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5080D – Planting Specification

King's Pond – Planting Specification
Prepared for

ALTON Town Council

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Executive Summary

This planting schedule was designed to provide guidance to assist with the river and wetland restoration plans on King's Pond. The planting schedule is a guide that can be adjusted to accommodate each site, based on availability of plants, and the requirements of landowners, stakeholders, and existing vegetation.

All species are suited to acidic and loamy soils which characterise the project area. If additional species are requested it should be checked that they are appropriate for this soil type, in order to prevent plug plants from dying, and to allow seeds to establish.

Planting for the restoration scheme consists of:

- Wetland trees;
- Supplementary Willow scrub;
- Marginal plug planting along marginal areas (open / partial shade);
- Marginal plug planting along marginal areas (shaded);
- Wet meadow seeding in the lowered floodplain;
- Marginal pond seed mix;
- Woodland seeding;
- Reedbed planting;

Natural England provides a definition of a UK native seed as "*a seed originally collected from wild populations in Great Britain (from sites with no known history of sowing amenity or agricultural varieties) and either sown directly, or grown as a field crop to provide further seed. It includes seed collected in 'green hay', it excludes certified amenity or agricultural varieties of native species*." All available seed mixes include species that are considered non-native to the UK by the Royal Horticultural Society, but are acceptably naturalised according to Natural England. The decision to use the listed seed mix has been made accounting for the different definitions from these professional bodies.

Similar seed mixes may be locally available and preferable to the EM mixes proposed; if there is any doubt that these alternative seed mixes have the same – or almost identical – native species then a suitably certified ecologist should be consulted before commencing planting.

Tree and Scrub Planting

1. Wet woodland

The species detailed in Table 2 are recommend woodland trees that can withstand poorly drained or seasonally wet soils. Mix should be dominated by Alder, Burch, and Willow. The area can additionally be seeded to help create a diverse understory formed of species from Table 3. The recommending planting density is a tree every 2 to 3 metres in wavy lines, equalling around 1,100 to 2,500 trees per hectare. Planting small groups of the same species together helps reduce competition between species.

Table 2: Suggested tree species for wet woodland planting.

Latin name	Common name
Alnus glutinosa	**Alder**
Betula spp.	**Birch**
Salix spp.	**Willows**
Fraxinus excelsior	Ash
Quercus spp	Oak
Pinus sylvestris	Scots Pine
Fagus sylvatica	Beech

Table 3: Understory species typical of wet woodlands.

Latin name	Common name
Juncus effusus	Soft-rush
Mentha aquatica	Water Mint
Filipendula ulmaria	Meadowsweet
Cardamine pratensis	Cuckooflower
Caltha palustris	Marsh Marigold
Equisetum fluviatile	Water Horsetail
Valeriana officinalis	Common Valerian
Comarum palustre	Marsh Cinquefoil
Lysimachia nemorum.	Yellow Pimpernel

2. Willow Scrub Planting

The species suggested for scrub planting are detailed in Table 4 with a dominance (~45%) of Willow. Suggested planting spacing is between 1 and 2 m between plants and to plant small groups (2 or 3 whips) of the same species together to reduce competition.

Table 4: Scrub species

Latin name	Common name
Salix spp	**Willow**
Prunus spinosa	Blackthorn
Corylus avellana	Hazel
Hippophae rhamnoides	Sea-buckthorn
Rubus fruticosus agg	Bramble
Ulex spp	Gorse
Crataegus monogyna	Hawthorn

Plug Planting

3. Open Wetland Planting

The species specified in Table 1 have been selected for marginal plug planting in open and semi-shaded sections. These species prefer damp ground, but are tolerant of drier periods and seasonal inundation, and are appropriate for the natural Hampshire environment. All species chosen are native UK species as identified by the Royal Horticultural Society.

The planting for these areas is proposed at a mix of 6-8 plants per m2, this will allow for natural succession and prevent overcrowding leading to plant death. Plants should be mixed with 2-3 species per m2 ensuring one species does not dominate.

Table 1: Species specification for marginal plug planting in open/semi-shaded locations

Latin name	Common name
Angelica sylvestris	Wild angelica
Butomus umbellatus	Flowering rush
Carex acutiformis	Lesser pond sedge
Carex hirta	Hairy sedge
Carex paniclata	Greater tussock-sedge
Carex pendula	Pendulous sedge
Carex pseudocyperus	Cyperus sedge
Eupatorium cannabinum	Hemp agrimony
Filipendula ulmaria	Meadowsweet
Iris pseudacorus	Yellow flag iris
Juncus articulatus	Jointed rush
Juncus effusus	Soft rush
Lythrum salicaria	Purple loosestrife
Mentha aquatica	Water-mint
Myosotis scorpioides	Water forget-me-not
Stachys palustris	Marsh woundwort

Note: *Carex paniclata* should be planted in low numbers due to the aggressive nature of the plant.

4. Shaded Wetland Planting

The species specified in Table 2 have been selected for marginal plug planting in shaded sections where daylighting isn't possible or preferred. Shaded areas are classified where there is less than 30% light availability. They prefer damp ground, but are tolerant of drier periods and seasonal inundation, and are appropriate for the natural Hampshire environment. All species selected are UK native species as identified by the Royal Horticultural Society.

Table 2: Species specification for marginal planting in shaded locations

Latin name	Common name
Angelica sylvestris	Wild angelica
Caltha palustris	Marsh marigold
Carex acutiformis	Lesser pond sedge
Carex hirta	Hairy sedge
Carex pseudocyperus	Cyperus sedge
Filipendula ulmaria	Meadowsweet
Iris pseudacorus	Yellow flag iris
Lythrum salicaria	Purple loosestrife
Mentha aquatica	Water-mint
Myosotis scorpioides	Water forget-me-not
Veronica beccabunga	Brooklime

Seed Mixtures

5. Meadow Mixture for Wetlands

Areas of lowered floodplain not immediately adjacent to the channel or water feature will consist of freshly exposed subsoils with an assumed low level of nutrients optimum for establishment of wildflowers. The sowing mix recommended is Emorsgate EM8 – "Meadow Mixture for Wetlands" This is composed of native wildflower (herb) and grass species that are suitable for seasonally wet soils and is based on the vegetation of traditionally managed floodplains and water meadows; the specification is provided in Table 4 and Table 5 respectively. These species will tolerate periodic flooding in winter and thrive in well drained summer conditions, characteristic of the sandy soils in the area.

The recommended sowing rate is 16 kg/acre or 4 g/m^2.

Table 4: Wild flower species contained in EM8 mix (Total 20% by weight)

%	Latin name	Common name
0.1	*Achillea millefolium*	Yarrow
1.5	*Betonica officinalis - (Stachys officinalis)*	Betony
4	*Centaurea nigra*	Common knapweed
1.5	*Filipendula ulmaria*	Meadowsweet
0.5	*Galium verum*	Lady's bedstraw
0.1	*Leontodon hispidus*	Rough hawkbit
0.5	*Leucanthemum vulgare*	Oxeye daisy
2	*Lotus corniculatus*	Bird's-foot-trefoil
2.5	*Plantago lanceolata*	Ribwort plantain
0.5	*Primula veris*	Cowslip
0.2	*Prunella vulgaris*	Selfheal
0.9	*Ranunculus acris*	Meadow buttercup
0.1	*Rumex acetosa*	Common sorrel
0.2	*Silaum silaus*	Pepper saxifrage
0.2	*Succisa pratensis*	Devil's-bit scabious
0.1	*Taraxacum officinale*	Dandelion
0.1	*Tragopogon pratensis*	Goat's-beard
5	*Vicia cracca*	Tufted vetch

Table 5: Grass species contained in EM8 mix (Total 80% by weight)

%	Latin name	Common name
10	*Agrostis capillaris*	Common bent
3	*Alopecurus pratensis*	Meadow foxtail
3	*Anthoxanthum odoratum*	Sweet vernal-grass
3	*Briza media*	Quaking grass
24	*Cynosurus cristatus*	Crested dog's-tail
2	*Deschampsia cespitosa*	Tufted hair-grass
32	*Festuca rubra*	Red fescue
3	*Hordeum secalinum*	Meadow barley

6. Pond Edge Mixture

Pond Edge Mixture EP1 is a seed mix of wildflowers and grasses specifically suited for sowing along the wet margins of ponds, streams, and ditches. This seed mix is appropriate for a wide range of soil types.

For best results, choose ground that is low in fertility and free from persistent perennial weeds. Successful establishment depends on thorough site preparation—aim to suppress weeds and create a fine, well-structured seedbed before sowing.

To prepare the site, begin by removing weeds through repeated cultivation. Then cultivate the soil to bury any remaining surface vegetation, and finish by harrowing or raking to achieve a medium tilth. Creating a diverse habitat is key to enhancing the ecological value of pond-edge plantings. Aim for a mix of vegetation structures, from dense tussocks to patches of bare or newly colonized mud. Ongoing management should promote this variation while minimizing disturbance to local wildlife. Structural diversity can be maintained by cutting and removing small areas of vegetation on a 2–3 year rotation. In ditches, clear alternating sections or work from just one bank each year. Around ponds, remove vegetation in a wedge shape—similar to taking a slice of cake. Where single species (like yellow iris) dominate, selective thinning can improve plant diversity.

To reduce disruption to wildlife, vegetation removal is best done between September and November. On larger sites, light grazing by cattle or horses in late summer can help manage growth with less impact than mechanical methods. When machinery is necessary, use it cautiously to prevent damage to wet soils and existing vegetation.

Table 6: Wild flower species contained in EP1 mix (Total 20% by weight)

%	Latin name	Common name
1.0	*Achillea millefolium*	Yarrow
2.40	*Centaurea nigra*	Common knapweed
0.60	*Dipsacus fullonum*	Wild teasel
0.20	*Eupatorium cannabinum*	Hemp agrimony
2.00	*Filipendula ulmaria*	Meadowsweet
1.00	*Galium album*	Hedge bedstraw
0.60	*Geum rivale*	Water avens
4.40	*Iris pseudacorus*	Yellow iris
0.80	*Lathyrus pratensis*	Meadow vetchling
0.30	*Lythrum salicaria*	Purple loosestrife
0.10	*Lycopus europaeus*	Gypsywort
0.20	*Oenanthe pimpinelloides*	Corky-fruited water-dropwort
0.60	*Plantago lanceolata*	Ribwort plantain
0.80	*Prunella vulgaris*	Selfheal
1.00	*Ranunculus dcris*	Meadow buttercup
2.80	*Silene dioica*	Red campion
1.20	*Silene flos-cuculi*	Ragged Robin

Table 7: Grass species contained in EP1 mix (Total 80% by weight)

%	Latin name	Common name
8	*Agrostis capillaris*	Common bent
0.80	*Anthoxanthum odoratum*	Sweet vernal-grass
30.40	*Cynosurus cristatus*	Crested dog's-tail
17.60	*Festuca rubra*	Red fescue
6.40	*Poa pratensis*	Smooth-stalked meadow grass
8.00	*Carex echinata*	Star Sedge
8.00	*Phleum bertolonii*	Smaller cat's-tail
0.80	*Hordeum secalinum*	Meadow barley

7. Woodland Seed Mix

EW1 is a carefully selected mixture of woodland wildflowers and grasses, designed to flower mainly in spring and early summer. These species are adapted to thrive under partial shade, making EW1 ideal for sowing in established woodlands or in younger plantations where the tree canopy is beginning to close.

Woodland environments vary widely, with differing levels of shade and competition from tree roots. As a result, the success of sowing can be quite variable. Ground cover may establish slowly and patchily, particularly under deeper shade, where full coverage might never be achieved. In contrast, open or recently planted woodland with higher light levels will support more vigorous growth, and grasses may become more dominant. In lighter areas, or during the early years of woodland establishment, a mid-summer cut may help maintain a tidier appearance and suppress more aggressive semi-shade species like nettles and brambles.

Newly planted woodland will take around 10–15 years for the canopy to close and reduce light levels significantly. During this phase, the sown mixture should be managed as grassland—cutting or grazing as needed. As shade increases and ground cover from grasses begins to thin, woodland wildflowers will find better conditions to establish and flourish. At this point—typically when about 50% shade is reached—it can be beneficial to sow additional woodland wildflower seed (EW1F) to enhance diversity and help woodland flora take hold.

Table 20: Wild flower species contained in EW1 mix (Total 20% by weight)

%	Latin name	Common name
1.00	*Allium ursinum*	Ramsons
2.00	*Alliaria petiolata*	Garlic mustard
0.50	*Angelica sylvestris*	Wild angelica
1.40	*Anthriscus syvestris*	Cow parsley
0.20	*Arum maculatum*	Lords-and-ladies
4.00	*Digitalis purpurea*	Foxglove
0.10	*Eupatorium cannabinum*	Hemp-agrimony
0.90	*Filipendula ulmaria*	Meadowsweet
1.50	*Galium album*	Hedge bedstraw
0.10	*Geum rivale*	Water avens
2.00	*Geum urbanum*	Wood avens
1.60	*Hyacinthoides non-scripta*	Bluebell
0.10	*Primula vulgaris*	Primrose
1.00	*Pruella vulgaris*	Selfheal
0.40	*Raninculus acris*	Meadow buttercup
3.00	*Silene dioica*	Red campion
0.20	*Teucrium scorodonia*	Wood sage

Table 21: Grass species contained in EW1 mix (Total 80% by weight)

%	Latin name	Common name
2.40	*Agrostis capillaris*	Common bent
1.60	*Anthoxanthum odoratum*	Sweet vernal-grass
0.80	*Brachypodium sylvaticum*	False brome
48.00	*Cynosurus cristatus*	Crested dogstail
1.60	*Deschampsia cespitosa*	Tufted hair-grass
19.20	*Festuca rubra*	Red Fescue
6.40	*Poa nemoralis*	Wood meadow-grass

Reedbed Plug Planting

The species specified in Table 22 have been selected to establish a beneficial reed bed system. The common reed, making up 70% of the mix, is a dominant species. If not managed correctly, this reed will take over, smothering any other species. A management cycle of 3-5 years is recommended to maintain the reed beds and keep them in optimal condition. The other three species included in the mix are to be planted in small pockets throughout the area, increasing plant diversity.

Plugs should be planted at 8 per m2 and consist of 110cc or 230cc root trainer.

Table 22: Species specification for reedbed plug planting.

%	Latin name	Common name
10	*Iris pseudacorus*	Yellow flag iris
70	*Phragmites australis*	Common reed*
10	*Eupatorium cannabinum*	Hemp agrimony
10	*Typha latifolia*	Bull rush