CUNNANE STRATTON REYNOLDS LAND PLANNING & DESIGN



Bancroft View SHD Lands on Greenhills Road, Tallaght, Dublin24

LANDSCAPE DESIGN STATEMENT

May 2022

LOCATION

The proposed site is located on the east side of Greenhills Road, north of Bancroft Park, south / west of Hibernian Industrial Estate and east of Airton Road junction.

The site is bounded by Greenhills Road to the west, the Greenhills Retail Park to the North, the Hibernian Industrial Estate to the east and the Astro Park Tallaght (sports complex).

Within 1km of the site are Tallaght Town Centre, Tallaght Hospital and Technical University Dublin. The site is well serviced by public transport and the Belgard LUAS stop is about 20mins walking from the site. There are good public parks namely Bancroft Park, Tymon Park and Sean Walsh Memorial Park, all within 1km walking distance.

The site is currently a brownfield site and mostly covered by hard surfaces, which means there is little or no topsoil on the site and poor quality subsoil.



PLANNING CONTEXT

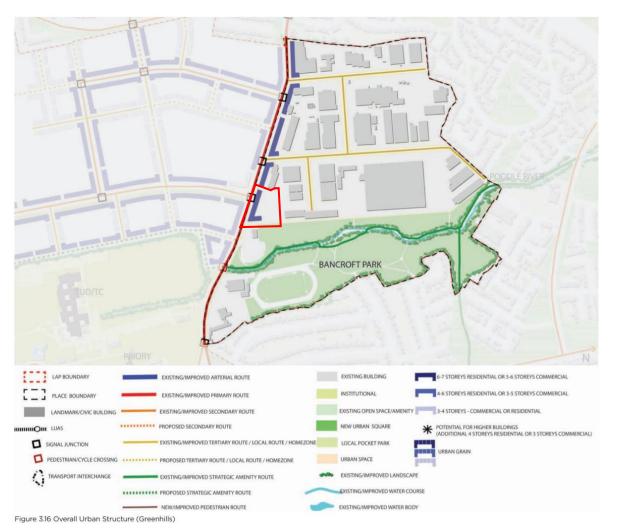
The proposed site sits in the South Dublin County Council jurisdiction and falls within the Tallaght Town Centre Local Area Plan (LAP) under the 'Greenhills' Neighbourhood.

The site is zoned Objective REGEN with the purpose "To facilitate enterprise and/or residential-led regeneration".

The objectives and aims for this development have been developed from the County Development Plan and the LAP which sets out clear objectives for the development of this site and its relevance to the wider Tallaght Regeneration Area.

The aims and objectives for this proposed development in terms of Landscape and Public Realm are as follows:

- Safe Places
 - · Promotes interaction.
 - Promotes a sense of local pride.
 - Attractive open space that provides facilities for all people.
- Playgrounds
 - Communal Courtyard play for 0-8 year olds.
- Incorporates the heritage of Tallaght.
- A usable as well as attractive communal amenity space for residents to promote social integration and improve quality of life.
- Maintain visual connectivity with the Dublin Mountains.
- Enhancement of biodiversity, wildlife habitats and national pollinisation diversity in urban areas, through the use of native species in proposed treelines, trees and shrub planting within the courtyards.
- Utilise materials and form to define the use of a space, and minimise signage.
- Provision of active and passive recreational facilities.



Site Location within the Tallaght Town Centre LAP – Greenhills Neighbourhood

DESIGN INTENT

The design intent for this development is to utilise the potential for a provision of new landscaping and urban design scheme to help incorporate the proposed development into the existing urban / industrial context while also creating a strong public realm and modern design for the urban frameworks.

The development will be designed to establish a strong frontage and character to Greenhills Road and to create a focal point at the junction of Airton Road and Greenhills Road.

In brief, the design intent will aim:

- To create a vibrant, energetic and usable landscape;
- To create communal amenity space that will be usable and visually pleasing;
- To create good public realm frontage to Greenhills Road
- To create an attractive and distinctive landscape setting that will integrate the built environment.
- To allow for future integration with Bus Connects plans for the area

LANDSCAPE DESIGN CONCEPT

The landscape design concept seeks to create public, semi-private and private open space through the utilisation of contrasting organic and strong geometric forms creating a strong formal and civic entity to the development.

The open spaces within the development can be summarised as follows:

- 1. Ground level public open space to the west of the development hard landscaping with soft elements, raised and ground level planters planted with ornamental grasses, shrubs and trees
- 2. Ground level hard landscaping scheme to the perimeter of the building, providing vehicular, pedestrian and emergency access and bicycle parking
- 3. Podium level / First Floor central courtyard with informal / natural play amenity space lawn, play area, seating and privacy buffer planting to apartments
- Roof Garden on Level 8 seating and amenity area for the residents, surrounded by buffer planting















Design Concept Precedent Images







COMMUNAL OPEN SPACES - USABILITY AND ACTIVITY AREAS

There are a number of activity areas provided throughout the open spaces within the scheme. These spaces include the provision of:

GROUND FLOOR

- Public Plaza to west of the development, provides for necessary movements, to and through the space; planting and permeable paving aids the sustainable water management, bicycle shelters provide facilities for residents and visitors, the planting softens the visual appearance of this space
- Seamless integration with future BusConnects scheme

FIRST FLOOR

- Informal seating and social space for gathering
- Central lawn area for relaxing, ball kick about
- Natural mounds and natural play area within the central lawn
- Seating areas of varying sizes for groups to meet and chat or seating pods for individuals who want to site quietly and read a book.
- Areas that can accommodate community gatherings such as barbecues, birthdays and social evenings.
- Children's play area with play equipment
- Table tennis tables for active use for all ages.

ROOF GARDEN ON LEVEL 8

 Informal seating and gathering space with artificial lawn, seating pods and boundary buffer planting

ACCESSABILITY

Accessibly has been incorporation to ensure there is universal access to the key areas within the courtyard. Desire lines to and from the main gates to stairwells have been incorporated into the design but without losing the feeling of a large open space. The paths have the added benefit of creating a good network of paths around the courtyard for perambulation.

OPEN SPACE ALLOCATION

External communal amenity spaces equate to 1,507m2.















Play Space – To Communal Amenity Space

Play is how children learn about themselves and the world we live in and has been described as 'The work of the child' by Mary Montessori.

The Tallaght area is well served with public parks with a mix of play areas for different age groups. The proposed play areas within the development reflects and is distinct from those existing in the locality – creating a perfect balance.

The nearest public park is located adjacent to the proposed development and is a stroll away. The park caters to all age groups with; a natural play area for younger kids; football field for teenagers and riverside walk and seating for elders.

The nearest larger playground for older kids is 1.2km to the south in Sean Walsh Memorial Park. The Sean Walsh Park is a local park catering to the wider Tallaght and Cookstown area.

There is also a proposed district playground designated for the future park in the Cookstown Area as indicated LAP. It is proposed to balance this by providing a toddlers play lot for young children and a teenager/young adults area within the communal open space. Typical facilities for such teenagers/adults would include areas for a softball games area (MUGA) and table tennis table.

In accordance with the development plan, the play area will be a min. of 100m2, be 4m from the nearest residential dwelling and have min. 5 pieces of equipment.

Furnishings & Surfaces:

Furnishings will be similar to what is illustrated in the images displayed. The play area will have a rubber safety surface and grass, suitable surfaces for on a roof garden. See also 'Material & Finishes' section of this report for facilities for teenagers and adults.

Safety:

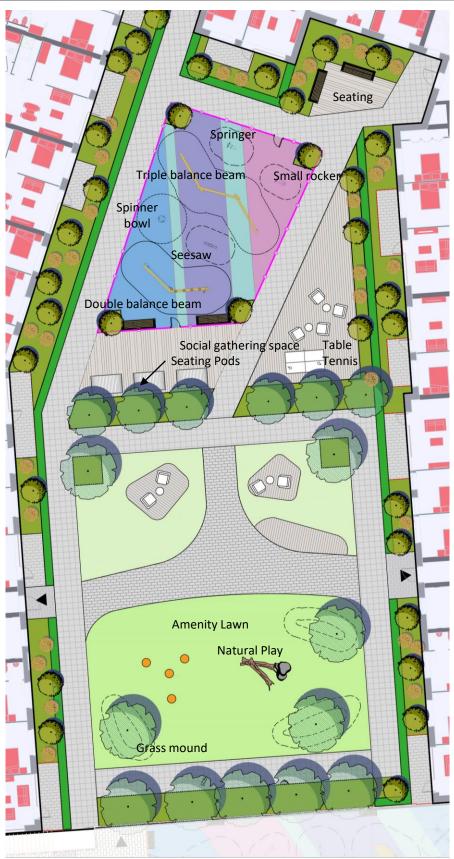
All furnishings and surfaces within the children's play spaces will be to ISEN 1176/ISEN 1177 standards and meeting the RoSPA, NSC and other appropriate health and safety requirements. The play space has been designed around the Ready, Steady, Play! And Naps, Leaps and Neaps guidelines.

Plan of 1st Floor Amenity Space & playground, Scale: NTS





Natural mounds, logs and bounders to Ground Floor Central Lawn Area



MATERIALS & FURNITURE

According to the Tallaght Local Area plan "In an urban environment, street surfaces must be of the highest quality to promote a sense of place and legible street environment" (p.132).

All materials will be designed to a high standard, will be robust and withstand a long life, as well as meet the CE standard. All areas will be designed to facilitate universal access to all users and be in compliances with Part M of the building regulations, as well as meet the CE standard.

Lighting will be designed to meet the required lux levels for the site and streets and comply with SDCC County Councils standards.

Lights have been positioned so they are 6m from proposed trees within the street areas. Where different, either the lighting design has been adjusted or the tree species amended to not block the street lighting.





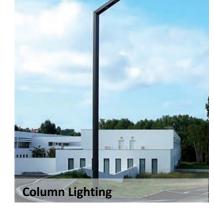


















Concrete Flags 600x200mm







All proposed planting species have been selected based on their suitability for their location. In particular the planting that will be in raised planters above the undercroft carpark will be suitable for the limited soil depth, be drought tolerant and robust enough for public realm and communal amenity spaces.

All planters will be suitable constructed to provide adequate growing space for the shrubs and trees. All planting will be planted as per the details on the following pages. All landscaping will be implemented and maintained in accordance with the maintenance and management schedule at the back of this report.

Proposed Ornamental / Medium Sized Trees:



Tilia cordata 'Greenspire' - Small-Lleaved Lime



Acer campestre 'Elsrijk'

Courtyard / Trees in Planters:



Betula pendula 'Tristis' – Amelanchier lamarckii Narrow Weeping Birch





Mult-stem Betula utilis Jacquemontii



Acer palmatum Japanese Maple

Shrubs planting:



Viburnum tinus

Ornamental Grass planting:



Cytisus scoparius



Philadelphus coronaries



Lonicera pileata



Lavendula angustifolia



Echinacea purpurea Sedum 'Brilliant'





Verbena bonariensis



Achillea tormentosa



Aquilegia species



Anemone × hybrid



Carex



Calamagrostis Karl Foerster



Knautia macedonica



Agastache 'Black Adder'

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 site. 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.

Herbicide is not to be used for areas to be taken in charge by DLRCC, unless particularly recommended by specific method statement as approved by the Department of Environment; manual weed removal method to be used in areas maintained by DLRCC, alternative method may be proposed by contractor for approval.

1.3 Standards

In preparing the landscaping, supplying plants and maintaining the landscaping the following standards are to be adhered 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

square verticals and flat horizontals

RoSPA Standards for safety for play and exercise equipment.

The latest publications for each document are to be used.

All plants obtained for use within the Republic of Ireland should be from a nursery that is registered through the DAFM (www.agriculture.gov.ie/farmingsectors/planthealthtrade/) and supplied and planted by a registered Landscape Contractor. This is to ensure all plants supplied comply with the New Plant Health Regulations. All registered operators (nurseries and contractors) should submit their Plant-Health Registration Number (PHR No.) and details of passports for all plants.

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/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. Moy extensive type green roof to be installed, please refer to Management Schedule attached at the end of this document (Section 4).

1.26 Grass Seeding

1.26.1 Herbicide Application (for areas in private management, herbicide not to be used in areas taken in charge by DLRCC)

- Type: Suitable for suppressing perennial weeds and existing grass.
- Timing: Allow fallow period before cultivation.
- Duration: As manufacturer's recommendation

1.26.2 Seedbed cleaning before sowing

Operations: Kill pernicious weeds with selective contact herbicide (for areas in private management, herbicide not to be used in areas taken in charge by DLRCC, manual weed removal method to be used in DLRCC areas).

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 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.

1.28 Wildflower Meadow

1.28.1 Preliminary requirements:

- Submit programme before execution of works.
- Samples: All samples or changes to products to be submitted within 2 weeks of the commencement of the works or within reasonable time to allow for changes to be made prior to practical completion.
- Calcareous on site soils to be stripped and saved for re-use in wildflower meadow areas
- Methodology for soil stripping, storage and re-use of soil to be drawn up and agreed with ecologist and landscape architect prior commencement

1.28.2 Workmanship

- Standard: All works are to be carried out in accordance with BS 4428: 1989 and BS3936: 1998
- Operatives: Contractor should have the appropriately skills and experiences for the type of work, having appropriate training and be a competent landscape Contractor with ALCI accreditation or equivalent.
- Site staff responsible for supervision and control of work: Experienced in the assessment of risks involved and methods of demolition to be used.

1.28.3 Climatic conditions

General: Carry out the work while soil and weather conditions are suitable.

1.28.4 Watering

- Quantity: Wet full depth of topsoil.
- Application: Even and without displacing seed, seedlings or soil.
- Frequency: As necessary to ensure the establishment and continued thriving of all seeding.

1.28.5 Notice

• Give notice before:-Setting out.-Applying herbicide.-Applying fertilizer.-Preparing seed bed.-Seeding .-Visiting site during maintenance period.-Period of notice: 5 working days for setting out, all others 2 working days.

1.28.6 Setting out

- Boundaries: Mark clearly.
- Delineation: In straight lines or smoothly flowing curves as shown on drawings.

1.28.7 Preparation of materials

• General: Free from toxins, pathogens or other extraneous substances harmful to plant, animal or human life.

1.28.8 Cultivation - general

- · Compacted topsoil: Break up to full depth.
- Soil ameliorant/ Conditioner/ Fertilizer: Fully incorporate into topsoil to a depth of 150mm.
- Tilth: Reduce topsoil to a tilth suitable for blade grading:
- -Depth: 50mm, Particle size (maximum): 30mm.
- Material brought to the surface: Remove stones and clay balls larger than 30 mm in any dimension, roots, tufts of grass, rubbish and debris.

1.28.9 Grading

- Topsoil condition: Reasonably dry and workable.
- · Contours: Smooth and flowing, with falls for adequate drainage.
- · Hollows and ridges: Not permitted.
- Finished levels after settlement: level with adjoining paving, kerbs, manholes etc.
- Blade grading: May be used to adjust topsoil levels provided depth of topsoil is nowhere less than 150 mm.
- Give notice: If required levels cannot be achieved by movement of existing soil.

1.28.10 Final cultivation

- · Timing: After grading.
- Seed bed: Reduce to fine, firm tilth with good crumb structure.-Depth: 50mm.-Surface preparation: Rake to a true, even surface, friable and lightly firmed but not over compacted.-Remove surface stones/earth clods exceeding:-General areas: 30mm.
- Adjacent levels: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.

1.28.11 Seeding - Wildflower seed

- Mixture: see drawings for grass seed mixtures.
- Application rate: see bill of quantities.

1.28.12 Quality of seed

- Freshness: Produced for the current growing season.
- Certification: Blue label certified varieties.
- -Standard: EC purity and germination regulations.
- -Official Seed Testing Station certificate of germination, purity and composition: Submit when requested.
- Samples of mixtures: Submit when requested.

1.28.13 Sowing

- General: Establish good seed contact with the root zone.
- Method: by hand or by petrol drive machine. If to be by Hydraulic submit method statement. .
- · -Distribution: to rate specified.

1.28.14 Wildflower sowing season

• Wildflower seed generally: Optimum dates March/April or September/October. Outside these windows seeding mixes are to be adjusted accordingly and approved.

CUNNANE STRATTON REYNOLDS

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.

Herbicide is not to be used for areas to be taken in charge by DLRCC, unless particularly recommended by specific method statement as approved by the Department of Environment; manual weed removal method to be used in areas maintained by DLRCC, alternative method may be proposed by contractor for approval.

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

Herbicide is not to be used for areas to be taken in charge by DLRCC unless particularly recommended by specific method statement as approved by the Department of Environment for noxious weeds removal; manual weed removal method to be used in areas maintained by DLRCC, alternative method may be proposed by contractor for approval.

Lawn grass areas in private ownership shall be treated using an approved selective herbicide according to manufacturer's instructions. Areas of invasive and noxious species in the lawn or areas, shall be spot sprayed.

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

Aggressive weeds such as dock, nettle, thistle and bramble shall be dug out if causing a nuisance.

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.

- Height and frequency of cut in second growing season:
- Time of cut: Year: Year 2 = 2 cuts in spring and autumn. For mown strip along cycle paths 5cuts per year.
- Height of cut: 150mm.
- · Trimming: All edges.
- Arisings: Remove.

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. 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 approved means 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 throughout the growing season.

2.8 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.

2.9 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 the administrative authority.

A weed free area of 800mm diameter shall be maintained around all trees by a combination of hoeing and mulching. Occasionally digging may be required.

Areas of natural scrub as indicated on the maintenance plans shall be contained by trimming back once per year. The perimeter of the scrub shall be cut to ground level to prevent scrub encroachment on adjacent spaces. This shall be carried out 2no. times per annum.

All clearance operations within woodland and scrub areas shall be carried out outside of the bird-nesting season to preserve the bird life in the area. This season extends from the 1^{st} March to 31^{st} August.

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 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.

2.12 Hedge Maintenance

Native Hedgerow Management

Native hedgerows to be cut back every three years on rotation to allow flowering of native species, unless encroaching into road / paths or causing other nuisance then trimming of encroaching sides to be carried out once a year. Trimming to be carried out in mid to late February to provide resources for wildlife in autumn months and allow wildlife to access Hedera helix berries and avoid conflict with the nesting season.

Beech Hedge Management

Beech hedging is to be pruned once a year in early September.

Ornamental Evergreen Hedge Management

Ornamental evergreen hedging is to be trimmed twice a year. Once in February and once in early September.

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.					*		*			*		
Native Hedgerow pruning/cutting (once every three years, see section 2.12)		*										
Deciduous Hedge pruning/cutting									*			
Evergreen 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 weeks 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	***	***	***	***	***	***	***	***	***	***	***	***

4.0 Extensive Type Green Roof Management Schedule

MOY MATERIALS

Waterproofing & Insulation Specialists

EXTENSIVE TYPE GREEN ROOF MANAGEMENT SCHEDULE.

A Green Roof management plan must be specifically tailored lo handle many different aspects. Program will commence immediately The Green Roof is installed Roof.

Week 1

Watering in the first week is crucially Important. If the Blanket Is rolled out in very dry conditions, it must be watered every other day during the first week. A quick establishment is very important when working in harsh conditions

For each of the deliveries of Sedum therefore tailor a watering schedule for the first week which depends completely on the weather at that given time of the year.

Week2

Contact will be made to discuss the weather conditions over the previous week and to discuss the general health of the Sedum Blankets. Problems at any early stage are very spotted easily and are mainly due to overheating blankets during transportation or dehydration after laying. At this point In time an early visit can be arranged if felt necessary.

Week3

By this stage the Sedum should be showing new signs of growth with mostly bright green, new foliage this will be in contrast to the darker shades of the more hardened foliage. This will Indication the Sedum has travelled well and is beginning to establish. From this point Green Roofs Ireland Sedum Blankets are low In maintenance. Mainly because of the beginning of the growing season, weeds will instantly start to move into any areas of bare substrate and a spot weed will be required. Due to our coverage of Sedum and intense weeding program during propagation weeds find it very difficult to establish themselves In the blankets.

Week 6

At this stage walk of each roof is required to check for any weed migration. Pulling weeds, whilst they are very small will causeless damage to the Sedum and also before they are allowed to seed. This is paramount as a simple grass weed will turn into a small lawn If a roof is not properly cared for during the first year. A thorough inspection and spot weed at this stage could save weeks of labour in weeding or replacing sections of Blanket.

Week 12

The roof will be well established and if the Sedum was rolled out during ear1y Spring, on schedule, It should be June (early Summer.) By this time a simple check on each roof is all that is required. The comprehensive care plan during the Spring months will mean weeds will not be seeding and spreading. The Roof will also be flowering soon so it is important that foot traffic is kept to a minimum.

Week24

As the growing season will soon be ending, again, a simple inspection and spot weed Is needed.

Week 36-48

This will be a winter inspection to check on the health of the Sedum. As our winters are changing we are experiencing more and more extreme weather conditions. The most Northerly Location in the United Kingdom Is going to face the worst of this therefore, a winter visit is vital to monitor Its performance.

Year 2

Four scheduled visited to align with the growing season and throughout with one visit in the winter.

A Green Roof is a living organism it is changing on a daily basis and is highly dependent on the weather. Therefore, it is difficult to quantify exact amount of water or labour required. A good relationship with excellent communication between the client and the grower is required and combined with a maintenance schedule tailored for the application this will create a healthy and low maintenance Green Roof.