



LANDSCAPE MANAGEMENT AND MAINTENANCE PLAN

PLANNING APPLICATION

AT

EXETER ROAD, TOPSHAM

FOR



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INTRODUCTION TO THE LANDSCAPE ESTABLISHMENT/ MAINTENANCE SPECIFICATION

This Landscape Maintenance and Management Plan has been prepared by PRC Group and forms part of the planning submission for the proposed development at Exeter Road, Topsham. Reference should be made to the Landscape General arrangement Site Wide drawing 11082_PL_100.

The purpose of this Maintenance and Management Plan is two-fold

1. Setting out the long term aims and objectives for the site so that all stakeholders and relevant parties can understand how it is intended that the landscape components be developed and established.
2. Providing a prescriptive series of timed operations which will form a working document to instruct the Management Company / appointed Landscape Contractor on how the objectives will be achieved.

The landscape establishment maintenance specification document will set out the performance of the required soft landscape maintenance works during the 12 months' Defects Liability Period (DLP) to ensure successful establishment and also covers the first five-year period from practical completion. The works are expected to be undertaken and completed to the highest quality befitting of this project. The document will assist those who supervise and carry out the landscape maintenance work and is intended for use by individuals or companies who have an understanding of landscape maintenance and of the general terms and standards

Refer to drawings 11082_PL_102 to 109 for Landscape General Arrangement Plans.

The softworks package consists of a series of character areas, grass, ornamental and shrub planting areas, specimen trees and shrubs, hedgerow planting and climbers planting. The character areas will contain a mixture of native and non-native trees, herbaceous and ornamental shrubs and grasses. Each area will have its own unique character through its planting scheme providing colourful seasonal interest and structure to the proposed landscape.

DESIGN OBJECTIVES

The landscape has been developed in such a way as to:

- Define and soften boundaries through the use of quality soft landscaping to aid the legibility of the scheme;
- Create opportunities for tree planting with species chosen to provide structure and an identifiable character to the landscape as well as contributing to the ecological value of the site;

- To use hedge and climbers planting to enhance the existing boundary and to provide a transition between the functional landscape of the site and the adjacent existing developments.

GENERAL MANAGEMENT OBJECTIVES

The site has been made up of various design elements and they all have a function to perform and have objectives in terms of establishment. The information below summarises the main functions and key objectives for the maintenance of the wider landscape and each element over a five-year period.

- To establish the long-term design objectives of the landscape area and define management objectives and ensure the successful establishment and long-term health of the plant stock through watering and pruning if and when required;
- To ensure use of good horticultural practices and best health & safety practices at all times;
- To create an interesting, diverse and interactive landscape for all users of the Helston Lane development and ensure that all surfaces are kept in a safe and tidy condition for members of the public and building occupiers;
- To create new habitats and maximise the wildlife value of the site;
- To enhance the amenity value of the site.

In addition to the landscaping proposed within the residential development, there are also car parking areas, service areas, footpaths and paved patios / recreational areas.

SOFT LANDSCAPE ELEMENTS

Grass Lawn

Amenity function, the grass lawns will have an important visual association with the proposed buildings and the landscape. Objective to maintain the lawns as pristine, clear, formal and weed free grass swards.

Meadow Grassed Areas

Amenity and nature conservation functions. Grass seed mix objective to establish a diverse flora, which will provide habitats and a good display of wildflowers as part of the compensatory flood storage area.

Bulb Overlays

Amenity function, occurring when variation and seasonal interest is required in visually important locations for the residents. Objective to establish an overlay of bulbs with good visual display, preventing the incursion of weeds.

Ornamental Shrub and Herbaceous

Amenity function, occurring when formal and ornamental planting is required, such as visually important locations and in association with buildings, in particular entrances and gardens. The planting will give seasonal interest but also height and structure. Objective to establish as planted groups with a good visual display, preventing the incursion of weeds.

Trees

Amenity and screening function. Located as visual focal points, objective to establish young trees keeping the bases weed free.

Hedgerow Planting

Screening, amenity and nature conservation functions. Located near site boundaries. Objective to establish informal groups of tree and shrub, preventing the spread of competitive/ invasive weed species, maintaining the species mix and beginning to develop structural diversity by using techniques such as coppicing and thinning. In accordance with the approved landscape plan and specification new hedgerows must be protected from rabbits and hares with rabbit guards.

Climbers Planting

Screening and amenity function. Located on North Eastern site boundary where space is insufficient to plant a hedgerow. Objective to establish a continuous and dense screen of climbers, preventing the incursion of weeds.

Management objectives should be reviewed on an annual basis to ensure that they are being achieved. Maintenance operations should also be refined over the life of the development to suit changes in growing needs of plant stock and improvements in equipment and horticultural aids.

HARD LANDSCAPE ELEMENTS

Surface Materials and Street Furniture

Surface treatments are designed to be robust and provide safe and attractive routes throughout the development. The road and footpath treatments consist of tarmac, block paving, blister paving and bound gravel. The street furniture consists of seating, arbours, pergolas and arches, as well as additional feature elements such as sculptures.

ESTABLISHMENT/ MAINTENANCE PROGRAMME

As part of the contract, and to ensure successful establishment, the Contractor is to be responsible for the maintenance of all hard and soft landscape components for the duration of the 12 months' DLP (full 12 months post planting).

The Contractor is responsible for, but not be limited to:

General Management Objectives

The works involved, but are not limited to, the following maintenance tasks:

- Ensure early establishment and healthy growth of all newly planted trees;
- Establish and encourage a well-formed structure and hedgerow characteristics;
- Ensure health and structure to mature trees;

- Watering plants as necessary (with particular attention to trees) to aid establishment during the early years after planting;
- Keeping planting areas generally free from weeds. At all times planted areas shall be kept clear of all litter and debris and the Contractor shall ensure that all paths are swept clean of arisings. Soil and arisings are to be removed from hard surfaces and grassed areas and removed from site;
- Leave the works in a clean tidy condition and after any maintenance operations;
- Appropriate herbicides will be used to control weed growth, in line with standard horticultural practice;
- General pruning and trimming as required ensuring footways, signs etc. are not obscured;
- All plants are to be encouraged to grow to their natural shape unless stated otherwise;
- Fertilising of planting;
- Replacing plants that fail where required;
- Thinning of planting where required to allow healthy future growth;

Standards of Workmanship

The landscape maintenance is to be carried out to a high standard and where possible source locally based landscape contractor subject to the following;

- The contractor shall supply appropriately skilled and experienced operatives for the type and quality of the work and be familiar with this manual. The contractor shall supply a suitable experienced and qualified foreman, who shall attend the site at each and every visit. The foreman must be able to interpret and act on instructions given by the CA or his agents.
- All operations necessary shall be carried out without unreasonable noise and disturbance. The landscape maintenance contractor will ensure that the works themselves do not cause inconvenience or danger to the users of the site.

Failure of Plant Material

- The Contractor shall replace, at his own expense, any tree, climber, transplant, specimen plant, shrub or herbaceous material which has died or has not developed full foliage throughout its branches during the twelve (12) months following planting. Replacements shall take place as early as possible during the planting season following the original planting period.
- All replacement plant material shall conform to the original Specification unless otherwise agreed in writing between the Contractor and the Landscape Architect.
- The Contractor shall make good at his own expense all necessary repairs to levels, grassed areas and paving required because of plant replacements.

ELEMENTS OF WORK (SPECIFICATION)

SOFT LANDSCAPE ELEMENTS

Grass Lawn

- Grass is to be maintained as a healthy vigorous sward free from disease, fungal growth, discolouration, scorch, wilt, moss, excessive thatch, weeds, frost heave, worm casts, and mole hills;
- Water as necessary to secure healthy establishment and to avoid the need for replacement due to dry periods (less than 30mm rainfall at the end of a four-week period). General if water supply is, or is likely to be, restricted by emergency legislation, submit proposals for an alternative suitable source of water. Obtain instructions before proceeding;

- MAINTENANCE OF GRASSED AREAS

Standard: To BS 7370-3 Grounds maintenance. Recommendations for maintenance of amenity and functional turf. Carry out maintenance appropriate to each category of turf, as follows:

Objectives: To BS 7370-3, table 6.

Programme: To BS 7370-3, section 4 clause 11.

Mowing methods: To BS 7370-3, table 3.

- The first cut shall be when the grass is between 40mm and 75mm high over a maximum 25% of the area and shall be cut when the grass is reasonably dry to 40mm high. Allow 48 hours of dry conditions after heavy or continuous rain before cutting. Remove debris, litter and all stones and earth clods larger than 25mm in any dimension. Subsequent cuts prior to the aftercare period will be undertaken when the grass is between 40mm and 75mm high over a maximum 25% of the area and shall be cut when the grass is reasonably dry to 40mm high or as otherwise directed by the Landscape Architect. After first mowing rolling to be undertaken in February or March to consolidate turf and reduce frost heave.
- Mow at regular intervals to maintain a height of 5cm to develop dense, hard-wearing sward. Do not mow in periods of prolonged dry weather. All cuttings are to be removed from site;
- Fallen leaves are not to accumulate and shall be collected and removed from site;
- All boundaries of grass areas shall be kept tidy and management shall extend right up to any building line, wall, fence, service marker, manhole cover, signpost or other obstruction;
- The Contractor shall submit written proposals for the eradication of any pests and diseases present in the turf;
- Establishment shall be regarded as, at the end of each growing season, a healthy, well-rooted, even-coloured, viable lawn has been established, free of weeds, open joints, bare

areas, and surface irregularities, with coverage exceeding 99 percent over any 1.00 sq. m and bare spots not exceeding 50 by 50 mm;

- All bare areas of grass, areas of dead grass or grass areas which in the opinion of the Landscape Architect are failing to make satisfactory growth shall be replaced by the Contractor. These areas are to be replaced with species composition appropriate to location.
- Tree stem Precautions: Do not use mowing machinery closer than 100 mm to tree stems. Use nylon filament rotary cutters and other handheld mechanical tools carefully to avoid damage to bark.

Meadow Grassed Areas

- EL1 – FLOWERING LAWN MIXTURE First year management
- The wildflower and grass species in this mix are perennial; they will be slow to germinate and grow and will not usually flower in their first growing season. There will often be a flush of annual weeds from the soil in the first growing season. This annual weed growth is easily controlled by repeated mowing.
- Mow newly sown flowering lawns regularly (every 7 -10 days during growing season) throughout the first year of establishment. Cut to a height of 40-60mm, removing cuttings if dense. This will gradually develop a good sward structure, help maintain balance between faster growing grasses and slower developing wildflowers, and control annual weeds.
- Carefully dig out or spot treat any residual perennial weeds such as docks.
- Management once established - Mow regularly as a lawn but not too short (25-40mm).
- To permit flowering, mowing can be relaxed from late June. Cut again when the sward gets untidy (after 4-8 weeks). Mowing may be suspended earlier in the year to allow cowslips to flower. Heavy quantities of cuttings should be collected and removed from site.

Bulb Overlay

- While the grass around the areas planted with bulbs can be mown as instructed above, delay mowing of areas with bulb planting until the bulbs have finished flowering and the leaves have wilted;
- A slow release fertiliser should be applied four to six weeks before flowering time;
- When the flowers start to wilt, deadhead the bulbs while taking care to leave the leaves intact until they start to wilt as instructed above.

Ornamental Shrubs and Herbaceous

- When planting shrubs ensure that planting pit depth is 50mm greater than the root ball and all soil on sides and bottom of the pit are loose;

- Maintain healthy, vigorous shrub planting;
- Lightly clip over plants where required. Cut back flowering shoots after flowering;
- Water as necessary to secure healthy establishment and to avoid the need for replacement due to dry periods (less than 30mm rainfall at the end of a four-week period);
- Remove suckers, dead, discoloured, weak or damaged stems, cut back any stems obstructing paths etc. Prune to reduce size if suppressing adjoining species;
- Species specific pruning at appropriate time of year to promote healthy growth and species-specific shape and form. Ensure nursery's recommendations are followed for each particular species. Remove dead flowers to encourage repeat blooming;
- Ornamental grasses shall be cut back annually in spring before, or just as new growth appears to within 100-150mm of the soil level. Dead, dying or broken flower stalks to be trimmed off. If the centre of a clump dies out then it shall be dug up, divided and the healthy portion replanted. If the plant becomes too large it shall be divided into more manageable clumps and replanted;
- Apply a slow release fertiliser in spring;
- Fallen leaves and clippings are not to accumulate and shall be collected and removed from site;
- Weed planting beds by the most appropriate means either by hand, mechanical and chemical use;
- Bark mulch to be maintained to a depth of 50mm thickness at all times and inspected three times a year in the active growing season. If mulch is found to be less than an even depth of 50mm, it shall then be topped up;
- Replace any failures of plants within the establishment period with immediate effect with the same species and size.

Trees

- Water as necessary to secure healthy establishment and to avoid the need for replacement due to dry periods (less than 30mm rainfall at the end of a four-week period);
- Collars in soil at base of tree stems, created by tree movement shall be broken up by fork, avoiding damage to roots. Backfill with topsoil and re-firm;
- Check all trees for firmness and stability in the ground. Check and adjust tree ties, replacing if necessary;
- At all times prevent rubbing of ties and adjust to accommodate growth and prevent chafing. Where chafing has occurred, reposition or replace ties to prevent further chafing. Damage to bark to be cut back neatly with a sharp knife; to prevent further damage;
- Inspect trees regularly for stem wounds, pests and diseases and treat early;

- Prune dead, dying, crossing, rubbing and damaged branches and encourage new leader as necessary;
- Check aeration pipes regularly and clear debris as necessary;
- Trees in Species Rich Lawns shall have mulch circles of 1000mm maintained weed free at all times. Weeding shall be undertaken by hand or weed wiper ensuring that the plants specified under this contract are not affected;
- Bark mulch to be maintained to a depth of 50mm thickness at all times and inspected three times a year in the active growing season. If mulch is found to be less than an even depth of 50mm, it shall then be topped up. Ensure that mulch does not cover up aeration pipes. Leave a 10cm (4in) collar free of mulch around any woody stems to avoid risk of rotting;
- Fallen leaves are not to accumulate and shall be collected and removed from site;
- Apply a slow release fertiliser in spring;
- Control rabbits or other mammalian pests if necessary. The contractor will submit a method statement for the approval of the Project Manager and Ecologist;
- Replace any failures of plants within the establishment period with immediate effect with the same species and size;
- Any tree works shall be carried out by a skilled, qualified and approved Arboricultural Contractor in accordance with BS3998: 2010 'Tree Work - Recommendations'. Where possible, and where health and safety constraints permit, and where prior approval of the Project Manager and Ecologist; arisings may be formed into habitat piles within the POS spaces, and standing dead wood maybe left within the woodland to provide additional dead wood habitats to maximise invertebrate biodiversity.

Hedgerow Planting

- All hedgerow planting should be carried out in accordance with BS4428:1989, Code of practice for general landscape operations (excluding hard surfaces). Hedgerow shrubs should either be notch planted or trench planted. Hedge trenches should be dug to a minimum depth of 400mm and width of 600mm, with the plants put into the ground at the same depth at which they had been previously grown in the nursery. All plants need to be well heeled in after planting and watered in dry weather. Most hedging plants are supplied as bare root specimens or instant hedging, and it is important to make sure that the roots do not dry out, therefore it is advisable to keep them under a moist cloth or in a bucket of water during planting. Hedges should only be planted between November and March, while plants are still dormant. Avoid planting in very cold or wet weather;
- Weed Control between forestry transplants or whips to be carried out by mechanical means or herbicide depending on species and site accessibility. Any arisings are to be removed from site;
- An area of 300mm diameter around each transplant shall be kept free from weed growth. All invasive herbaceous scrubby vegetation, e.g. Bramble & Nettles and non-native or highly invasive tree species shall be cleared and removed from site four times annually;

- Eradicate noxious weeds by manual and mechanical means or selective herbicide as appropriate;
- Clear compartment areas of litter, rubbish and debris. To be carried out on maintenance visits and thereafter on a bi-annual basis;

Climbers Planting

- Appropriate supports, such as trellis or taut wires (either horizontal or vertical) shall be in place prior to planting. These supports are to be roughly 5cm (2in) away from the boundary fence;
- Plant individual plants between 45 and 25cms away from the supports. Use bamboo canes or equivalent to train the climber at an angle towards the support structures.
- Ensure plants are growing up the support structures on every maintenance visit, twining the plants around the support structure by hand if necessary;
- After the plants have formed thick woody stems, remove the bamboo canes;
- Check plants for dead or damaged sections on every maintenance visit and use an appropriate pruning tool to neatly prune back to a healthy section of the plant.

HARD LANDSCAPE ELEMENTS

Surface Materials and Street Furniture

- A suitable foliar acting or residual herbicide is to be applied to all hard surfacing areas, allowing recommended period to take effect before clearing arisings. All litter, leaves and other debris are to be removed from all hard surfaces prior to application of herbicides;
- Mud, silt and debris is to be removed from all surface gutters and channels;
- Drainage gullies are to have traps emptied and flushed clean as required to prevent obstructions;
- Any repairs to the hard surfacing is to be in accordance with the original paving specification;
- Stain removal to hard surfacing is to be in accordance with BS7370-2, table 4;
- Fences and enclosures are to be maintained and inspected monthly and appropriate repairs undertaken as necessary;
- Graffiti removal is to be carried out as soon as damage has been noticed. Method of removal is to be either air abrasion or chemical poultice, depending upon surface and is to be carried out in line with good practice;
- Regular monthly maintenance inspections are to be undertaken of surface treatments for litter, debris and leaf removal (or snow clearance and de-icing in winter months) and repair defects when necessary;

- Inspect street furniture each month and maintain or repair in accordance with manufacturers' recommendations, taking out of commission dangerous or inoperable elements until repair works are complete;

PROCESS FOR MONITORING AND REVIEW

The management of the site is to be reviewed on an annual basis (Years 1-5) and is intended that the implementation of this management plan will help to fulfil the design objectives over the first 5 years. The review process is to ensure that the aims and objectives of the scheme are being achieved and maintenance operations should be refined over the period to respond to industry standards improvements and incorporating any additional operations required.

Each annual review will be coordinated and completed by a suitably qualified representative of the Applicant. The review will include advice from specialist consultants as required, such as a qualified arboriculturist, ecologist and the Landscape Management Contractor. The review should identify any changes to site conditions and circumstances and identify where changes are required to existing management practices and timeframes.

Any strategic enhancements, including new planting should be identified and priorities established for undertaking these works. Within 1 calendar month of the review, a revised Landscape Management Plan shall be produced (if appropriate) and circulated.

After the first five years (Years 5+) the Landscape Management Plan will be reviewed every five years, or as required to ensure the satisfactory management of the landscape indefinitely. The Landscape Maintenance Contractor responsible for the site should keep to the spirit of the original design objectives.

ANNUAL MAINTENANCE OPERATIONS SCHEDULE

(Including contractor’s 12-month defects liability period, aftercare period and Management Company responsibilities after handover)

This table lists the key routine operations required during the first 5 years after practical completion of the soft landscape treatments and should be used as a guide to timings of specific operations. The maintenance contractor should be prepared to undertake maintenance tasks as required throughout the year to satisfy objectives at the direction of the management organisation.

Task	J	F	M	A	M	J	J	A	S	O	N	D	Notes
General operations:													
Weed control													Daily if required in summer
Watering (all areas)													
Pest and disease control													
Replanting operations													
Remove litter and debris													
Check ties and root firmness													
Fertiliser & mulch application													
Check ties, supports etc.													
Replacement planting (all plant types)													As required
Amenity Grass Areas:													
Inspect grass areas													
Mowing – amenity grass													
Re-seeding and repair work													
Trim edges													
Bulb Planting areas:													
Mowing													
Shrub, Ground Cover and Climbers:													
Inspections													
Groundcover Shrubs Trimming													
Pruning													Varies to suit species
Top up mulch													
Hedgerows:													
Inspections of hedgerow areas													
Native Hedges Trimming													
Top up mulch													
Trees:													
Inspection													
Pruning and remedial work													
Top up mulch													
Management Plan:													
Monitor & adjust objectives													

Note: This list is not definitive list, additional operations maybe be required.