



**LANDSCAPE MANAGEMENT AND
MAINTENANCE PLAN**

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External Landscape Management and Maintenance
Plan

C02

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1.0 INTRODUCTION

The following landscape management plan describes the long-term design objectives, management responsibilities and maintenance schedules for the landscape areas associated for Greenhead Sixth Form College.

The site will be managed to ensure its existing assets are protected, and the designed landscape elements are allowed to mature providing an environment that is rich in ecological diversity for all users to enjoy.

This management plan is intended as a life document to be updated as required for the duration of the plan.

This document should be read in conjunction with the following landscape drawings:

- NE8659-OOB-ZZ-00-DR-L-0009
- NE8659-OOB-ZZ-00-DR-L-0016
- NE8659-OOB-ZZ-00-DR-L-026
- NE8659-OOB-ZZ-00-DR-L-0035
- NE8659-OOB-ZZ-00-DR-L-0100
- NE8659-OOB-ZZ-00-DR-L-0101
- NE8659-OOB-ZZ-00-DR-L-0102
- NE8659-OOB-ZZ-00-DR-L-0103
- NE8659-OOB-ZZ-00-DR-L-0104
- NE8659-OOB-ZZ-00-DR-L-0110
- NE8659-OOB-ZZ-00-DR-L-0111
- NE8659-OOB-ZZ-00-DR-L-0112
- NE8659-OOB-ZZ-00-DR-L-0113
- NE8659-OOB-ZZ-00-DR-L-0114
- NE8659-OOB-ZZ-00-DR-L-0120
- NE8659-OOB-ZZ-00-DR-L-0121
- NE8659-OOB-ZZ-00-DR-L-0122
- NE8659-OOB-ZZ-00-DR-L-0123
- NE8659-OOB-ZZ-00-DR-L-0124
- NE8659-OOB-ZZ-00-DR-L-0130
- NE8659-OOB-ZZ-00-DR-L-0150
- NE8659-OOB-ZZ-00-DR-L-0300
- NE8659-OOB-ZZ-00-DR-L-0301
- NE8659-OOB-ZZ-00-DR-L-0302
- NE8659-OOB-ZZ-00-DR-L-0303
- NE8659-OOB-ZZ-00-DR-L-0304
- NE8659-OOB-ZZ-00-DR-L-0400
- NE8659-OOB-ZZ-00-DR-L-0401
- NE8659-OOB-ZZ-00-DR-L-0402
- NE8659-OOB-ZZ-00-DR-L-0403
- NE8659-OOB-ZZ-00-DR-L-0404
- NE8659-OOB-ZZ-00-DR-L-0500

- NE8659-OOB-ZZ-00-DR-L-0501
- NE8659-OOB-ZZ-00-DR-L-0502
- NE8659-OOB-ZZ-00-DR-L-0503
- NE8659-OOB-ZZ-00-DR-L-0504
- NE8659-OOB-ZZ-00-DR-L-0505

1.1 LONG TERM OBJECTIVES

A series of long-term objectives and management operations and timescales have been defined to enable the realization of the landscape strategy for the development.

The long-term objectives are described below.

- To enhance ecological diversity and create new habitats for local wildlife.
- To ensure the sustainability of the new landscape by proposing ornamental planting, tree coverage and hard surfaces that will require minimum maintenance.
- To provide an aesthetically pleasing landscape that is functional and complements the built environment and the existing character of the site .

In addition to the objectives outlined above, the landscape has been divided into a series of management types requiring different maintenance and management operations, which are described in the following sections.

2.0 MANAGEMENT PROPOSALS - GENERAL

2.1 Hard Surfaces

A practical, hard wearing palette of paving materials has been selected to complement the architecture, define individual spaces, paving function and footpath hierarchy. Detailing of all built features and furniture are robust in function and appearance, to ensure greater resistance to vandalism.

2.2 General maintenance

Maintenance visits to be made as frequently as required to keep the area tidy.

- Remove litter, leaves and other debris
- Surface gutters and channels: remove mud, silt and debris
- Drainage gullies: empty traps and flush clean

In all instances a suitably competent person should carry out all the above works. Consideration should be given to the health and safety of all cleaning methods, precautions taken and COSHH guidelines adhered to.

For additional information, refer to appendices for detailed cleaning and maintenance specifications from manufacturers.

2.3 Paving units

In general, the removal of daily dirt and detritus can be removed by brushing executed at interval to achieve an acceptable level of cleanliness. Consideration should be given to the origin of stains to determine the correct type of detergent to be applied to achieve successful removal.

The use of cleaning machines that have hard plastic or metal wheels should be avoided as scoring or tracking will result and edges and/or corners will be damaged.

The paved area should be inspected following cleaning to ensure that the joints are full and to highlight any broken or damaged units. Damaged paving units should be reinstated as soon as they are found but, in any case, replaced as soon as possible to ensure that they do not become a trip hazard. If damage occurs to the joints, it is responsibility of the liable maintenance contractor to make good all damages to manufacturers specification.

Removal of chewing gum: chewing gum removal can be difficult to remove from paving surfaces. Freeze the gum with ice or dry ice then remove with a scraper. Alternatively, a proprietary cleaning method can be used in accordance with manufacturer's recommendations.

Please note that products containing Ferrous Sulphate used on weed and moss killers can chemically react with concrete products resulting in a brown stain to the surface. Please ensure guidance is sought from manufacturers of all chemicals including herbicides before treatment are undertaken.

2.4 Street Furniture

All street furniture should be regularly cleansed and inspected for damage. Vandalism resulting in damage to any items which may cause harm to other users shall be made safe and repaired as soon as possible.

Recordings of conditions to be logged at the beginning of the maintenance period and thereafter all furniture should be regularly inspected for superficial or physical damage on a monthly basis and repaired as necessary.

Carry out a full clean (hose down and wipe with mild detergent and/or warm soapy water) every three months. Check all fixings and inspect for any damage/vandalism to any items. Damage shall be made safe and repaired as soon as possible following manufacturer's instructions.

Items of furniture with stainless steel: Wash with soap water or a mild detergent and warm water followed by a clean water rinse.

3.0 MANAGEMENT PROPOSALS – SOFTWARES

Planting and seeding are to be maintained as per the NBS maintenance specification Q35 and monitored regularly.

Any trees or plants which die, fail to flourish or are removed within a period of 5 years from the substantial completion of the landscaping scheme shall be replaced in the next planting season with others of similar size and species. Replacements will be subject to the same conditions.

Perpetual/Routine Maintenance Items

Maintenance visits will be made fortnightly during the growing season and as necessary thereafter to fulfil the requirements of this specification:

- Keep all beds clear of weeds by cultivating and use of approved herbicides.
- Keep all beds clear of litter and rubbish.

Protection of newly planted areas during the establishment period

Vulnerable areas of planting should be protected by chestnut pale fencing. The aim is to prevent desire lines being created through planting areas and damage occurring to young plants.

Type A - Existing Vegetation

Ongoing Management and Maintenance Actions

Continued monitoring and assessment of tree conditions with risk management valuations to ensure potential hazards are removed from motorists and pedestrians. We understand the trees around the site are inspected annually by a specialist commissioned by the College. This should continue and include inspection of the new trees.

Type B - Grasses & Perennial Planting Mix

Design Character

Grasses and perennials have been proposed within the scheme to:

- Provide an aesthetically pleasant landscape for the school.
- Introduce a new habitat within the site that provides nectar and foraging habitat.

Actions (0-5 years)

- Ensure ground preparation is carried out a few days in advance of planting. Top dress after planting with compost.
- Water immediately after planting, and at least two to three times in the first weeks. This may need to be more regularly in periods of dry weather.
- Prune to promote healthy growth and natural shape at a time appropriate for each species. Deadhead & cut back deciduous species after flowering/**in early spring** (after threat of frosts). This can be done down to 2 to 3 inches above the ground by strimming and raking and collecting the cuttings. Make sure these tools are sharp and try to minimize trafficking. Arising's should be left on site to be utilised following ecologists directions and do not fertilise.
- Top dress at the end of growing season.
- Dry edges - fork over as necessary to keep soil loose, with gentle cambers and no hollows, without affecting depth of effect of mulch.
- Remove weeds by hand ensuring mulch is always topped up.
- In subsequent years remove and replace any plant to be found dead, dying, diseased or affected by vandalism or erosion.
- Ensure plants have adequate supply of water.

Actions (6-10 years)

- Prune to promote healthy growth and natural shape at a time appropriate for each species. Deadhead & cut back deciduous species after flowering/**in early spring** (after threat of frosts). This can be done down to 2 to 3 inches above the ground by strimming and raking and collecting the cuttings. Make sure these tools are sharp and try to minimize trafficking. Arising's should be left on site to be utilised following ecologists directions and do not fertilise.
- Top dress at the end of growing season
- Dry edges - fork over as necessary to keep soil loose, with gentle cambers and no hollows, without affecting depth of effect of mulch.
- Remove weeds by hand ensuring mulch is always topped up.

- In subsequent years remove and replace any plant to be found dead, dying, diseased or affected by vandalism or erosion.
- Ensure plants have adequate supply of water.

Actions (11-20 years)

- Prune to promote healthy growth and natural shape at a time appropriate for each species. Deadhead & cut back deciduous species after flowering/**in early spring** (after threat of frosts). This can be done down to 2 to 3 inches above the ground by strimming and raking and collecting the cuttings. Make sure these tools are sharp and try to minimize trafficking. Arising's should be left on site to be utilised following ecologists directions and do not fertilise.
- Top dress at the end of growing season
- Dry edges - fork over as necessary to keep soil loose, with gentle cambers and no hollows, without affecting depth of effect of mulch.
- remove weeds by hand ensuring mulch is always topped up.
- In subsequent years remove and replace any plant to be found dead, dying, diseased or affected by vandalism or erosion.
- Ensure plants have adequate supply of water.

Type C - Proposed shrubs

Design character

Ground cover planting is proposed that will:

- Provide visual amenity.
- Provide habitats for a number of insects.
- Introduce biodiversity into the scheme.

Actions (0-5 years)

- Ensure ground preparation is carried out in advance of planting season. For deciduous shrub, plant late October to late March. Container grown plants can be planted all year round in favourable weather conditions.
- Within the early stages (2 years) of a shrub's growth, the stakes, canes and rabbit guards should be monitored and repaired if damaged. Loosen ties or remove stakes if shrubs have become sufficiently established.
- Ensure plants have adequate supply of water.
- Keep area clear of litter and rubbish.
- Remove weeds by hand ensuring mulch is always topped up.
- If any of the shrubs is found to be dead, diseased or dangerous they should be removed and replaced with a specimen to the original specification.
- Ensure plants have adequate supply of water.

Actions (6-10 years)

- If any of the shrubs are found to be dead, diseased or dangerous they should be removed and replaced with a specimen to the original specification. Only replant after first investigating the reason for failure and taking any remedial action that may be required.
- Trim annually to keep their desirable form.
- Ensure plants have adequate supply of water.
- Keep area clear of litter and rubbish.
- Remove weeds by hand ensuring mulch is always topped up.
- Ensure plants have adequate supply of water.

Actions (11-20 years)

- Continued annual monitoring, if any of the shrubs are found to be dead, dying, diseased or dangerous they should be removed in safe and legal manner.
- Trim annually to keep their desirable form.
- Keep area clear of litter and rubbish.
- Remove weeds by hand ensuring mulch is always topped up.
- Ensure plants have adequate supply of water.

Type D - Specimen trees

General

Newly planted trees across the site will need to be watered regularly by hand during the establishment period i.e., for 3 years after planting.

Soil around the base of trees in grass will be kept clear of weeds.

Stakes/ties/guys will be inspected and maintained in good order, adjusted and repaired where necessary to prevent rubbing of bark and removed when no longer required.

Trees will be visually inspected on routine maintenance visits for damage, general safety and security issues. Damaged branches will be removed from both trees and ground promptly to minimise damage to the tree and danger/obstruction to users of the site.

For newly planted trees formative pruning work will be carried out as required and as appropriate for the species to remove branches overhanging or obstructing access and to maintain the form and health of the tree. All pruning to be carried out by a Member of the Arboricultural Association and in accordance with BS7370 'Grounds maintenance, Recommendations for maintenance of soft landscape'.

Actions (0-5 years)

- Ensure ground preparation is carried out in advance of the planting season. For deciduous trees late October to late March. The planting site will have a soil texture and structure that will retain and release moisture and nutrients to the plant. Ensure free drainage of pit before planting.
- After initial planting, any damaged, dead, diseased or crossing branches shall be removed. Water regularly to ensure successful establishment.
- In subsequent years remove and replace any tree to be found dead, dying, diseased or affected by vandalism.
- Within the early stages (2 years) of a tree's growth, the stakes, canes, rabbit and tree guards should be monitored and repaired if damaged. Loosen tree ties or remove stakes if trees have become sufficiently established.
- Years 4-5 check trees for abrasions and chaffing with tree stakes, guards and ties or each other. Loosen tree ties or remove stakes if trees have become sufficiently established. Trees found to be rubbing against each other should have their crossing over limbs removed, to limit the possibility of disease in the future.
- Replace bark mulch around the base of trees yearly as required to ensure the base remains weed free.
- Ensure plants have adequate supply of water.

Actions (6-10 years)

- If any of the trees are found to be dead, diseased or dangerous they should be removed and replaced with a specimen to the original specification. Only replant after investigating the reasons for failure and taking remedial action.
- Any tree stakes still in position should be removed.

- Prune branches as required to keep the desired shape of the tree and also limit its growth within the streetscape.
- Ensure plants have adequate supply of water.

Actions (11-20 years)

- Monitor the condition of the trees and prune as required to keep the desired shape of the tree.
- Prune trees within the car park as required to retain the lighting lux levels / quality. (To be confirmed with lighting engineer)

Type E - Woodland Structure Mixes

Design character

New woodland planting is proposed that will:

- Link with existing woodland and increase wooded habitats within the site
- Provide visual mitigation to the new development

Actions (0-5 years)

- Ensure ground preparation is carried out in advance of planting season. For deciduous trees and shrubs late October to late March, conifers and evergreens September/October. Container grown plants can be planted all year round in favourable weather conditions.
- Native woodland shrub planting to be staked and fitted with shrub guards
- Within the early stages (2 years) of a tree/shrub's growth, the stakes, canes and rabbit guards should be monitored and repaired if damaged. Loosen ties or remove stakes if trees have become sufficiently established.
- Years 4-5 check trees for abrasions and chaffing with stakes, guards and ties or each other. Loosen tree ties or remove stakes if trees have become sufficiently established.
- Any weak growth that develops in the mulched area will be removed by chemical control; this shall be checked for twice annually and carried out as required.
- Ensure plants have adequate supply of water.

Actions (6-10 years)

- If any of the trees or shrubs is found to be dead, diseased or dangerous they should be removed and replaced with a specimen to the original specification. Only replant after first investigating the reason for failure and taking any remedial action that may be required.
- Ensure plants have adequate supply of water.

Actions (11-20 years)

- Continued annual monitoring, if any of the trees are found to be dead, dying, diseased or dangerous they should be removed in safe and legal manner.
- Ensure plants have adequate supply of water.

Type F - Wildflower/Meadow Grass seeding

First year management

Most sown meadow wildflower and grass species 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 which may grow up and obscure the meadow seedlings beneath. This annual weed growth is easily controlled by topping or mowing.

Mow newly sown meadows regularly throughout the first year of establishment to a height of 40-60mm, removing cuttings if dense. This will control annual weeds and help maintain balance between faster growing grasses and slower developing wild flowers.

Avoid cutting in the spring and early summer if the mixture has been sown with a nurse cover of cornfield annuals, or is autumn sown and contains Yellow Rattle. These sown annuals should be allowed to flower, then in mid-summer cut back and the cut vegetation removed. It is important to cut back cornfield annuals before they die back, set seed or collapse: this cut will reveal the developing meadow mixture and give it the space it needs to develop.

Carefully dig out or spot treat any residual perennial weeds such as docks.

Management once established

In the second and subsequent years, sowings can be managed in a number of ways which, in association with soil fertility, will determine the character of the grassland. The best results are usually obtained by traditional meadow management based around a main summer hay cut in combination with autumn and possibly spring mowing or grazing.

Meadow grassland is not cut or grazed from spring through to late July/August to give the sown species an opportunity to flower. After flowering in July or August take a 'hay cut': cut back with a scythe, petrol strimmer or tractor mower to c 50mm. Leave the 'hay' to dry and shed seed for 1-7 days then remove from site.

Mow or graze the re-growth through to late autumn/winter to c 50mm and again in spring if needed.

EM1F is a mixture containing 100% native wild flowers for sowing into existing grass or combining with a suitable grass seed mix. EG1 is the grass mix recommended for sowing with these flowers. EM2F and EG1 are available premixed as a complete meadow mixture EM1.

All information on wildflower management taken from Emorsgate seed mixes website www.wildseed.co.uk

Type G - Green Roof

Inspect the green roof at least twice a year for weeds and seeds and remove any unwanted vegetation by hand (ideally in spring and autumn). To encourage biodiversity, the use of chemical pesticides is not recommended. To help restore the green roof to its best, an organic slow release granular fertiliser will encourage growth, applied twice a year. Furthermore, checks should be undertaken to ensure that the drainage system is functioning properly, remove leaves in gutters and drains.

4.0 MANAGEMENT RESPONSIBILITIES

Greenhead Sixth Form Collage will be responsible for carrying out all long-term operations as described in this management plan, and for the ongoing amendment as required of this document.

5.0 SUMMARY

The Landscape Management Plan as specified above would meet the criteria to conserve and enhance the new planting within the site whilst providing the desired framework and mosaic of habitats to create an interesting outdoor experience.

The management proposals have been developed to allow for the proposed planting to establish and develop increasing the setting and identity of the site.

This report has been prepared by OOBELimited with all reasonable skill, care and diligence. Information reported herein is based on the interpretation of data collected and has been accepted in good faith as being accurate and valid.

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