



# SEMMMS A6 to Manchester Airport Relief Road Soft Landscape Specification 1007/5.7/097

Version 1.0 Revision C

September 2013

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## **1.0 Introduction**

- 1.1.1 This document is the Soft Landscape Specification (SLS) for the scheme associated with the construction of the SEMMMS A6 to Manchester Airport Relief Road. The SLS does not include land within the ownership of Manchester Airport, agricultural handback or retained planting and grassland.
- 1.1.2 The purpose of the SLS is to set out the detailed operations required to establish all new planting and grasslands and maintain their species composition. The scheme comprises of woodland and shrub planting, hedges, advanced nursery stock tree planting combined with various types of grassland.
- 1.1.3 Refer to Document No. 1007/5.7/098 Landscape Management Plan for all short and long term objectives and operations associated with the development of each planting and grassland mix type. For details of the scheme layout refer to Design Freeze 7 Landscape Design Drawing No's. 1007/3D/DF7/A6-MA/LD/215 to 1007/3D/DF7/A6-MA/LD/249.
- 1.1.4 Areas of existing planting to be retained are shown on Mouchel's Mitigation drawings contained within the Environmental Statement (ES).

## **2.0 General Planting Specification**

### **2.1 *Ground Preparation***

- 2.1.1 Soil to be naturally or physically drained, or raised by mounding so that the plants will not be subjected to waterlogging at any time.
- 2.1.2 At the time of planting, the soil shall be moist and friable and not frozen, excessively dry, or water-logged.
- 2.1.3 All planting beds shall be totally cleared of grass and weeds prior to planting using appropriate herbicide treatment.
- 2.1.4 Prior to planting tree, shrub and hedgerow species 50mm depth of organic soil conditioner (samples to be approved by SMBC Landscape Architect prior spreading) to be spread on surface of topsoil and incorporated to a 300mm depth. This shall ensure any consolidated material shall be broken up and the top 50 mm of all soil is reduced to a tilth suitable for final shaping with a grading blade (particle size 10 mm and below). All undesirable material shall be brought to the surface including stones larger than 50 mm in any dimension, roots, tufts of grass and foreign matter shall be removed off site or buried.

## **2.2 *Planting, Storage and Handling***

- 2.2.1 To be planted during the planting season (October to March). All plants supplied shall comply with BS 3936: Parts 1 to 10 as relevant, BS 4043, the National Plant Specification, published by the Horticultural Trades Association
- 2.2.2 During the period subsequent to the receipt of the plants and prior to planting, the treatment of nursery stock shall be specified as follows:
- (i) Bare-root plants. Prior to despatch or on arrival at Site plants may be stored for up to 3 days in bundles with a covering of freely draining moisture-retentive material such as wet sacking or straw which is moistened periodically. For a storage period of more than three days, bundles shall be opened and the plants spread out and heeled into trenches in topsoil minimum depth 300 mm, with the roots fully in contact with the soil.
  - (ii) Bare-root plants transported in plastic bags. Plants in bags shall be stored no more than one layer deep and be protected from direct sunlight at all times. Where delay of more than one day occurs, the bags shall be stored upright, not stacked, in a cool shady position or shed, or placed in a cold store. If cold store facilities are not available, plants shall be removed from bags and heeled into soil with all roots covered.
  - (iii) Protection from frost. When necessary, additional measures shall be undertaken to protect plants from frost.
  - (iv) The location for temporary storage shall be sheltered from winds and well drained. Any plants damaged by frost, desiccation, or in any other way prior to planting, shall be removed from site and replaced with new plants.
- 2.2.3 Plants shall be kept in polythene bags until immediately before planting. They shall be kept out of direct sunlight unless co-extruded bags are used. Similarly all containers and wrapping, unless fully bio-degradable, shall be removed at the latest point before planting.
- 2.2.4 All plants shall be fitted with biodegradable jute/hessian mulch mats and pegged using biodegradable plastic or wooden anchor pegs.
- 2.2.5 All transplants to be guarded using dark brown, green or black plastic spiral guards secured with a cane.
- 2.2.6 Damaged or torn roots and stems shall be cut back cleanly with a knife or secateurs and any coiled roots shall be spread out or cut to prevent future stability problems.

### **3.0 General Seeding Specification**

#### **3.1 *Ground Preparation***

- 3.1.1 Any consolidated material shall to be broken up to 300 mm depth and the top 50 mm of all soil reduced to a tilth suitable for final shaping with a grading blade (particle size 10 mm and below). All undesirable material brought to the surface including stones larger than 50 mm in any dimension, roots, tufts of grass and foreign matter shall be removed off site.
- 3.1.2 At the time of sowing, the soil shall be moist and friable and not frozen, excessively dry, or water-logged.
- 3.1.3 All seeded areas shall be totally cleared of grass and weeds prior to sowing using appropriate herbicide treatment.

#### **3.2 *Sowing and Seed***

- 3.2.1 Grass seed shall be sown during the period 1 March to 31 May or 1 September to 31 October.
- 3.2.2 Grass seed shall comply with BS 4428. Grass seed shall be a tested mixture and certificates of germination and purity obtained from an Official Seed Testing Station not more than six months prior to sowing shall be provided before sowing, together with the names of the varieties used in the mixture. The information on seed certificates and seed bag labels shall correspond.
- 3.2.3 Sowing shall be carried out by evenly distributing the seed at a rate recommended by the seed mix suppliers.
- 3.2.4 For areas where seed shall be sown by machine or broadcast by hand. Sown seed shall be firmed in with a roll, or by treading, to give good soil/seed contact.
- 3.2.5 All large scale seeding will be sown using the 'Hydraseed' technique. The hydraulic seeding mixture shall be kept constantly stirred during application to maintain homogenous slurry.
- 3.2.6 The seeding shall be repeated as necessary until an evenly distributed dense sward is established over the seeded area. Establishment shall be regarded as achieved when at least 80% of quadrant sub-divisions are recorded as 'filled' when tested in accordance with Annex A3 of BS 3969.

#### **4.0 Detailed Woodland, Shrub, Individual Tree and Hedgerow Planting Types**

##### **4.1 *New Woodland and Shrub Planting Mix Types; Woodland Mix:W1, Woodland Edge Mix:W2, Linear Belts of Shrubs and Trees Mix:S1, Shrubs with Intermittent Trees Mix:S2 and Shrubs Mix:S3.***

###### ***Aim***

4.1.1 To create a mature woodland structure of predominantly native species with open canopy, shrub understorey and herbaceous layer. In areas planted only with shrubs; to create dense shrub areas providing varied habitats with a diversity of species.

###### ***Operations***

4.1.2 Generally planting mixes shall be 1+1 transplants (45 – 60cm), bare rooted stock, root dipped in 'Alginure' upon lifting at the nursery.

4.1.3 All bare root stock shall be double slot notch planted. All plants to be notch planted. The slots can either be 'L' or 'T' shaped and roots to be distributed evenly. Once the plant has been positioned vertically in the slot, the spade to be removed and the soil firmed with the ball of the foot.

4.1.4 Shrubs shall be planted at 2 metre centres and arranged in random single species groups containing minimum of 10 to 25 number of plants. Tree species shall be planted at 4m centres and arranged in random single species groups containing minimum of 10 number of plants.

4.1.5 All woodland and shrub planting mixes (Mixes: W1, W2, S1, S2 and S3) will be pre-seeded with the open grassland (Mix: G3).

###### ***Planting Mixes***

4.1.6 Areas of Woodland (Mix: W1) shall comprise of;

- 45% *Quercus robur* (oak)
- 15% *Fagus sylvatica* (beech)
- 10% *Larix decidua* (larch)
- 10% *Sorbus aucuparia* (rowan)
- 10% *Corylus avellana* (hazel)
- 5% *Ilex aquifolium* (holly)
- 4% *Pinus sylvestris* (scots pine)
- 1% *Tilia petiolaris* (lime)

4.1.7 Areas of Woodland Edge (Mix: W2) shall comprise;

- 20% *Ilex aquifolium* (holly)

- 20% *Corylus avellana* (hazel)
- 20% *Cornus alba* (dogwood)
- 20% *Prunus spinosa* (blackthorn)
- 20% *Sambucus nigra* (elder)

4.1.9 Areas of Linear Belts & Shrubs and Trees (Mix: S1) shall comprise;

- 25% *Pinus sylvestris* (scots pine)
- 20% *Quercus robur* (oak)
- 20% *Sorbus aucuparia* (rowan)
- 10% *Acer campestre* (field maple)
- 5% *Prunus spinosa* (blackthorn)
- 5% *Cornus alba* (dogwood)
- 5% *Corylus alba* (hazel)
- 5% *Ilex aquifolium* (holly)
- 5% *Sambucus nigra* (elder)

4.1.10 Areas of Shrubs with Intermittent Trees (Mix: S2) shall comprise;

- 5% *Sorbus aucuparia* (rowan)
- 5% *Betula pendula* (birch)
- 5% *Prunus padus* (bird cherry)
- 20% *Prunus spinosa* (blackthorn)
- 20% *Cornus alba* (dogwood)
- 15% *Corylus alba* (hazel)
- 15% *Ilex aquifolium* (holly)
- 15% *Sambucus nigra* (elder)

4.1.11 Areas of Shrubs (Mix: S3) shall comprise;

- 20% *Prunus spinosa* (blackthorn)
- 20% *Cornus alba* (dogwood)
- 20% *Corylus alba* (hazel)
- 20% *Ilex aquifolium* (holly)
- 20% *Sambucus nigra* (elder)

## 4.2 Individual Trees (Mix:T).

### *Aim*

4.2.1 To create visual and auditory amenity, achieve instant screening and enhance the built environment.

### *Operations*

4.2.2 Trees shall vary in size depending on purpose and location from standard to semi mature size (2.75-3.0m to 5.0-7.0metres high) plants shall be either root balled or container grown.

4.2.3 Trees shall be planted in pits (see Table 1 for pit sizes), with the excavated topsoil carefully replaced around the roots and lightly compacted every 150mm layer.

Type	Dimension of Excavation W x W x D mm	Depth of cultivation at the base of pits or trenches mm
Semi-mature trees	Measurement of rootball plus 400 in each direction	200
Extra heavy standard & Heavy standard trees	1800 x 1800 x 750	200
Selected standard trees Tall standard trees Standard trees	1000 x 1000 x 600	200
Light standard trees Half standard trees Feathered trees	700 x 700 x 600	200

**Table 1: Tree Pit Sizes**

4.2.4 Before the tree pit is backfilled all non-biodegradable wrapping, insulation and padding materials shall be removed from around the root ball and from the pit.

4.2.5 On sloping ground, pits shall be dug with vertical sides and horizontal base and shall maintain the specified minimum depth throughout. When backfilled, planting pits shall be finished to existing contours.



- 4.2.6 For pits for standard trees to semi mature size trees, any excavated topsoil shall be set aside to be used as backfill. The Contractor shall import topsoil to make up for any deficiencies caused by the removal of subsoil or fill material.
- 4.2.7 Stakes shall be round timber, peeled of bark, straight in length and free of snags, pests and diseases. Stakes shall have a top diameter of 50-75 mm. Adjustable tree ties, strapping or spacers shall be made of black PVC or reinforced rubber. The width of the belt shall be 25 mm.
- 4.2.8 Stakes for all standards and feathered trees shall be firmly driven and positioned into the tree planting pit before planting to a minimum depth of 300 mm below the bottom of the pit. The stake shall be positioned off centre on the prevailing windward side of the tree as near to the tree as possible but shall not interfere with the free movement of the branches and shall cause no rubbing.
- 4.2.9 For extra heavy standards and heavy standards the staking shall be undertaken after the tree has been positioned. Three stakes, each of 3 metre in length shall be driven down the side of the root ball and into the pit to a depth of 500 mm below the bottom of the pit. The stakes shall be angled outwards to between 5° and 10° at the top and pulled in moderately by tensioning all the supporting bands equally. The stakes shall be equally spaced and shall not pass through the root ball.
- 4.2.10 After planting, any damaged, dead, diseased or crossing branches shall be removed by pruning.
- 4.2.11 Individual Trees (Mix: T) shall comprise;
- Quercus robur (oak)
  - Betula pendula (birch)
  - Alnus glutinosa (alder)
  - Sorbus aucuparia (rowan)
  - Ilex aquifolium (holly)
  - Prunus padus (bird cherry)
  - Pinus sylvestris (scots pine)
  - Acer campestre (field maple)

#### **4.3 New Hedgerow Planting Types; Native Species Hedgerow with trees Mix: H.**

##### ***Aim***

- 4.3.1 To plant new hedgerows to create new field boundaries and create nature corridors.

##### ***Operations***

- 4.3.2 Generally planting mixes shall be 1+1 transplants (45 – 60cm), bare rooted stock, root dipped in 'Alginure' upon lifting at the nursery to be planted in a double staggered row, 45cm apart, with 7 plants per linear metre.
- 4.3.3 Feathered trees (70-120cm) shall be planted in tree shelters at approximately 20m intervals along the length of the new hedgerow.
- 4.3.4 All bare root stock shall be double slot notch planted using a suitable planting spade. The slots can either be 'L' or 'T' shaped. Roots shall be distributed evenly. Once the plant has been positioned vertically in the slot, the spade shall be removed and the soil firmed with the ball of the foot.

##### ***Planting Mix***

- 4.3.5 Native Species Hedgerow with trees (Mix: H) shall comprise;
- Shrubs:
- 70% Crataegus monogyna (hawthorn)
  - 2% Rubus fruticosus (blackberry)
  - 2% Rosa canina (dogrose)
  - 5% Ilex aquifolium
  - 10% Sambucus nigra (elder)
  - 10% Prunus spinosa (blackthorn)
- Hedgerow Trees:
- 50% Quercus robur (oak)
  - 50% Fagus sylvatica (beech)

#### **5.0 Detailed Grassland Types; Amenity Grassland Mix G1, Conservation Mix G2, Open Grassland Mix G3 and Agricultural Handback Mix G4.**

##### ***Aim***

- 5.1.1 To create a diverse range of grassland suitable for embankments, verges, wildflower meadows and grazing.

##### ***Seed Mixes***

- 5.1.2 Amenity Grassland (Mix: G1) shall comprise;
- 30% Festuca Rubra var. rubra (creeping red fescue)
  - 25% Lolium perenne (perennial ryegrass)
  - 20% Festuca trachyphylla (hard fescue)
  - 12.5% Cynosurus cristatus (crested dogstail)
  - 10% Agrostis tenuis (browntop bent)
  - 2.5% Trifolium repens (miniature white clover)

5.1.3 Conservation Grassland (Mix: G2) shall comprise;

- 0.5% *Achillea millefolium* (yarrow)
- 1% *Centaurea nigra* (common knapweed)
- 2% *Galium verum* (lady's bedstraw)
- 0.5% *Geranium pratense* (meadow cranesbill)
- 1.2% *Knautia arvensis* (field scabious)
- 0.5% *Lathyrus pratensis* (meadow vetchling)
- 0.5% *Leontodon hispidus* (rough hawkbit)
- 1.5% *Leucanthemum vulgare* (oxeye daisy)
- 0.5% *Lotus corniculatus* (birdsfoot trefoil)
- 0.5% *Malva moschata* (musk mallow)
- 0.5% *Plantago lanceolata* (ribwort plantain)
- 1.3% *Primula veris* (cowslip)
- 2.5% *Prunella vulgaris* (selfheal)
- 2.5% *Ranunculus acris* (meadow buttercup)
- 1.5% *Rhinanthus minor* (yellow rattle)
- 1% *Rumex acetosa* (common sorrel)
- 2% *Silene vulgaris* (bladder campion)
- 10% *Agrostis capillaris* (common bent)
- 1% *Anthoxanthum odoratum* (sweet vernal-grass)
- 32% *Cynosurus cristatus* (crested dogstail)
- 10% *Festuca ovina* (sheep's fescue)
- 20% *Festuca rubra* (slender-creeping red-fescue)
- 6% *Phleum bertolonii* (smaller cat's-tail)
- 1% *Trisetum flavescens* (yellow oat-grass)

5.1.4 Open Grassland (Mix: G3) shall comprise;

- 40% *Festuca Rubra* var. *rubra* (creeping red fescue)
- 30% *Festuca rubra* *commutata* (chewings fescue)
- 25% *Festuca ovina* (sheeps fescue)
- 5% *Agrostis castellana* (highland bent grass)

5.1.5 Agricultural Handback (Mix: G4) shall comprise;

Seed mix shall vary depending on required after use (e.g. type of grazing, dairy production or silage) and shall be specified as agreed with the relevant landowner or leaseholder, whichever is applicable.

## Appendix A: Document History

This section lists the controlled issue and revision history of the document.

Version Number	Changes	By	Date
1.0	Issued to Naz Huda (SMBC Engineering Services)	SMBC L D & D	24 <sup>th</sup> February 2012
1.0 A	Issued to Naz Huda (SMBC Engineering Services) Fraxinus excelsior (ash) omitted / substituted from items 4.1.6 / 4.1.8 / 4.1.9 / 4.2.11 / 4.3.5	SMBC L D & D	05 <sup>th</sup> March 2013
1.0 B	Issued to Naz Huda (SMBC Engineering Services) Item 2.1.4 revised as below... 1. Areas to be planted clarified as tree, shrub and hedgerow species. 2. Specification of spent mushroom compost revised to be organic soil conditioner (samples to be approved by SMBC Landscape Architect prior to spreading). 3. Depth of organic soil conditioner reduced to be 50mm. 4. Provision of spent mushroom compost omitted from areas to be sown.	SMBC L D & D	30 <sup>th</sup> July 2013
1.0 C	Issued to Naz Huda (SMBC Engineering Services) Planting types Wet Woodland Mix W3 and Wet Grassland Mix: G5 omitted.	SMBC L D & D	10 <sup>th</sup> September 2013