The Great Grid Upgrade

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Bramford to Twinstead Reinforcement

Volume 7: Other Documents

Document 7.8.3 (B): LEMP Appendix C – Planting Schedules

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nationalgrid

Version History

Date	Issue	Status	Description / Changes
April 2023	A	Final	For DCO submission
January 2024	B	Final	Updated to address comments made by Interested Parties at Deadlines 4, 5 and 6.

Contents

1. Introduction

1.1 Overview

1.1.1 National Grid Electricity Transmission plc (here on referred to as National Grid) is making an application for development consent to reinforce the transmission network between Bramford Substation in Suffolk, and Twinstead Tee in Essex. The Bramford to Twinstead Reinforcement ('the project') would be achieved by the construction and operation of a new electricity transmission line over a distance of approximately 29km (18 miles), the majority of which would follow the general alignment of the existing overhead line network.

1.1.2 This is the Planting Schedule that has been produced to support the Landscape and Ecological Management Plan (LEMP) (**application document 7.8**) provided with the application for development consent.

1.2 Purpose of the Planting Schedules

1.2.1 This Planting Schedule has been produced to set out the typical species mixes and where relevant, plant sizes that would be planted during the landscape contract of the project. The Planting Schedules should be read alongside LEMP Appendix B: Vegetation Reinstatement Plans (**application document 7.8.2**), which shows the locations where each Planting Schedule would be applied. In accordance with Requirement 9, the Planting Schedules will be submitted to the relevant planning authorities alongside the reinstatement plans for that stage. As set out in Requirement 9 (3) of the Development Consent Order, a schedule of trees, hedgerows or other plants or seedlings to be planted, noting numbers, species, sizes and planting density of any proposed planting or seedlings will be provided to the relevant local planning authorities for approval.

1.3 Structure of the Planting Schedules

1.3.1 The Planting Schedules are divided into vegetation type as follows:

- Chapter 2: Woodland Planting;
- Chapter 3: Individual Tree Planting;
- Chapter 4: Hedgerow Planting;
- Chapter 5: Scrub Planting;

- Chapter 6: Marginal and Emergent Planting; and
- Chapter 7: Grass Seeding.

1.3.2 Table 1.1 sets out the abbreviations that are used within the tables in this Appendix.

Table 1.1 – Abbreviations Used

Abbreviation	Reference
Root Zone	
B	Bare rooted and bagged
RB	Root balled
C	Container grown
Form and Age/Method of Growth	
L	Container size in litres
1+0	One year seedling that has not been transplanted
1+1	Two year seedling transplanted after first year
0/2	Two year cutting not transplanted
2x	Two times transplanted
Breaks	Minimum number of branches, breaks or shoots

2. Woodland Planting

2.1 Introduction

2.1.1 This chapter sets out the typical mixes and sizes for woodland planting as follows:

- W1 Mixed broadleaved native woodland; and
- W2 Woodland edge.

2.2 W1 Mixed Broadleaved Native Woodland

2.2.1 Table 2.1 sets out the planting mix for W1 Mixed broadleaved native woodland.

Table 2.1 – W1 Mixed Broadleaved Native Woodland

Botanical Names	Common Names	Height (cm)	Root Zone	Form and Age /Method of Growth	% mix	Density
Acer campestre	Field maple	175-200	B	Feather; 2x; 5 breaks	10	1/m^2
Betula pendula	Silver birch	175-200	B	Feather; 2x; 5 breaks	10	
Betula pendula	Silver birch	250-300	B	Light Standard; 2x; 6-8cm girth	5	
Corylus avellana	Hazel	40-60	B	1+1; branched, 2 breaks	10	
Crataegus monogyna	Hawthorn	125-150	B	Feather; 2x	5	
Ilex aquilfolium	Holly	40-60	C	2L; leader and laterals	10	
Lonicera periclymenum	Honeysuckle	40-60	C	3L	5	
Prunus spinosa	Blackthorn	40-60	B	1+1; branched; 2 breaks	10	
Quercus robur	Oak	175-200	B	Feather; 2x; 5 breaks	15	
Quercus robur	Oak	250-300	B	Light Standard; 2x; 6-8cm girth	10	

Botanical Names	Common Names	Height (cm)	Root Zone	Form and Age /Method of Growth	% mix	Density
Tilia cordata	Lime	150-175	B	Feather; 2x; 5 breaks	10	

2.3 W2 Woodland Edge

2.3.1 Table 2.2 sets out the planting mix for W2 Woodland edge.

Table 2.2 – W2 Woodland Edge

Botanical Names	Common Names	Height (cm)	Root Zone	Form and Age /Method of Growth	% mix	Density
Acer campestre	Field maple	40-60	B	1+1	10	1/m^2
Betula pendula	Silver birch	175-200	B	Feather; 2x; 5 breaks	5	
Corylus avellana	Hazel	40-60	B	1+1; branched, 2 breaks	15	
Crataegus monogyna	Hawthorn	125-150	B	Feather; 2x	20	
Ilex aquilfolium	Holly	40-60	C	2L; leader and laterals	5	
Lonicera periclymenum	Honeysuckle	40-60	C	3L	5	
Prunus avium	Bird cherry	40-60	B	1+1; branched	10	
Prunus spinosa	Blackthorn	40-60	B	1+1; branched; 2 breaks	15	
Rosa canina	Dog rose	40-60	B	1+0; branched	15	

3. Individual Tree Planting

3.1 Introduction

3.1.1 This chapter sets out the typical mixes and sizes for individual tree planting as follows:

- T1 Individual tree planting.

3.2 T1 Individual Tree Planting

3.2.1 Table 3.1 sets out the planting mix for T1 Individual tree planting which would include tree planting within hedgerows.

Table 3.1 – T1 Individual Tree Planting

Botanical Names	Common Names	Height (cm)	Root Zone	Form and Age /Method of Growth
Acer campestre	Field maple	175-200	B	Feathered; 2x; 3 breaks
Alnus glutinosa	Common alder	250-300	B	Light Standard; 2x; 6-8cm girth
Betula pendula	Silver birch	250-300	B	Light Standard; 2x; 6-8cm girth
Carpinus betulus	Hornbeam	250-300	B	Light Standard; 2x; 6-8cm girth
Fagus sylvatica	Beech	250-300	B	Light Standard; 2x; 6-8cm girth
Populus nigra	Black poplar	175-200	B	Feathered; 2x; 3 breaks
Quercus robur	Oak	250-300	B	Light Standard; 2x; 6-8cm girth
Tilia cordata	Lime	250-300	B	Light Standard; 2x; 6-8cm girth
Tilia platyphyllos	Large leaved lime	250-300	RB	Light Standard; 2x; 6-8cm girth

4. Hedgerow Planting

4.1 Introduction

4.1.1 This chapter sets out the typical mixes and sizes for hedgerow planting as follows:

- H1 Species rich hedgerow mix; and
- H2 Species rich hedgerow mix with trees.

4.1.2 Where a single-species hedgerow has been identified in ES Appendix 7.1 – Annex A Habitats Baseline UKHab Descriptions, reinstatement planting would be undertaken in accordance with this species unless otherwise agreed with the local planning authority.

4.2 H1 Species Rich Hedgerow Mix

4.2.1 Table 4.1 sets out the planting mix for H1 Species rich hedgerow mix. This mix will be used where the locations of overhead lines and underground cables or requirements for visibility splays precludes the use of tree species within the hedgerows.

Table 4.1 – H1 Species Rich Hedgerow Mix

Botanical Names	Common Names	Height (cm)	Root Zone	Form and Age/Method of Growth	% mix	Density
Acer campestre	Field maple	40-60	B	1+1	15	7/lm, double staggered rows at 450mm linear centres, random groups of 3-5
Corylus avellana	Hazel	40-60	B	1+1; branched; 2 breaks	15	
Crataegus monogyna	Hawthorn	125-150	B	Feather; 2x	25	
Euonymus europaeus	Spindle	40-60	B	1+1; branched; 3 breaks	10	
Ilex aquilfolium	Holly	40-60	C	2L; leader and laterals	10	
Prunus spinosa	Blackthorn	40-60	B	1+1; branched; 2 breaks	10	
Rosa canina	Dog rose	40-60	B	1+0; branched	10	

Botanical Names	Common Names	Height (cm)	Root Zone	Form and Age/Method of Growth	% mix	Density
Ulmus glabra	Elm	40-60	B	1+0; branched; 2 breaks	5	

4.3 H2 Species Rich Hedgerow Mix with Trees

4.3.1 Table 4.2 sets out the planting mix for H2 Species rich hedgerow mix with trees. This mix will be used where the locations of overhead lines and underground cables or requirements for visibility splays do not preclude the use of tree species within the hedgerows.

Table 4.2 – H2 Species Rich Hedgerow Mix

Botanical Names	Common Names	Height (cm)	Root Zone	Form and Age/Method of Growth	% mix	Density
Acer campestre	Field maple	40-60	B	1+1	15	7/lm, double staggered rows at 450mm linear centres, random groups of 3-5, standard trees random spacings along length of hedgerow no closer than 5m centres
Alnus glutinosa	Common alder	250-300	B	Light Standard; 2x; 6-8cm girth	0.25	
Corylus avellana	Hazel	40-60	B	1+1; branched; 2 breaks	19.5	
Crataegus monogyna	Hawthorn	125-150	B	Feather; 2x	24	
Euonymus europaeus	Spindle	40-60	B	1+1; branched; 3 breaks	10	
Ilex aquilfolium	Holly	40-60	C	2L; leader and laterals	10	
Prunus avium	Wild cherry	250-300	B	Light Standard; 2x; 6-8cm girth	0.5	
Prunus spinosa	Blackthorn	40-60	B	1+1; branched; 2 breaks	10	
Quercus robur	Oak	250-300	B	Light Standard; 2x; 6-8cm girth	0.5	
Rosa canina	Dog rose	40-60	B	1+0; branched	10	
Tilia cordata	Small leaved lime	250-300	B	Light Standard; 2x; 6-8cm girth	0.25	

5. Scrub Planting

5.1 Introduction

5.1.1 This chapter sets out the typical mixes and sizes for scrub planting as follows:

- S1 Scrub mix; and
- S2 Low growing scrub mix.

5.2 S1 Scrub Mix

5.2.1 Table 5.1 sets out the planting mix for S1 Scrub mix.

Table 5.1 – S1 Scrub Mix

Botanical Names	Common Names	Height (cm)	Root Zone	Form and Age/Method of Growth	% mix	Density
Corylus avellana	Hazel	40-60	B	1+1; branched; 2 breaks	25	1/m^2
Crataegus monogyna	Hawthorn	125-150	B	Feather; 2x	20	
Ilex aquilfolium	Holly	40-60	C	2L; leader and laterals	10	
Ligustrum vulgare	Privet	40-60	C	2L; branched; 3 breaks	10	
Lonicera periclymenum	Honeysuckle	40-60	C	3L	5	
Prunus spinosa	Blackthorn	40-60	B	1+1; branched; 2 breaks	15	
Rosa canina	Dog rose	40-60	B	1+0; branched	10	
Salix caprea	Goat Willow	40-60	B	1+1; branched; 2 breaks	5	

5.3 S2 Low Growing Scrub Mix

5.3.1 Table 5.2 sets out the planting mix for S2 Low growing scrub mix which would be predominantly used in locations beneath overhead lines where planting will be required to be keep low for clearances.

Table 5.2 – S2 Low Growing Scrub Mix

Botanical Names	Common Names	Height (cm)	Root Zone	Form and Age/Method of Growth	% mix	Density
Corylus avellana	Hazel	40-60	B	1+1; branched; 2 breaks	15	
Ilex aquilfolium	Holly	40-60	C	2L; leader and laterals	15	1/m^2
Lonicera periclymenum	Honeysuckle	60-80	C	2L; several shoots	15	
Prunus spinosa	Blackthorn	40-60	B	1+1; branched; 2 breaks	20	
Rosa canina	Dog rose	40-60	B	1+0; branched	25	
Salix caprea	Goat Willow	40-60	B	1+1; branched; 2 breaks	10	

6. Marginal and Emergent Planting

6.1 Introduction

6.1.1 This chapter sets out the typical mixes and sizes for marginal and emergent planting for pond locations (and ditches if appropriate) as follows:

- ME1 Marginal mix; and
- ME2 Emergent mix.

6.2 ME1 Marginal Mix

6.2.1 Table 6.1 sets out the planting mix for ME1 Marginal Mix to be used on pond margins up to +300mm from mean water level.

Table 6.1 – ME1 Marginal Mix

Botanical Names	Common Names	Height (cm)	Root Zone	Form and Age/Method of Growth	% mix	Density
Caltha palustris	Marsh Marigold	10-50	C	Containerised, 13cm dia, 10-50cm spread	7.5	7/m^2
Cardamine pratensis	Cuckooflower	10-50	C	Containerised, 13cm dia, 10-50cm spread	7.5	
Filipendula ulmaria	Meadowsweet	10-50	C	Containerised, 13cm dia, 10-50cm spread	5	
Lychnis flos-cuculi	Ragged Robin	10-50	C	Containerised, 13cm dia, 10-50cm spread	5	
Lycopus europaeus	Gypsywort	10-50	C	Containerised, 13cm dia, 10-50cm spread	7.5	
Lysimachia nummularia	Creeping Jenny	10-50	C	Containerised, 13cm dia, 10-50cm spread	5	
Lythrum salicaria	Purple Loosestrife	10-50	C	Containerised, 13cm dia, 10-50cm spread	5	
Persicaria amphibia	Amphibious Bistort	10-50	C	Containerised, 13cm dia, 10-50cm spread	7.5	
Potentilla palustris	Marsh Cinquefoil	10-50	C	Containerised, 13cm dia, 10-50cm spread	5	
Ranunculus flammula	Lesser Spearwort	10-50	C	Containerised, 13cm dia, 10-50cm spread	7.5	

Botanical Names	Common Names	Height (cm)	Root Zone	Form and Age/Method of Growth	% mix	Density
Veronica beccabunga	Brooklime	10-50	C	Containerised, 13cm dia, 10-50cm spread	7.5	
Agrostis stolonifera	Creeping Bent	10-50	C	Containerised, 13cm dia, 10-50cm spread	5	
Alopecurus geniculatus	Marsh Foxtail	10-50	C	Containerised, 13cm dia, 10-50cm spread	5	
Carex acutiformis	Lesser Pond Sedge	10-50	C	Containerised, 13cm dia, 10-50cm spread	5	
Eleocharis palustris	Common Spike Rush	10-50	C	Containerised, 13cm dia, 10-50cm spread	5	
Juncus effusus	Soft Rush	10-50	C	Containerised, 13cm dia, 10-50cm spread	5	
Juncus inflexus	Hard Rush	10-50	C	Containerised, 13cm dia, 10-50cm spread	5	

6.3 ME2 Emergent Mix

6.3.1 Table 6.2 sets out the planting mix for ME2 Emergent Mix which would be predominantly used in locations up to -300mm from mean water level in ponds.

Table 6.2 – ME2 Emergent Mix

Botanical Names	Common Names	Height (cm)	Root Zone	Form and Age /Method of Growth	% mix	Density
Alisma plantago-aquatica	Water Plantain	10-50	C	Containerised, 13cm dia, 10-50cm spread	10	7/m^2
Mentha aquatica	Water Mint	10-50	C	Containerised, 13cm dia, 10-50cm spread	20	
Myosotis scorpioides	Water Forget-me-not	10-50	C	Containerised, 13cm dia, 10-50cm spread	15	
Persicaria hydropiper	Water Pepper	10-50	C	Containerised, 13cm dia, 10-50cm spread	10	
Ranunculus lingua	Greater Spearwort	10-50	C	Containerised, 13cm dia, 10-50cm spread	15	
Sagittaria sagittifolia	Arrowhead	10-50	C	Containerised, 13cm dia, 10-50cm spread	10	
Butomus umbellatus	Flowering Rush	10-50	C	Containerised, 13cm dia, 10-50cm spread	10	

Botanical Names	Common Names	Height (cm)	Root Zone	Form and Age /Method of Growth	% mix	Density
Glyceria fluitans	Floating Sweetgrass	10-50	C	Containerised, 13cm dia, 10-50cm spread	10	

7. Grass Seeding

7.1 Introduction

7.1.1 This chapter sets out the typical mixes for grass seeding planting as follows:

- G1 Species rich grass seed mix;
- G2 Low maintenance grass seed mix;
- G3 Grass seed mix for amenity grassland (where grazing is likely); and
- G4 Grass seed mix for marshy grassland.

7.2 G1 Species Rich Grass Seed Mix

7.2.1 Table 7.1 sets out the planting mix for G1 Species rich grass seed mix.

Table 7.1 – G1 Species Rich Grass Seed Mix

Botanical Names	Common Names	% mix	Density
Betonica officinalis	Betony	1.0	4g/m^2
Centurea nigra	Common Knapweed	3.5	
Daucus carota	Wild Carrot	0.1	
Filipenula ulmaria	Meadowsweet	1.0	
Galium verum	Lady's Bedstraw	0.3	
Leucanthemum vulgare	Oxeye Daisy	0.5	
Lotus corniculatus	Bird's-foot Trefoil	0.9	
Malva moschata	Musk Mallow	1.0	

Botanical Names	Common Names	% mix	Density
Plantago lanceolata	Ribwort Plantain	2.0	
Primula veris	Cowslip	0.1	
Prunella vulgaris	Selfheal	0.1	
Ranunculus acris	Meadow Buttercup	1.0	
Vicia cracca	Tufted Vetch	3.5	
Agriostis capillaris	Common Bent	8.5	
Cynosurus cristatus	Crested Dog's-tail	34	
Festuca Rubra	Red Fescue	25.5	
Poa pratensis	Smooth-stalked Meadow-grass	17.0	

7.3 G2 Low Maintenance Grass Seed Mix

7.3.1 Table 7.2 sets out the planting mix for G1 Low maintenance grass seed mix. No areas have currently been identified for reinstatement with this grass seed mix at present within the Order Limits.

Table 7.2 – G2 Grass Seed Mix for Amenity Grassland (General Purpose)

Botanical Names	Common Names	% mix	Density
Festuca rubra	Red fescue	65	35g/m^2
Festuca ovina	Sheep's fescue	20	
Festuca rubra commutata	Joanna chewings fescus	10	
Agrostis capillaris	Common bent	5	

7.4 G3 Grass Seed Mix for Amenity Grassland (Where Grazing is Likely)

7.4.1 Table 7.3 sets out the planting mix for G3 Grass seed mix for amenity grassland (general purpose). No areas have currently been identified for reinstatement with this grass seed mix at present within the Order Limits.

Table 7.3 – G3 Grass Seed Mix for Amenity Grassland (Where Grazing is Likely)

Botanical Names	Common Names	% mix	Density
Trifolium repens	White clover	5	40g/m^2
Festuca rubra	Red fescue	20	
Festuca ovina	Sheep's fescue	45	
Agrostis capillaris	Common bent	10	
Lolium perenne	Perennial ryegrass	20	

7.5 G4 Grass Seed Mix for Marshy Grassland

7.5.1 Table 7.3 sets out the planting mix for G4 Grass seed mix for marshy grassland where soils are seasonally wet flooding for short times over the winter months.

Table 7.3 – G4 Grass Seed Mix for Marshy Grassland

Botanical Names	Common Names	% mix	Density
Achillea millefolium	Yarrow	2.4	40g/m^2
Betonica officinalis	Betony	0.1	
Centaurea nigra	Common Knapweed	4	
Daucus carota	Wild Carrot	0.1	
Filipendula ularia	Meadowsweet	0.4	
Galium album	Hedge Bedstraw	0.6	

Botanical Names	Common Names	% mix	Density
Galium verum	Lady's Bedstraw	2	
Lathyrus pratensis	Meadow Vetchling	0.4	
Leucanthemum vulgare	Oxeye Daisy	0.3	
Lotus corniculatus	Bird's-foot Trefoil	0.2	
Lotus pedunculatus	Greater Bird's-foot Trefoil	0.4	
Medicago lupulina	Black Medick	0.2	
Plantago lancelata	Ribwort Plantain	4	
Primula veris	Cowslip	0.1	
Ranunculus acris	Meadow Buttercup	1.4	
Rhinanthus minor	Yellow Rattle	1.5	
Rumex acetosa	Common Sorrel	0.1	
Silaum silaus	Pepper Saxifrage	0.1	
Silene flos-cuculi	Ragged Robin	1.6	
Succisa pratensis	Devil's-bit Scabious	0.1	
Agrostis capillaris	Common Bent	2	
Anthoxanthum odoratum	Sweet Vernal-grass	2	
Briza media	Quaking Grass	4	
Cynosurus cristatus	Crested Dog's-tail	48	
Deschampsia cespitosa	Tufted Hair-grass	2	
Festuca rubra	Red Fescue	22	

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