

The Danish Church

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3-YEAR LANDSCAPE MAINTENANCE
PLAN

C.F. MØLLER LANDSCAPE

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LANDSCAPE



St Katharine's
Den Danske Kirke i London

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1.0 Introduction

C.F. Møller Landscape have been appointed by The Danish Church to prepare this Landscape Management Plan for the external landscape of The Danish Church, located in the Grade II* Listed St. Katharine's Church in Regent's Park, London.

The following document has been prepared to discharge the Grant Planning Condition 5 stating "No works to the garden landscaping shall take place until full details of hard and soft landscaping and means of enclosure of all un-built, open areas have been submitted to an approved by the local planning authority in writing. Such details shall include details of: (...) c) A scheme of maintenance for three years from the time of planting, including details of irrigation/watering, prepared in accordance with BS 8545:2014."

This document relates to an area of approximately 950 sqm of the proposed development and it should be considered as the starting point for an evolving document and is to be reviewed on an annual basis.

An Estate Management Company (EMC) will be responsible for the general maintenance and management of the landscaped areas within the property. The present document gives an outline reference specification of the works to be executed by the EMC in a manner that enhances the appearance and maintenance of the landscape areas. The requirement is for the routine and seasonal maintenance of landscaping features, and the upkeep of rigorous standards of cleanliness and tidiness of the garden.

This document sets out the management and maintenance objectives, for the protection and enhancement of the gardens, and the requirements of the management company that will undertake the work and oversee an ongoing review of the strategy.

2.0 General Site Description

The Danish Church is listed Grade II* under the 1990 Act with the list entry number 1245872. The List Entry Summary describes the church as, "...1826-1828. By Ambrose Poynter... Restored 1969. Grey brick with stone dressings; west end with stone facing. Tall, collegiate type chapel in Perpendicular style of 7 bays. Attached to and flanking the church, No.4 The Pastor's House and No.5 St Katharine's Hall".

The Summary continues with a description of the exterior and interior of the church itself, and concludes with a historical note. Other than the above, no mention is made of the gardens.

Of course, this does not denote that they are unimportant, nor that they would be altered without careful thought.

Certainly, the Danish Church's north and south gardens are private in the same way as are the gardens of those other houses in the Precinct, gardens within several of which some very significant alterations have already gained Planning and Listed Building Consents.

3.0 Ecology

The site has potential to offer suitable habitat for common species of nesting birds in the scattered trees, hedgerows and shrubs on site.

Therefore, maintenance operations to trees should only be undertaken outside of the bird nesting season (March-September inclusive). If this is not possible, trees should be checked for nesting birds by a suitably qualified ecologist immediately prior to any tree maintenance operations. If any nests are found, they would have to be left undisturbed until the chicks had fledged (usually around six weeks).

4.0 Policy, Legal Protection Relating to The Site

- (i) The site lies within the administrative authority of London Borough of Camdem.
- (ii) Grade II* under the 1990 Act. It's List entry Number is 1245872. The List Entry Summary describes the church as, "...1826-1828. By Ambrose Poynter... Restored 1969. Grey brick with stone dressings; west end with stone facing. Tall, collegiate type chapel in Perpendicular style of 7 bays. Attached to and flanking the church, No.4 The Pastor's House and No.5 St Katharine's Hall".
- (iii) The site is not subject to any nature conservation or landscape designations.
- (iv) All birds and their nests are also protected under the Wildlife and Countryside Act 1981. Site management must be aware of the need to avoid disturbance or harm to nesting birds either by avoiding the nesting season, March to August inclusive and/or by checking that no nests would be affected by particular works.
- (v) All British bat species are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981, as updated by the Countryside and Rights of Way Act 2000. All British bats are also included on Schedule 2 of The Conservation of Habitats and Species Regulations 2017 as European Protected Species. Taken together, these pieces of legislation make it an offence to:
 - intentionally or recklessly kill, injure or capture bats;

- deliberately or recklessly disturb bats (whether in a roost or not); and
 - damage, destroy or obstruct access to bat roosts.
- (vi) Health and Safety: All work undertaken on the site by contractors, volunteers or direct employees must comply with the appropriate legislation relating to health and safety and the Control of Substances Hazardous to Health (COSHH).
- (vii) The hereby landscape works to The Danish Church were granted Listed Building (2018/2185/L) and Full Planning Consent (2018/2186/P) on the 17 July of 2018.

5.0 Development Proposals

The Danish Church landscaped areas in which this document focus on are the South and North Gardens.

The South Garden is essentially the garden to the Vicarage wing but is also a multi-purpose space and great asset to the church. It can act as a large public space which hosts the annual bazaar alongside many informal outdoor events. Currently, the lightwells which provide direct access to the basement vicarage levels are perfunctory, uninhabited spaces.

A real opportunity became apparent to greatly improve and bring to life these spaces, by extending the lightwells into sunken terraces and creating a more gradual edge to the garden. There is an opportunity for the meeting and teaching spaces to spill out onto the extended sunken terraces and gentle terraced landscape.

As the church expands and improves its outreach programmes in the basement meeting rooms to the Vicarage, it became essential to consider these spaces and, in turn, their light levels and connection to the greater garden.

Summarizing, landscape works to South Garden will include:

- Removal of low fence encircling the Jelling Stone replica;
- Extension to lightwells by the removal of existing lightwell retaining walls;
- Removal of vicarage stair internal stair treads;
- Re-location of low garden wall containing shrubs;
- Tree and shrubbery pruning;
- Tree fell and replacement;
- New herbaceous and shrub planting.

The landscape proposal to the North gardens resumes to make good the landscape to its original state.

6.0 Landscape Management Plan

Generally, the landscape management plan objectives for the site are:

- to provide and maintain an attractive/visually appealing and robust landscape setting to the development;
- to contribute to the value of the green infrastructure on site, and helping provide links with the wider landscape;
- to control invasive and undesirable species and aim to reduce cover of other non-native species to a set level;
- to maintain and reinforce the landscape and ecology value of the site;
- to enhance the ecology of the site and improve local biodiversity wherever possible;
- to maintain health and safety requirements to all areas of public open space for both residents and visitors.

7.0 Management Objectives

The key objective is to improve and maintain the new landscape and ecology structure in perpetuity. This will be achieved through the implementation of this management plan by the Estate Management Company.

All operations are to be carried out in accordance with the Maintenance Specification included in sections 9-16 of this document.

The site has been divided into vegetation types. Existing conditions, the relationship of particular areas to the development and the influences and constraints affecting those areas have also been considered. The extent of these vegetation types is given a brief description below, as are the influences and constraints on them. Specific objectives are given, drawn from the overall objectives.

8.0 Schedule of Operations

8.1 Trees

Proposed tree planting complements the proposed site character and is suitable in size and form for its location and the species suits the climatic conditions present on site. The tree strategy follows the principles below:

- Includes a broad range of species similar to existing, in relation to site scale, which provides greatly increased biodiversity, wider range of habitats and resilience to climate change;
- Uses the principle of 'right-tree, right-place' using species which are appropriate in their eventual form, size and vigor so that they will achieve maturity without complications or the requirement for significant pruning;
- Uses species with low maintenance requirements.

Management aims:

- To create visual interest, structure, focal points, movement, seasonal and horticultural interest, creating and reinforcing the character of different areas;
- To extend and enhance habitat diversity.

8.2 Ornamental Shrubs and Herbaceous Planting

The shrub and herbaceous planting will define each of the key areas within the landscape scheme. Ornamental planting will primarily consist of low level shrubs and herbaceous plants.

- Ornamental shrub and herbaceous planting will be based in a colorful, all year-round interest range of species, able to provide;
- Attention will be given to the principle of the right species to the right location, especially in regards to exposed and shaded areas;
- A well-maintained landscape also encourages legitimate use.

Management aims:

- to create colour and interest in all seasons;
- to inspire and excite visitors;
- to distinguish the different key areas within the scheme.

- to establish and maintain species-rich planting of differing character, which will support a range of invertebrates and flowers that attract pollinators at different times of the year;

9.0 General Maintenance Conditions

9.1 Introduction

- (i) The works consist of the maintenance and management of the new planting, including trees, shrubs, herbaceous planting and grassed/wildflower areas.
- (ii) The works to be maintained are detailed on the drawings that accompany this Maintenance and Management Plan.
- (iii) The works shall be maintained by the responsible Landscape Contractor from practical completion for the defects liability as follows:
 - Trees - 24 months from practical completion;
 - Shrubs/Herbaceous Planting - 12 months from practical completion;
 - Turfed areas - 12 months from practical completion.
- (iv) If within a period of five years from the date of planting, any tree or plant is removed, uprooted, destroyed, dies or becomes, in the opinion of the Local Planning Authority (LPA), seriously damaged or defective, another tree or plant of the same species as that originally planted shall be planted in the same place, unless the LPA gives its written consent to any variation.

9.2 Landscape Contractor

A suitable specialist Landscape Contractor, employed by the EMC, shall carry out the works described in this specification. The proposed Landscape Contractor shall be a full member of the British Association of Landscape Industries and shall only be selected from the list of approved Contractors.

9.3 Machines and Tools

Machines and tools are to be used that are 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.

9.4 Workmanship

- (i) Method of Work – the method of executing any of the work in this specification and schedules unless specifically mentioned, is at the discretion of the Landscape Contractor and the EMC.
- (ii) Good Practice – Where and to the extent that materials, products and workshop are not fully specified they are to be suitable for the purposes of the works states in or reasonably to be inferred from the contract documents, and in accordance with good horticultural practice, including the relevant provisions of current British Standard documents.
- (iii) Maintenance standards should at all times reflect the development's high-quality image. The Contractor shall keep all planting area weed free, plants vigorous and healthy, and the overall landscape environment neat and tidy.

9.5 Programme of Works

- (i) The Landscape Contractor shall co-ordinate with the EMC's programme then submit a detailed programme of works prior to starting work on site.
- (ii) The specification equates calendar months to Performance Periods. Performance Period 1-12 equates to January to December (PP1 = January, PP12 = December).
- (iii) The Landscape Contractor shall report any potential failures to meet the specified programme to the EMC. Any changes to the agreed programme must be in writing with the EMC.

9.6 Chemicals

- (i) Legislation

Pesticides include herbicides, insecticides, fungicides and plant growth regulators. The use of pesticides is governed by legislation. The Landscape Contractor must comply with the 'The Control of Pesticides Regulations 1986' made under the 'Food and the Environment Protection Act 1985', 'The Control of Substances Hazardous to Health Regulations 1988' made under the 'Health and Safety at Work Act 1974' and any other legislation enacted during the contract period.

All pesticides must be products on the current list of Agricultural Chemicals Approval Scheme. All pesticide users shall comply with the conditions of approval relating to use clearly stated on the product label.

The Contractor must comply with all relevant Codes of Practice issued by DeFRA. In particular, where work is near water, comply with the 'Code of Practice for the Use of Herbicides on Weeds in

Watercourses and Lakes'. Written approval from the Environment Agency (EA) should be obtained prior to the use of pesticides within these areas.

(ii) Certificates

A recognized nominated storekeeper's certificate of competence (BASIS) is required by a Contractor storing more than 200 litres of pesticides. All pesticides transported or stored in the Contractor's vehicles (regardless of quantity) shall be locked in a separate storage compartment in the vehicle or within a lockable container in 'pickups' that are bolted to the floor of the vehicle.

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The storage locker must be sealed and clearly marked as containing pesticides and must bear a standard black and yellow hazard sign.

A Certificate of Competence (National Proficiency Training Certificate) must be held by the Contractor applying pesticides and handed to the EMC prior to commencement on site. Only Certificate of holders shall mix, apply and dispose of pesticides and other chemicals on the site.

(iii) Use of Pesticides

Notification of at least 24 hours shall be given to the EMC of the Contractor's intention to carry out application of pesticides. The Contractor shall select the most appropriate and effective method for each particular area or situation or for any particular use or specific work and shall notify the EMC of the type of pesticide, active ingredient, and method and timing of application.

The Contractor shall keep a written logbook detailing all uses, and pesticide applications carried out and a copy shall be submitted to the EMC for record.

The Contractor is required to notify the public of any pesticide application. A warning sign shall be posted at the entrance to the areas to be treated. Where contained solely within planting beds the sign shall be placed adjacent to edges in noticeable positions. Details of the application and a contact person shall be indicated on the sign.

The Contractor shall in accordance with COSHH Regulations protect employees and other persons, including the public, who may be exposed to substances hazardous to health.

The Contractor shall restrict the use of chemicals strictly to where necessary either to maintain formal landscape areas or to control notifiable weeds. Informal landscape areas, parkland and peripheral areas should be free of both pesticides and fertilizers except where necessary.

(iv) Disposal

The Contractor shall dispose of waste pesticides and containers in accordance with the control 'Control of Pesticides Regulations 1986', Control of Pollution Act 1974', and 'Water Act 1989'. Safe disposal arrangements shall be made before starting to apply pesticides.

Concentrated pesticides shall be disposed of in arrangement with the local Environmental Health Department or with a specialist waste disposal contractor.

Empty containers shall not be re-used for any purpose and containers shall be cleaned thoroughly in accordance with label instructions prior to safe disposal.

(v) Generally

The Contractor shall be responsible for making good and or compensation for any damage resulting from negligence in the application, handling and storage of pesticides.

The Contractor shall be responsible for keeping up to date with all legislation and regulations regarding the use of pesticides. The Landscape Contractor shall inform the EMC of any subsequent changes to legislation and regulations that affect the contract.

9.7 Protection

The Landscape Contractor shall in respect of the maintenance works and adjacent areas of the site used by him during the contract ensure that:

- Adequate protection of existing and newly planted/turfed areas is erected and maintained to prevent damage;
- There is appropriate making good on removal of any protective measures on completion;
- There is repair of any damage to adjacent and existing site works and features;
- All hard surfaces used are kept, protected, clean and tidy;
- All protective fencing at the end of the 12/24 months defect liability period will be removed.

9.8 Watering

Watering shall be undertaken as necessary to ensure that trees, grass and plants remain healthy, establish and grow, especially during the summer months (May to Aug) or during periods of prolonged drought where more frequent visits may be required.

Monitoring is recommended if there are 10 consecutive days during the growing season at ≥ 25 °C. Water should only be added if soil moisture probe/tensiometer values indicate that it would be appropriate to do so.

The frequency of irrigation is more important than the volume of water given at any one time and increased water volumes cannot compensate for a lack of frequency.

There are two existing external taps – one next to the vestry entrance and other in the North Garden. An additional tap is proposed in the south Garden in order to make possible to cover both South and North Gardens with a hose of 30m reach.

9.9 Arisings

The Landscape Contractor appointed by the EMC is to remove from the site and dispose of weeds, prunings, leaves, litter, rubbish, dirt and other arisings unless specifically described as to be left and spread over beds etc.

10.0 Tree Management

10.1 Tree work

Tree management to include work to proposed trees and existing retained trees. The Contractor shall allow a sum to maintain all tree stock in accordance with the specification set out below.

10.2 Preambles

- (i) Prior to starting work the EMC and Contractors shall agree the trees that are to receive work.
- (ii) Prior to, during and after work the Contractor should avoid damage to neighbouring trees, plants and property.
- (iii) All works should be in accordance with BS:3998 2010 and Forestry and Arboricultural Training and Safety Council Safety Guides. All operatives undertaking chainsaw work must hold appropriate certification and should be approved members of the Arboricultural Association.
- (iv) As a rule, wherever possible, management should be as minimal as possible, subject to meeting health and safety requirements.
- (v) Any works to the trees is to be carried out in accordance with the legal agreement for the site and therefore following consultation and written consent from the Local Planning Authority (LPA).

10.3 Generally

10.3.1 Tree Stakes and Ties

- (i) The Contractor should check on a two monthly basis the condition of Tree Stakes and Guys. In addition, further inspections should be carried out immediately after strong winds.
- (ii) Stakes – replace loose, broken or decayed stakes to original specification. If longer than half of clear tree stem height, cut to this height in spring. Retie to tree firmly but not tightly with a single tie.
- (iii) Ties – Adjust, refix or replace loose or defective ties, allowing for growth and prevent chaffing. Where chaffing has occurred, reposition or replace ties to prevent further chaffing.
- (iv) Removal of Stakes and Ties – remove stakes and ties two years after planting. Fill stake holes with lightly compacted soil.
- (v) Wires or straps used in underground guying systems that could cause damage to the growing stem or structural roots should be cut as soon as the tree is self-supporting.
- (vi) The area around the base of the tree should be free from competing vegetation.

10.3.2 Tree Guys

- (i) The Contractor should check on a two monthly basis the condition of Tree Guy Wires. In addition, further inspections should be carried out immediately after strong winds.
- (ii) Operations – replace or re-secure loose or missing guy wires. Adjust to suit stem growth and to provide correct and uniform tension.
- (iii) Removal – two years after planting.

10.3.3 Re-firming Trees and Specimen Shrubs

- (i) Re-firming Trees and Shrubs – shall be carried out after strong winds, frost heave and other disturbances. To re-firm the Contractor should tread around the base until firmly bedded. Any collars in the soil at the base of tree stems, created by tree movement should be broken up by fork, avoiding damage to roots. The voids should be backfilled with topsoil and re-firmed.

10.3.4 Formative Pruning

Formative pruning should be carried out in accordance with BS 3998 as required throughout the early years of a tree's life in the landscape. Some of the nursery-prepared branching structure is temporary, and formative pruning should continue until a permanent structurally sound scaffold system of branches typical of the species and appropriate to the site circumstances is produced.

- (i) Formative pruning of young trees – This work should be undertaken to ensure the successful establishment of the trees. The works should not be carried out during the late winter/early spring sap flow period.
- (ii) Young trees up to 4m high should be crown pruned by removing dead branches and reducing selected side branches by one third to preserve a well-balanced head and ensure the development of a single strong leader. Remove duplicated branches and potentially weak or tight forks. In each case cut back to live wood.
- (iii) Extensive pruning of young trees and any surgery to larger trees must be carried out by an approved member of the Arboricultural Association or other approved specialist.

10.3.5 Cleaning Out and Deadwooding

Remove:

- (i) Dead, dying, or diseased wood, broken branches and stubs;
- (ii) Fungal growths and fruiting bodies;
- (iii) Rubbish, windblown or accumulated in branch forks;
- (iv) Wires, clamps, boards and metal objects, if removable without causing further damage and not part of a support structure that is to be retained;
- (v) Other unwanted objects, e.g. tree houses, swings;
- (vi) Climbing plants.

10.3.6 Cutting and Pruning Generally

- (i) All the tools used should be appropriate, well maintained and sharp. Final pruning cuts – do not use chainsaws on branches of less than 50 cm diameter. When using handsaws, cut in one continuous operation to form a smooth cut surface. Do not use anvil type secateurs.
- (ii) When removing branches do not damage or tear the stem.

- (iii) Keep wounds as small as possible, cut cleanly back to sound wood leaving a smooth surface, and angled so that water will not collect on the cut area.
- (iv) When cutting, cut at fork or at the main stem to avoid stumps wherever possible.
- (v) Large branches – remove only if unavoidable. Remove in small sections and lower to the ground with ropes and slings.
- (vi) Dead branches and stubs – when removing do not cut into live wood.
- (vii) Unsafe branches – remove epicormic shoots and potentially weak forks that could fail in adverse weather conditions.
- (viii) Disease of fungus – give notice if detected. Do not apply fungicide or sealant unless instructed.
- (ix) Bark Damage – wounds – do not attempt to stop sap bleeding. Gently remove ragged edges and remove splintered wood from deep wounds as small as possible. Give notice if there is any liquid or flux oozing from apparently healthy bark.
- (x) Cavities in Trees – Cavities should be investigated. Old cavities in mature trees should be left alone subject to health and safety audit. New cavities are likely to have been made by woodpeckers and may reflect nesting in which case disturbance is illegal. Where the extent of a cavity is not visible, there is also a risk a bat or bats may be present. Such cavities should be notified but no further action taken without advice from a suitably qualified ecologist. For new small cavities in ornamental species, where bats or nesting birds are obviously absent, rubbish and rotten wood should be removed. The cavity should be probed to find the extent of any decay, and give notice. The cavities should not be covered.
- (xi) Stack all wood arising from the works in neat piles in areas to be agreed with the ecologist to provide invertebrate habitat opportunities.

10.3.7 Crown Reduction/Shaping

- (i) In general cut back selectively to lateral or sub lateral buds or branches to retain flowing branch lines without leaving stumps.
- (ii) The extent of the works will be as instructed by the client.

10.3.8 Crown Lifting

- (i) Removing branches: remove whole branches back to the stem or cut lower portions of branches back to lateral or sub lateral buds or branches. Do not leave stumps.

- (ii) The extent of the works will be as instructed by the EMC. In general, for clearance remove branch systems to give clearances as follows: 2.5m above pathways.

10.3.9 Crown Thinning

- (i) When removing branches, remove inward growing, crossing, rubbing, dead and damaged branches. When thinning selectively remove an agreed percentage of secondary and small live branch growth evenly throughout the crown. When cutting, make no cuts of more than 50mm diameter. Cut portions of branches back to lateral or sublateral buds or branches without leaving stumps. The appearance should be uniform with a well-balanced structure of branches and foliage.
- (ii) The extent of the works will be as instructed by the EMC.

10.3.10 Tree Inspection

- (i) Review the existing and newly planted trees at regular intervals to maintain the longevity of the tree stock on site.
- (ii) A formal assessment of young tree health and development should be carried out annually. This assessment should include foliar appearance (i.e. lack of leaf chlorosis and/or necrosis), leaf size and leaf canopy density, extension growth and incremental girth development. Continual assessment on an ad hoc basis should be carried out throughout the year, to inform maintenance requirements.
- (iii) Remove all stakes and ties off new trees after year 2. Carry out works in accordance with 10.3.1.
- (iv) All trees should be checked on a regular basis for external damage, being mammal, human or other. Remedial action should be taken as soon as possible.
- (v) Pests and diseases inspections should be taken on a regular basis. Remedial action should be taken promptly on discovery, where necessary.
- (vi) Unless specific nutritional deficiencies are identified, no fertilizer should be applied to newly planted trees in the first season. If visual inspection reveals symptoms of nutrient deficiency such as leaf scorching, pale foliage or necrotic spots, then further investigation will be necessary with remedial action taken. Remedial action may, in addition to fertilizer application, include pH testing, assessment of organic content and levels of compaction.

10.3.11 Emergency Call Out

- (i) The Contractor shall price to provide a call out facility:

- TMEC01a: 1 hour emergency call out (during working hours);
- TMEC01b: 1 hour emergency call out (out of working hours).

(ii) Normal working hours are deemed for the purpose of the Specification to be 7.30am – 6.00pm, Monday to Friday. Out of hours shall not include Bank Holidays.

TABLE I Specimen Trees Management Objectives and Prescription

Objective	Prescription	KPI/Standard	Monitoring
Maintain specimen trees to ensure they fulfil relevant management aims	Establishment maintenance		✓ Tree condition to be inspected and recorded annually in late summer/early autumn (before leaf fall); written report with recommendations for actions; particular reference to health and safety, structure and plant health/disease control; ✓ Tree matrix data updated.
	✓ weed control – top up mulch twice pa within 500mm radius of stem (excluding meadow areas); containers - weed monthly	✓ competitive weeds kept to less than 10% ground cover;	
	✓ stake and tie maintenance – spring and autumn	✓ stakes and ties provide support; zero damage to trunk;	
	✓ identify trees on banks/slopes with exposed root balls and assess needs for stabilisation and soil covering	✓ all trees stabilized / soil covered in Year 1;	
	✓ annual inspection (August) and replacement (dormant season)	✓ losses / replacement: tolerance threshold – replace all.	
	✓ timing – for 5 years after planting or as required		
	Pruning		
	✓ Formative pruning of newly planting specimens as required and as dictated by site and use;	✓ In accordance with good arboricultural practice; ✓ In accordance with good horticultural practice.	
	✓ Formative pruning of newly planting specimens as required and as dictated by site and use;		
	✓ Formative pruning of newly planting specimens as required and as dictated by site and use.		
	Mature tree maintenance		
	✓ annual inspections (with report and recommendations) of mature trees, carried out by arboricultural ranger	✓ In accordance with good arboricultural practice; ✓ Annual inspections undertaken.	
	✓ assess need for removal of branches overhanging water ways, paths and roads		

11.0 Ornamental Shrub Maintenance

11.1 Preamble

11.2 Litter

- (i) The Contractor shall remove all litter as detailed in Section 18 from all shrub areas.
- (ii) All arisings shall be collected and removed from site at the end of each work period and taken to the designated location for disposal.
- (iii) Remove, using correct horticultural practices, all fallen flowers, leaves and other debris. All cultivated areas shall be cleared of litter and other debris on each maintenance visit.

11.3 Edging

11.3.1 Maintain Edges of Shrub Beds

The Contractor shall maintain the edges of all shrub beds in a neat and tidy appearance by using a half moon edging iron on one occasion between October (PP10) and March (PP3). Bed soil shall be pushed back and left at a 45-degree angle from the edge, starting slightly below surrounding levels. The edges of beds abutting grassed areas shall be slightly sloped to avoid a vertical or undercut appearance. The shape and size of the bed edge shall not be altered by this operation. All litter, arisings and similar debris shall be removed from the adjacent channel for disposal to leave the channel neat and tidy following each visit.

11.3.2 Trimming Grass Edges

The edges of grass areas which abut maintained beds and similar areas shall be trimmed with long handled shears or other approved mechanical means.

11.4 Generally

11.4.1 Shrub Area Maintenance

- (i) Remove, using correct horticultural practices, all fallen flowers, leaves and other debris. The Contractor shall ensure that each maintenance visit coincides with a litter removal visit.
- (ii) The Contractor shall prune shrubs in accordance with Section 11.4, in order to prevent obstructions to paths, roads, signs, steps, sight lines, windows, doors and other similar situations and to allow access as directed by the EMC.
- (iii) The Contractor shall at each visit remove all dead, damaged, infested, reverted or diseased branches and stems using correct horticultural practices. The Contractor shall otherwise prune all plant material at the correct pruning time and in accordance with Section 11.4 of this specification. Any plants grown for winter stem colour or similar effects, as specified by the EMC shall be pruned at the optimum time to provide the maximum display.
- (iv) All dead shrubs and plants shall be removed and the EMC advised.
- (v) The EMC may instruct the Contractor to supply and plant new plant material in accordance with the Planting Specification, at the same time as the plant material is removed or as specified by the EMC within the planting season.
- (vi) Remove weeds by pulling by hand, hoeing and raking, avoiding damage to stems, branches and plant roots, leaving a clean weed free surface cultivated to a medium tilth. No herbicides shall be used.

11.4.2 Cultivation Visit

- (i) The Contractor shall undertake the following works to the entire shrub bed on one occasion during November (PP11).
- (ii) The Contractor shall cultivate beds to relieve areas of compaction to a depth of 75mm in order to maintain a high standard of appearance, by forking or similar approved method. Care will be taken not to damage or disturb roots, branches and stems, and avoid excessive treading of the surface. The Contractor shall break down any lumps and leave the surface weed free with a medium/fine tilth.

11.5 Pruning

11.5.1 Preamble

- (i) The Contractor shall prune all plant material at the correct pruning time and in accordance with this Specification.

- (ii) This represents general guidelines for pruning. The Contractor shall note that pruning methods differ with species, cultivar, maturity and the exact position of the shrub. If the Contractor is in any doubt about the appropriate method to be used, then the advice of the EMC shall be sought.
- (iii) Pruning of individual shrubs shall be carried out using skilled labour only and adopting correct horticultural practice.
- (iv) The purpose of pruning is to build a strong framework, keeping shrubs healthy and vigorous, maintaining the shape and balance, ensuring the maximum amount of flowering wood is produced and that the shrubs do not create a nuisance or danger. All pruning shall be carried out to the highest horticultural standards using secateurs, loppers and other method approved by the EMC. Cuts shall be made to an outward pointing bud. Suckers shall be removed at their source on the roots of affected shrubs. Reverted branches shall be treated in a similar manner. All areas adjoining footpaths and other surfaces shall be swept/raked following pruning works at the end of each work period, leaving the area neat and tidy.
- (v) The Contractor shall allow when pruning shrubs in order to prevent obstructions to paths, roads, signs, steps, sightlines, windows, doors and other similar situations, and to allow access.
- (vi) The Contractor shall remove all dead, damaged, infested, reverted or diseased branches and stems, using correct horticultural practices.
- (vii) If a shrub is winter berry-bearing, pruning shall not be carried out until March (PP3), or until there are no berries remaining (whichever is the sooner). When pruning is undertaken, care shall be taken to leave as many berries as possible and at least 2" (60mm) of the previous year's growth, to allow flowering the following year.
- (viii) All dead flower heads shall be removed to maintain display and keep a well-cared for appearance.
- (ix) All climbing plants shall be tied in as necessary and the Contractor shall inspect any wires, frames and supports for damage. Any damage shall be reported to the EMC. Remove excess growth, to ensure that signs, doors and windows are kept clear at all times.

11.5.2 Important Pruning Instructions

The following practices shall not be tolerated:

- (i) Never cut everything off at one level;
- (ii) Never prune up the stems of plants to access litter;
- (iii) Do not open up shrub beds unnecessarily by pruning back each shrub all over. A natural looking shrub bed shall be achieved, not topiary;

- (iv) If in the opinion of the EMC, the Contractor has incorrectly pruned any shrubs, then the Contractor shall prune to make good to the complete satisfaction of the EMC. Replacement or remedial work shall be carried out at the Contractor's expense, unless the damage to the shrubs has resulted from acts of vandalism or theft.

11.5.3 Pruning Schedule

A. Slow Growing Specimen

If pruning is required, it will only involve light shaping and shall be carried out February (PP2) to March (PP3).

B. Spring Flowering

All wood which has borne flowers shall be removed. Young wood shall be retained to ripen and produce flowers in the following year. Thin out crowded and crossing shoots and remove weak growth. Pruning shall be carried out after flowering in May (PP5) to July (PP7).

C. Most Deciduous/Vigorous Evergreen

One or two old stems shall be removed completely, and the younger flowering shoots shall cut back to the fresh growth of the main branches. Thin out crowded and crossing shoots and remove weak growth. Pruning shall be carried out between November (PP11) and March (PP3).

D. Stem Effect/Marginal Hardiness

The previous season's wood shall be cut back to within two or three buds of the old wood. Thin out crowded and crossing shoots and remove weak growth during March (PP3) to April (PP4).

11.5.4 Remedial Pruning

The EMC may instruct the Contractor to undertake remedial pruning to shrubs. This work will be assessed on a square meter basis and may include the entire bed or part of it. Examples might include shrubs which have overgrown their position and become too tall, wide or mature. Some of the techniques are detailed below but this list is not exhaustive, and the Contractor shall be required to liaise closely with the EMC to ensure methods adopted are appropriate to particular situations.

11.5.5 Solid Shrub Blocks Abutting Pavements

Where shrubs have been historically faced up, they may resemble hedges and may even have been cut accordingly. If the EMC applies the remedial pruning rate to convert such beds back to a

specified regime, then it may be carried out over two or more seasons, treating half or less of the bed at a time, adopting the following:

- (i) Branches which are strongly growing towards the pavement or road shall be cut off at ground level or back to the main trunk.
- (ii) The remaining branches shall be reduced beyond any twiggy front edge to expose the structure. Where possible, the branches shall be thinned as necessary to create a structure appropriate to its position.
- (iii) All dead, diseased, damaged and crossing branches shall be removed and the resultant shape must be natural. Where possible, pruning cuts shall be made above a bud.
- (iv) When pruning is complete, the structure shall be such that the shrub will not extend over the pavement after a season's growth.
- (v) To prevent the face of evergreen shrubs being cut back too hard in one season, the EMC may specify that the work shall be extended over two growing seasons.
- (vi) During remedial pruning, the removal of berrying or flowering wood may be necessary but this will only take place with the EMC authorization.

11.5.6 Tall and Specimen Shrubs

- (i) Where such beds front the pavement and form impenetrable blocks, by carrying out steps detailed in Section 15.4.5 (i) - (vi), access can be gained to the centre of the beds.
- (ii) At this stage, sufficient of the oldest, upright branches shall be removed at ground level or back to a main trunk to open up the canopy and encourage healthy, young wood.
- (iii) Work shall now continue using approved hand tools to produce a new structure of a size appropriate to its position to a maximum of 2.4m but this is dependent on species/cultivar. With vigorous shrubs, such as certain *Pyracantha* cultivars, pruning cuts shall be made to encourage less vigorous, down aimed shoots.
- (iv) The pruning shall be deemed complete when shrubs have a naturally shaped canopy, with the bulk of the growth being between 1.5m and 2.0m.

TABLE 2 - Ornamental Management Objectives and Prescription

Objective	Prescription	KPI/Standard	Monitoring
Maintain gardens to high horticultural standards	Pruning (shrubs):	<ul style="list-style-type: none"> ✓ Retain Existing spp. Mix and layout annually or planting fit for purpose and displaying desired horticultural features ✓ Pruning to be in accordance with an agreed method statement 	<ul style="list-style-type: none"> ✓ Weekly mollusc monitoring in spring/annual monitoring to review fulfillment of management aims
	✓ Prune when required to encourage healthy and bushy growth, desirable ornamental features (flowers, fruit, autumn colour, stem colour, etc) and to remove dead/ dying/ diseased wood		
	Time of the year (principles):		
	✓ Winter flowering shrubs: spring.		
	✓ Shrubs flowering in March - July: immediately after the flowering.		
	✓ Shrubs flowering in July - October: back to old wood in winter.		
	✓ Cut with appropriate hand tools in accordance with good horticultural standards.		
	✓ Compost arisings.		
	✓ Cutting back of herbaceous material.		
	✓ Prune back herbaceous plants to ground level from early February according to garden and species requirements and remove all arisings		
	✓ Remove the seed heads to prevent migration of seed to areas where not required.		
	✓ Grooming or combing of evergreen grasses in early Spring.		
	✓ Monitor impact of mollusc pests and review need for biological control or organic slug pellets.		
	✓ Thinning/lifting/replanting.		
✓ To reduce dominance, retain balance of spp and renew as required.			
Mulching:	<ul style="list-style-type: none"> ✓ Tolerance thresholds: single plants with leaf spread of <50mm and groups of no more than 3 plants / m2. 		
✓ Top up mulch to original depth at least annually or as required to ensure depth of 25 - 50 mm.			

12.0 Herbaceous Planting Maintenance

12.1 Litter

Areas of herbaceous and stitch planting shall be kept free of litter, so that at no time shall litter coverage of 5% be tolerated, and in accordance with Section 17 of this specification.

12.2 Maintenance of Herbaceous Planting

12.2.1 General Maintenance Visits

- (i) The Contractor shall carry out a minimum of 32 weekly visits for general maintenance at equally spaced intervals from March to October inclusive. The Contractor shall maintain the borders in a tidy and attractive appearance, ensuring maximum flowering. At each of these visits, the Contractor shall undertake all operations detailed in 5.1 of this specification.
- (ii) All borders shall be kept clear of weeds by hoe, fork or hand weeding as required, avoiding excessive treading of the border. Care shall be taken not to damage the plants' root system. At no time shall weed growth in excess of 5% of the area of the border be tolerated.
- (iii) The Contractor shall ensure that all plants that require staking shall be staked and tied by using pea sticks or similar material and secured with twine or similar. All materials must be approved by the EMC prior to use. This operation shall be undertaken, as necessary, in accordance with good horticultural practice.
- (iv) The Contractor shall immediately inform the EMC of all insect or fungal attacks and damage caused by vandalism.

12.2.2 Cultivate and Supply and Apply Fertilizer

- (i) The planted area shall be forked over lightly in March and a general fertilizer, approved by the EMC, with an N.P.K. ratio of 7:7:7, shall be supplied and applied at a rate of 35gm per square meter and incorporated into the surface by fork or hoe.

12.2.3 Edging

The herbaceous borders shall be edged as detailed in 13.3.1 (i-vi) of this specification, Grass Edge, on two occasions - once in November and again in March.

12.2.4 Autumn Maintenance Visits

- (i) The Contractor shall carry out a minimum of eight weekly visits for autumn maintenance, at equally spaced intervals throughout November and December. The Contractor shall, on each visit, cut down all growth of the herbaceous perennials that have finished flowering and stems have died back and shall fork over the soil, minimising disturbance to plants.
- (ii) This operation shall be undertaken, as necessary, in accordance with good horticultural practice. The Contractor shall allow for the gradual treatment of the entire border over the full eight planned visits. All arisings shall be removed from site at the end of each work period and taken to the designated location for disposal.

12.3 Associated Works

12.3.1 Supply and Apply Pesticide

The EMC may instruct the Contractor to treat an insect or fungal attack with pesticide approved by the EMC. The Contractor shall supply and apply the pesticide at the rate of application, strictly in accordance with the manufacturer's recommendations.

12.3.2 Dig Up, Split and Replace Plants

- (i) The Contractor may be required to undertake the following operations on specified areas of border between November and March.
- (ii) In these areas, plants shall be dug up and split in accordance with good horticultural practice, removing any perennial weed entwined within the plants. The Contractor shall dig over area disturbed by the lifting and splitting operations, using a spade to a depth of 275mm.
- (iii) The Contractor shall incorporate into the soil approved well-rotted manure. This shall be supplied and applied at a rate of 10kg per square metre and the soil shall then be consolidated and raked prior to planting. The Contractor shall then replant as per plan supplied by the EMC.

12.4 Vandalism

Damage caused by vandalism shall be immediately reported to the EMC. The EMC may instruct the Contractor to make good vandal damage.

TABLE 3 Herbaceous Planting Management Objectives and Prescription

Objective	Prescription	KPI/Standard	Monitoring
Maintain gardens to high horticultural standards	Cutting back of herbaceous material:	✓ retain existing spp mix and layout annually or adjust on 3 or 5 year cycle	✓ weekly mollusc monitoring in spring /summer/ wet weather
	✓ Prune back to ground all herbaceous plants and grasses in late winter/spring	✓ planting fit for purpose and displaying desired horticultural features	✓ monitoring to review fulfilment of management aims
	✓ remove the seed heads to prevent migration of seed to areas where it is not required	✓ to prevent moisture stress, wilting and foliage scorch	
	Monitor impact of mollusk pests and review need for biological control or organic slug pellets		
	Irrigation as required to maintain horticultural qualities and visual impact		
	Thinning/lifting/replanting to retain balance of spp and renew as required		
	Weeding	✓ tolerance thresholds: single plants with leaf spread of <50mm and groups of no more than 3 plants /m2	
	✓ weed monthly by hand or spot herbicide treatment		
	✓ remove 95% of weed species		
	Feeding		
✓ apply slow release fertiliser in spring and autumn, as required			

13.0 Grass Maintenance

13.1 Preamble

- (i) All grass cutting shall be carried out by cylinder or rotary machines, or a combination of the two: unless otherwise specified. The Contractor shall notify the EMC of the machines they propose to use on each of the regimes. The Contractor shall ensure that all machines engaged in this contract are sharp, properly set and operated at the speed in accordance with manufacturer's recommendations. All grass shall be cut cleanly and evenly to the same height as specified in the regimes allocated to each site and without damaging the existing surface, or causing a washboard

effect. Tractors and ride-on self-powered equipment shall not be operated on sloping ground with the gradient exceeding that recommended by the manufacturer.

- (ii) The Contractor shall produce and follow a programme of work approved by the EMC at the commencement of the Contract, in line with the submitted method statements, to ensure that all applicable areas are maintained to the standards specified in this section.
- (iii) The Contractor shall complete an entire area (plot) of grass cutting at each cyclic visit within the same day of the first grass cutting operation. The entire area is deemed to include: wall and fence bases; up to pavement edges or other boundary; tree base or any other obstruction.
- (iv) The Contractor shall not change the designated regime in this document, unless the EMC has granted written permission.
- (v) Where grass cutting is undertaken and the arisings are allowed to 'fly', all arisings shall be evenly distributed over the whole of the grass area and not left in wind-rows. Excess arisings due to the failure to meet the Specifications of Section 12.2 shall be removed immediately at the Contractor's own expense.
- (vi) Any arisings that 'fly' onto paths or other hard surfaces shall be removed by the Contractor and distributed evenly over the grass area or, if the arisings are deemed excessive, removed from the premises to a designated location for disposal. This shall take place promptly after grass cutting, in any event within one hour, at the expense of the Contractor.
- (vii) Where a boxed mowing machine is used, the arisings shall be removed from site at the end of each work period and taken to the designated location for disposal.
- (viii) The Contractor shall report to the EMC any damage to the grass surface, fences, walls, street furniture, any plant material or other property caused during grass cutting operations. Should it be determined by the EMC that the failure of a newly planted tree or shrub is due to the Contractor's negligence in grass cutting operations, then a replacement tree or shrub, approved by the EMC, shall be supplied, planted and maintained until established, as detailed in Specification at the Contractor's expense.
- (ix) Prior to cutting any area, the Contractor shall remove all stones above 37mm in any dimension, as well as any litter, twigs, etc. (see Section 17, Litter Clearance, for definition). All such material shall be removed to the designated location for disposal. If the amount to be removed is considered excessive and has been deposited as a single load in excess of 1- 2m³ (i.e. fly-tipping), the Contractor shall inform the EMC immediately, who will consider each site on its individual merit and may, in exceptional circumstances, arrange for the debris to be removed in accordance with the Contractor's tendered rates.

- (x) Any herbaceous plant growth, such as clover or flowering stalks of grass and weeds, within an area designated for grass cutting shall be cut as if it is grass.
- (xi) The Contractor may be required to cut grass on additional areas or new developments. These additional or reduced areas will be included in the Contractor's grass cutting programme. The Contractor shall ensure that they have sufficient resources to take on extra cutting if required.
- (xii) Trees in formal areas shall be maintained with a cultivated tree ring 600mm in diameter greater than the largest diameter of the tree trunk. All newly planted trees shall be maintained with a cultivated tree ring 300mm in diameter greater than the largest diameter of the tree trunk for the remainder of the contract period. All edges shall be maintained in accordance with Section 12.3, Edging
- (xiii) Any damage caused to grass areas by the Contractor's negligence shall be made good, as directed by the EMC and to the Basildon Council entire satisfaction, at the Contractor's expense.
- (xiv) The use of grass growth regulators is not permitted.

13.2 Variations to the Planned Grass Cutting Schedule

- (i) Unless weather conditions as stated in Section 10.2.2 prevail, the Contractor shall be required to keep to the standards detailed in the regimes.
- (ii) In very wet weather, all operations involving grass cutting shall cease until conditions allow operations to continue without damaging the surface level and contours of the ground or creating grass cutting 'divots' from the rollers or cutters.
- (iii) If inclement weather, as detailed in Section 10.2.2, prevents the Contractor from grass cutting, the Contractor shall inform the EMC of work not completed from the programme. When the weather improves, the Contractor shall resume grass cutting in order to return to the agreed programme of work. The Contractor shall be expected to provide sufficient staffing and machinery to catch up if there is a substantial amount of mowing time lost through bad weather.

13.3 Edging

13.3.1 Preamble

- (i) All edging operations shall be carried out at the times specified within the regimes for grass maintenance and considered as part of the grass cutting regime.
- (ii) All finished edges shall be neat and vertical with no grass overhanging the finished edge.

- (iii) All arisings from edging operations shall be collected and removed to the end of each work period and taken to the designated location for disposal.
- (iv) The Contractor shall cut smooth curves or use a line to obtain a straight edge. Edging operations shall not change the size of grass areas nor create new channels.
- (v) All channels adjacent to a flowerbed, shrub bed, tree base, etc. shall be maintained so that following each edging operation it is left clean and litter free.
- (vi) The Contractor shall be required to use a half-moon edging iron, mechanical edge and trim and/or long handled shears or spades.

13.3.2 Kerb Edge Maintenance

- (i) The Contractor shall cut a clean edge to all grass areas where they meet kerbs; other hard surfaces or gully channels. This operation shall include removing the overgrowth of grass and any soil that is covering the kerb gully channel or any other, hard surface. The frequency of this operation shall be in accordance with the edge requirements of the Grass Cutting Regime specification. All rates quoted for kerb edge maintenance shall include the removal of all weed and grass growth by scraping or brushing all soil, litter and other debris that has accumulated at this junction to a minimum width of 200mm for the entire length of edging. The Contractor shall collect and remove all arisings to a designated location for disposal at the end of the work period.

13.3.3 Edge Trimming

- (i) The Contractor shall cut the overgrowth of grass at edges of cultivated areas and chemical edging channels with long handled shears or mechanical edge trimmers approved by the EMC. The grass is to be cut to the same height as the surrounding grass. All edges will be neat and vertical, with no grass overhanging the finished edge. The rates quoted for trimming must include the collection and removal of all litter, arisings and similar debris from the adjacent channel for disposal. The frequency for trimming will be in accordance with the Regimes for grass or cultivated area maintenance, as detailed within each section of this specification.
- (ii) Once per annum the Contractor shall reform and cut back all edges in accordance with 11.4 (i) to (vi). The Contractor shall, during this operation, ensure that any cutting does not decrease the grass or bed area as per 11.4(iv).

13.4 Maintenance of Grassed Areas

13.4.1 Selective Herbicide Treatment

Upon instruction from the EMC, the Contractor shall supply and apply an approved selective herbicide to specified areas. Application shall normally be made during April to June. The grass shall not be cut two days prior to, or after, the application.

13.4.2 Irrigation of Grass Areas

During periods of prolonged dry weather, the EMC may instruct the Contractor to water grassed areas, using an irrigation method approved by the EMC. The Contractor shall provide a rate to ensure that sufficient water is applied to the entire area of grass to moisten the soil to a depth of 125mm.

13.4.3 Cut 'Weed' Stalks

The EMC may instruct the Contractor to cut areas of grass which are normally cut with cylinder mowing machines (other than grass cut 'high'), with a suitable rotary mower to removal all bent stalks from the entire area.

13.4.4 Rake Arisings by Machine and Remove

The Contractor shall collect all arisings from areas specified by the EMC, using machinery approved by the EMC. Arisings shall include all grass cuttings, litter, leaves, debris and similar items. All arisings shall be collected and removed to the designated location for disposal at the end of the work period.

13.5 Grass Replacement

13.5.1 Preamble

- (i) Bare and damaged patches shall be identified by the EMC for returfing works.
- (ii) The Contractor shall continue all operations necessary, to include top dressing and watering, to achieve a 100% grass cover within eight weeks.

- (iii) Where soil has been contaminated by chemicals, oils, etc., the Contractor shall remove to tip all such soil, replacing it with suitable soil, to enable re-turfing as specified and to ensure the pollutants do not affect the future growth of the vegetation.
- (iv) If the turf fails, due to any cause whatsoever, the Contractor shall be required to make good the soiling and repeat the turfing until a good sward is obtained.
- (v) Grass areas will only be accepted as reaching practical completion when germination has proved satisfactory and all weeds have been removed. Management will be necessary to prevent infestation by weed species after seeding an area. A weed species may be defined as a species that is undesirable to the purpose/ objective of the grassland; species considered to be weeds will depend on the grassland type.
- (vi) Damage, failure or dying back of grass due to neglect of watering, especially for seeding out of normal season, shall be the responsibility of the Contractor.
- (vii) Any settlement below the specified levels during the contract or defects liability period shall be rectified at the Contractor's expense.
- (viii) The Contractor shall exercise care in the use of rotary cultivator and mowing machines to reduce to a minimum the hazards of flying stones and debris. All rotary mowing machines shall be fitted with safety guards.

13.5.2 Fertilising

No fertiliser is to be used on the species-rich amenity lawns or wildflower meadows.

13.5.3 Initial Cut (Topping)

- (i) The Contractor shall remove all large stones (more than 50mm in any dimension) and roll all flat and terraced areas with a light roller to firm the grass and press in any remaining stones. This shall be done approximately 48 hours prior to topping.
- (ii) A rotary mower to the flat and terraced areas and a strimmer shall be used to top grass when it is 80mm high, to leave a height of 50mm to cut weeds, control the growth of coarser grass and encourage tillering.
- (iii) Where mowing without a box produces a swathe, this shall be spread evenly to prevent drainage to the growing grass beneath. This applies particularly to grass cut during periods of dull or wet weather.

13.5.4 Turf and Turfing

The Contractor shall comply with British Standards BS 3969 and BS 4428.

(i) Condition of Turf

The Contractor shall provide good quality lawn turf complying with BS 3969, the grass being of close texture, even density and green in colour. The grass shall be closely mown, so the height does not exceed 25mm and show no visible sign of pest or disease. The turf shall be sufficiently fibrous for turfs to hold together during handling and an excess of fibre of mat is desirable.

(ii) Dimensions

Turfs shall be of a rectangular shape and of uniform thickness. They shall have a minimum soil thickness of 25mm and a width of 300mm, unless otherwise agreed by the EMC.

(iii) Weedkiller

A selective weedkiller shall be applied to the turf no less than four weeks prior to lifting.

(iv) Lifting

Turfs shall not be lifted in frosty weather or when waterlogged. They shall be packed to avoid drying out in transit and shall be rolled or laid flat.

(v) Delivery

Turf shall be delivered to site within 36 hours of lifting and offloaded by hand to be stacked to a maximum height of 1m, unless arranged on pallets for mechanical handling.

(vi) Stacking

Turfs shall be placed grass to grass if stacked. Stacked turfs shall be inspected at frequent intervals for deterioration. If kept for any period, the turfs shall be laid out and maintained as turfed areas.

(vii) Cultivation

The Contractor shall cultivate the area to be turfed to a depth of 100mm, removing all large stones (over 50mm in any dimension), perennial weeds and rubbish to designated area for removal.

All topsoil shall be conserved to provide a minimum depth of 100mm after re-leveling.

(viii) Final Preparation

The Contractor shall reduce the surface to a fine tilth, to a minimum depth of 25mm and lightly and uniformly firm the surface.

13.5.5 Laying Turf

(i) Season

Turf shall be laid when weather and soil conditions are suitable. No turf shall be laid in exceptionally dry or frosty weather, or in other unsuitable weather conditions. The Contractor shall give preference to autumn and early winter for this operation.

(ii) Laying

No turf shall be laid until topsoiling has been completed to the satisfaction of the EMC.

(iii) At no time shall turfs support workmen, barrows or provide access.

(iv) Turfs shall be laid on the prepared soil bed and be firmed into position in consecutive rows with broken joints, closely butted and to the correct levels. The turfs shall be laid off planks, working over turfs previously laid.

(v) A dressing of finely sifted topsoil or fine peat shall be applied to the joints and well brushed in. The Contractor shall adjust any inequalities in the finished levels, owing to variation in turf thickness or uneven consolidation of the soil, by raking and/or packing fine soil under the turf. Use of a roller is not permitted.

13.5.6 Finished Levels

(i) Finished levels shall, after allowing for settlement, 25mm proud of adjacent hard surfaced areas (pavings, kerbs, etc.), or as otherwise indicated on drawings.

(ii) There shall be a minimum gradient for run-off of 1:60 and maximum of 1:40 or as indicated on drawings. The area shall be free from depressions.

(iii) Margins shall be laid with whole turfs.

13.5.7 Maintenance

(i) The Contractor shall maintain all seeded areas to establish a uniform and healthy sward until notification by the EMC. This shall include all necessary watering, weeding, cutting, repair of all erosion and settlement, and re-turfing operations.

TABLE 4 - Lawns – Management Objectives and Prescription

Objective	Prescription	KPI/Standard	Monitoring
Maintain medium maintenance lawn	Grass cutting:	<ul style="list-style-type: none"> ✓ each lawn to support 12 or more species of plant capable of thriving under frequent mowing ✓ vegetation cover threshold 90% ✓ target species numbers to be met by Year 3 	<ul style="list-style-type: none"> ✓ diversity of each lawn to be measured annually in May or June ✓ annual monitoring to review fulfilment of management aims ✓ habitat condition
	Maintain sward between 40 and 80mm(remove arisings)		
	Manipulate cut timing to allow specific species to flower (eg. Delay first spring cut)		
	Re-seed or plug plant if plant diversity falls below 4 species per lawn area		
Repair damage from recreation or event use	Irrigation – only for event recovery	<ul style="list-style-type: none"> ✓ match species mix ✓ accept visual impact of drought outside event periods ✓ recovery to match surrounding areas by end of growing season each year 	
	Scarification and aeration		
	Apply ammonium nitrate fertiliser		
	Re-seeding/turfing		

13.6 Turf and Turfing

The Contractor shall comply with British Standards BS 3969 and BS 4428.

(i) Condition of Turf

The Contractor shall provide good quality lawn turf complying with BS 3969, the grass being of close texture, even density and green in colour. The turf shall be sufficiently fibrous for turfs to hold together during handling and an excess of fibre of mat is desirable.

(ii) Dimensions

Turfs shall be of a rectangular shape and of uniform thickness. They shall have a minimum soil thickness of 25mm and a width of 300mm, unless otherwise agreed by the EMC.

(iii) Lifting

Turfs shall not be lifted in frosty weather or when waterlogged. They shall be packed to avoid drying out in transit and shall be rolled or laid flat

(iv) Delivery

Turf shall be delivered to site within 36 hours of lifting and offloaded by hand to be stacked to a maximum height of 1m, unless arranged on pallets for mechanical handling.

(v) Stacking

Turfs shall be placed grass to grass if stacked. Stacked turfs shall be inspected at frequent intervals for deterioration. If kept for any period, the turfs shall be laid out and maintained as turfed areas.

13.7 Cultivation

- (i) The Contractor shall cultivate the area to be turfed to a depth of 100mm, removing all large stones (over 50mm in any dimension), perennial weeds and rubbish to designated area for removal.
- (ii) All topsoil shall be conserved to provide a minimum depth of 100mm after re-leveling.

13.8 Final Preparation

- (i) The Contractor shall reduce the surface to a fine tilth, to a minimum depth of 25mm and lightly and uniformly firm the surface.

13.9 Laying Turf

(i) Season

Turf shall be laid when weather and soil conditions are suitable. No turf shall be laid in exceptionally dry or frosty weather, or in other unsuitable weather conditions. The Contractor shall give preference to autumn and early winter for this operation.

(ii) Laying

No turf shall be laid until top soiling has been completed to the satisfaction of the EMC.

- (iii) At no time shall turfs support workmen, barrows or provide access.
- (iv) Turfs shall be laid on the prepared soil bed and be firmed into position in consecutive rows with broken joints, closely butted and to the correct levels. The turfs shall be laid off planks, working over turfs previously laid.
- (v) A dressing of finely sifted topsoil or fine peat shall be applied to the joints and well brushed in. The Contractor shall adjust any inequalities in the finished levels, owing to variation in turf thickness or uneven consolidation of the soil, by raking and/or packing fine soil under the turf. Use of a roller is not permitted.

13.10 Finished Levels

- (i) Finished levels shall, after allowing for settlement, 25mm proud of adjacent hard surfaced areas (pavings, kerbs, etc.), or as otherwise indicated on drawings.
- (ii) There shall be a minimum gradient for run-off of 1:60 and maximum of 1:40 or as indicated on drawings. The area shall be free from depressions.
- (iii) Margins shall be laid with whole turfs.

13.11 Maintenance

- (i) The Contractor shall maintain all seeded areas to establish a uniform and healthy sward until notification by the EMC. This shall include all necessary watering, weeding, cutting, repair of all erosion and settlement, and re-turfing operations.
- (ii) The Contractor shall treat pernicious weeds with a suitable approved selective herbicide twelve weeks after seeding if the grass was sown in the spring. Grass sown in the autumn shall be similarly treated at the end of May the following year.

14.0 Hard Landscape Maintenance

14.1 Maintenance of Hard Landscape Surfaces

The Contractor shall price an all-inclusive rate HLS1 to include all operations HLM1 to HLM3.

14.2 Preamble

In addition to, and at the same time as, the general litter and refuse clearance is being carried out, the Contractor shall clean all paths, hard surfaces and gullies.

14.3 Sweeping of Hard Landscape Surfaces

- (i) In the areas specified, the Contractor shall be required to maintain surfaced areas clear of litter, twigs, leaves, glass, debris and similar at all times. The Contractor shall remove all arisings from site at the end of each work period and take them to the designated location for disposal.
- (ii) The Contractor shall inform the EMC immediately they are aware of any occurrence of acts of vandalism to these areas.

14.4 Weeds

- (i) The Contractor shall maintain all hard landscape surfaces weed-free and at no time shall weed growth exceed 5% of any area. Should the Contractor wish to employ any chemical methods for this particular item, it shall be with the written approval of the EMC.
- (ii) Weed growth is deemed to include the removal of moss.

14.5 Gullies and Slot Drains

- (i) The Contractor shall allow for inspection of all gullies, grilles, covers, on each site visit. The Contractor shall thoroughly clean them of any silt, dirt, debris, leaves, litter, stones, concrete etc. as necessary.
- (ii) The Contractor shall check that water is running freely in gullies and drains, reporting any defects or unacceptable obstruction to the EMC.
- (iii) On removing any grating, cover or grille, the Contractor shall clean the rebate in the frame and ensure that it is replaced flush in the frame. All arisings shall be removed from site to the designated location for disposal.

14.6 Associated Works

14.6.1 Additional Sweeping

- (i) The Contractor may be required to undertake additional areas of sweeping outside the normal routine sweeping.

14.6.2 Clear Snow and Supply and Apply Rock Salt

- (i) The Main Contractor/EMC may at times of inclement weather require the Contractor to clear snow and ice and apply approved rock salt, evenly spread at 20 grammes per square metre, to specified areas within the Contract area. Payment for this operation will be in accordance with the quantity and the tendered rate submitted by the Contractor.

- (ii) The Contractor shall take care to avoid spreading rock salt near and around trees, shrubs, seed and other plant material. Any damage caused by the Contractor's negligence shall be fully reinstated at the Contractor's expense to the EMC's satisfaction.

14.6.3 Spray and Scrape Weeds on Hard Surfaces

- (i) The Contractor shall provide a rate to apply an approved pesticide to areas of weeds growing in paved or hard surfaced areas at the manufacturer's recommended rates. The purpose of this rate is to treat areas of hard surfaces where weeds have rooted and require a thorough drench in order to achieve a complete root kill. The Contractor shall allow in this rate to return to site in approximately two weeks following application (as agreed by Client), depending on the time of year and the prevailing weather conditions, to scrape the remaining surface growth off the weeds (which should by then be browned and showing signs of die-back) and remove all arisings to designated location for disposal at the end of each work period. The Contractor shall allow in this all-inclusive rate to apply chemicals in accordance with manufacturer's recommendations.

14.6.4 Street Furniture

- (i) All elements, such as bollards, railings, gates, fences, tree grilles/guards, litter bins, benches and all other street furniture elements are to be regularly maintained throughout the year to meet function and health and safety requirements.

15.0 Leaf Clearance

15.1 Standard

- (i) The Contractor shall be responsible for the clearance of leaves, twigs, etc., from areas specified from leaf fall (normally October (PP10) until the end of December (PP12)). The EMC will instruct the Contractor when leaf clearance will commence.
- (ii) The Contractor shall carry out leaf clearance by hand raking or sweeping, or using machinery appropriate to this work and approved by the EMC.

- (iii) The Contractor shall ensure that all flowerbeds, shrub beds, grass areas, paths, channels, drains, designated driveways, steps and play areas, or other specified by the EMC, are kept clear of leaves.
- (iv) Machines used for the clearance of leaves from large grassed areas must be fitted with suitable tyres to prevent damage. Any damage caused by the Contractor's negligence shall be reinstated at the Contractor's expense.
- (v) The Contractor shall remove all collected leaves to the designated location for disposal, at the end of each work period. The Contractor shall not leave groupings of collected leaves on site for bulk removal, unless specific approval from the EMC has been issued in writing.

15.2 Leaf Clearance

The Contractor shall ensure that all leaves, as specified in 16.1(i)-(v), are not laying on the ground for any more than one week. The Contractor shall schedule operations to achieve this standard.

16.0 Litter Clearance

16.1 Preamble

The Contractor shall maintain all sites and all areas covered by the Contract to a clean and litter free standard by removing all litter to the standards defined below.

16.1.1 Definition of Litter

- (i) 'Litter' is anything whatsoever which is thrown down, dropped or otherwise deposited in, onto or from any place in the open air to which the public are permitted to have access without payment, unless otherwise by law or done with the written permission of the EMC. This shall include all items, i.e. beverage containers, fast food packaging, tree branches and animal faeces.
- (ii) Large items such as discarded furniture and household effects, mattresses, etc., which require two or more people to lift and single deposits in excess of 1-2m³ will be treated as fly tipping. The Contractor shall inform the EMC soon as possible after discovering any

fly tipping. The EMC will, in appropriate circumstances, issued instructions to the Contractor to remove such waste material. Payment for this work will be in accordance with the Contractor's tendered rates.

16.1.2 Method of Litter Collection

- (i) Methods of litter collection may be by hand, paper picker or mechanical means as approved by the EMC.
- (ii) Any damage caused to the soft landscaped or hard landscaped areas due to lifter picking/collection operations being carried out by the Contractor shall be made good at the Contractors expense and to the completed satisfaction of the EMC.
- (iii) All arisings from litter collection operations shall be immediately cleared from each plot on completion. The Contractor shall leave groupings of collected litter on site for bulk removal unless specific approval from the EMC has been issued in writing.

TABLE 5 - Litter and Cleansing - Management Objectives and Prescription

Objective	Prescription	KPI/Standard	Monitoring
To maintain the park as a clean and safe and predominantly litter free environment	✓ Daily litter picks and inspections of all hard and soft landscape areas and public realm	✓ The landscape shall be maintained in a predominantly litter free condition at all times	✓ Daily checks and inspections
	✓ Sweeping of paths, roads and other hard surfaces with appropriate mechanical sweepers as required, to ensure sweeping does not result in damage to path services		
	✓ Wind-blown litter in ponds and watercourses to be removed as part of daily litter picks		
	✓ Additional checks and cleansing to be carried out following all flood events		
	✓ Checks and actions to remove fly posting		
✓ Ensure any arisings from maintenance operations are removed on completion of each activity			
Ensure that litter bins are regularly emptied and do	✓ Litter bins shall be emptied as required to ensure they	✓ Litter bins are in a clean and serviceable condition	✓ Daily checks and inspections

not overflow	are never over 75% full	at all times and not overflowing	
	<ul style="list-style-type: none"> ✓ Litter bins to be inspected on a regular basis and maintained in a clean and serviceable condition 		
All landscape areas to be maintained free of Graffiti	<ul style="list-style-type: none"> ✓ Daily park inspections and rapid response to any identification of graffiti ✓ Methods and products to be used shall be non-toxic and biodegradable 	<ul style="list-style-type: none"> ✓ Offensive graffiti removed within 1 hour ✓ Other graffiti removed within 24 hours 	<ul style="list-style-type: none"> ✓ Daily checks and inspections
Ensure park remains in a largely leaf clear condition during autumn and winter months	<ul style="list-style-type: none"> ✓ Leaf clearance to all paths and hard surfaces and events lawns to be undertaken to ensure these remain in a predominantly leaf free condition ✓ Higher tolerance on other landscape typologies; clearance must ensure leaf fall does not hinder plant growth 	<ul style="list-style-type: none"> ✓ Paths and events lawns kept in predominantly leaf free condition during periods of leaf fall 	<ul style="list-style-type: none"> ✓ Weekly checks and inspections during autumn months
Street furniture including signage to be maintained in a clean and serviceable conditions	<ul style="list-style-type: none"> ✓ Daily inspections of all signage and furniture ✓ Minor repairs and cleansing to be carried out in situ as required ✓ Damaged items of furniture to be removed and replaced 	<ul style="list-style-type: none"> ✓ Furniture is maintained in a clean and serviceable condition 	<ul style="list-style-type: none"> ✓ Daily checks and inspections
Ensure that highways and paths remain in a clean and accessible condition	<ul style="list-style-type: none"> ✓ Inspections to identify defects and repairs in accordance with service level standards ✓ Regular sweeping of carriageways and paths ✓ Flushing of main carriageways to be carried out during April and September ✓ Flushing to utilise non potable water 	<ul style="list-style-type: none"> ✓ All paths and roads remain accessible to all and in a safe and serviceable condition 	<ul style="list-style-type: none"> ✓ Daily safety inspections and monthly detailed inspections
Ensure that gullies remain fully operational	<ul style="list-style-type: none"> ✓ Gullies to be cleared twice a year at intervals of roughly six months ✓ Additional checks and cleansing to be carried out following all flood events 	<ul style="list-style-type: none"> ✓ All gullies to be maintained in a serviceable condition largely free of debris 	

Appendices

Appendix A Typical Maintenance Schedule

Appendix B Planting Plan

Appendix C Plant Schedule

Appendix A Typical Maintenance Schedule

ACTIVITY	J	F	M	A	M	J	J	A	S	O	N	D
TREE MANAGEMENT												
Formative Pruning	█	█	█	█								
Refirming Trees					█	█	█	█	█	█	█	█
Replacement Planting					█		█		█		█	
Tree Stakes and Ties	█		█		█		█		█		█	
Tree Guys	█		█		█		█		█		█	
Re-firming Trees and Specimen Shrubs												
Formative Pruning			█	█	█	█	█	█	█	█	█	█
Cleaning Out and Deadwooding			█	█	█	█	█	█	█	█	█	█
Cutting and Pruning Generally			█	█	█	█	█	█	█	█	█	█
Crown Reduction/Shaping			█	█	█	█	█	█	█	█	█	█
Crown Lifting			█	█	█	█	█	█	█	█	█	█
Crown Thinning			█	█	█	█	█	█	█	█	█	█
Tree Inspection	█			█			█			█		
Emergency Call Out	█	█	█	█	█	█	█	█	█	█	█	█
Avoid Nesting Birds/Bat Roosting		█	█	█	█	█	█	█	█	█	█	█
ORNAMENTAL SHRUB BED MAINTENANCE												
Maintain Edges of Shrub Beds	█	█	█	█	█	█	█	█	█	█	█	█
Trimming Grass Edges	█	█	█	█	█	█	█	█	█	█	█	█
Shrub Area Maintenance	█	█	█	█	█	█	█	█	█	█	█	█
Cultivation Visit											█	█
Winter Chemical Application	█	█	█	█	█	█	█	█	█	█	█	█
Autumn Chemical Application	█	█	█	█	█	█	█	█	█	█	█	█
Hand Weed	█	█	█	█	█	█	█	█	█	█	█	█
Pruning	█	█	█	█	█	█	█	█	█	█	█	█
Weed control	█	█	█	█	█	█	█	█	█	█	█	█
Replacement planting	█	█	█	█	█	█	█	█	█	█	█	█
Maintain woodchip/mulch	█	█	█	█	█	█	█	█	█	█	█	█
HERBACEOUS PLANTING MAINTENANCE												
General Maintenance Visits			█	█	█	█	█	█	█	█	█	█
Cultivate, Supply and Apply Fertiliser			█	█	█	█	█	█	█	█	█	█
Edging of Stitch Planting			█	█	█	█	█	█	█	█	█	█
Autumn Maintenance Visits											█	█
Water Planted Areas	█	█	█	█	█	█	█	█	█	█	█	█
Supply and Apply Pesticide	█	█	█	█	█	█	█	█	█	█	█	█
Dig Up, Split and Replace Plants	█	█	█	█	█	█	█	█	█	█	█	█
GRASS/WILDFLOWER MEADOW MAINTENANCE												
Lawns			█	█	█	█	█	█	█	█	█	█
Wildflower Meadow			█	█	█	█	█	█	█	█	█	█
Edge Trimming			█	█	█	█	█	█	█	█	█	█
Selective Herbicide Treatment			█	█	█	█	█	█	█	█	█	█
Irrigation of Grass Areas												
Cut 'Weed' Stalks												
Rake Arisings by Machine and Remove	█	█	█	█	█	█	█	█	█	█	█	█
Grass Replacement: Turf and Turfing	█	█	█	█	█	█	█	█	█	█	█	█
HARD LANDSCAPE												
Sweeping of Hard Landscape Surfaces	█	█	█	█	█	█	█	█	█	█	█	█
Inspect and Repair Fencing	█	█	█	█	█	█	█	█	█	█	█	█
Weed Control	█	█	█	█	█	█	█	█	█	█	█	█

after strong winds, frost heave and other disturbances

During periods of prolonged dry weather

Appendix B Proposed General Arrangements Plan

85331-CFM-90-131 Proposed General Arrangements Plan

Appendix C Plant Schedule

To be read in conjunction with *85331-CFM-90-131 Proposed General Arrangements Plan*

TABLE 6 – Proposed Tree Planting

Species	Common Name	Symbol	Size/Spec	Condition	No.
<i>Crataegus monogyna 'Stricta'</i>	hawthorn 'Stricta'	PT01	250mm	Light Standard	1
<i>Prunus 'Accolade'</i>	flowering cherry	PT02	250mm	Standard	1
<i>Tilia x europaea</i>	common lime	PT03, PT04	250mm	Standard	2
<i>Prunus cerasifera</i>	cherry plum	PT05	250mm	Standard	1
<i>Ilex aquifolium</i>	holly tree	PT06	200mm	Light Standard	1
<i>Cotoneaster sp.</i>	cotoneaster tree	PT07	200mm	Light Standard	1
<i>Laurocerasus officinalis</i>	cherry laurel	PG01	250mm	Standard	5

TABLE 7 – Proposed Shrub and Herbaceous Planting

Species	Common Name	Pot (L)	Specification	Density
<i>Eryngium ipsum 'James Ivory'</i>	sea holly	2	Full pot, fully rooted pot, healthy crown	
<i>Anemone x hybrida 'Honorine Jobert'</i>	japanese anemone 'Honorine Jobert'	2	Full pot, fully rooted pot, healthy crown	3-4
<i>Anemone x hybrida 'Königin Charlotte'</i>	'japanese anemone 'Königin Charlotte'	2	Full pot, fully rooted pot, healthy crown	3-4
<i>Azalea japonica 'Diamond White'</i>	japanese azalea 'Diamond White'			
<i>Berberis x stenophylla</i>	golden barberry	3	Bushy, min. 4 breaks	4-5
<i>Berberis thunbergii f. atropurpurea</i>	purple Japanese barberry	3	Branched, min. 5 breaks	4-5
<i>Campanula lactiflora 'Alba'</i>	milky bellflower 'Alba'	2	Full pot, fully rooted pot, healthy crown	5-6
<i>Campanula latifolia</i>	giant bellflower	2	Full pot, fully rooted pot, healthy crown	5-6
<i>Cimicifuga simplex 'Black Negligee'</i>	black bugbane			
<i>Cotinus coggygria 'Royal Purple'</i>	smoke tree 'Royal Purple'	3	Branched, min. 3 breaks	4-5
<i>Dryopteris filix-mas</i>	male fern	2	Full pot, fully rooted, healthy clump	5-6
<i>Echinacea purpurea</i>	black samson	2	Full pot, fully rooted pot, healthy crown	5-6
<i>Echinops bannaticus</i>	blue globe thistle	2	Full pot, fully rooted pot, healthy crown	4-5

<i>Epimedium x rubrum</i>	red barrenwort	2	Full pot, fully rooted pot, healthy crown	6-8
<i>Smilacina racemosa</i>	false spikenard			
<i>Geranium endressii</i> 'Rose Clair'	geranium 'Rose Clair'	2	Full pot, fully rooted pot, healthy crown	4-5
<i>Heuchera x brizoides</i> 'Ricard'	alum root 'Ricard'	2	Full pot, fully rooted pot, healthy crown	5-6
<i>Hosta</i> 'Royal Standard'	plantain lily 'Royal Standard'	2	Full pot, fully rooted pot, healthy crown	5-6
<i>Hosta sieboldiana</i>	giant blue hosta	2	Full pot, fully rooted pot, healthy crown	4-5
<i>Iris germanica</i>	bearded iris	2	Full pot, fully rooted pot, healthy crown	5-6
<i>Iris laevigata</i> 'Rose Queen'	Japanese iris	2	Full pot, fully rooted pot, healthy crown	5-6
<i>Iris sibirica</i> 'Caesars Brother'	siberian iris 'Caesars Brother'	2	Full pot, fully rooted pot, healthy crown	5-6
<i>Lavandula angustifolia</i> 'Hidcote Blue'	English lavender 'Hidcote'	3	Bushy, min. 5 breaks	4-5
<i>Lilium martagon</i>	Turks cap lily	2	Full pot, fully rooted pot, healthy crown	5-6
<i>Lysimachia atropurpurea</i> 'Beaujolais'	lysimachia 'Beaujolais'	2	Full pot, fully rooted pot, healthy crown	5-6
<i>Polypodium vulgare</i>	common polypody	2	Full pot, fully rooted, healthy clump	5-6
<i>Rhododendron</i> 'Dora Amateis'	'Dora Amateis' Rhododendron	3	Branched, min. 5 breaks	1
<i>Rhododendron</i> 'English Roseum'	'English Roseum' Rhododendron	3	Branched, min. 5 breaks	1

TABLE 8 – Proposed Grass Seed Mix**Grass type:** General amenity grass.**Sowing rate:** 40gr/m²

Species	Common Name	%
<i>Lolium perenne</i>	dwarf perennial ryegrass	30
<i>Festuca arundinacea</i>	red fescue	40
<i>Festuca rubra</i>	chewing fescue	15
<i>Poa pratensis</i>	meadow grass	10
<i>Agostis tenuis</i>	browntop bent	5