

BELA PARTNERSHIP LTD

Amended

Corby Northern Orbital Road

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Landscaping Strategy

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April 2007September 2007

Appendix 17

1 INTRODUCTION

- 1.1 This report has been prepared in response to a holding objection on the original Planning Application November 2006 for the construction of the Corby Northern Orbital Road by Northants Wildlife Trust. A meeting has been was held with the Trust to discuss their key concerns and how these can be addressed, this short report has been prepared to address the issues raised. It sets out a series of ecological and management principles to be adopted as part of these development the development proposals for both the November 2006 and September 2007 schemes.

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2 DESCRIPTION

General Information

Site Location

- 2.1 The site is situated approximately 1km north east of Corby, Northampton, between Rockingham Speedway to the North and the Weldon Industrial estate to the south. The route of the road is predominantly over land previously worked for mineral extraction within the last 50 years and along existing road networks. The route begins on an existing road network, namely Steel road. It is then located almost parallel to the course of a former mineral railway over previously quarried land and adjacent to Rockingham Speedway. Moving north it joins with existing roads to link up to Phoenix Parkway. The majority of the road network is associated within modern industrial estates.
- 2.2 The key area of potential enhancement from an ecological perspective lies on the land that abuts Willow Brook and the land adjacent to the Morrison's development.

Broad Development Proposals

- 2.3 The proposed development is described in section 2 of the Environmental Statement shown on Drawing NL08225/01. The main aspects of the project, working from south to north are as follows:

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- a) Remodelling of Steel Road Roundabout (roundabout 1) at the junction with A43;
- b) Dualling of Steel Road (Road 1);
- c) Remodelling of the existing Birchington Road roundabout (roundabout 2);
- d) New dual carriageway (Road 2) link to roundabout 3 west of the existing Morrison's depot;
- e) New roundabout (roundabout 3) immediately north west of the Morrison's depot;
- f) New dual carriageway (Road 3) to new roundabout 4 in the western portion of Rockingham Speedway land;

- ~~g) Dual carriageway link road (road 4) on existing Mitchell Road;~~
- ~~h) New roundabout (roundabout 5) to form a junction between road 4 and Phoenix Parkway.~~

- 2.4 The landscaping and habitat creation works outlined in this report will be specific to ~~road 3~~, the new dual carriageway from the Morrison's roundabout to the **gated entrance to** Rockingham Motor Speedway.

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Ecological Baseline

- 2.5 The area of land discussed within this report comprises the Morrison's land which is considered to be neutral/calcareous grassland with scattered scrub including hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), elder (*Sambucus nigra*) and ash (*Fraxinus excelsior*) interspersed with bramble (*Rubus fruticosus* agg), field rose (*Rosa arvensis*) and dog rose (*Rosa canina* agg.).
- 2.6 Further north the road route passes through Willow Brook and the associated woodland. The main trees found here are sycamore (*Acer pseudoplatanus*), ash (*Fraxinus excelsior*), willow (*Salix* sp.) and hawthorn (*Crataegus monogyna*) with an area of downy birch (*Betula pubescens*). The ground flora is mainly semi-improved grassland species but with areas of false brome (*Brachypodium sylvaticum*). At present this area of land is heavily disturbed by vehicles and lacks important diversity. The brook itself appears to be of poor water quality with the vertical banks unvegetated due to the gradient and the fact that it is overshadowed in places by the woodland.
- 2.7 There are marshy areas that surround willow brook in the autumn and winter months. These areas do not contain important wetland plants and consist of common species such as rosebay willowherb (*Chamerion angustifolium*) and nettles (*Urtica dioica*).

3 LANDSCAPE STRATEGY

- 3.1 The following information outlines the species that will be used within the roadside verges and the area associated with the bridge over willow brook.

Species Mix

- 3.2 The trees, shrubs and grassland species mixes which will be used along the roadside verges will complement and enhance the existing habitats.
- 3.3 In light of the fact that the surrounding habitats are neutral/calcareous grassland it is considered that the best flora to use would be those most suitable to base rich conditions which would complement the existing flora. In order to create the

correct soil nutrient status within the roadside verges, calcareous fines will be utilised and mixed with existing soils on site.

- 3.4 The species listed below ~~will be used along the roadside as detailed on drawing no. NL08225/XXX. They~~ have been chosen for their ability to grow on calcareous soils. They will be locally sourced to obtain species of local provenance.

Table 1. Trees and Shrubs to be planted.

Trees & Shrubs	
Common Name	Latin Name
Wild Privet	<i>Ligustrum vulgare</i>
Wild crab	<i>Malus sylvestris</i>
Hazel	<i>Corylus avellana</i>
Hawthorn	<i>Crataegus monogyna</i>
Blackthorn	<i>Prunus spinosa</i>

Table 2. Grass mix to be used in the landscaping of the roadside verges (adapted from Pro Flora 4 Calcareous Soils, DFL Trifolium Ltd.)

Grasses		
Common Name	Latin Name	% in seed mix
Crested dog's-tail	<i>Cyanosurus cristatus</i>	18
Common Quaking Grass	<i>Briza media</i>	5
Smooth Meadow Grass	<i>Poa pratensis</i>	20
Slender catstail	<i>Phloem pratense bertolonii</i>	7
Golden oatgrass	<i>Trisetum flavescens</i>	10
Sheeps Fescue	<i>Festuca ovina</i>	25
Upright Brome	<i>Bromus erectus</i>	15

Table 3. Wildflower seed mix to be used in the landscaping of the roadside verges (adapted from Pro Flora 4 Calcareous Soils, DFL Trifolium Ltd.).

Wildflowers		
Common Name	Latin Name	% in seed mix
Hairy Rock Cress	<i>Arabis hirsuta</i>	5
Spotted cat's-ear	<i>Hypochoeris maculata</i>	6
Bird's-foot trefoil	<i>Lotus corniculatus</i>	10

Bulbous buttercup	<i>Ranunculus bulbosus</i>	12
Dropwort	<i>Filipendula vulgaris</i>	5
Greater knapwort	<i>Centaurea scabiosa</i>	6
Hoary plantain	<i>Plantago media</i>	8
Kidney vetch	<i>Anthyllis vulnearia</i>	5
Lady's bedstraw	<i>Galium verum</i>	5
Ox-eye Daisy	<i>Leucanthemum vulgare</i>	5
Small scabious	<i>Scabiosa columbaria</i>	5
Tufted vetch	<i>Vicia cracca</i>	10
Wild carrot	<i>Daucus carota</i>	8
Wild marjoram	<i>Origanum vulgare</i>	5
Wild Mignonette	<i>Reseda lutea</i>	5

3.5 The grassland planting will contain 20% wildflower mix and 80% grass mix. The suggested species is adapted from Pro Flora 4 Calcareous Soils seed mix (DFL Trifolium Ltd, Thorn Farm, Inkberrow, Worcestershire, WR7 4LJ). Specific calcicoles have been chosen for their habitat preference and with reference to the National vegetation Classification grasslands found locally within the county, namely CG2 *Festuca ovina-Avenula pratensis*, CG3 *Bromus erectus*, CG4 *Brachypodium pinnatum* and CG5 *Bromus erectus-Brachypodium pinnatum*. Hairy rock cress and spotted cat's-ear have been integrated into the planting as they are LBAP species as noted in the Northamptonshire BAP for lowland calcareous grassland.

3.6 The planting of these species will enhance the area by adding native floral species and providing calcareous floral diversity. Wildlife species within the area will benefit from the additional, native planting as will the local BAP species the butterfly Black Hairstreak (*Satyrion pruni*) whose food plant is blackthorn and the nationally notable species, the small blue butterfly (*Cupido minimus*), whose food plant is kidney vetch.

Willow Brook

3.7 The area surrounding Willow Brook will be planted with the same species as outlined above. However, the cycle path will require a more robust grass seed mix containing short hardy grasses such as red fescue (*Festuca rubra*) and the margins of the brook will require suitable water margin planting, outlined below. The cycle and pedestrian path will be located adjacent to the bridge sides to enable the installation of a strip of long grass and marginal wetland vegetation

between the path and the Willow Brook to provide a habitat corridor for wildlife species including small mammals and amphibians.

- 3.8** A suggested grass mix for the habitat corridor along Willow brook is detailed below. The suggested species is adapted from Pro Flora 12 Water Margin & Pond Edges seed mix (DFL Trifolium Ltd, Thorn Farm, Inkberrow, Wocestershire, WR7 4LJ).

Table 4. Grass seed mix to be used in the landscaping of Willow Brook (Pro Flora 12 Water margin & Pond Edges, DFL Trifolium Ltd.).

Grasses		
Common Name	Latin Name	% in seed mix
Crested dog's-tail	<i>Cyanosurus cristatus</i>	20
Browntop bent	<i>Agrostis castellana</i>	5
Common sedge	<i>Carex nigra</i>	0.5
Meadow foxtail	<i>Alopecurus pratensis</i>	10
Pendulas sedge	<i>Carex pendula</i>	0.5
Rough meadow Grass	<i>Poa trivialis</i>	7
Sheeps fescue	<i>Festuca ovina</i>	38
Sweet vernal	<i>Anthoxanthum odoratum</i>	4
Tufted hairgrass	<i>Deschampsia caespitosa</i>	15

Table 3. Wildflower seed mix to be used in the landscaping of the Willow Brook (Pro Flora 12 Water Margin & Pond edges, DFL Trifolium Ltd.).

Wildflowers		
Common Name	Latin Name	% in seed mix
Common fleabane	<i>Pulicaria dysenterica</i>	2
Gipsy wort	<i>Lycopus europaeus</i>	6
Greater Bird's-foot trefoil	<i>Lotus uliginosus</i>	6
Hemp agrimony	<i>Eupatorium cannabinum</i>	4
Marsh marigold	<i>Caltha palustris</i>	2
Marsh woundwort	<i>Stachys palustris</i>	9
Meadow rue	<i>Thalictrum flavum</i>	8
Meadowsweet	<i>Filipendula ulmaria</i>	15

Purple Loosestrife	<i>Lythrum salicaria</i>	5
Ragged Robin	<i>Lychnis flos-cuculi</i>	9
Sneezewort	<i>Achillea ptarmica</i>	7
Square stemmed St. john's wort	<i>Hypericum tetrapterum</i>	6
Water avens	<i>Geum rivale</i>	3
Yellow flag iris	<i>Iris pseudacorus</i>	18

- 3.9** The banks of Willow Brook will be regarded in sections to enhance them for water vole use and allow for a good gradient for the floral species to establish. The banks of Willow Brook should be regraded to a gradient greater than 35° but not vertical. The specified planting along Willow Brook should be sown as turfs with seed intermingled as in the case of coir matting if possible.
- 3.10** The planting of tall grass and shrubs along the side of the road linking with the landscaping under the proposed bridge over Willow Brook will aid with the Green Infrastructure guidelines in particular maintaining and enhancing the habitat corridor and resulting in a net gain of Biodiversity Action Plan habitats.
- 3.11** The planting and bridge over Willow brook will provide a passage for animals under the road with abundant cover and food plants and will enable species to continue to use willow brook as a habitat corridor.
- 3.12** The planting of the roadside verges aims to allow the passage of species along the verges and direct them under the bridge or to the amphibian tunnels. In addition, the grassland species are sufficiently diverse to allow for their dispersal into the local area thereby adding to the overall biodiversity.
- 3.13** The grassland species will also create a vegetated area directly adjacent to Willow Brook which is currently unvegetated. This will enhance the area for important species such as the water vole, dragonflies, butterflies and a number of other terrestrial and aquatic invertebrates therefore, providing good foraging areas for bats.
- 3.14** The bridge which will span Willow Brook will be a three span bridge therefore, allowing an amount of light underneath, however, this may reduce the amount of vegetation directly under the bridge. However, the bridge will act as a habitat corridor allowing the free passage of species along the brook side and the bridge itself will be utilised to provide habitats for bats. In addition to the planting that will occur providing foraging areas for bats, 10 bat boxes will be installed. This will

potentially make the area more attractive to bats as the diverse habitats offer the food source and the bat boxes will provide roosting habitat.

Woodland surrounding Willow Brook

- 3.15** The area surrounding Willow Brook, locally known as Dingly Dell, will require the removal of part of the woodland. To compensate for this loss native trees and shrubs will be planted to provide additional woodland habitat. The additional woodland will aid with the Green Infrastructure guidelines by providing further woodland planting.
- 3.16** The area will be planted with species which are already found in the existing woodland. These are downy birch (*Betula pubescens*) and hawthorn and the additional species native to the area of hazel (*Corylus avellana*), ash (*Fraxinus excelsior*), field maple and oak (*Quercus robur*). Approximately 100-150 trees will be planted as 60-80cm whips and at 2m spacings. They will be protected by the use of 1m high tree shelters to prevent any damage by rabbits or deer.
- 3.17** This woodland will provide a diverse habitat with sources of food enabling certain species to extend their range within the county such as the dormouse (*Muscardinus avellanarius*) and yellow-necked mouse (*Apodemus flavicollis*) and providing potential roosting habitat for a range of birds.

4 MANAGEMENT

- 4.1** Having established new habitats it is essential that they are maintained to ensure that they develop into diverse and varied habitats.

Tree and Shrub planting

- 4.2** Newly planted trees and shrubs will be monitored by an ecologist or landscape architect on a yearly basis for the 5-year period, or as appropriate. Any planting which has failed will be replaced with the same species.
- 4.3** Further management recommendations such as thinning and coppicing will be proposed in a yearly update to this management plan.

Grassland Habitat

- 4.4 The roadside verges will require management to ensure that rank grassland species do not encroach and out compete with the planted species. The main way of preventing this situation arising is by removing any source of nutrient input and allowing the slower growing or smaller species to survive by not being out competed. Therefore, a cutting regime should be employed.
- 4.5 Within the first year, the sward should be cut whenever 100cm is reached with arisings left on site for 24hours to allow invertebrates to disperse and then removed. The sward should be cut to 100-150mm to avoid scalping and should not be carried out when conditions are damp or wet. The last cut should be in October. This should allow the important calcareous species to survive.
- 4.6 After this, it is recommended that the site is cut once a year on a rotational basis so that there is diversity throughout the site with one third of the verge cut each consecutive year. This should occur in August/September following the method outlined above.
- 4.7 Adopting this management regime will provide a range of habitats for invertebrates such as the ground beetles *Harpalus obsurus* and *Harpalus punctatulus*.

Willow Brook Bridge Area

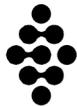
- 4.8 The specified planting along Willow Brook should be sown as turfs with seed intermingled as in the case of coir matting if possible.
- 4.9 The marginal grassland/marginal water side planting will need to be managed to prevent the encroachment of rank grassland species and the choking of the ditch. A cutting regime should be employed to achieve this. There are two main cutting periods occurring in the summer and winter months with a late summer cut preferred. It is recommended that the cut is rotational, cutting different parts of the ditch in different years. This will ensure that the brook retains a variety of habitats at any one time. The ditch should be cut every 3-5 years with all arisings left for 24hours and then removed.
- 4.10 This management regime will enhance the brook for water voles and aquatic invertebrates along with other species such as birds.

Woodland surrounding Willow Brook

- 4.11 The trees and shrubs planted around the bridge will be managed and surveyed along with the roadside verge planting as detailed in paragraphs 4.2 and 4.3.

5 CONCLUSIONS

- 5.1 The measures set out above address the need for ecological sensitive landscaping in an area with an amount ecological importance. Planting is to be tailored to the local area and provide functional habitat corridors for wildlife species in the area and enhance existing habitats.
- 5.2 The proposals set out here will aid with the Green Infrastructure guidance by creating and enhancing Biodiversity Action Plan habitats, namely calcareous grassland, wetland grassland and woodland. Sympathetic management of these habitats is proposed as recommended in the guidance along with the maintenance of the habitat corridor for wildlife and for recreation in the form of the pedestrian/cycle path.
- 5.3 It is considered that positive management can create and enhance the local area in addition to providing foraging areas and places of shelter for a range of species including nationally and locally rare species.



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