



Project: Rathcoole Residential – Phase 1  
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Client: Romeville Developments Ltd.

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Report Title	Landscape Softworks & Maintenance Specification Rathcoole Residential Phase 1
Client	Romeville Developments Ltd.

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## Table of Contents

<b>Item</b>	<b>Title</b>	<b>Page</b>
100	Topsoiling/Ground preparation	3
200	Planting	7
300	Grassing	16
400	Landscape Management & Maintenance	19

**100 TOPSOILING/GROUND PREPARATION**

To be read with Preliminaries/General Conditions

**101 Compounds**

The Contractor shall agree with the Employer the location of any compound for storage of materials or plant, and the location of any site buildings. No materials shall be deposited or machinery parked outside the agreed areas, which shall be fenced with a temporary fence as described above or with such other stronger fence as the Contractor may at his discretion require. No fuel, oil or chemical product shall be stored outside a compound area, nor be permitted to flow onto adjoining ground.

**102 Existing Services**

The contractor shall make himself aware of all existing site services in advance of proceeding with the works.

Scanning of the ground will be required by the Contractor in any case and the contractor will have allowed for this in the pricing document.

**103 Site Features to be Retained**

Refer to landscape drawings supplied.

**104 Materials Arising**

**Any remaining arisings from the landscape work such as wood chip, timber and stumps will be disposed of at a registered greenwaste site. Remaining (or smaller) debris shall be removed from site during landscape works by the landscape contractor.**

**105 Site Works**

Prior to topsoiling, all soft landscaped areas shall be thoroughly decompacted. Where service runs are located areas for decompaction they shall be carefully sealed off and protected. Areas directly adjacent service runs shall be decompacted by appropriate means (to the approval of the CA), e.g. by hand.

Prior to topsoiling all disturbed areas (excluding structural engineered slopes) shall be decompacted to a depth of 450mm and only during dry weather conditions.

No machinery shall pass over decompacted areas. The Contractor shall inform the Employer upon completion of decompaction before topsoiling operations commence.

Excavated material shall be disposed of off site at an approved licensed landfill site in accordance with the Waste Management Act (1996).

Generally: Keep all excavations free from water until:

Formations are covered.

Below ground construction are completed.

Drainage: Form surfaces of excavations and fill to provide adequate falls.

Removal of water: Provide temporary drains, sumps and pumping as necessary.

**106 Permissible deviations from Formation Levels**

Embankments and cuttings:  $\pm 50$  mm.  
Ground abutting external walls:  $\pm 50$  mm, but such as to ensure that finished level is not less than 150 mm below dpc.

107 Excavation Works

Adjacent structures, membranes and buried services:

- Do not overload, destabilize or damage.
- Submit proposals for temporary support necessary to ensure stability during filling.
- Avoid damage to edge of existing brick work/other hard landscape edging/kerbing.

108 Imported Topsoil

Topsoil shall conform to B.S. 3882, classification: Multi-purpose amenity grade.

The topsoil shall be a fertile loam and shall be naturally occurring material of good quality obtained from the top 150mm of ground. Any manufactured topsoil or topsoil containing couch grass will not be accepted.

Topsoil shall be friable, well aerated and with a good crumb structure. It shall not be obtained from a site subject to waterlogging. It shall be free from persistent weeds, including dock, creeping thistle, stinging nettle, ragwort and couch grass. The PH of the topsoil shall be in the range of 6.0 – 7.5.

**Topsoil shall be subject to the inspection and approval of the Employer before spreading.** Visible presence of fibrous roots and plant remains will be required. Any fertilizer or soil ameliorants required to bring the topsoil up to an acceptable fertility level shall be added by the Contractor at his own expense.

**The contractor shall deliver at his own expense to site a sample load of not less than 5m<sup>3</sup>.**

Give notice: Allow inspection before making further deliveries to site. A notice period of 7no. days is required.

The sample load on approval shall be dumped and kept in a location to be agreed with the Employer and used for comparison with all subsequent imported topsoil. After approving the sample load, it shall be maintained in a weedfree state by mechanical or approved chemical means, as a control on the quality of all topsoil imported onto the site.

Any topsoil brought to site without approval will be deemed to have been brought on at the Contractors risk unless instructions to the contrary be given in writing.

109 Handling Topsoil

Aggressive weeds: Give notice and, obtain instructions before moving topsoil.

Plant: Select and use plant to minimize disturbance, trafficking and compaction.

Contamination: Do not mix topsoil with:

- Subsoil, stone, hardcore, rubbish or material from demolition work.
- Other grades of topsoil.

Multiple handling: Keep to a minimum. Use topsoil immediately after stripping (if applicable).

Wet conditions: Handle topsoil in the driest condition possible. Do not handle during or after heavy rainfall or when it is wetter than the plastic limit less than 3%, to BS 1377-2 (1990).

Topsoil shall not be excavated or worked in any way when frozen or waterlogged.

110 Weed killing

Should areas become infested with weeds throughout the course of the contract works, these weeds shall be removed by chemical means.

111 Topsoiling

Topsoiling shall be carried out in layers with each layer being lightly consolidated with a maximum depth of 250-300mm.

Before topsoiling, remove all stones, rubble and rubbish over 75 mm diameter from the surface of the subsoil formation. Dig out any areas polluted by oil or chemicals and make up with clean soil. Break up the formation under any areas liable to ponding of rainwater, so that they drain.

Topsoiling shall be moved and spread only in dry weather. No work to topsoil shall be carried when it is waterlogged, or if its moisture content is conducive to structural deterioration. Minimise compaction of topsoil and subsoil during spreading, running machinery over the surface as little as possible.

No machinery shall pass over decompacted areas. The Contractor shall inform the CA upon completion of decompaction before topsoiling operations commence.

Final grading shall be carried out to ensure a true specified level and slop to avoid dishing or other depressions where water may collect.

The use of a heavy roller to roll out humps will not be permitted and any area that becomes unduly compacted during the grading operations shall be loosened by forcing or harrowing.

The finished levels of topsoil (after settlement) shall be 30mm above adjoining paving or kerbs and 50mm above adjoining grass areas.

Localised hollows and mounds are to be leveled out and areas finished so that they can drain to hard standing areas.

Formation levels shall allow for the following depths of topsoil, after settlement and cultivations:-

<b>Formal Hedge</b>	600mm depth*
<b>Formal Herbaceous/Shrub Planting</b>	450mm depth*
<b>Specimen tree planting</b>	1200x1200x1200mm*; in association with constructed tree pit details provided.
<b>Grass seeding areas</b>	150mm topsoil

\*All to be located over 200mm of subsoil

Note for the constructed tree pit, a topsoil/stone mix shall be supplied to the base layers (in 250mm depths each time) in accordance with detailed supplied – refer to support detail

112 Debris

The Contractor shall allow for the disposal of subsoil excavated from tree pits, and for stones, rubble and rubbish removed from grass and planting areas during cultivation.

113 Disposal

**The Contractor shall allow for the disposal off-site of all debris, prunings and rubbish relating to the landscape contract on site.**

## 200 PLANTING

### GENERAL

#### 201 Standards of Workmanship and Materials

The Contractor shall satisfy the Employer's Representative that all works have been carried out to comply with BS 4428:1989 (General Landscape Operations) and BS 3936-1:1992 (Nursery Stock).

It is essential that the site is tidy at all times and that the planting appears healthy. The Contractor should be prepared, at all times, to ensure that such conditions are met, and should include for this in his rates.

Any material not meeting the specifications or qualifying for the approval of the Employer's Representative, for whatever cause, shall be rejected.

The Contractor shall familiarize himself with the layout of services and the positions of all structures on the site and shall be liable for any damage to the above.

#### 202 Work by Machine or Hand

All operations hereinafter described will be carried out by suitable approved machines or by hand. Any work around the bases of existing trees, saplings, footpath edges, manhole covers, underground services etc. which cannot be carried out by machine for any reason shall be executed by hand and the Contractor must include for this in his rates.

#### 203 Unsuitable Weather

Excavation, filling, cultivation, planting and other works will be suspended in wet weather and when conditions are unsuitable and the Contractor shall allow in his prices for such eventualities.

#### 204 Planting

"Suitable weather conditions" for planting will mean open weather (i.e. mild, dull and moist even in winter). Planting operations will be suspended in periods of drought, when soil is frost-bound or water-logged and in periods of persistent drying cold winds. The Employer's Representative reserves the right to halt the works should the Employer's Representative consider the working conditions or the weather unsuitable.

#### 205 Planting Season

The planting season has been addressed as part of the program of works scheduled. Containerised plants may be planted throughout the year provided the weather is considered suitable, the soil is sufficiently moist and each plant is watered following planting.

Planting outside the specified planting period will only be permitted in exceptional circumstances at the discretion of the Employer's Representative; such exceptional circumstance shall include unsuitable weather and no penalty shall be incurred under the heading of liquidated damages provided that any delay is formally accepted by the Employer's Representative as attributable to this cause. In the



event that works are delayed by inclement weather, the Contractor shall complete them at the earliest opportunity afforded by suitable weather conditions.

206 Approved Chemicals

All chemicals used will be non-toxic to human beings, birds and animals under normal use. No chemicals will be used for any purpose without the prior approval of the Employer's Representative. The Contractor will submit a list of all chemicals to be used to carry out the contract prior to commencement.

207 Planting Generally

The Contractor shall be responsible for setting out all areas of planting to the satisfaction of the Employer's Representative.

208 Notice of Intentions

The Contractor will give 48 hours notice to the Employer's Representative of his intention to commence any of the following operations: tree and shrub removal, setting out, planting, fertilising, herbicide application and maintenance visits. Alternative notification requirements may be stated relating to specific items and these over-rule this general requirement.

209 Protection of Existing Vegetation (where applicable)

The Contractor will take all precautions to protect in the course of his work, any existing plant materials from malicious or accidental damage and will ensure that no branches will be lopped and no roots over 50mm diameter severed from growing trees without express prior permission from the Employer's Representative.

All damaged plant material shall have all cuts made flush leaving no snags or any cut over 50mm diameter and no bruises or scars on the bark, the injured cambium will be traced back to living tissue and removed. Wounds shall be smoothed so as not to retain water and the treated areas will be coated with approved tree wound paint.

No soil, spoil, constructional materials or rubbish will be stored or tipped and no construction plant or vehicles will be parked within the spread of existing trees, shrubs or hedges.

**PREPARATORY WORKS**

210 Litter, Debris Removal

All litter, debris and clippings, are to be removed from the entire area of the site before planting operations begin. No burning shall be allowed on site.

211 Planting Areas

The Contractor shall clearly mark boundaries of all planting areas and obtain approval of setting out by the Employer's Representative before commencing work.

212 Weed Removal

In areas to be ripped all aggressive perennial weeds, dock, thistles and nettles are to be eliminated from the site.

In areas where existing grass is to be removed and the soil cultivated a combined contact/ translocated herbicide is to be applied to remove all grass and weeds.

213 Surface cultivation

Surface cultivation will consist of rotovating the topsoil to a minimum depth of 450 mm over shrub 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. Works within the planting beds will require hand working and the contractor shall include this in his price.

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 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. The use of heavy rollers to roll out mounds will not be permitted.

**PLANTS**

214 Plants generally

All trees, hedging, specimen shrubs, shrubs, ground cover planting and bulbs, shall conform fully to the specification in respect of species, size and quality. The Contractor shall name the supplier in his tender for approval by the Employer's Representative. All plants shall be well grown, sturdy and bushy according to type and free from all diseases and defects. Shrubs shall be container grown, rootballed or bare rooted as stated in the plant schedules. If container grown, root growth shall not have been restricted by the containers. A full review of all plant material will be required by the Landscape Architect in advance of planting works. The Employer's Representative reserves the right to reject any plant material (not previously approved) before or after planting if it does not conform to the specification. All plant material which does not conform to the specification will be automatically rejected and must be removed from site and replaced at the Contractors' expense.

215 Materials

All plant material shall be good quality nursery stock, free from fungal, bacterial or viral infection. Aphids, Red Spider or other insect pest, and physical damage. It shall comply with the requirements of the following sections of B.S. 3936-1, Specification for Nursery Stock, where applicable:

Part 1:	1992:	Trees and Shrubs.
Part 2:	1990:	Roses.
Part 10:	1981:	Groundcover plants.
Part 9:	1992:	Bulbs, corms and Tubers

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.

Except for any cultivated varieties or exotic species which do not set viable seed in Ireland, all plants shall have been grown from seed.

The Contractor will be deemed to have advised his suppliers of the relevant sections of this specification, including all protection required, at the time of enquiry and shall in all cases be liable to replace materials brought on site which are not in accordance with this specification.

216 Species

All plants supplied shall be exactly true to name as shown in the plant schedules. Unless stipulated, varieties with variegated or otherwise 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 own expense.

Bundles of plants shall be marked in conformity with the relevant part of B.S. 3936-1. The Contractor shall replace any plants which are found not to conform to the labels.

217 Plants/Trees - General

Condition: Materially undamaged, sturdy, healthy and vigorous.

Appearance: Of good shape 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.

BS Standard: The relevant sections of BS 3936.

Species: True to name.

218 Container Grown Shrubs

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.

219 Bulbs

If applicable, firm, entire, not dried out or shriveled, visually free of pests, diseases and fungus.

Remove from packaging immediately. If necessary, store for the minimum period of time in a well-ventilated, dark, covered location at 18-21degC, away from vehicle exhausts and fruit.

220 Inspection of Plants at Nursery

Review of tree planting will be required in advance of delivery to site.

221 Certification

The Contractor will provide a certificate to the effect that all plant materials are fully in accordance with the specification and with BS 3936. All trees shall have a Certificate of Provenance Declaration Form and the number of times a tree has been transplanted shall be certified.

All plants will be inspected by the Employer's Representative at time of planting for variety and size, but approval from this inspection will not preclude rejection of plant material for defects which may appear later during the progress of the works.

222 Identification

One plant of each group, bundle or batch of plants will bear a permanent label of metal or other indestructible material, securely attached, having the full botanical name thereon.

223 Plant/Tree Substitution

Upon submission of substantial evidence that certain plant materials are not available at the time of contract, the Contractor will be permitted to substitute other plants with the approval of the Employer's Representative with an adjustment of price if necessary to that originally specified. Submit alternative stating price and difference from specified plants/trees.

224 Damage

All plants are to be adequately and carefully packed and protected to survive transport, by whatever means, to the site, without damage in loading, transit or unloading. If, in spite of these precautions, roots, branches or shoots suffer slight damage they are to be carefully pruned. If major damage has occurred the plants will be rejected and replaced at the Contractor's own expense.

225 Heeling In

Non Applicable

226 Planting Generally

All planting to be carried out during Summer 2015; and as per programme as noted above.

227 Herbicides

**Glyphosate** - 'Roundup' by Monsanto Chemicals Ltd. Do not apply when rain is forecast within six hours. Do not apply when wind is likely to cause spray drift (over 24 kph/15 mph). Allow leaf symptoms to develop before carrying out any cultivations.

**Basta** - by Hoechst Ltd. Do not spray when wind is likely to cause drift (over 24 kph/15 mph). Protect all foliage of transplants or shrubs.

**Propyzamide** - 'Kerb 50W'. Apply between 1st October and 20th December only, when ground is damp. Ensure complete cover of the ground.

**Pistol** - Contains: 250g/L glyphosate & 40g/L diflufenican. Apply Pistol post-emergence of weeds at any time from March until the end of October, provided that the weeds are actively growing. Annual broad-leaved weeds should have at least two fully exposed leaves, and annual grasses should be at the one leaf growth stage or beyond. Some perennial weeds, including Docks, Perennial Sow Thistle and Willowherb are best treated just before flowering or the setting of seed.

The Contractor may use alternative formulations of the above herbicides, by other manufacturers, with the prior approval of the Employer's Representative . Such alternative formulations shall be applied to give the same degree of control as the application provided for in the Schedules of Quantity.

228 Weedkiller Application

All weedkiller shall be applied to manufacturer's recommendations with properly designed equipment, maintained in good working order and calibrated to deliver the specified volume, evenly and without local over-dosing.

The Contractor may, with the Employer's Representative s prior agreement, apply foliar acting weedkillers with an ultralow-volume applicator. The rate of application shall be such as to achieve the same control as the general rate specified. Such application shall not be used post-planting, nor with fosamine ammonium.

229 Fertilisers – General Fertiliser

Fertiliser to be agreed with Employer's Representative in advance of fertilizing operations.

Apply evenly over all planted areas at manufacturers specified rate g/sq m prior to the application of mulch.

Soil Conditioner/Ameliorant

Manure: Spread well rotted horse or farmyard manure or farmyard dung over all planted areas @ 1cubic metre per 10 Sq.m. prior to cultivation. (Poultry or pig manure will not be permitted on this site.)

230 Cultivation to Shrub Beds and Hedge Planting zones

The Contractor shall cultivate planting areas to break up the imported soil to a depth of 450 mm for shrub areas and 650mm for hedging by the use of suitable machinery or by hand as necessary. After cultivation the areas is to be graded, stone picked and all stones, debris and the like in excess of 25mm in any dimension shall be removed from site. Spread the following over the planted area:

Manure: 25mm depth

General Fertiliser: To manufacturer's instructions

231 Planting **Spring Ringed** Semi-mature trees (Constructed Tree Pits) – refer to support detail

Excavate pit in accordance with the above details and remove material removed off site. Landscape architect to be present to review tree pit excavation works.

Supply and incorporate the following ameliorants evenly into the backfill beside the pit:-

Moist manure:	0.047cu.m
Slow Release Fertilizer 'Osmo Pro 2'	Apply to manufacturers recommendations

(Note: Osmo Pro 2 is available from White's Agri, Ballough, Lusk, Co. Dublin.

Install soil/stone mix for constructed tree it in order to achieve 16 cubic metres per tree. Place concrete ring within the base and install the tree upright and in the centre of the pit, and orientate to best effect. Allow for installing guying as necessary (and additional staking if required) to ensure the tree remains upright and this shall be installed to manufacturers instructions. Install all irrigation piping, capping and support systems in accordance with detail as supplied.

Backfill in layers 150-225mm deep, to set rootbal at same depth as in nursery, allowing for 50mm for settlement. Firm and backfill. Secure tree to crossbar (if it is to be included with guying system. Allow for 1.0m diameter mulching as necessary around all trees within grassed zones.

Unless the soil is already wet, water thoroughly before placing the last layer of soil and allow to drain.

Note: For tree planting within open space zones, adopt the approach above and in accordance drawing detail provided

232 Stakes for Trees.

Stakes: Softwood (preserved), peeled chestnut, larch or oak, free from projections and large or edge knots and with pointed lower end.

Nails: To BS 1202: Part 1, galvanized, minimum 25 mm long and with 10 mm diameter heads.

The stakes shall be set vertically into the ground, and shall be set on the windward side of the tree as agreed with the Employer's Representative. Drive stakes before planting with a drive-all, wooden maul or cast iron headed maul, not with a sledge hammer.

**Refer to landscape details drawing for specific staking requirements.**

233 Tree Ties

Ties are to be approved by the Employer's Representative prior to their use. 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. 45 mm wide. They shall be fitted with a simple collar spacer to prevent chafing, and with a buckle for adjustment. Nail each tie to the stake with one galvanised nail immediately behind the buckle, leaving the tie end free for adjustment. Non-adjustable, buck-less types will not be permitted.

234 Tip Pruning

Include for tip pruning of all standard trees. Pruning will be undertaken to reduce the crown volume, while retaining a proportion of live buds on each branch. The extent of pruning for each species will be instructed on site. Leading shoots shall not be pruned.

235 Hedges

Shrubs for hedges: As specified, consistent in species, cultivar and clone to ensure a uniform hedge. Plant shrubs in trenches large enough to take full spread of roots. Set out plants evenly as scheduled. Allow incorporating a 1.2metre high fence (1.5metre posts (every 3.0m) and sheepwire fencing. Hedge planting to be carried out on the basis of a double-staggered row; i.e. 5no./Sq.m.)

236 Shrub & Herbaceous Planting (including ornamental grasses)

Remove pots, wrappings or containers. Excavate for rootball. Insert plant into ground with minimum disturbance of its roots so that the soil level of the pot matches the surrounding soil level. Do not cover or damage dormant resting buds or shoots.

237 Bulbs/Corms/Tubers

If applicable, plant so that the top of the bulb/corm/tuber is at a depth of approximately twice its height with base in contact with bottom of hole. Backfill with finely broken soil and lightly firm to existing ground level.

When planting in existing grassed areas neatly remove a plug of turf and replace after planting. Scatter naturalized bulbs/corms/tubers at random over the allocated area and plant where they fall.

238 Cutting Back

Plants scheduled for cutting back shall be cut back after inspection. They may be cut back before or after planting. Cut back to approx. 200 mm above ground level, making a sloping cut slightly above a live bud. Cuts shall be made with a sharp pruning knife.

239 Watering

All root balled and pot grown plants shall be well soaked before planting. All planting shall be watered after planting, to consolidate soil around the roots, unless ground is so wet as to make additional water unnecessary.

240 Replacements

The planting will be inspected in Spring and again in the September following planting. Any tree or shrub 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 respects with this Specification, including all specified excavation, provision and incorporation of all fertilizers and ameliorants, and weedkiller treatments.

Failures will not be charged to the Contractor in the following cases:-

- Damage by hares or rabbits, where not protected by fencing or shelters.
- Damage by livestock, where not protected by fencing.
- Failure solely due to prolonged dry weather, except where the Contractor will be responsible for watering.
- Losses due to theft, vandalism or disturbance by other contractors.

Persistence of weed in planted areas will be regarded as a contributory cause of failure due to drought. Prolonged dry weather will not exonerate the Contractor if the scheduled aftercare operations have not been carried out as programmed.

241 Setting Out

Setting out shall be from figured dimensions where indicated, and otherwise by scaling. All planting areas shall be set out and agreed with the Employer's Representative prior to any planting.

Shrubs and ground covers planted in mass shall be at the spacing indicated on the drawings. Shrubs shall not generally be planted closer to a kerb or to the edge of a planting area than a distance equal to half the spacing indicated for that species.

242 Workmanship

**A high quality of finish will be expected at all times.**

Shrubs and Mixed Transplants/Shrubs: Leave surface reasonably even, free of all stones and debris over 50 mm diameter, free of weeds.

Shrubs and Ground Covers: Rake off surface, to leave even, free of all stones over 30 mm diameter, and free of weeds, before mulching.

243 Mulching

**Allow for mulching on formal shrub planting, hedging, and tree planting (semi-circle of 1.0m diameter around all trees within grassed zones) around all existing and proposed trees within the contract boundary to a depth of 75mm.**



**300 GRASS SEEDING**

- 301 Grass Seeding  
To be read with Preliminaries.

**GENERAL INFORMATION/REQUIREMENTS**

- 302 Seeded Areas  
Growth and development: Healthy, vigorous grass sward, free from the visible effects of pests, weeds and disease.  
Appearance: A close knit, continuous ground cover of even density, height and colour.
- 303 Topsoil  
Allow for topping up to allow for an even grass sward to be prepared post contract works.
- 304 Climatic Conditions  
Carry out the work while soil and weather conditions are suitable. Grass seeding to be carried out during the first available opportunity, depending on weather conditions.
- 305 Machines and Tools  
Use only machinery and tools suitable for the site conditions and the work to be carried out. Use hand tools around trees, plants and in confined spaces where it is impracticable to use machinery.
- 306 Watering Generally  
Ensure the full depth of topsoil is thoroughly wetted.  
Use a fine sprinkler or oscillating spray.  
Frequency: As necessary to ensure the establishment and continued thriving of seeding.
- 307 Water Restrictions  
If water supply is or is likely to be restricted by emergency legislation do not carry out seeding until instructed. If seeding has been carried out, obtain instructions on watering.
- 308 Setting Out  
Clearly mark boundaries of seeding areas and obtain approval before starting work.
- 309 Preparation Materials Generally  
Do not use materials containing concentrations of toxins, pathogens or other extraneous substances harmful to plant, animal or human life.  
Submit to the Employer the seed supplier's certificate for the following materials and obtain approval before ordering or using the materials:  
Source of supply  
Analysis of content  
Confirmation of suitability for proposed purpose  
Confirmation of absence of harmful substances.

- 310 Herbicide  
Weeds shall receive a herbicide suitable for suppressing perennial weeds. During the fallow period before cultivations.
- 311 Cultivation  
Break up any compacted topsoil to full depth.  
Reduce top 100 mm of all topsoil to a tilth suitable for blade grading (10 mm down particles).  
Remove undesirable material brought to the surface including stones and clay balls larger than 50 mm in any dimension, roots, tufts of grass and foreign matter.
- 312 Grading  
When topsoil is reasonably dry and workable grade to smooth, flowing contours, with falls for adequate drainage, removing all minor hollows and ridges.  
Unless otherwise stated, finished levels after settlement to be 25 mm above adjoining paving, kerbs, manholes etc.  
Soil levels may be adjusted by blade grading ensuring that there is nowhere less than 150 mm of topsoil. If the required levels cannot be achieved by movement of the existing soil, obtain instructions.
- 313 Fertilizer  
Fertilise grass during seeding with Contractors choice of fertilizer. Fertiliser to be applied to manufacturer's instructions.
- 314 Final Cultivation  
After grading carry out further cultivation to reduce top 25 mm to a fine firm seed bed with good crumb structure.  
Rake with chain harrow, drag mat or hand rake to a true, even surface, lightly firmed but not over compacted, removing all stones and earth clods more than 50 mm in any dimension on general areas.  
Extend cultivation into any adjacent existing grass areas to ensure full marrying in of levels.  
Obtain approval of appearance of prepared soil areas before seeding.
- 315 Quality of Seed  
Purchase fresh seed for each growing season. Do not use seed purchased for previous seasons.  
Use blue label certified seed varieties complying with EC regulations for purity and germination and also complying with the Ministry of Agriculture Fisheries and Food Higher Voluntary Standard.  
Samples of mixture: supply when requested
- 316 Sowing  
Sow seed in calm weather during early autumn in accordance with B.S. 4428  
Spread seed evenly at the specified rate(s) applied in two equal sowings in transverse directions.  
Lightly harrow or rake.  
On light soils roll and cross roll after seeding using a lightweight roller.

317 Seeding for general grass amenity areas:

Mixture: 40% Perennial Ryegrass  
40% Creeping Red Fescue  
20% Chewings Fescue

- Supplier and reference: n/a
- Rate of application: Seed @ 30g/Sq.m.
- Increase rate of application by 50% for slopes exceeding 1 in 2

318 Edges to Seeded Areas

Locations: Planting beds and around newly planted trees.

Timing: After seeded areas are well established.

Arisings: Remove.

**PROTECTING/WATERING/CUTTING**

319 Watering

During establishment of grass areas ensure that sufficient water is applied using a fine sprinkler or oscillating spray to maintain healthy growth.

Planting sites: Form level, stepped or gently sloping areas as scheduled and/ or appropriate to planting water depths and container/ bag sizes and shapes.

320 First Cut of General Grass Areas

When grass is 100 mm high, remove debris, litter and all stones and earth clods larger than 25mm in any dimension, and when grass is reasonably dry, cut to approximately 25 mm high using appropriate machinery.

Arisings: to be collected and removed off site.

321 Cleanliness

Remove soil and arisings from hard surfaces and leave the works in a clean, tidy condition at Practical Completion and after any maintenance operations.

322 Edging

Contract to allow for edging around all existing and proposed tree, by a hand edger to a depth of 75mm. All excess topsoil derived from each edging process to be removed from site. Allow for topping up with bark mulch with a medium grade bark much to a depth of 50mm. Contractor shall allow for edging, similar to above, to the base of all public lighting within the extent of the contract area.

323 Grass along kerbing

No spraying of grass flush with kerb edge will be tolerated.

#### 400 **LANDSCAPE MAINTENANCE & MANAGEMENT**

##### 401 Period

Landscape maintenance works as outlined below shall commence immediately post practical completion. The landscape maintenance requirements as outlined below shall be captured to ensure a quality landscape finish is achieved. Whilst there may be minor alterations from year to year; the operations as outlined below are necessary to achieve a successful landscape scheme.

##### 402 Organisation

The maintenance programme will be organised as follows:-

**Scheduled operations**, in whose timing the Contractor will be permitted some flexibility, and which will be the basis of payment to the Contractor.

**Critical dates**, by which time scheduled operations shall have been completed, and at which performance will be assessed.

##### 403 Performance Standards

General items only shown below:

###### **Trees:**

- All weeds within tree planters shall be killed at each maintenance site visit.
- Weeds shall not exceed 100 mm in height at any stage.
- If newly planted trees (<35cm girth) are noted as dead, the contractor shall remove these and dispose of appropriately off site.

##### 404 Inspections

The Employer's Representative shall attend a review on site on each critical date, or as soon as possible thereafter.

##### 405 Trees: Maintenance

**Maintenance Objective:** Establish a stable and healthily growing tree with a well-shaped framework for future growth.

Allow for hoeing up of soil once every 4 weeks in the growing season (5 times per year). Allow for herbicide treatment once in the winter or spring and 3 additional treatments.

**Note:** In some areas this operation may be replaced by the application of bark mulch as ground cover.

Cut back any tall vegetation that is threatening to shade or smother the young tree  
Allow for cutting back regularly (3/4 times a year).

Water the newly planted trees throughout the summer months (May to August) as required after any period of 4 weeks without significant rainfall (less than 5 mm).  
Apply sufficient water to thoroughly wet the top 150 mm of soil around the tree

roots. This will normally require approximately 10 litres for a seedling or whip and 20 litres for larger trees, include transport of water to the site.

Every month check condition of stakes, and ties. Replace broken or missing items. Adjust if necessary to allow for growth and prevent rubbing of bark. Cut back any damaged bark.

Firm the soil around the roots to ensure that the plant is securely planted in the ground and upright (as necessary and after periods of strong winds)

Formative prune to remove any dead, diseased or damaged shoots and create a balanced form for future growth. Prune trees to favour a single central leading shoot, unless specified otherwise. Remove all arisings from site. Allow for pruning once in the season after planting.

Apply 150g slow release fertiliser (Emnag 4+19+10+7.5% Mg or equivalent) to each tree as growth commences in early spring. Allow for liquid feed on 4no. occasions throughout the year for all trees located within constructed tree pits.

#### 406 Shrub and Herbaceous Areas – Maintenance

Maintenance Objective: Maintain shrub growth to cover as much as the planters as possible and allow the individual plants to achieve as nearly as possible their natural form. Maintain the borders free of visible weeds and shape and prune the shrubs to avoid obstructing pathways or blocking light to windows.

##### Maintenance operations

After planting, if appropriate and in season for the species involved, prune shrubs to remove dead or dying and diseased wood and suckers, to promote healthy growth and natural shape and to develop their desirable ornamental characteristics. At the same time remove intermediate plants that are restricting the natural and attractive development of their neighbours. Remove all arisings from site.

Lightly cultivate the surface soil, to a depth of approximately 50 mm, remove or bury all annual weed or natural litter and break any surface capping. Take special care to avoid unnecessary damage to the shrub plants and ensure that all the shrubs are firmly bedded in the soil. Leave the surface with a fine and even tilth with soil crumbs of less than 50 mm in diameter. **Note:** This operation is only essential where the soil is compacted or as a means of incorporating mulch. Not required where the areas are mulched.

Maintain the soil surface substantially free of weeds (less than 10 per cent weed cover) by hand removal and spot treating with Glyphosate, or approved equivalent. Spot treatment at approximately four-weekly intervals in the main growing season, to a total of five times per season.

**Note:** As an alternative the borders can be regularly hand-hoed at up to two-weekly intervals in the main growing season, to 6 times per year. This procedure is recommended for the first year after planting when the plants may be more sensitive to contact herbicide damage and residual herbicides may not be used.

Immediately after planting or, when and where subsequently directed, mulch the surface of the border with a 50 mm layer of pulverised bark (maximum particle size 50 mm), or other approved equivalent. Thereafter, top dress the mulch as necessary and at least once a year to maintain effective cover. Spot treat or remove any emergent weeds as specified above but do not cultivate or incorporate the mulch into the soil.

Apply slow release fertiliser to all planted areas in Autumn (NPK 0:20:30) at 25g/sq.m to encourage strong root structure and winter hardiness.

Water as necessary to ensure the establishment and continued thriving of all planting. Water to be brought onto site at Main Contractors expense. Water using a fine rose or sprinkler until full depth of topsoil is saturated.

407 Grass Maintenance Objective

To provide an even stand of vegetation of uniform height and colour comprising predominantly grass species, although a small percentage of dichotyledenous plants - no more than 5 per cent - will be accepted.

Maintenance Operations

Before each cut remove all litter and debris.

At the time of each cut, trim all grass edges round the base of trees, manholes, etc. and remove arisings. Sweep all adjoining hard areas clear of cuttings and remove from site.

Mowing shall be carried out using a to maintain the vegetation length within the limits of 30 mm and 75 mm during April to August inclusive and between 50 mm and 90 mm during the rest of the year. (This will normally require mowing at up to once a week in the peak of the season and up to, 30 times per year).

The arisings shall be let fly but must be distributed evenly over the surface and at no time shall the layer of clippings be of such a depth that will affect the growth of vegetation. At no stage must arisings come to rest on paved or planted areas.

Ensure that trees and shrubs are not damaged by the use of mowers, nylon filament rotary cutters and similar powered tools.

Additional Operations

All edges of grass areas, against buildings, footpaths, roadways, trees, posts and any other obstruction shall be kept neat, trimmed and tidy.

Mowing strips against walls, etc. shall be 100 mm wide and may be maintained by the use of an appropriate approved herbicide.

Border edges shall be clipped and not be allowed to exceed 75mm length. **No spraying of grass verges is deemed acceptable. The base of kerbs may be sprayed but a 'cowl' must be used. A review with the landscape architect is required in advance of the same. The contractor shall allow for ensuring all hard landscaped**

**zones (within the contract boundary) are maintained in a weedfree manner throughout the course of the contract.**

Grass areas may be sprayed overall with a suitable approved selective herbicide in accordance with the manufacturer's instructions. Alternatively, spot weeding of isolated weed infestation may be carried out.

Fertilisers to be applied in the period of March to April to provide 40 kg N, 10 kg P and 40 kg K per hectare annually.

Reinstatement by re-turfing or re-seeding of worn areas will be undertaken as necessary. On flat areas, and feature mounds worn areas shall be repaired with suitable turf and protected until it roots into the subgrade.

Water as necessary to ensure the establishment and continued thriving of all seeding. Water to be brought onto site at Main Contractors expense.

Wildflower areas and managing meadow grass land areas – allow for 3 to 5 cuts per annum (allowing for cut and collect) in line with timings as agreed with the landscape architect/suppliers recommendations. A formal programming of grass cutting operations is requested in advance of proceeding with the maintenance programme to ensure the strategy is aligned. Seed suppliers recommendations are to be taken on board with regard to timing of cutting, and maintenance operations in general.

408 Failures of seeding

Bare areas, areas of dead grass that have failed to thrive, which are apparent during the defects liability period, will be regarded as defects due to materials or workmanship not in accordance with the Contract and must be made good by recultivation and reseeded/returfing at times agreed with the Employers Representative.

409 Final Mulching

**Allow for application of enrich fine grade mulching on all areas of formal shrub planting, hedge planting, 1.0m circles around existing and newly planted trees, edging to existing trees (limited to main entrance), pole structures and various site structures (i.e. mini-pillars, postbox) to a depth of 100mm.**

410 Weedkilling

**HERBICIDES AS IDENTIFIED BELOW CAN ONLY BE APPLIED PRIOR TO PLANTING; ALL FUTURE WEED MAINTENANCE OF PLANTING ZONES SHALL BE 'BY HAND'. All weedkillers shall be applied to manufacturer's recommendations with properly designed equipment, maintained in good working order and calibrated to deliver the specified volume, evenly and without local over-dosing.**

The Contractor may, with the Employer's Representative's prior agreement, apply foliar acting weedkillers with an ultra low-volume applicator. The rate of application shall be such as to achieve the same control as the general rate specified. Such application shall not be used post-planting, nor with fosamine ammonium.

Protect foliage of all plants during applications of a non-selective foliar-acting herbicide with an 'Arboguard', 'Politec' guard, or equivalent to the satisfaction of the Employer's Representative. No plant, foliage or stem, shall be directed sprayed, even in winter. Take particular care when using Glyphosate.

Dig out all roots of deeply rooted or noxious species. Remove all weeds from site each day and dispose. Make good disturbance to mulch.

For clover, a formulation of Mecoprop and 2, 4-D suitable for turf. Apply when clover is growing vigorously, according to the manufacturer's instructions. Do not spray in windy conditions, or within 1.5 m of shrub planting without protection. Apply in two half-doses, at right angles to each other.

411 Watering

The Contractor will be responsible for watering planting in all trees, grass, hedges, shrubs, ground-cover, herbaceous and annual bedding areas necessitated by dry weather. Apply water as a fine spray, to moisten full depth of root run. Avoid washing or compaction of the soil surface.

412 Firming

Firm any plant loosened by frost, wind or cultivation.

413 Pruning

Any shoot damaged or found to be dying back on a periodic visit shall be cut back neatly to sound growth with a sharp pruning knife. Prune off wind-damaged shoots to sound growth.

414 Fertilizer:

Trees

Slow Release Fertilizer 'Osmo Pro 2' or similar and approved and lightly rake through mulches. Apply to manufacturers recommendations

A combination of slow release fertilizer and an approved organic seaweed meal can be used as an alternative. Manufacturer and reference: Arramara Teoranta, Kilkieran, Connemara, Co. Galway. Product: Asco Top Dress Fertiliser. (or similarly approved organic seaweed meal).

Apply evenly over all planted areas at manufacturers specified rate g/sq m prior to the 'topping up' of bark mulch. Horticultural graded bark from coniferous trees, particles 25-75mm, free of fine material, dust or wood. Spread to 50mm deep, over full areas of planting described in the schedule.

See clause 306 above for fertilizer requirements for shrub beds.

415 Soil Conditioner/Ameliorant

Manure: Spread well rotted horse or farmyard manure or farmyard dung over all planted areas @ 1cubic metre per 10 Sq.m. on one occasion during the landscape maintenance contract. Timing of application to be reviewed with Employer's Representative. (Poultry or pig manure will not be permitted on this site.)



416 Protection

**The Contractor shall verify the position of any overhead and underground services, and shall ensure that none will be damaged by his work.**

The Contractor shall take all necessary steps to protect paving, roads, kerbs, channels, gullies, walls, fences, structures, furnishings and existing vegetation during the course of his works. Include where necessary temporary coverings, planked barrow runs, etc. Clean mud and soil of all hard surfaces and surroundings to the work.

Any damage to services, surfaces or structures or to existing vegetation caused in consequence of the work shall be made good at the cost of the Contractor.

417 Tidiness and Clearance

All areas of work and access routes shall be kept in a tidy condition. The Contractor shall clean all debris from beds and surrounding surfaces daily during his visits to site, and at more frequent intervals if necessary for the safety of users of the site.

Maintenance Operations

Collect and remove to the contractor's tip all extraneous rubbish, and material arising from maintenance works, which is detrimental to the appearance of the site. This rubbish to include stones, bricks, debris, paper, confectionery and other wrappings, bottles, cans and plastic containers and all other rubbish.

Sweep all paved areas at regular intervals and remove all arisings from the site. Frequency may vary according to time of year or other maintenance operations. Hand or mechanical -sweeping may be used.

Control all annual weed (moss) growth by the application of residual weedkiller. A single application in March/April should normally be sufficient but follow-up spot treatment may be necessary in late summer.

Clear silt and extraneous matter from the drainage gulleys, including the lifting and replacement of the drain cover. Inspect and clear any leaves and other litter from drain gully covers.

Collect and remove from site all leaf litter in Autumn (allow two visits monthly in October, November and December).

Border edges shall be clipped and not be allowed to exceed 75mm length.

Allow for this operation to be carried out at regular intervals organised in conjunction with other maintenance visits and operations.

Collect and remove to the contractor's tip all extraneous matter which has deliberately been deposited on the site by persons known or unknown (fly-tipping). Such matter to include, inter alia, bricks, rubble, garden and household refuse, discarded domestic appliances, furniture and scrap metal.

418 Other specific site items to be address:

- All newly **planted hedging** to be retrained into the temporary support fencing. All hedging to receive 4 trims per year for native hedging and 3 trims for all other ornamental hedging proposed.
- All **whip planting** shall be refirmed and formative pruning be carried out on 1no. occasions during the maintenance period to ensure good form and growth.
- Where **bulbs are grown in grass swards**, these shall be left die in the grass sward. Grass shall not be mowed in this areas for some 6-8 weeks and this shall be addressed in the grass programming schedule as referenced previously.
- **Climbers** shall be trimmed back 2/3 times per annum to ensure good 'connection' to walling from the base. Climbers shall be cut off at height of walling and maintained as so.
- Where used, **Gator bags** to be continually 'topped up' as necessary to ensure a continued supply. Filling of bags to be inline with manufacturers recommendations.



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