

# Landscape Designs and Maintenance Plans for Limerick City Roundabouts

## **10 YEAR MAINTENANCE PLANS INCLUDING ANNUAL SCHEDULE OF SOFT LANDSCAPE MAINTENANCE OPERATIONS**



24-06-2020

For:  
Physical Development Directorate  
Limerick City and County Council



## 1. INTRODUCTION

- 1.1. This document has been prepared by Dave Ryan Landscape Architect to define the maintenance requirements for the soft landscape areas associated with the Limerick City Roundabouts.

While Hardworks in the form of footpaths, kerbing, lighting and gabions formed part of the original construction scheme, they do not form part of this maintenance schedule. This schedule addresses soft works maintenance only.

A Traffic Management Plan will be required for all initial planting works and all subsequent short and longer term maintenance works.

For timings and frequency of operations refer to Maintenance Schedules 1 to 5.

- 1.2. This document should be read in conjunction with the following information:  
Construction Drawings:

<b>Limerick City Roundabouts Drawing Schedule</b>			
Drawing Number	Drawing Title	Scale	Print Size
T399-102	2-Tipperary Roundabout Existing Situation Plan	1:250	A2
T399-103	3-Killmallock Roundabout Existing Situation Plan	1:250	A2
T399-104	4-Roxborough Roundabout Existing Situation Plan	1:250	A2
T399-106	6-Ballycummin Roundabout Existing Situation Plan	1:250	A2
T399-107	7-Greenpark Roundabout Existing Situation Plan	1:250	A2
T399-108	8-Clondrinagh Roundabout Existing Situation Plan	1:250	A2
T399-112	2-Tipperary Roundabout Hardworks	1:200	A1
T399-113	3-Killmallock Roundabout Hard and Softworks	1:200	A1
T399-114	4-Roxborough Roundabout Hardworks	1:100	A1
T399-116	6-Ballycummin Roundabout Hardworks	1:200	A1
T399-117	7-Greenpark Roundabout Hardworks	1:200	A1
T399-118	8-Clondrinagh Roundabout Hard and Softworks	1:200	A1
T399-122	2-Tipperary Roundabout Softworks	1:100	A1
T399-124	4-Roxborough Roundabout Softworks	1:100	A1

T399-126	6-Ballycummin Roundabout Softworks	1:100	A1
T399-127	7-Greenpark Roundabout Softworks	1:100	A1

1.3. This maintenance specification sets out the following:

- Specification for the Landscape Operations; and
- Annual Maintenance Schedules of Operations.

## 2. OBJECTIVES

2.1. The objectives of this maintenance specification centre on the maintenance and establishment of the soft landscape scheme.

2.2. Limerick as winner of European Green Leaf Award in 2020 , and in support of the All Ireland Pollinator Plan 2015—2020 has designed a series of biodiversity roundabouts, demonstrating how biological corridors can form linkages into parks and open spaces .The proposed landscape schemes also aim to provide an attractive and welcoming environment on approach to Limerick City when passing through the roundabouts.

2.3. The soft landscape scheme comprises:

- Specimen trees
- Hedge planting;
- Ornamental shrubs, perennials and grasses;
- Areas of amenity grassland and clover meadows; and
- Bulb planting.

2.4. The maintenance specification requirements of each soft landscape component are described in more detail in Section 3.

### 3. SPECIFICATION FOR THE MAINTENANCE OF SOFT LANDSCAPE AREAS

**3.1.** The maintenance of the proposed landscape scheme covers maintenance on an annual basis after construction. General and detailed requirements for each landscape feature and habitat type are provided below:

#### **3.2. GENERAL REQUIREMENTS**

##### 3.2.1. NOTICE TO CLIENT

Give 2 days' notice before the following operations:

- Application of fertilizer (reason for application and organic product type to be agreed with client).
- Watering (to be agreed with client, in cases of severe drought).
- Tree works

##### 3.2.2. REINSTATEMENT

Reinstate to original condition any damage or disturbance to soil structure, planting, grass or hard landscaping.

##### 3.2.3. CONTROL OF MAMMALIAN PESTS

Only approved specialist firms and methods to be used. Contractor to submit proposals to Client for written approval.

##### 3.2.4. WATERING GENERALLY

Watering is **only required in times of severe drought**, and should only be considered following discussion with Limerick City and County Council.

- Obtain Client's written approval before using a supply other than Potable mains water.
- Ensure full depth of topsoil is thoroughly wetted to aid plant establishment.
- Do not damage or loosen plants.
- Where required, loosen soil to direct water to rootzone.

##### 3.2.5. WATER RESTRICTIONS

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.

##### 3.2.6. DISPOSAL OF ARISING

Unless specified otherwise, dispose of arisings from all operations and remove from site to a suitably licensed facility.

##### 3.2.7. CHIPPING OR SHREDDING ON SITE

Chipping or shredding is not permitted on site.

##### 3.2.8. MECHANICAL EQUIPMENT

Minimize where possible the use of mechanical equipment on site. If mechanical equipment is necessary restrict use to between the hours of 10am and 4pm.

##### 3.2.9. LITTER

Collect and remove from site all extraneous rubbish not arising from the contract work and detrimental to the appearance of the site.

### 3.2.10. PROTECTION OF EXISTING GRASS

Protect areas affected by maintenance operations using boards/tarpaulins. Do not place excavated or imported materials directly on grass.

### 3.2.11. CLEANLINESS

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

### 3.2.12 TREE STEMS

Do not allow nylon filament rotary cutters and other mechanical tools closer than 100mm to the stem of any tree. Operations close to stems is to be completed by hand.

### 3.2.13. LEAF REMOVAL

Collect fallen leaves from lawns, ornamental planting beds and remove from site for recycling.

### 3.2.14. FERTILIZER - General

It is assumed fertilisers will not be required for wildflower or perennial areas. It may be certain specific plants might require fertilisers after a period of establishment. If the contractor feels a fertiliser is required, approval is to be sought from the client and consideration to be given to an organic slow release fertilizer considered, such as Hexafly

<https://hexafly.com/product/hexafrass/> or similar and approved by the Client.

### 3.2.15. PRUNING GENERALLY

Prune in accordance with good horticultural and arboricultural practice:

- Do not damage or tear the stem or bark when removing branches
- Keep wounds as small as possible and cut cleanly back to sound wood.
- Make cuts above and sloping away from an outward facing healthy bud, angled so that water will not collect on cut area.
- Prune larger branches neither flush nor leaving a stub, but using the branch bark ridge or branch collar as a pruning guide.
- Thin, trim and shape each specimen appropriately to species, location, season, and stage of growth, leaving a well balanced natural appearance.
- Use clean sharp secateurs, hand saws or other approved tools. Trim off ragged edges of bark or wood with a sharp knife.
- Give notice to Client if disease or infection is detected.
- Do not use growth retardants, fungicide or pruning sealant unless instructed.

### 3.2.16. PRUNING OF EXCESSIVE OVERHANG

Remove any growth annually, as outlined in Maintenance Schedules, encroaching onto grassed areas, paths, roads, signs, sightlines and light fittings.

### 3.3. PROPOSED SPECIMEN TREES

#### 3.3.1. WATERING

Watering is **only required in times of severe drought**, and should only be considered following discussion with Limerick City and County Council.

- Water Twice Monthly from April to October.
- Each tree to receive 40L of water at each scheduled watering operation to ensure roots are well irrigated
- Soil moisture: To ensure trees are well irrigated in dry conditions, Client to instruct additional watering operations as required
- CA may omit scheduled watering operations subject to assessment of prevailing weather conditions and soil moisture levels
- Crown spraying. During evening hours, when instructed by Client

#### 3.3.2. TREE STAKES AND TIES

Check stability of trees, especially after severe winds and firm as necessary (at least 4 inspections per year).

- 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.
- Adjust, refix or replace loose or defective ties, allowing for growth and to prevent chafing. Where chafing has occurred, reposition or replace ties to prevent further chafing.
- stakes and ties shall be removed during spring when no longer required to support the tree. Fill stake holes with lightly compacted soil.

#### 3.3.3. WEEDS

Maintain a 1 m radius around each tree free from vegetation. No herbicides to be used.

#### 3.3.4. REFIRMING OF TREES

Refirm trees after strong winds, frost heave and other disturbances.

- Tread around the base until firmly bedded.
- 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 refirm.

#### 3.3.5. FERTILIZER

Slow release and organic fertilizer to be applied in March or April. Hexafly <https://hexafly.com/product/hexafrass/> or similar and approved by the Client. Apply with even spread, carefully incorporating below mulch materials and to manufacturer's recommendations. Fertilizer not to be applied to Wildflower areas.

#### 3.3.6. REPLACEMENT PLANTING

Replace any trees that have failed (between 1 November and 31 March).

#### 3.3.7. DISEASE

Carry out annual check for signs of disease and undertake treatment as required

### 3.3.8. PRUNING

Carry out pruning as and when necessary to maintain natural habit of the tree, in keeping with good horticultural practice

### 3.3.9. TREE WORK GENERALLY

- Before starting work agree which trees, shrubs and hedges are to be removed or pruned. Avoid damage to neighbouring trees, plants and property.
- Standards: To BS 3998:2010 Recommendations for Tree Work, and Health & Safety Executive (HSE) 'Forestry and arboriculture safety leaflets'
- Cut branches as Arboricultural Association Leaflet 'Mature tree management'.
- Cut vertical branches similarly, with no more slope on the cut surface than is necessary to shed rainwater.
- Leave trees with a well-balanced natural appearance.
- Operatives must hold a Certificate of Competence for Chain saw work.
- All tree work is to be carried out by an approved member of the Arboricultural Association.

### 3.3.10. ADDITIONAL WORK

Defective, diseased, unsafe or weak parts of trees additional to those scheduled for attention: Give notice if detected.

### 3.3.11. PREVENTION OF WOUND BLEEDING

To BS 3998, clause 8.

### 3.3.12. PREVENTION OF DISEASE TRANSMISSION

To BS 3998, clause 9 and Appendix B.

### 3.3.13. CLEANING OUT AND DEADWOODING

Remove:

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

### 3.3.14. CUTTING AND PRUNING GENERALLY

- Large branches: Remove only with prior approval. Remove in small sections and lower to ground with ropes and slings.
- Use appropriate, well maintained and sharp tools
- For final pruning cuts:
  - Do not use chainsaws on branches of less than 50 mm diameter.
  - When using handsaws, form a smooth cut surface.
  - Do not use anvil type secateurs.
- Removing branches: Do not damage or tear the stem.
- Wounds: Keep 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.
- Cutting: Cut at a fork or at the main stem to avoid stumps wherever possible.
- Dead branches and stubs: When removing, do not cut into live wood.
- Unsafe branches: Remove epicormic shoots and potentially weak forks that could fail in adverse weather conditions.
- Disease or fungus: Give notice if detected. Do not apply fungicide or sealant unless instructed.

### 3.3.15. CROWN REDUCTION/ SHAPING

Cut back selectively to lateral or sub-lateral buds or branches to retain flowing branch lines without leaving stumps.

### 3.3.16. CROWN LIFTING

- Remove branch systems to give clearance to a height as instructed by Client.
- 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.

### 3.3.17. BARK DAMAGE

- Do not attempt to stop sap bleeding from wounds
- Remove ragged edges and splintered wood from wounds using a sharp knife.
- Keep wounds as small as possible.
- Inform Client immediately if liquid or flux oozing from apparently healthy bark.

### 3.3.18. MAINTENANCE OF MULCH

- Top up with same type of mulch to 50 mm thickness
- Sweep and replace mulch spill on adjacent areas, if not contaminated with weeds and rubbish, return to planted area.

## 3.4. PROPOSED HEDGES

### 3.4.1. WATERING

Watering is **only required in times of severe drought**, and should only be considered following discussion with Limerick City and County Council.

- Water Twice Monthly from April to October.
- Ensure full depth of topsoil is thoroughly wetted to aid plant establishment.
- Soil moisture:
- To ensure plants are well irrigated in dry conditions, CLIENT to instruct additional watering operations as required
- CLIENT may omit scheduled watering operations subject to assessment of prevailing weather conditions and soil moisture levels

### 3.4.2. PLANT GUARDS

Plant guards to be straightened and ties checked during each inspection (at least 4 inspections during the year) and adjust to avoid chaffing and other damage.

- Guards to be removed at the appropriate time, typically during 4th or 5th year, dependent on the mammal population.



### 3.4.3. WEEDS

Remove any weed growth within hedge perimeter by hand and maintain a 0.3 m wide strip (on each side of the hedge) free from vegetation. No herbicides to be used.

### 3.4.4. REFIRMING OF PLANTS

Refirm after strong winds, frost heave and other disturbances.

- Tread around the base until firmly bedded.
- 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 refirm.

### 3.4.5. FERTILIZER

- Slow release and organic fertilizer to be applied in March or April. Hexafly <https://hexafly.com/product/hexafrass/> or similar and approved by the Client. Apply with even spread, carefully incorporating below mulch materials and to manufacturer's recommendations.
- Spread evenly.
- Carefully lift and replace any mulch materials.
- Apply at manufacturer's recommended rate.

### 3.4.6. REPLACEMENT PLANTING

Replace any plants that have failed (within 12 months following practical completion).

### 3.4.7. DISEASE

Carry out annual check for signs of disease and undertake treatment as required

### 3.4.8. HEDGE PRUNING

New hedges will be pruned for the first 2 to 3 years to encourage dense bushy growth, in keeping with good horticultural practice

- Allow to reach planned dimensions only by gradual degrees, depending on growth rate and habit.

## 3.5. PROPOSED ORNAMENTAL SHRUBS, PERENNIALS AND GRASSES

### 3.5.1. WATERING

Watering is **only required in times of severe drought**, and should only be considered following discussion with Limerick City and County Council.

- Water Twice Monthly from April to October.
- Ensure full depth of topsoil is thoroughly wetted to aid plant establishment.
- Soil moisture:
- To ensure plants are well irrigated in dry conditions, Client to instruct additional watering operations as required
- Client may omit scheduled watering operations subject to assessment of prevailing weather conditions and soil moisture levels

### 3.5.2. ESTABLISHMENT OF NEW PLANTING

Duration the initial establishment period of newly planted shrubs and grasses, carry out maintenance operations as follows:

- Keep planting beds clear of weeds by use of hand weeding and by maintaining full depth of mulch.
- Maintain weed free planting beds, ensuring a weed free area around each plant, minimum diameter the larger of 1 m or the surface of the original planting pit.
- Fork over beds to keep soil loose, with gentle cambers and no hollows. Do not reduce depth or effect of mulch.
- Watering: as outlined in Maintenance Schedule 6.

#### 3.5.3.FERTILIZER

- To be approved with client. Slow release and organic fertilizer to be applied in March or April. Hexafly <https://hexafly.com/product/hexafrass/> or similar and approved organic product. Apply with even spread, carefully incorporating below mulch materials and to manufacturer's recommendations. Fertilizer not to be applied to Wildflower areas.

#### 3.5.4.REFIRMING OF PLANTS

Refirm after strong winds, frost heave and other disturbances.

- Tread around the base until firmly bedded.
- 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 refirm.

#### 3.5.5. PRUNING ORNAMENTAL SHRUBS

- Prune to encourage healthy and bushy growth and desirable ornamental features, e.g. flowers, fruit, autumn colour, stem colour.
- Remove suckers by cutting back level with the source stem or root.

#### 3.5.6. REMOVAL OF DEAD PLANT MATERIAL

At the end of the growing season, check all shrubs and remove all dead foliage, dead wood, and broken or damaged branches and stems.

#### 3.5.7. DEAD AND DISEASED PLANTS

Remove plants as soon as possible and replace in the next scheduled round of replacement planting.

#### 3.5.8. REINSTATEMENT OF SHRUBS

- Remove dead and damaged plants:
- Carefully move mulch to one side and dig over the soil, leaving it fit for replanting.
- Do not disturb roots of adjacent plants.
- Replacement plants:
- To original specification or to match the size of adjacent or nearby plants of the same species, whichever is the greater.
- Submit details and cost of plants for approval before ordering.
- Dressing with soil Association certified organic granular slow release fertilizer applied at manufacturer's recommended rate.

#### 3.5.10. HAND WEEDING

- Remove weeds entirely, including roots.

- Remove the minimum quantity of soil, and disturb plants, bulbs and mulched surfaces as little as possible.
- Upon completion, rake area to a neat, clean condition.
- Reinstate mulch to original depth.

#### 3.5.12. SOIL LEVEL ADJUSTMENT

Reduce level of soil/mulch at edges of beds to 50 mm below adjacent grass or hard surface. Spread arisings (if any) evenly over the bed.

#### 3.5.13. MAINTENANCE OF MULCH

- Top up with same type of mulch to 50 mm thickness
- Sweep and replace mulch spill on adjacent areas, if not contaminated with weeds and rubbish, return to planted area.

### 3.6. PROPOSED GRASS LAWN AREAS

#### 3.6.1. MAINTENANCE OF GRASSED AREAS

Maintain grass areas in a manner appropriate to the intended use.

- Maintain a healthy vigorous sward, free from disease, fungal growth, discoloration, scorch or wilt.
- Prevent waterlogging and compaction.
- Repair damage from trampling, abrasion or scalping.
- Remove Litter and fallen leaves regularly to maintain a neat appearance.

#### 3.6.2. MAINTENANCE OF GRASSED AREAS BS Standards

Maintenance to be carried out to BS 7370-3. Carry out maintenance appropriate to each category of turf, as follows:

- To achieve maintenance objectives to BS 7370-3, table 6.
- To a maintenance programme to BS 7370-3, clause 11.
- Using appropriate mowing methods to BS 7370-3, table 3.

#### 3.6.3. GRASS CUTTING GENERALLY

- Before mowing remove litter, rubbish and debris.
- Finish to be neat and even, without surface rutting, compaction or damage to grass.
- Leave edges neat and well defined. Neatly trim around obstructions.
- Adjoining hard areas are to be swept clear and arisings removed.
- Obtain instructions from Client in drought or wet conditions.

#### 3.6.4. TREE STEMS

Do not use mowing machinery closer than 100 mm to tree stems. Use nylon filament rotary cutters and other hand held mechanical tools carefully to avoid damage to bark.

#### 3.6.5. MOWING GRASS AND CLOVER AREAS

For grass areas, maintain height: between 25 and 50 mm. Use Mulching mower to allow cut and drop of arisings.

#### 3.6.6. RE-FORMING GRASS EDGES

For all edges abutting paths, manhole covers, borders and the like:

- Draw back soil and re-form edges to clean straight lines or smooth flowing curves,

- sloping slightly back from vertical.

### 3.6.7. REINSTATEMENT OF DAMAGED LAWN

Reinstate worn areas as follows:

- Remove damaged surface to a depth of 150 mm.
- Cultivate substrate to a fine tilth.
- Reinstatement with topsoiling to BS 3882 multi purpose class, free from stones, debris and weeds, and reseed with a seed mix to match existing grass.

## 3.7. PROPOSED CLOVER AREAS

### 3.7.1. MAINTENANCE OF CLOVER AREAS

Maintain clover lawn areas in a manner appropriate to the intended use, with the aim of maximizing flowering and attractiveness to pollinators and minimizing cutting.

- Maintain a healthy vigorous sward, free from disease, fungal growth, discoloration, scorch or wilt.
- Prevent waterlogging and compaction.
- Repair damage from trampling, abrasion or scalping.
- Remove Litter and fallen leaves regularly to maintain a neat appearance.

### 3.7.2. MOWING CLOVER AREAS

For Clover meadows allow as much flowering as possible to occur, 2 to 3 cuts maximum throughout the season, and only if deemed necessary by Limerick City and County Council.

### 3.7.3. CLOVER CUTTING GENERALLY

- Before mowing remove litter, rubbish and debris.
- Finish to be neat and even, without surface rutting, compaction or damage to grass.
- Leave edges neat and well defined. Neatly trim around obstructions.
- Adjoining hard areas are to be swept clear and arisings removed.
- Obtain instructions from Client in drought or wet conditions.

### 3.7.4. TREE STEMS

Do not use mowing machinery closer than 100 mm to tree stems. Use nylon filament rotary cutters and other hand held mechanical tools carefully to avoid damage to bark.

### 3.7.5. RE-FORMING CLOVER EDGES

For all edges abutting paths, manhole covers, borders and the like:

- Draw back soil and re-form edges to clean straight lines or smooth flowing curves,
- sloping slightly back from vertical.

### 3.7.6. REINSTATEMENT OF DAMAGED CLOVER

Reinstate worn areas as follows:

- Remove damaged surface to a depth of 150 mm.
- Cultivate substrate to a fine tilth.
- Reinstatement with topsoiling to BS 3882 multi purpose class, free from stones, debris and weeds, and reseed with a seed mix to match existing clover.