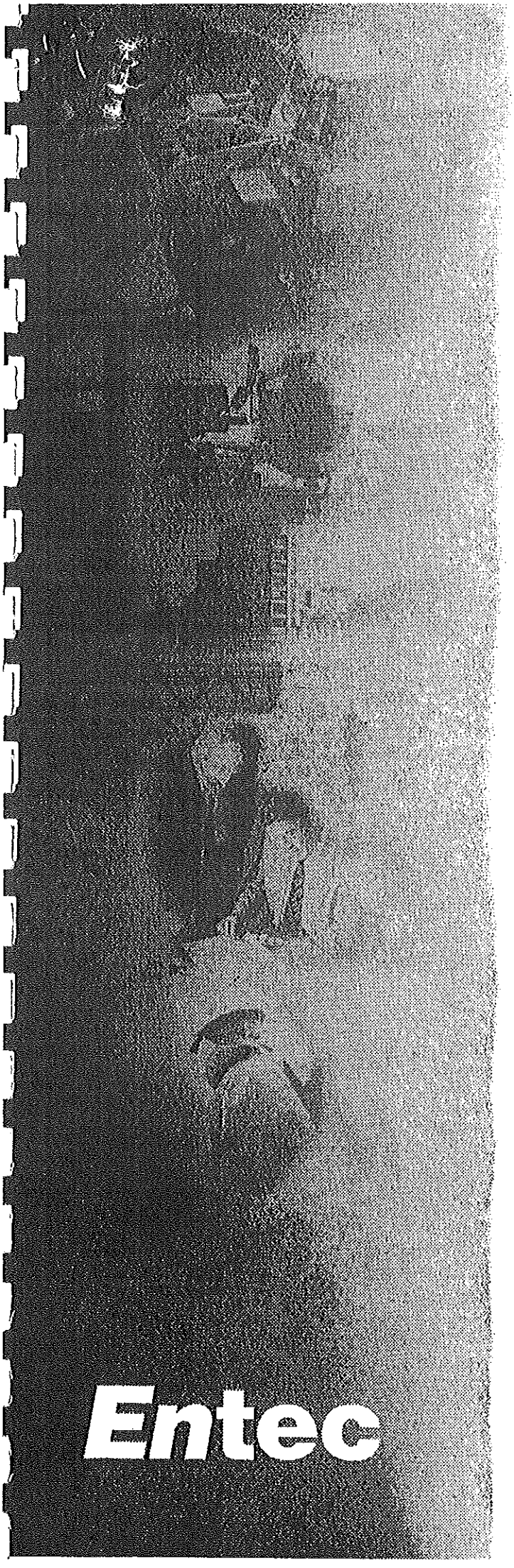


HPK/2013/0495

Rossington Park Ltd

REC'D 24 APR 2014

Rossington Park, Woolley Bridge Road, Hadfield, Glossop.

Flood Risk & Landscape Strategy Statement

July 2005

Entec UK Limited, part of the Northumbrian Water Group plc

NORTHUMBRIAN WATER

20 SEP 2005

7 OCT 2005

FILE REF

REPLY REQUIRED

HIGH PEAK BOROUGH COUNCIL
Town & Country Planning Acts
Planning Application Code No: 2005/0764
Approved / Refused: 25/1/06
Revised Plan No
Signed
Head of Regeneration

Report for

Rossington Park Limited
Rockley House
Mill Lane
Rockley
Retford
DN22 0QP

Main Contributors

Neil Dixon
Clare Horner

Issued by

[redacted]

Approved by

[redacted]

Entec UK Limited

Northumbria House
Regent Centre
Gosforth
Newcastle upon Tyne
NE3 3PX
England
Tel: +44 (0) 191 272 6100
Fax: +44 (0) 191 272 6592

16221

g:\data\projects\16221 hadfield fra\16221 hadfield position statement rev c 12_08_05.doc

Rossington Park Ltd

Rossington Park, Woolley Bridge Road, Hadfield, Glossop.

Environmental Position and Landscape Design Statement

September 2005

Certificate No. BMS 69090

Certificate No. FS 13881

In accordance with an environmentally responsible approach, this document is printed on recycled paper produced from 100% post-consumer waste, or on ECF (elemental chlorine free) paper

Disclaimer

This report has been prepared in a working draft form and has not been finalised or formally reviewed. As such it should be taken as an indication only of the material and conclusions that will form the final report. Any calculations or findings presented here may be changed or altered and should not be taken to reflect Entec's opinions or conclusions.

1. Introduction

1.1 Background and Brief

Entec was commissioned by Rossington Park Ltd to assess the risk of flooding, to advise on the existing flood defences and prepare a landscape strategy for the proposed re-development of home working units, at Rossington Park located off Woolley Bridge Road on the south east bank of the River Etherow, Hadfield, Glossop. The site is edged red on the attached plan.

Entec liaised with the Environment Agency (EA) to discuss the following:

- Flood Risk - finished floor levels
- Relocation of existing slipway providing access for maintenance of the river banks/bed.
- The methodology for repairing/enhancing the existing gabion supporting structure to the river edge for the home working element of the proposed development
- Plant species

As part of the study, a series of site visits and a walkover survey was undertaken and meeting/discussions held with the EA by Entec UK Ltd to address the matters identified above.

1.2 Site Description

Hadfield is located south of the A628 between Manchester and Barnsley and north of the A57 between Manchester and Sheffield (see Figure 1).

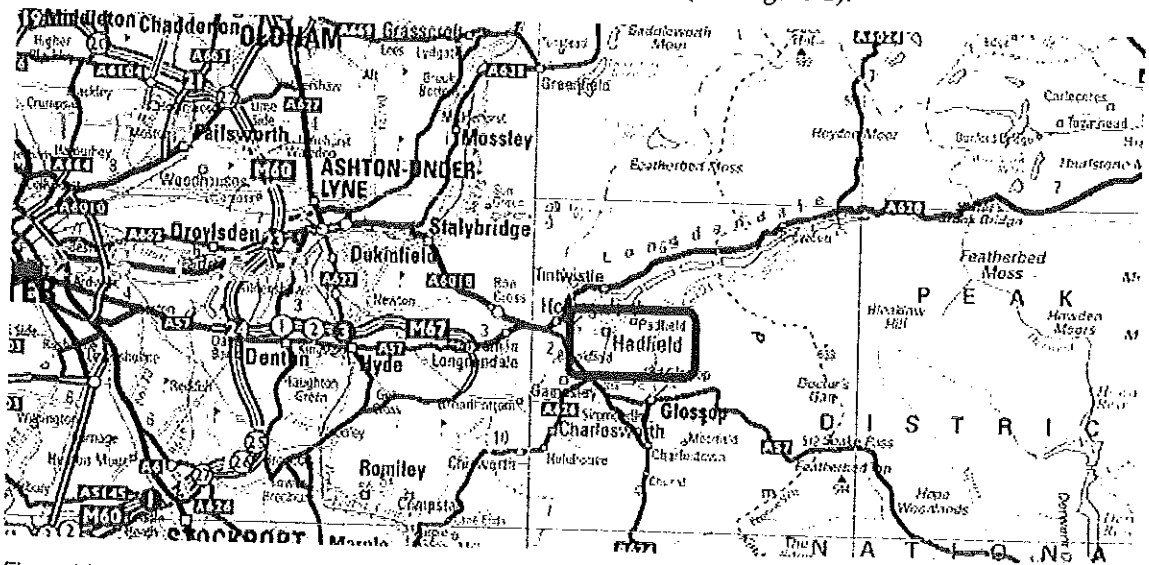


Figure 1 Location of Hadfield, Glossop.

2. Proposed Development

Entec was supplied with a copy of a layout for the proposed development, this report forming part of the planning application. It is intended to develop the site for home working units. The proposals consist of 40 home-working units, 33 of which will be adjacent to the river on the north side of the proposed access road. The remaining 7 units will be located between the new access road and the site boundary wall along Woolley Bridge Road.

All the proposed uses benefit from existing outline planning consents (HPK/2003/0899 and HPK/2004/0833 varying permission 037727).

Of the 40 home working units, 33 are sited along the River Etherow and are to be constructed with the rear of the dwellings facing onto the river. Ground levels within the rear curtilage (garden areas) of these units are to be built at 125.7 M AOD (1:100 flood level - (see Table 1)) to adjoin the retaining structure to be provided along the bank of the river.

As part of the extant, outline planning permission (HPK/2003/0899) relating to a similar home/working development, the LPA, High Peak Borough Council, listed the following conditions;

- There shall be no direct pedestrian or vehicular routes to the home working units from Woolley Bridge Road. The existing stone wall forming the Boundary of the site with Woolley Bridge Road shall be retained at its existing height and alignment without any breaks or openings, throughout the life of the development.
- The finished floor levels of all buildings shall not be lower than 126.6m AOD. (as written in the Environment Agency (EA) letter from Mark Rees to Eastwood & Partners, 14th April 2005. This is to coincide with the top of the flood defence wall located at Etherow Industrial Estate, which is set at 126.3m AOD).

Vehicular access onto the site is directed off Woolley Bridge Road via a newly constructed roundabout that formed Phase I of Rossington Park. From here access is via a junction at the top end of the estate.

The EA has discretionary powers to carry out any maintenance works required on the River Etherow and the substantive flood defences. The proposed development provides for the relocation of the existing westerly ramp. The proposed ramp (still downstream of the weir) will significantly reduce the ramp descent to the river making for safer access/egress.

3. Flood Risk

3.1 Potential Sources of Flooding to the Site

As part of this study, Entec carried out a site walkover survey to identify potential sources of flooding and the likely mechanisms by which flooding could occur.

The potential sources of flooding and associated mechanisms have been identified as follows:

- River Inundation: Potential flooding from the River Etherow as a result of overtopping of the river banks;
- Surcharged Sewers/Drains: Potential flooding as a result of existing sewers or drains surcharging as a result of surcharged outfalls ;
- Surface Water Run-off: Potential flooding as a result of surface water accumulation within the site as a result of surcharged outfalls;
- Water Mains; Potential flooding as a result of failed or burst water mains.

The above list identifies potential flooding issues that could be associated with the site. Following the site walkover survey Entec has identified the River Etherow as the main source of flooding. The following have been confirmed prior to submission of the planning application for the proposed development:

- Surcharged Sewers/Drains: United Utilities have just completed the upgrade of the public drainage system as part of their wider UID scheme in the area. A new outlet and chamber has been constructed at the western end of the site.
- Surface Water Run-off: The Environment Agency has already consented to direct discharge to the watercourse (via interceptor where appropriate) as part of the Phase I infrastructure works. Site drainage will be designed to appropriate standards.
- Water Mains; A new water main has been installed to the site.

Consequently, Entec has primarily reviewed river inundation as the primary risk of flooding to the site.

3.2 Main Source of Potential Flooding - River Inundation

The Rossinton Park area is located on the south east bank of the River Etherow upstream of Woolley Bridge off Woolley Bridge Road. The section along the river bank is indicated as being at risk from flooding, as shown on the EA Flood Map (see Figure 3).



Figure 3 Environment Agency Flood Map.

Flooding from rivers or sea without defences.

Extent of extreme flood.

Areas covered by flood warnings.

The level of the River Etherow around the proposed development is influenced by the volume of flow being passed through / constricted by the channelled section of river located downstream of the site. The river passes between two stone walls (see photographs 9 and 10).

Discussions with Mark Rees of the EA revealed that there are no specific records of flooding on the site, however it is his belief that the site had flooded in the 1960's, 1990 and 1991 prior to construction of flood defences and the raising of site levels. In 1990 a river model was constructed to aid in the design of a flood elevation scheme (built to a 25yr standard). The

finalised scheme consisted of the construction of the stone walls (126.3m AOD) along the River Etherow downstream of the proposed site. The walls were constructed to protect Etherow Industrial Estate and the surrounding area from flooding.

Estimated flood levels along the River Etherow with an annual return probability of 1% (1 in 100yr return period) have been produced by the River Etherow model and supplied to Entec, by the EA. The model recommended a minimum floor level of 126.6m AOD for the area of the proposed site (see drawing No3 in Appendix B).

Table 1. Recommended floor levels.

CROSS SECTION	1% ANNUAL RETURN PROBABILITY	RECOMMENDED MINIMUM FINISHED FLOOR LEVEL
CS 53	127.2	127.8
CS 52U u/s of access bridge	127.1	127.8
CS 52D d/s of access bridge	127.1	127.8
CS 50U u/s of weir	127.2	127.8
CS 50D d/s of weir	125.8	126.6
CS 49	125.9	126.6
CS48	125.7	126.6
CS 47	125.6	126.6
CS 46	125.6	126.6

Mark Rees also confirmed that the River Etherow receives controlled flows from the reservoirs located upstream of the proposed site. When the capacities of the reservoirs have been reached controlled flows are released into the river rapidly increasing its level.

3.3 Conclusions and Recommendations

As a result of discussions on the 15th June 2005 at a site meeting between Entec, Rossington Park Ltd and Mark Rees of the EA to confirm appropriate mitigation, the following was agreed with the EA, and has now been incorporated into the scheme:

- The road/Pennine walk suitable for pedestrian and cycles to be along the proposed access road through the site, as previously consented to;
- Minimum built ground floor levels on the site to be 126.6m AOD (to coincide with the flood defence walls downstream);
- The access ramp to be moved easterly along the river and relocated upstream; and

- Use of a retaining embankment with integrated planting and ecological "break out" areas along part of the proposed site/River Etherow.

The EA Ecology Unit was also consulted in relation to providing ecological comment.

4. Landscape Strategy

4.1 Introduction

This strategy sets out landscape recommendations for a detailed design proposal for the proposed development at Rossington Park, Hadfield, Glossop. It aims to identify the opportunities to integrate the proposed home working, office, light industrial and hotel/public house development with the neighbouring river and uses. The strategy is based on a site survey and brief desk top study of the site and surroundings, and after discussions with the Local Biodiversity Officer at English Nature, and bio-engineers at Maccafferi.

This strategy provides conceptual advice only, and there would be opportunity for the revision of species selection and details of the retaining works at the detailed design stage which will be sought as a reserved matter.

4.2 Landscape character

The proposed site in Hadfield lies within the Manchester Pennine Fringe landscape character area, forming the boundary of the districts of Stockport and High Peak. This is a transitional zone between open moorland and the densely populated area of the Manchester conurbation. Urban areas tend to be located within the valley bottoms and at the foot of escarpments.

The River Etherow at Hadfield is a narrow river, with a weir located towards the centre of the site site. The proposed development requires bank retention and establishment to accommodate the proposed housing development and improve the flood defence in accordance with the Environment Agency requirements. To ensure the landscape character of the river corridor is not compromised, this strategy has considered the existing land cover and the engineering proposals, to achieve an integrated landscape scheme.

4.3 Study of existing land cover

Woodland cover within the character area is sparse, with concentrated pockets confined to narrow river valleys. In the vicinity of the proposed development there is dense tree cover on the opposite bank of the river, with shrub and ground cover together with the more formal "Japanese" gardens within Thameside.

There is limited shrub vegetation along the river edge, and none within the development area, except the perimeter trees and shrubs located along the boundary with Woolley Bridge Road.

4.4 Objectives of the landscape strategy

- To achieve careful integration with the landscape or surrounding built environment through the selection of materials, forms and landscape elements from the locality eg. the use of native species in the planting;

- To increase biodiversity through the protection and enhancement of existing habitats, and the creation of new; and
- To use planting to reduce visible impact of the proposed river bank repairs/enhancement.

It is anticipated that these objectives would be achieved through the grass seeding and shrub planting of the terraces and the slopes of the river bank.

In addition, tree and shrub planting would be extended into the development from the riverside, creating green 'wedges' between houses and specific landscape break out areas. Any planting within these areas, and within the development itself, should be carefully selected due to the proximity to the development. Foundation specifications should be amended accordingly with the soil specification (and in accordance with the Building Regulation/NHBC Guidelines), and root barriers/deflectors used where necessary. Within these areas it would not be acceptable to use those tree species with high water demands, for example Oak, Willow and Cypress. In accordance with the Environment Agency Guidance, any dense tree planting should be set back 8m from the edge of the water course.

We recommend that the proposed tree species and methods of planting meet with the written approval of the Local Planning Authority Tree / Arboricultural Officer.

4.5 Recommendations for bank retention

It is proposed that within refurbished gabion retaining structure the areas to be planted are filled with top soil and aggregate, and contained with coir matting. At every 300mm of depth of stone, top soil material would be brushed into the gaps. To ensure successful establishment and future growth of the shrub planting, a minimum 100mm of topsoil would be placed at the top of the aggregate, covered with coir matting to prevent erosion, which would provide enough organic material for the grass seed, wildflower plugs and shrubs to become established.

We recommend close liaison between the Local Planning Authority ecologist, landscape architect and engineer in the detail design of the retaining structure and planting to ensure the following:

- The design meets with the requirements of safe construction, future use and maintenance.
- The successful establishment and future growth of all planting and seeding.

Imported top soil to be in accordance with British Standard 3882, General Purpose Grade, but only naturally occurring top soils will be acceptable.

Shrub planting & grass established on slopes

Intermittent wider terraces and gentle gradients in areas that permit this would allow a larger area for planting, and would support more shrubs of wildflower species. Native plants / grass would become established within the top soil placed on the terrace.





Shrub planting & grass established on gabion slopes

4.6 Planting species

Native planting would be selected, drawing examples from existing species on site and on the opposite bank on the river.

It is not anticipated that hydro-seeding of the river bank would be required for the size of the area proposed. Hand seeding by scattering the seed on the terraces would suffice. In addition, native wildflower plugs and seeds can also be planted to improve the biodiversity / wildlife interest of the river bankings.

It is proposed to include ivy and ferns as part of the planting within this area, they are evident on the opposite bank of the River Etherow in this location.

In addition planting within thel public open space areas will be selected to offer all year round interest and be low maintenance varieties, with grass seeded areas.

All planting should be of local provenance and supplied to the standards set out in the relevant part of BS 3936, as scheduled by name, forms, dimensions and other criteria in the planting plans submitted for reserved matters approval.

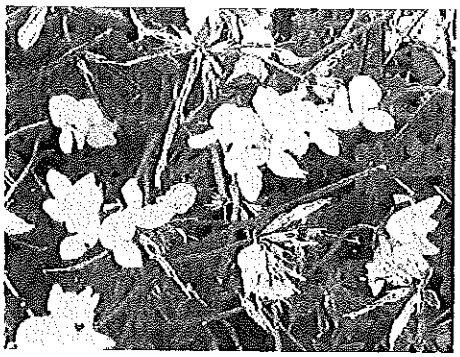
We would propose the following species for consideration:

Grass seed mix	
British Seed Houses Regional 3 Mix: River flood plain / Water Meadow This is used in water meadows / river or lake banks and will encourage insects and birds.	0.5% Caltha palustris (Marsh Marigold) 3% Centaurea nigra (Common Knapweed) 2% Filipendula ulmaria (Meadow Sweet) 2% Leontodon autumnale (Autumn Hawkbit) 1% Leontodon hispidus (Rough Hawkbit) 0.5% Leucanthemum vulgare (Ox-eye Daisy) 0.5% Lotus corniculatus (Birdsfoot Trefoil) 0.5% Lychnis flos cuculi (Ragged Robin) 2% Plantago lanceolata (Ribwort Plantain) 1% Prunella vulgaris (Self-Heal) 3% Ranunculus acris (Meadow Buttercup)

	1% Rhinanthus minor (Yellow Rattle)
	3% Sanguisorba officinalis (Greater Burnett)
	2% Agrostis stolonifera (Creeping Bent)
	26% Cynosurus cristatus (Crested Dogstail)
	32% Festuca rubra ssp litoralis (Slender Creeping Red Fescue)
	20% Poa trivialis (Rough-Stalked Meadow Grass)



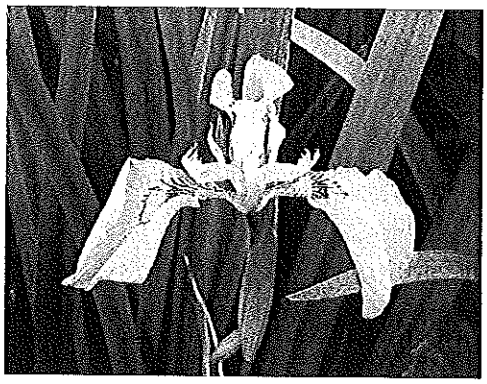
Lychnis flos cuculi (Ragged Robin)



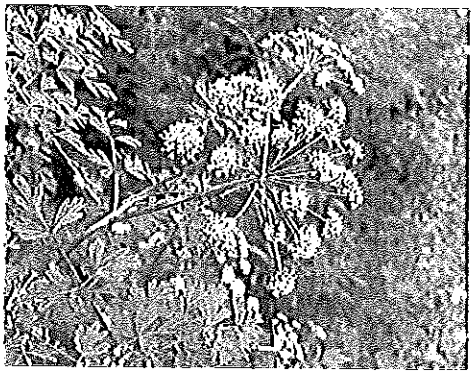
Lotus corniculatus (Birdsfoot Trefoil)

Wildflower bulbs and plugs

* Other species to be advised by English Nature / Local Authority Ecologist	Petasites hybridus (Butterbur)
	Oenanthe crocata (Hemlock Water Dropwort)
	Iris pseudacorus (Yellow Iris)



Iris pseudacorus (Yellow Iris)

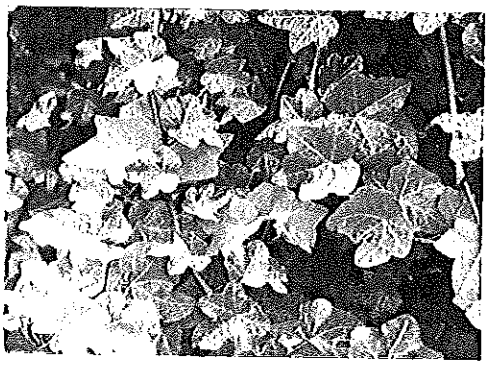


Oenanthe crocata (Hemlock Water Dropwort)

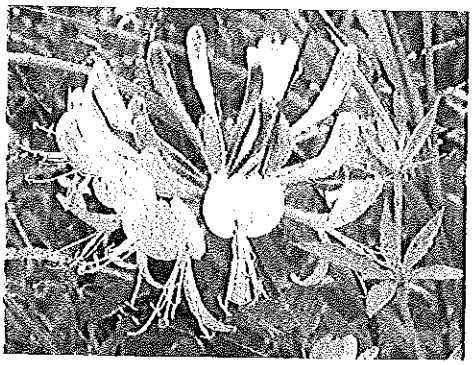
Climbers

Hedera helix (Ivy)

Lonicera periclymenum (Honeysuckle)



Hedera helix (Ivy)



Lonicera periclymenum (Honeysuckle)

Ferns

Blechnum spicant (Hard-fern)

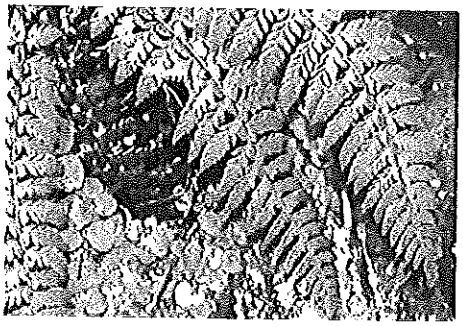
Dryopteris carthsiana (Narrow Buckler-fern)

Dryopteris filix-mas agg. (Male-fern agg.)

Polystichum aculeatum (Hard shield-fern)



Dryopteris filix-mas agg. (Male-fern agg.)



Polystichum aculeatum (Hard shield-fern)

Shrubs on river bank

Prunus spinosa (Blackthorn)

Rosa canina (Dog Rose)

Rubus fruticosus agg. (Bramble)

Salix cinerea (Grey Willow)

Ulex europaeus (Gorse)

Viburnum opulus (Guelder Rose)



Prunus spinosa (Blackthorn)



Viburnum opulus (Guelder Rose)

Shrubs in public areas

Berberis sp.

Cornus alba Sibirica 'Westonbirt' (Dogwood)

Cornus stolinifica

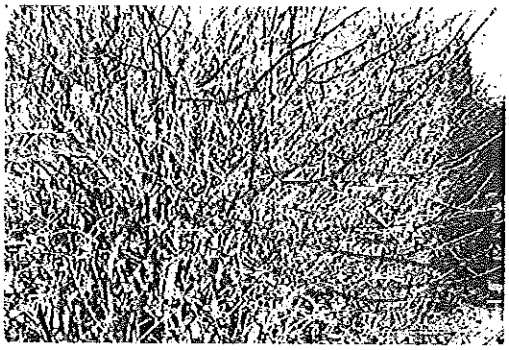
Hebe albicans

Hebe 'Red Edge'

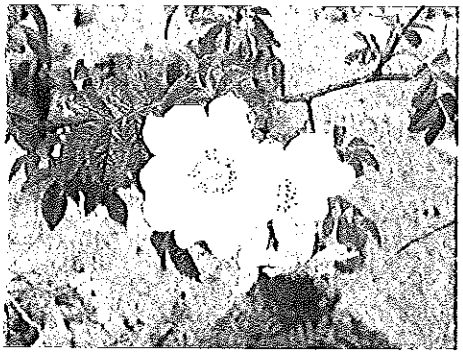
Lavendula angustifolia 'Hicote'

Rosa canina (Dog Rose)

Ulex europaeus (Gorse)



Cornus alba Sibirica 'Westonbirt' (Dogwood)



Rosa canina (Dog Rose)

Trees

We would proposed the use of the following medium and low water demand species within the proximity of the buildings -

Corylus avellana (Hazel)

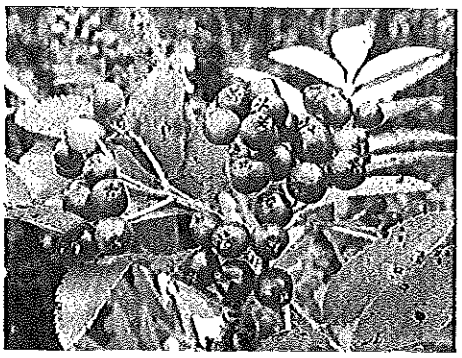
Crataegus monogyna (Hawthorn)

Ilex aquifolium (Holly)

Prunus padus (Bird Cherry)

Pyrus communis (Wild Pear)

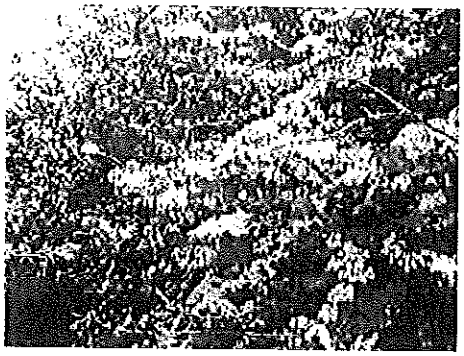
Sorbus aucuparia 'Beissneri' (Rowan)



Sorbus aucuparia 'Beissneri' (Rowan)



Pyrus communis (Wild Pear)



Crataegus monogyna (Hawthorn)



Ilex aquifolium (Holly)

Appendix A
Photographs

Appendix A
Photographs



View, facing south east towards Woolley Bridge Road, from the informal footpath along the river edge



View directly south, across the site, towards the River Etherow, from the industrial area entrance



View south, from the river edge

Rossington Park, Woolley Bridge Road
Hadfield, Glossop

Environmental Position Statement

Figure 1.1
Existing Site Photos
Taken July 2005

September 2005
16221-R01.cdr hornc01

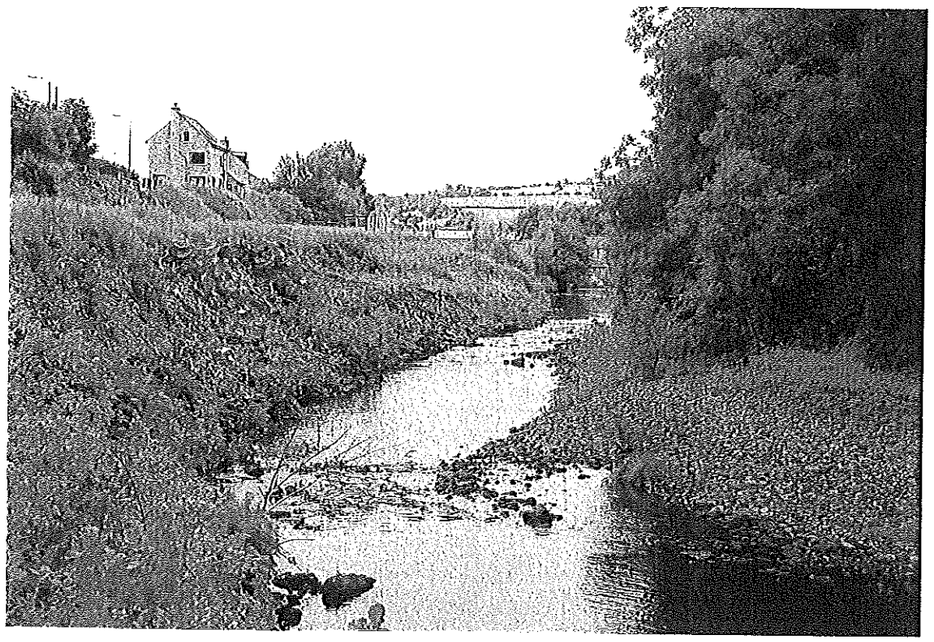
Entec



Weir on river



Ramp access to river



View down stream at bend on the river



View upstream at bend in the river, newly constructed outlet in foreground. Informal footpath along river edge.

Rossington Park, Woolley Bridge Road
Hadfield, Glossop

Environmental Position Statement

Figure 1.2
Existing Site Photos
Taken July 2005

September 2005
16221-R02.cdr hornc01

Entec