SOFT LANDSCAPE WORKS MAINTENANCE AND MANAGEMENT PROPOSALS – 10 YEARS

LINK LOGISTICS PARK

North Road
Ellesmere Port
Cheshire

FIRETHORN DEVELOPMENTS LIMITED

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MAINTENANCE AND MANAGEMENT STATEMENT

(Refer to Appendix C for 'Landscape Concept' dwg. no. 2120-21-01 and 'Cross Sections' 2120-21-02)

The establishment and future success of the external landscape is largely dependent on the standard and frequency of the subsequent maintenance and management it receives. Throughout the development period and thereafter a maintenance and management regime will be adopted with the following aims and objectives.

The aims and objectives of the landscape maintenance and management will be to:

- Ensure the successful establishment and continued growth through to maturity of the Soft Landscape scheme shown on drawing no. L2120-21-01.

- Ensure that the infrastructure landscape at Link Logistics Park develops in a manner commensurate with the original design intentions.

- Ensure that the maintenance and management of the soft landscape areas is commensurate with and achieves the aims and objectives recommended by the Phase 1 Habitat Assessment prepared by E3P.

- Ensure the successful establishment and retention of effective landscape buffer planting, particularly along North Road.

- Secure a long term future for the new tree and woodland edge planting, with particular emphasis upon achieving enhancement of ecological potential, conservation and visual amenity.

- Achieve rapid establishment of the plant material, with resultant total ground cover, thereby suppressing weed growth and reducing maintenance requirements.

- Retain the natural growth form and maximise the seasonal potential of individual species by the pruning methods adopted.

- Manage the landscape in a manner convivial with the safety of site users, such as maintaining visibility splays and the removal of dead, dying or diseased tree branches.

- Ensure the successful establishment and continual enhancement of the native trees, woodland edge, native clipped hedgerow and species rich grassland in accordance with the Ecologist's recommendations, set out in the Phase 1 Habitat Assessment prepared by E3P, in order to increase the overall bio-diversity of the site.

The soft landscape will, for the initial 1 year after Practical Completion, be maintained by the Landscape Contractor responsible for implementation of the works. The contract will include a defects liability clause to ensure replacement planting is carried out and successful establishment achieved. Refer to Appendix A for the schedule of maintenance for year 1. Thereafter maintenance contracts will be organised by facilities management on an annual basis.

The maintenance and management matrix (Appendix B) provides information on the general techniques and methods to be adopted for the ongoing maintenance operations.

These will be reviewed at regular intervals to respond to natural or man-made changes in the environment which affect the landscape types (e.g. tree disease).

The above approach will ensure that the quality of the landscape infrastructure created in the early years can be maintained for the benefit of on-site employees and visitors to Link Logistics Park, as well as providing a benefit to persons who pass by the boundaries. In addition it will ensure that the landscape develops to maximise the ecological potential of the proposals.

APPENDIX A

YEAR 1 MAINTENANCE SCHEDULE

	YEAR 1 LANDSCAPE MAINTENANCE SCHEDULE	FREQUENCY
	DESCRIPTION	
	During the initial twelve month period after Practical Completion.	
	Note: Allow for thirteen maintenance visits (10 during the growing season, 3 during the dormant season). A visit shall be defined as the period of time required by the Contractor to carry out all maintenance items specified in the Schedule of work below.	
A	**GENERAL**	
A.1	Tidy up areas removing rubbish, litter, etc., from planted and grassed areas.	At each visit
A.2	Check that the plant material is firmly planted and firm in where required.	6 times
A.3	Treat pests and diseases by agreement with the Contract Administrator.	As necessary
A.4	Prune woodland edge transplants / shrubs as necessary to avoid conflict with footpaths, grass mowing, etc.	As necessary
B	**TREE PLANTING**	
B.1	To extra heavy standard and heavy standard trees: Check, adjust and replace stakes and ties as necessary. Prune, water and feed where required.	As necessary
B.2	Check spiral guards and replace when required.	Four times
C	**WOODLAND EDGE & MIXED NATIVE SPECIES HEDGEROW**	
C.1	Keep areas clear of weed growth by spot herbicide treatment as appropriate from mid-April to late September.	Four times
C.2	Check shelter guards and re-firm / replace when required. Remove weed growth from within.	Four times
D	**SINGLE NATIVE SPECIES CLIPPED HEDGE**	
D.1	Keep areas clear of weed growth by hand weeding and spot herbicide as appropriate from mid-April to late September in accordance with ecologist's recommendations.	Four times
D.2	Check shelter / spiral guards and re-firm / replace when required. Remove weed growth from within if necessary.	Four times

	YEAR 1 LANDSCAPE MAINTENANCE SCHEDULE	FREQUENCY
D	**SINGLE NATIVE SPECIES CLIPPED HEDGE (CONTINUED)**	
D.3	Prune hedges as necessary to maintain desired height as shown on the drawing, or between 1.2 and 1.4 metres otherwise.	As necessary
E	**SHRUB PLANTED AREAS**	
E.1	Water ornamental shrub beds to maintain healthy growth.	As necessary
E.2	Prune shrubs as required to achieve desired form and prevent invasive species smothering less aggressive species.	As necessary
E.3	Prune dead, dying or diseased wood from plant material.	As necessary
E.4	Keep shrub areas clear of weed growth by hand weeding and spot herbicide treatment as appropriate.	12 times
E.5	Apply a slow release fertilizer, Enmag CRF or similar approved, composition NPK 11 + 22 + 9 + 6.0% Mg, to shrub areas at a rate of 30 gms / m^2 (timing to be agreed with Contract Administrator).	Once only
E.6	Edge up planted areas to maintain soil level 25mm below adjacent hard surfaces and kerbs. Any soil washed onto hard surfaces to be cleaned off. Repeat at each maintenance visit.	At each visit
E.7	Lightly cultivate all shrub beds, breaking up soil evenly. Once only. Timing to be agreed with the Contract Administrator.	Once only
F	**SPECIES RICH LAWN (PRO-FLORA 13)**	
F.1	Grass will be mown as required . Litter will be collected immediately prior to mowing. Note: at each cut excessive arisings shall be removed from site.	11 times/year dependent on location & season
F.2	Fertilizer will not be applied.	n/a
F.3	Water grass as necessary to achieve establishment and maintain healthy growth.	As necessary
F.4	Shape grass edge with half-moon spade. Timing to be agreed with Contract Administrator.	Two times
F.5	Worn areas will be re-seeded.	May or September

	YEAR 1 LANDSCAPE MAINTENANCE SCHEDULE	FREQUENCY
G	**SPECIES RICH & WET GRASSLAND (PRO-FLORA 110 & 12)**	
G.1	If Autumn sown, the sward shall be cut 3no. times in first year once in March once in May once in September If Spring sown, the sward shall be cut once after six weeks (if sufficient material has grown) and then twice more, once in May and once in September. Maintenance thereafter to be cut twice per annum, once in March/ April and once in September / October. All cuts to be to a length of 40-70mm and to the recommendations of the seed supplier. Note: at each cut excessive arisings shall be removed from site.	When appropriate to maximize seed dispersal.
G.2	No pesticides or fertilizer will be used.	n/a

APPENDIX B

MAINTENANCE AND MANAGEMENT SCHEDULE MATRIX FOR 10 YEAR PERIOD

MAINTENANCE AND MANAGEMENT SCHEDULE MATRIX FOR 10 YEAR PERIOD

ITEM OF WORK	YR 1	YR 2	YR 3	YR 4	YR 5	YR 6	YR 7	YR 8	YR 9	YR 10
GENERAL										
Tidy up areas removing rubbish, litter, etc. from planted and grass areas	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Treat pests and disease as necessary	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Water all plant material and grass as necessary to maintain healthy growth	✓	✓	✓							
Check plant material is firmly planted and firm in where required.	✓	✓	✓							
Dead, dying or diseased wood to be pruned out	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Check shelter guards / rabbit protection and re-firm / replace as required including removing weed growth from within. Consider removal at years 4 to 5.	✓	4 times	4 times	2 times	2 times	✓	✓	✓	✓	✓
Removal of diseased or dead plants, with replacements as appropriate	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
TREE PLANTING										
Check, adjust, replace stakes and ties as necessary. Remove stakes after approximately 3 years if appropriate. Prune, water and feed as necessary.	✓	✓	✓	✓	✓					
Remedial tree surgery as necessary to remove any dead, dying or diseased branches and to allow the tree to achieve full stature. All works to be carried out by an Arboricultural Association approved contractor in accordance with BS3998: Recommendations for Tree Work.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

MAINTENANCE AND MANAGEMENT SCHEDULE MATRIX FOR 10 YEAR PERIOD (CONTINUED)

ITEM OF WORK	YR 1	YR 2	YR 3	YR 4	YR 5	YR 6	YR 7	YR 8	YR 9	YR 10

WOODLAND EDGE & MIXED NATIVE HEDGEROW

ITEM OF WORK	YR 1	YR 2	YR 3	YR 4	YR 5	YR 6	YR 7	YR 8	YR 9	YR 10
Keep areas clear of weed growth by herbicide treatment as appropriate from mid-April to late September.	4 times	4 times	4 times	4 times	2 times	2 times	2 times	Once	Once	Once
Woodland Edge mix planting to be managed to ultimately achieve good age diversity. A gradual development of a diverse age structure should be established over a period of time by the use of a regime of selective thinning, pruning and coppicing.					1/3 of thicket plants			1/3 of thicket plants		
Remove branches that overhang footpaths or prevent access for grass cutting. Allow native hedges to achieve natural form with only lower branches removed.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Prune native hedges to heights stated on landscape drawings (approx. timing September) as required depending on establishment. Cut sides, tops and ends to straight and true lines.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

SHRUBS & SINGLE NATIVE SPECIES CLIPPED HEDGE

ITEM OF WORK	YR 1	YR 2	YR 3	YR 4	YR 5	YR 6	YR 7	YR 8	YR 9	YR 10
Keep ornamental shrub and formal hedge areas clear of weed growth by hand weeding or spot herbicide treatment.	12 times	12 times	12 times	10 times	10 times	6 times	6 times	6 times	6 times	6 times
Prune shrubs as necessary to prevent invasive species smothering less aggressive species and to prevent shrubs overhanging footpaths and other areas of hard paving.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Slow release fertilizer application as appropriate to ensure establishment of planting.	✓	✓	✓							

MAINTENANCE AND MANAGEMENT SCHEDULE MATRIX FOR 10 YEAR PERIOD (CONTINUED)										
ITEM OF WORK	**YR 1**	**YR 2**	**YR 3**	**YR 4**	**YR 5**	**YR 6**	**YR 7**	**YR 8**	**YR 9**	**YR 10**

SHRUBS & SINGLE NATIVE SPECIES CLIPPED HEDGE   (CONTINUED)

ITEM OF WORK	YR 1	YR 2	YR 3	YR 4	YR 5	YR 6	YR 7	YR 8	YR 9	YR 10
Prune formal hedges to heights stated on landscape drawings, or between 1.2 and 1.4 metres otherwise (approx. timing May and September). Cut sides, tops and ends to straight and true lines.	✓	2 times	2 times	2 times	2 times	2 times	2 times	2 times	2 times	2 times
Lightly cultivate all planted areas, breaking up soil evenly. Once only.	✓	✓								
Edge up planted areas to maintain soil level 25mm below adjacent hard surfaces and kerbs. Any soil wash onto hard surfaces to be cleaned off.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

SPECIES RICH LAWN (PRO-FLORA 13)

ITEM OF WORK	YR 1	YR 2	YR 3	YR 4	YR 5	YR 6	YR 7	YR 8	YR 9	YR 10
Grass cutting with edge trim (where required). Frequency of grass cutting operations to be commensurate with location and visual importance of grass area: Up to 11no. cuts per year	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Shape grass edge as necessary with half-moon spade. 2 times per year.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Treat and remove pernicious weed growth where it may be detrimental to establishment of wildflowers within the sward.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Re-seeding of worn areas	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

MAINTENANCE AND MANAGEMENT SCHEDULE MATRIX FOR 10 YEAR PERIOD (CONTINUED)

ITEM OF WORK	YR 1	YR 2	YR 3	YR 4	YR 5	YR 6	YR 7	YR 8	YR 9	YR 10
SPECIES RICH & WET GRASSLAND (PRO-FLORA 110 & 12)										
Grass cutting. 1 to 2no. cuts per year. When appropriate to maximize seed dispersal, following recommendation from an ecologist.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Treat and remove pernicious weed growth where it may be detrimental to establishment of wildflower sward.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
AQUATIC PLANTING										
Aquatic areas shall be maintained to achieve the original design objectives. Where necessary aggressive or pernicious weeds or woody plants shall be removed.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FLOOD ATTENUATION AREAS										
Willow and other native shrub species planted within areas of flood attenuation shall be coppiced to ground level on a cyclical basis. Selected trees shall be allowed to grow on to mature size. Excessive feathered growths at base of plants shall be removed if they would significantly reduce flood attenuation capacity.			1/3rd of plants		1/3rd of plants every 2nd year		1/3rd of plants every 2nd year		1/3rd of plants every 2nd year	

APPENDIX C

DRAWINGS

Drawing No.	Drawing Title	Rev
2120-21-01	Landscape Concept	C
2120-21-02	Landscape Cross Sections	A