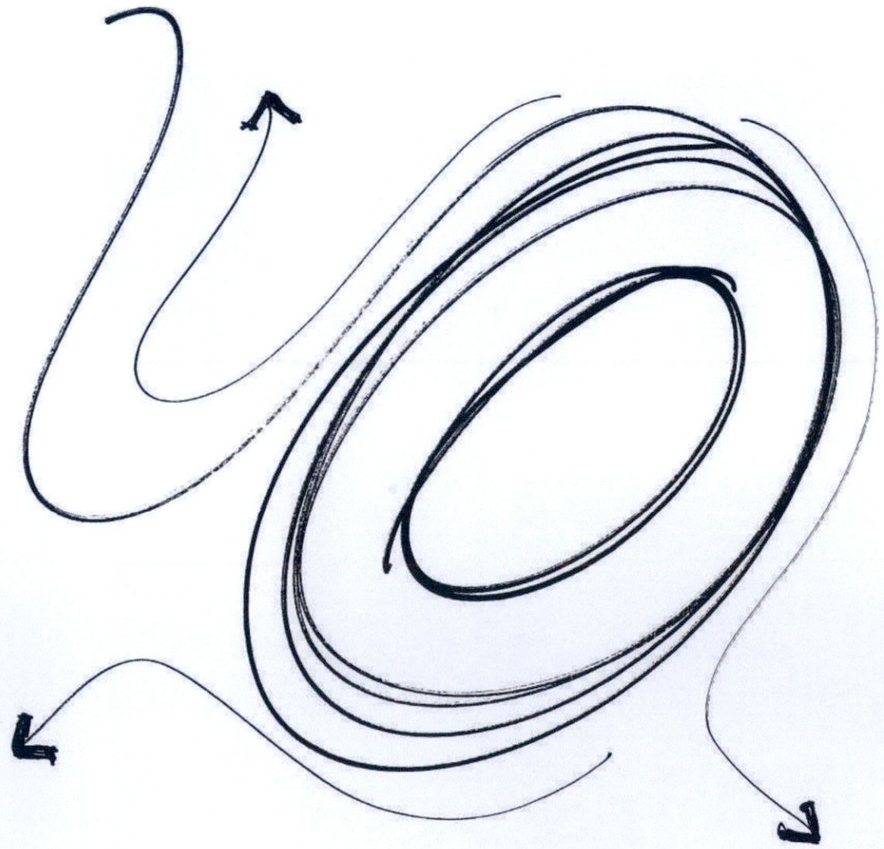
Total 47 no.
36 x Cupressus × leylandii
11 x Populus alba



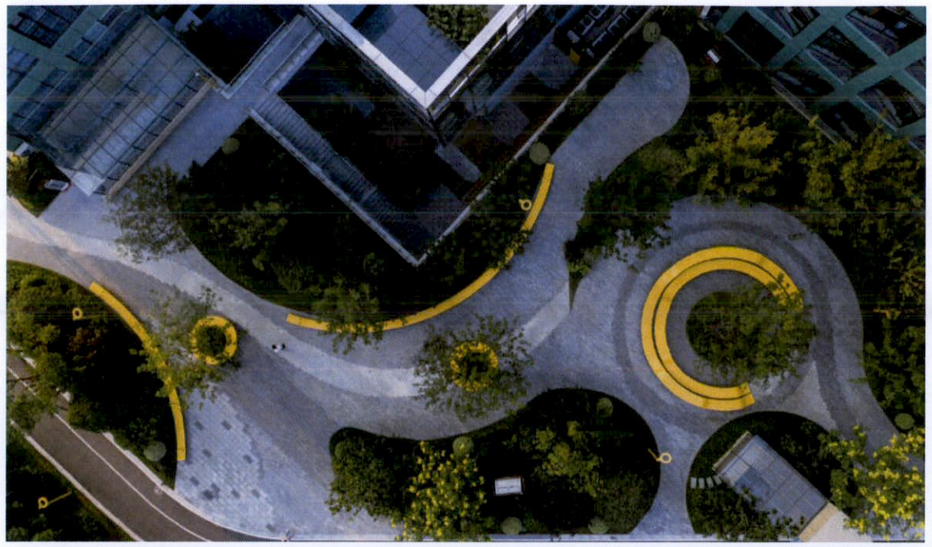
2 / LANDSCAPE STRATEGY

The Loop

Encouraging interaction, activity, movement and experiences through the unique and easily communicate concept of the loop. A loop is a shape, the end of which is the connection to the beginning. The central loop within the primary communal open space is designed to encourage movement and interaction among the residents. It is also a very positive shape element when viewed from above by the residents. The loop walks through different spaces and activity areas.



2.1 THECONCEPT



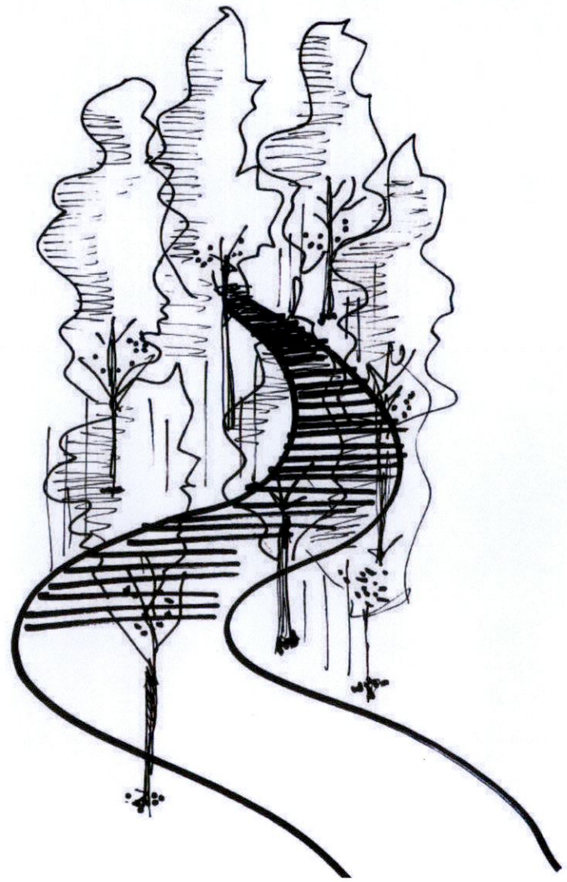
Connection & Liveability

The loop commences at the entrance of the building with the communal, raised herb and vegetable garden, then it moves around the communal amenity space for outdoor recreation activities. The loop then offers a path through the orchard and it continues around the main structure which provides for a longer residents walk.

Within the spaces there are areas that promote interaction and a series of activities which contribute to the liveability of the space. There are recreation areas, fitness areas, amenity areas, benches and seating areas, which will all stimulate people and encourage movement. Where people will feel involved they will connect both to the community both to the landscape which the outcome will then result in a better and healthier life.

These spaces can be used for social interactions as well as for solitary activities, like seating, reading or relaxing. These spaces are designed in a way that people can use when feeling tired or overstimulated. These are spaces away from distractions which promote self-care, self-nurturance, resilience & recovery.

All the spaces within this development are designed to be age friendly and accessible to everyone.



2.2 REFERENCE IMAGES

Sustainability

Design

Connection

Belonging

Recreation

Ecology

Comfort

Privacy

3 / MASTERPLAN

SOFT LANDSCAPE

Existing trees
to be retained and protected during construction works (refer to Arboricultural Report)

Proposed trees and multi-stem trees
as per drawing 21149_FI_LP_SLP

SHRUBS

Ornamental planting mix
@c/g 3L 30-40cm ht.

Amenity grass lawn
Coburn's Low Maintenance seed at 300mm topsoil depth

Wildflower meadow

HARD LANDSCAPING

Driveway (290 sq.m)
Asphalt

Wellness walk path (350.3 sq.m)
Buff colored asphalt

Feature permeable block paving (636 sq.m)
Mellifont blocks supplied by Kilsaran or similar approved
Color: Natural and Slate,

Gravel Paving (165.5 sq.m)
From *Geo-Coastal* or similar approved

Concrete grass (57.3 sq.m)
Ground Reinforcement Grass Paving System from Tobermore or similar approved

FURNITURE

s71 cycle stand (No.5)
supplied by *Omos.ie*

All Ages Play equipment
Supplied by Kompan or similar approved
P1 -Bird Nest Swing (NRO 906) (no.1)

Outdoor fitness
Supplied by Kompan or similar approved
F1 - City bike (no.1)
F2 - Pull Down (no.1)
F3 - Cross Trainer (no.1)

Feature seating (no. 4)
Timber frame

s59.2ss seat (no.19)
supplied by *Omos.ie*

Concrete seats **(no.15)**
Pre-cast concrete seats as per detail

BOUNDARIES

Boundary 1
Existing wall to be retained

Boundary 2
2.0m Block, Rendered Walls

Boundary 3
3.2m Timber Noise Deflection Fencing

Boundary 3
Plinth wall with rail 1.8m

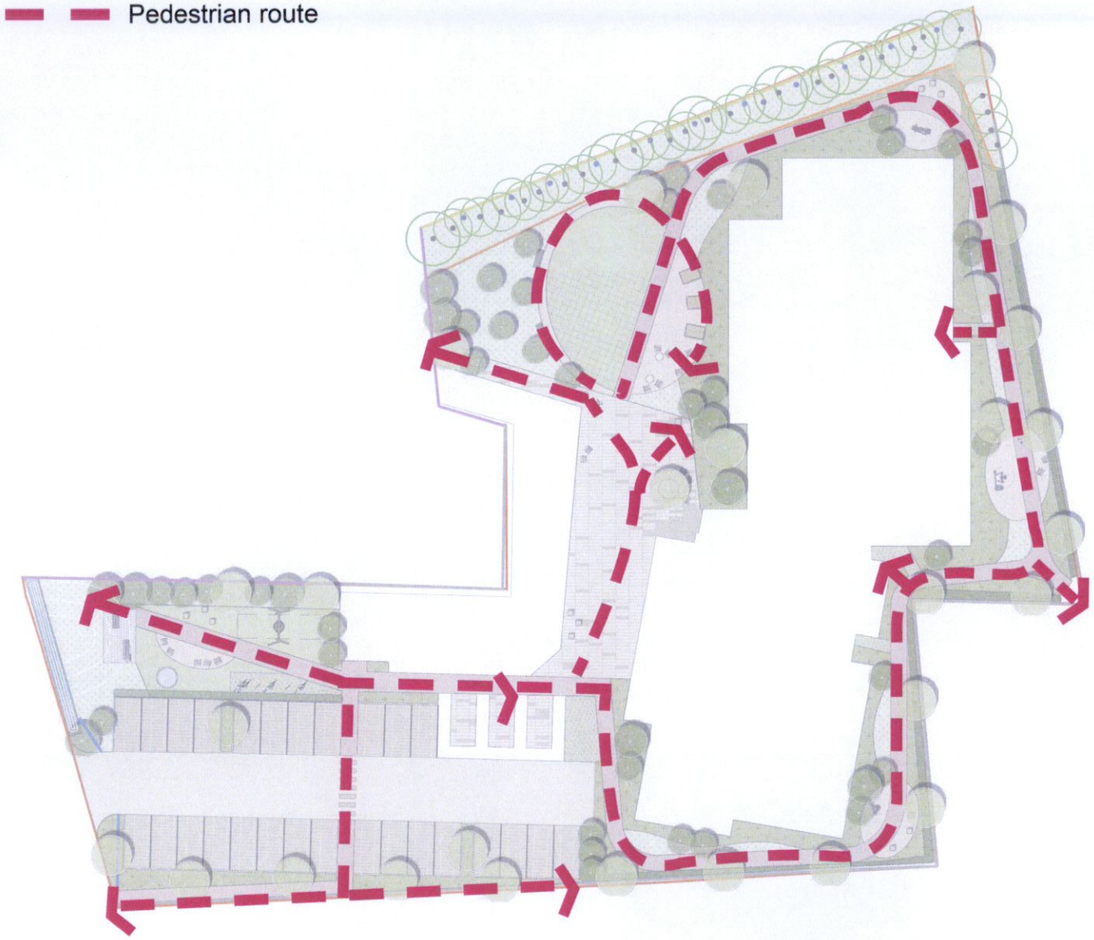
Boundary 4
Tree protection fence (refer to tree survey drawing)

3.1 MASTERPLAN

3.2 STRATEGY DIAGRAMS

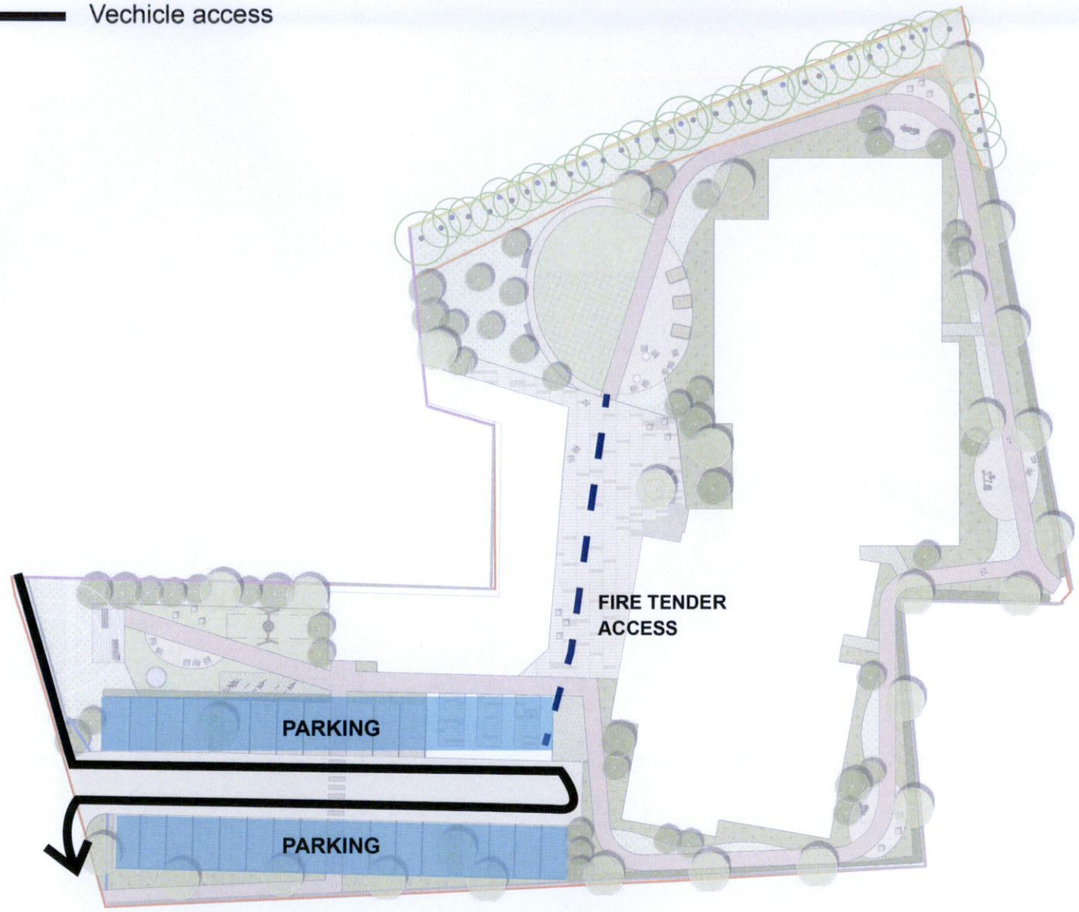
WALKING ROUTE

Pedestrian route



VEHICLE ROUTE

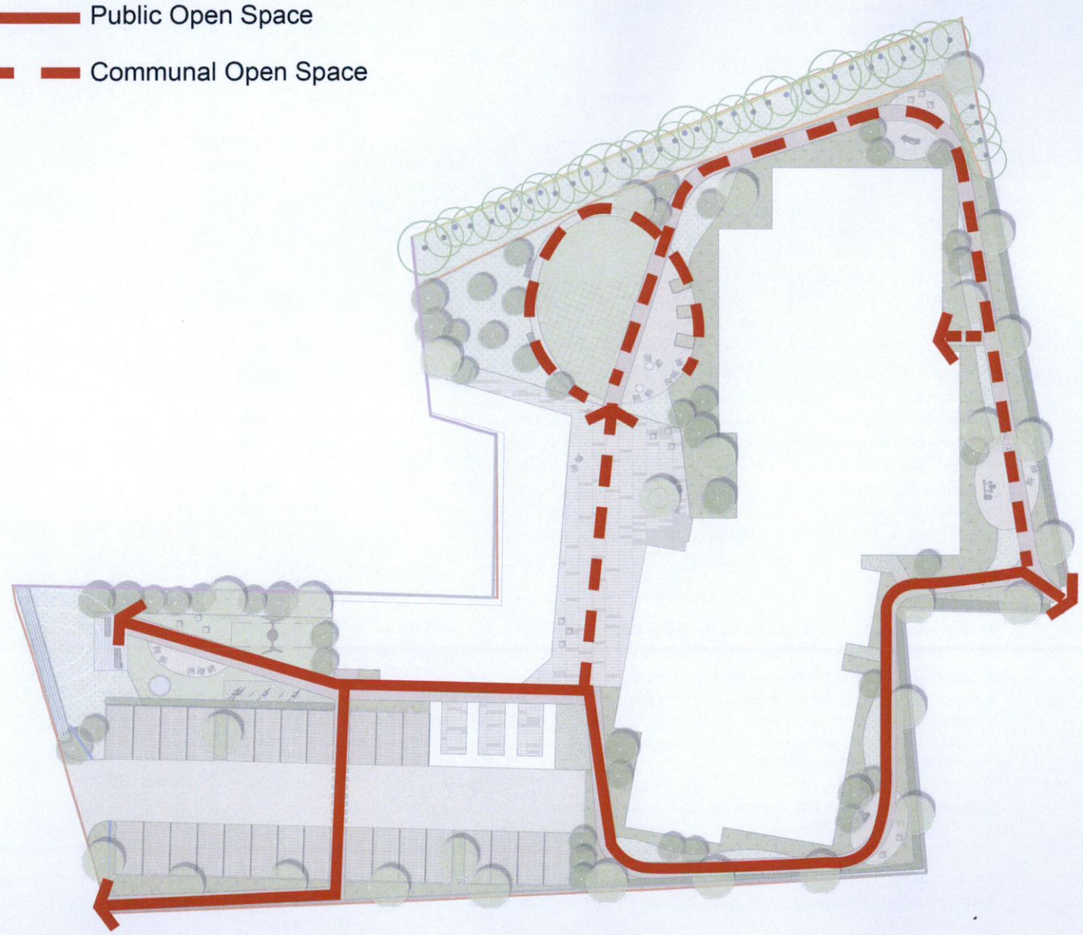
Vechicle access



MAIN CIRCULATION

Public Open Space

Communal Open Space



OPEN SPACE PROVISION

Public Open Space 1191,85 sq. m.

Communal Open Space 1028,76 sq. m.

4 / SOFT & HARD LANDSCAPE SPECIFICATIONS

Trees and Multi-Stem trees

Code	Scientific name	Common name	Size	Quantity
Bp	*Betula pubescens**^	Downy Birch	r/b, 4x trpt 20-25cm girth	9
Bpe	*Betula pendula* *^	Silver Birch	r/b, 3x trpt 28-20cm girth	8
Ca	Corylus avellana *^	Hazel	r/b, 4x trpt 20-25cm girth	3
Qp	Quercus palustris *^	Spanish Oak	r/b, 4x trpt 20-25cm girth	2
Qr	Quercus robur *^	Oak	r/b, 4x trpt 20-25cm girth	15
Sa	Sorbus aucuparia *^	Rowan	r/b, 4x trpt 20-25cm girth	7
Au	Arbutus unedo *^	Strawberry tree	m/s, c/g 50L, 3.5m tall	11

Fruit Trees

Code	Scientific name	Common name	Size	Quantity
Pc	*Pyrus chantiller*	Pyrus tree	r/b 8-10cm gt.	2
Md	*Malus domestica* *^	Apple tree	r/b 8-10cm gt.	6
Pd	*Prunus domestica*	Common Plum	r/b 8-10cm gt.	2
Pa	*Prunus avium**^	Cherry tree	r/b 20-25cm gt.	6

Ornamental Planting Mixture (300mm topsoil depth) - **619.25 sq.m**

Scientific name	Common name	Size	Quantities
Aster 'Little Carlow' ^	Michaelmas daisy	c/g 2L	165
Astrantia major ^	Great masterwort	c/g 2L	165
Calamagrostis 'Karl Foerster' ^	Feather reed grass	c/g 2L	165
Echinacea purpurea ^	Purple coneflower	c/g 2L	165
Eupatorium maculatum ^	Spotted joe-pyeweed	c/g 2L	165
Persicaria amplexicaulis ^	Red bistort	c/g 2L	165
Phlomis species *^	Sage	c/g 2L	165
Rudbeckia 'Goldstrum' ^	Yellow Storm	c/g 2L	165
Veronicastrum virginicum ^	Culver's root	c/g 2L	165
Myrtus communis *^	Myrtle	c/g 25L	15
Spirea Cantoniensis	May Bush	c/g 25L	15

Wildflower Meadow Mix - 332.6 sq.m (@5gr per sq.m)

M1 An appropriate dry meadow type with wildflowers for these areas would simulate NVC type MG5.

Appropriate herbs for this type of meadow include:

Agrostis capillaris, anthoxanthum odoratu, centaura nigra, cynosurus cristatus, pestuca rubra, galium verum, leontodon autumnalis, leontodon hispidus, leucanthemum vulgaris, lotus corniculatus, pimpinella saxifraga, plantago lanceolata, poa pratensis, primula veris, trifolium pratense, ranunculus acris, ranunculus bulbosus, rhinanthus minor, rumex acetosa

Amenity Grass Area - 254.7 sq.m (@300mm topsoil depth)

G Coburn's Low Maintenance seed at 300mm topsoil depth

Native Hedgerow Mixture - 126 lin.m (@450mm topsoil depth)

Scientific name	Common name	Size	Quantity
Crataegus monogyyna*^	Hawthorn	c/g 2L 20-40cm ht.	33
Prunus spinosa*^	Blackthorn	c/g 2L 20-40cm ht.	33
Ilex aquifolium*^	Holly	c/g 2L 20-40cm ht.	33
*Rosa canina**^	Dog Rose	c/g 2L 20-40cm ht.	33

* **Species Native to Ireland**

^ **Plants for Pollinators**

These plants will provide nectar and pollen for bees and the many other types of pollinating insects.

All selected species have an ornamental, native biodiversity or pollinator-stimulating purpose. Selection is based on the **"All Ireland pollinator Plan".**

4.1 SOFT LANDSCAPE PLAN

Ornamental Planting Mix - Planting Grid

- *Veronicastrum virginicum* ^, Culver's root
- *Aster 'Little Carlow'* ^, Michaelmas daisy
- *Calamagrostis 'Karl Foerster'* ^, Feather reed grass
- *Echinacea purpurea* ^, Purple coneflower
- *Eupatorium maculatum* ^, Spotted joe-pyeweed
- *Persicaria amplexicaulis* ^, Red bistort
- *Phlomis species* *^, Sage
- *Rudbeckia 'Goldstrum'* ^,Yellow Storm
- *Myrtus communis* *^ (Myrtle)
- *Spirea Cantoniensis* (may Bush)

TREE PLANTING

Tree planting throughout the scheme has been selected to blend the development in to its surrounding environs and create focal points within the development. The tree species selected will maximise food and nectar sources for birds and invertebrates. Trees will be planted as Standard and Heavy Standard to provide a reasonable degree of instant maturity to the development. All trees shall be planted between the months of Nov and March. The trees shall be purchased from a reputable nursery as rootball specimens and final order to be agreed by Landscape Architect; The trees shall be planted on delivery. If this is not possible due to weather conditions (wet or frosty), the plants must be healed in. Maintenance Watering is essential during the first 2 growing seasons regardless of the weather conditions - 1000Lt / Tree/ Month.

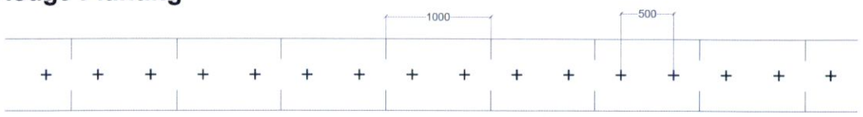
Methodology and Guidance notes:

The tree pit should have a diameter at least 100mm greater than that of the root system, with the depth not exceeding the rootball. Any glazed or smeared sides caused by digging shall be scarified with the use of a fork. The tree will be positioned in the centre of the planting pit at the correct depth, taking into account the root flare and finished level. Prior to backfilling the hessian twine/wire cage supporting the rootball shall be loosened or removed. Backfilling shall be carried out in layers of 150mm, ensuring the tree is held upright. At each stage the fill will be carefully firmed in to eliminate air pockets under and around the root system.

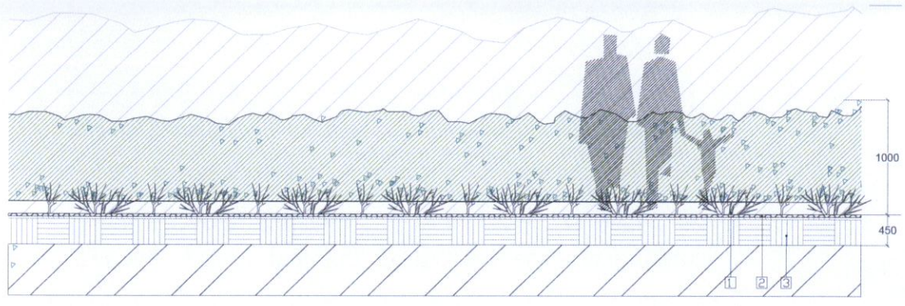
The final layer of backfill will not be consolidated, but should be of a sufficient depth to allow for settlement and mulching. Formative pruning should be carried out if required, removing dead, damaged, crossing or diseased branches. Refer to Tree planting specification for tree anchoring system. All trees planting operation will be carried in accordance with BS8545:2014 Trees: from nursery to independence in the landscape recommendations.

4.2 SOFT LANDSCAPE SPECIFICATIONS & DETAILS

Hedge Planting



NOTE: All hedges shall be planted at a density of 3 plants per linear meter in a single row. Where indicated, hedges shall be planted at a density of 6 plants per linear meter in a double staggered row, with 3 plants per linear meter in each row and 400mm between rows.



HEDGING
1 - Planting species
2 - Bark mulch
3 - Good quality topsoil to BS 3882 and slow release fertiliser (e.g. Sierrablen Flora or similiar and approved)
4 - Water proof layout

NOTE: Screen hedge to be planted as per planting schedule. Plants shall be 1m tall, and be shall conform to BS 3936 - Part 1: Nursery stock specification for trees and shrubs. Planting strip to be 700mm wide x 450mm deep with cultivated and evenly incorporated organic manure 100mm layer over area of strip, fertiliser 35g. 50mm depth bark mulch dressing on completion of planting.

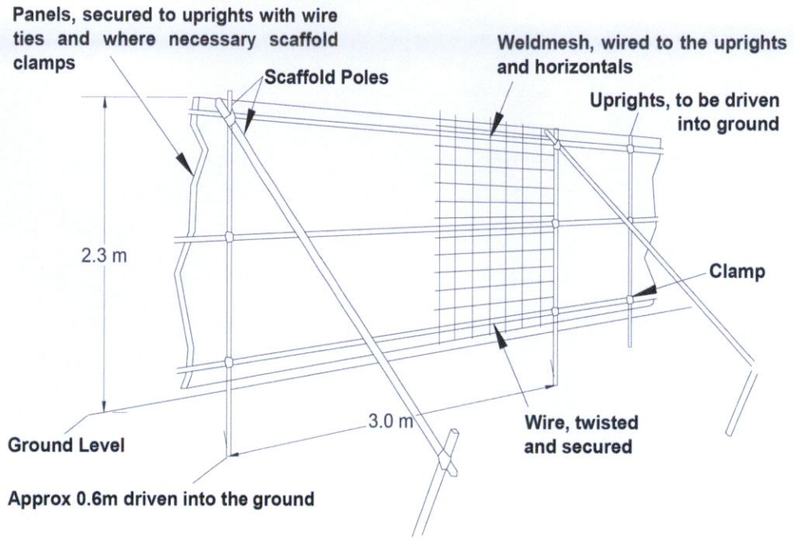
Tree Protection Fence

All trees to be retained on site are to be protected by effective fencing defining the Construction Exclusion Zone (CEZ). The fencing excludes construction activities from the Root Protection Area (RPA) which contains sufficient rooting volume to ensure the survival of the tree. The RPA measured in m² is calculated as an area equivalent to a circle with a radius 12 times the stem diameter for single stem trees. Fencing is to be installed before any materials or machinery are brought onto the site and before any demolition or development, including erection of site huts, commences.

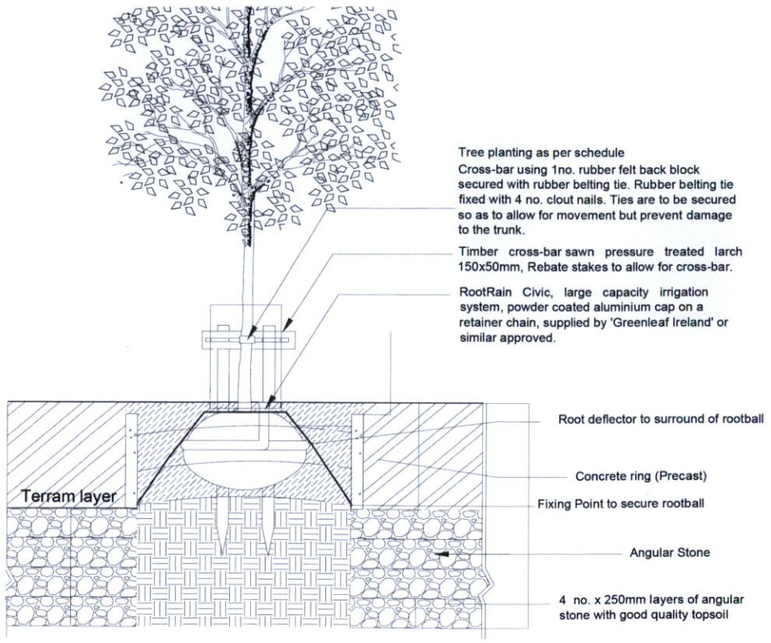
Once erected, fencing and ground protection are to be regarded as sacrosanct, and should not be removed or altered without the prior consultation with the consulting arboriculturist or landscape architect. Protective fencing should consist of a scaffold framework in accordance with Figure No. 1 comprising a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at a maximum interval of 3m. Onto this, weld mesh panels or 2m high shuttering board should be securely fixed with wire of scaffold clamps.

Notices should be erected on the fence with words such as, 'Keep out' or 'No operations past this point'.

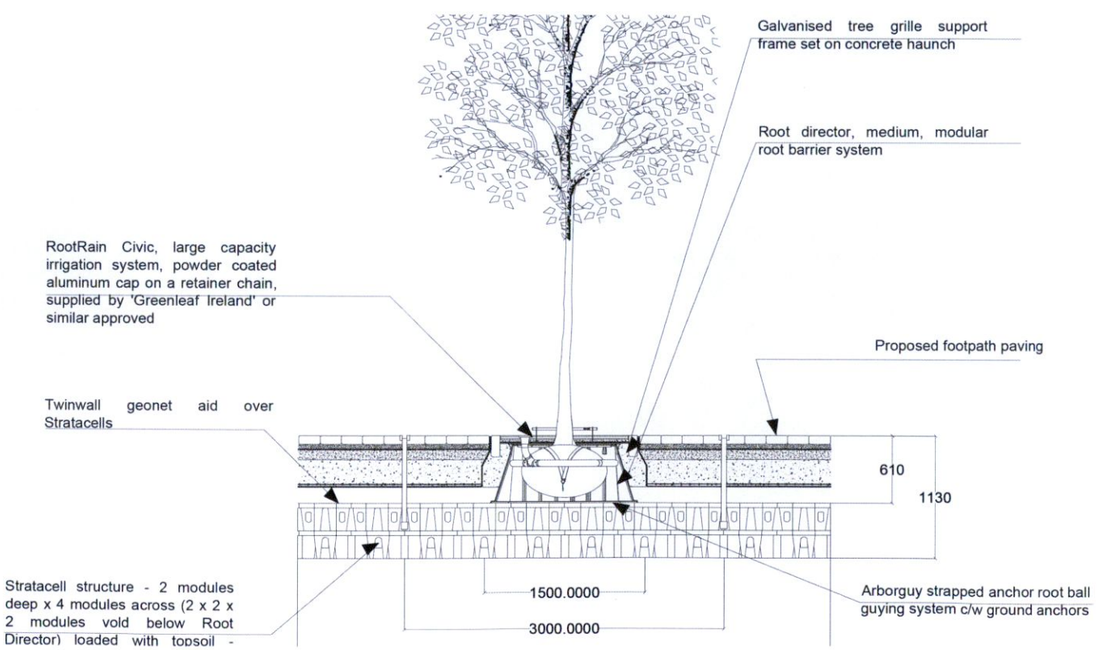
Tree Protection Fence Detail



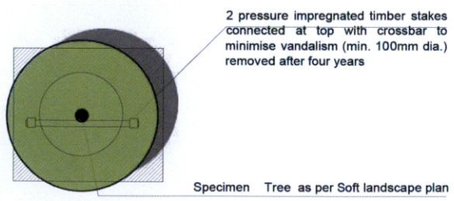
Standars tree planting



Constructed tree pit



Square planting pit shall be large enough to accommodate tree roots. Pit to be backfilled with a mix of topsoil, planting compost and polymer granular. The bottom and sides of pit to be broken up by forking prior to planting.



4.3 SOFT LANDSCAPE REFERENCE IMAGES

Proposed Trees

Betula pubescens - Downy Birch
Betula pendula - Silver Birch
Corylus avellana - Hazel
Quercus palustris - Spanish Oak
Quercus robur - Oak
Sorbus aucuparia - Rowan
Arbutus unedo - Strawberry tre

Fruit Trees

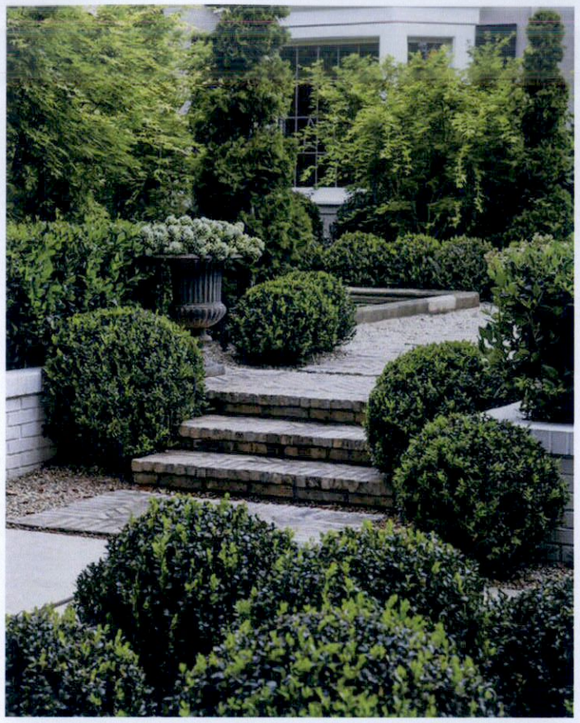
Pyrus chantiller - Pear tree
Malus domestica - Apple tree
Prunus domestica - Plum tree
Prunus avium - Cherry tree

Ornamental Planting

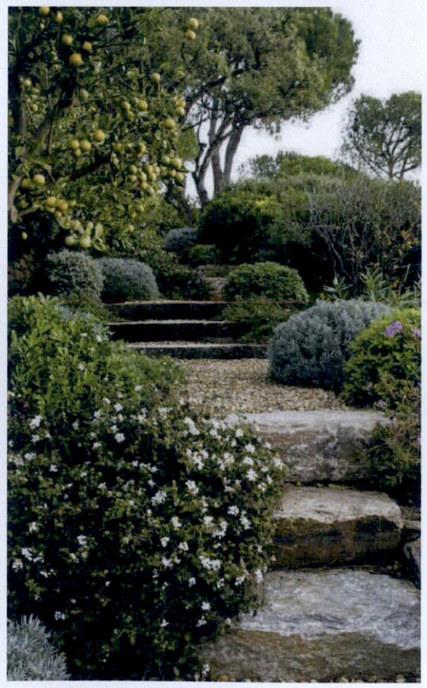
Aster 'Little Carlow' - Michaelmas daisy
Astrantia major - Great masterwort
Calamagrostis 'Karl Foerster' - Feather reed grass
Echinacea purpurea - Purple coneflower
Eupatorium maculatum - Spotted joe-pyeweed
Persicaria amplexicaulis - Red bistort
Phlomis species - Sage
Rudbeckia 'Goldstrum' - Yellow Storm
Veronicastrum virginicum - Culver's
Myrtus communis - Myrtle
Spirea Cantoniensis - May Bush

Native Hedge

All bare root 1.2m tall/planted at 300mm ctrs
Crataegus monogyyna - Hawthorn
Prunus spinosa - Blackthorn
Ilex aquifolium - Holly
Rosa canina - Dog Rose

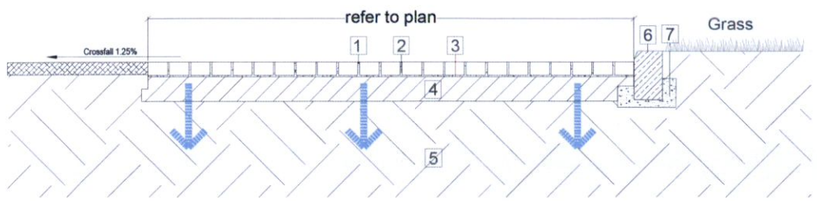




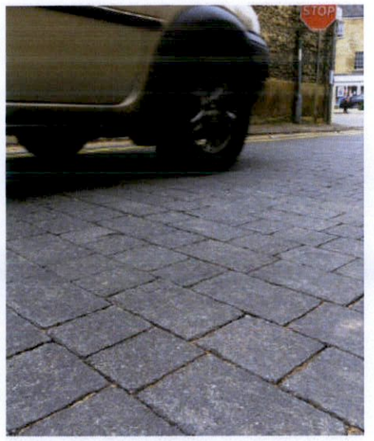




4.4 HARD LANDSCAPE SPECIFICATIONS & DETAILS

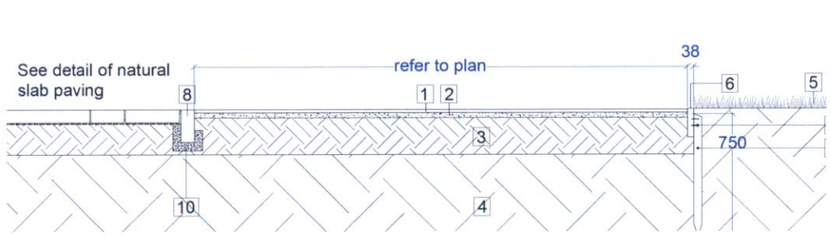
D1 PERMEABLE PAVING



PERMEABLE PAVING
1 - Selected paving blocks
2 - 6.3-2mm grit laying course material to BS EN13242:2002. Compaction: In accordance with BS 7533-3. Determine by trial the depth of loose bedding material needed to ensure specified bedding course thickness after final compaction of paving. Nominal thickness after compaction: 70mm
3 - Polypropylene, Non-woven
4 - 150mm Well compacted Sub-Base clean stone 4/20mm aggregate to BS EN13242:2002.
5 - Subgrade
TIMBER EDGE
6 - 175 x 38 mm treated timber board (Tanalised larch)
7 - 50mm Galvanized nails into softwood pegs
8 - 50x50x750 drive into ground treated and pointed pegs

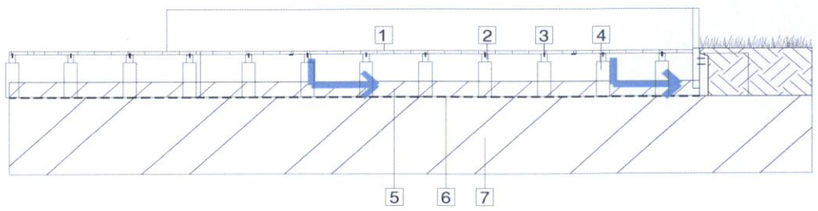


D2 GRASSCRETE DETAIL



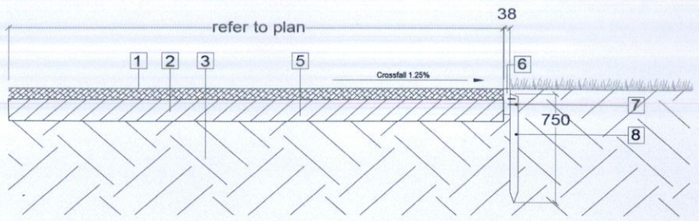
1 - Grasscrete concrete block
2 - Filled with multipurpose soil textural class to BS 3882
3 - Bedding Layer - 10mm grit laying course material to BS EN13242:2002
4 - 150mm Well compacted Sub-Base clean stone 4/20mm aggregate to BS EN13242:2002
6 - Subgrade

D3 COMPOSITE DECKING



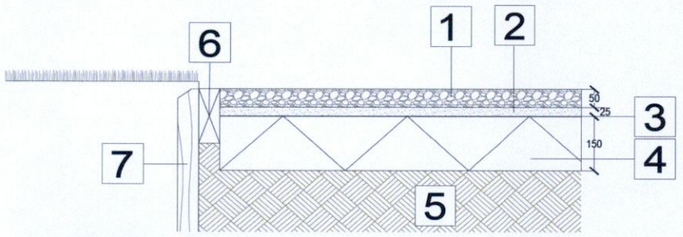
1 - WPC Decking Boards (1600 x 140x 23mm)
2 - WPC joists (Considering the heat and water absorption ,WPC products will be slightly inflation,so the joist when placed should be reserved 3-5 mm from the building and the spacing between joists should be 25-30cm)
3 - Expansion screws with the starter clips
4 - WPC post
5 - Well compacted Sub-Base clean stone 4/20mm aggregate to BS EN13242:2002. Compacted thickness: 100-225mm
6 - Water proof layout
7 - Podium slab

D4 ASPHALT FOOTPATH

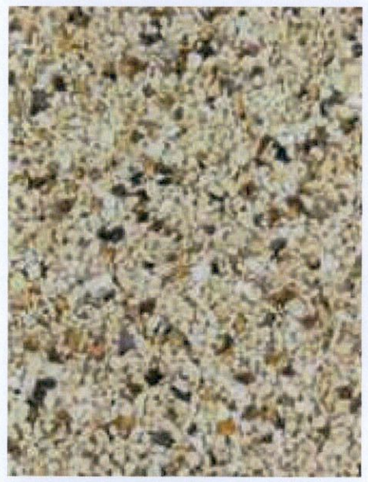


PERMEABLE PAVING
1 - Selected paving blocks
2 - 6.3-2mm grit laying course material to BS EN13242:2002. Compaction: In accordance with BS 7533-3. Determine by trial the depth of loose bedding material needed to ensure specified bedding course thickness after final compaction of paving. Nominal thickness after compaction: 70mm
3 - Polypropylene, Non-woven
4 - 150mm Well compacted Sub-Base clean stone 4/20mm aggregate to BS EN13242:2002.
5 - Subgrade
TIMBER EDGE
6 - 175 x 38 mm treated timber board (Tanalised larch)
7 - 50mm Galvanized nails into softwood pegs
8 - 50x50x750 drive into ground treated and pointed pegs

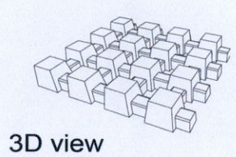
D5 GRAVEL SURFACE



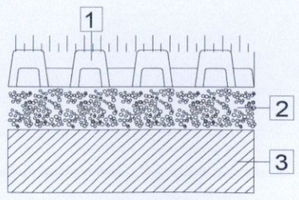
1 - Rolled gravel 10-15mm dia.
2 - Coarse sand compacted
3 - TERRAM Standard Geotextiles
4 - Hardcore well consolidated
5 - Compacted ground
TIMBER EDGE
6 - timber board 50x150mm twice nailed to timber posts
7 - timber stake 50x50x600mm at 1200mm centres



D6 REINFORCED GRASS SYSTEM



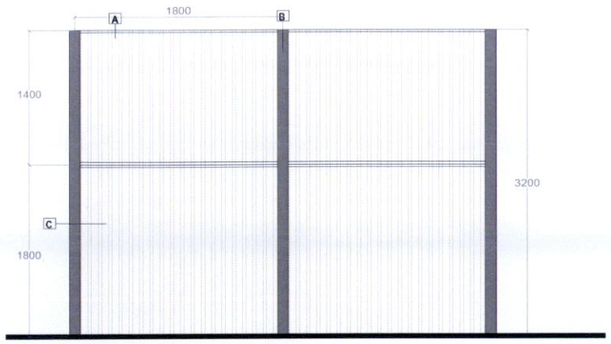
3D view
nts



1 - Checker Block by Escofet or similar approved, with top soil
2 - 50mm compacted sand sub-base layer
3 - Undisturber ground

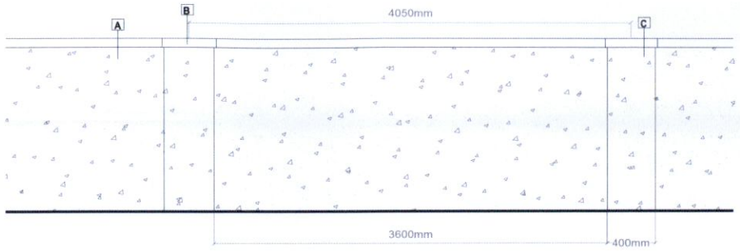
4.5 BOUNDARY TREATMENT

D7 3M HIGH TIMBER NOISE DEFLECTION FENCING



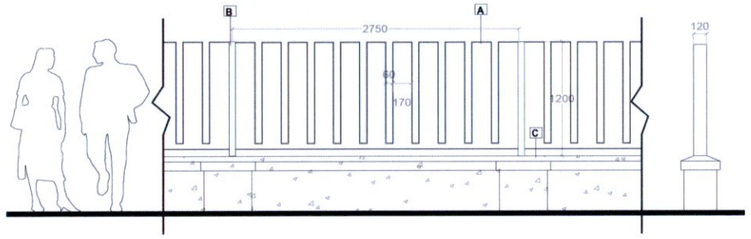
A - 1800x1400 timber panels
B - Steel 'I' posts, at 1800mm centres
C - 1800x1800 timber panels

D9 2M HIGH BLOCK WALL



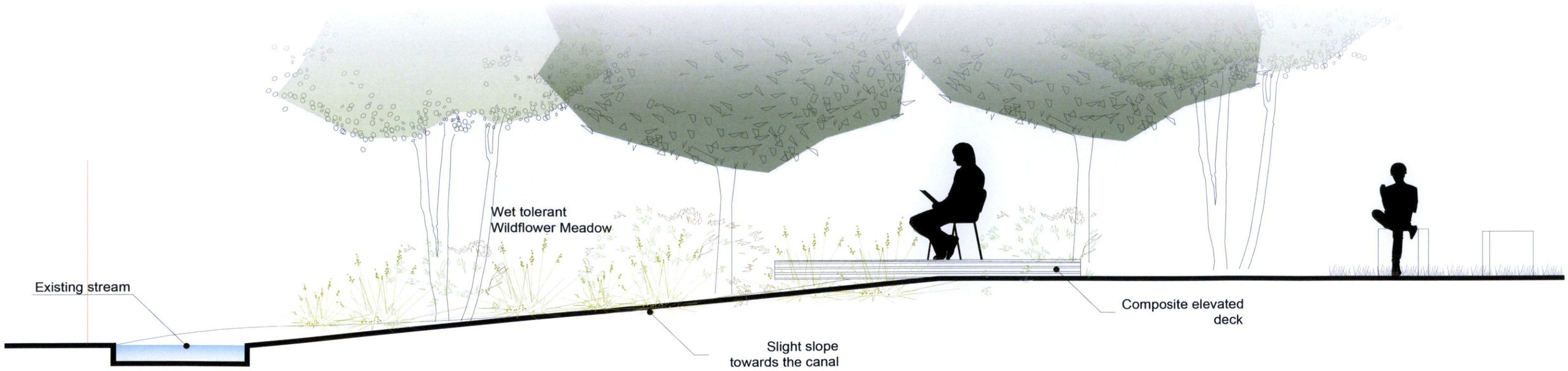
A - White Cement Dashed Finish
B - Concrete Copping
C - 225mm wide wall with 450mm piers at 4050mm centres

D8 WALL WITH FEATURE RAILING

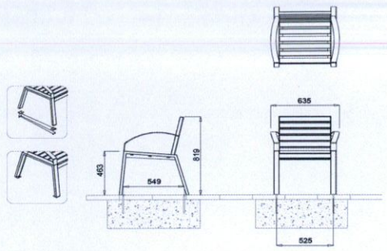


A - Galvanized & power-coated solid bar railing 5mm diameter infill at 120mm centres
B - 80x40x2550x4mm mild steel stanchion, cast into concrete base at 2.7m centres
C - Pre-cast concrete coping

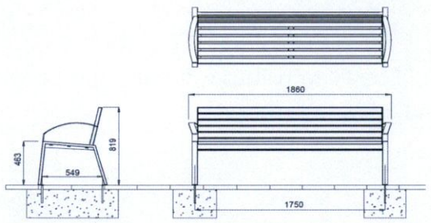
S1 - SECTION 1



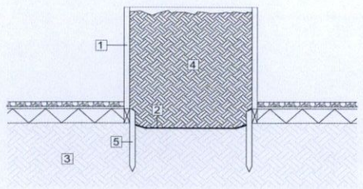
D10 INDIVIDUAL SEAT DEATIL



D11 BENCH WITH BACK SUPPORT



D12 RAISED TIMBER PLANTERS



1 - Pressure treated softwood landscape timber
2 - Thermally bonded non-woven geotextile membrane
3 - Subgrade
4 - Good quality topsoil to BS 3882
5 - 50x50x750 drive into ground treated and pointed pegs

Where damage is caused to the formation of the subgrade in strength or level the damaged area shall be excavated for an area and depth which shall be determined by the Architect and this area shall be filled to the required levels with crushed rock of 50mm maximum size.

The degree of compaction for this area shall be the same as that specified for the remainder of the formation. All this excavation and making good of damaged areas shall be carried out at the expense of the Contractor. Where damage is caused to the sub-base, the damaged area shall be made good as noted above, using the material of which the sub-base is composed. The wheels or tracks of plant moving over the various pavement courses shall be kept free from deleterious materials.

MODULAR PAVING

Concrete Pavers Precast concrete pavers shall conform to the requirements of BS 6717 Part 1.
Ensure that sub-bases are suitably accurate and to specified gradients before being laid.
Sample: Before placing orders submit representative samples for approval.
Ensure that delivered materials match sample.
Laying Generally:
1. Laying Specification
1.1 Paving blocks/bricks shall be laid to the requirements of Part 3:1997, BS 7533, except that the lip onto gully gratings is modified to 5 - 6 mm.

Note, in particular, the following requirements of Part 3.
1. The difference in level between two adjacent blocks shall not exceed 2 mm.
ii. The finished pavement surface shall not deviate more than 10 mm under a 3m straight edge.
iii. The accuracy of cutting a block should be such that the resulting joint should not exceed 5 mm.
iv. The surface course should be between
(a) 3 - 6 mm above drainage channels
(b) 5-10 mm above gullies (*BRL modify this to 5 - 7 mm above gullies to reduce "trips")
v. The surface course should be inspected soon after completion and at regular intervals thereafter - additional sand should be brushed in where necessary.

1.2 The surface course for chamfered units should be 3 - 5 mm above the kerb to facilitate surface drainage. The surface course for non-chamfered units should be 2 mm above the kerb to facilitate surface drainage.

1.3 When paving units need to be trimmed, pieces with a dimension less than 50 mm should not be used.

2. Drainage Channels
2.1 Where paving blocks are used in a channel, they shall be laid on freshly mixed moist 3:1 sand-cement mortar. The mortar should have thickness between 10 mm and 40 mm. Vertical joints should be filled with 3:1 wet sand-cement mix.

2.2 Mortar, which has been mixed for over 2 hours, should be discarded.

2.3 The mortar should be laid on a previously prepared concrete base as per construction drawing detail. Select blocks/paviors vertically from at least 3 separate packs in rotation, or as recommended by manufacturer, to avoid colour banding. Lay blocks/paviors on a well graded sand bed and vibrate to produce a thoroughly interlocked paving of even overall appearance with sharp sand filled joints and accurate to line, level and profile. Refill joints once a week three weeks after first fill. Commencing from an edge restraint lay blocks/paviors hand tight with a joint width of 2-3mm for pedestrian use and 3-5 mm for areas with traffic. Maintain an open working face and do not use mechanical force to obtain tight joints. Place blocks/pavers squarely with minimum disturbance to bedding. Supply blocks/paviors to laying face over newly laid paving but stack at least 1 m back from laying face. Do not allow plant to traverse areas of uncompacted paving. Continually check alignment of pavers with string lines as work

vibrating plate compactor as laying proceeds but after infilling at edges. Apply the same compacting effort over the whole surface.
Do not compact within 1 m of the working face. Do not leave uncompacted areas of paving at the end of working periods, except within 1 m of unrestrained edges. Checks paving after compacting first few metres, then at frequent intervals to ensure that surface levels are as specified; if they are not, lift blocks/pavers and relay.

Brush sharp sand into joints, revibrate surface and repeat as required to completely fill joints. Make sure that paving is held by a kerb on both sides before vibration to avoid uneven joints. Avoid damaging kerb haunching and adjacent work during vibration. Do not begin vibration until kerbs have matured. The paving pattern will be stretcher bond, make sure that the joints will be in straight line after vibrating. Also ensure joints are off equal width. The block pavement shall have a surface regularity/ flatness tolerance of less than 10 mm under a 3 m straight edge.

Sample: Before placing orders submit representative samples for approval.
Ensure that delivered materials match sample.

PRECAST CONCRETE FLAGS

Pre-cast Concrete Flags:
1. Precast concrete flags shall be laid to the requirements of BS 7533 Part 4.
Note the following selected items from BS 7533, Part 4.
- The difference in level between two adjacent flags should not exceed 3 mm.
- The top surface of the paving units should stand 3-6 mm above the drainage channel.
- A 30 - 50 mm (compacted thickness) of the sand laying course is given as suitable (for narrow joints)

2. Flags should be laid with narrow joints (2-5 mm)Joints should be filled with dried sand (conforming to table 4 of the code), or as determined by the Landscape Architect.

KERBS

Kerbing General: Kerb radii shall be in accordance with Architects and Engineers drawings. Use radius kerbs for all new kerbs.

Laying Generally: Natural stone and precast concrete kerbs shall meet the requirements of BS 435 and BS 7263-1.
1. Precast concrete kerbs shall be laid to the requirements of BS 7533, Part 6.
2. Units shall be laid on fresh concrete or mortar bed and adjusted to line and level.
3. Concrete for foundations and haunching shall be to BS 5328.
4. Bedding mortar shall be freshly mixed, moist 3:1 sand-cement between 12 and 40 mm thick.
5. Kerbs shall be backed with concrete as per drawing.
6. Radius kerbs shall be used on radii of 12 m or less.
7. Kerbs should not deviate from the required level by more than 6mm.
8. Kerbs should not deviate by more than 3 mm under a 3 m straight edge.
9. Open-jointed kerbs should have joints of 2 - 4 mm wide.
Mortar jointed kerbs should have joints of 7 -10 mm wide filled completely with 3:1 sand-cement mortar, and finished to give a smooth flush joint or as specified by the Landscape Architect.

5 / OPEN SPACE MANAGEMENT

5.1 OPEN SPACE MANAGEMENT

INTRODUCTION

This document sets out the proposed maintenance and management plans for the establishment and ongoing maintenance of the landscape element of the proposed development. There will be a minimum 18 months defects period on all soft landscape works implemented. Thereafter the llandscaping will be maintained in perpetuity consecutive 12 months periods.

1.0 SOFT LANDSCAPE WORKS SPECIFICATIONS

1.1 Site Clearance Generally
• General: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.
• Stones: Remove those with any dimension exceeding 25mm.
• Contamination: Remove material containing toxins, pathogens or other extraneous substances harmful to plant, animal or human life. In accordance with current Health and safety legislation.
• Vegetation: remove all weed growth.
• Large roots: Grub up and dispose of without undue disturbance of soil and adjacent areas.
1.2 Weed Control
Remove all noxious and undesirable weeds from the sit. Weeds shall include: Ragwort, Himalayan Balsam, Giant hog weed & Japanese knot weed, Thistle, Dock, Common Barberry, Male Wild Hop and Spring Wild Oat, or any other noxious species identified by the Department of Environment. For the removal of certain species such as Japanese Knot weed a method statement is to be prepared and submitted to the Department of Environment.
1.3 Standards In preparing the landscaping, supplying plants and maintaining the landscaping the following standards are to be adhere to:
• BS 3882 Specification for topsoil and requirements for use
• BS 3936-1 to 10 Specification for the supply of nursery stock
• NPS National Plant Specification
• BS 3998 Tree Works: Recommendations
• BS 4428 Code of Practice for general Landscape Operations
• BS 5837 Tree in relation to Construction
• BS 7370-1 to 5 Grounds Maintenance
• BS 8545 Trees: from nursery to independence in the landscape recommendations
• BS 8601 Specification for subsoil and required use
• BS EN 1722-9 Fences Specification for mild steel - low carbon steel - fences with round or square verticals and flat horizontals
• RoSPA Standards for safety for play and exercise equipment.

The latest publications for each document are to be used.

1.4 Soil Conditions
• Soil for cultivating and planting: Moist, friable and do not plant if waterlogged.
• Frozen or snow covered soil: Give notice before planting. Provide additional root protection.
Prevent planting pit sides and bases and backfill materials from freezing.
1.5 Climatic Conditions
• General: Carry out the work while soil and weather conditions are suitable.
• Strong winds: Do not plant.

1.6 Times of year for planting
• Deciduous trees and shrubs: Late October to early March.
• Evergreens/Conifers: October/November or Feb/ March.
• Container Grown plants: Any time of years.

1.7 Mechanical Tools
Restrictions: Do not use within 100mm of tree and plant stems.

1.8 Watering
• Quantity: Wet full depth of topsoil.
• Application: Even and without damaging or displacing plants or soil.
• Frequency: As necessary to ensure establishment and continued thriving of planting.
1.9 Preparation, Planting and Mulching Materials
General: Free from toxins, pathogens or other extraneous substances harmful to plant, animal or human life.

1.10 Plants/ Trees - General
• Condition: Materially undamaged, sturdy, healthy and vigorous.
• Appearance: Of good shape and without elongated shoots.
• Hardiness: Grown in a suitable environment and hardened off.
• Health: Free from pests, diseases, discoloration, weeds and physiological disorders.
• Budded or grafted plants: Bottom worked.
• Root system and condition: Balanced with branch system.
• Species: True to name.

1.11 Container Grown Plants/ Trees
• Growing medium: With adequate nutrients for plants to thrive until permanently planted.
• Plants: Centred in containers, firmed and well watered.
• Root growth: Substantially filling containers, but not root bound, and in a condition conducive to successful transplanting.
• Hardiness: Grown in the open for at least two months before being supplied.
• Containers: With holes adequate for drainage when placed on any substrate commonly used under irrigation systems.

1.12 Labelling And Information General: Provide each plant/ tree or group of plants/ trees of a single species or cultivar with supplier's labelling for delivery to site, showing:
- Full botanical name.
- Total number.
- Number of bundles.
- Part bundles.
- Supplier's name.
- Employer's name and project reference.
- Plant specification, in accordance with scheduled National Plant Specification categories and BS 3936.

1.13 Plant/ Tree Substitution
Plants/ trees unobtainable or known to be likely to be unobtainable at time of ordering. Submit alternatives, stating the price and difference from specified plants/ trees. Obtain approval before making any substitution.

1.14 Plant Handling, Storage Transport and Planting
• Standard: To HTA 'Handling and Establishing Landscape Plants'.
• Frost: Protect plants from frost.
• Handling: Handle plants with care. Protect from mechanical damage and do not subject to shock, e.g. by dropping from a vehicle.
• Planting: Upright or well balanced with best side to front.

1.15 Treatment of Tree Wounds
Cutting: Keep wounds as small as possible.
• Cut cleanly back to sound wood using sharp, clean tools.
• Leave branch collars. Do not cut flush with stem or trunk.
• Set cuts so that water will not collect on cut area.
• Fungicide/ Sealant: Do not apply unless instructed.

1.16 Protection of Existing Grass
• General: Protect areas affected by planting operations using boards/ tarpaulins.
• Excavated or imported material: Do not place directly on grass.
Duration: Minimum period.

1.17 Surplus Material
Subsoil, stones, debris, wrapping material, canes, ties, temporary labelling, rubbish, pruning's and other arising's: Remove.

1.18 General Planting/Seeding
• Planting shall be carried out within the contract period but not during periods of frost, drought, cold drying winds or when the soil is waterlogged, or when the moisture of the soil exceeds field capacity.
• All containers and protective coverings including biodegradable coverings to root systems shall be removed prior to planting. Roots, except for emergent vegetation, shall be teased out from the root-ball,spread evenly and not twisted.
• All plant material shall be planted upright or placed so as to be well-balanced. Extreme care is to be taken to avoid damage to the root system, stem and branches when planting. The plant shall be positioned such that after planting the original soil mark on the stem is at finished ground level.
• Following completion of planting, grass seeding and turf laying, the soil over the whole of the planted, seeded or turfed area shall be sufficiently watered to achieve its field capacity.
• On completion of planting, watering and mulching, all areas shall be left tidy and weed-free and shall be maintained in a tidy and weed-free state until completion of the works.
• For shrub and transplant pit planting, notch planting and ordinary planting, the plant positions shall be set at equal centres in order to obtain a natural dense cover when mature. For notch and pit planting plants shall be planted in parallel lines. Planting positions in each row shall be staggered with the previous row.
• Finely-broken backfill material shall be carefully spread around roots and root trainers of all plants and the plants given slight shake to ensure that all interstices/ gaps are filled with soil, which shall then be consolidated by heeling. Careful filling and heeling shall continue as necessary at 150mm layers.

1.18.1 Mulching
Newly planted shrub areas shall be mulched immediately after planting to a depth of 50mm or in accordance with the details indicated on the drawing. Mulch shall be coarse chipped tree bark, composted for 2-4 months. Particle size 25-75mm diameter. No Fines.

1.18.2 After Planting & Mulching
• Watering: Immediately after planting, thoroughly and without damaging or displacing plants or soil.
• Firming: Lightly firm soil around plants and fork and/ or rake soil, without damaging roots, to a fine tilth with gentle cambers and no hollows.
• All areas shall be left tidy and weed-free and shall be maintained in a tidy and weed-free state until completion of the works.

1.19 Tree Planting Attached in the appendix are typical tree planting details for this site.

1.19.1 Tree Pits
• Sizes: at least 300mm greater than rootball in all directions.
• Sloping ground: Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
• Pit bottoms: With slightly raised centre. Break up to a depth of 100mm.
• Pit sides: Scarify.

1.19.2 Semi-Mature Trees
• Standard: Prepare roots and transplant to BS 8545.
• Planting shall be carried out by positioning the tree in the centre of the pit closely against the tree stake and spreading the tree roots to their fullest extent.
• Backfilling material: Previously prepared mixture of topsoil excavated from pit and additional compost as required.
• Immediately following planting, trees with stakes shall be secured with tree ties. Tree ties shall be fixed so that movement of the tree shall not cause damage or abrasion to the bark, top tie to be 50mm below top stake.

5.1 OPEN SPACE MANAGEMENT

1.19.3 Staking Generally Softwood, peeled chestnut, larch or pine, straight, free from projections and large or edge knots and with pointed lower end. Adjustable rubber ties to be fixed to all trees and at the correct size for the tree.

1.19.4 Mulch Circles/Squares All existing trees/newly planted trees within open grass areas or grass verges shall have 50mm depth mulch circle/square of a maximum 1m diameter or as allowed by verge width.

1.20 Shrub Planting
• All shrubs are to be pit planted. General pit dimensions are to be wide enough to accommodate roots when fully spread and 75mm deeper than root system.
• Break up base of pit to a depth of 150 mm, incorporating soil ameliorant/ conditioner at 50 g/m².
• Pits to be backfilled with previously excavated material. Backfilling to be done in layers of 150mm depth; at each stage the filling to be firmly consolidated.
• Soil ameliorants can be premixed with the soil applied or mixed in during planting.
• Soil ameliorants to consist of an approved compost at 10L per m2; and 150g/m2 of 10:10:10 NPK slow release fertilizer, or as approved.
• All shrub areas to be finished, with 75mm of medium grade bark mulch.

1.21 Hedgerow Planting
• Preparation: Dig trench to 500mm width for single staggered row, ensuing pit base is broken up 100mm deeper than plant rootball.
• Ameliorants: Compost at 10lt/m2 and 10:10:10 NPK slow release fertiliser at 150g/m2.
• Planting: Mix in soil ameliorants with excavated topsoil, or if there is poor topsoil then mix in with imported new topsoil. Firm down topsoil lightly in layers of 150mm by treading.
• Additional Requirements: If there is no existing fencing or barrier, install a protective fence to stop people walking through it until hedge is established. If there is livestock adjoining hedge install a stockproof fence or electrical fence 1m from hedge line until hedge is established.
• Prior to new growth cut the hedge back by 300mm to encourage new growth from base.

1.23 Removing Trees and Shrubs
• Identification: Clearly mark trees and hedges to be removed.
• Work near retained trees: Where canopies overlap, take down trees carefully in small sections to avoid damage to adjacent trees that are to be retained.

1.24 Failures of Planting
• Defects due to materials or workmanship not in accordance with the Contract: Plants/ trees/ shrubs that have failed to thrive.
• Exclusions: Theft or malicious damage after completion.
• Rectification: Replace with equivalent plants/ trees/ shrubs.
• Replacements: To match size of adjacent or nearby plants of same species or match original specification, whichever is the greater.
• Defects Period: 5 years.

1.25 Green Roofs Due care is to be taken when planting in gardens to ensure no damage occurs to the waterproof membranes. All planting is to be laid over a green-roof system that complies with EEuropean Federation of Green Roof Associations, (EFB), or equivalent, and in accordance with the drawings provided.

1.26.1 Cultivation
• Compacted topsoil: Break up to full depth.
• Soil ameliorant/ Conditioner/ Fertilizer are to be used to boost late seeding only. Type to be used is to be agreed with the administrating body depending on the time of year and the condition of the soil.
• Tilth: Reduce topsoil to a tilth suitable for blade grading.
• Depth: 75 mm.
• Particle size (maximum): 20 mm.
• Material brought to the surface: Remove stones and clay balls larger than 50 mm in any dimension, roots, tufts of grass, rubbish and debris.

1.26.4 Topsoiling
• Areas to be reinstated shall be top-soiled to a min. depth of 150mm.
• Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
• General: Do not use topsoil contaminated with subsoil, rubbish or other materials that are:
• Corrosive, explosive or flammable;
• Hazardous to human or animal life;
• Detrimental to healthy plant growth.

1.26.5 Grading
• General appearance to be achieved: A fine graded finish to bring the ground to a uniform and even grade at the correct finished levels with smooth, flowing contours.
• Topsoil condition: Reasonably dry and workable.
• Contours: Smooth and flowing, with falls for adequate drainage.
• Hollows and ridges: Not permitted.
• Finished levels after settlement: 25 mm above adjoining paving, kerbs, manholes etc.
• Blade grading: May be used to adjust topsoil levels provided depth of topsoil is nowhere less than 150mm.
• Give notice: If required levels cannot be achieved by movement of existing soil.

1.26.6 Fertilizer for Seeded Areas
• Types: Apply both:
• Superphosphate with a minimum of 18% water-soluble phosphoric acid.
• A sulphate of ammonia with a minimum of 20% nitrogen.
• Application: Before final cultivation and three to five days before seeding/turfing.
• Coverage: Spread evenly, each type at 70 g/m², in transverse directions.

1.26.7 Final Cultivation
• Timing: After grading and fertilizing.
• Seed bed: Reduce to fine, firm tilth with good crumb structure.
• Depth: 50-100mm.
• Surface preparation: Rake to a true, even surface, friable and lightly firmed but not over compacted.
• Remove surface stones/earth clods exceeding:
• Pastoral areas: 50mm.
• Fine lawn areas: 10mm.
• Adjacent levels: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.

1.26.8 Grass Seed
• All seeds shall carry appropriate certificates.
• Seed shall be purchased fresh for each growing season and seed purchased impervious sowing seasons is not to be used.
• Seed shall be stored under non-transparent wrapping, off the ground, in a dry, shaded place, in well ventilated conditions under cover and shall be protected from vermin and contamination until required for use.
• No seeding shall take place until the seedbed is completed. All seeding shall be carried out within the sowing season.

1.26.9 Sowing
• General: Establish good seed contact with the root zone.
• Method: To suit soil type, proposed usage, location and weather conditions during and after sowing.
• Distribution: 2 equal sowings at right angles to each other.
• Protection: fence off areas with suitable fencing to stop people or animals from trampling new growth.

1.26.10 Grass sowing season
Grass seed generally: April to June or August to November.

1.27 Cleanliness
After completion of all works remove all debris and waste material from site.
• Soil and arisings: Remove from hard surfaces and grassed areas.
• General: Leave the works in a clean tidy condition at completion and after any maintenance operations.

2.0 MAINTENANCE

The maintenance programme will be organised on the basis of specific performance standards which must be met by the contractor at all times and will be the basis on which this contract will be assessed. Along with these performance standards a monthly report sheet shall be filled out and returned each month. Details of the performance standards are outlined below.

Remove all noxious and undesirable weeds from the sit. Weeds shall include: Ragwort, Himalayan Balsam, Giant hogweed & Japanese knotweed, Thistle, Dock, Common Barberry, Male Wild Hop and Spring Wild Oat, or any other noxious species identified by the Department of Environment. For the removal of certain species such as Japanese Knotweed a method statement is to be prepared and submitted to the Department of Environment. Performance Standards and Maintenance Operations

2.1 Grassed Areas

2.1.1 Fine-Cut Grass Areas
Fine cut grass areas shall achieve an even cover of vegetation of uniform height and colour comprising predominantly of grass species. No more than 5% of the grass areas shall contain dicotyledonous (dicots) weeds, except clover. Grass cutting shall not be carried out during excessively wet or waterlogged conditions. Contractor to inform administrative authority if conditions are unsuitable.

Fine-Cut Mowing

Where practical fine grass areas shall be cut using a cylinder mower, otherwise a rotary mower shall be used. All grass clippings shall be collected and removed off-site after each cut. Lawn grass cutting shall be carried out every 10-14 days during the growing season, (throughout the period of March to October), but will need to be adjusted according to season's weather conditions. Grass shall be kept at a maximum height of 50mm and minimum height of 35mm. A minimum of 24 cuts shall be carried out annually.

Fertilizer

Approved fertilizer shall be applied 2no. times per year to lawn areas if required due to poor grass growth / establishment or yellowing. Spring fertilizer application of NPK ratio 9:7:7 shall be applied in May of each year and Autumn/Winter fertiliser of NPK ratio 3:12:12 shall be applied in October of each year to all fine cut grass areas.

2.1.2 Amenity Grass Areas
Amenity grass areas shall achieve an even cover of vegetation of uniform height and colour comprising predominantly of grass species. Unless otherwise agreed with the landscape architect no more than 15% of the grass areas shall contain dicotyledonous (dicots) weeds, except clover. Grass cutting shall not be carried out during excessively wet or waterlogged conditions. Contractor to inform administrative authority if conditions are unsuitable.

5.1 OPEN SPACE MANAGEMENT

Amenity Grass Mowing

Where practical grass areas shall be cut using a cylinder mower, otherwise a rotary mower shall be used. Unless excessive or unsightly, or likely to cause a nuisance or damage to the sward, arisings shall be spread evenly over sward areas collected.
Lawn grass cutting shall be carried out every 10-14 days during the growing season, (throughout the period of March to October), but will need to be adjusted according to season's weather conditions. Grass shall be kept at a maximum height of 75mm and minimum height of 35mm. A minimum of 24 cuts shall be carried out annually.

Weed Control

Areas of invasive and noxious species in lawns, shall be spot sprayed.
Weed infestations shall be reviewed in the context of the aesthetic and amenity functioning of the grass and if necessary controlled or eradicated.

Fertilizer

Approved fertilizer shall be applied 2no. times per year to lawn areas if required due to poor grass growth / establishment or yellowing. Spring fertilizer application of NPK ratio 9:7:7 shall be applied in May of each year and Autumn/Winter fertiliser of NPK ratio 3:12:12 shall be applied in October of each year to all fine cut grass areas.

2.1.4 Edging and Strimming

Grass edges along pathways, planting borders, roadways, trees, lampposts, signs and any other obstacle shall be kept neat and tidy at all times.

Between the months of March and October inclusive edging shall be carried out to all areas of grass abutting isolated/ specimen trees or shrub borders or mulch circles. These areas shall be maintained using a half moon tool or similar to maintain straight or curved defined line and shall be carried out a minimum of 2 - 3 times per year.

Mowing strips against permanent obstacles shall be a max. width of 150mm and shall be maintained using a hand strimmer. Large areas of desiccated/ burnt off grass are not permitted. Strimming shall be carried out a min. of 12 times per year.

Grass clipping and all arisings shall be swept up and removed off site.

2.1.5 Spring Bulbs in Grassed Areas

Only cut grassed areas populated by spring bulbs after the leaves of the bulbs have died down and/ or yellowed completely. Initially reduce height by one third, followed by a 2-3 stage further reduction over two weeks to achieve desired grass height.

2.2 Shrub Planting

Shrub areas shall be kept litter and weed free, particularly of perennial weeds. Healthy growth shall be maintained to cover as much as possible of the planting area and allowing the individual plants to achieve as near as possible their natural form. With the exception of hedges, boxing or pruning to shapes is prohibited. Plants shall be contained with designed planting areas and pruned to avoid obstructing pathways or sightlines. Climbers are to be pruned and tied into trellises as required, with two main inspections annually to check trellis system is intact and anchor points are secure.

2.3 Pruning

In general pruning shall be done only to enhance natural growth. Dead, damaged and diseased portions of the plant will be removed. All cuts shall be flush and clean, leaving no stubs or tearing of bark. All major pruning shall be done following flowering or during plant's dormant season. Emergency or minor pruning shall be done when needed.

Pruning shall be carried out to maintain proper size in relationship to adjacent plantings and intended function. Remedial attention and repair to shrubs shall be provided as appropriate by season or in response to incidental damage.

Groundcover plants shall be pruned as required to restrain perimeter growth to within planting bed areas where adjacent to walks and curbs. Tip prune selected branches of low growing shrub or groundcover masses to maintain even overall heights and promote fullness.

Certain plants, such as Cornus spp. will require heavy annual pruning in order to maintain healthy colourfulstems and healthy leaves. All arising's from pruning shall be removed of site.

2.4 Weed Control

Planting beds shall be maintained relatively weed free (no more than 10% of weed cover at maximum) by hand weeding or spot spraying any emergent weeds during the growing season with Glyphosate or approved equivalent. Saplings shall be removed from all planting areas on emergence or immediately after to prevent establishment.

Specific weed control operations shall be carried out a min of 9no. times per year, however it will be the contractor's duty to control weeds by hand weeding or other if weed cover exceeds 10% of the planting area.

2.5 Mulching

Shrub beds shall contain a min. depth of 50mm bark mulch throughout the year. Contractor to top-up as 2 times per year or as appropriate to maintain depth. Mulch is not required in areas where plant foliage completely covers the soil surface, such that the soil is not visible through the foliage. The contractor shall spot treat to remove emergent weeds as specified above but do not cultivate or incorporate the mulch into the soil. Any mulch outside of designated planting areas shall be returned to the planter on a weekly basis.

Mulch shall be uniform in colour and appearance, and free of leaves, sticks, or trash. Mulch may be chipped or shredded wood, bark. When replacing existing mulch, use a mulch product that is similar in appearance to that already at the site.

2.6 Tree Planting Care

Trees shall be maintained in a healthy, vigorous growing condition with a well-shaped framework for future growth.

2.7 New Tree Planting

Spring and autumn of each year during the maintenance period the trees, double-stakes, rabbit guards and ties shall be checked and adjusted, the soil firmed, any dead wood removed back to healthy tissue and mulch adjusted to original levels. Any broken stakes or ties evident throughout the maintenance period shall be replaced.

A 1m-diameter mulch circle/square shall be maintained at the base of each tree located in open grass areas or grass verges. Top up bark mulch to 75mm where required and make good any mulch mats.

During the first growing season all standard trees / semi-mature trees shall be watered at least five times during the growing season - in April, May, June, July and August unless otherwise directed by the Landscape Architect. During the second growing season trees will be kept well watered, particularly during June, July and August.

The edge of the mulch circle shall be maintained in a neat and tidy condition as above.
The surface of all planting pits is to be kept free of weeds during the maintenance period by hand weeding of annual weeds, for perennial weeds to be carried out on three visits during the growing season.

2.9. Tree Stakes and Ties

Check tree stakes and ties on each maintenance visit. Repair, strengthen and adjust (loosen / tighten) to ensure optimum functioning and trees not being damaged by poor fixings. If trees no longer require stake / tie remove. Prior to handover, check all tree stakes and ties and remove those no longer required.

2.8 Woodland/Scrub Area Management

Woodland areas specified shall be maintained in a healthy, vigorous condition and free from litter and noxious weeds throughout the year.
Certain areas of woodland may require thinning over the 5-year period. These areas shall be thinned by no more than 10%, removing only the weaker tree specimens. Thinning shall be carried out as directed onsite by administrative authority.
Areas of natural scrub as indicated on the maintenance plans shall be contained by trimming back once per year. This shall be carried out 2no. times per annum.
All clearance operations within woodland and scrub areas shall be carried out outside of the birdnesting season to preserve the bird life in the area. This season extends from the 1st March to 31st August.

2.09 Litter Clearance/Pick-up

The contractor shall maintain all areas free from litter. This shall mean the removal of all extraneous litter, rubbish and any other debris from all areas, which will include grass areas, planted areas, carparks, footpaths as well as woodlands and tree canopies.

Notwithstanding the above it is expected that the contractor and his staff shall take sufficient pride in the appearance of the site and that they would pick up all visible litter during every site visit.

In addition to removal of litter from footpaths, planted areas, etc., the contractor shall make provision for the immediate (within 1 days of notification) arrangement for collection and removal of all extraneous matter which has been deliberately been deposited on site by persons known or unknown (fly-tipping).

2.10 Replacements

Any tree, hedge or shrub that is removed, uprooted, destroyed or becomes seriously damaged, defective, diseased, or dead shall be replaced in the same location with another plant of the same species and size as that originally planted within 5 years after planting. All such replacements shall be carried out in the first available planting season after the requirement to do so is recognised.

5.1 OPEN SPACE MANAGEMENT

3.0 Maintenance Programme
This programme is a guideline only and times of operations may vary on approval by landscape architect.

ONGOING REQUIREMENTS:	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Lawn grass cutting (Min 24 cuts)		*	**	**	***	***	***	***	***	**	**	
Edging to lawn grass areas				*			*			*		
Rough Grass							*					
Fertiliser application to lawn grass areas							*					
Hedge pruning/cutting										*		
Shrubs pruning and feeding							*					
Weed control of hedge and shrub planting areas				*			*			*		
Tree pruning											*	
Removal of tree stakes (3-5yr)				*								
Mulch top-up to tree circles/ squares				*			*					
Watering of new trees (or after 3 we-eks of no rain)				*	*	*	*	*	*	*		
Trimming of scrub areas											*	
Weed control of scrub areas				*							*	
Application of residual weed killer to footpaths, cycle paths.				*								
Litter Clearance/pick up	***	***	***	***	***	***	***	***	***	***	***	***