

murray & associates  
landscape architecture

## **LANDSCAPE ARCHITECT'S REPORT**

*incorporating*

**Landscape Design Statement**

**Landscape and Visual Assessment**

**Landscape Specifications and Management Plan**

**Strategic Housing Development  
on site at Mill Road, Saggart, Co. Dublin**

for

**Tetrarch Residential Ltd.**

**December 2021**

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**APPENDIX: OUTLINE SPECIFICATION FOR LANDSCAPE WORKS AND MAINTENANCE**

**Version Control**

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0	Pre-Planning	9/11/20	AG	MB
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## 1. Introduction

This report was commissioned by the applicant and has been prepared by Murray and Associates to accompany the planning application for Mill Road Residential Development (SHD)

The purpose of the report is to explain the landscape context and design rationale for the landscape works as proposed on the accompanying drawings. This report should be read in conjunction with the following drawings:

1829_PL_P_00	Landscape Masterplan	A1	scale 1:1000
1829_PL_P_01	Landscape Plan (1)	A1	scale 1:500
1829_PL_P_02	Landscape Plan (2)	A1	scale 1:500
1829_PL_P_03	Landscape Plan (3)	A1	scale 1:500
1829_PL_P_03	Landscape Plan (4)	A1	scale 1:500
1829_PL_P_04	Boundary Landscape Plan	A1	scale 1:500
1829_PL_S_01	Landscape Sections (1)	A1	As Shown
1829_PL_S_02	Landscape Sections (2)	A1	As Shown
1829_PL_D_01	Landscape Detail Plan (1)	A1	As Shown
1829_PL_D_02	Landscape Detail Plan (2)	A1	As Shown
1829_PL_D_03	Landscape Detail Plan (3)	A1	As Shown
1829_PL_D_04	Landscape Detail Plan (4)	A1	As Shown
1829_PL_D_05	Landscape Detail Plan (5)	A1	As Shown
1829_TS_P_01	Arboricultural Impact Plan	A2	scale 1:1000

## 2. Site Location and Description

The site of 4.9ha. is located in north of Saggart, Co. Dublin, adjacent to the N7 Nass Road Exit 4. The site is 0.5 km away from Saggart Village and 1.8 km from Citywest Shopping Centre. The site is separated from the N7 by a small slip road and a hedge to the north of the site. To the west is the City West hotel and golf club complex, with a continuous hedge and small ditch separating the complex from the site. There are similar existing treatments along the southern and eastern boundary, with irregular hedges, overgrown brambles and a ditch on the property boundary.

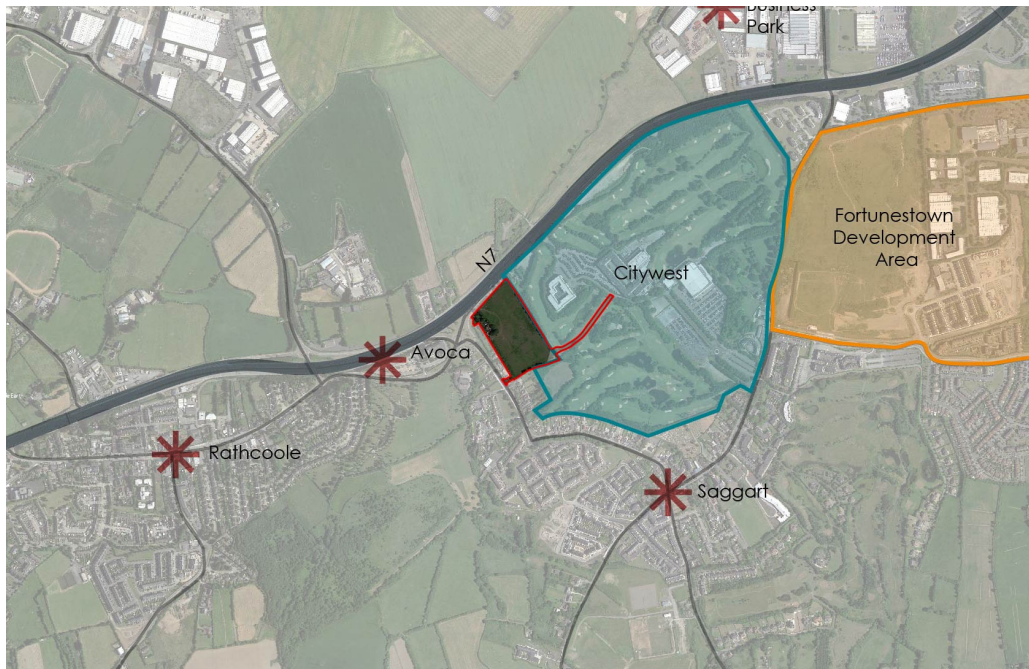


Figure 1 - Context Diagram (site outlined in red)

The current application site is subject to the provisions of the South Dublin County Development Plan 2016 – 2022. The lands were subject to the non-statutory *Mill Road, Saggart Area Plan* (hereinafter *Area Plan*). The Area Plan was adopted in January 2008. The Area Plan was extended a further 5 years and expired in 2018. The Area Plan seeks a minimum of 14% of the gross site area for open space within a mixed unit residential development. Due to the site proximity to the N7, the Area Plan also states "(a) *substantial set back from the N7, in excess of the 30 metres required by South Dublin County Council. The set back zone should include an appropriate berm, dense tree planting and other accepted physical noise attenuation barriers and measures.*"



Figure 2 - Existing Site Context with Planning Application Boundary in Red



Figure 3 - Site Photo: View North



Figure 4 - Site Photo: View Northeast towards City West Hotel and Golf Club with good quality hedgerow to be retained



Figure 5 - Site Photo: Eastern Boundary; retained where possible



Figure 6 - Site Photo: Large Pines in western corner of site to be retained



Figure 7 - Site Photo: View of Southern Boundary (overgrown with brambles); retained where possible



Figure 8 - Site Photo: View South Across Site

### 3. Description of Proposed Development

The strategic housing development (SHD) on site (4.94ha (gross) / 4.62ha (net)) at Mill Road, Saggart, Co. Dublin is bounded by the N7 road to the north and Citywest lands to the east.

The development will consist of the following elements:

- 274 no. residential units - 51 no. houses, 38 no. duplex units in two blocks and 185 no. apartments in three blocks. The height of the proposed scheme will range from 2-storey houses and 3-storey duplexes to 5-storey and part 8-storey apartment blocks.
- A 4-classroom crèche of c. 276 sq.m
- 2 no. substations
- 276 no. car parking spaces and 670 no. bicycle spaces
- All necessary infrastructure
- Public and Communal Open Space as described in more detail in this report

Vehicle, pedestrian and cycle access to the site will be from the Mill Road. A new road will be constructed running east west at the southern boundary of the site. The residential element of the site will have two access points off the proposed new road. This new route will extend eastwards to provide cycling and pedestrian connections through neighbouring Citywest lands and to the Saggart LUAS light rail terminus. Emergency access is proposed at the north west of the site from an existing access road connecting to Mill Road. This access is designed as services and emergency only and will be controlled by collapsible bollards.

With regards to landscape elements within the development, there are a number of green spaces located in the centre of the site and on the south-east and west of the site with natural play and SUDS elements as well as a large open communal space for the two apartment blocks to the south. A planted woodland berm will be developed along the northern boundary with the N7 to provide a sound barrier and amenity open space.

Existing vegetation on the site is to be retained where possible, with particular emphasis on a stand of Pines in the western part of the site and the hedgerow which runs along the northern / northeastern boundary. Please see the Arboricultural Report for full details of trees and hedgerows.

#### 4. Landscape Design Overview

The landscape design vision is one of connecting spaces, architecture and people, allowing freedom of movement within a human-scale public realm. Spaces for activity, play and engagement are legible and comfortable with a strong sense of identity, while also providing an appropriate and complementary setting with the built form.

The landscape design aims to create a connection with nature and the natural world, as well as spaces for the residents to enjoy and use for recreation, contemplation, exercise and play. The streetscapes that weave through the development are planted with street trees and punctuated with open spaces. Existing trees and hedges are also retained wherever feasible and the trees integrated into open space proposals. Ecological enhancement measures are also incorporated.



Figure 9 - Mill Road Open Space Typologies Diagram



There are six primary areas of public open space, distributed throughout the scheme, creating a public amenity space close to all residents. Each has a unique layout and orientation, creating character and amenity within the development. Due to the proximity of the site to the N7, a 30m setback along the northern boundary is provided as an additional amenity space and incorporates noise reduction measures.

The landscape design reflects the proposed architectural aesthetic and residential density throughout the development, providing useable open space and communal amenity space. A system of local roads and home zones weave through the development, creating a residential network of paths and streets.

The development includes a mix of terraced homes, duplexes, and two apartment blocks of 5-8 storey height, and a creche. The scheme varies in height; with duplexes along the northern edge, and terraced houses in the centre of the scheme and along the western edge. There are two apartment blocks to the southern area of the site, with a creche at the ground level in the eastern block (Block A) and a large communal open space in the centre of the central block (Block B.)

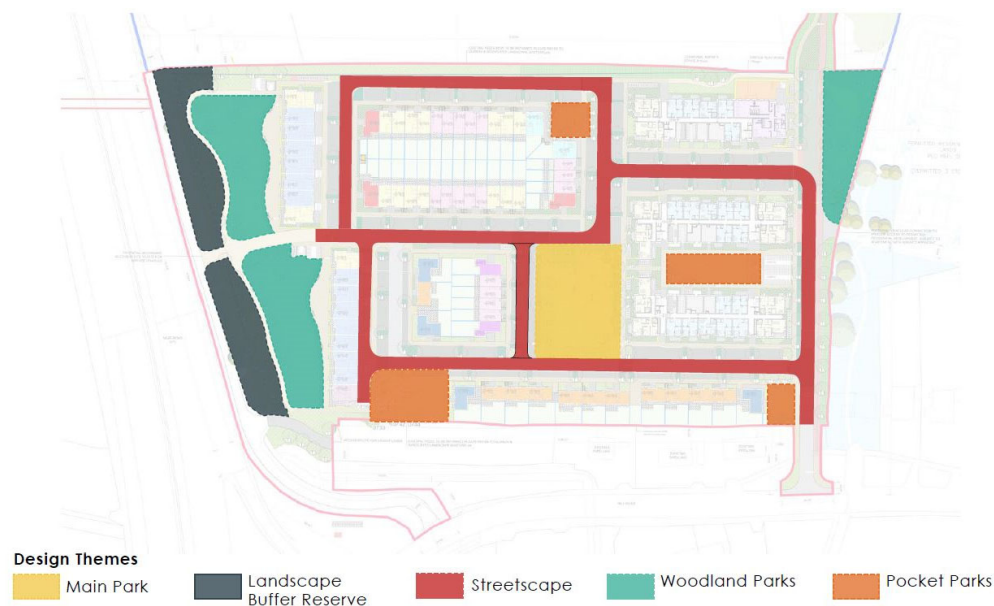


Figure 10 - Design Themes

The four proposed communal amenity spaces are located directly adjacent to the relative apartments and duplex units. These spaces provide residents with access to amenity space for relaxation, socializing and play within close proximity of their homes. The minimum required communal open space required for the apartments is 1,179sq.m

and the amount provided is 1,206sq.m. For the duplexes, the minimum required is 300sq.m but the scheme provides double the minimum requirement, with a planted buffer to the open spaces adjacent.

The open spaces and streetscapes also accommodate play space, kickabout, meeting and social space, cycle parking and a host of other amenities.

A connection to the Luas stop at Citywest is proposed through the lands to the north of the site. This is proposed as a cycleway and footpath combined, but separated into parallel paths. This runs through what is currently a golf course, to connect with the existing paths, roads and circulation routes around Citywest Hotel, and from there, cyclists and walkers can continue on to the Luas, bus stops and the wider Citywest area. All existing trees and vegetation will be avoided in the golf course except at the connection to Citywest where there will be an area of recently planted vegetation removed to facilitate this important connection.

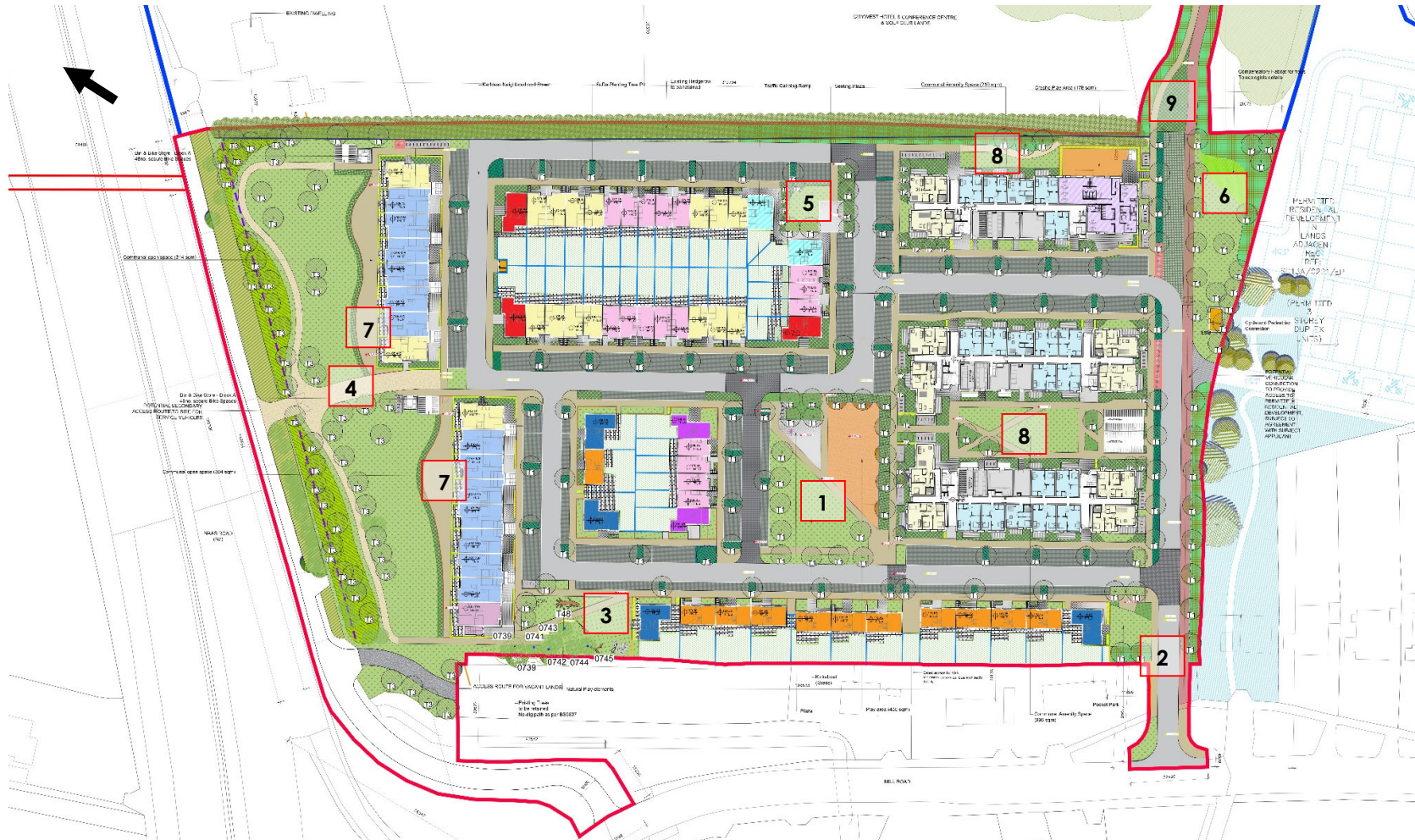


Figure 11 - Mill Road Landscape Masterplan

1. Central Open Space with play area, grass lawn / kickabout and meeting plaza (1740sq.m); 2. Site Entrance and Pocket Park (212sq.m); 3. Pocket Park with Retained Mature Pine Trees and natural play space (627sq.m); 4. Northern Public Open Space – Buffer with N7 Road with acoustic fencing and mounding / buffer planting, paths and kickabout space, emergency access (1740sq.m); 5. Pocket Park / Plaza (340sq.m); 6. Public Open Space with ecological measures (5112sq.m); 7. Communal Open Spaces to Apartments; 8. Communal Open Spaces to Duplexes; 9. Link path to east, providing walking and cycling access to public transport through Citywest. (See landscape plans for full details.)

## 5. Public Realm

The South Dublin County Development Plan requires that 14% of the site should be public open space. Of the entire site, 4.94 Ha, this 14% minimum equates to 0.64 Ha (6,400 sq.m) public open space. This proposed development includes 8,970 sq.m public open space, for a total of 19.4% amenity space within the entire site. This includes a large park space along the northern edge which also serves as a buffer from the N7.

There are six public open spaces in total distributed around the site. The main open space is a central park, located at the heart of the development, overlooked by terraced homes and apartments. There are five further public open space areas included across the proposed development. These spaces have unique designs, but have similar functions; to provide local recreational and meeting space with seating, hard landscape and small open grass areas for passive recreation.

The streetscapes are designed to prioritise pedestrian and cycle movement in a low-speed vehicular environment. Street trees are integrated with cycle parking, car parking, lighting and services.

### 5.1 Central Park Space (1740sq.m)

This park space is designed around providing multi-use recreational space for residents in a green setting at the heart of the site. As the principal open space, this space will have paved plaza space for social meetings and local events, a large play area, with structural play elements. The grass lawn proposed will function as unprogrammed kickabout and play space, as well as for summer events and games.



Figure 12 - Reference Image: Plaza and Play integrated into contemporary park

The circulation through the site is considered in the design of the park and the 'desire line' cutting diagonally through the space is used as a defining geometry within the space, splitting the park in two, with lawn to the south. The northern part is further split into two spaces: a smaller plaza area and larger play space with safety surfacing and play equipment. This cluster creates an ideal park space with appeal for all age groups. Patterns of movement are accommodated throughout with paths framing and intersecting the spaces without interrupting the layout or recreational and amenity values. Indeed, they add purpose and frame the spaces, along with the planting.

The entire space is framed with formal, standard trees on all four sides. On the eastern and southern sides, additional shrub groundcover planting is proposed. This planting will have Pollinator-Friendly and/or Native species only. It will provide some buffer to the nearest residents, containing any boisterous park activity, while also allowing for good passive surveillance of the space.



Figure 13 - Reference Image: Plaza and Play integrated into contemporary park

### **5.2 Entrance Pocket Park (212sq.m)**

At the site entrance, a pocket park is proposed to provide a small seating and recreational area. The entrance is flanked on both sides by existing housing and is defined by rendered and capped concrete walls. Uplighting and signage is included on the left-hand side on entering to create a focal element. The walls will be 2.1m in height to give scale to the entrance and privacy to the gardens adjacent.

The space includes a small paved seating area with high quality furniture and textural shrub planting, trees and buffer planting for the adjacent housing unit. As is the case across the scheme, pollinator and native planting are utilised.



Figure 14 - Reference Images: Feature Seating for entrance pocket park and concrete wall with uplighting.

### 5.3 Pocket Park – Natural Play, Western Boundary (627sq.m)

This area was incorporated into the site layout to protect and integrate the significant Pine trees on the western boundary of the site. It has been designed to protect the trees, so there will be no change at ground level within the root protection areas (RPA's) as defined by the Arborist.

This is designed as a playful space, with natural play areas where children can explore soft landscape spaces which incorporate natural elements such as mounding (outside RPA's), stepping stones, balance logs, boulders, vertical logs, etc. These afford children an opportunity to discover the natural world and to encourage imaginative play, in the shadow of the specimen pine trees.



Figure 15 - Reference Images: Natural play among mature trees

The space is planted sparingly to allow the focus to remain on the retained trees which will be enhanced with bulb plantations such as native Bluebell and Wood Anemone as well as pollinator-friendly species like Daffodil, Crocus and Snowdrop. Seating has also been incorporated to allow for social use of the spaces or for guardians to relax while the children play.

#### **5.4 Northern Public Open Space (1740sq.m)**

This is the largest open space and also functions as a buffer with N7 Road to the north. Acoustic fencing and mounding is proposed to protect residents from noise and ensure that the open space retains a high amenity value. This is an informal area, with native planting, winding paths and kickabout space.

Emergency access is also incorporated into the scheme through this area with a gate opening from an existing slip road off the N7.



Figure 16 - Reference Images: Woodland park, mounding, amenity space, paths at maturity.

The dominant type of proposed planting is a buffer planting mix which includes primarily native trees: *Pinus sylvestris*, *Quercus robur*, *Betula pendula*; with understorey thicket planting: *Betula pubescens*, *Sorbus aucuparia*, *Corylus avellana*, *Crataegus monogyna*, *Salix caprea*, *Euonymus europaeus*, *Ilex aquifolium*, *Viburnum opulus*, *Cornus sanguinea*, and some non-native winter and spring flowering shrubs to extend the pollinator value: *Mahonia aquifolium*, *Forsythia intermedia*, *Hamamelis mollis*. Additional areas of bulb planting and wild grass fringes will be maintained for pollinator and habitat value.

#### **5.5 Pocket Park (340sq.m)**

This pocket park and plaza space is central within the proposed site and will act as a landscape space for the community to gather and for informal street games for children. The space overlaps and engages the site circulation, creating an 'event' in

the urban design, a node which is paved with concrete inset with a linear, banded pattern in reconstituted stone setts.

Buffer planting is provided to the edge of the adjacent house to ensure privacy is maximised but passive supervision is maintained. The proposed formal trees, ornamental trees and textured or aromatic native and non-native pollinator plants adds another dimension to the experience.

### **5.6 Public Open Space (5112sq.m)**

This space is on the southern boundary and includes ecological measures for the protection of site fauna, a habitat that will be designed to accommodate frogs from another part of the site (see Ecologist's Report for full details). This will be designed in detail in collaboration with the Ecologist and in compliance with best practice. This space is also a buffer with the neighbouring development and allows for a future connection to be made to the south.

The planting will be entirely Native Hedgerow and Scrub Planting, including species such as: *Crataegus monogyna*, *Prunus spinosa*, *Euonymus europaeus*, *Corylus avellana*, *Ilex aquifolium* and *Viburnum opulus*. A large area of grass is also proposed for general recreation with trees surrounding and punctuating.

## **6. Communal Amenity Space**

Overall, 1,479 sq.m communal amenity space is required, in accordance with the *Design Standards for New Apartments* (Department of Planning and Local Government, March 2018). The scheme provides 1,824sq.m of communal space; 1,206sq.m adjacent to the apartment blocks and 618 sq.m adjacent to the duplexes to the north.

The apartments' communal space design focuses on providing flexible spaces. There are open grass spaces and well as seating area edged with coloured textured planting. Both apartment blocks are within 70m of the central public park and woodland park, so the communal spaces are for local residential uses and are an extension of their homes. The designs are simple, providing small areas of grass and planting to create rooms and seating within the space.



For the duplexes, each of the two blocks has been provided with 300sq.m, approximately double the minimum requirement. These areas are buffered from the main open spaces, but there will be intervisibility to ensure that there is interaction between the public and semi-private areas and passive supervision from one to the other. These are simple, organic forms, with unprogrammed paved areas and seating, allowing for doorstep play and communal events, as well as a simple, south-facing seating space for residents to enjoy alone or in groups.

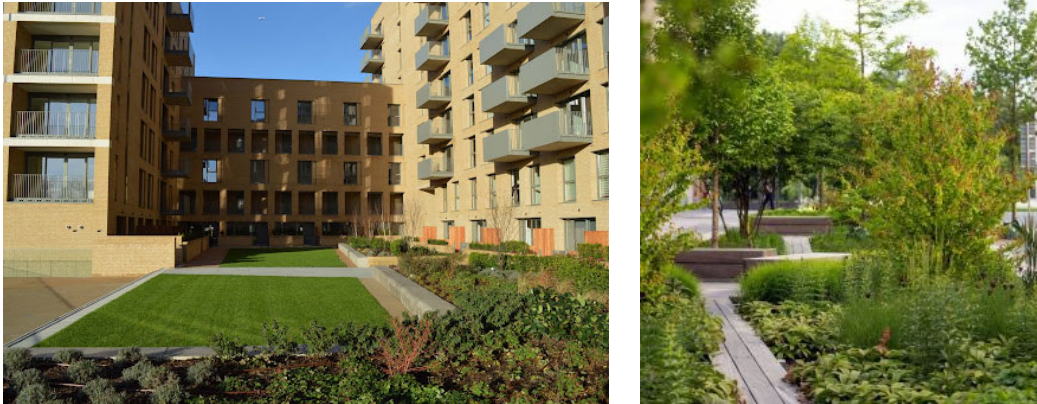


Figure 17 - Reference Images: Communal amenity spaces.

#### **Note re. Quality of Open Spaces**

In relation to sunlight analysis, 100% of the proposed communal and public amenity spaces pass the BRE requirement relating to the area receiving 2 hours of sunlight on the 21st of March being greater than 50%. Thus, the spaces comply with the requirements of the BRE guidelines. (Please see Sunlight, Daylight & Shadow Assessment prepared by Chris Shackleton Consulting and submitted under separate cover.)

In all other respects, the spaces use quality materials and have been thoughtfully and creatively designed to be appropriate and stimulating.

## **7. Boundary Treatment**

Where possible, existing vegetation is to be retained and protected on the boundaries and the site has been planned to prioritise the most important habitats, trees and hedges. Please also see the Architects' reports and drawings for further information.

### **7.1 Western Boundary – From Site Entrance to N7**

The existing scrub vegetation along this boundary will be removed and replaced with rear garden walls. In this way, the existing pattern of the fields is retained in the new

boundary but it is not realistic to retain hedgerow or scrub between the existing gardens and the new proposed gardens. However, a stand of important trees will be retained (tag nos. 0739-0745) and the pocket park (described earlier) is planned around them to ensure they are not damaged. This includes 2 no. Veteran Pine (*Pinus spp.*) trees and 3no. mature to over-mature Monterey Cypress (*Cupressus macrocarpa*), and two early mature Ash. Scrub will be cut back in this area to facilitate the play space as necessary for good management.

### **7.2 Northern Boundary – Parallel to N7**

The vegetation along this boundary will be retained and enhanced with additional planting as described above. As noted earlier, an acoustic barrier is proposed. There will be a gate in the barrier to allow for emergency access.

### **7.3 Eastern Boundary – From N7 to Link Path**

The existing hedgerow here is considered to be of the highest quality on the site and will be protected, except to allow for the important link through to Citywest to the east.

### **7.4 Southern Boundary – From Link Path to Entrance**

The existing hedgerow vegetation along the boundary of the open space and as far as the entrance will be retained and reinforced with new planting where possible. This space will be integrated with the adjoining development, subject to sequencing of developments.

### **7.5 Site Entrance from Mill Road**

The flanking walls bounding the adjacent properties will be rendered concrete with uplighting and signage.

### **7.6 Link Path Boundary**

All existing vegetation in the golf course will be retained. The path is proposed to be planted with a hedgerow along the full length, which may include a post and wire or post and rail type support within to stabilise the hedgerow and prevent people wandering into the Citywest area.

## 8. Playspace and Play Strategy

The joy of play is also celebrated in this design with numerous opportunities for play experiences, which are inclusive and enhanced with planting textures, smells and forms. All scales and ranges of play are considered in the design from doorstep play to structured play equipment to natural play associated with retained veteran pine trees.

There is 435 sq.m of formal play provided in the proposed development, not counting informal play, playful space or unprogrammed areas. The *Design Standards for New Apartments* (Department of Planning and Local Government, March 2018) recommends 200-400 sq.m of play for "scheme over includes 100 or more apartments with two or more bedrooms." This development surpasses this standard.

The main play area is located in the central park. The area will include 3-4 traditional play elements, including a swing element, a net tower, and a balance element. Large stepping stones are placed here. This, as well as several natural play elements, provide more of a natural aspect to the play area.



Figure 18 - Net System Precedent



Figure 19 – Swing with a natural frame Precedent



Figure 20 – Natural Balance Structure Precedent

A secondary but equally important play area is centred around the existing trees and will include simple, non-invasive natural play 'equipment' such as boulders, tree trunks, stepping logs, balance beams and similar. The true play value of this area is that it is situated beside the retained veteran Pine and Cypress trees which are sure to fire young imaginations and inspire all kinds of games. (See section 5.3 above.)

## **9. Access and Circulation**

The scheme is open and permeable, with a footpath along every street and at least 2 entrances to each public open space. There is also a looped path, allowing for movement and recreation within the scheme. The public realm throughout the roads network is designed to provide a strong residential character through the scheme, with local roads and neighbourhood streets leading off the main entrance boulevard. The following is a diagram of the street types, pedestrian pathways, and the main loop trail throughout the development.

All of the streets have been designed to create variation in the building lines and greater visual interest in urban design terms. The house types are also varied, adding to the sense of place and uniqueness of each street. Tree planting is incorporated for structure and to create visual relief, and is coordinated with house entrances, car parking and street lighting.

The tree pits are designed as part of the SuDS response to the site and will function as bioattenuation, utilising interconnected linear pits with structural soil to support paving above. Vents are incorporated to ensure that the soil is aerated.

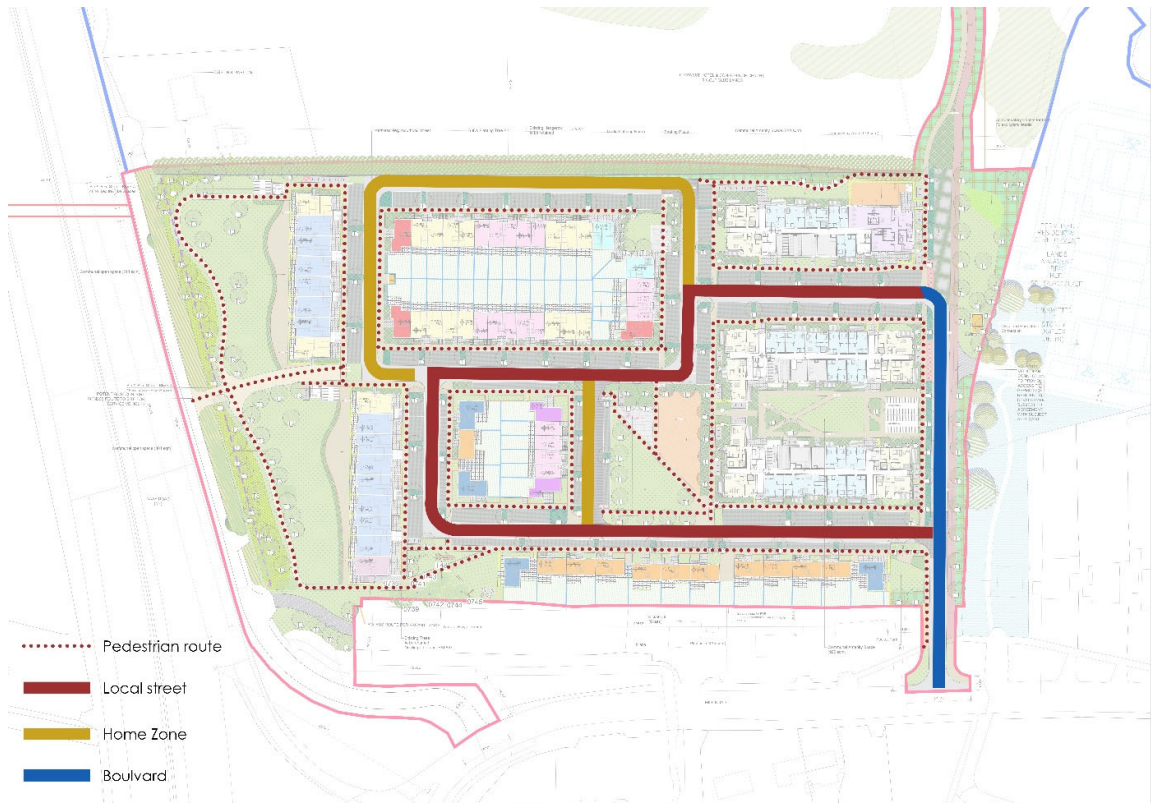


Figure 21 - Mill Road Circulation Diagram

The streets will be planted with street trees set into large tree pits with modular units which will support the pavements above to maximise the rooting medium volume. The layout of trees has been coordinated with services, parking and lighting.

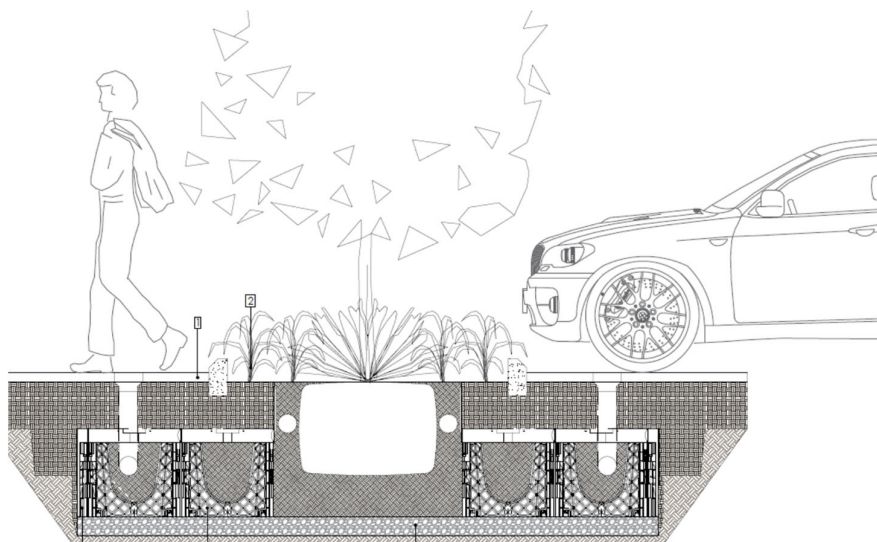


Figure 22 - Constructed tree pit with structural support - schematic

## 10. Material Palette

Material selection is an important part of placemaking. High quality and varied materials are proposed throughout the scheme.

### ***Soft Landscape***

Planting proposals also form a vital part of the strategy for the site, in accordance with County Development Plan objectives and national policy on biodiversity. Green Infrastructure is a term that is used to describe the interconnected networks of land and water that sustain environmental quality and enhance the quality of our lives. The European Union's Biodiversity Strategy recognises the application of Green Infrastructure policies as a way to maintain biodiversity and ecosystems in the wider landscape. Green Infrastructure networks operate on many scales, from the national to local, and the protection and enhancement of these networks has the ability to positively affect communities into the future, especially in terms of climate change, sustainable development and spatial planning.

A planting palette was selected for biodiversity and to blend the development into the existing boundaries. Native and Pollinator plants were prioritized during the plant selection process. Additional SuDs features are used throughout the site, including structural soil in continuous tree pits for the street trees, planted infiltration areas and permeable paving in on-street parking spaces. Street trees proposed include the following species: *Tilia cordata*, *Prunus avium* 'Plena'\* (with root barriers), *Betula pendula*\*, and *Sorbus aria*\*.

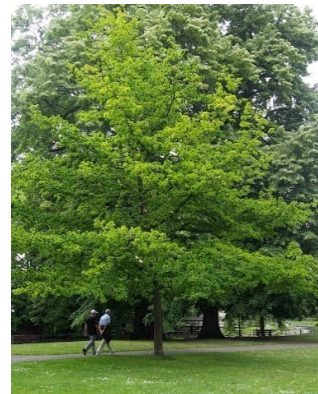
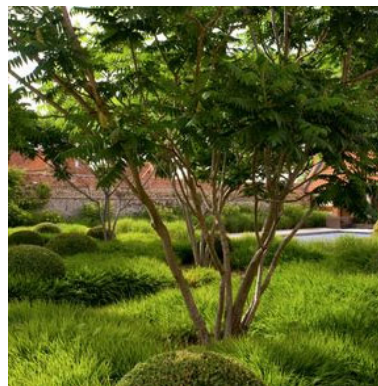




Figure 23 - Sample Planting Palette

Typical Plant Palettes are as follows:

- Trees: Scots Pine (*Pinus sylvestris*\*), Common Oak (*Quercus robur*\*), Elm (*Ulmus 'Lobel'*), Hawthorn (*Crataegus laevigata*), Hazel (*Corylus avellana*\*), Silver Birch (*Betula pendula*\*), Tulip tree (*Liriodendron tulipifera 'Fastigiata'*)
- Ornamental Multistem Trees: *Amelanchier lamarckii*, *Betula pendula*, *Prunus avium*.
- Native Hedgerow and Shrub: Hawthorn (*Crataegus monogyna*\*), Blackthorn (*Prunus spinosa*\*), Guelder-rose (*Viburnum opulus*\*), Dogwood (*Cornus sanguinea*\*), Forsythia (*Forsythia intermedia*), Wych Hazel (*Hamamelis*),
- Pollinator Shrubs and Perennials: Lavender (*Lavandula 'Hidcote'*), Christmas Box (*Sarcococca sp.*), Heather (*Erica sp.*\*), Rushes (*Luzula sp.*), St John's-wort (*Hypericum 'Hidcote'*), Oregon Grape (*Mahonia aquifolium*), Rosemary (*Rosmarinus officinalis*), Box-leaved Honeysuckle (*Lonicera pileate*), St John's Wort (*Hypericum 'Hidcote'*), Lavender (*Lavandula 'Hidcote'*), Lesser Periwinkle (*Vinca minor*), David viburnum (*Viburnum davidii*), Privet (*Lonicera pileata*), Balkan clary (*Salvia nemorosa 'Ostfriesland'*), Daphne (*Daphne*).
- Grasses: Oriental Fountain Grass (*Pennisetum 'Karley Rose'*), Purple moor-grass (*Molinia caerulea*\*), Reed sweet-grass (*Glyceria maxima*\*), Hard rush (*Juncus inflexus*\*), Japanese sedge 'Evergold' (*Carex oshimensis 'Evergold'*).
- SuDS infiltration Area Planting (Pollinators): Marsh marigold (*Caltha palustris*\*), Purple loosestrife (*Lythrum salicaria*\*), Brooklime (*Veronica beccabunga*\*), Yellow flag (*Iris pseudacorus*\*), Chokeberry (*Aronia arbutifolia*), Pagoda dogwood (*Cornus alternifolia*), Little bluestem (*Andropogon scoparius*), Switch grass (*Panicum virgatum*), Prairie dropseed (*Sporobolus heterolepis*), Pale purple coneflower (*Echinacea pallida*), Yellow coneflower (*Ratibida pinnata*).

\* Plants marked with an asterisk in the above list are native.

Please see drawings for more detail on proposed planting.

### **Hard Landscape**

External spaces are designed to minimise hazards or impediments to access or movement. Hard landscape surfaces are chosen for slip resistance and to be free draining. The on-street parking will be permeable pavers which area contrasting the local roads (asphalt) and home zone road (paving). There will be a transitional zone between road types, a paving tabled (and/or similar) junction to be designed by engineers.



Figure 24 - Vehicular Material Palette

As for the pedestrian areas, there are very few hard-landscaped areas. The footpaths will be brushed concrete, with small, paved areas leading up to the houses and apartment entrances. A resin-bound path will be used within the amenity buffer and woodland areas, softening those areas. The central plaza will have a mix of modern pc pavers which leads to the play-safe material within the play area.

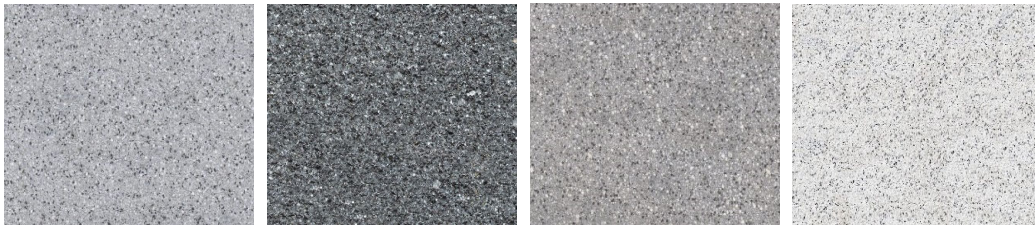


Figure 25 - Pedestrian Hardscape Material Palette



## 11. Landscape & Visual Assessment

The following should be read in conjunction with the Verified Photomontages prepared by Chris Shackleton Consulting and submitted under separate cover.

### ***Description of Proposed Development / Landscape & Visual Characteristics***

See sections 2-4 of this report for a full description. A brief summary of the existing site and proposed development is as follows.

The site is currently bounded by hedgerows or scrub vegetation with occasional large trees on garden boundaries and buffer planting to the northern boundary with the N7. The site is greenfield, and includes part of the golf course to the north in the Citywest area.

In visual terms, the development includes a mix of terraced homes, duplexes, and two apartment blocks. The scheme varies in height from north to the south; with 3-storey duplexes along the northern edge, 2-storey terraced houses in the centre of the scheme and along the western edge, and two apartment blocks to the southern area of the site, which are 5-storey but include elements which are part 8-storey. These are surrounded by streets with tree planting and most of the boundaries will retain the existing vegetation and enhance it with new planting.

As this development complies with the relevant density and plot ratio policies and building height guidelines, the quantum of development on the site is considered to be in line with existing and emerging trends.

### ***Predicted Impact on Public Realm Visual Receptors – Mill Road and adjacent:***

As can be seen from the verified photomontages which are taken from a number of receptors adjacent to the site, there will be relatively little visibility of the proposed development due to existing boundary conditions. The only access to the site is currently from Mill Road and in any views from there, the existing housing remains to the forefront with a new opening for the site entrance and entrance walls. This is considered to be a slight and neutral visual effect on the public realm near to the site entrance, e.g. at PM02 where existing vegetation and buildings screen the proposed development effectively. View PM03 from the nearby roundabout shows some greater degree of visibility of the taller parts of the residential development behind the vegetation. This is considered to be a slight or possibly moderate neutral effect.

View PM01 clearly shows that there will be minimal visibility from locations near Millrace Park area. In some views, the apartment blocks will be visible behind existing vegetation and gardens. This is considered a slight neutral impact.

From the N7, view PM04 shows some rooflines above the existing treeline (making no allowance for future growth). This viewpoint is not considered a sensitive receptor and is presented for context only.

#### ***Predicted Impact on Residential Visual Receptors – Mill Road:***

The existing houses along Mill Road that share a boundary with the site will have more or less open views of the western elevations of the proposed development, constrained only by their garden vegetation and the proposed walls. There will be no lack of privacy or overlooking of the private amenity spaces due to the proposed walls. The visual impact of being able to see these new houses and apartments may result in slight negative impact on these dwellings. They currently have no views, as they are limited by the boundaries.

The row of houses further along Mill Road will have oblique views. As they also currently have no views of value (limited by the boundaries), the impacts are likely to be slight and negative or neutral from dwellings further south.

#### ***Views from the Site:***

Views from the site will be contained by the existing vegetation and housing adjacent to the boundaries for the most part. There are no notable views in the surrounding context, although the current parkland to the east of the site is scenic as a golf course laid out with trees and water features. However, this area is the subject of a masterplan and is not likely to remain as is in the longer term.

## 12. Conclusion

The proposed residential development at Mill Road, Saggart and the associated landscape design scheme are designed in accordance with the Co. Development Plan and relevant local policies.

Overall, this design provides a variety of amenity spaces for the residents of this development, as well as preserving existing boundary conditions where possible. The proposed design will increase the biodiversity on the site, creating rich habitat and sustainable drainage systems which will reduce the impact of this development on the natural environment.

The landscape and planting scheme has been designed to enhance the setting of the buildings, creating social spaces for residents and providing access to the wider open spaces, greenways and town and village centres. The scheme provides for natural play and safe play in homezones and spaces throughout the sites. The scheme also incorporates native trees, shrubs and ferns and pollinator-friendly plants that will enhance the biodiversity of the local environment.

The scheme provides more public and communal open space than is required under the minimum standards, and the spaces are varied and suited to a scheme of this nature.

A comprehensive maintenance and management plan and an outline landscape specification are presented in the appendix to this report, to demonstrate the commitment to quality in the external environment.

# APPENDIX

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**OUTLINE SPECIFICATIONS**  
**for**  
**SOFT LANDSCAPE WORKS & LANDSCAPE MAINTENANCE**

for

**Strategic Housing Development**  
**on site at Mill Road, Saggart, Co. Dublin**

December 2021

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**CONTROL SHEET**

Project No.	<b>1829</b>			
Project Name	<b>Strategic Housing Development on site at Mill Road, Saggart, Co. Dublin</b>			
Filename:	1829_Landscape Specification_Planning.docx			
Document Title:	<b>Outline Specifications for Soft Landscape Works &amp; Landscape Maintenance</b>			
Rev. No.	Issue Status	Date	Prepared By	Checked By
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## 1 SPECIFICATIONS FOR SUPPLY OF NURSERY STOCK

### 1.1 Supply of nursery stock:

The nursery stock material will be delivered following consultation between the employer's representative, landscape Contractor and the selected nursery. It is intended to serve notice of delivery by means of phased orders at least two months prior to commencement of the dormant season in November of that year. Delivery will be at all times by means of covered vehicles, and all plant material will be clearly labelled. The source of origin must be from the selected nursery, as no other additional stock from other nurseries will be permitted without prior inspection and approval

### 1.2 Nursery stock:

All plant material shall be good quality nursery stock, free from fungal, bacterial or viral infection, aphids, red spider or other insect pests and any physical damage. It shall comply with the requirements of B.S. 3936: Parts 1-10: 1965 Specification for Nursery Stock, where applicable.

All plants shall have been nursery grown in accordance with good practice and shall be supplied through the normal channels of the wholesale nursery trade. They shall have the habit of growth that is normal for the species. Country of origin must be shown in all cases for species grown from seed.

Unless otherwise stated, the plant materials shall be supplied in accordance with the following codes where stated:

1+0	1 Year old seedling
1+1	1 Year old seedling lined out for 1 year
1+2	1 Year old seedling lined out for 2 years
1+1+1	1 Year old seedling lined out for 1 year, lifted and lined out for one further year
2+2	2 Year old seedling lined out for 2 years
0/1	1 Year old Hardwood cutting
0/2	2 Year old Hardwood cutting
2X	Twice transplanted tree
3X	Three times transplanted tree
4X	Four times transplanted tree
P9	Containerised plant in 9cm pot
CG / c/g	Containerised plant
gt.	Girth
ht.	Height
RB / r/b	Rootball
BR / b/r	Bareroot
MS	Multi-stemmed
Ftd	Feathered trees

### 1.3 Species:

All plants supplied shall be exactly true to name as shown in the plant schedules. Unless stipulated, varieties with variegated and/or coloured leaves will not be accepted, and any plant found to be of this type upon leafing out shall be replaced by the contractor at his/her own expense.

Bundles of plants shall be marked in conformity with B.S. 3936: Part 1: 1965 and B.S. 3936: part 4: 1966. The nursery supplier shall replace any plants which, on leafing out, are found not to conform to the labels. Definitions of all terms used are in accordance with the following British Standards: -

**B.S. No. 3936: Part 1: 1992 entitled "Nursery Stock- Trees and Shrubs"**

**B.S. No. 3936: Part 4: 1984 entitled "Nursery Stock- Forest Trees"**

**B.S. No. 3936: 1992 entitled "Specification for Nursery Stock"**

#### **1.4 Tree and Shrub Specifications:**

Trees shall have a sturdy, reasonably straight stem, and a well-defined straight and upright central leader, with branches growing out of the stem with reasonable symmetry. The crown and root systems shall be well formed. Roots shall be in reasonable balance with the crown and shall be conducive to successful transplantation. All trees shall be clearly labelled.

##### **1.4.1 Standard Root-Balled Trees**

Trees shall have a clear stem from ground level to the lowest branch and a total height as appropriate to the girth size, and the minimum girth as specified shall be measured at 1.0m above ground level- all as required under BS3936: Part 1. Trees shall be well furnished with lateral fibrous roots, and shall be lifted without severance of major roots. All nursery stock trees shall have been undercut and provided with a rootball of min. diameter appropriate to girth and height. All rootballs shall be wire and hessian-wrapped.

##### **1.4.2 Multistem Trees - Rootballed**

Multistem trees shall have a minimum of 3no. stems originating from or near ground level (<0.3m) and be of reasonable bushiness and health, with a well grown root system and a total height as specified on the drawings and schedules. Trees shall be well furnished with lateral fibrous roots, and shall be lifted without severance of major roots. All rootballs shall be wire and hessian-wrapped. All multistem trees stock trees shall have been undercut a minimum of 3no. times and provided with a rootball of sufficient size and diameter to enable healthy transplanting and successful establishment and growth. All rootballs shall be wire and hessian-wrapped.

##### **1.4.3 Container grown Shrubs, Ferns, Grasses, Perennials, Bamboo, Hedging**

Containerised Shrubs and Climbers shall be of the size specified in the schedules, with several stems originating from or near ground level and of reasonable bushiness, healthy, vigorous and with a sound root system. Pots or containers shall be appropriate to the size of shrub supplied and clearly labelled. Shrubs shall not be pot bound or with girdled or restricted roots. Shoots and aerial parts shall be free of disease, and/or damaged leaves or shoots.

##### **1.4.4 Hedging Stock – Bare-Root**

Hedging stock shall be of size specified in the schedules, with several stems originating from or near ground level, with reasonable bushiness, healthy, vigorous and with a sound root system. Shoots, roots and aerial parts shall be free of disease, and/or damaged leaves or shoots. Transplants shall be not less than one year old. Trees of species not listed in B.S. 3936: Part 4: shall be sturdy, with a balanced root and shoot development. Size shall conform to the schedules. Trees shall be well furnished with lateral fibrous roots,



and shall be lifted without severance of major roots. Roots shall be of the habit normal for the species, without deformation. Transplants shall be clearly labelled and wrapped in polythene from the time of lifting until planting to conserve moisture. Shoots, roots and aerial parts shall be free of disease, and/or damaged leaves or shoots.

#### **1.4.5 Hedging Stock – Rootballed**

Hedging stock shall be of size specified in the schedules, with several stems originating from or near ground level, with reasonable bushiness, healthy, vigorous and with a sound root system. Shoots, roots and aerial parts shall be free of disease, and/or damaged leaves or shoots. Such hedging shall be provided with a rootball of sufficient size and diameter to enable healthy transplanting and successful establishment and growth. Rootballs shall be hessian-wrapped only for any plant under 1m in height.

## **2 SPECIFICATIONS FOR CARE OF NURSERY STOCK**

### **2.1 Protection:**

The interval between the lifting of stock at the nursery and planting on site is to be kept to an absolute minimum. Plants shall be protected from drying out and from damage in transport. All stock awaiting transport shall be protected from the wind and frost and from drying out.

### **2.2 Damage**

On completion of lifting of plants in the nursery, any broken shoots or severed roots shall be pruned, areas of damaged bark neatly pared back to sound tissue.

### **2.3 Inspections**

The Employer's representative will inspect the hardy nursery stock during the execution of the works. **Only plants selected and approved in the landscape contractors selected nursery will be accepted on the site.**

### **2.4 Delivery and heeling in**

All plants will be delivered on a phased basis as called up in advance in agreement with the Employer's representative and the appointed Landscape Contractor. In the event of the Employer's representative being dissatisfied with the care and attention given to the stocks, following heeling-in or arrival on site, he shall notify the Landscape Contractor who shall take steps to ensure careful heeling-in procedures. Any damaged plants must be replaced by the Landscape Contractor entirely at his own expense.

The preparation of the heeling-in area and its subsequent maintenance is the sole responsibility of the Landscape contractor. No responsibility for the maintenance of stock delivered to site will attach to the employer whilst stock is protected on site, even if the stock requires protection beyond the normal planting season.

## **3 SPECIFICATIONS FOR SITE OPERATIONS**

**Note re. Invasive Weeds:**

Japanese Knotweed has been identified on this site and will be removed in accordance with the Invasive Species Management Plan prepared by the project Ecologist prior to any site clearance or construction work commencing.

### **3.1 Setting out:**

Setting out shall be in accordance with site meetings with the Employer's Representative, and the drawings listed in the preliminaries. No planting works shall take place when the soil /fill is in a waterlogged condition or the ground is frozen. Transplants in mixtures shall be planted in staggered rows. Species shall be planted in groups, as indicated in the planting drawings. No planting shall take place until all planting holes (with ameliorants) have been inspected and approved by the Employer's Representative, or a person appointed by him as a representative, to ensure accordance with the specifications. No planting shall take place when ground conditions are frozen or waterlogged. All planting holes shall be opened and closed on the same day.

### **3.2 Earthworks, Soil and Grading**

#### **3.2.1 Stripping and storage of existing soil on-site**

All soil removed during grading works is to be placed in storage bunds on-site. Topsoil must be stripped separately from subsoil for re-use in landscape works and must be fit for purpose. Topsoil would be defined as soil that has a high content of organic material, usually corresponding to the 'O' and/or 'A' horizon of the soil profile. Subsoil would be all mineral soils that do not have a substantial organic component. Where the difference between topsoil and subsoil is unclear, consult the Employer's Representative.

Subsoil that is excess to fill requirements is to be stored on-site in a designated location, to be agreed with the Employer's Representative. Subsoil shall be stored in stable mounds with side slopes of gradient no more than 1:2 and an overall height of no more than 2m. Mounds to be seeded with wildflower seed as per clause 3.3.3.

Topsoil shall be stripped using a tracked vehicle to avoid subsoil compaction. Avoid tracking over or compaction of the topsoil. Topsoil should be stripped and dumped to form the berms using the dump and back-actor method. Double handling of topsoil is to be avoided. Topsoil that has been compacted shall be removed off site and replaced at the contractor's expense.

Topsoil shall be stored in stockpiles of dimensions no greater than 10m long x 5m wide x 0.5m high, such that a long, narrow and low berm is created to preserve the intrinsic qualities (structure and soil life) of the topsoil whilst in storage. The topsoil shall be loose tipped to create the berm and lightly compacted with the back of a digger bucket to create a degree of compaction suitable for storage, with side slopes of gradient no more than 1:2. No machinery shall be run over the soil berm. Berms shall be seeded with grass seed as per clause 3.3.2.

#### **3.2.2 Subsoil**

##### *(a) Supply of Subsoil*

Existing subsoil shall be used for all grading works.

Imported subsoil – if required - shall be sourced from a reputable source and be free of waste, chemicals, large stones, builder's rubble and any other detritus.

*(b) Formation of Slopes/Mounds*

Subsoil to be used to form even slopes or mounding to contours shown on drawings. Subsoil to be formed to smooth contours to 150mm below finished levels indicated on drawings, where the area is to be grassed or 300mm.

*(c) Formation of Grassed Areas*

Subsoil to be graded accurately to contours / levels / falls / crossfalls shown on drawings.

### **3.2.3 Topsoil**

*(a) Supply of Topsoil*

Existing topsoil may be used for all grading and planting works, if it complies with the following specification, which would also apply to imported topsoil, as required. It is expected that imported topsoil will be required for all planting areas.

Topsoil shall be sourced from a reputable source and be free of waste, chemicals, large stones, builder's rubble and any other detritus. Topsoil shall have good structure, be friable, fresh and free-draining with at least 20% organic content. Imported topsoil shall comply with BS3882: 1994, and shall be free draining sandy loam, clay or other approved. It shall be free of stones over 40 mm diameter, and stones over 10 mm diameter shall not exceed 5% by weight. It shall be free from subsoil, sods, roots of trees and shrubs, and rubbish. Topsoil shall be from the original surface layer of grassland or cultivated land, to a maximum depth of 200 mm. Soils from woodland, heathland, bog or contaminated land will not be acceptable.

*(b) Removal of topsoil:*

In areas to be regraded, all topsoil should be stripped and stored as per following clauses.

*(c) Weather and Soil Conditions*

All work involving topsoil shall not be carried out, unless the Employer's Representative permits otherwise:

Where areas have been exposed to a cumulative rainfall exceeding 60mm over the preceding 28 days measured at a point approved by the Employer's Representative; or

- Where soil moisture content is wetter than the Plastic Limit (PL) of the soil less 3%. The PL of the soil can be assessed in the field as the minimum moisture content at which the soil can be rolled and moulded into a thin thread approximately 3mm in diameter without breaking or cracking and in a laboratory according to BS 1377:Part 2.
- When heavy rain is falling;
- During periods of severe frost when the soil is frozen. Handling frozen soil will cause damage to the soil structure.

*(d) Topsoil Spreading*

Topsoil shall be moved and spread only in dry weather. Before topsoiling, remove all stones, rubble and rubbish over 75mm diameter from the surface of the subsoil formation. Dig out any areas polluted by oil or chemicals and make up with clean soil. Loaders shall

load from the base of the soil storage berm only. Placement of soil should be carried out using a tracked vehicle to avoid subsoil compaction. Reinstated areas of topsoil shall not to be tracked over. The topsoil shall be allowed to settle to a thickness of 300mm and the contractor shall make full allowance for such settlement in applying the topsoil. Uneven areas shall be topped up as necessary.

*(e) Topsoil Depths & Provision*

The following depths should be provided for topsoiled areas:

- (i) Grassed Areas: 150mm
- (ii) Bare-root planting: 300mm
- (iii) Shrub planting: 450mm
- (iv) Tree planting: Pit to specified size, depending on size of tree (see relevant Clauses)

*(f) Grading*

Topsoil to be graded accurately to contours / levels / falls / crossfalls shown on drawings. Glazed / compacted areas of subsoil to be roughened or ripped as necessary. (Drainage to be installed where necessary to Engineer's specification.) Any compacted areas to be ripped after placing of soil.

*(g) Compacted areas*

Any areas identified as compacted following completion shall be deep ripped and re-graded or re-soiled as necessary, to ensure a free-draining soil gradient and to avoid anaerobic conditions developing in the topsoil.

**3.2.4 Surface cultivation**

Surface cultivation will consist of ploughing or rotovating the topsoil to a minimum depth of 450mm over shrub areas or 150mm over grass areas. Care to be taken to ensure that the subsoil is not brought to the surface. It shall then be worked to reduce the topsoil to a fine tilth. After cultivation, all debris, perennial weeds and stones over 25mm in any dimension are to be removed off site.

Final grading is to be carried out to ensure the true specified level and slope and to avoid minor ridges, dishing or other depressions where water may collect.

Unless otherwise stated, finished levels of grass and shrub planting areas will be 50mm above adjoining paving or kerbs, retaining wall copings, manhole covers etc. and levels will be arranged to give gentle falls for drainage and to avoid ponding hollows. Any area unduly compacted during the work of grading will be loosened by forking or harrowing. The use of heavy rollers to roll out mounds will not be permitted.

Unless otherwise stated, finished levels of topsoil, after settlement, to be:

1. 50mm above adjoining pavements and kerbs
2. 300mm higher for shrubs than for adjoining grass areas
3. married in with adjoining soil areas
4. all stones above 50mm diameter to be removed off site by the landscape contractor.

### 3.3 Seeding:

#### 3.3.1 Amenity Grass Areas

Fine cut areas to be sown with Coburns 'Greenlawn' Grass Seed Mixture as detailed below or equal at a rate of 40g/sq.m together with fertiliser 10:10:20 at a rate of 50g/Sq.m

15% Dwarf Perennial Ryegrass

15% Dwarf Perennial Ryegrass

20% Dwarf Perennial Ryegrass

25% Strong Creeping Red Fescue

20% Chewings Fescue

5% Browntop Bentgrass

## 4 SPECIFICATIONS FOR PLANTING OPERATIONS

### 4.1 Tree Support:

All multistemmed trees shall be anchored by means of root ball guying. Rootball is anchored by a timber frame (or equivalent support system – e.g. Platipus system) located around the top surface of the rootball, which is fastened by wires (4mm galvanised cable guying wire) to 'dead man' anchors, kerbstones or timber beams located below the rootball.

### 4.2 Stakes:

Round stakes shall be of peeled larch, pine or Douglas fir, preserved with a water-borne copper chrome arsenic composition in accordance with I.S. 131. All trees to be double staked with crossbar 100x25mm securely attached to uprights with galvanised nails. Stakes shall be round, 1.8m long, 75mm in diameter. Stakes shall be pointed at the butt end. Set stakes vertically in the pit and drive before planting. Drive stake with a wooden maul or cast-iron headed drive. Sledgehammer should not be used. Stakes shall be driven into the excavated planting pit to a depth of 1000mm.

### 4.3 Tree ties:

Tree ties shall be of rubber, PVC or proprietary fabric laminate composition and shall be strong and durable enough to hold the tree securely in all weather conditions for a period of three years. They shall be flexible enough to allow proper tightening of the tie. Ties shall be min. 25mm wide for 120cms – 150cm height trees and min. 38mm for larger sizes. They shall be fitted with a simple collar spacer to prevent chafing. Two ties per tree shall be applied to standards; for staked transplants, one tie per tree is required.

### 4.4 Protection:

The interval between the lifting of stock at the heeling-in area and planting on site is to be kept to an absolute minimum. Plants shall be protected from drying out and from damage in transport. All stock awaiting planting on site shall be stored in a sheltered place **protected from the wind and frost and from drying out.**

All transplants shall be wrapped in polythene from the time of lifting to conserve moisture. Except when heeled-in, they shall be protected in polythene at all times until planted into their final position on site.

#### **4.5 Damage:**

On completion of planting any broken branches shall be pruned, areas of damaged bark neatly pared back to sound tissue.

#### **4.6 Watering / Fertilisers:**

All trees and shrubs shall be soaked in water for one hour prior to planting. Fertilisers shall conform to BS 5581: 1981. Fertiliser must be mixed through and incorporated into the base of the planting hole and covered with soil in order to avoid roots of plants coming in direct contact. Follow manufacturer's instructions for all chemical products.

#### **4.7 Tree planting:**

Trees shall be planted at the same depth as in the nursery, indicated by the soil mark on the stem of the tree. They shall be planted in the centre of the planting pit and planted upright. Stones or other rubbish over 75mm shall be removed. Supply and install the staking / guying system as per clauses 4.1-4.4. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position. Upon completion of planting, all pits shall be raked over lightly to leave an even surface and neat appearance. All stones greater than 25mm dia. to be removed. Provision should be made for the watering of root-balled trees in the first year following planting.

##### **4.7.1 Specimen Trees**

Excavate tree pits to 1200mm x 1200mm x 1000mm deep. Farmyard manure 80mm deep and 100g of 0.10.20 shall be applied to each tree pit prior to planting. Farmyard manure shall consist predominantly of faecal matter and shall be free of loose, dry straw and undigested hay. It shall be free of surplus liquid effluent. Install tree support system as per clause 4.1. Fill planting hole with topsoil as per clause 3.2.2, and remove all stones and debris, firming plant into position.

##### **4.7.2 Small Trees / Large Shrubs**

Excavate tree pits to 750mm x 750mm x 750mm deep. Farmyard manure 60mm deep and 100g of 0.10.20 shall be applied to each tree pit prior to planting. Farmyard manure shall consist predominantly of faecal matter and shall be free of loose, dry straw and undigested hay. It shall be free of surplus liquid effluent. Install tree support system as per clause 4.1. Fill planting hole with topsoil as per clause 3.2.2, and remove all stones and debris, firming plant into position.

#### **4.8 Container Grown Shrubs, Grasses, Ferns, Perennials P9 / 20-30 / 30-40cm**

Excavate planting hole to a depth of 300mm x 300mm x 300mm deep; the base to be broken to a depth of 50mm and glazed sides roughened. Apply FYM to base of hole to a depth of 150mm and 30g of 0:10:20 per planting pit. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position.

#### **4.9 Containerised Shrubs, 40-60cm**

Excavate planting hole to a depth of 500mm x 500mm x 500mm deep; the base to be broken to a depth of 50mm and glazed sides roughened. Apply FYM to base of hole to a depth of 150mm and 50g of 0:10:20 per planting pit. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position.

**4.10 Hedging 25-30cm, 40-60cm**

Excavate trench to a depth of 300mm x 300mm wide; the base to be broken to a depth of 50mm and glazed sides roughened. Incorporate 200mm depth of well-rotted FYM into base and cover with 150mm soil min. Apply 100g 0:10:20 per metre into backfill. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plants into position.

**4.11 Hedging 90-120cm**

Excavate trench to a depth of 500mm x 500mm wide; the base to be broken to a depth of 50mm and glazed sides roughened. Incorporate 200mm depth of well-rotted FYM into base and cover with 150mm soil min. Apply 100g 0:10:20 per Sq.m into backfill. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plants into position.

**4.12 Ground finish:**

Upon completion of planting, all ground finish shall include for the removal of stones greater than 25mm excavated during the course of the digging for planting purposes. All soil surfaces should be even and free of mounds, rutting or hollows.

**4.13 Spraying:**

Following planting, weed free circles to be formed around individual plants, as directed, using an approved broad-spectrum contact herbicide, as approved by the Employer's representative, in mid-spring following planting. Herbicide to be applied using controlled drop applicator. The contractor shall be responsible for keeping the ground (1m diameter circle) around all planted material weed free by means of herbicidal application, using approved sprays, during the course of the contract. Weeds to be removed include grasses, broad-leaved annual and perennial weeds and all noxious weeds. All pesticides to be approved by a Registered Pesticide Adviser.

**4.14 Weed control fabric**

The weed control fabric shall be 105gsm and shall suppress weeds whilst allowing water, air and nutrients to pass through. Mypex™, Plantex® or equal woven fabric product acceptable. Cut with a scissors or knife. All sharp objects should be removed from the surface soil prior to laying the weed suppressing geotextile. Overlap adjacent rolls by at least 10cm. Membrane to be pegged to ground using proprietary plastic pegs.

When planting into the geotextile membrane an 'X' shaped notch should be cut into the membrane for each individual plant, to allow for excavation. Planting should resume as per species specification. Excavated material should not be stored on geotextile and the membrane area should be thoroughly swept of any residual material prior to application of finished aggregate or mulch.

Membrane to be applied to all planting and gravel areas.

**4.15 Bark mulch**

Bark Mulch to be 'Golden Pine Bark' by Growise or equal and approved. The product shall consist of matured Conifer Bark with an even nominal particle size distribution of 5-75mm with less than 5% dust and fines and less than 15% wood content. The pH to be between 4.5 and 5.5. The product shall be pest, disease and weed free and not have

been treated with Methyl Bromide or any additives. The product shall have been tested in accordance with the requirements of BS 4790:1987, for fire resistance.

The natural heat treatment maturing process shall have been sufficient to ensure that excess volatile substances are driven from the product. During the process, temperatures within the product heaps must exceed 50°C for a minimum 14 day period, followed by a further period of stabilisation.

Lay Bark Mulch to a finished depth of 75mm allowing at least 10% for settlement after 30 days. All such mulch of good quality from an approved source will be inspected by the Employer's representative prior to delivery. All product volumes to be calculated using The Bulk Density method, as set out in BS EN 12579:2000 and BS EN 12580:2000. Slow release Nitrogen fertiliser to be applied to soil prior to mulching.

#### **4.16 Lifting and Re-Planting of Existing Trees on-site**

All operations to be carried out between November and March. All trees to be lifted shall first be prepared by digging a trench around the rootball, appropriate to the size of the tree, and as advised by the Arborist or Landscape Architect. After an interval of time, the tree is to be lifted out of the ground using a tree spade or large bucket fitted to an excavator. Trees may then be potted up in large containers or planted directly into the new position. Copious watering is required following planting or potting. When trees are being planted out to their permanent positions from containers, additional and frequent watering is required, with soluble fertiliser and/or mycorrhizae solutions, as advised by a qualified professional. Trees to be monitored on a regular basis for the first three years.

## **5 SPECIFICATIONS FOR MAINTENANCE AND AFTERCARE**

### **5.1 Period:**

The Contractor shall be responsible for aftercare of the completed works for 1 year from the date of completion of planting. Aftercare is deemed to include adequate watering of standard trees and shrubs during dry periods of weather.

### **5.2 Organisation:**

The aftercare program will be organised as follows:

- (a) Scheduled operations, in whose timing the Contractor will be permitted some flexibility, and which will be the basis of payment to the Contractor.
- (b) Performance standards, which the Contractor is required to meet at all times, and on which his performance will be assessed.
- (c) Critical dates, by which time scheduled operations shall have been completed, and at which performance will be assessed.

### **5.3 Performance standards:**

The following maintenance standards shall be upheld for the duration of the maintenance period:



**5.3.1 Replacement planting under defect:**

The Employer's representative shall inspect the planting in July following planting. Any tree found to have died from any cause except as provided below or the work of other contractors shall be replaced by the contractor at his own expense. Replacement planting shall conform in all aspects with this Specification, including all specified excavation, provision and incorporation of all fertilizers and ameliorants, and weed killer treatments.

Failures will not be charged to the contractor in the following cases:

- (a) Damage by hares or rabbits, where protection has not been provided for in the contract.
- (b) Losses due to theft, vandalism or disturbance by other contractors.
- (c) Failures of whips and transplants due solely to prolonged dry weather, provided that the specified planting procedures have been employed and watering has been carried out in accordance with the contract specifications.

**5.3.2 Plant Health:**

- (a) All plants shall show signs of healthy growth throughout the growth season after planting. E.g. bud break, leaf extension, branch extension, normal for such species.
- (b) All plants shall not show signs of drought for any period exceeding five days. Such signs include change in leaf colour, withering leaves or leaves dropping.
- (c) For all trees and shrubs pruning shall be carried out to ensure removal of dead or damaged branches and the retention of a healthy crown shape throughout the growing season.
- (d) The trees shall not show signs of bark damage as a result of failure to loosen tree ties.

**5.3.3 Invasive Weeds:**

Japanese Knotweed has been identified on this site and will be removed in accordance with the Invasive Species Management Plan prepared by the project Ecologist.

Landscape maintenance contractor is charged with monitoring for any return or appearance of invasive species, including but not limited to Japanese Knotweed, Giant Hogweed, Himalayan Balsam, Rhododendron, American Skunk Cabbage and Winter Heliotrope and any other species that are considered a threat to indigenous wildlife. Appearance of any such species are

**5.4 Maintenance Operations****5.4.1 Firming:**

Firm any plants loosened by frost, wind, or cultivation at each maintenance visit. Plants to be re-dug where required.

**5.4.2 Weed Control:**

The contractor shall be responsible for keeping the ground around all planted material weed free by means of herbicidal application during the course of the contract. This

shall include complete weed control in planting beds, woodland planting areas and along hedge lines as well as the maintenance of 1m diameter weed-free circles around trees in grass areas. Such routine spraying shall be carried out during maintenance visits over the maintenance period. No spraying shall take place during adverse weather conditions or at times not recommended by the manufacturer. Operator shall wear appropriate protective gear, including mask. Weeds shall not cover more than 10% of the ground surface at any time and neither shall they exceed 100mm in height or spread. Noxious and pernicious weeds such as Dock, Thistle, Ragwort, Nettle, and Japanese Knotweed shall be killed or removed at each maintenance visit. Allow for hand weeding of shrub beds containing plants sensitive to herbicide application or where such herbicide application is not possible due to growth near ground level. Remove self-seed tree saplings from all shrub areas.

#### **5.4.3 Watering:**

The Contractor is responsible for the watering of all semi-mature and specimen trees during the maintenance period. Apply water to moisten full depth of root run. Avoid washing or compaction of the soil surface. A minimum of 9 no. waterings per year will be required. Prior notification to the Employer's representative, and a record of attendance will be requested for each visit. Spot checks will be made to ensure full compliance with this instruction. It is the Contractor's responsibility to source water for this. Additional watering may be required. It is the responsibility of the Contractor to notify the Client of this requirement and agree the number of additional waterings to be undertaken at the dayworks rate provided.

#### **5.4.4 Pests and Diseases:**

The Contractor shall report to the Employer's representative any outbreak or build up of insect pest, fungus disease or disorder affecting the plants, as soon as it is noticed. The Employer's representative shall issue instructions for the treatment of the outbreak.

#### **5.4.5 Pruning**

- In early summer trim evergreen trees, shrubs and hedges to shape, removing all dead and damaged branches including trees encroaching onto footpaths back to point of branching.
- In late summer prune managed deciduous and evergreen hedgerows to shape. Trim back by av. 15-25cm of growth.
- Prune suckers from all avenue, street and specimen trees in open spaces
- Prune back tree branches overhanging footpaths, on main avenues or those interfering with car park spaces. In addition, prune back tree branches interfering with interfering with fencing. All trees to be cut back to point of branching.
- Prune back all deciduous shrubs encroaching in to fine cut grass areas. Cut 25cm back from rear edge of grass area.
- Prune back briars encroaching through fencing, or that are becoming prominent in hedgerows/ woodland areas.

#### **5.4.6 Bark Mulch**

Bark mulch should be thoroughly wetted down in warm, dry weather to avoid risk of fire or spreading fire. Mulch should be topped up to min. 50mm depth during maintenance period.

### 5.4.7 Grass and Lawn Areas

#### (i) General

At all times grass to look lush, vigorous and of fine quality with a minimum weed content, and a minimum variation in height of the sward during the growing season. Cutting should take place on a regular basis. Grass cutting areas shall be cleared of litter and rubbish prior to grass-cutting taking place.

No ruts are to be caused due to poor ground conditions. During periods of poor weather, no grass is to remain lodged following cutting. In periods of prolonged wet weather or where ground is waterlogged, consult with Property Manager prior to engaging in grass cutting operations.

Noxious and competitive weeds such as Ragwort, Gorse, Thistle, Dock, Nettle, Briar, Horsetail and Dandelion shall not be allowed to establish in any grass areas.

#### (ii) Amenity Lawn Areas

Criterion	Performance Standards
Aesthetic / functional requirements	Amenity lawn areas are those grass areas which will be maintained for general access and amenity purposes, to create a lawn which is neat, healthy, close-cut and with minimal weed content.
Permitted mower type	Cylinder mower, Rotary mower, ride-on mower, tractor-pulled gang mower (note: subject to ground conditions; hand-mowing required in designated areas and/or where ground is soft)
Height of Cut	Minimum 20mm; maximum permissible height 50mm. At the commencement of the contract, following flowering cycle of seasonal bulbs or if grass cutting has been forestalled due to poor ground conditions resulting in the grass growing above the maximum permissible height, it shall be cut to 50mm on the initial cut, then to 25mm on the subsequent cut. Such initial long grass shall be collected and removed off site.
Frequency	Mow weekly during spring; summer and autumn; only when necessary in winter. Mowing is not permitted when ground conditions are very soft, waterlogged or frozen, or during spells of cold, drying winds or when the grass is frosty or wet.
Finish	Even finish. Vary direction/pattern of cutting every 3 months. Grass shall be trimmed from around the bases of walls and fences, back of footpaths and kerbs, litter bins, sluice valves and hydrant markers, trees, poles, signage and public lighting columns, etc., and this interface between grass and walls, fences, etc., as noted above, kept in a neat and tidy condition. This trimming shall be deemed to be included for at every grass-cutting. The Landscape Contractor is bound to comply with this instruction and herbicide application is not permitted to achieve this.
Clippings	To be gathered at every cut and disposed of in designated area or off-site. Box to be emptied regularly during cutting to avoid clumps being left on the grass.

Fertiliser	In mid-spring (late March to April), use a proprietary lawn fertiliser at the manufacturer's recommended rates, to be approved by the ER. Apply fertilisers when the soil is moist, or when rain is expected. If grass loses vigour and freshness between late spring and late summer (often May to August), repeat the application of lawn fertiliser.
Weed Control	Minimum weed content permitted i.e.: (1) <5% of species content; (2) <10% of total grass area. When necessary and agreed with ER, use a selective herbicide, to control broad-leaved weeds in the sward. Weeds resistant to herbicide to be dug out by hand in autumn.
Scarifying	Scarifying to be carried out to keep levels of thatch (old grass stems, dead moss and other debris) at an acceptable level (i.e. less than 1cm deep). To remove thatch, rake vigorously but carefully with a power-scarifier. Recommended to be carried out in autumn only.
Aeration	Spiking with holes 10-15cm (4-6in) apart and deep to be carried out once per annum.
Rolling	Amenity grass areas should be reasonably even, with no variations greater than 25mm over a 1m straight edge. In September, to repair any uneven areas of the lawn, use an edging iron to slice through the turf and roll it back. Fork over the underlying ground and add or remove soil as needed. Replace the turf, pressing the edges together, roll with lawn roller (nominally 100kg, subject to site conditions) and water thoroughly.
Edging	Lawn to be edged by hand or edging machine regularly to leave an even, straight edge and to ensure that the grass or soil does not protrude over the edge by more than 25mm.
Over-seeding	After moss or weeds have been removed, or where grass is growing sparsely, over-seeding may be necessary. (Early autumn or mid-spring). Break up the surface with a fork and rake to leave a fine, even tilth; Sow grass seed at half the recommended rate (usually 10-15g/sq.m); lightly rake to incorporate the seed into the surface; water if weather remains dry for 2-3 days following seeding.
Watering	Watering to be carried out when required. Ensure that the water reaches a depth of 10cm (4in) after each watering. Rate: max. 20 litres per square metre.

*Indicators of under-performance:*

*Excessive weeds or weeds such as clover or moss indicate poor sward health; bare patches may indicate scalping or lack of vigour; yellowing or browning of sward may indicate drying out, under-feeding, herbicide drift or inappropriate use of herbicide; thatch build-up greater than 1cm depth; rutting of the surface, wheel marks or poor drainage may indicate compaction of soil caused by mowing in wet weather or use of unsuitable mower type.*

**(iii) Rough Cut Grass Areas**

Criterion	Performance Standards
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Aesthetic / functional requirements	Rough cut grass areas are those grass areas which will not usually be accessed by users and will usually be in low priority areas, or in the background. These areas are to be maintained to create a grass area which is healthy and with minimal weed content, with grass allowed to grow relatively long between infrequent and regular cuts.
Permitted mower type	Strimmer, Rotary mower, ride-on mower, tractor-pulled gang mower (note: subject to ground conditions; strimming required in designated areas, areas of slope gradient greater than 1:3 and/or where ground is soft)
Height of Cut	Grass areas shall be cut to a height of c. 75mm
Frequency	5no. times during the growing season, at regular intervals of approximately 6 weeks
Finish	Rough cut shall mean grass of minimum height 75mm, with informal appearance
Clippings	To be gathered at every cut and disposed of in designated area or off-site.
Fertiliser	In mid-spring (late March to April), use a proprietary lawn fertiliser at the manufacturer's recommended rates, to be approved by the ER. Apply fertilisers when the soil is moist, or when rain is expected.
Weed Control	Minimum weed content permitted i.e.: (1) <5% of species content; (2) <15% of total grass area. When necessary and agreed with ER, use a selective herbicide, to control broad-leaved weeds in the sward. Noxious or invasive weeds to be spot treated with herbicide using controlled droplet applicator or glove in May, June and August and prevented from flowering.
Edging	Rough-cut grass areas to be edged by hand or edging machine regularly to leave an even, straight edge and to ensure that the grass or soil does not protrude over the edge by more than 25mm

*Indicators of under-performance:*

*Excessive weeds or occurrence of noxious or invasive weeds unacceptable; rutting of the surface, wheel marks or poor drainage may indicate compaction of soil caused by mowing in wet weather or use of unsuitable mower type.*

## **6 SCHEDULED MAINTENANCE OPERATIONS**

### **6.1 Year One (After Planting)**

#### **6.1.1 By end of April (Year One)**

Contact herbicide @ 5.0L/Ha to all planted areas. Protect all plants. Pull all weeds too close to nursery stock for safe treatment and remove off site.

**Critical Date: 30<sup>th</sup> April (Year One)**

#### **6.1.2 By end of June (Year One)**

Contact herbicide @ 5.0L/Ha to all planted areas/tree circles in grass areas where weed growth is apparent. Protect all Plants. Pull all weeds too close to nursery stock for safe treatment. Spot treat any ragworts, docks or thistles through all planting areas. All necessary cultural/husbandry methods to be completed in order to leave the site in a clean, orderly and tidy manner. Remove all waste material off – site. Watering of all standard trees.

**Critical Date: 30<sup>th</sup> June (Year One)**

### **6.1.3 July – September (Year One)**

1 no. application of contact herbicide to all planted areas, followed 3 weeks later by 1 no. visit for spot application. Firm plants. Remove all waste material off-site. Watering of all standard trees. Firming.

**Critical Date: 31<sup>st</sup> August (Year One)**

### **6.1.4 October (Year One)**

Remove all dead plants after Employer's representative's inspection. Remove all waste material off-site. Firming. Pruning. Replacement planting in November.

**Critical Date: 31<sup>st</sup> October (Year One)**

## **6.2 Inspections**

The Employer's representative will inspect the site with the Contractor on each critical date, or as soon as possible thereafter.

## **6.3 Payments**

The Contractor shall submit a statement of account at the critical dates. Payment will be certified with the following provisions:

If any part of the schedule aftercare is outstanding, its value will be deducted from payment.

The following will not be regarded as failures of performance:

- (a) Damage by hares or rabbits, where protection has not been provided for in the contract.
- (b) Losses due to theft, vandalism or disturbance by other contractors.
- (c) Failures of whips and transplants due solely to prolonged dry weather, provided that the specified planting procedures have been employed and watering has been carried out in accordance with the contract specifications.

In the event of persistent failure to meet performance standards for maintenance without reasonable cause notified to the client, or in the event of failure to meet the requirements in the operations schedule, or agreed extension to the same, the client may, at the advice of the Employer's representative, implement the following:

- (a) Deduct payment for work outstanding,
- (b) Withhold of retention of monies until all replacement planting is complete and has survived a full growing season (12 months),
- (c) Extend the defects period for a further 12 months on replacement planting which, in the opinion of the Employer's representative, has been adversely affected by persistent failure to meet performance standards in the standard defects period,
- (d) Charge the Landscape Contractor for non-completion of the scheduled maintenance work or persistent failure to uphold performance standards in accordance with the contract conditions.