Landscape Management and Maintenance Plan
For E36, Tankersley R01
REV: P02For Planning

17.01.2020

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This document should be read alongside the detailed specifications as outlined in drawing PL29L01, L02 & L03 Planting Plan Whole Site and PL29L04 & L05 Planting Plan-Detailed Plan.



1.1 The purpose of this document is to set out the long term management and maintenance requirements for the planting at site E36, Tankersley. It will identify general principles and quality standards required to guide the establishment and the successful maintenance of the soft landscape works for a 5 year period.

Short term design objectives

1.2 The short term objectives cover the period from the initial planting through to establishment and for the first couple of planting seasons. The main objectives are:

- Successful establishment of all plants and trees, ensuring an instant presence in the landscape and meeting the requirements of key planting types.
- To ensure that provision for a continued maintenance regime is made available and instructed following the rectification of the initial planting.

Long term design objectives

1.3 The long term objectives are set out to run from the early establishment. They are not limited to the first few years, but instead designed to guide best practice through the lifetime of the planting and to inform a natural regeneration of planting areas. These objectives are as follows:

- Create an ecologically rich, attractive environment which is sympathetic to the character of the existing setting
- Maintain a safe and secure external space
- Provide an easily maintained and managed landscape
- Encourage natural regeneration and management woodland habitat areas.

1.4 For the purpose of the landscape management and maintenance plan the site has been divided into five main planting character types:

- **Woodland mix planting**
  Areas of small woodland planting to provide; screening of the site to neighbouring properties, increase site potential for biodiversity and increase visual amenity of the site.
- **Advanced nursery stock tree planting**
  Proposed extra heavy standard and feathered tree planting is used throughout the scheme to add vertical structure and interest to the planting scheme.
- **Hedge planting**
  Single species hedges are used to provide an attractive screen or boundary to specific areas such as service yards and car parks.
- **Shrub and herbaceous planting**
  Shrub and herbaceous planting provides a pleasant, attractive environment for pedestrians and commuters, with seasonal interest adding to the visual interest.
- **Amenity grass areas**
  Areas of amenity and low maintenance grass areas have been chosen to create open areas of amenity space for staff and visitors to enjoy, whilst also providing a diverse species of fauna for wildlife.

Management responsibilities

2.1 The delivery of the management operations as outlined in this plan will be the responsibility of the Landscape maintenance contractor and the facilities managers. It is understood that on completion of the initial capital works, the soft works contractor will be responsible for the maintenance of the planting during the defects liability period in line with the operations set out in this document.

Maintenance objectives for soft landscape - generally

2.2 Set out below are the key operational activities crucial to the establishment and continued thriving of the planting:

- Apply good horticultural and ecological practice to all operations.
- Ensure consistent control of invasive weeds.
- Ensure development of optimum plant form, shape, and planting density.
- Provide protection against pests and diseases.
- Promote wildlife value and species diversity where appropriate.
- Ensure long term commitment to replacement of defective plant material.
- Review opportunities for introduction of new species or replacement of exhausted species where appropriate, in line with original design intensions.

Maintenance objectives for woodland mix planting

3.1.1 Ensure that good horticultural practice is employed to encourage long term health and vitality of all trees.

3.1.2 Ensure there are financial mechanisms in place to facilitate the site owner/ occupier to implement a long term maintenance regime hat is appropriate for the size and age of planting within each woodland area, to be implemented back-to-back with the five year management plan

3.1.3 Early Maintenance objectives, 1-10 years:

- Ensure that tree and plant stock establish and continue to thrive into maturity by protecting against small mammals with spirals or rabbit fencing if the problem becomes severe
- Ensure that plant and tree protection measures are installed correctly and that they are removed at a suitable time to avoid bark damage and strangulation
- Ensure that perennial weeds and scrub are removed, avoiding competing with planted stock

3.1.4 Long term maintenance objectives, 10+ years:

- That the woodland blocks have a continued maintenance regime that's appropriate to the age and size of planting
- Ensure that the woodland areas benefit wildlife by increasing the site potential for biodiversity and provide suitable habitat for foraging and shelter
- Protect the environment by retaining soils and avoiding surface water runoff
- Implement silvicultural systems such as Hazel and sweet chestnut coppice to increase diversity in woodland canopy and floor structure, and the potential or re-use within grounds maintenance

Maintenance specification for woodland mix planting

3.2.1 Watering

- All planting to receive watering for at least the first 2 growing seasons
- Ensure sufficient water is applied to maintain healthy growth and continued thriving.

3.2.2 Weed Control

- All planting areas shall be kept clear of weed growth for the first 3 growing seasons.
- Ensure that methods used will cause minimum damage to the adjacent planting.
- Do not allow nylon filament rotary cutters or other mechanical tools closer than 200mm to the stem of any tree.

3.2.3 Mulch

- Top up mulch to a minimum thickness of 50mm across all tree pits planted in soft areas.
- After 5 years, utalise the compost created on site if applicable.

3.2.4 Fertiliser

- Incorporate top dressing of 'Enmag SA1' or similar approved in accordance with the manufacturers instructions.

3.2.5 Tree stakes and ties
- Inspect all items twice a year. Adjust fixing to suit stem growth and provide correct and uniform tension.
- Remove stakes and ties by hand when tree has naturally secured itself (rootball does not move when the tree stem sways.

Maintenance operations for trees planted as extra heavy standard and feathered

3.3.1 General, to all trees
- Year one inspection; check for general health, cut back broken/diseased branches.
- Year three to five inspection; check general health, cut back broken/diseased branches, stakes to be replaced where necessary.
- Timing; August to February, twice a year.

3.3.2 Watering, to all newly planted trees
- Water regularly for the first twelve months after planting.
- Frequency; as necessary to ensure establishment and continued thriving.

3.3.3 Mulching, to all trees
- Top up mulching to a depth of 50mm.
- Timing; Spring to Autumn, once a year

3.3.4 Weeding, to all newly planted trees
- Ensure an area of half a meter radius around the base of the tree is free from grass and weeds in accordance with the specification.
- Timing; as necessary.

3.3.5 Litter, to all trees
- Check all branches and foliage and remove any plastic bags, wrappers or bottles.
- Timing, as necessary, especially after strong winds.

3.3.6 Replacement, to all trees
- Replace any tree that is damaged significantly.
- Timing; November to March, as required.

3.3.7 Arboricultural report, to all trees
- It is recommended that an arboricultural report is commissioned every five years by a suitably qualified arborist to identify any health problems and arboricultural works.
- Timing; August

Maintenance objectives for trees planted as extra heavy standard and feathered

4.1.1 Ensure that good horticultural practice is employed to encourage long term health and vitality of all trees.

Maintenance specification for trees planted as extra heavy standard and feathered

4.2.1 Watering

- All planting to receive watering for at least the first 2 growing seasons
- Ensure sufficient water is applied to maintain healthy growth and continued thriving.

4.2.2 Weed Control

- All planting areas shall be kept clear of weed growth for the first 3 growing seasons.
- Ensure that methods used will cause minimum damage to the adjacent planting.
- Do not allow nylon filament rotary cutters or other mechanical tools closer than 200mm to the stem of any tree.

4.2.3 Mulch

- Top up mulch to a minimum thickness of 50mm across all tree pits planted in soft areas.
- After 5 years, utalise the compost created on site if applicable.

4.2.4 Fertiliser

- Incorporate top dressing of ‘Enmag SA1’ or similar approved in accordance with the manufacturers instructions.

4.2.5 Tree stakes and ties

- Inspect all trees twice a year. Adjust fixing to suit stem growth and provide correct and uniform tension.

Maintenance operations for trees planted as extra heavy standard and feathered

4.3.1 General, to all trees

- Year one inspection; check for general health, cut back broken/diseased branches.
- Year three to five inspection; check general health, cut back broken/diseased branches, stakes to be replaced where necessary.
- Timing; August to February, twice a year.

4.3.2 Watering, to all newly planted trees

- Water regularly for the first twelve months after planting.
- Frequency; as necessary to ensure establishment and continued thriving.

4.3.3 Mulching, to all trees

- Top up mulching to a depth of 50mm.
- Timing; Spring to Autumn, once a year

4.3.4 Weeding, to all newly planted trees

- Ensure an area of half a meter radius around the base of the tree is free from grass and weeds in accordance with the specification.

- Timing; as necessary.

4.3.6 Litter, to all trees
- Check all branches and foliage and remove any plastic bags, wrappers or bottles.
- Timing, as necessary, especially after strong winds.

4.3.7 Replacement, to all trees
- Replace any tree that is damaged significantly.
- Timing; November to March, as required.

4.3.8 Arboricultural report, to all trees
- It is recommended that an arboricultural report is commissioned every five years by a suitably qualified arborist to identify any health problems and arboricultural works.
- Timing; August

Maintenance objectives for hedges

5.1.1 Hedges to be maintained to a maximum of 1.8m high and 1.5m wide. Replace any dead plants to ensure no gaps appear in hedges. Ensure that good horticultural practice is employed to encourage long term health and vitality of all hedges.

Maintenance specification for hedges

5.2.1 Watering

- All planting to receive watering for at least the first 2 growing seasons.
- Ensure sufficient water is applied to maintain healthy growth and continued thriving.

5.2.2 Weed Control

- All planting areas shall be kept clear of weed growth for the first 3 growing seasons.
- Ensure that methods used will cause minimum of damage to the adjacent planting.
- Do not allow nylon filament rotary cutters or other mechanical tools closer than 200mm to the stem of any plant.

5.2.3 Mulch

- Top up mulch to a minimum thickness of 50mm across all hedges planted in soft areas.
- After 5 years, utilise the compost created on site if applicable.

5.2.4 Fertiliser

- Incorporate top dressing of ‘Enmag SA1’ or similar approved in accordance with the manufacturers instructions.

Maintenance operations for hedges

5.3.1 Cutting, to all hedges

- Trim to specified heights and remove any diseased, damaged, congested and crossing shoots. (1.8m is an absolute minimum height at which hedges can be cut).
- Timing; Autumn and Spring, twice a year.

5.3.2 Watering, to all newly planted hedges

- Water regularly for the first twelve months after planting.
- Frequency; as necessary to ensure establishment and continued thriving.

5.3.3 Thinning, to all hedges

- Thinning out a third to a fourth of the oldest branches.
- Timing; Autumn and Spring, every three to five years.

5.3.4 Litter, to all hedges

- Check all branches and foliage and remove any plastic bags, wrappers or bottles.
- Timing, as necessary, especially after strong winds.

Maintenance objectives for defensive and shrub and herbaceous planting

6.1.1 Ensure that good horticultural practice is employed to encourage long term health and vitality of all shrubs and whip planted areas.

- Planting to be thinned / re-spaced in response to the general growth in order that they have sufficient room to develop.
- Review opportunities for introducing native shrubs and those with particular wildlife value into planted areas.
- Maintain a clean and safe environment.
- Ensure cultural techniques are employed which use a variety of mulches and organic fertilisers and which minimise the use of chemicals and peat wherever possible.
- Clear any litter which has blown into the planting areas.

Maintenance specification for defensive and shrub and herbaceous planting

6.2.1 Watering

- All planting to receive watering for at least the first 2 growing seasons.
- Ensure sufficient water is applied to maintain healthy growth and continued thriving.

6.2.2 Weed Control

- All planting areas shall be kept clear of weed growth for the first 3 growing seasons.
- Ensure that methods used will cause a minimum damage of the adjacent planting.
- Achieve by a combination of herbicide applications and hand-weeding/hoeing.

6.2.3 Mulch

- Top up mulch to a minimum thickness of 50mm across all shrubs and whips.
- After 5 years, utilise the compost created on site if applicable.

6.2.4 Fertiliser

- Incorporate top dressing of ‘Enmag SA1’ or similar approved in accordance with the manufacturers instructions.

6.2.5 Re-firming

- Ensure all shrubs and planting are maintained in a firm position in the ground.
- Ensure inspections after strong winds, frost heave and other disturbances.
- Report any significant failures.

6.2.6 Pruning of shrubs

- At the end of the growing season, check all shrubs and remove all dead foliage, dead wood and broken/damaged branches and stems.
- Timing: unless otherwise specified, prune:
  -March to July flowering shrubs immediately after flowering period
  -July to October flowering shrubs back to old wood in winter

Maintenance operations for defensive and shrub and herbaceous planting

6.3.1 Pruning, to all planting areas

- Prune each plant appropriately to species, habit, location, season and age.
- Pruning should be carried out to provide a natural, well balanced shape.
- Timing; Autumn and Spring, twice a year.

6.3.2 Watering, to all planting areas

- Water regularly for the first twelve months after planting.
- Frequency; as necessary to ensure establishment and continued thriving.

6.3.3 Dividing herbaceous plants, to all planting beds

- Plants should be divided at year three, subject to successful establishment.
- Plants should be lifted, divided and replanted in accordance with original densities.
- Timing; March April, once a year.

6.3.4 Mulching, to all planting beds

- Top up mulch to a minimum thickness of 50mm across all shrubs and whips.
- Timing, Spring or Autumn once a year

6.3.5 Weeding, to all planting beds

- Keep all plant areas free from weed and grass growth in accordance with maintenance specification.
- Timing, minimum four times a year, all year round.

6.3.6 Litter, to all planting beds

- Check all branches and foliage and remove any plastic bags, wrappers or bottles.
- Timing, as necessary, especially after strong winds.

Maintenance objectives for amenity grass areas

7.1.1 Amenity and low maintenance grass areas are to be maintained in a matter appropriate to their intended use and location on site.

Maintenance specification for amenity grass areas

7.2.1 Watering

- Quantity; wet full depth of topsoil. Frequency, as required to ensure continued thriving of all grass areas. If water supply is, or is likely to be restricted by emergency legislation, submit proposals for an alternative source of water. All planting to receive watering for at least the first 2 growing seasons.
- Ensure sufficient water is applied to maintain healthy growth and continued thriving.

7.2.2 Mowing

- Before mowing remove all litter, rubbish and debris.
- Timing; when grass is reasonably dry.
- Finish to be neat and even without surface rutting; compaction or damage to grass. Edges to be neat and well defined.
- Remove all grass cuttings from grass areas to an on-site composting facility or off-site to a recycling facility.

7.2.3 Scarifying and Raking

- If scarifying and raking is required (for high quality amenity areas), ensure the area is clear of mowing arisings before. Scarify in varying directions to avoid damage and sow the area with grass seed after scarifying to fill in any voids in the existing grass.

7.2.4 Cleaning

- After mowing is complete and arisings are removed ensure that all adjacent paths, roads and hard standings are swept clear and arisings removed.

Maintenance operations for amenity grass areas

7.3.1 Monitoring, to all grass areas

- In the first year when the grass is 30mm high, cut back to 25mm and scarify.
- Timing, autumn, as necessary.
- Year two onwards, mow to 25mm high and scarify.
- Timing; Spring to Summer. Scarify end of august.

7.3.2 Grass cutting, to all grass areas

- Mowing methods to BS 7370-3 table 3
- Timing, To BS 7370-3 clause 11

7.3.3 Trimming, to all grass edges

- Trim all edges and around planting to a neat edge, remove all arisings.
- Timming, following each cut.

7.3.4 Stone picking, to all grass areas
- Remove any stone exceeding 25mm in any direction.
- Timing, weekly all year round.

7.3.5 Weeding, to all grass areas
- Keep all plant areas free from broad leaved weeds with an application of a suitable selective herbicide.
- Timing, Spring and Autumn, twice a year.

7.3.6 Fertiliser, to all grass areas
- Apply organic fertiliser at manufacturers recommended rate.
- Timing, Spring and Autumn, twice a year.

7.3.7 Watering, to all grass areas
- Water regularly for the first twelve months after planting.
- Frequency; as necessary to ensure establishment and continued thriving.

8.1 General Operations

- Pond to be monitored. If vegetation cover exceeds 80%, vegetation within the pond will be removed by hand between early November and late January.
- No more than 1/3rd of vegetation to be removed in any one year.
- GCN should be absent at this time of year and 80% vegetation cover is optimal, below or in excess of this breeding by GCN can be reduced.
- No works to be carried out from March to June in any year throughout amphibian breading season.

Maintenance operations for pond vegetation

8.2.1 Cutting to pond edge vegetaion

- 1/3 of wildflower planting to the pond side to be strimed in late August per year.
- Vegetation not to be cut lower than 15cm.
- All cut vegetation to be raked and removed.
- Wildflowers require mowing/ cutting to reduce competitive weeds/ grass species.
- 1/3 cut each year retains longer vegetation for amphibians into the autumn period.
- 15cm threshold for cutting minimises the risk of killing amphibians at ground level when cutting vegetation.

Maintaining a clean and safe landscape

9.1.1 Litter/ Dog waste

- Collect all litter/ dog waste as necessary to maintain a clean, litter free environment.
- Report all fly tipping to the relevant authorities.

9.1.2 Health and Safety

- All chemical fertilisers and weed killer should be managed and applied in strict accordance with the manufacturers guidelines and safety precautions.
- Prior to any chemicals being used, a COSHH assessment is to be undertaken.