

CUNNANE STRATTON REYNOLDS
LAND PLANNING & DESIGN

SHD AT
HOLYBANKS
SWORDS
Co. Dublin

LANDSCAPE DESIGN REPORT
18399-2-D04

March 2022

For: **Cairn Homes Properties Ltd.**

Introduction	Page 1	Character & Precedents – Broad Meadow Linear Park	Page 16
Landscape Analysis – Visual Appraisal	Page 2	Character & Precedents – Jugback Terrace	Page 18
Landscape Analysis – Green Infrastructure	Page 4	Landscape Cross-Sections	Page 20
Landscape Analysis – Site Diagram	Page 5	Boundary Treatments	Page 23
Historic Map Analysis – Townland Boundaries	Page 6	OS provision diagram and Play area numbers	Page 24
Key Design Principles - Green Infrastructure	Page 7	Play Areas – Equipment & Finishes	Page 25
Key Design Principles – Green Infrastructure Diagram	Page 8	Taking in Charge Diagram	Page 27
Landscape Concept & Design Opportunities	Page 9	Materials & Finishes	Page 28
Landscape Masterplan	Page 10	Planting	Page 29
Character & Precedents – Glen Ellan Road Frontage & Arrival	Page 11	Tree Classification & Constraints	Page 30
Character & Precedents – Communal Semi-Private Open Spaces	Page 13	Planting Details	Page 31
Character & Precedents – Central Green Spine	Page 14	Planting Implementation & Management Specification	Page 32



Trees along the Broadmeadow River (looking north)



Central Hedgerow and Townland Boundary (looking south)

The proposed development site is located on the northern fringes of Swords town. The site is bounded to the south by Glen Ellan Road running east west along the southern boundary the well-established residential area consisting of the South Bank, Jugback and Glen Ellan housing estates. The western boundary is formed by Jugback Terrace, a rural lane traditionally serving a number of single residences, some of which are still present with large gardens. Adjoining the site to the west are the Applewood and Thornleigh neighbourhoods.

The north of the site bounds the Broadmeadow River forming a wide green corridor zoned as High Amenity (within the Fingal County Development Plan 2017) encompassing the river flood plain. This area is extensively covered with scrub and trees with limited access. It has a distinctive semi-natural riverside character which is worthy of protection and enhancement and has potential to provide amenity to the wider area, particularly in terms of walking and cycling links. The low lying and undulating topography of this area reflects the former alignment of the riverbed as well as subsequent straightening of the river channel with associated flood control measures still visible. To the east of the site is the protected structure of Newtown House, now in ruins, surrounded by mature trees and the remnants of parkland gardens. Further east lies the former Motorola factory and associated infrastructure.

The main body of the site is zoned as Metro Economic Corridor (Under the Fingal County Development Plan 2017-23) . The objective for this zoning is to *“Facilitate opportunities for high density mixed use employment generating activity and commercial development and support the provision of an appropriate quantum of residential development within the Metro Economic Corridor.”*

The site is illustrated over the following pages and consists of formerly agricultural pastureland which is currently unmanaged and becoming overgrown. The landscape is structured into two main fields separated by a mature expanding native hedgerow with historic relevance, connecting to the river corridor to the north. This hedgerow, a Townland Boundary, contains a range of native trees and shrubs which forms a noteworthy feature on the site, with few trees of individual significance. On Jugback Terrace the hedgerow (also a Townland Boundary) has a distinctive rural laneway character which is in contrast to the extensive sub-urban residential character to the south and west, not least the large Broadmeadow Hall building midway along the lane.



Fingal Development Plan 2017-2023 - Sheet No. 8 Swords
Not to scale

- ME - Metro Economic Corridor
- HA - High Amenity
- Masterplan Area
- Metro Stop
- Proposed School
- Recorded Monuments | DU011-080 | Ring-ditch (diameter circa 14m)



Site Location and Context



Jugback Terrace (Townland Boundary)



Central Hedgerow "tunnel"



1. Jugback Terrace



2a. Jugback Terrace from Glen Ellan



2b. Glen Ellan Road



3. Elevated view north from Jugback Lane at Glen Ellan Estate



4. View from SW corner across site



15. Mown grass mounds at SE corner of site



16. Site frontage to Glen Ellan Road at factory entrance



5. View alongside central hedgerow over Field 1



6. 180° view south, west and north from centre of site



7. Looking SW from corner Field 1



8. Looking NE to corner of Field 1



9. Looking south from edge of riverside trees



10. Looking SW from edge of Riverside Trees



11. Looking SE across Field 1



12. View SW from Field 2



14. View NE from centre of Field 2



17. Broadmeadow River

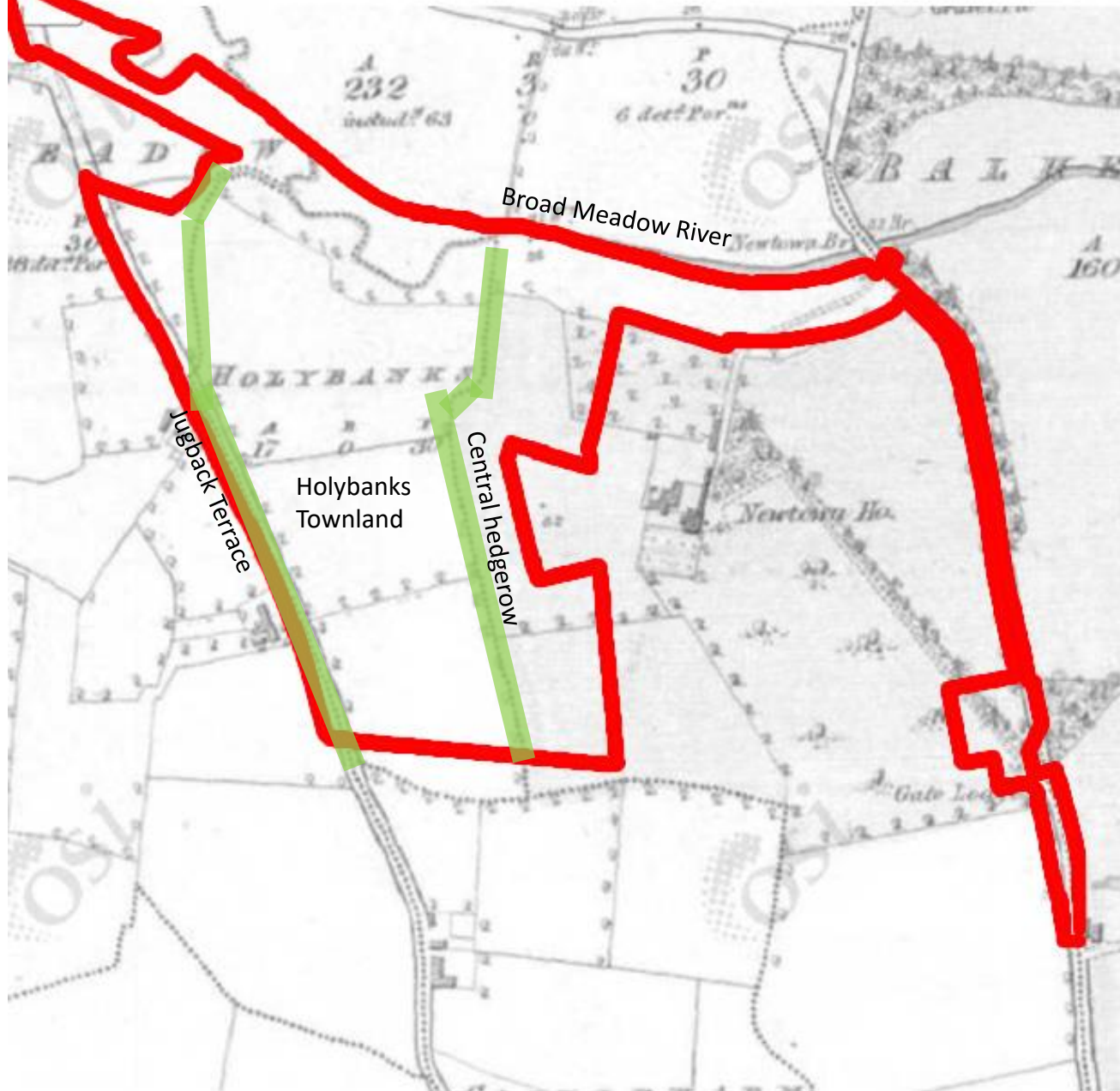


18. Unmanaged lands alongside Broadmeadow River





Courtesy of Ordnance Survey Ireland (Geohive)

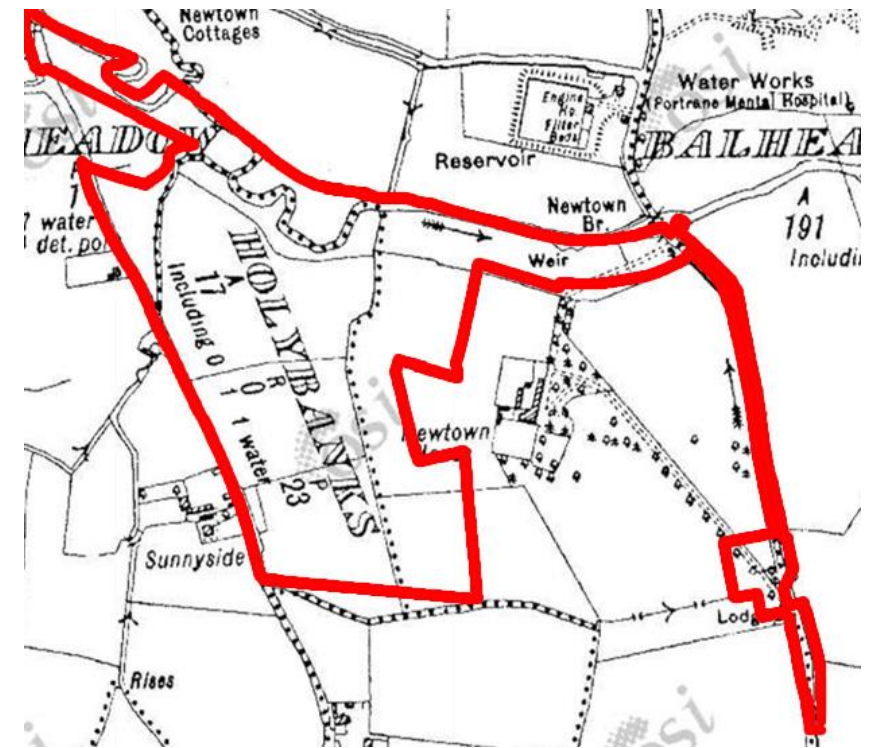


1830 (6" map): analysis of Townland boundaries

Following a review of historic maps for the site, it is evident that many of the hedgerows that defined the boundaries of the Townland still exist to this day, in particular the hedgerow forming the central spine of the site and that along Jugback Terrace.

The quality and ecological value of these have been assessed in the various specialist ecological and arboricultural reports for the site.

Courtesy of Ordnance Survey Ireland (Geohive)



1888-1913 (25" map)



2005 Aerial View

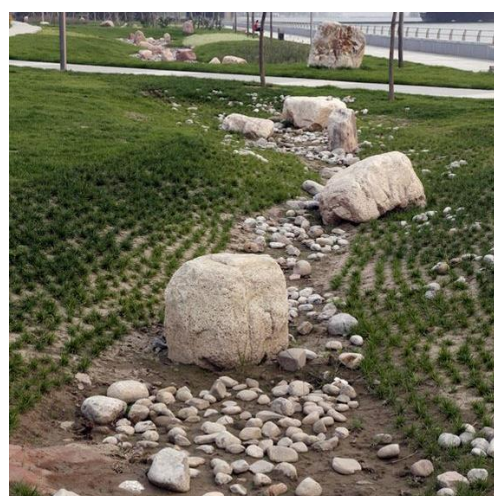
The proposed scheme, situated on circa 8.92 ha (net site area) and comprising 621 no residential units, is set within a landscape overlooking and sloping towards the Broadmeadow River to the northern edge of the site. The existing landscape features on the site have dictated the basic layout of the masterplan and provided the framework for strong Green Infrastructure strategy for the site (see diagrams pages 4, 5 & 7).

The layout of the built form is guided by the principle to retain the primary green features of field hedgerows around the site, and woodland along the Broadmeadow River, where possible, and to structure the development layout around these elements. This strategy ensures that the valuable ecological features are protected while providing a network of green spaces and tree lined streets, that link the site both internally and externally – creating multifunctional linkages for wildlife, rain-water attenuation and conveyance, as well as attractive pedestrian amenity routes.

The primary objectives for the site are summarised below:

1. Retain the integrity of the central mature hedgerow and townland boundary as a central axial feature accommodating a shared path / green corridor;
2. In accordance with the Development Plan zoning, maximise the ecological potential and amenity value of the area zoned as open space along the Broadmeadow River, retaining and restoring riparian habitats and creating functional and attractive amenity space whilst retaining the natural character of the river corridor;
3. Develop a local neighbourhood park and pocket park linked to these green networks;
4. Develop a range of play spaces within the new parks and green corridors, including active open space facilities in the local park and a range of natural play opportunities throughout the green network;
5. Formalise a green edge to the Glen Ellan Road with a more urban character;
6. Ensure all streets have a green character linking to the more natural green corridor network;
7. Integrate best practice SUDs systems within the green network.

These strategies and objectives are informed by green infrastructure objectives set out in the Swords - Estuary West Masterplan, and are illustrated in the Landscape and Green Infrastructure diagram overleaf.



Multi-functional green infrastructure – drainage, amenity and ecosystem services

Broadmeadow River – maximising its potential



Shared Paths



Green Streets



Formal Play Areas



Nature, play & amenity



Landscape Design Opportunities

- Segregated and well-connected footpaths and cycleways – sustainable travel
- Green streets with sustainable drainage solutions
- Generous areas of equipped play spaces offering opportunities for all age groups and abilities
- Linked routes and paths through natural spaces with natural play elements and access to nature
- Green, soft and natural edges to the site providing integration into surrounding neighbourhoods
- Provide multi-functional green spaces that integrate, amenity, movement, drainage, habitat and play, and which ties into the wider Green Infrastructure network



Green Edges & Boundaries





Plan of Glen Ellan Road Frontage & Arrival

A wide and **generous landscape buffer** will be provided between the apartment buildings and Glen Ellan Road to take account of an existing wayleave and to provide a mix of public and semi-public outdoor amenity for residents and visitors.

Glen Ellan Road will be lined with large trees to act as a structuring element that will provide welcoming greening along the busy road corridor, soften the potential visual impact of the buildings and act as a mechanism to slow traffic flows along Glen Ellan Road.

To the south of the site the **Glen Ellan Road** forms a dominant boundary and provides the main point of access to the site for pedestrian, cyclist and vehicular users. A new fully designated east-west footpath & cycleway will be provided parallel to the Glen Ellan Road and lined with large street trees.



Precedent Study: Arrival Plaza



Precedent Study: Glen Ellan Road segregated footpath/cycleway



Design principles:

- Green and welcoming sense of arrival
- Generous landscape frontage with trees forming a buffer and defined edge to road
- Tree lined footpath & cycleway separated from busy roadway
- Arrival plaza forming a visual feature and providing seating for outdoor social activities
- Communal courtyards with planting, paved social spaces and contemporary geometric design

CGIs of Glen Ellan Road Frontage & Arrival



Precedent Study: Communal Gardens



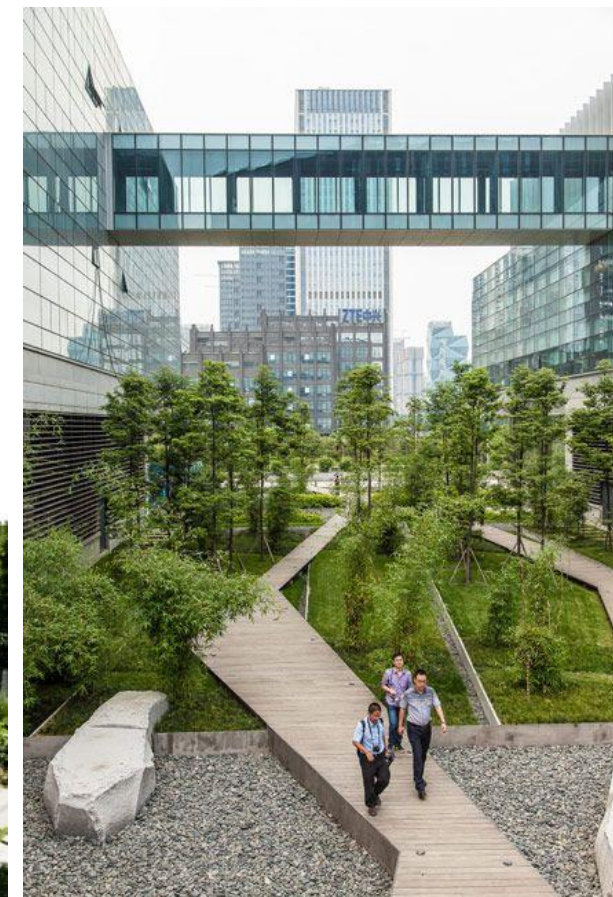
Planting Design: combination of managed and naturalistic forms and textures



The design of the communal gardens associated with the apartment blocks is informed by the strong geometric forms of the proposed buildings, creating an interplay of geometric, rectilinear shapes, features and spaces.

The planting design will follow this theme, combining uniformed clipped hedges with free form ornamental shrubs and grasses that help define a series of social gathering spaces, routes and features.

Design Geometry: Rectilinear forms, features and elements



Design Functionality: Play areas, social spaces, active kick-about, planted areas and tree clusters, SuDS, nature/habitat





Precedent Study: SuDS features integrated with play elements

The **Central Green Spine** is the primary orientating feature of the site and all paths and street lead towards and connect with it.

The key objectives for this space are:

- Green link from north to south (off-road)
- Dry riverbed concept – shared path and SuDS link to Broadmeadow Park and river
- Preserve and enhance existing hedgerow/ historic Townland boundary
- Provide integrated SuDS and play spaces
- Housing and apartments provide passive surveillance/ overlooking
- Opportunity for enhanced biodiversity



Precedent Studies: Apartments facing linear green space and incidental play / natural materials



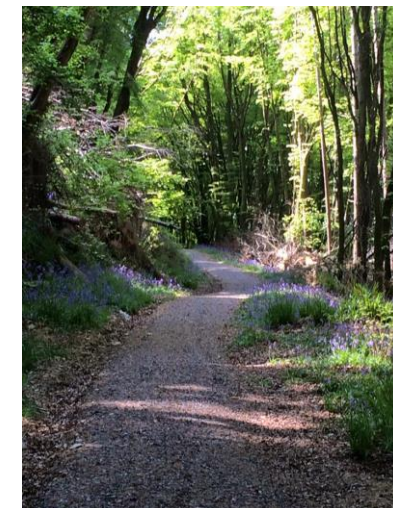
Plan of the Central Green Spine



CGI of the Central Green Spine



Plan of the Broad Meadow Park



The Broad Meadow Park is the primary public green space for the community and forms an important natural amenity and habitat for wildlife. The natural topography of the flood plain (former river alignment) has been retained relatively undisturbed in order to provide natural SuDS/attenuation for the site.

The key objectives for this space are:

- Integrates with wider green infrastructure
- Amenity and biodiversity enhancements
- Undulating levels provide opportunities for play, SuDS & habitat
- SuDS features include permanent water for wildlife in keeping with riverside character
- Alternative footpath/cycle link from Balheary Rd to Glen Ellan & Ashton Broc.



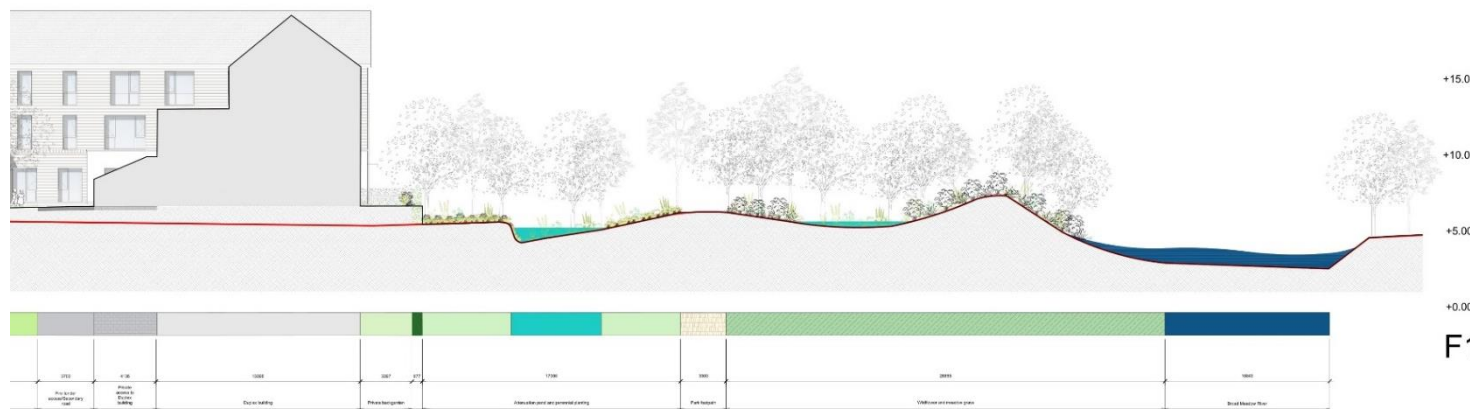
Precedent Studies: Preserving existing site assets while integrating new proposed amenity features with SuDS and habitat creation



CGI of the Broad Meadow Park



Precedent Studies: Preserving existing site assets while integrating new proposed amenity features with SuDS and habitat creation



Cross-Section demonstrates how proposed buildings are elevated above flood level without impacting on existing levels in the Broad Meadow Park

The Broad Meadow Park is a large, linear public green space that provides natural SuDS as storm attenuation for the site. The landscape architect, drainage engineer and ecologist worked together to devise the least disruptive and most sensitive drainage solution possible for this part of the site. The key objective was to retain as much of the existing vegetation and existing site levels as possible and utilise existing depressions and features to achieve the storm attenuation function. An additional survey was carried out for this area to determine precisely the levels to allow for the storm water volume calculations to be made.

The key *SuDS objectives* for this space are:

- Retain existing native vegetation (trees and scrub)
- Retain existing levels and topographical features
- Retain and enhance existing wildlife habitat
- Provide areas of permanent standing water for wildlife
- Integrate SuDS with amenity and biodiversity features



Plan of Jugback Terrace



Tree lined laneway with footpath set back behind planting



A Sensitive Response to Creating an 'Urban Edge'

On the boundary between the application site and the neighbourhoods of Applewood and Thornleigh, the objective is to provide an edge with an urban character while also respecting the character of the narrow lane.

- Creating a new urban character for Jugback Terrace with new tree and hedge planting
- Delivering a sensitive response to complement the existing built form and character of Jugback Terrace
- Forms part of wider loop walk
- Front gardens face onto the footpath and lane proving passive surveillance and an active edge
- Pedestrian and cycle links from cul-de-sacs provide east-west connectivity for people while restricting vehicular movements
- Upgrading the lane to deliver safe and sustainable modes of travel (walking and cycling)
- Creating a well managed interface between neighbourhoods

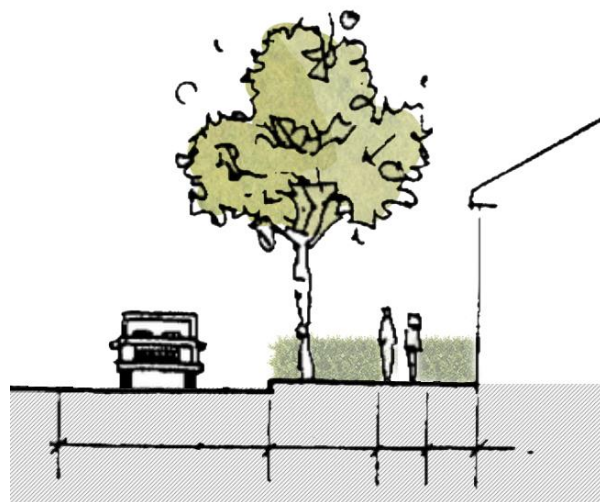


The new edge along Jugback Terrace opens up views into the site and creates a positive inter-relationship between the site and Applewood and Thornleigh neighbourhoods.

New tree and hedge planting will create a well defined and structured edge to the street with a generous buffer for pedestrians and front gardens.

The length of Jugback Terrace will be punctuated with a series of east-west links at cul-de-sacs and into a small park at the northern end of the lane.

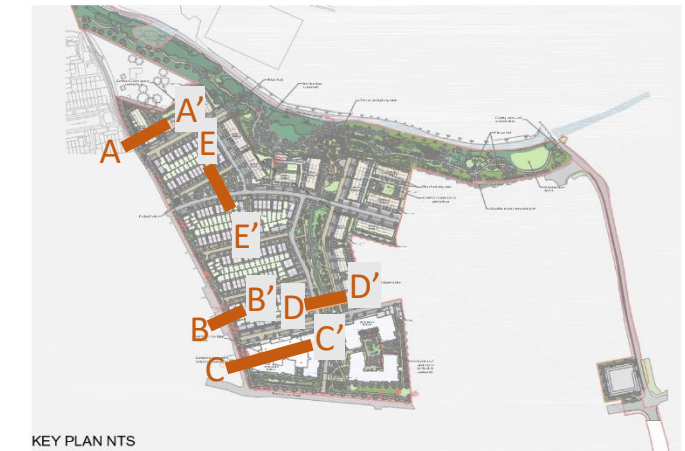
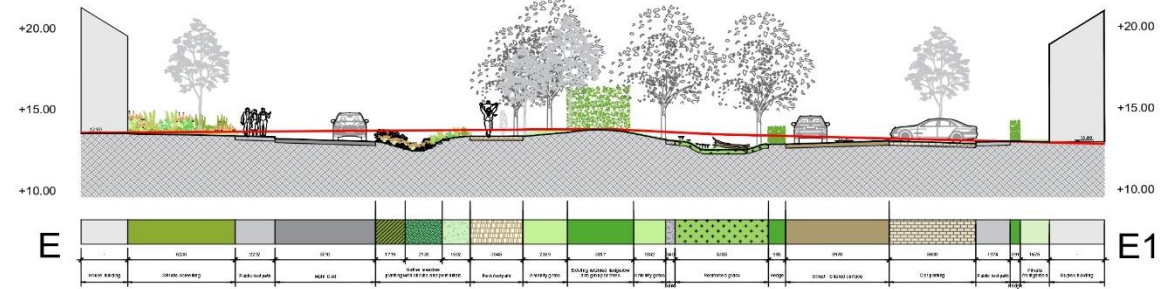
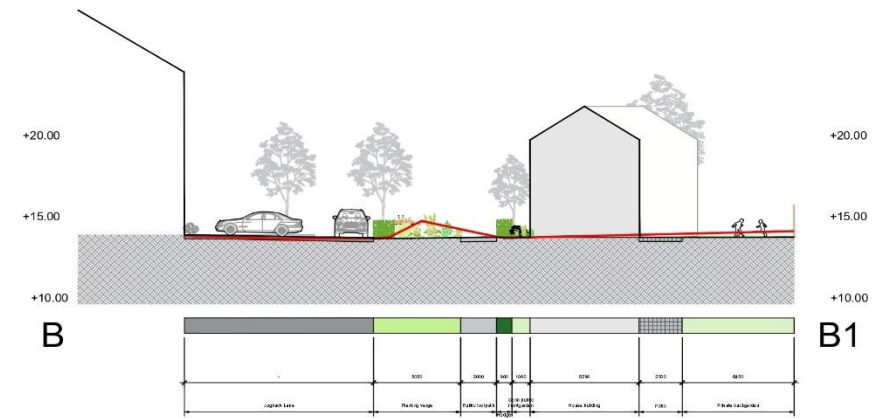
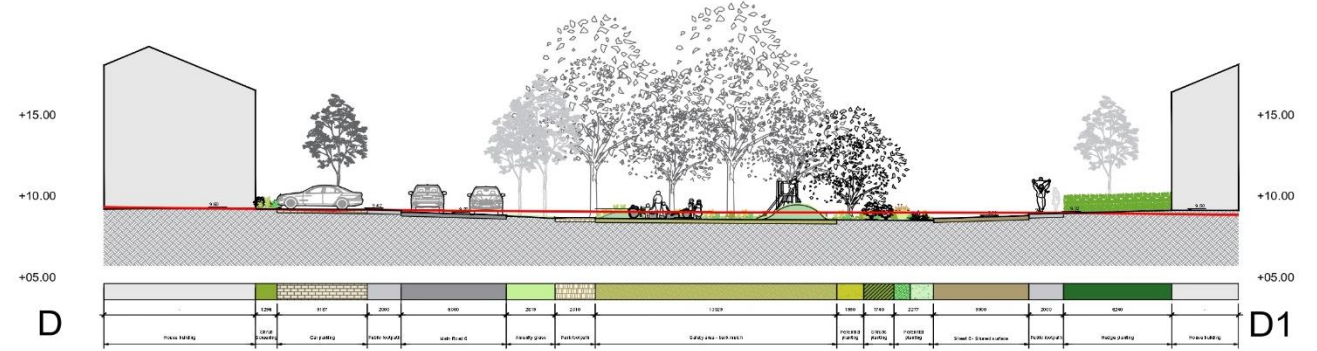
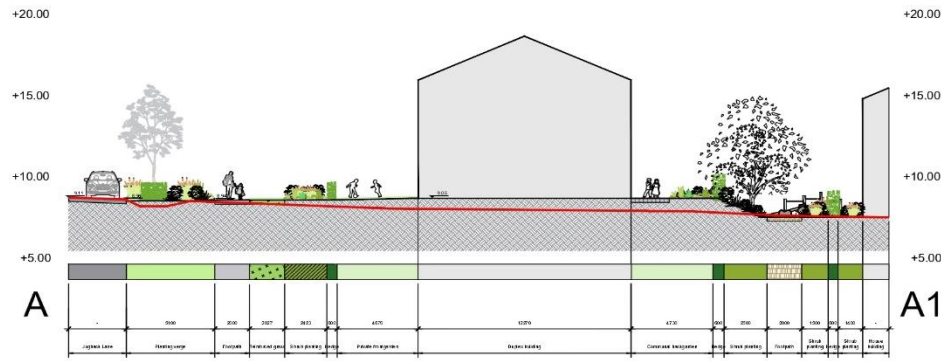
CGI of Jugback Terrace (looking towards south-east)



A new edge to Jugback Terrace – design sketches and 3D studies



CGI of Pocket Park, linking to Jugback Terrace (looking east)





	Boundary Type 1 - Housing 1.8m high concrete post and plinth with quality timber treated infill panel
	Boundary Type 2 - Housing 2m high brickwork wall
	Boundary Type 3 - Housing 2m high rear garden render finished walls with a brick plinth
	Boundary Type 4 - Playarea 1m high metal railing
	Boundary Type 5 - public park, duplexes 1.5m high metal railing
	Boundary Type 6 - Jugback Lane low clipped hedge
	Boundary Type 7 1.2m high low stone and railing with hedge
	Boundary Type 8 - Apartments 1.2m high estate railing
	Boundary Type 9 2m high block and render wall
	Boundary Type 10 2m high metal railing
	Boundary Type 11 2.4m high concrete post and concrete panel fence
	Boundary Type 12 2.4m high fence; welded mesh panel
	Boundary Type 13 1.2m metal railing
	Boundary Type 14 1.2m high post & rail chesnut pale
	Boundary Type 15 variable height, retaining wall
	Boundary Type 16 palisade security fencing
	Boundary Type 17 bollards

The strategy for boundary treatments is to provide:

- Robust back garden fences that offer privacy and durability while also offering a sense of softness in the timber material
- Brick faced and capped boundary walls to face outwards onto all public areas, providing a high quality private edge
- Medium height robust metal railings will delineate all communal gardens, offering a permanent delineated edge while also offering intervisibility
- Robust low metal railings for all formal equipped play areas to offer a sense of security for parents of young children
- Block and render wall to offer full privacy and a permanent, sound resistant boundary to future school grounds
- Metal estate railings to delineate frontages to apartments offering a low-profile permanent boundary that also allows the planting to flourish and dominate



A wide variety of play areas (shown in blue on the diagram opposite) for a range of age groups and abilities have been provided across the full extent of the site to ensure an even distribution for all future residents and visitors, while also ensuring minimal impact on individual units.

The **public open space** areas (POS A-D) include two formally designated, equipped and fenced play spaces (P2 & P3), and one informal, natural play area (P1) with natural play elements within a linear SuDS feature - following a 'dry river bed' concept - and offering natural play for all ages. This element will be predominantly dry with only minor, infrequent and temporary inundation of storm waters.

The **High Amenity lands** (Broad Meadow Riverside Park) includes one formal, equipped and fenced play area, one informal 'fairy' trail and one fitness trail for older children and adults (BM1-3). The riverside park also include numerous opportunities for natural play and contact with nature.

The **semi-private 'communal' gardens** (CAS A-E) each include fully equipped and fenced play spaces for younger children (C1-5).

8 OPEN SPACES			
Ba- Public Open space			
	POS (A)	1904 sq.m	11% percentage based on site net area
	POS (B)	4634 sq.m	
	POS (C)	1795 sq.m	
	POS (D)	1675 sq.m	
Bb- Communal Amenity Spaces		8541 sq.m	Required
	Apartment Block A1/A2	Cell01 - Amenity Area A: 1180 sqm Cell01 - Amenity Area B: 948 sqm	2128 sq.m 888 sq.m
	Apartment Block B	Cell02 - Amenity Area C	1353 sq.m 1303 sq.m
	Duplex Blocks: K, L, M, N	Cell03 - Amenity Area D	1560 sq.m 288 sq.m
	Duplex Blocks: H, I, J	Cell07 - Amenity Area E	897 sq.m 320 sq.m
	Duplex Blocks: D, E, F, G	Cell08 - Amenity Area F	1038 sq.m 352 sq.m
	Duplex Blocks: A, B, C	Cell10 - Amenity Area G	1565 sq.m 272 sq.m
Bd- Broadmeadow Riverside Park		29400 sq.m	

Base diagram prepared by MCORM

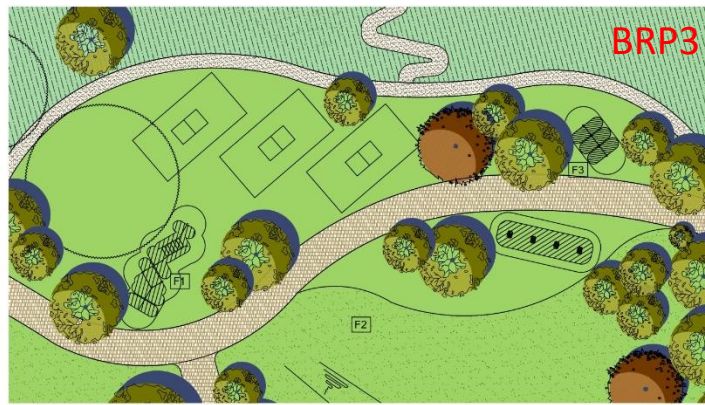
PLAY AREA NAME AND TYPE	sq.m
Play in Public Open Space	
POS1 (in POS B) Natural play area - designed for 3 age groups (0-6yo - toddlers, 6-10 - children, 10+ teenagers)	aprox. 680 sq.m
POS2 (in POS C) Play area - designed for 2 age groups (0-6yo - toddlers, 6-10 - children)	aprox. 305 sq.m
POS3 (in POS D) Play area - designed for 2 age groups (0-6yo - toddlers, 6-10 - children)	aprox. 380 sq.m

Play in Broadmeadow River Park		
BRP1	Fairy trail - designed for 2 age groups (0-6yo - toddlers, 6-10 - children)	aprox. 810 sq.m
BRP2	Play area - designed for 2 age groups (0-6yo - toddlers, 6-10 - children)	aprox. 255 sq.m
BRP3	Fitness trail - designed for 3 age groups (10+yo - teenagers, adults and seniors)	aprox. 880 sq.m

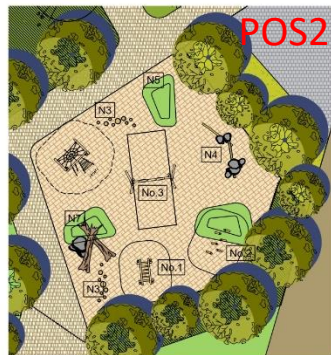
Communal Open Space		
CAS 1 (in CAS A)	Play area - designed for 2 age groups (0-6yo - toddlers, 6-10 - children)	aprox. 170 sq.m
CAS 2A (in CAS C)	Play area - designed for 2 age groups (0-6yo - toddlers, 6-10 - children)	aprox. 200 sq.m
CAS 2B (in CAS C)	Creche playground - designed for 1 age group (0-6yo - toddlers)	aprox. 90 sq.m
CAS3 (in CAS E)	Play area - designed for 2 age groups (0-6yo - toddlers, 6-10 - children)	aprox. 125 sq.m
CAS4 (in CAS F)	Play area - designed for 2 age groups (0-6yo - toddlers, 6-10 - children)	aprox. 95 sq.m
CAS5 (in CAS G)	Play area - designed for 2 age groups (0-6yo - toddlers, 6-10 - children)	aprox. 95 sq.m



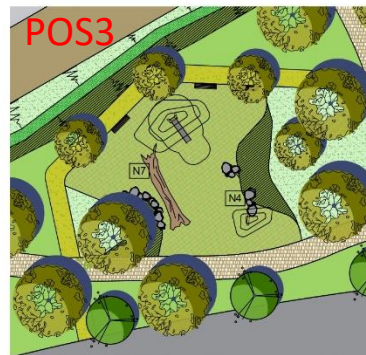
LINEAR PARK NATURAL PLAY TRAIL, SCALE 1:250



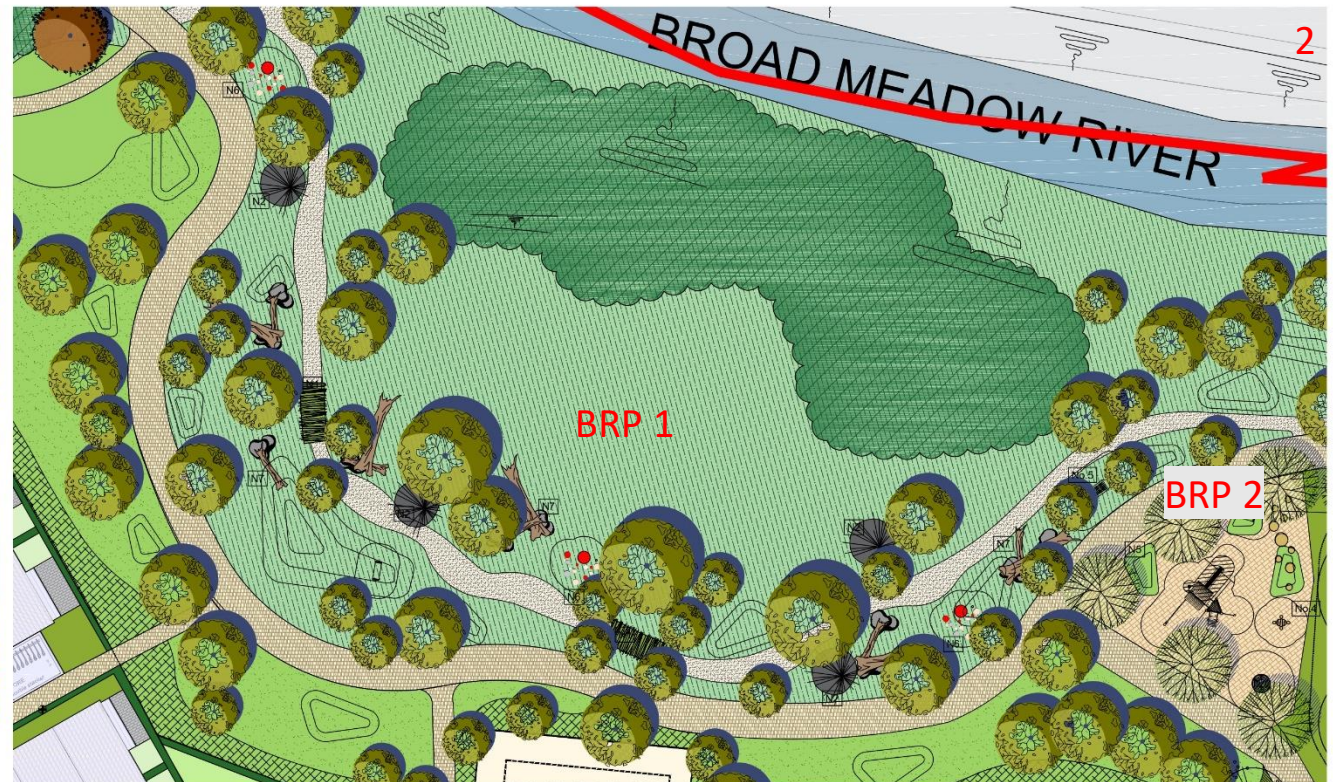
PUBLIC FITNESS TRAIL, SCALE 1:250



PUBLIC PLAY AREA 2, SCALE 1:250



PUBLIC PLAY AREA 3, SCALE 1:250



PUBLIC PLAY AREA 1 AND RIVER PARK NATURAL TRAIL 1, SCALE 1:250

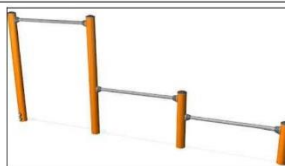
Typical Outdoor Fitness Equipment



F1 - KOMPAN FSW103 - Outdoor Fitness Equipment: Streetworkout Combi 3



F2 - KOMPAN FSW219 - Outdoor fitness Equipment: Combi Steps

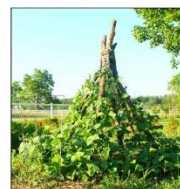


F3 - KOMPAN FSW209 - Outdoor fitness Equipment: Push Up Bars

Typical Natural Play Elements



N1 NATURAL PLAY ELEMENTS Willow tunnel



N2 NATURAL PLAY ELEMENTS Willow teepee



N3 NATURAL PLAY ELEMENTS Vertical tall logs



N4 NATURAL PLAY ELEMENTS Logs zig-zag for balance



N5 NATURAL PLAY ELEMENTS Grassed mounds



N6 NATURAL PLAY ELEMENTS Small and big mushrooms for social play

Typical Play Equipment



No.1 - KOMPAN NRO810 - Wooble bridge; Encourages children to cooperate and negotiate with each other as well as take turns.



No.2 - KOMPAN NRO806 - Stilts; Good for children to develop their proprioception and sense of balance, as well as their socio-emotional skills.



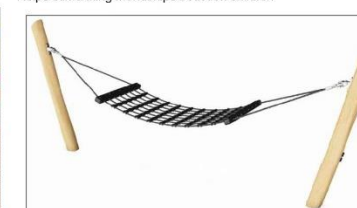
No.3 - KOMPAN NRO904 - Two seats swing; This helps motor skills training, trains the arm, leg and core muscles.



No.4 - KOMPAN NRO212 - Kids table with 4 sitting poles; Helps stimulating friendships between children



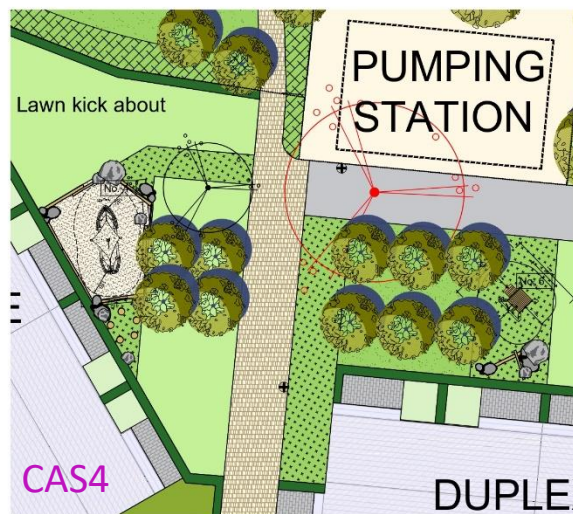
N7 NATURAL PLAY ELEMENTS Logs and boulders for balancing



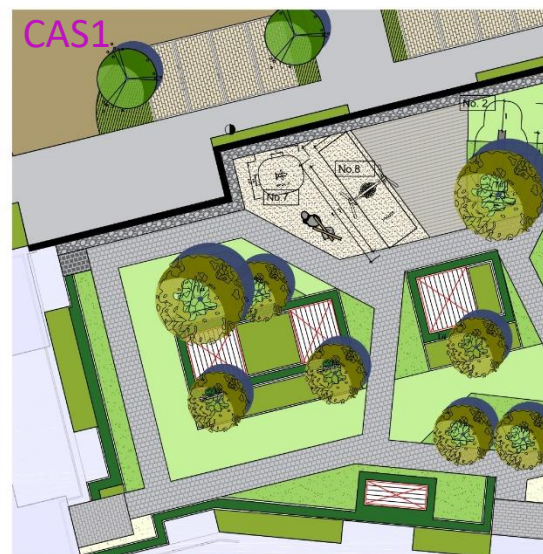
No.6 - KOMPAN NRO815 - Hammock; The swaying motion supports important motor skills such as the sense of balance and space.



KEY PLAN NTS



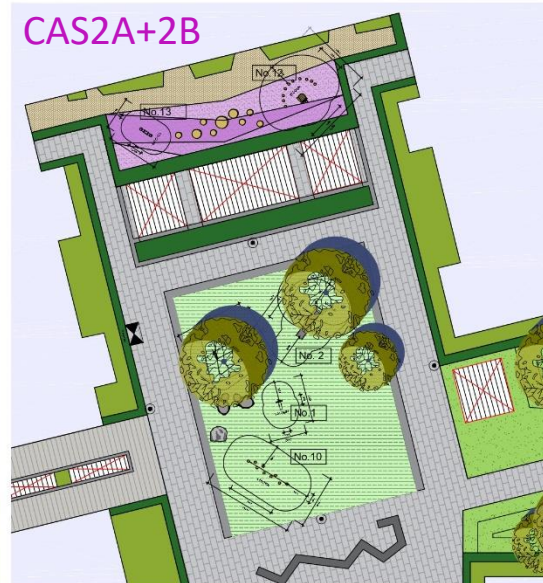
SEMI-PRIVATE PLAY AREA, SCALE 1:200



SEMI-PRIVATE PLAY AREA, SCALE 1:200



SEMI-PRIVATE PLAY AREA, SCALE 1:200



SEMI-PRIVATE PLAY AREA, SCALE 1:200



SEMI-PRIVATE PLAY AREA, SCALE 1:200



No.1 - KOMPAN NRO115 - Snail Springer; Good for toddlers to develop their motor skills



No.2 - KOMPAN NRO308 - Embankment slide; Good for excitement, improving balance and stimulation.



No.3 - KOMPAN NRO904 - Two seats swing; This helps motor skills training, trains the arm, leg and core muscles.



No.4 - KOMPAN NRO529 - Oasis sand boat; Good for communication and turn-taking skills, stimulating friendships between children



No.5 - KOMPAN NRO120 - Carousel with seats; This trains senses of balance as well as fundamental skills for walking, running and being able to sit still and concentrate.



No.6 - KOMPAN NRO531 - Oasis gravel pit; Good for toddlers to develop social-emotional skills and for small children to allow them enjoy dramatic and explorative play.



No.7 - KOMPAN NRO118 - Bee Springer; Good for toddlers to develop their motor skills



No.8 - KOMPAN NRO906 - Bird Nest Swing; The nest swing seat can fit multiple users at once, making it a very sociable and fun experience, as well as teaching children to take it in turns and cooperate.



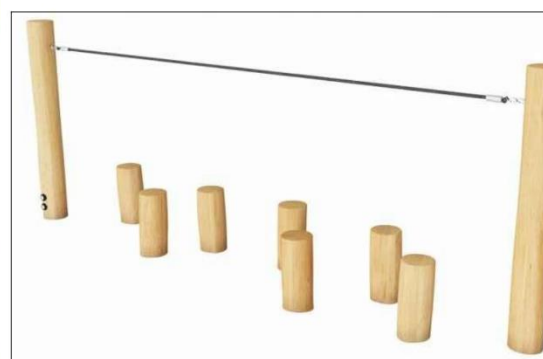
No.9 - KOMPAN NRO813 - Climbing net; Stimulates the proprioception, spatial awareness and cross-coordination.



No.12 - KOMPAN NRO101 - Mule; This is great training for the sense of balance and the spatial aware-ness.



KEY PLAN NTS



No.10 - KOMPAN NRO821 - Balance posts with rope; Enhances children proprioception and sense of balance, as well as their motor skills.



No.11 - KOMPAN NRO204 - Fairytale throne with 10 pole seats; This is great training for attention, communication and language skills. Additionally, this makes a great balancing trail which children can walk or jump, training cross-coordination and building bone density.



No.13 - KOMPAN NRO103 - Double Springer; Good for toddlers to develop their motor skills



Prepared by MCORM

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

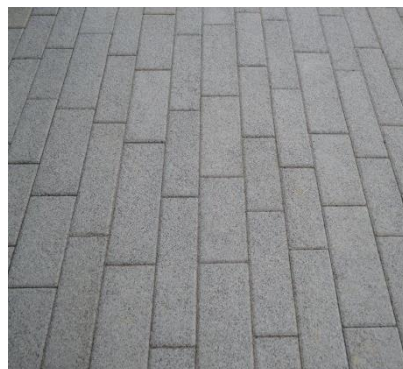
Surfaces



Bonded gravel path



Brushed concrete footpath



Concrete blocks plank format – granite effect



Concrete setts – granite effect



Concrete flags – granite effect

Furniture



Bins & Bollards



Steel bike stands – angular form



Seating - timber & steel



Steel planters

Feature play elements



Pebble stones for playing and sitting



Mounds & tunnels



Sand & concrete

Large Trees (northern & southern boundary):



Pinus radiata



Quercus petraea



Tilia cordata

Medium Trees (site boundaries):



Acer campestre



Betula pebdula 'Dalecarlica'

Small Trees:



Pyrus calleryana 'Chanticleer'



Sorbus aucuparia



Crataegus monogyna



Magnolia soulangia

Mixed semi-native Shrub Mix:



Ilex aquifolium



Crataegus monogyna



Fuchsia "Riccartonii"



Viburnum opulus

Typical Medium Shrub planting:



Choisya ternata



Cornus sanguinea



Cordyline australis



Continus coggygria



Rosa Noaschee

Low Hedges:



Fagus slyvatica



Prunus lusitanica

Typical Low Shrub planting:



Ajuga reptans



Aster novi-beigii



Berberis 'Amstelveen'



Carex spp.



Ceanothus 'Blue Mound'



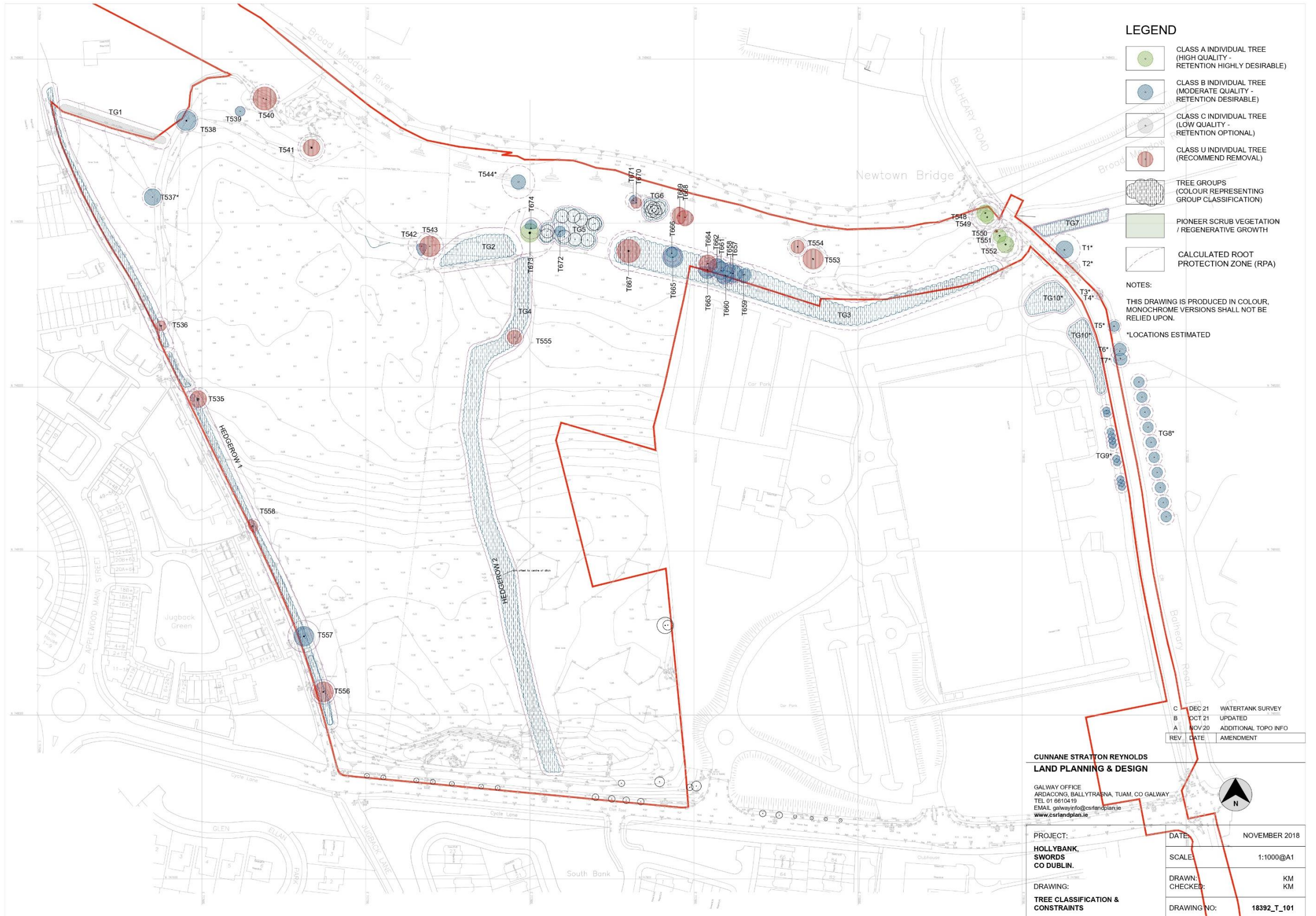
Spirea japonica



Pinus mugo 'Mops'



Lavendula augustifolia



LEGEND

- CLASS A INDIVIDUAL TREE (HIGH QUALITY - RETENTION HIGHLY DESIRABLE)
- CLASS B INDIVIDUAL TREE (MODERATE QUALITY - RETENTION DESIRABLE)
- CLASS C INDIVIDUAL TREE (LOW QUALITY - RETENTION OPTIONAL)
- CLASS U INDIVIDUAL TREE (RECOMMEND REMOVAL)
- TREE GROUPS (COLOUR REPRESENTING GROUP CLASSIFICATION)
- PIONEER SCRUB VEGETATION / REGENERATIVE GROWTH
- CALCULATED ROOT PROTECTION ZONE (RPA)

NOTES:
 THIS DRAWING IS PRODUCED IN COLOUR. MONOCHROME VERSIONS SHALL NOT BE RELIED UPON.
 *LOCATIONS ESTIMATED

C	DEC 21	WATERTANK SURVEY
B	OCT 21	UPDATED
A	NOV 20	ADDITIONAL TOPO INFO
REV	DATE	AMENDMENT

**CUNNANE STRATTON REYNOLDS
 LAND PLANNING & DESIGN**

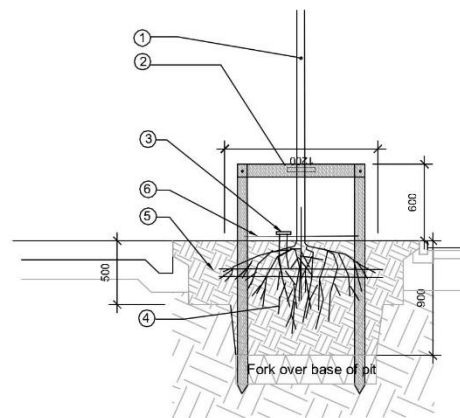
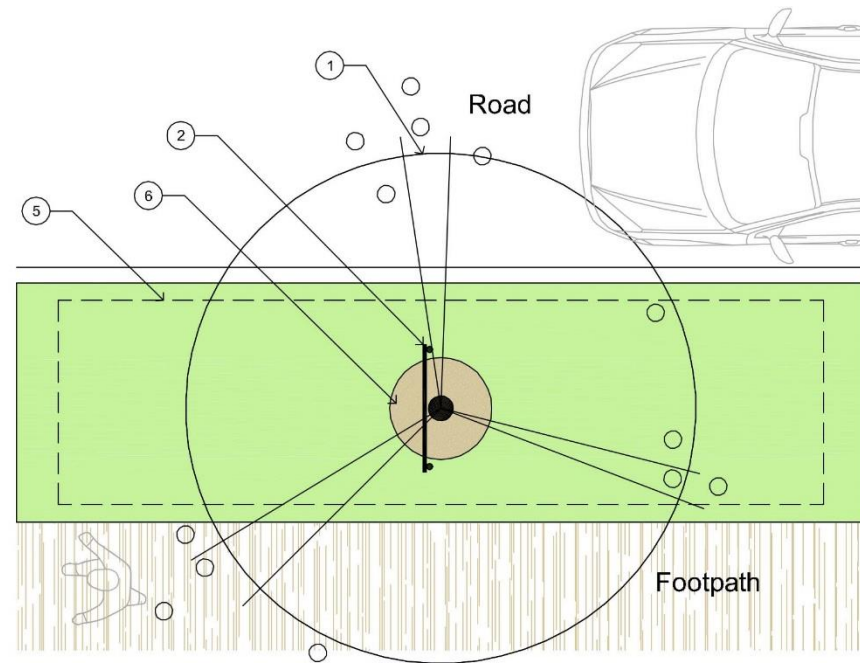
GALWAY OFFICE
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 EMAIL galwayinfo@cslandplan.ie
 www.cslandplan.ie

PROJECT:
**HOLLYBANK,
 SWORDS
 CO DUBLIN.**

DRAWING:
**TREE CLASSIFICATION &
 CONSTRAINTS**

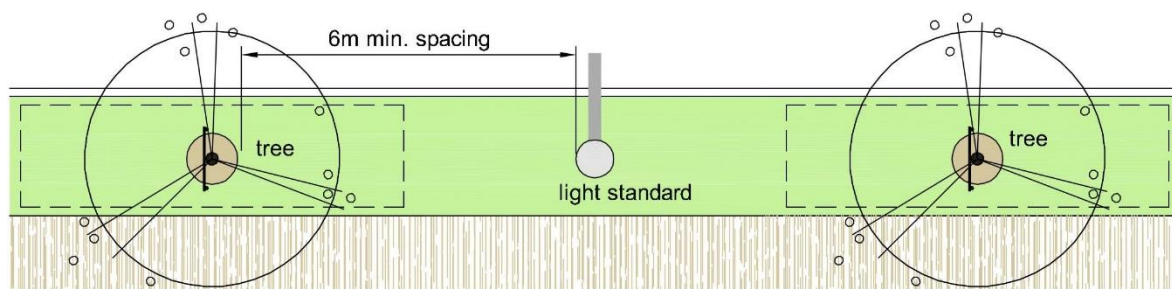


DATE:	NOVEMBER 2018
SCALE:	1:1000@A1
DRAWN:	KM
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DRAWING NO.:	18392_T_101

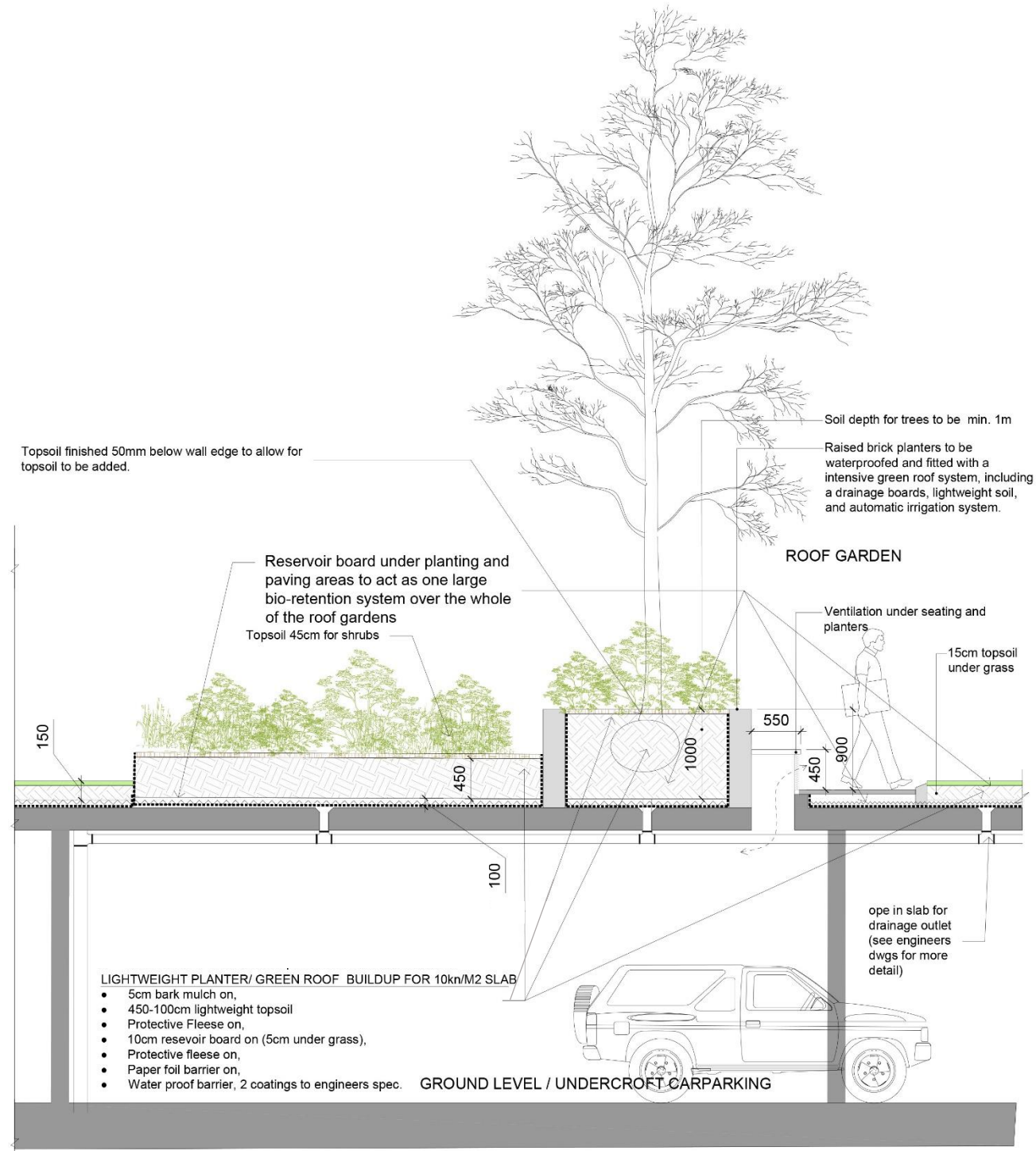


NOTES

1. To have a clear stem height of 2000mm.
2. 2no. 75mm diameter stakes pressure treated driven 1300mm below ground 600mm above ground with specified biodegradable adjustable tie affixed to tree & stake.
3. 6cm diameter perforated flexible plastic drainage pipe positioned as shown over rootball with one end open to surface to facilitate watering.
4. Pits to be size 120(w)x90(d)cm. Remove the full depth of topsoil and set aside for reuse. Scarify sides, break up base of pit to a depth of 200mm and incorporate a soil ameliorant into base. Back fill pit with topsoil mixed with soil ameliorant in 150mm firmed-in layers. All planting to receive a minimum of 25lt water per m2 immediately after planting.
5. The tree pit root zone shall extend beyond the tree pit for a 6 x 1.7m area 50cm deep.
6. 75mm bark mulch in 80cm dia circle to base of trunk.



V03 Light Standard and Street Trees Setout.
SCALE: 1:100@A3



LIGHTWEIGHT PLANTER/ GREEN ROOF BUILDUP FOR 10kn/M2 SLAB

- 5cm bark mulch on,
- 450-100cm lightweight topsoil
- Protective Fleese on,
- 10cm reservoir board on (5cm under grass),
- Protective fleese on,
- Paper foil barrier on,
- Water proof barrier, 2 coatings to engineers spec.

GROUND LEVEL / UNDERCROFT CARPARKING

V04 Raised Planter Detail with Drainage
SCALE: 1:50@A3

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.

1.3 Standards

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

- BS 3882 Specification for topsoil and requirements for use
- BS 3936-1 to 10 Specification for the supply of nursery stock
- NPS National Plant Specification
- BS 3998 Tree Works: Recommendations
- BS 4428 Code of Practice for general Landscape Operations
- BS 5837 Tree in relation to Construction
- BS 7370-1 to 5 Grounds Maintenance
- BS 8545 Trees: from nursery to independence in the landscape-recommendations
- BS 8601 Specification for subsoil and required use
- BS EN 1722-9 Fences Specification for mild steel - low carbon steel - fences with round or square verticals and flat horizontals
- RoSPA Standards for safety for play and exercise equipment.

The latest publications for each document are to be used.

1.4 Soil Conditions

- Soil for cultivating and planting: Moist, friable and do not plant if waterlogged.
- Frozen or snow covered soil: Give notice before planting. Provide additional root protection. Prevent planting pit sides and bases and backfill materials from freezing.

1.5 Climatic Conditions

- General: Carry out the work while soil and weather conditions are suitable.
- Strong winds: Do not plant.

1.6 Times of year for planting

- Deciduous trees and shrubs: Late October to early March.
- Evergreens/Conifers: October/November or Feb/ March.
- Container Grown plants: Any time of years.

1.7 Mechanical Tools

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

1.8 Watering

- Quantity: Wet full depth of topsoil.
- Application: Even and without damaging or displacing plants or soil.
- Frequency: As necessary to ensure establishment and continued thriving of planting.

1.9 Preparation, Planting and Mulching Materials

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

1.10 Plants/ Trees - General

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

1.11 Container Grown Plants/ Trees

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

1.12 Labelling And Information

General: Provide each plant/ tree or group of plants/ trees of a single species or cultivar with supplier's labelling for delivery to site, showing:

- Full botanical name.
- Total number.
- Number of bundles.
- Part bundles.
- Supplier's name.
- Employer's name and project reference.
- Plant specification, in accordance with scheduled National Plant Specification categories and BS 3936.

1.13 Plant/ Tree Substitution

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

1.14 Plant Handling, Storage Transport and Planting

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

1.15 Treatment of Tree Wounds

Cutting: Keep wounds as small as possible.

- Cut cleanly back to sound wood using sharp, clean tools.
- Leave branch collars. Do not cut flush with stem or trunk.
- Set cuts so that water will not collect on cut area.
- Fungicide/ Sealant: Do not apply unless instructed.

1.16 Protection of Existing Grass

- General: Protect areas affected by planting operations using boards/ tarpaulins.
- Excavated or imported material: Do not place directly on grass.

Duration: Minimum period.

1.17 Surplus Material

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

1.18 General Planting/Seeding

- Planting shall be carried out within the contract period but not during periods of frost, drought, cold drying winds or when the soil is waterlogged, or when the moisture of the soil exceeds field capacity.
- All containers and protective coverings including biodegradable coverings to root systems shall be removed prior to planting. Roots, except for emergent vegetation, shall be teased out from the root-ball, spread evenly and not twisted.
- All plant material shall be planted upright or placed so as to be well-balanced. Extreme care

is to be taken to avoid damage to the root system, stem and branches when planting. The plant shall be positioned such that after planting the original soil mark on the stem is at finished ground level.

- Following completion of planting, grass seeding and turf laying, the soil over the whole of the planted, seeded or turfed area shall be sufficiently watered to achieve its field capacity.
- On completion of planting, watering and mulching, all areas shall be left tidy and weed-free and shall be maintained in a tidy and weed-free state until completion of the works.
- For shrub and transplant pit planting, notch planting and ordinary planting, the plant positions shall be set at equal centres in order to obtain a natural dense cover when mature. For notch and pit planting plants shall be planted in parallel lines. Planting positions in each row shall be staggered with the previous row.
- Finely-broken backfill material shall be carefully spread around roots and root trainers of all plants and the plants given slight shake to ensure that all interstices/ gaps are filled with soil, which shall then be consolidated by heeling. Careful filling and heeling shall continue as necessary at 150mm layers.

1.18.1 Mulching

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

1.18.2 After Planting & Mulching

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

1.19 Tree Planting

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

1.19.1 Tree Pits

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

1.19.2 Semi-Mature Trees

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

1.19.3 Staking Generally

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

1.19.4 Mulch Circles/Squares

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

1.20 Shrub Planting

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

1.21 Hedgerow Planting

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

1.23 Removing Trees and Shrubs

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

1.24 Failures of Planting

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

1.25 Green Roofs

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

1.26 Grass Seeding**1.26.1 Herbicide Application**

- 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.

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.

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 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.

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 two weeks 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 16 cuts shall be carried out annually.

Weed Control

Lawn grass areas 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 once per year to fine 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 OR 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 20% 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 14-20 days during the growing season, (throughout the period of March to October), 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

Weed infestations shall be reviewed in the context of the aesthetic and amenity functioning of the grass and if necessary controlled by spot spraying.

Fertilizer

Not required.

2.1.3 Semi-Natural Grassland/ Meadows

Areas identified as semi-natural grassland or meadow are to be left uncut throughout summer and cut or flailed to c.50mm height once per year during autumn. All arisings are to be collected and removed from meadow areas and composted elsewhere on site.

Species identified as invasive shall be removed by spot spraying or by hand. Fertilizers and soil improvers shall not be applied.

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

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

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

2.5 Mulching

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

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

2.6 Tree Planting Care

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

2.7 New Tree Planting

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

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

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

The edge of the mulch circle shall be maintained in a neat and tidy condition as above.

The surface of all planting pits is to be kept free of weeds during the maintenance period by hand weeding of annual weeds, and spot application of translocated herbicide, (as per manufacturer's instructions), for perennial weeds to be carried out on three visits during the growing season.

2.9. Tree Stakes and Ties

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

2.8 Woodland/Scrub Area Management

Woodland areas specified shall be maintained in a healthy, vigorous condition and free from litter and noxious weeds throughout the year.

Certain areas of woodland may require thinning over the 5-year period. These areas shall be thinned by no more than 10%, removing only the weaker tree specimens. Thinning shall be carried out as directed on site by the administrative authority or landscape architect/manager. Areas of semi-natural scrub as indicated on the maintenance plans shall be contained by trimming back once per year.

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

2.09 Litter Clearance/Pick-up

The contractor shall maintain all areas free from litter. This shall mean the removal of all extraneous litter, rubbish and any other debris from all areas, which will include grass areas, planted areas, car parks, 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 deposited on site by persons known or unknown (fly-tipping).

2.10 Replacements

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

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 / Meadow							*					
Fertiliser application to lawn areas							*					
Hedge pruning/cutting										*		
Shrubs pruning and feeding							*					
Weed control of hedge and shrub planting areas				*			*			*		
Tree pruning											*	
Removal of tree stakes (3-5yr)				*								
Mulch top-up to tree circles/ squares				*			*			*		
Herbicide app. to tree mulch circles				*			*			*		
Herbicide app./weeding to shrubs & hedgerow							*					
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	**	**	**	**	**	**	**	**	**	**	**	**