

**CUNNANE STRATTON REYNOLDS**  
**LAND PLANNING & DESIGN**

**Gerald Griffin Street Apartments**

**Landscape Design Rationale**

PROJECT NO. 23437

OCTOBER 2024

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## CONTENTS

### 1.0 Introduction & Context

- Site Context Page 3

### 2.0 Green and Blue Infrastructure Principles

- GBI Principles & Themes Page 5
- GBI Design Aims Page 6

### 4.0 Design Concept

- Inspiring Images Page 8
- Landscape Masterplan Page 9
- Landscape Section Page 10
- Sustainable Drainage Systems (SuDS) Page 11
- Recreation & Amenity Page 12
- Boundary & Fringe Biodiversity Planting Page 13
- Courtyard planting and Building Edge Page 14
- Materials Page 15

### 5.0 Maintenance and Management Page 16

# LAND PLANNING & DESIGN

## 01. INTRODUCTION AND CONTEXT

SITE CONTEXT



Areal map



**02. GREEN AND BLUE INFRASTRUCTURE PRINCIPLES**

**GREEN & BLUE INFRASTRUCTURE: PRINCIPLES AND THEMES**

**Green and Blue Infrastructure Strategy** : The integration of amenity & recreation, circulation & connectivity, biodiversity, heritage elements and nature-based sustainable drainage.

**PRINCIPLES :**

Green & Blue Infrastructure strategies aim to create sustainable, resilient, and liveable communities that benefit both the environment and the people who inhabit them

**NATIVE POLLINATOR PLANTS IN IRELAND INCLUDE :**

- **Wildflowers** such as oxeye daisy (*Leucanthemum vulgare*), red clover (*Trifolium pratense*), and wild carrot (*Daucus carota*)
- **Shrubs** such as blackthorn (*Prunus spinosa*), hawthorn (*Crataegus monogyna*), and dog rose (*Rosa canina*)
- **Native trees** such as alder (*Alnus glutinosa*), hazel (*Corylus avellana*), and birch (*Betula* spp.)
- **Herbaceous plants** such as meadow buttercup (*Ranunculus acris*), common knapweed (*Centaurea nigra*), and bird's foot trefoil (*Lotus corniculatus*)
- **Bulbs** such as bluebell (*Hyacinthoides non-scripta*)
- **Perennial plants and grasses** such as purple loosestrife (*Lythrum salicaria*), meadow cranesbill (*Geranium pratense*), and tufted hair-grass (*Deschampsia cespitosa*)

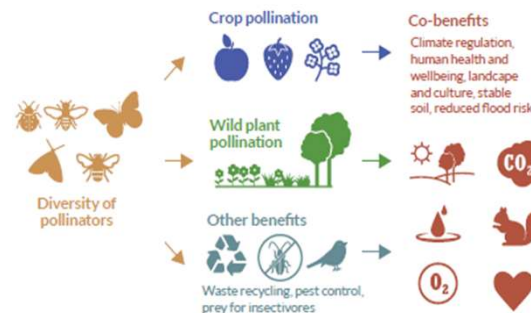
It's important to note that different species of native pollinators have different needs and preferences when it comes to the plants they visit for nectar and pollen. Maximizing the diversity of native plants within a given area is key to providing adequate resources to support a range of pollinator species.

Using non-native pollinator plants can also be beneficial in situations where they offer additional benefits that native plants do not. For example, certain non-native plant species may bloom at different times of the year, providing a source of nectar and pollen when native plants are not in bloom. Additionally, some non-native plants may produce nectar and pollen that is more easily accessible to certain types of pollinators compared to native plants.

It is essential to ensure that non-native plants are used in combination with and not at the expense of native plant species, to provide the most benefits to native pollinators.

**KEY COMPONENTS :**

- **Sustainable Drainage Systems (SuDS):** Use SuDS techniques to manage surface water runoff and mitigate flood risk and incorporate nature-based features where feasible.
- **Vegetation and Biodiversity:** Incorporate planting schemes and design features that promote biodiversity, provide habitats for wildlife, and improve people's health and well-being.
- **Open Spaces and Recreation:** Provide well-connected green spaces and recreation areas that promote physical activity, interaction, and social well-being.



*The benefits of protecting pollinators*

**SPECIFIC GREEN & BLUE BIODIVERSITY INTERVENTIONS MAY INCLUDE :**

- Habitat Restoration
- Native Planting
- Ecological Buffer Zones
- Nesting and Roosting Sites
- Water Management/SuDS

**KEY BENEFITS :**

1. Nature rich beautiful places
2. Active and healthy places
3. Thriving and prospering
4. Improved water management
5. Resilient and climate positive places

**AMENITY**

SuDS can improve a development by creating habitats that encourage biodiversity and simultaneously enhance open space.



*Rain gardens cultivated for pollinator species*

## DESIGN CONCEPT: DESIGN AIMS

### GREEN & BLUE INFRASTRUCTURE: SETTLEMENT LEVEL NETWORK

#### GBI Components:

- The provision of safe and healthy recreational spaces throughout the site
- The planting of native/pollinator friendly trees and shrubs suitable for the long-term site objectives such as definition of space, screening, seasonality etc.
- The incorporation of nature-based solutions appropriate to the site ground conditions.
- Provision of bat and bird nesting boxes, insect hotels as appropriate
- GI management/maintenance operations

#### DESIGN AIMS

- Prioritisation of **'Place Making'** in the evolution of the site layout. Delivery of sense of place/distinctiveness.
- Provision of a **green infrastructure** to soften the setting.
- **Connectivity/Permeability** – prioritisation of pedestrian movement.
- **Recreation and Amenity** - provision of safe, well overlooked open spaces.
- **Open Space** – provision of a hierarchy of accessible and overlooked open spaces through neighbourhood.
- **Play Provision** – promotion of a child-centred approach, based, where appropriate, on 'home-zone' principles that enable children of all ages to: Move freely and safely around their neighbourhood; Play within sight of their home; Play in naturalistic environment; Play at purposefully designed play elements; and Encourage interactive play.
- **Communal Space** – provision of multi-functional and flexible communal spaces throughout the scheme.
- **Legibility** – provide legible routes and clear definition of space.
- **Biodiversity** – provision of planting measures to enhance the biodiversity potential of the site.
- **Materiality**: careful selection of materials with regard to quality, texture, robustness, durability, ease of maintenance and compatibility with local setting.
- **Maintenance and Management** – Provision of landscape infrastructure which is manageable and promotes long term sustainability.

**03. LANDSCAPE CONCEPT**

DESIGN CONCEPT: INSPIRING IMAGES

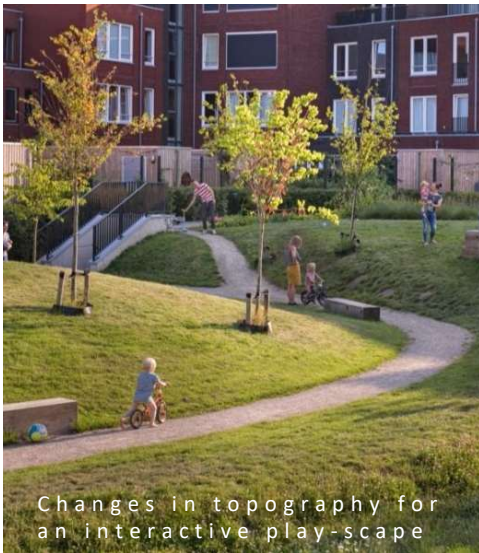
Prioritisation of 'Place Making' in the evolution of the site layout, through the delivery of sense of place/distinctiveness through the site.



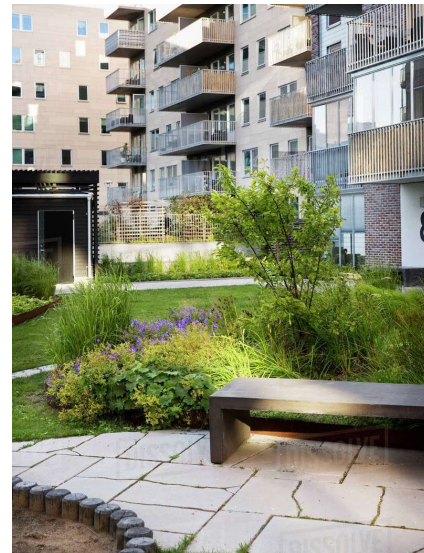
Formal and informal amenity grass areas



Rain gardens & biodiversity



Changes in topography for an interactive play-scape



Mix of hard and soft amenity spaces



LEGEND

- |  |   |  |                                    |
|--|---|--|------------------------------------|
|  | PROPOSED NATIVE STREET TREES                  |  | CONCRETE PAVING BUFF COLOR         |
|  | PROPOSED OPEN SPACE POLLINATOR T              |  | SAFE SURFACING BONDED RUBBER MUL   |
|  | PROPOSED LARGE SHRUBS                         |  | CYCLE RACK                         |
|  | GRASS   |  | SEATING WITH ARMS                  |
|  | SHRUB AND GROUNDCOVER PLANTING TO RAIN GARDEN |  | PRECAST CONCRETE SEATING /PLAY ELE |
|  | SHRUBS AND CLIMBERS PLANTING                  |  | NATURAL PLAY GRASS MOUNDS AND BOI  |
|  | ROAD SURFACE TO ENGINEERS SPEC                |  | WALL AND RAILING                   |
|  | CONCRETE FOOTPATH                             |  | INFILTRATION CHANNEL               |
|  | CAST IN SITU CONCRETE SURFACE                 |  | SITE BOUNDARY                      |

Extract from Landscape Masterplan 23437-2-101







Landscape A-A Section



**LEGEND**



-  PROPOSED RAIN GARDEN
-  PROPOSED INFILTRATION CHANNEL
-  PROPOSED TREE PITS
-  PROPOSED RAINWATER BUTTS



Opportunity for natural play



with slopes and mounds



Level space for kickabout



Family-friendly space



Edges to explore



Place to hangout



**RECREATION AND AMENITY FOR ALL AGE GROUPS/USERS:**

The Recreation & Amenity strategy for the site delivers the following range of facilities :

**Amenity green areas**

The neighbourhood areas provide overlooked green spaces for kickabout and informal play. The spaces also have seating/resting places for the more vulnerable user.

**Neighbourhood Play Area**

The play areas consists of compacted safe surfacing bonded rubber mulch with timber or re-cycled plastic edges located within open spaces. They provide an alternative to grass surfaces for informal play as well as being functional in wet weather.

**Natural play area**

The area consists of grass mounds and slopes with tree planting and boulders forming a part of the open spaces. The area encourages creative play and adds visual appeal and texture to the green open spaces.

**Sustainability and Biodiversity**

Landscape design proposals for green infrastructure elements such as the site boundary treatments and planting throughout the site (including woodland planting ,embankment planting, boundary planting, hedgerow planting, street trees, shrub and groundcover planting and grassland/wildflower meadow establishment). The overall emphasis is on the use of native and pollinator species to deliver a green infrastructure which is appropriate to the landscape setting.

**Age groups/users:**

**Children 2-12 years old** are catered for with Neighbourhood Play Areas and level grass open spaces for kickabout and other informal play activities.

**Teenagers** are also catered for in the open spaces in respect of passive amenity, and seating for socialising.

**Adults of All Ages** can avail of the benches for stopping and socialising.

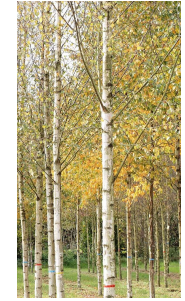
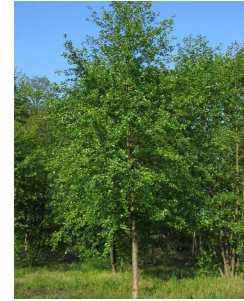
The All-Ireland Pollinator Plan aims to create an Ireland where pollinators can survive and thrive by providing them with diverse and connected habitats, food sources, and other resources.

NATIVE UNDERSTOREY PLANTING



*Rosa canina / Euonymus europaeus / Sambucus nigra / Ligustrum vulgare*

NATIVE TREES



To include: *Quercus sp./Sorbus aucuparia/Alnus glutinosa / Corylus avellana / Malus syvestris / Prunus padus / Betula pendula*

BULBS AND PERENNIALS



Potential species mix: *Anemone nemorosa, Allium ursinum, Ajuga reptans, Dryopteris Filix-mas, Galium odoratum, Geranium sanguineum, Hyacinthoides non-scripta, Hypericum androsaemum, Muscari 'Blue Spike', Oxalis acetosella, Primula vulgaris, Viola riviniana, Colchicum sp., Crocus sp., Galanthus nivalis, Salvia sp., Anemone x hybrida, Anemone hupehensis, Aster sp., Chrysanthemum sp., Dahlia sp., Helleborus sp., Rudbeckia 'Goldstrum', Stipa 'Ponytails'*

Maximizing the diversity of native and pollinator plants within a given area is key to providing adequate resources to support a range of pollinator species.



**SMALL NATIVE TREES**

Multi-stem *Arbutus unedo*, *Betula pubescens* / *Prunus padus*



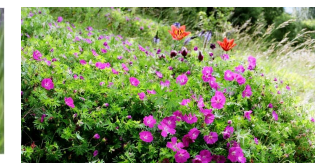
**NATIVE FERNS**

*Dryopteris filix-mas* / *Asplenium scolopendrium*  
/ *Dryopteris filix-mas cristata*



**POLLINATOR-FRIENDLY PERENNIALS**

*Liriope muscari* / *Geranium* sp. / *Anemone* sp. / *Brunnera macrophylla*



**POLLINATOR-FRIENDLY SHRUBS & GROUNDCOVER** *Rosmarinus officinalis* / *Daphne x transatlantica* / *Rudbeckia 'Goldstrum'* / *Geranium sanguineum* / *Hebe* sp. / *Lavandula angustifolia* / *Ajuga reptans*

DESIGN CONCEPT : MATERIALS

All materials will be designed to a high standard, be robust and withstand a long life, as well as meet the CE standard.



Sheffield-type Cycle Stands



Select Seating



Precast Concrete Seating/Play Element



Cast In-situ Concrete Surface



Concrete Paving to Doorways



Safe Surfacing Bonded Rubber Mulch to Junior Play Area



### 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 landscaping 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 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.

#### 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 |

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.

### 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/m<sup>2</sup>.
- 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 m<sup>2</sup>; and 150g/m<sup>2</sup> 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/m<sup>2</sup> and 10:10:10 NPK slow release fertiliser at 150g/m<sup>2</sup>.
- 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.

### 1.26 Grass Seeding

#### 1.26.1 Herbicide Application

- Type: Suitable for suppressing perennial weeds and existing grass.
- Glyphosate and other controlled chemical pesticides will not be used under any circumstances.
- Suitable herbicide use to the instruction of a registered professional user.
- Timing: Allow fallow period before cultivation.
- Duration: As manufacturer's recommendation.

#### 1.26.2 Seedbed cleaning before sowing

Operations: Herbicides as per registered professional user only.

#### 1.26.3 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 administering 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/m<sup>2</sup>, 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.

##### *Weed Control*

Lawn grass areas shall be treated using an approved selective Glyphosate-free herbicide according to a registered professional user and manufacturer's instructions. Areas of invasive and noxious species in the lawn or areas, shall be mechanically removed or spot sprayed by a registered professional user.

##### *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.

##### *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 mechanically removed. Glyphosate and other chemical pesticides will not be used under any circumstances unless otherwise instructed by a registered professional user. 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.

## 2.1.6 Failed areas

Areas of grass which fail or are damaged or worn shall be reinstated by re-turfing or re-seeding in accordance with the original specification.

## 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 colourful stems 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-free herbicide 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 accepted method 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 mechanical weeding of annual weeds and 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.

## **2.10 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).

## **2.11 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 the defect period after planting. All such replacements shall be carried out in the first available planting season after the requirement to do so is recognised.

### 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						*				*		
Weed control to tree mulch circles				*			*				*	
Weed control to shrubs & hedgerow				*			*				*	
Watering of new trees (or after 3 weeks of no rain)				*	*	*	*	*				
Trimming of scrub areas												*
Weed control of scrub areas				*					*			
Weed control to footpaths, cycle paths.				*								
Litter Clearance/pick up	***	***	***	***	***	***	***	***	***	***	***	***