DESIGN AND ACCESS STATEMENT

TO ACCOMPANY THE APPLICATION FOR FULL PLANNING CONSENT

At

WESTHAVEN

DARFIELD ROAD

CUDWORTH

BARNSLEY

S72 8HF

Prepared on Behalf of Guinness Northern Counties

Guinness Northern Counties

20 Westfield Terrace

Sheffield

S1 4GH

Prepared by

TADW ARCHITECTS

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June 2009

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1.0 INTRODUCTION

This statement is to outline the design principles and regeneration context of the proposed residential on the site at Westhaven, Darfield Road, Cudworth, Barnsley, S72 8HF

The site is owned by Barnsley Borough Council, who currently has a number of existing bungalows and an existing sheltered housing block which is located in the centre on the site.

The proposals are to demolish the existing Cat 2 Scheme within the centre of the existing site as shown on TADW drawings 80895/11P2, and retain the 16 No existing bungalows No's 1-16 Darfield Road. It is proposed to construct 9 new bungalows, 2 of which are to be full mobility bungalows. A new access road and parking is to be constructed to integrate the new development with the existing bungalows and residents on the site.

The existing accommodation block, comprising of 5 bedsits, 9 1 bedroom flats and community facilities is not up to modern standards with shared bathrooms and extremely small bedsits and was found to be unviable for improvement. All the residents have now been decanted into more appropriate accommodation.

There is no evidence of bats within the existing building to be demolished, and enclose a copy of Middlemarch Environment Ltd Habitat Survey dated April 2009, which is attached with Appendix 2 of this report.

The mix of accommodation consists of 7 No 2 bedroom 3 persons bungalows and 2 No 2 bedroom 3 persons full mobility bungalows. The bungalows will all be for rent.

The development will be part of Guinness Northern Counties ongoing work to provide quality and affordable homes within the Borough of Barnsley. The new homes will comply with Code for Sustainable Homes Level 3, Life Time Homes and Secured By Design.

The need for the bungalows within the local area has come from advanced discussions between Barnsley Metropolitan Borough Council and Guinness Northern Counties Housing Association and it is agreed that the new residents will be from the local area, aged over 50 years. Theis site has been identified along with nearby Rose Tree Court (Planning ref 2008/1331), development includes for 19 new bungalows which received planning permission 17 November 2008 as is due to commence on site shortly.

The area is a long established residential area of mainly bungalows and has local amenities within easy walking distance including churches, local shops, restaurants and local transport links.

The site has a slight level change across the site but does not present access difficulties to any users or potential visitors.

The existing bungalows to be retained on the site, have been carefully considered within the design and consultation process and will be integrated into the new development.

Consideration will be given during the construction works to ensure that access and parking for residents and carers is available.

SITE ASSESSMENT

These proposals have evolved through an assessment carried out by Guinness Northern Counties and Barnsley Borough Council Strategic Housing to provide much needed new housing within the Cudworth community.

In developing the proposals we have taken into account of:-

Characteristics of the Local Area

The immediate surrounding area is residential and is mainly a mix of 2 storey houses and bungalows. Below are a number of existing properties to the boundaries of the site.



Bungalows located on the site which are to be retained.





Mix of one and two storey houses and bungalows facing the site.

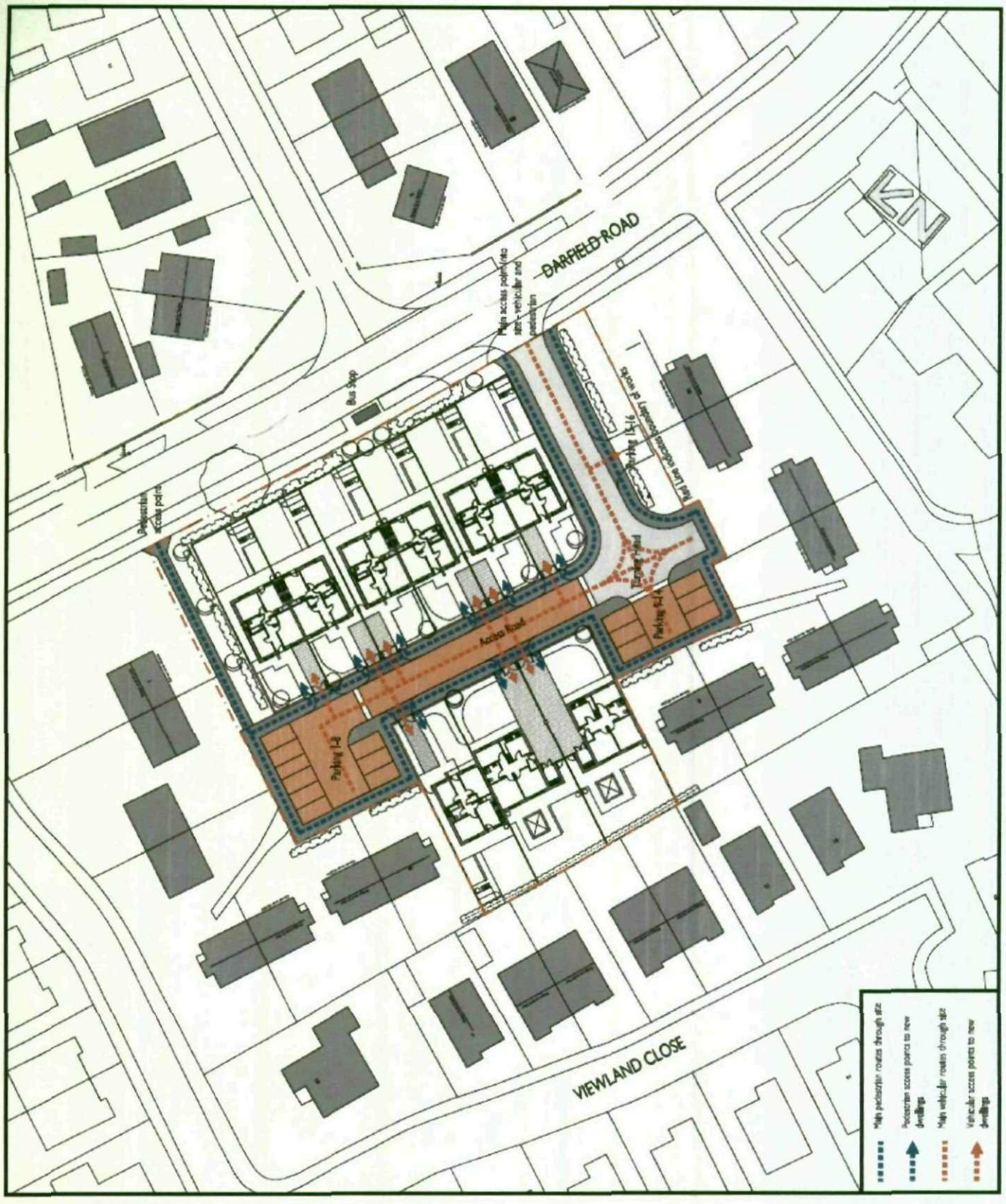


Single storey bungalows to Viewland Close, rear of the site.

SITE ANALYSIS



MOVEMENT


DARFIELD ROAD
Main access point into site - vehicular and pedestrian
Bus Stop
Pedestrian access point
Parking 1-4
Parking 5-14
Access Road
Parking 1-4
Parking 5-14
VIEWLAND CLOSE
Main pedestrian routes through site
Pedestrian access points to new dwellings
Main vehicular routes through site
Vehicular access points to new dwellings

3.0 AMOUNT OF DEVELOPMENT

The proposal is to redevelop the site and provide a total of 9 new bungalows, whilst retaining the existing bungalows within the development.

The existing Cat 2 scheme building is to be demolished to make way for the new development. This Residents from this block have been decanted from the accommodation that is outdated, and in poor condition, and does not meet the current requirements of decent homes standards.

The new houses and flats to be constructed comply with the Homes and Communities Agency (HCA) Design and Quality Standards, HQI's, Life Time Homes (April 2008) and Code for Sustainable Homes Standards Level 3. The development will also comply with Secured by Design requirements and we have consulted with South Yorkshires Police's Design for Security. Please refer to Section 10.00.

The floor areas are designed to the figures set out in the HQI standards: Version 4: 60.5m^2 for the 2 bed 3 person bungalow (7 properties) and 2 bed 3 person Full Mobility Bungalows are 66 m^2(2 properties).

The mix of units has been agreed between Guinness Northern Counties management and staff members , who have been involved with the scheme from the outset, along with the Westhaven Residents who have been consulted in the design process to provide a mix of residential units, and which has been positively received.

The bungalows will meet with Code for Sustainable Homes – Level 3, and at this stage, it is envisaged that individual Solar Collector Panels are to be located on the South facing roofs as indicated on the attached plans.

There is a need with this site to take into account the existing bungalows located on the site. At the same time there is a need to make the best use of the site. The properties are all single storey as the surrounding housing developments, however will be constructed with modern methods of construction and low maintenance materials.

An Ecological Assessment (Refer to Appendix 1) and a Habitat Survey (Refer to Appendix 2) of the site has been carried on the project by Middlemarch Environmental Ltd dated April 2009 for the planning application

The Constructor, Wates Living Space has a developed strategy in place for removal / recycling of construction waste which will be carried out on this development should the project proceed.

4.0 LAYOUT AND TRAFFIC

The existing site is rectangular, effectively level with a frontage onto Darfield Road. There are existing access paths from the East boundary to the existing bungalows, which have been retained albeit relocated in the scheme.

It is intended that the development will encourage good relationships with the surrounding properties. Two linear rows of bungalows which are paired have been formed in line with Darfield Road.

Plots 7 to 9 have been brought forward to provide ample rear gardens to the properties whilst also retaining the existing boundary hedging to the West boundary.

There were several key factors determining the layout used:

- Solar gain: where possible the properties are sited to take advantage of natural heat gains. The design of the roofs accommodates south facing solar panel collectors.
- Overlooking distances: The existing bungalows to the site have been considered. TADW drawing 80895-20P2 shows distances to boundaries and adjacent properties. The row of Plots 1 and 6 have been set out, with Plot 1 gable end situated 13m from No 1 Darfield Road.
- A turning head is provided for waste and recycling collection for the scheme. Areas for bins and recycling are indicated for each dwelling on the attached plans.
- Existing Mature Tree. –Please refer to Middlemarch Environmental Ltd Arboricultural Survey report dated April 2009 (Appendix 3) identifies an existing tree on the site which is to be retained. A previous scheme which was taken to a residents consultation day had shown the tree to be taken down to provide a new access at the North of the site. Concerns of the residents at the meeting to retain the tree have been taken into consideration and the new access road has been located to the south of the site, close to the existing, (The previous scheme is located in Appendix 4 of this statement.) Existing hedging to the West boundary has also been retained.
- Access and parking for the existing bungalows to be retained
- Bus stop and Post Box located to Darfield Road to be retained
- Rear gardens facing Darfield Road, it was agreed at early meetings with planning that an active street front is not required, and that an internal street /courtyard feel is preferred to provide facing properties. A landscaped buffer zone has provided between the rear gardens of Plots 1-6 and the back of the pavement to provide screening to Darfield Road and additional security between the gardens and pavement.

The internal road has been designed to ensure no illegal street parking is introduced to Darfield Road.

There is a new entrance into the site and access road to the development, Guinness Northern Counties are to apply to BMBC for both the access road and parking hardstanding to be adopted. An existing entrance will be stopped up and a new section of footbath will also need to adopted.

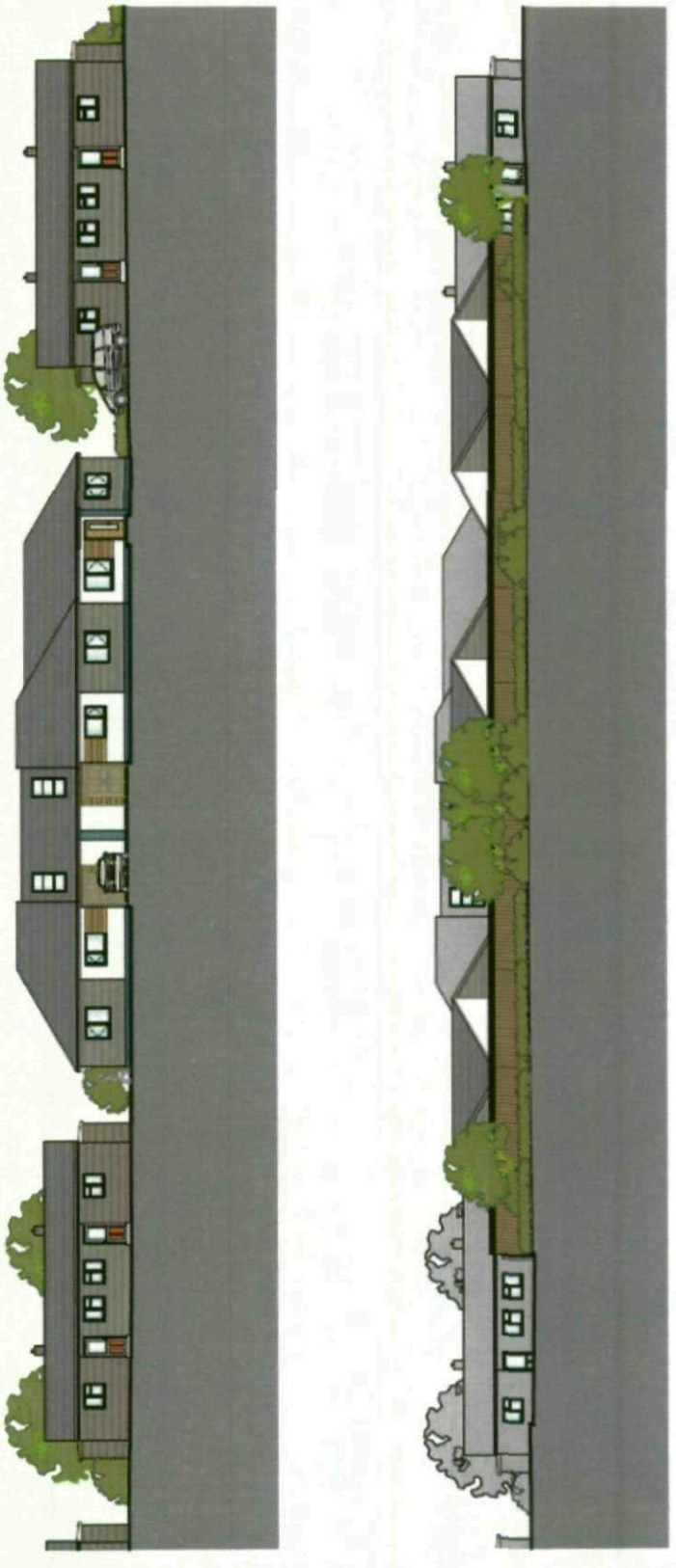
There are 25 parking spaces provided for the development, which are designated to each plot. 1 within curtilage car parking space for a 2 bedroom 3 person bungalows is provided, 2 spaces for 2 bedroom 3 full mobility bungalows and 1 space is designated to each of the existing bungalows which is an increase on its present number. The Plots 1-7 spaces comply with Life Time Homes April and can be increased to 3.3m, Plots 8 and 9 show 6m long x 3.3m wide space.

Low level robust boundary walls are provided to each house front development to demarcate semi private space.

Sheds have been provided to each dwelling to provide secured storage facility for 2 cycles per dwelling in line with Code for Sustainable Homes. These have been moved slightly away from the fence at the request of the Crime Reduction Officer.

5.0 SCALE

This design follows the scale of the adjacent bungalows on the site, and is intended to be a modern interpretation of the bungalows based on sustainable living and modern, flexible and innovative methods of construction.



6.0 APPEARANCE

The design of this development seeks to take the principles of the traditional dwelling type in the area and improve by adopting the principles of modern and sustainable design, solar gain and solar shading. These elements then drive the design of other aspects of the building i.e. roof formatting, window sizes etc.

It is hoped that the modern style of bungalows, would lift the area as a whole and link the existing bungalows in the area.

The new development has been designed to complement and yet contrast with the surrounding landscape and traditional materials have been selected, with a mix of render and maintenance free cladding, to create interest and variation to the new street scene.

The proposals aim to achieve this by successfully coordinating the proportions, materials, colour and details of the new development.

Timber Frame construction is to be utilised on the site, which will be externally clad with brickwork sourced from local suppliers, which maintains a local appearance and identity. Cladding and render have been added to break and add interest to the elevations

Canopies have been provided to all entrances in line with the HCA Design and Quality Standards and provide additional interest to the front elevation.

Doors and windows at openings are set back within the brickwork reveals by 100mm and line through with composite timber weatherboarding.


Timber fascias and soffits - painted
UPVC rooflight over car port
Concrete interlocking tiles
Buff facing brickwork
UPVC windows
Timber front doors with glazed viewing panel
Maintenance free cladding, self finished
Through coloured render - white
Blue facing brickwork

7.0 LANDSCAPING

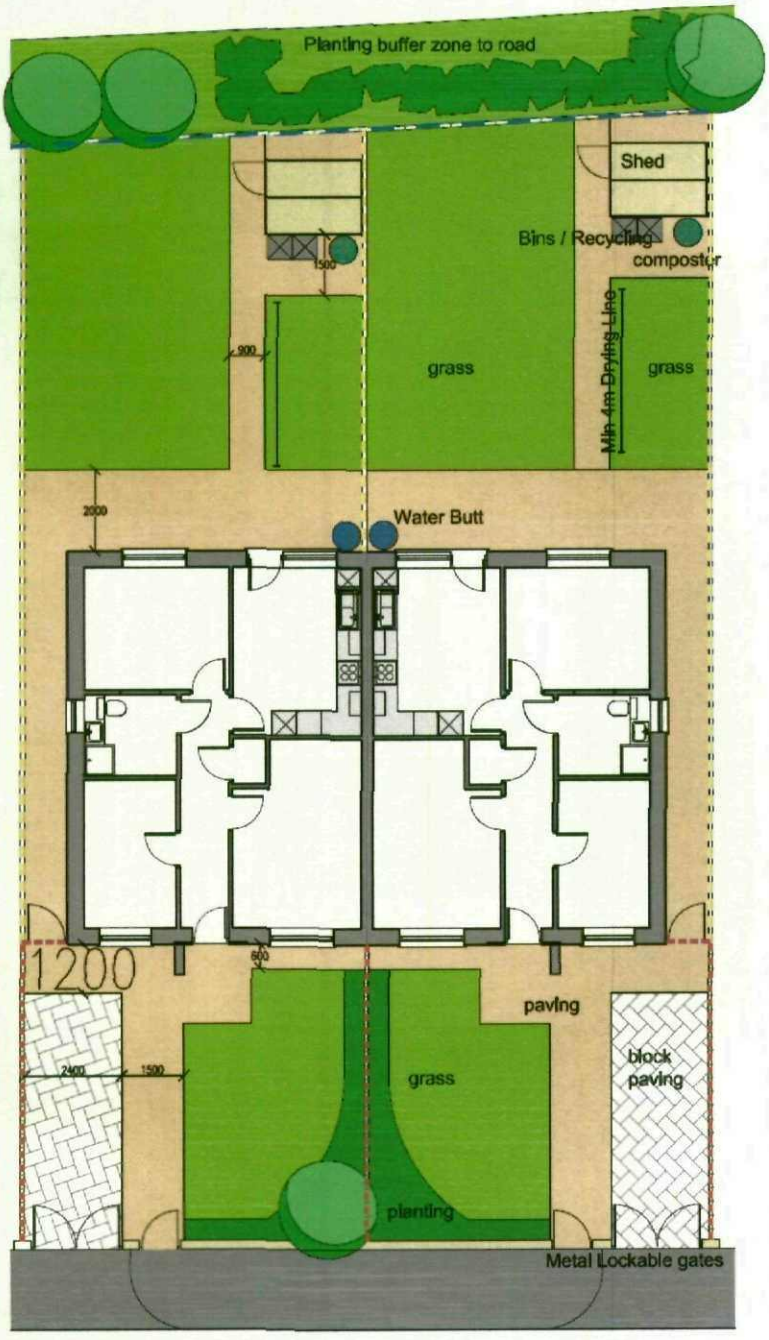
The landscaping proposals to this scheme will be very important to the overall appearance and enjoyment of the development. The detailed design of the soft landscaping has not yet been fully developed, however the following information is indicative of the types of materials and the approach to this side of the design:

- Road surfacing: black tarmac finish in order to create an obvious boundary between the site and the public road in line with South Yorkshire Highway Specification.
- Front boundary treatment: 600mm high brick wall with a further 400mm high railing with planting behind where possible. This should provide a series of layers of materials that lead back to the bungalow, and prevent the building from being too dominant at the street front.
- Driveways and footpaths will provide secured parking and easily accessible to the dwellings and their gardens. These will be in concrete paviors and paving flags irrespectively.
- There will be a planted buffer zone between the rear fences of gardens to Plots 1-6 and back of pavement to improve privacy to the rear gardens and provide a planted wildlife habitat in line with Middlemarch Environmental Ltd's ecological assessment and recommendations.

A Tree Survey has been carried out by Middlemarch Environmental Ltd dated April 2009 (Appendix 3) and the existing tree and hedges have been retained.

A landscaping scheme will be submitted to the planning department for approval.

The following diagram show the surface finishes to a typical plot, along with location of items included within the Code For Sustainable Homes:-



Surface Finishes

- Grassed Area
- Planting/Shrubs
- Paved Area
- Road and Pavements -Tarmac Note all pavements shown hatched to be new or realigned pavements
- Road and Pavement - Coloured Tarmac
- Driveways - Block Paviours Colour and finish to be agreed

Fence Types

Type A - 600mm low level Fence between front gardens

Type B -1800mm High Fence with 300mm Trellis to site boundary facing Darfield Road

Type C - 1200mm High Fence with 600mm trellis Note 1800mm Fence for first panel from building between semis

Type D - 1800mm High Fence to end garden perimeter walls (Plots 1 and 6)

Front Boundary Wall Treatment:
600mm high x 225mm wide, facing brick wall with square piers at openings and railings in between. Metal railings to top of wall and gates (refer to drawing for details)

Raised Planting Bed (to Plot 7 and 8 only)

Other

Min 4m washing line - (for 1-2 bed dwellings)

2400 x 1800mm garden shed
Note - Cycle Store included (upto 3 bed space)

- Bins / Recycling
- Composter
- Water Butt

8.0 DESIGN FOR ACCESS

The aim is to create an environment that is accessible for all. This is achieved using the following measures:

- Relatively level site so it does not pose a problem with respect to wheelchair users. Any gradients to be maximum 1:20 and accordance with HC HQI Version 4, LTH and Building Regulations Approved Doc M.
- The access road and pavements will be a tarmac finish with contrasting drives and footpaths.
- To maintain good visibility across the site, the front boundary walls are to be only 600mm high with 400mm high railing with 1m gate posts. This will help security issues and also vehicle / pedestrian access.
- The front paths either side of the carriageway are 2000mm wide to allow the easy passage of a wheelchair user.
- Where there is a crossing point (vehicular or pedestrian) a dropped kerb is provided.
- Internal layout provides a ground floor WC in accordance with building regulations and all rooms comply fully with Life Time Homes Standards (April 2008) which include the following :-
  - Bathroom walls capable of taking adaptations such as handrails
  - Bathroom accessibility standards
  - Provision for hoist if required between main bedroom and bathroom
  - Glazing lines within Bedrooms and Living Areas maximum 800mm above FFL.
  - Service controls located below 450mm – 1200mm above FFL.

  Please refer to floor plans and sections for further clarification of compliance with Life Time Homes – April 2008

9.0 WASTE MANAGEMENT STRATEGY

Access and turning heads for refuse and recycling wagons have been provided within the site layout.

We have contacted Barnsley Waste Management who confirmed that the following is required.

Each individual dwelling will be provided with

- 1 No 240 litre grey bin for residual waste
- 1 No 240 litre green bin for garden waste and cardboard
- 1 No 140 litre brown bin glass and cans
- 1 No 140 litre blue bin for paper

These have been shown within the rear gardens of each property.

Each dwelling will also be provided with a composter and water butts to assist with refuse and recycling of kitchen waste.

10.0 SECURED BY DESIGN

The project is to achieve Secured By Design Accreditation to address the main security issues in the area by adopting the principles of Secured by Design. All parking areas are well overlooked and located behind lockable gates.

New boundary and perimeter fencing in the proposals will be in line with SBD requirements, and are indicated on landscaping plan above.

The layout of the site and buildings maximises passive monitoring of all routes and eliminates locations where individuals can hide. The development overlooked and there is a clear distinction between public and private realm.

We have undertaken a pre-planning consultation with Chris Squires, Crime Reduction Officer, South Yorkshire Police Service and have incorporated his recommendations within the scheme.

A copy of the Crime Reduction Officers Report dated 22nd August 2008 is attached in Appendix 7

11.0 SUSTAINABILITY

As part of the design process, we are looking to create low maintenance dwellings that utilise recycled materials where possible, and which will utilise renewable technology to reduce energy usage and thereby carbon emissions.

Each dwelling will benefit from solar-generated hot water by virtue of solar panels, which will work in conjunction with an efficient gas fired condensing boiler with a flue gas heat recovery system.

The position of the dwellings on the site has been specifically influenced by the need to maximise the south orientation aspect for solar gain. The internal layout together with the location and size of windows has been considered in relationship to their orientation and potential lifetime energy costs.

At this stage, the Mechanical and Electrical requirements and their servicing needs have been established and incorporated into the scheme design at the planning stage.

The dwellings will achieve a 'Code for Sustainable Homes' rating of Level 3 and a pre assessment is currently being carried out.

Existing Tree and Bat surveys have been undertaken and are included in the Appendix with recommendations which will be carried out as part of this development.

Each dwelling has been designed to incorporate private external space which is south facing, and which will incorporate recycling and composting facilities in line with Barnsley Metropolitan Borough Council's requirements. An external shed is included for secured cycle storage.

The main features include:

- Improved thermal efficiency of walls, floors and roofs within a timber frame construction
- Heating and hot water by individual wall-mounted condensation boilers with a flue heat recovery system and used in conjunction with a solar collector and water storage
- Triple glazed windows and patio-type doors/windows
- Mechanical ventilation with heat recovery
- Recycling and composting facilities
- Low energy lighting throughout

The aim is to deliver a sustainable development without incurring prohibitive costs.

The proposals will provide greatly improved accommodation to that which currently exists, in terms of overall quality and character.

12.0 PRE PLANNING CONSULTATION

– SHOWING EVOLUTION OF THE DESIGN PRINCIPLES BEHIND THE SCHEME

Initial Sketch Scheme Options – *22 February 2008*

Based on initial brief from Guiness Northern Counties to maximise development potential on the site, TADW prepared 2 Sketch Scheme Options which were forwarded for initial comment to Barnsley Strategic Housing and Berneslai Homes.

These are indicated on attached drawings numbered 80895/02P1 and 03P1 and included a mix of new bungalows and flats with access roads to north and south of the site. Please refer to Appendix 8.

Feedback from Barnsley Strategic Housing and Berneslai Homes included:-

- prefer all bungalows
- inward courtyard design/feel to the development
- own gardens for the elderly; consider reduced size for easier maintenance
- agreed inclusion of 2 no. full mobility bungalows
- site 'boundaries' can have a degree of flexibility

Revisions to Sketch Scheme Option 2

There was a preference for Option 2, and from 27 February 2009-2 April 2008, the Sketch Scheme underwent minor revisions based on Client and Partners' comments. These are indicated on TADW drawings numbered 80895/03P2, 03P3 and 03P4, which showed the access road retained as existing. Please refer to Appendix 8.

The latter revision was agreed as the right mix of accommodation for the site.

Design Meeting held at Westfield Terrace, Sheffield on 20 May 2008

Present: *Rob Hignett, Jane Ripley and Katherine Richards of Strategic Housing; John Ray and Tim Morton of GNC; George Noworyta of TADW Architects; Clive Ballantyne of Markhams; Liz Hulley of Berneslai Homes*

There was generally positive feedback to the proposals indicated on Sketch Scheme Option 2 as shown on drawing no. 80895/03P4.

Comments arising from the meeting:-

- present Cat 2 Scheme owned by BMBC who will be decanting the 6 or so residents still living in the Scheme
- no surveys or site visits to be carried out until the residents have been decanted

- happy with the layout and plans
- provide individual heating – no district heating system
- need to see elevations
- run Options by planners

Meeting at Westgate Plaza 1, Barnsley on 27 June 2008

Present: *Jane Ripley of Strategic Housing; Andrew Burton,*

Senior Planner, BMBC; Barbara Wilson, Highways, BMBC;

Graham Wingate, BMBC; Dianne McQueen of Berneslai Homes; Tim Morton of GNC; George Noworyta of TADW Architects

The Site Plan Options, individual bungalow plans and sketch elevations were presented to all and the following comments were made:-

- Generally Option 2 was preferred by Andrew Burton and all present
- Decant to be completed within 6 months
- GNC to consider community consultation and some 3D presentation drawings and model for the people who cannot understand plans
- Consider parking and lighting for carers

Design Meeting at Westfield Terrace, Sheffield on 25 July 2008

Present: *David Ashwell and Jamie Walker of Wates Living Space; John Ray and Tim Morton of GNC; Clive Ballantyne of Markhams; George Noworyta and Paul Gill of TADW Architects*

The meeting agreed the elevational treatment and proposed materials as shown on TADW sketch elevations numbered 80895/05P1 and stills from 3D model. Please refer to appendix 9.

John Ray suggested that the roof over the car port areas to mobility units be broken up and naturally-lit if possible.

3D stills of Scheme requested showing external appearance

These are included in Appendix 9 and forwarded to GNC and BMBC on 3 September 2008. All positive comments received.

Community Consultation held at Darfield Road Community Centre on 13 May 2009 between 1pm – 6pm

Present: *Jane Ripley, Scheme Development, BMBC, Wendy Hepple of Berneslai Homes, Tim Morton of GNC and George Noworyta of TADW Architects were some of the representatives in attendance*

Presentation boards with 3D stills and floor plans, together with 3D fly-by recurring movie were available to illustrate the proposals.

Technical representatives were available throughout this period to explain the Scheme and answer all queries.

Bound copies of the drawings were available to take away and 'Feedback' forms, together with 'Expression of Interest' forms, were available which had been prepared by Berneslai Homes (Refer to Appendix 5).

The event was very well attended with local councillors, residents and prospective residents with mobility challenges in steady attendance throughout the afternoon and into the evening.

There were generally many positive comments to the proposed Scheme with the mobility units attracting a lot of interest.

The main points raised were (with our responses shown in italics):-

- Delete baths - there was a general, almost unanimous, preference for showers.

  TADW revised layout to show this as instructed by GNC.

- Where do I store mobility scooter?

  The mobility units include an external store to the rear of the car port areas with charging facilities for mobility scooters and electric wheelchairs

- Need access at all times for carers.

  We are aware of this. There will need to be careful planning and programming by the Development Team and Contractor with the residents in the bungalows prior to commencing any building works.

- Age Group 55+. A number of comments were made that this was too young and the bungalows should be for Age Group 65+.

  The Scheme is intended for Active Elderly Group 55+ - need identified by BMBC and GNC.

- Ensure emergency vehicles can reach all areas.

  The proposed Scheme will provide access to all areas.

  The existing bungalows will not be worse than present situation and there will be some improvement to the south side bungalows.

- Prevent school run parking.

  We will discuss restrictive parking to access road with Highways at appropriate time.

- Maintenance of common strips/gardens.

  This will still be carried out by BMBC as normal.

  The residents will be responsible for their own gardens.

Design Meeting held at Westfield Terrace, Sheffield on 9 June 2009

Present: *David Ashwell, Ian Barnes and Jamie Walker of Wates Living Space; John Ray and Tim Morton of GNC; Paul Garton of BSP Consulting; Clive Ballantyne of Markhams; George Noworyta of TADW Architects*

The Scheme was agreed with the access road repositioned to the south of the site to enable the existing tree to be retained to the north pavement.

TADW were instructed to proceed to planning

13.0 APPENDICES

Please refer to the following items attached to the rear of the design and access statement.

Appendix 1 - Ecological Assessment

Appendix 2 - Habitat Survey

Appendix 3 - Arboricultural Survey

Appendix 4 - TADW drawing 80895-12P1 showing previous location of road.

Appendix 5 – Waiting List for housing in Cudworth.

Appendix 6 - Tenant Consultation documents

Appendix 7 - Crime Reduction Officers Report dated 22nd August 2008

Appendix 8 - Initial Sketch Schemes

Appendix 9 - Sketch Elevations

Please note and drawings attached to the Appendices have been reduced and are not to scale. They are intended for information only.

TADW
ARCHITECTS

WESTHAVEN, CUDWORTH

APPENDIX 1

CODE FOR SUSTAINABLE HOMES
ECOLOGICAL ASSESSMENT

WESTHAVEN, CUDWORTH

A Report to BSP Consulting

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April 2009

CODE FOR SUSTAINABLE HOMES
ECOLOGICAL ASSESSMENT

WESTHAVEN, CUDWORTH

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01 OF 02

01 BSP CONSULTING
02 MIDDLEMARCH ENVIRONMENTAL LTD

This study was conducted and compiled by
Lucy Philpott, BSc, AIEEM and Joscelin Tilley BSc (Hons)

This report is the responsibility of Middlemarch Environmental Ltd,
It should be noted, that whilst every effort is made to meet the client's brief,
no site investigation can ensure complete assessment
or prediction of the natural environment

Contract Number C104793-01

April 2009

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EXECUTIVE SUMMARY

- BSP Consulting are involved in the construction of a new residential development on Westhaven, Cudworth.

- At the time of the survey, the site consisted predominantly of existing buildings, hard standing and amenity grassland.

- We recommend that a total of **2 credits** for ecology can currently be awarded. If the client provides written confirmation the recommendations in this report are carried out a further **5 credits** may be awarded:

    - Eco 1: We recommend **0 credits** are awarded at present but if the conditions set out in Section 5.1 are followed then **1 credit** may be awarded.

    - Eco 2: We recommend **0 credits** are awarded at present but as Middlemarch Environmental Ltd is a member of the AWTC, we recommend that **1 credit** may be awarded subject to the recommendations in Section 5.2 being observed.

    - Eco 3: We recommend **0 credits** are awarded at present but if the condition set out in Section 5.3 is followed then **1 credit** may be awarded.

    - Eco 4: We recommend **2 credits** of the 4 available credits may be awarded at present but a further **2 credits** may be available on receipt of a planting scheme.

    - Eco 5: We recommend **0 credits** may be awarded as the development will have a footprint: floor area ratio less than 2.5:1.

1. INTRODUCTION

BSP Consulting commissioned Middlemarch Environmental Ltd to conduct a Sustainable Homes Ecological assessment on Westhaven, Cudworth.

The ecological assessment was performed to comply with the format of Code for Sustainable Homes.

Middlemarch Environmental Ltd is a member of the Association of Wildlife Trust Consultancies (AWTC) and is accredited to conduct Code for Sustainable Homes ecological assessments.

The ecological assessment aims to identify the important ecological features of the site and detail measures that should be taken to protect and enhance them. It also appraises the ecological diversity of the site before and after development.

This report is divided into six chapters:

- Chapter 1 provides an explanation of the Code for Sustainable Homes concept.
- Chapter 2 provides a brief introduction to the development.
- Chapter 3 describes the methodology used in the ecological assessment.
- Chapter 4 provides a description of the site and the current ecological value of the site.
- Chapter 5 details the ecological credits.
- Chapter 6 provides a summary of the credits awarded.

1.1 Code for Sustainable Homes– The Environmental Rating for Homes

1.1.1 Code for Sustainable Homes – The Environmental Rating for Homes assesses the environmental impact of new home schemes. It aims to provide guidance on ways of minimising the adverse effects of new home buildings on the global and local environments, whilst promoting healthy internal conditions.

1.1.2 The basis of the scheme is a certificate awarded to individual buildings on the basis of points for a set of performance criteria determined by the Government in close working consultation with the Building Research Establishment (BRE). The certificate enables the owners to gain recognition for building environmental performance. Trained personnel, appointed by BRE, assess the building and it's environment. The number of points attained is interpreted in the form of an overall rating of *Code Levels 1 -6*. Some points are optional.

1.1.3 The performance criteria are grouped under the following categories: energy, water, pollution, materials, surface water run-off, waste, ecology, management and health and well being. Some categories are optional.

1.1.4 This report assesses site ecology, which is carried out at Stage 3 of the overall assessment. The aim is to reduce the ecological impact of the development project, such as by minimising the loss of important wildlife habitats, and maximising the wildlife potential of the site by the enhancement and creation of new habitats and their subsequent sympathetic management.

1.2 Ecological Credits

1.2.1 There are 9 ecological credits available, these are as follows:

a) Ecological Credit: Eco 1

1 credit for *minimising ecological damage* by either:

- Building on land which meets defined criteria for low ecological value; or
- Where land is ecologically valuable, designing within recommendations following an audit by the AWTC (Association of Wildlife Trust Consultancies – The Wildlife Trusts Partnership) or another qualified organisation recognised and audited by a recognised authority.

b) Ecological Credit: Eco 2

- 1 credit for designing-in features for positive *enhancement of the site ecology* in accordance with advice from the AWTC.

c) Ecological Credit: Eco 3

- 1 credit for the protection of existing features.

d) Ecological Credit: Eco 4

- 1 credit for a change of ecological value of between –9 and –3 natural species hectares;
- 2 credits for a change of ecological value of between –3 and +3 natural species hectares;
- 3 credits for a change of ecological value of between +3 and +9 natural species hectares;
- 4 credits for a change of ecological value of greater than +9 natural species hectares.

e) Ecological Credit: Eco 5

- 1 credit for houses where the net internal floor area: net internal ground floor areas ratio is greater than 2.5:1 or for blocks of flats: where the net internal floor area: net internal ground floor area is greater than 3:1 or for a combination of houses and flats, a ratio of total net internal floor area: total ground floor area greater than the area weighted average of the two ratios above
- 2 credits for a development of houses where the net internal floor area: net internal ground floor area is greater than 3:1
- or for a block of flats: where the net internal floor area: net internal ground floor area is greater than 4:1
- or for a combination of houses and flats, a ratio of total net internal floor area: total ground floor area greater than the area weighted average of the two ratios above.

2. PROJECT INTRODUCTION

BSP Consulting are building seven units on Westhaven, Cudworth.

3. METHODOLOGY

This chapter details the methodology used by the AWTC to carry out a Sustainable Homes *Ecological Assessment.*

3.1 Sustainable Homes Ecological Assessment

Sustainable Homes Ecological Assessment methodology consists of:

- A site visit
- An appraisal of landscape proposals and other documents
- Recommendations

3.2 Sustainable Homes Ecological Assessor

A site visit was conducted by Lucy Philpott, Code for Sustainable Homes Surveyor Number MEL-11. Please see Appendix 1 for ecologist qualifications and verification letter from a suitably qualified ecologist.

3.3 Site Survey

A full site survey was conducted on the 31st March 2009. This included an assessment of the habitat types, floral and faunal species and any features of ecological value.

3.4 Documentation Provided

The documentation provided is outlined in Table 3.1.

Document Name/Drawing Number	Author
Topographical Survey: 13099 OGL	Greenhatch Group
Existing Site Plan: 80895 01 P1	TADW Architects
Proposed Site Plan Option 2: 80895 03 P4	TADW Architects

Table 3.1: Documentation provided by the client

4. CURRENT ECOLOGICAL VALUE

4.1 Site Location

The residential development is located on Darfield Road in Cudworth, at National Grid Reference SE 392 082.

4.2 Existing Site

The development site is approximately 0.38 ha and irregular in shape. It is situated within a residential area, bound by residential properties and associated amenity areas. The site is flat and consists predominantly of existing buildings, hard standing and amenity grassland.

4.3 Species

Species recorded at the time of the site visit are listed in Table 4.1 and 4.2.

English Name	Latin Name
Bramble	*Rubus fruticosus* agg.
Cleavers	*Galium apparine*
Clover	*Trifolium* sp.
Creeping thistle	*Cirsium arvense*
Daffodil	*Narcissus* sp.
Daisy	*Bellis perennis*
Dandelion	*Taraxacum officinale* agg.
Dock	*Rumex* sp.
Elder	*Sambucus nigra*
Firethorn	*Pyracantha*
Flowering currant	*Ribes sanguineum*
Iris	*Iris* sp.
Ivy	*Hedera helix*
Meadow grass	Poa sp.
Nettle	*Urtica dioica*
Perennial rye grass	*Lolium perenne*
Plantain	*Plantago* sp.
Ragwort	*Senecio jacobia*
Rose	*Rosa* sp.
Wall-flower	*Erysimum* sp.
Yarrow	*Achillea millefolium*

Table 4.1: Floral Species Recorded at the Time of the Site Visit

English Name	Latin Name
Blackbird	*Turdus merula*
Blue tit	*Cyanistes caeruleus*
House sparrow	*Passer domesticus*
Starling	*Sturnus vulgaris*

Table 4.2: Faunal Species Recorded at the Time of the Site Visit

4.4 Habitats

At the time of the site visit the area comprised the following habitats:

- Amenity grassland
- Buildings
- Hardstanding
- Introduced shrub
- Species poor defunct hedgerow
- Tree

Amenity grassland
This habitat was closely mown at the time of the survey and had low species diversity. Principal species included perennial rye-grass, meadow grass species, dandelion, clover, daisy, plantain, yarrow and ragwort. This habitat may provide foraging habitat for wildlife however is well represented in the local area and is easily recreated. This habitat may be considered to be of low ecological value.

Buildings
The building on site is a two storey brick built structure with pitched tiled roof. Some single storey, flat, felt roofed extensions have been built alongside the existing building. All windows and doors had been boarded at the properties. A wooden soffit was present along the roof line of the properties. This building was identified as having potential to be utilised by roosting bats as there were gaps in the soffit, missing mortar at the edge of tiles and at the gable ends of the buildings, which the species could use to access the property. A nesting house sparrow was utilising the building at the time of survey. This habitat is generally considered to be of low ecological value, however this value will increase if bat are subsequently found to be present.

Hardstanding
Paving was recorded around the edges of the buildings on site with groundsel noted in gaps between the slabs. This habitat is of low ecological value.

Introduced shrub
This habitat was recorded in a flower bed associated with the former properties on site which has now become overgrown with grasses and tall ruderals such as dock, nettle and creeping thistle. Principal species of the former flower bed include rose, wall flower, daffodil and iris. This habitat may offer limited foraging habitat but may be considered to be of low ecological value.

Species poor defunct hedgerow
The hedgerow runs along the south western boundary of the site and comprises of elder, firethorn, flowering current and bramble. The base of the hedgerow is overgrown with ivy, cleavers and nettle. This habitat may support nesting birds and a variety of foraging faunal species; this may therefore be considered to be of moderate ecological value.

Tree
A single, mature ash tree was located on the north-eastern site boundary. This habitat may be considered to be of moderate to high ecological value within the context of the site.

5. ECOLOGICAL CREDITS

5.1 Eco 1: Ecological Value of the Site

1 credit is available for *minimising ecological damage.*

The site does not meet with the defined criteria for land of low ecological value due to the presence of hedgerow and a building suitable to support roosting bats. However, Middlemarch Environmental Ltd judges that the ecological damage of the development will be minimal if the following conditions are met:

Tree and Hedgerow
The existing tree at the north-eastern boundary and hedgerow at the south-western boundary must be retained and protected (see Section 5.3 for details of the protection requirements).

Buildings
A bat survey must be performed on the building prior to demolition. If bats are found to be present a Natural England licence will be required prior to demolition. Bats and the places they use for shelter or protection (i.e. roosts) are protected under both European Law (The Conservation (Natural Habitats &c.) Regulations 1994) and UK law (the Wildlife and Countryside Act (WCA) 1981). This protection means that bats, and the places they use for shelter or protection, are a material consideration in the planning process.

European Law
The most recent amendment (2009) to Regulation 39 of the Habitat Regulations, states that a person commits an offence if he-

- deliberately captures, injures or kills a bat;
- deliberately disturbs bats; or,
- damages or destroys a bat roost (breeding site or resting place).

It is an offence for any person to-

- have in his possession or control;
- to transport;
- to sell or exchange; or
- to offer for sale,

any live or dead bats, part of a bat or anything derived from bats which has been unlawfully taken from the wild. A person found guilty of an offence is liable on summary conviction to imprisonment for a term not exceeding six months and/or to a fine not exceeding level 5 on the standard scale.

UK Law
Whilst broadly similar to the above legislation, the following differences occur:

- Section 9(1) of the WCA 1981 (as amended) makes it an offence to *intentionally* (rather than deliberately) kill, injure or take any protected species.

- Section 9(4)(a) of the WCA makes it an offence to *intentionally or recklessly** damage or destroy, *or obstruct access to*, any structure or place which a protected species uses for shelter or protection.
- Section 9(4)(b) of the WCA makes it an offence to *intentionally or recklessly** disturb any protected species *while it is occupying a structure or place which it uses for shelter or protection.*

*Reckless offences were added by the Countryside Rights of Way Act 2000.

The Natural Environment and Rural Communities Act 2006 places a duty on public bodies to have regard for the conservation of biodiversity and maintains lists of species and habitats which are of principal importance for the purposes of conserving biodiversity in England and Wales. Bats are included on these lists.

As bats re-use the same roosts (breeding site or resting place) after periods of vacancy, legal opinion is that roosts are protected whether or not bats are present.

Nesting Birds
If the tree, hedge, or buildings is to be removed, these works must be undertaken outside the bird-nesting season (this generally extends between March and September but is weather dependent). If this is not possible the area concerned should be checked immediately prior to removal by a suitably qualified ecologist. Nesting and nest building birds are protected under the Wildlife and Countryside Act WCA 1981 (as amended). Some species (listed in Schedule 1 of the WCA) are protected by special penalties.

The client must provide written confirmation that this criterion/ criteria has been followed, prior to Middlemarch Environmental Ltd recommending that this credit may be awarded.

5.2 Eco 2: Ecological Enhancement of the Site

There is **1 credit** available for designing-in features for positive *enhancement of the site ecology.*

We recommend that this credit should be awarded if the following criteria are undertaken. Section 5.2.1 contains the key recommendations, which must all be adopted and Section 5.2.2 contains additional recommendations, of which over 30 % must be adopted.

5.2.1 Key Recommendations

Good Horticultural Practice
It is important to implement good horticultural practice in any landscaping scheme, including the use of peat-free composts, mulches and soil conditioners. The use of pesticides (herbicides, insecticides, fungicides and slug pellets *etc*) should be discouraged to prevent cumulative fatal effects to animals via the food chain, particularly invertebrates, birds and/or mammals. Any pesticides used should be non-residual.

Tree Planting
Plant five trees on site; these must be native or wildlife attracting species (Appendix 2).

Shrub Planting
At least 100 m^2 of nectar producing shrubs are to be planted in the gardens and communal areas; these must be native species or species attractive to wildlife (Appendix 2).

5.2.2 Additional Recommendations

Bulb Planting
At least 25 m^2 of bulbs are to be planted in the gardens and communal areas, suitable species include:

Snowdrop *Galanthus nivalis*
Bluebell *Hyacinthoides non-scripta*
Wild Daffodil *Narcissus pseudonarcissus*
Winter Aconite *Eranthis hyemalis*
Ramsons *Allium ursinum*
Round Headed Leek *Allium sphaerocephalon*
Lesser Celandine *Ranunculus ficaria*
Angular Solomons Seal *Polygonatum odoratum*
Wood Anemone *Anemone nemorosa*
Lily of the Valley *Convallaria majalis*

Hedgerow
Plant a minimum of 35 linear metres of new hedgerow along the boundary of the site; all species planted must be native (Appendix 2).

Bird Boxes
At least four bird boxes should be erected on site; of these two must be terrace nest boxes suitable for use by house sparrows (see Appendix 3 for further details).

Bat Boxes
At least two bat boxes or bricks are to be installed on site; these could be integral to the building structure (Appendix 3).

Log Pile
Create a log pile in the garden or communal areas to provide a habitat for invertebrates. Use wood from broadleaved trees, particularly oak, beech or fruiting trees with bark still attached. Partially bury these vertically in the soil in the shade and allow plants to grow over these to retain the moisture.

5.3 Eco 3: Protection of Ecological Features

There is **1 credit** available for the *protection of existing features during site preparation and construction works.*

If the following condition is met Middlemarch Environmental Ltd will judge that all features of ecological value have been sufficiently protected:

The tree and hedgerow must be protected in accordance with British Standard (BS) 5837:2005 'Trees in relation to construction – Recommendations'.

The contractor is required to construct ecological protection prior to any preliminary or preparation works on site. The client must provide written confirmation that this criterion has been followed, prior to Middlemarch Environmental Ltd recommending that this credit may be awarded.

5.4 Eco 4: Change in Ecological Value of the Site

There are **4 credits** available for *minimising reductions and improving the ecological value of the site.*

Tables 5.1 and 5.2 provide the calculations to assess the species change post development based on current client information.

The species diversity per hectare prior to the commencement of development was calculated and the results are given in Table 5.1.

Plot Type	Area of Plot Type (m^2)		Species (No.)		Species x Area of Plot Type
Building and hardstanding	2,675	X	0	=	0
Amenity grassland	1,030	X	8 (Actual)	=	8,240
Introduced shrub	30	X	5 (Actual)	=	150
Hedgerow	60	X	6 (Actual)	=	360
Tree	5	X	1 (Actual)	=	5
Total (1)	**3,800**			**Total (2)**	**8,755**
Total species x area of plot type/Total site area = (2)/(1) =					**2.30**

Table 5.1 Pre-development ecological value

From the information provided by the client a post-development score could be calculated, as shown in Table 5.2.

Plot Type	Area of Plot Type (m^2)		Species (No.)		Species x Area of Plot Type
Building and hardstanding	1,980	X	0	=	0
Amenity grassland	1,650	X	4.6	=	7,590
Wildlife planting	170	X	Unknown	=	0
Total (1)	**3,800**			**Total (2)**	**7,590**
Total species x area of plot type/Total site area = (2)/(1) =					**2.00**

Table 5.2 Post-development ecological value

There is a loss of 0.30 species and therefore we recommend **2 credits** out of a possible 4 may be awarded for the current planting schedule. Table 5.3 details the number of species required as part of a wildlife planting scheme to earn the further 2 credits available for this section.

Number of Credits	Change in Ecological Value Required	Ecological Value Required	Number of Species to Plant *
3	+3 to +9	5.30	74
4	9+	11.30	208

Table 5.3: Site Score Required to Gain the Various Credit Levels

* *This calculation is based on 170 m^2 of wildlife planting as indicated on proposed site plan. Please note that only native or wildlife attracting species count towards the totals.*

5.5 Eco 5: Development Footprint

There are **2 credits** available for ensuring *land and material use is optimised for each dwelling on the development.*

- 1 credit for houses where the net internal floor area: net internal ground floor areas ratio is greater than 2.5:1 or for blocks of flats: where the net internal floor area: net internal ground floor area is greater than 3:1 or for a combination of houses and flats, a ratio of total net internal floor area: total ground floor area greater than the area weighted average of the two ratios above.
- 2 credits for a development of houses where the net internal floor area: net internal ground floor area is greater than 3:1 or for a block of flats: where the net internal floor area: net internal ground floor area is greater than 4:1 or for a combination of houses and flats, a ratio of total net internal floor area: total ground floor area greater than the area weighted average of the two ratios above.

The information supplied by the client demonstrates that the development is to comprise seven bungalows. As such the development will have a net internal floor area: net internal ground floor area ratio less than 2.5:1. We recommend that **0 credits** may be awarded.

6. SUMMARY OF ECOLOGICAL CREDITS

6.1 Ecological Credit Eco 1

If the condition set out in Section 5.1 is followed then we recommend that **1 credit** may be awarded. The client must provide written confirmation that the recommendations will be followed, prior to the credits being awarded.

6.2 Ecological Credit Eco 2

As Middlemarch Environmental Ltd is a member of the AWTC we recommend **1 credit** may be awarded *subject to* the recommendations in Section 5.2 being observed. The client must provide written confirmation that the recommendations will be followed, prior to the credits being awarded.

6.3 Ecological Credit Eco 3

If the condition set out in Section 5.3 is followed we recommend **1 credit** may be awarded. The client must provide written confirmation that the recommendations will be followed, prior to the credits being awarded.

6.4 Ecological Credits Eco 4

We recommend **2 credits** may currently be awarded in this section. A further **2 credits** may be awarded if a planting scheme is provided that gives the site scores detailed in Section 5.4. The client must provide this planting scheme for approval, prior to the credits being awarded.

6.5 Ecological Credits Eco 5

The whole development on site will have a floor area: footprint ratio less than 2.5:1 and therefore we recommend that **0 credits** may be awarded.

APPENDIX 1:

ECOLOGIST QUALIFICATIONS

Ecologist Details

Name: Lucy Philpott – Senior Ecological Consultant
Company: Middlemarch Environmental Ltd
Address: Triumph House, Birmingham Road, Allesley, CV5 9AZ
Contact Telephone Number: 01676 525880
Ecology Report Reference: RT-MME-104793-01

Qualifications in Ecology or related subject:

BSc (1st class honours): Zoology

Memberships:

Associate Member of The Institute of Ecology and Environmental Management (AIEEM)

Relevant Experience:

Lucy has over three years extensive experience of carrying out BREEAM assessments, Extended Phase I Habitat Surveys, Japanese knotweed surveys and in performing protected species surveys and mitigation including; badger, bat, reptile, great crested newt, otter and water vole projects. She is licensed to undertake great crested newt surveys in England and Wales. Lucy has co-ordinated many projects for large national companies including Severn Trent Water and Land Securities.

REPORT VERIFICATION

Name: Dr Philip Fermor - Managing Director

Qualifications in ecology or related subject:

PhD Habitat Creation
BSc Environmental Science

Memberships:

Vice chairman of The Association of Wildlife Trust Consultancies (AWTC)
The Institute of Ecology and Environmental Management (MIEEM)
Chartered Environmentalist (CEnv)

Relevant Experience:

Over nineteen years environmental consultancy experience providing effective and sustainable biodiversity solutions within a range of environmental and hydrological disciplines for landmark UK Biodiversity projects. Responsible for business development and company management with a priority of client engagement. Managing a range of large commercial consultancy projects, including biodiversity masterplanning; hydroecological assessment; biodiversity action planning and strategy for corporate clients; and training.

I find the report to:

- represent sound industry practice
- report and recommend correctly, truthfully, and objectively
- be appropriate given the local site conditions and scope of works proposed
- avoid invalid, biased, and exaggerated statements.

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Signed: Dated:

Dr Philip Fermor
Managing Director

APPENDIX 2:
LIST OF WILDLIFE ATTRACTING PLANTS

List of Wildlife Attracting Plants

Species	Height/Spread	Colours	Flowers/Berries	Wildlife benefits	Plant conditions and notes	Deciduous or Evergreen
Native Trees						
Field Maple *Acer campestre*	To 25m	Leaves: Green then amber in Autumn. Flowers: Yellow/green. Seeds: Green then brown with wings.	Flowers May to June	51 species of insects/mites and 24 species of lepidoptera. Fruits eaten by small mammals.	Calcareous or clay soils preferably in full sun.	Deciduous
Alder *Alnus glutinosa*	6-15m	Leaves: Green, Catkins: Yellow/brown, Fruits: Cone-like, small and brown.	Catkins in March to April	141 species of insects/mites and 71 species of lepidoptera. Seeds are good for birds such as siskins.	Damp soil. Plant hardwood cuttings in the open in late autumn.	Deciduous
Silver Birch *Betula pendula*	To 18m	Leaves: Green turning yellow in Autumn, Catkins: Yellow/brown then seeding, Bark: White.	Catkins open in April and break up in winter releasing it's seeds.	Excellent for insects and to attract inset eating birds. Best tree for moth larvae. Catkins good food source for birds such as redpolls and tits.	Dry acid best.	Deciduous
Downey Birch *Betula pubescens*	To 24m	Leaves: Green turning yellow in Autumn, Catkins: Yellow/brown then seeding, Bark: White.	Catkins open in April and break up in winter releasing it's seeds.	Excellent for insects and to attract inset eating birds. Catkins good food source for birds.	Favours wetter more peaty soil.	Deciduous

Hornbeam *Carpinus betulus*	To 24m	Leaves: Green, Catkins: Green/crimson then seeding.	Flowers in May	51 species of insects/mites and 32 species of lepidoptera. Seeds for birds. Can provide dense nesting cover.	Woods and copses on clay soils, will tolerate shade. Sow seeds or fruits in spring.	Deciduous
Hazel *Corylus avellana*	To 10m	Leaves: Green, Flowers: Long Yellow/Crimson tassels. Seeds: Brown nuts.	Flowers in February	106 species of insects/mites and 68 species of lepidoptera. Nuts eaten by birds and mammals i.e. squirrels, mice and jays.	Hedgerows, scrub and woodland in well-drained soil. Full sun or light shade preferable. Remove and plant rooted suckers or offsets in autumn.	Deciduous
Beech *Fagus sylvatica*	To 46m	Leaves: Green then orange to red/brown in Autumn, Flowers: Green/white. Seeds: Brown nuts encased in a brown husk.	Flowers March to April.	98 species of insects/mites and 51 species of lepidoptera. The masts are eaten by birds and mammals including wood mice and Jays.	Well-drained soils. Can survive in shallow soil. Sow seeds or fruits in autumn.	Deciduous. Can hold dead leaves through the winter.
Ash *Fraxinus excelsior*	To 37m	Leaves: Green, Flowers: Green/Purple prior to the leaves. Seeds: Green single seeds in bunches with a long wing.	Flowers: April-May	68 species of insects/mites and 32 species of lepidoptera. Seeds eaten by birds and mammals.	Will survive on most soils with reasonable light. Sow seeds or fruits in autumn.	Deciduous
Juniper *Juniperus communis*	Shrub or tree to 7m	Leaves: Spiky Green needles, Flowers: Small green to yellow flowers, Berries: Green ripening to purple in the second year.	Flowers May to June. Berries take two years to ripen.	32 species of insects/mites and 14 species of lepidoptera.	Well-drained limestone and acid sandstone.	Evergreen

Crab Apple *Malus sylvestris*	To 10m	Leaves: Green, Flowers: White and pink. Fruits: Green/yellow/red apples.	Flowers: April to May. Fruits ripen in Autumn.	118 species of insects/mites and 76 species of lepidoptera. Fruits are eagerly consumed by birds and mammals despite its bitter taste.	Well-drained soil in full sun.	Deciduous
Scots Pine *Pinus sylvestris*	To 36m	Leaves: Green needles, Flowers: Yellow and crimson, Cones: Short and brown.		172 species of insects/mites and 36 species of lepidoptera. Cones are a valuable food source for birds and other mammals.	Prefers sandy well-drained soil in full sun.	Evergreen
Black Poplar *Populus nigra*	33m	Leaves: Green turning yellow in Autumn, Flowers: Green and crimson catkins, turning fluffy when fruiting.	Catkins produced in March.	153 species of insects/mites and 69 species of lepidoptera found within all the poplar species. Good for larger moth species i.e. Hawk moths	Fertile soil near water. Remove and plant rooted suckers or offsets in autumn. Reduced in numbers due to easy hybridisation with other poplars	Deciduous
Aspen *Populus tremula*	To 24m	Leaves: Green turning yellow in Autumn, Flowers: Green and brown catkins, turning fluffy when fruiting.	Catkins arrive in March and set seed in May.	Good for invertebrates and birds. Food plant of the hairstreak butterfly.	Will survive on most soils with full sun or partial shade.	Deciduous
Wild Cherry *Prunus avium*	9-12m	Leaves: Green turning crimson in Autumn, Flowers: White, Berries: Bright red.	Flowers: April, Berries: July	Birds feed on the cherries.	Prefers fertile soil, will tolerate some shade.	Deciduous
Bird Cherry *Prunus padus*	Shrub or tree to 19m	Leaves: Green, Flowers: White, Berries: Black cherries.	Flowers in May.	9 species of lepidoptera. Berries eaten by birds	Woods and scrub. Well-drained soil with full sun or light shading.	Deciduous

Oaks (native) *Quercus spp.*	To 42m	Leaves: Green, Flowers: Slim yellow catkins, Seeds: Green acorns turning brown when ready to fall.	Flowers in May. Acorns produced in Autumn.	423 species of insects/mites and 193 species of lepidoptera. Acorns eaten by a variety of birds and mammals. Very important for insect eating birds.	Variety of soils with reasonable depth and preferably in full sun, below 300m altitude. Sow seeds or fruits in autumn.	Deciduous
Willows *Salix spp.*	To 25m (species dependent)		Flowers February to March.	450 species of insects/mites and 166 species of lepidoptera.	Damp areas. Plant hardwood cuttings in the open in late autumn.	Deciduous
Goat Willow aka 'pussy willow' *Salix caprea*	Shrubby tree to 10m	Leaves: Oval, dark grey/green on top with a hairy underside, Flowers; Green and yellow short catkins turning fluffy when seeding.	Flowers March to April	Early provider of pollen and nectar for insects.	Most soils as long as they are at least slightly damp.	Deciduous
Grey Willow *Salix cinerea*	Shrubby tree to 6m	Leaves: Grey/green on top with a lighter hairy underside, Flowers; Yellow catkins turning fluffy when seeding.	Flowers March to April	Good for insects and birds.	Most soils as long as they are at least slightly damp.	Deciduous
Crack Willow *Salix fragilis*	Can reach 25m	Leaves: Long, shiny green on top with a grey/green underside, Flowers; Green and yellow catkins turning fluffy when seeding.	Flowers in April with the catkins appearing in May and ripening in the summer.	Good for insects and birds.	Most soils as long as they are at least slightly damp.	Deciduous
Bay Willow *Salix pentandra*	To 10m	Leaves: Long, shiny green on top with a grey/green underside, Flowers: Yellowish catkins turning fluffy when seeding.	Flowers May to June	Good for insects and birds.	Wet ground by water.	Deciduous

Elderberry *Sambucus nigra*	To 10m	Leaves: Green, Flowers: Small creamy white flowers in large numbers. Berries: Dark purple/black in bunches.	Flowers May to June	Berries for birds and nectar for insects.	Sun or partial shade.	Deciduous
Whitebeam *Sorbus aria*	10 to 24m	Leaves: Green with white hairy underside turning yellow/crimson in Autumn, Flowers: White, Berries: Green ripening to bright red.	Flowers: May	Flowers attract insects and the fruits are eaten by birds.	Prefers calcareous soil.	Deciduous
Rowan *Sorbus aucuparia*	18m	Leaves: Pinnate green leaves turning crimson in Autumn, Flowers: Small white flowers in clusters, Berries: Bright red.	Flowers in May. Produces berries in autumn.	58 species of insects/mites and 28 species of lepidoptera. The ripe berries attract birds such as redwings and field-fares.	Will tolerate most soils apart from very heavy soils.	Deciduous
Wild Service Tree *Sorbus torminalis*	To 20m	Leaves: Shiny green leaves with a lighter coloured underside, turning purple/red in Autumn, Flowers: Creamy white in clusters, Seeds: Brown speckled seeds in clusters.	Flowers: May or June Fruit: September	Good for insects. Fruits eaten by birds	Withstands shade. Prefers clay and limestone soil.	Deciduous
Lime *Tilia europaea*	To 46m	Leaves: Green heart-shaped leaves with slightly hairy underside, Flowers: Greenish/yellow flowers, Seeds: Small round and hairy with a grey-brown colour.	Flowers June to July.	57 species of insects/mites and 31 species of lepidoptera. The nectar is highly sought by bees.	Needs well-drained soil with full or partial sun.	Deciduous

Wych Elm *Ulmus glabra*	To 37m	Leaves: Green turning yellow in autumn , Flowers: very small purplish flowers, Seeds: Circular winged fruits with the seed in the centre.	Flowers produced in spring prior to the leaves, with winged fruits produced in July.	Good tree for insects and birds.	Full sun or light shade on most soils especially limestone. This species is less suseptable to Dutch elm disease.	Deciduous
Dutch Elm *Ulmus hollandica*	To 32m	Leaves: Green, Seeds: Circular winged fruits with the seed in the centre.	Winged fruits produced in July.	Good tree for insects and birds.	A native tree which has occurred naturally as a hybridisation between two other elms. Full sun or light shade. This species is less suseptable to Dutch elm disease.	Deciduous
English Elm *Ulmus procera*	To 33m	Leaves: Green, Flowers: Small crimson flowers, Seeds: Circular winged fruits with the seed in the centre.	Crimson flowers produced in spring with winged fruits produced in July.	124 species of insects/mites and 24 species of lepidoptera are associated with elm trees.	Full sun or light shade. 1 in 5 trees have caught Dutch elm disease which the English elms are suseptable to.	Deciduous

Species	Height/Spread	Colours	Flowers/Berries	Wildlife benefits	Plant conditions and notes	Deciduous or Evergreen
Introduced Trees						
Sweet Chestnut *Castanea sativa*	To 35m	Leaves: Green, Flowers: Long yellow tassels. Seeds: Brown nuts encased in a green spiky husk.	Flowers July. Seeds produced in autumn decreasing in size the further north the plants are situated.	11 species of insects/mites and 1 species of lepidoptera. Seeds eaten by a variety of mammals.	Well-drained soil, in full or partial sun. Sow seeds or fruit in spring.	Deciduous
European Larch *Larix decidua.*	To 46m	Leaves: light green needles, Flowers Yellow/dull-red small globes, *Cones: Light* brown	Spring	38 species of insects/mites and 15 species of lepidoptera. Cones provide food for tits and *finches.*	Likes plenty of space in full sun.	Deciduous
Magnolia *Liriodendron*				Early source of nectar for insects		
Apple *Malus domestica*	To 11m	Leaves: Green, Flowers: Deep pink. Fruits: Reddish-purple.	Flowers: April to May. Fruits ripen in Autumn.	Good for invertebrates. Fruits are eagerly consumed by birds and mammals.	Well-drained soil in full sun.	Deciduous
Purple Crab *Malus purpurea*	To 10m	Leaves: Green, Flowers: White and pink. Fruits: Green/yellow/red apples.	Flowers: April to May. Fruits ripen in Autumn.	Good for invertebrates. Fruits are eagerly consumed by birds and mammals.	Well-drained soil in full sun.	Deciduous
Norway Spruce *Picea abies*	To 46m	Leaves: Green needles, Flowers: Yellow and pink, *Cones: Long and brown.*	Flowers open in May. Cones ripen in autumn.	70 species of insects/mites and 13 species of lepidoptera. The *cones are eaten by birds and* mammals which include crossbills, treecreepers and red squirrels.	Any reasonable soil, preferably in good sun.	Evergreen

White Poplar *Populus alba*	24m	Leaves: Dark green upper with pale hairy underside, Flowers: Green catkins, turning fluffy when fruiting.	Catkins produced in March.	Good for invertebrates and birds especially larger moth species.	Full sun or partial shade. Remove and plant rooted suckers or offsets in autumn. Can tolerate pollution well, but the roots can damage pipelines and paving.	Deciduous
Wild Plum *Prunus domestica*	To 8m	Leaves: Green, Flowers: White, Fruits: Small purple plums.	Flowers: March to May. Fruits ripen in Autumn.	Nectar and fruits for invertebrates. Fruits are eagerly consumed by birds and mammals.	Well-drained soil in full sun.	Deciduous
Peach *Prunus persica*	6m	Leaves: Dark green, Flowers: Deep pink, Fruits: Usual peach.	Flowers: April to May. Fruits ripen in Autumn.	Nectar and fruits for invertebrates. Fruits are eagerly consumed by birds and mammals.	Well-drained soil in full sun.	Deciduous
Pear *Pyrus communis*	To 15m	Leaves: Dark glossy green, Flowers: White, Fruits Yellow-green to brown.	Flowers: April to May. Fruits ripen in Autumn.	Good for invertebrates. Fruits are eagerly consumed by birds and mammals.	Well-drained soil in full sun.	Deciduous
Wild Pear *Pyrus pyraster*	To 15m	Leaves: Dark glossy green, Flowers: White, Fruits Yellow-red to brown, 1-4cm. The tree/shrub is usually spiny.	Flowers: April to May. Fruits ripen in Autumn.	Good for invertebrates. Fruits are eagerly consumed by birds and mammals.	Well-drained soil in full sun.	Deciduous

Native Shrubs						
Box *Buxus sempervirens*	To 3m	Leaves: Small, dark green and glossy, Flowers: Small green/yellow, Seeds: Black encased in blue green capsules turning brown in September	Flowers April to May	Provides good nesting cover and winter roosting cover for birds.	Calcareous soils in full sun or partial shade.	Evergreen
Heather *Calluna vulgaris*	50-100cm	Leaves: Green and minute, Flowers: Pink/purple, Seeds: Very small replacing flowers.	Flowers in July to November	Good for invertebrates with a late supply of nectar	Well-drained acid soil in full sun.	Evergreen
Dogwood *Cornus sanguinea*	To 4m	Leaves: Green and hairy turning crimson an Autumn, Flowers: Greenish white in groups, Berries: Black in clusters.	Flowers in June. Produces bitter black berries in August-September.	17 species of lepidoptera. Larval food plant of the green hairstreak butterfly. Flowers produce an unpleasant smell which is attractive to insects. Some birds manage to eat the berries.	Woods and scrub on limestone or base rich clays.	Deciduous
Hawthorn *Crataegus monogyna*	6m	Leaves: Small and green, Flowers: Bright yellow, Seeds: In green pods.	Flowers: White – mid May. Berries: Red/orange in Autumn	Nectar. Berries good food source for thrushes, redwings and fieldfares. Good nesting if dense. Excellent for moth larvae.	Any soil.	Deciduous
Broom *Cytisus scoparius*	2.5m	Leaves: Small green and deeply lobed, Flowers: White, Berries: Red.	Yellow flowers April-June	Good for 39 species of lepidoptera. Food plant of the hairstreak butterfly.	Calcifuge, heathland, sandy banks, open woodland and rough ground. Well drained soil in full sun. Plant semi-ripe cuttings in a cold frame in summer.	Semi-evergreen

Spurge Laurel *Daphne laureola*	1m	Leaves: Light green, Flowers: White/green, Berries: Black.	Flowers in February to April	Early source of nectar for insects. Berries for birds which are poisonous to man.	Well-drained humus-rich or chalky soil in full sun or deep shade.	Evergreen
Mezereon *Daphne mezereum*	1m	Leaves: Light green with cream tinged edges, Flowers: Bright pink, Berries: Red.	Flowers in February to April	Early source of nectar for insects.	Well-drained humus-rich soil in full sun or light shade.	Deciduous
Heath 'Bell' *Erica cinerea*	To 50cm	Leaves: Green and minute, Flowers: Pink/purple, Seeds: Very small replacing flowers.	Flowers July to August.	Provides nectar for invertebrates.	Well-drained acid soil in full sun.	Evergreen
Heath 'Cross-leaved' *Erica tetralix*	To 50cm	Leaves: Green and minute, Flowers: Pink/purple, Seeds: Very small replacing flowers.	Flowers July to August.	Provides nectar for invertebrates.	Damp acid soil in full sun	Evergreen
Spindle *Euonymus europaeus*	5m (8m max)	Leaves: Light green turning to crimson in Autumn, Flowers: Greenish yellow, Seeds: encased in a four lobed pink capsule.	Fruit October to December.	10 species of lepidoptera. Nectar is good for insects. Berries are good for birds but induce vomiting in people.	Woods, hedgerows and scrub on calcareous or base rich clays. Plant semi-ripe cuttings in a cold frame in summer	Deciduous
Alder Buckthorn *Frangula alnus*	2.5m	Leaves: Shiny green, Flowers: very small greenish flowers, Berries: Green berries turning red then purple.	Flowers: Early summer. Berries: Autumn	Berries for birds. Important food plant for brimstone butterfly larvae.	Damp acidic soil/peat	Deciduous
Tutsan *Hypericum androsaemum*	80cm	Leaves: Green turning red in autumn, Flowers: Yellow, Berries: Black	Flowers June to October followed by berries.	Flowers attract insects especially bees. Berries are eaten by birds and small mammals.	Full sun or light shade in damp soil. Plant semi-ripe cuttings in a cold frame in summer.	Deciduous

Holly *Ilex aquifolium*	300 x 150+ cm	Leaves: spiky glossy green, Flowers: Small pink/white, Berries: Bright red.	Flowers: May. Berries: (only on female trees) October to December.	Berries good for birds and small mammals. Caterpillars of the holly blue butterfly feed on the leaves. Holly leaf miner provides winter food for birds.	Not wet. Layer stems in spring. Need male and female plants near each other to produce berries.	Evergreen
Privet *Ligustrum vulgare*	3m	Leaves: Green, Flowers: White, Berries: Small black berries	Flowers: July.	24 species of insects/mites, nectar for the butterflies. Berries eaten by birds.	Hedgerows and scrub, especially on base rich soil. Plant hardwood cuttings in the open in late autumn.	Deciduous or semi-evergreen in mild areas.
Shrubby Cinquefoil *Potentilla fruticosa.*	1m	Leaves: Green, Flowers: Yellow.	Flowers May to September.	Nectar source for bees and butterflies	Well-drained soil in full sun or light shade. Semi-ripe cuttings in a cold frame in summer.	Deciduous
Blackthorn *Prunus spinosa*	4m	Leaves: Green, Flowers: White, Berries: Blue/black.	Flowers: spring.	Good for nesting birds if grown as thicket or in hedge. Rich in insects. Fruit for birds. Black hairstreak butterfly lays its eggs mainly on blackthorn.	Well-drained soil preferably in a sunny location.	Deciduous
Buckthorn *Rhamnus catharticus*	5m	Leaves: Yellow green, Flowers: Yellow/green, Berries: Black. Stems with spines.	Flowers: May to June	Larval food plant for brimstone butterfly.	Damp, peat or base-rich soils.	Deciduous
Dog Rose *Rosa canina*	3-4m	Leaves: Green , Flowers: Pink/white, Hips: Red.	Flowers: June to July. Hips: autumn	Provides nectar for bees and butterflies. Hips good for small birds and mammals.	Dislikes wet or exposed sites Can tolerate poor fertility.	Deciduous
Sweet Briar *Rosa rubiginosa*	240 x 240cm	Leaves: Green , Flowers: Pink, Hips: Red/orange.	Flowers: mid summer. Berries: autumn	Hips food source for small mammals and birds. Good nesting cover.	Prefers sun and well drained soil.	Deciduous
Raspberry *Rubus idaeus*	1.5-2.5m	Leaves: Green with thorns on underside, Flowers White, Berries: Red, Stems also have thorns.	Flowers May to August with berries following.	Nectar source for bees and butterflies. Berries for birds and mammals.	Any reasonable soil in full sun or partial shade.	Deciduous shrub

Gorse *Ulex europaeus*	2-2.5m	Leaves: Thin and spiky, green in colour, Flowers: Yellow.	Autumn flowers, can flower throughout the year.	29 species of insect. Provides good protection for birds nests frequently used by linnets, whinchats and stonechats.	Sandy or peaty well-drained soil in full sun. Grassland, heathland and open woods. Plant semi-ripe cuttings in a cold frame in summer.	Evergreen
Wayfaring Tree *Vibernum lantana*	3m	Leaves: Green, Flowers: Whitish yellow, Berries: Red then becoming black.	Flowers in June to July.	Berries for birds and nectar for insects.	Most soils especially base rich.	Deciduous
Guelder Rose *Viburnum opulus*	300 x 250cm	Leaves: Green, Flowers: White, Berries: Bright red.	Flowers: May to June. Berries: autumn	Nectar for insects, particularly hoverflies. Fruits for birds and small mammals, especially liked by woodmouse. Note: leaves, bark and berries are all poisonous.	Plant semi-ripe cuttings in a cold frame in summer.	Deciduous
Introduced Shrubs						
Juneberry *Amelanchier lamarkii*	To 6m	Leaves: Pink when unfolding, turning green then yellow-brown in Autumn, Flowers: White in large quantities, Berries: Round red fruits turning purple when ripe.	Flowers April to May with berries in the summer.	Nectar source for bees and butterflies. Berries for birds.	Full sun or partial shade on light acid soils.	Deciduous
Spotted Laurel *Aucuba japonica*	2-3m	Leaves: Dark green with yellow speckles, leathery in texture, Flowers: Small and white, Berries: Green, ripening to red the following spring	Berries: October-January	Berries for birds.	Sun or deep shade, all soils.	Evergreen

Darwin's Barberry *Berberis darwinii*	To 3m	Leaves: Sharp holly-like green leaves, Flowers: Orange in small clusters, Berries: Blue berries in bunches, Stems: with spines.	Flowers in spring. Berries in autumn.	Berries for birds and nectar for insects. Can provide good nesting cover for small passerines.	Sun or light shade. Various propagation methods. Note: this shrub is a winter host for wheat rust - agricultural fungal pest.	Evergreen
Hooker's Barberry *Berberis hookeri*	To 3m	Leaves: Sharp green leaves, Flowers: Yellow in small clusters, Berries: Black berries in bunches, Stems: with spines.	Flowers in spring. Berries in autumn.	Berries for birds and nectar for insects. Can provide good nesting cover for small passerines.	Sun or light shade. Various propagation methods. Note: this shrub is a winter host for wheat rust - agricultural fungal pest.	Evergreen
Hedge Barberry *Berberis stenophylla*	To 3m	Leaves: Small sharp green leaves, Flowers: Yellow in small clusters, Berries: Blue/black berries in bunches, Stems: with spines.	Flowers in spring. Berries in autumn.	Berries for birds and nectar for insects. Can provide good nesting cover for small passerines.	Sun or light shade. Various propagation methods. Note: this shrub is a winter host for wheat rust - agricultural fungal pest.	Evergreen
Thunberg's Barberry *Berberis thunbergii*	To 1.5m	Leaves: Bright red in Autumn, Flowers: Yellow in small clusters, Berries: Red berries in bunches, Stems: with spines.	Flowers in spring. Berries in autumn.	Berries for birds and nectar for insects. Can provide good nesting cover for small passerines.	Sun or light shade. Various propagation methods. Note: this shrub is a winter host for wheat rust - agricultural fungal pest.	Deciduous
Thunberg's Barberry *Berberis thunbergii 'Atropurpurea'*	To 2m	Leaves: Bronze leaves bright red in Autumn, Flowers: Yellow in small clusters, Berries: Red berries in bunches, Stems: with spines.	Flowers in spring. Berries in autumn.	Berries for birds and nectar for insects. Can provide good nesting cover for small passerines.	Sun or light shade. Various propagation methods. Note: this shrub is a winter host for wheat rust - agricultural fungal pest.	Deciduous

Thunberg's Barberry *Berberis thunbergii 'Atropurpurea Nana'*	60cm	Leaves: Bronze leaves bright red in Autumn, Flowers: Yellow in small clusters, Berries: Red berries in bunches, Stems: Almost spineless.	Flowers in spring. Berries in autumn.	Berries for birds and nectar for insects. Can provide good nesting cover for small passerines.	Sun or light shade. Various propagation methods. Note: this shrub is a winter host for wheat rust - agricultural fungal pest.	Deciduous
Barberry *Berberis vulgaris*	To 3m	Leaves: Green leaves, Flowers: Yellow in small clusters, Berries: Red berries in bunches, Stems: with spines.	Flowers in spring. Berries in autumn.	Berries for birds and nectar for insects. Can provide good nesting cover for small passerines.	Sun or light shade. Various propagation methods. Note: this shrub is a winter host for wheat rust - agricultural fungal pest.	Deciduous
Alternate-Leaved Butterfly-Bush *Buddleia davidii*	Willow like shrub to 8m	Leaves: Green , Flowers: Lilac found on long drooping stems covered in globular shaped flower bunches, Seeds: Found in the flower heads which stay on the plant for most of the winter.	Flowers July to September	Nectar for bees and butterflies. The best bush available for butterflies especially if planted in a sun trap.	Dryish soil in full sun or partial shade. Plant semi-ripe cuttings in a cold frame in summer or plant hardwood cuttings in the open in late autumn.	Deciduous
Buddleia (butterfly-bush) *Buddleia davidii*	300 x 180cm	Leaves: Dark green above with a lighter hairier underside, Flowers: Long spikes with a lavender colour, Seeds: Found in the flower heads which stay on the plant for most of the winter.	Flowers July to September	Nectar for bees and butterflies. The best bush available for butterflies especially if planted in a sun trap.	Dryish soil in full sun or partial shade. Plant semi-ripe cuttings in a cold frame in summer or plant hardwood cuttings in the open in late autumn.	Deciduous

Orange Ball Tree *Buddleia globosa*	To 5m	Leaves: Dark green above with a lighter hairier underside, Flowers: Orange in a globular shape, Seeds: Found in the flower heads which stay on the plant for most of the winter.	Flowers May to June	Nectar for bees and butterflies.	Dryish soil.	Deciduous to semi-evergreen
Weyer's Butterfly-Bush *Buddleia weyeriana*	300 x 180cm	Leaves: Green, Flowers: Yellow found on inflorescence which is interrupted with spaces slightly globular in shape, Seeds: Found in the flower heads which stay on the plant for most of the winter.	Flowers May to June	Nectar for bees and butterflies. Flowers slightly later then *davidii* attracting the butterflies from these bushes.	Dryish soil in full sun or partial shade. Plant semi-ripe cuttings in a cold frame in summer or plant hardwood cuttings in the open in late autumn.	Deciduous to semi-evergreen
Blue Spiraea *Caryopteris clandonensis*	1m	Leaves: Blue/green, Flowers: Blue in clusters.	Flowers, September to October.	Provides a late source of pollen and nectar.	Requires well-drained soil in full sun.	Deciduous
Californian Lilac *Ceanothus 'Autumnal Blue'*	1.8 x 1.8+m	Leaves: Green and shiny, Flowers: Purple in clusters.	Flowers in July to October.	Nectar for bees and butterflies.	Fertile soil in a sunny location.	Evergreen
Californian Lilac *Ceanothus 'Gloire de Versailles'*	1.8 x 1.8m	Leaves: Dark green and shiny, Flowers: Light blue in clusters.	Flowers in July to October.	Nectar for bees and butterflies.	Fertile soil in a sunny location.	Deciduous

Japanese Quince *Chaenomeles japonica*	1m	Leaves: Green , Flowers: Red, Fruits: Large, golden brown.	Flowers March-May followed by fruits which ripen in October.	Berries for birds and mammals.	Full sun	Deciduous
Quince variety *Chaenomeles speciosa*	Bush to 1.5m or train as a Climber to 3m x 30cm thick	Leaves: Green sparser then *japonica* , Flowers: depends on variety, Fruits: Large, golden brown.	Flowers March-May and the fruits ripen in October.	Nectar source for bees and butterflies. Berries for birds and mammals. Good for birds to nest in as branches are sturdy with spines to deter cats.	Sun or shade.	Deciduous
Smoke Bush Cotinus coggygria	3m	Leaves: Green turning orange or red in autumn. Flowers: Light pink feathery flowers.	Flowers June - July	Good for bees and birds	Sandy infertile soil best, full sun preferred.	Deciduous
Cotoneaster 'Coral Beauty' *Cotoneaster conspicuous 'Decorus'*	Spreading shrub To 1.5m	Leaves: Small green, Berries: Red.	Berries October to January.	Berries good for birds and small mammals. Nectar for invertebrates.	Any reasonable soil, preferably in good sun. Plant semi-ripe cuttings in a cold frame in summer.	Evergreen
Francchet's Cotoneaster *Cotoneaster franchetii*	To 3m	Leaves: Small green and glossy with silvery hairy underneath, Flowers: Light Purple, Berries: Orange.	Berries October to January.	Berries good for birds and small mammals. Nectar for invertebrates.	Any reasonable soil, preferably in good sun. Plant semi-ripe cuttings in a cold frame in summer.	Semi-evergreen
Cotoneaster *Cotoneaster frigidus*	To 8m	Leaves: Small green and glossy, Flowers: White, Berries: Red.	Berries October to January.	Berries good for birds and small mammals. Attracts waxwings and pheasants.	Plant semi-ripe cuttings in a cold frame in summer.	Deciduous to semi-evergreen

Wall Cotoneaster *Cotoneaster horizontalis*	1-3m	Leaves: Small green and glossy, Flowers: White, Berries: Red.	Flowers May to July. Berries October to January.	Berries good for birds and small mammals. Nectar for invertebrates.	Plant semi-ripe cuttings in a cold frame in summer.	Deciduous
Himalayan Cotoneaster *Cotoneaster simonsii*	2-4m	Leaves: Small green and glossy, Flowers: White, Berries: Orange-Red.	Flowers May to July. Berries October to January.	Berries good for birds and small mammals. Nectar for invertebrates.	Plant semi-ripe cuttings in a cold frame in summer.	Deciduous
Daphne *Daphne odora*	1m	Leaves: Dark green, Flowers: Bright pink.	Flowers in February to April	Early source of nectar for insects.	Well-drained humus-rich soil in full sun or light shade.	Evergreen
Broad-leaved Oleaster *Elaeagnus macrophylla*	To 3m	Leaves: Silvery when unfolding turning dark glossy green, Flowers: Creamy yellow bell shaped, Berries: Red	Flowers in October to November.	Provides a late source of pollen and nectar.	Any reasonable soil, preferably in good sun.	Evergreen
Spreading Oleaster *Elaeagnus umbellata*	2-6m	Leaves: Silvery when unfolding turning bright green, Flowers: Creamy yellow bell shaped, Berries: Red	Fragrant flowers in May to June. Berries in October to December.	Provides nectar for bees and butterflies, and food for wild birds	Any reasonable soil, preferably in good sun.	Deciduous
Escallonia *Escallonia macrantha*	1-3m (Species dependent)	Leaves: Dark green and glossy, Flowers: Pinkish red, Berries:	Flowers June to September	Provides nectar for bees and butterflies.	Full sun or light shade.	Evergreen
Fuchsia *Fuchsia magellancia*	2-3m	Leaves: Dark green leaves, Flowers: Purple and red.	Flowers: July to October	Attracts bees.	Full sun or light shade.	Deciduous

Hebe *Hebe spp.*	80cm		Flowers May-September (depending on variety).	Food source for 26 species of butterfly including the Speckled Wood	Well-drained soil in full sun. Plant semi-ripe cuttings in a cold frame in summer.	Evergreen
Hebe *Hebe albicans.*	30cm x 90cm	Leaves: Small and Green, Flowers: White	Flowers in June to July.	Nectar for bees and butterflies.	Well-drained soil in full sun. Plant semi-ripe cuttings in a cold frame in summer.	Evergreen
Hebe *Hebe andersonii 'variegata'.*	To 2m	Leaves: Small and Green, Flowers: Mauve	Flowers in August to September.	Good for invertebrates with a late supply of nectar	Well-drained soil in full sun. Plant semi-ripe cuttings in a cold frame in summer.	Evergreen
Hebe *Hebe brachysiphon.*	To 2m	Leaves: Small and Green, Flowers: White	Flowers in June to July.	Nectar for bees and butterflies.	Well-drained soil in full sun. Plant semi-ripe cuttings in a cold frame in summer.	Evergreen
Hebe *Hebe salicifolia.*	90-150cm	Leaves: Small and Green, Flowers: White	Flowers in June to September.	Nectar for bees and butterflies.	Well-drained soil in full sun. Plant semi-ripe cuttings in a cold frame in summer.	Evergreen
Shrubby Helichrysum *Helichrysum italicum*	60cm	Leaves: Grey-green silvery leaves, Flowers: Yellow.	Yellow flowers in June to August.	Nectar source for bees and butterflies	Well-drained sandy soil in full sun.	Evergreen
Hydrangea *Hydrangea spp.*	1-2.5m	Leaves: Green, Flowers: Depends upon species/varieties.	Flowers July to September	Provides nectar for bees and butterflies.	Well-drained fertile soil in full sun. needs watering through dry spells.	Deciduous
St. John's Wort aka 'Rose of Sharon' *Hypericum calycinum*	To 1m	Leaves: Green turning red in autumn, Flowers: Yellow, Berries: Red	Flowers June to October.	Flowers attract insects especially bees. Berries are eaten by birds and small mammals.	Full sun or light shade. Plant semi-ripe cuttings in a cold frame in summer.	Semi-evergreen
Hyssop *Hyssopus officinalis*	60cm	Leaves: Green, Flowers: Small blue flowers on spikelets.	Low evergreen shrub	Attractive for some butterflies	Well-drained fertile soil in full sun.	Semi-evergreen

Holly 'Golden King' *Ilex altaclerensis*	300 x 150+ cm	Leaves: Glossy green with yellow borders and small spines, Flowers: Small pink/white, Berries: Bright red.	Flowers: May. Berries: (only on female trees) October to December.	Berries good for birds and small mammals. Holly leaf miner provides winter food for birds.	Any reasonable soil in full sun or partial shade. Need male and female plants near each other to produce berries.	Evergreen
Lavender *Lavandula angustifolia*	75 x 75 cm	Leaves: Greyish-green, Flowers: Blue/purple.	Flowers: July to September	Attracts butterflies	Plant semi-ripe cuttings in a cold frame in summer.	Evergreen
Oregon Grape *Mahonia aquifolium*	1m	Leaves: Green and glossy with small spikes, Flowers: Yellow.	Flowers March to April	Nectar for bees and butterflies.	Thrives best in partial shade.	Evergreen
Daisy Bush *Olearia haastii*	1-2m	Leaves: Green and glossy, Flowers: White.	Flowers white, July to August	Nectar for bees and butterflies.	Well drained soil in full sun.	Evergreen
Russian Sage *Perovskia atriplicifolia*	1m	Leaves: Greyish-green, Flowers: Blue/purple.	Flowers: August to October	Good for bees	Full sun essential	Deciduous
Mock Orange *Philadelphus coronarius*	1.5-3m	Leaves: Yellow and green, Flowers: White.	Flowers June to July.	Nectar for bees and butterflies.	Full sun.	Deciduous
Firethorn *Pyracantha atalantioides*	3m	Leaves: Dark green, Flowers: White, Berries: Red/orange	Berries: October-January	Good for nesting thrushes and a site or an open robin box. Nectar for bees, berries for birds.	Thrives in most good soils.	Evergreen
Firethorn *Pyracantha coccinea*	To 3.5m	Leaves: Dark green, Flowers: White, Berries: Red/orange	Berries: October-January	Good for nesting thrushes and a site or an open robin box. Nectar for bees, berries for birds.	Thrives in most good soils.	Evergreen
Black Current *Ribes nigrum*	2m	Leaves: Green , Flowers: Pink, Berries: Black.	Flowers: April.	Good for bees, birds and small mammals	Thrives in full sun or partial shade.	Deciduous

Ornamental Current *Ribes odoratum*	2m	Leaves: Green turning purple in Autumn, *Flowers: Yellow, Berries:* Black.	Flowers: April.	Good for bees and birds	Thrives in full sun or partial shade.	Deciduous
Flowering Currant *Ribes sanguineum*	2m x 1.5m	Leaves: Green , Flowers: Pink, Berries: Black.	Flowers March to April	Provides nectar for bees and butterflies.	Full sun or light shade.	Deciduous
Rosemary *Rosemarinus officinalis*	1.5m	Leaves: Green and thin, Flowers: Lilac.	Flowers April to May.	Nectar source for bees and butterflies	Well-drained soil in full sun.	Evergreen
Blackberry *Rubus fruticosus*	Sprawling plant 1.5-2.5m	Leaves: Green with thorns on underside, Flowers White, Berries: Red turning black when ripening	Flowers May to September with berries following the flowers until mid September.	Nectar source for bees and butterflies. Berries for birds and mammals.	Any soil in full sun or partial shade. Can be very invasive.	Deciduous shrub
Loganberry *Rubus loganobaccus*	1.5-2.5m	Leaves: Green with thorns on underside, Flowers White, Berries: Dark red, Stems also have thorns.	Flowers May to August with large berries following.	Nectar source for bees and butterflies. Berries for birds and mammals.	Any reasonable soil in full sun or partial shade.	Deciduous shrub
Shrubby Ragwort *Senecio greyi*	1m	Leaves: Bluish green upper with silvery hairy underside, Flowers: Yellow.	Flowers in June.	Nectar source for bees and butterflies	Well-drained soil in full sun.	Evergreen
Skimmia *Skimmia japonica*	To 1m	Leaves: Dark glossy green, Flowers: White, Berries: Red (but only if male and female trees are located near each other).	Flowers in April to May.	Nectar source for bees and butterflies	Well-drained, neutral to acid soil in full sun or partial shade.	Evergreen
Bridal Wreath *Spiraea arguta*	2m	Leaves: Green, Flowers: Masses of white flowers.	Flowers April to May	Nectar for bees and butterflies.	Full sun on most soils	Deciduous

Snowberry *Symphoricarpos albus*	1-2m	Leaves Green, Flowers: Small and pink in terminal spikes, Berries: White.	Flowers: June to September.	Caterpillars of the death's head hawk moth feed on the leaves. Good ground cover. Birds may feed on the berries when other food is scarce.	Forms dense thickets unless regularly pruned.	Deciduous
Lilac *Syringa vulgaris*	150 x 300cm	Leaves Green, Flowers: Colour depends on variety, in terminal spikes.	Flowers May to June	Nectar for bees and butterflies.	Best in full sun.	Deciduous
Viburnum *Viburnum bodnantense*	1-2.5m	Leaves: Green, Flowers: Pink.	Flowers January to March.	Provides early nectar source for invertebrates and berries for birds. One of the most valuable winter flowering shrubs.	Sun or shade in most soils.	Deciduous
Laurustinus *Viburnum tinus*	2-6m	Leaves: Green, Flowers: White to pink, Berries: Blue/black.	Flowers November - February	Provides late nectar source for invertebrates and berries for birds.	Sun or shade in most soils.	Evergreen
Weigela *Weigela florida*	1.2m x 1.2m	Leaves: Green or green with yellow tinges (variety dependant), Flowers: Pink.	Flowers May to June	Provides nectar for bees and butterflies.	Rich, moist soils in full sun or partial shade.	Deciduous
Native Herbaceous						
Teasel *Dipsacus fullonum*	2m	Leaves: Green, Flowers: Light purple.	Flowers: July to August.	A food source of the Brimstone butterfly. Attracts other insects for its nectar and birds for its seeds.	Well-drained soil in full sun or light shade.	Biennial
Purple Loosestrife *Lythrum salicaria*	To 1.8m	Leaves: Green, Flowers: Purple.	Flowers in June to September.	Provides nectar for bees and butterflies.	Humus-rich soil in full sun or light shade with plenty of water, preferably boggy.	Border perennial
Musk Mallow *Malva moschata*	60cm	Leaves: Green Flowers: Pink	Flowers between July and August.	Provides nectar for bees and butterflies.	Well-drained soil in full sun.	Border perennial

Cat-mint *Nepeta cataria*	60-90cm	Leaves: Green above, white below. Flowers: White	Flowers July to September	Berries for birds and nectar for insects.	Well-drained soil in full sun.	Perennial
Wild Marjoram *Origanum vulgare*	50-70cm	Leaves: Green Flowers: Pale pink	Flowers July to September	Good plant for butterflies and bees	Dry soil preferably on calcareous soil.	Perennial
Tormentil *Potentilla erecta*	30-45cm	Leaves: Green, Flowers: Yellow.	Flowers June to September	Good plant for butterflies and bees	Well drained soil preferably acidic.	Perennial
Goldenrod *Solidago virgaurea*	70-100cm	Leaves: Green. Flowers: Yellow	Flowers July to September	27 species of lepidoptera.	Open woodland, grassland and hedgerows. Well-drained soil. Full sun or light shade.	Perennial
Betony *Stachys officinalis*	To 60cm	Leaves: Green. Flowers: Pink/purple	Flowers June to September	Nectar source for bees and butterflies	Well-drained soil in full sun or partial shade.	Border perennial
Common Valerian *Valeriana officinalis*	Stems to 1m	Leaves: Green. Flowers: Pink/white.	Flowers June to September	Provides nectar for bees and butterflies.	Dry or damp grassy or rough ground.	Perennial
Introduced Herbaceous						
Rockery Alyssum *Alyssum saxatile*	20cm	Leaves: Green, Flowers: Bright yellow.	Flowers April to June	Provides nectar for bees and butterflies.	Grows well in poor, well-drained soil in full sun. It can soon spread if left unchecked.	Perennial
Michaelmas Daisy *Aster novae-belgii*	To 75cm	Leaves: Green, Flowers: Dark pink.	Dark pink flowers in September to October.	Good for invertebrates with a late supply of nectar.	Well-drained soil in full sun. Needs watering in dry weather.	Border perennial
Perennial Wallflower *Erysimum 'Bowles Mauve'*	To 75cm	Leaves: Dark green, Flowers: Mauve.	Blooms nearly all year round.	Provides nectar for insects.	Well-drained non-acid soil in full sun.	Evergreen perennial
Dame's-violet *Hesperis matronalis*	60-100cm	Leaves: Green Flowers: Pink	Flowers May to July.	Very good nectar source for bees and butterflies.	Well-drained soil in full sun or partial shade.	Border perennial

Candytuft *Iberis sempervirens*	20cm high with 60cm spread.	Leaves: Dull yellowish green, Flowers: White.	Flowers May to June	Very good nectar source for bees and butterflies.	Well-drained soil in full sun.	Rocky perennial
Golden Rays aka Leopardplant *Ligularia dentata*	To 1m	Leaves: Bluish green, Flowers: Yellow.	Flowers July to September	Provides nectar for bees and butterflies.	Humus-rich soil in light shade with plenty of water, preferably boggy.	Border perennial
Ice Plant *Sedum spectabile*	60 x 30cm	Leaves: Grey/green. Flowers: Pink	Flowers, June to October.	Provides nectar for bees and butterflies. The plant is extremely good for butterflies.	Average garden soil in full sun	Perennial
Nasturtium *Tropaelumm majus*	1.8m	Leaves: Green. Flowers: Red, orange and yellow.	Flowers: June-October	Good for bees and beetles. Seeds eaten by birds and small mammals. Good insect plant.	Plant in sun or partial shade. Likes poor soil.	Climbing annual
Native Climbers						
Clematis 'Old Mans Beard' *Clematis vitalba*	Climber to 30m	Leaves: Green. Flowers: White/green	Flowers in July	Provides nectar for bees and butterflies.	Prefers calcareous and alluvial soils	Deciduous
Ivy *Hedera helix*	Climber	Leaves: Dark green, shiny. Flowers: Green/yellow. Berries: Black	Flowers October to November.	Provides late nectar source and cover/hibernating sites for invertebrates. Food source for the Holly Blue butterfly larva.	Trees, banks, rocks and crawling over the floor. Thrives in shade. Remove and plant rooted runners in spring.	Evergreen
Hop *Humulus lupulus*	Climber to 8m	Leaves: Yellowish-green, Flowers: Small yellowish brown.	Flowers July to August	Provides nectar for bees and butterflies.	Well-drained soil in full sun or light shade.	Perennial
Honeysuckle *Lonicera periclymenum*	Climber to 6m	Leaves: Dark green on top and bluish underneath. Flowers: red outside cream within Berries: Bright red.	Flowers July to August	Excellent food source for invertebrates including the Speckled Wood butterfly. Berries eaten by birds.	Woods, scrub and hedges. Sun or light shade. Plant semi-ripe cuttings in a cold frame in summer or Layer stems in spring	Deciduous

Introduced Climbers						
Everlasting Pea *Lathyrus latifolius*	Spreading climber to 1.8m.	Leaves: Green, Flowers: Pink-purple. Has long thin seed pods.	Flowers in July to September.	Provides nectar for bees and butterflies.	Well-drained soil in full sun or light shade.	Border perennial
Japanese Wisteria *Wisteria floribunda*	Climber (needs tying)	Leaves: Yellowish-green Flowers: Blue-purple in large drooping clusters.	Flowers early to mid summer but may not flower for the first year or two.	Provides nectar for bees and butterflies.	Well-drained soil in full sun or light shade. Needs plenty of space.	Evergreen

APPENDIX 3:
BIRD BOX, BAT BRICK & LADYBIRD/LACEWING BOX DETAILS

Building Research Establishment
Environmental Enhancement Method

BIRD BOXES

ATTRACTING BIRDS TO GARDENS

Initially to entice birds to an area, a good source of food must be available, so to attract birds to a garden provision of a bird table may be a good idea. The choice of plants within the garden must also be considered.

Plants producing large seed heads such as Sunflowers or Michaelmas Daisies are recommended, as are berry producing plants and shrubs such as Cotoneaster, Honeysuckle, Holly and Hawthorn. Larger shrubs also provide branches for birds to perch on and roosting sites. A source of water, not only for drinking but also for bathing, is also of an advantage.

In many new developments there may be a plentiful supply of food, however there may be nowhere for birds to nest. Provision of nesting boxes is therefore also vital to minimise the net biodiversity loss.

MATERIALS

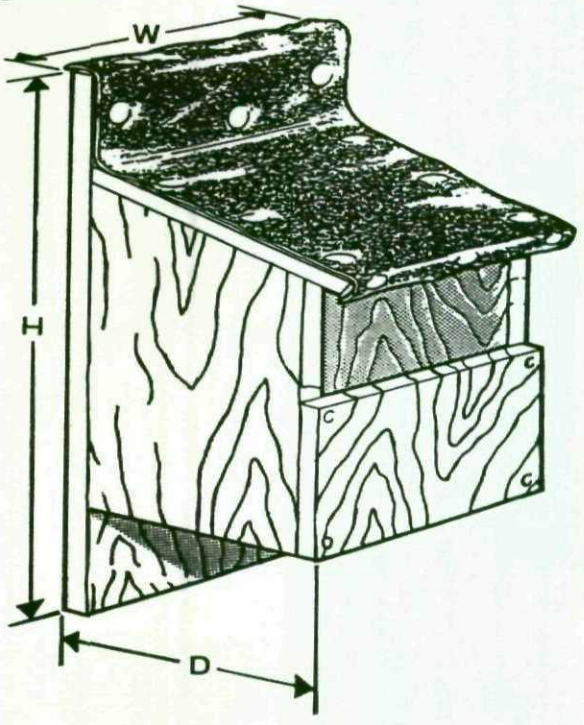
Bird boxes are generally constructed from wood or woodcrete (a concrete and wood paste). Any wood may be used, however it should be at least 15 mm thick, 20mm is ideal. Wood preserver should never be used on the inside of the nesting box.

TIME TO ERECT BOXES

Boxes should be erected by March, but the earlier the better, as most birds seek out suitable nest sites some time before they start to construct their nest.

POSITIONING THE BOX

Position the entrance facing away from the midday sun (south), ideally facing east to take advantage of the early morning sun. Boxes should not be positioned on the north of buildings. Angle the box slightly forward to keep out sun and rain. All boxes should have a clear flight path to the entrance. Most boxes should be positioned at a height of 2–3 metres however this varies between bird species. The optimum density for boxes depends on the species and habitat.



HOLE ENTRANCE BOXES

Hole entrance boxes will attract a variety of birds, including the following species which are detailed further below:-

Barn Owl	Nuthatch	Jackdaw
Starling	All Tit species	

BARN OWLS

Size: 450mm wide, 450mm high, 750mm Deep. Entrance: 150mm wide by 200mm high. The bigger the box the better! But allow for an extended floor for the young birds to exercise on. Siting: Boxes can be placed in trees, inside buildings or in straw stacks. Density: Two boxes sited in one territory would be of an advantage as they require both roosting and nesting sites. Barn owls are sensitive to disturbance. Try to position boxes at least 5 metres above ground level. Boxes sited on the edge of existing owl strongholds will bring the best results. Clean out the box every year, leaving a thin layer of pellets, new boxes should be lined with bark chippings.

BLUE TIT

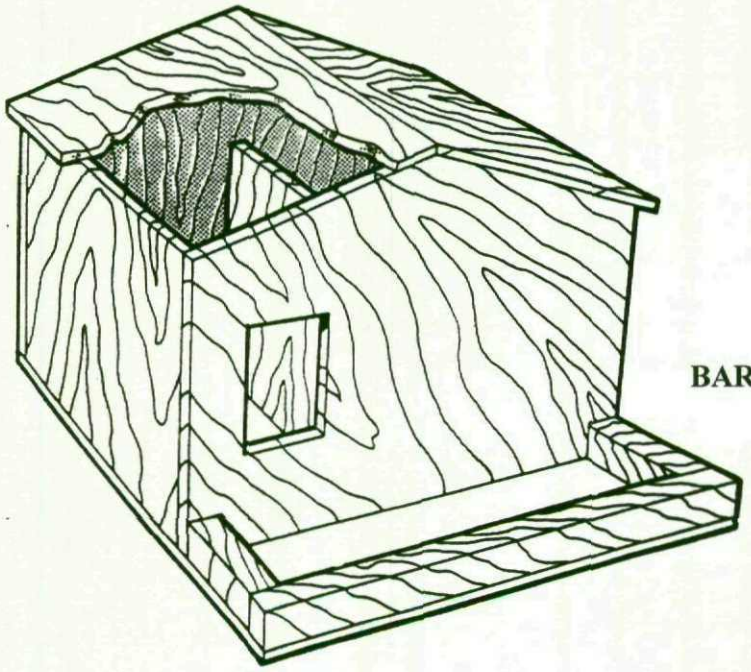
Size: 100mm wide, 100mm deep and 150mm high, 25mm diameter entrance hole. Siting: 2-6 metres high. Density: Up to 6 per Ha.

GREAT TIT

Size: 130mm wide, 130mm deep and 500mm high, 28mm entrance hole. Siting: 2-6 metres high. For roosting these birds prefer a small box (see Blue tit) but still with a 28mm diameter entrance hole. Density: Up to 4 per Ha.

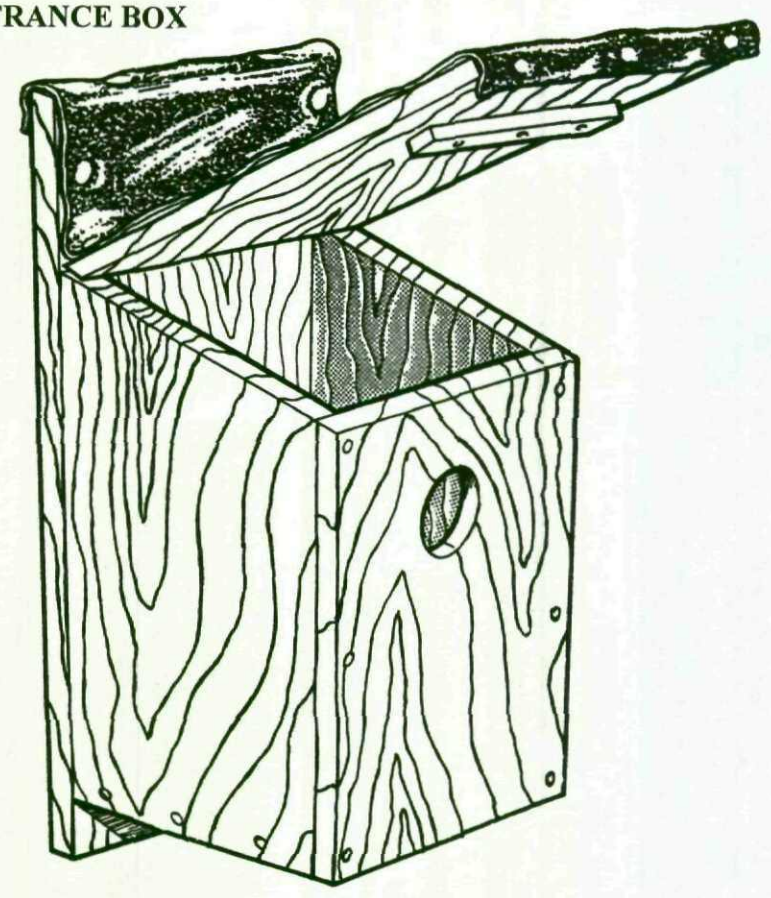
MARSH TIT

Size: 100mm wide, 100mm deep and 150mm high, 25mm diameter entrance hole. Sited: Up to 2 metres high. Density: No more than 1 box every 2 Ha.



BARN OWL BOX

BASIC HOLE ENTRANCE BOX



COAL TIT

Size: 100mm wide, 100mm deep and 150mm high, 25mm diameter entrance hole. Siting: Up to 2 metres in deciduous woodland or on an isolated conifer tree. Density: No more than 1 box every 2 Ha.

WILLOW TIT

Size: 100mm wide, 100mm deep and 150mm high, 25mm diameter entrance hole. Siting: Up to 2 metres high in thick cover. Will only colonise new areas if existing population is located near by. Fill box with wood shavings. Density: No more than 1 box every 2 Ha.

NUTHATCH

Size: 130mm wide, 130mm deep and 200mm high, 32mm diameter entrance hole. Siting: 2-6 metres high. Density: 1 box per hectare

JACKDAW

Size: 200mm wide, 200mm deep and 450mm high, 150mm diameter entrance hole. Siting: 6+ metres high. These birds are very secretive and need an inconspicuously placed entrance. Density: May nest colonially, therefore several boxes can be placed close together.

STARLING

Size: 200mm wide, 200mm deep and 450mm high, 45mm diameter entrance hole. Siting: Boxes can be located on trees or high up in the eaves of houses. Density: May nest colonially; can erect boxes on adjacent trees or buildings.

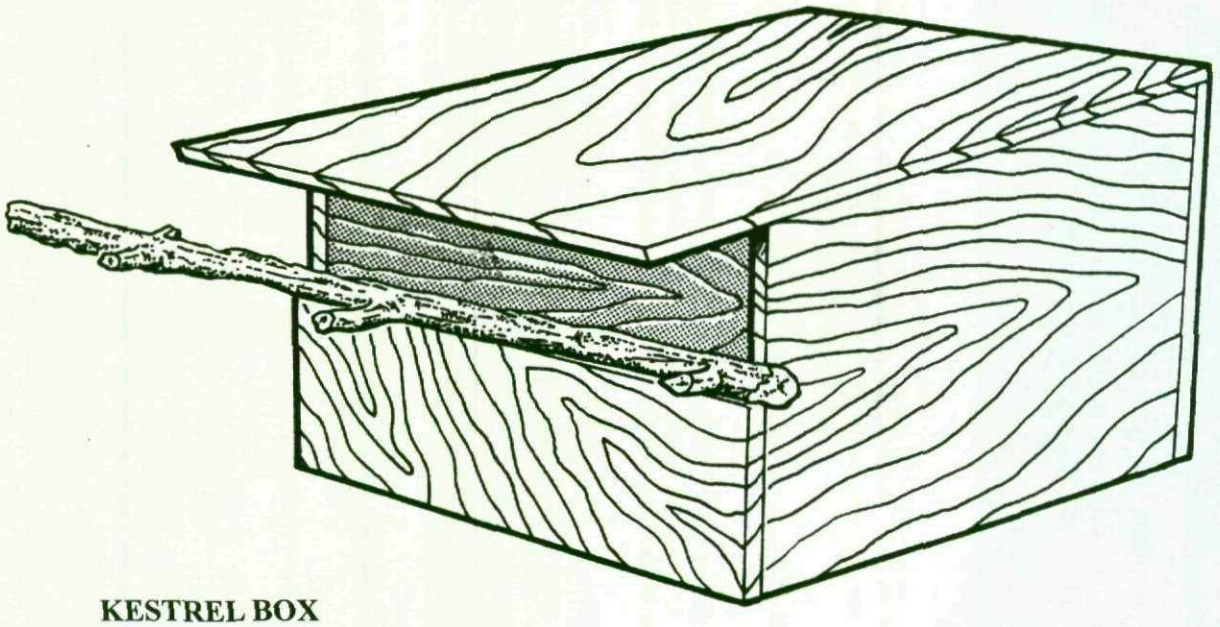
OPEN FRONTED BOXES

These boxes will attract a number of species, including the following birds:-

Kestrel	Robin	Wren
Black Redstart	Blackbird	Pied Wagtail
Spotted Flycatcher		

KESTREL

Size: 300mm wide, 500mm deep, 300mm high, front 150mm high. Siting: Box should be mounted at least 5 metres above the ground, sloping slightly backwards to keep the eggs and young at the rear of the box. The opening should be south-east facing with a clear flight path to the entrance. The box can be tree or pole mounted. The pole needs to be fixed firmly in the ground, using concrete, extending to a height of 3 metres or more, enabling the use of a ladder for maintenance purpose. Fix a strong perch along the top of the entrance, extending to one side, to allow both the adult and young to sit outside the box. Density: 1 box per 100 Ha.



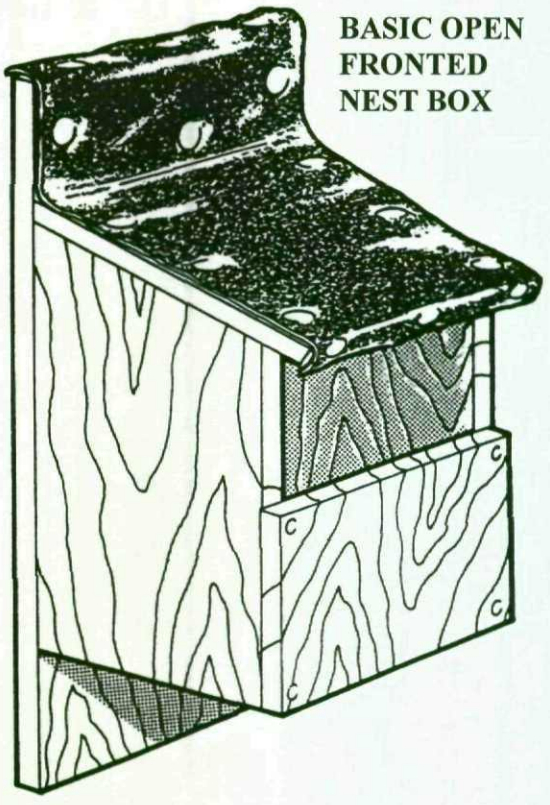
KESTREL BOX

SPOTTED FLYCATCHER
Size: 150mm wide, 100mm high, 100mm deep, front 25mm high. Siting: These boxes should be erected on walls covered in ivy or honeysuckle overlooking a glade or lawn, positioned at a medium height (2-6 metres). Ensure a perch is available close by, a simple stick stuck in the ground a couple of metres from the box will suffice. Density: 1 box per ha.

ROBIN
Size: 100mm wide, 100mm deep and 150mm high. Siting: Boxes should be sited up to 2 metres high in a well hidden location, protected by thorny shrubbery. Density: No more than 1 box per 0.5 Ha.

WREN
Size: 100mm wide, 100mm deep and 150mm high. Sited: Up to 2 metres high. Wren will use both open fronted and hole entrance nesting boxes. A 30mm entrance is required in a small or very small box (see Blue tit). Siting: The box needs to be mounted low, up to 2 metres in thick undergrowth. Density: Clusters of 2 or 3 boxes per 0.5 Ha will cater for successive broods by the resident pair.

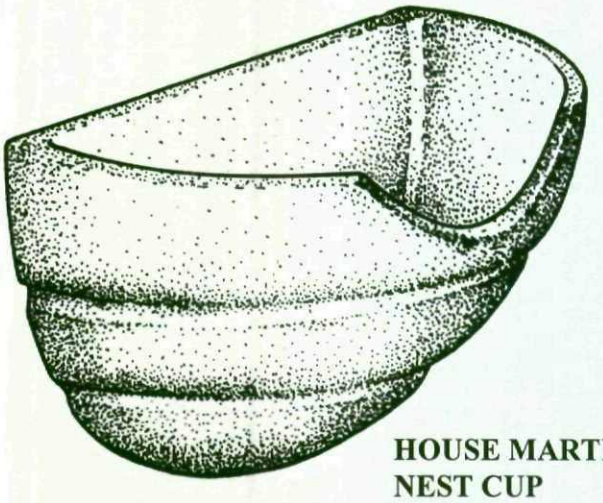
PIED WAGTAIL
Size: 100mm wide, 100mm deep and 150mm high. Siting: These birds are very adaptable and the box can be sited in almost any situation – walls overlooking lawns, farm outbuildings, under bridges etc. Density: 1 box per 5 Ha.



BASIC OPEN FRONTED NEST BOX

BLACK REDSTART
Black redstarts are rare in Britain, with its populations concentrated in urban centres. They prefer complex vertical structures which provide them with high singing posts.
Size: 100mm wide, 100mm deep and 150mm high. Nest box entrance should not allow access to larger birds like feral pigeons. Siting: Boxes should be placed on tall buildings underneath structures like overhangs, balconies and escape routes. Density: A large number of nest boxes should be erected to give pairs some selection.

SPECIAL BOXES



HOUSE MARTIN NEST CUP

HOUSE MARTIN

Internal dimensions: 70mm high, 120mm wide at back, 90mm deep.
Material: Concrete.
Siting: Boxes should be mounted under eaves, at least 2 metres high. Eaves should have an overhang of at least 150 mm to provide sufficient shelter. Ensure water cannot trickle into box. Density: House martins nest colonially; therefore nest cups should be grouped to encourage colonisation.

HOUSE SPARROW

Size: 555 mm wide, 210 mm high (front) and 265 mm high (back), 170 mm deep. 32mm entrance hole. House sparrows prefer to nest communally in boxes called terraces. Each box has three discreet nesting compartments, with entrance holes (one or two per compartment) located just under the lid. Siting: Boxes should be positioned at least 3 m above ground level; placing boxes under the eaves is ideal.
Density: This species nests colonially, but individual nest entrances should be at least 150mm apart.

SWALLOW

Size: This simple bowl shaped nest is 110 mm high, 250 mm wide and 14 cm deep.
Siting: Nesting bowls should be sited as high as possible on ledges or rafters within buildings. Nest should be mounted with at least 100 mm of headroom.
Density: Swallows are sociable birds, however, nests should be placed no closer than 1 m apart.



HOUSE SPARROW BOX Photo by Dr Roger Chittock

BAT BOXES & BAT BRICKS

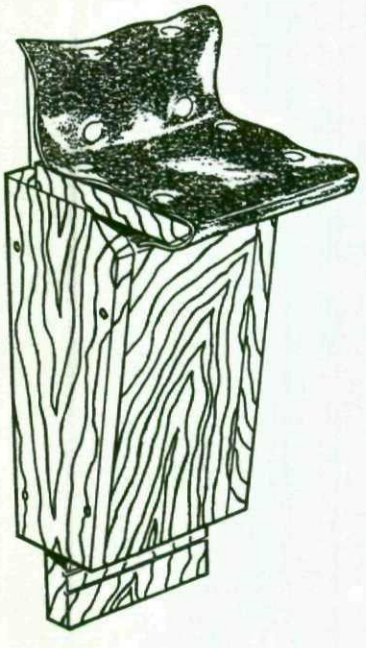
All British bat species present are protected by law, as their numbers have decreased rapidly within recent years. Bats, along with birds and spiders, are important insect predators, and are a vital part of the biological control of pests. An individual bat can eat up to 3,000 midges per night. For these reasons it is vital to incorporate features suitable for bats into developments.

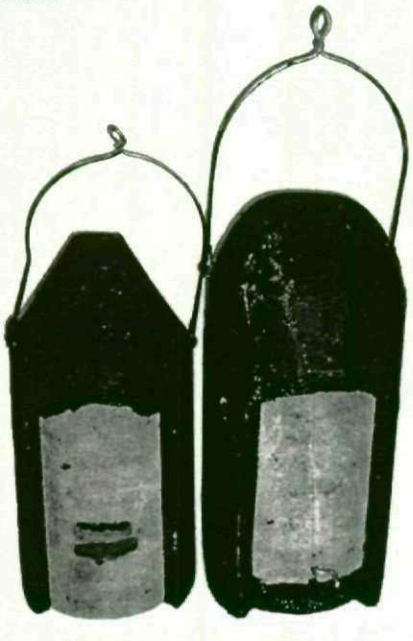
BAT BOXES

Most British species of bats will use bat boxes, to varying degrees, but those most commonly found include pipistrelles, leisler's, noctules and *Myotis* species. Bat boxes should be positioned in sunny locations, on trees or walls, mainly to the south or west, but a variety of different positions would provide a range of climatic conditions. Boxes should be placed as high as possible, at heights of between 3 to 6 metres. The entrance should be free from obstruction. As bats use a number of different roosts throughout the year, it is best to erect them in groups of 3 to 5 boxes across the site, to include a range of different aspects.

WOODEN BAT BOXES

Size: 100mm wide, 80mm deep and 400mm high.
The entrance should be a narrow slot at least 20mm wide underneath the box, allowing the animal to crawl up into the roost
Wood should be rough and at least 20mm thick. The thickness of the wood helps to protect the bats from changes in temperature. Most importantly, wood should be left untreated internally as some wood treatments are toxic to bats and smell unpleasant.

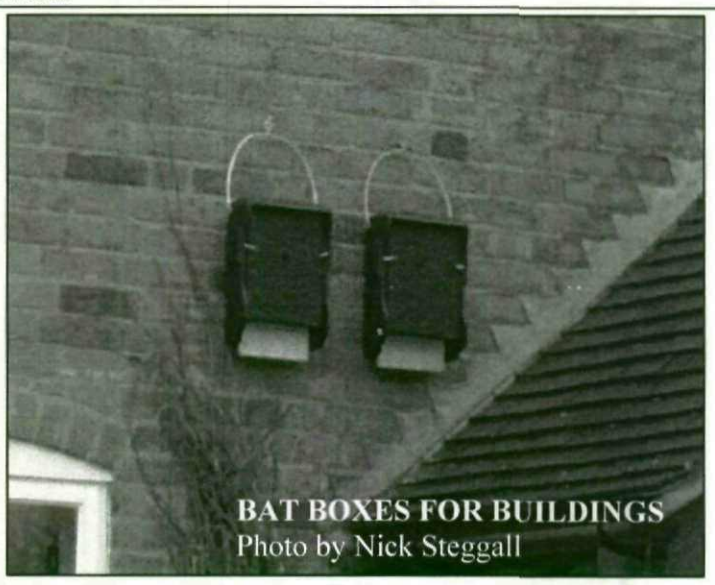




WOODCRETE BAT BOXES SUITABLE FOR PIPISTRELLES (L) AND NOCTULES (R)

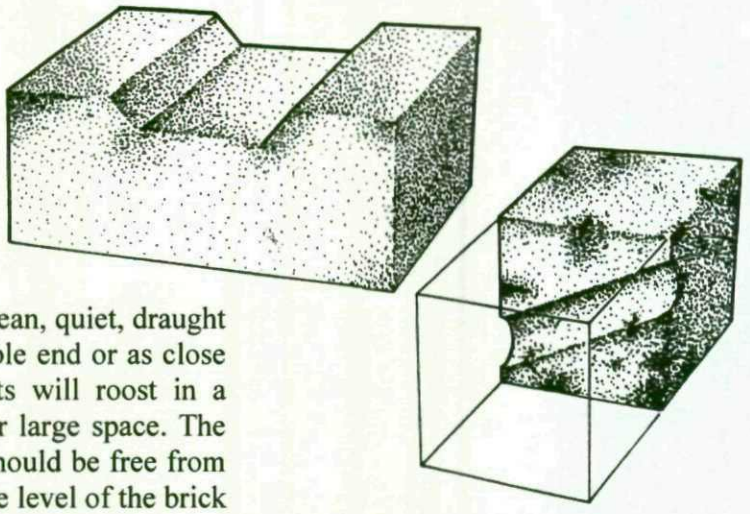
WOODCRETE BAT BOXES

Commercially made bat boxes, such as Schwegler boxes, are available in a number of designs for use in many of different locations, including trees, buildings and bridges. Certain models can also be designed into the fabric of buildings or bridges. The advantage of these boxes is that woodcrete is much longer lasting and more weather resistant than wood.


BAT BOXES FOR BUILDINGS
Photo by Nick Steggall

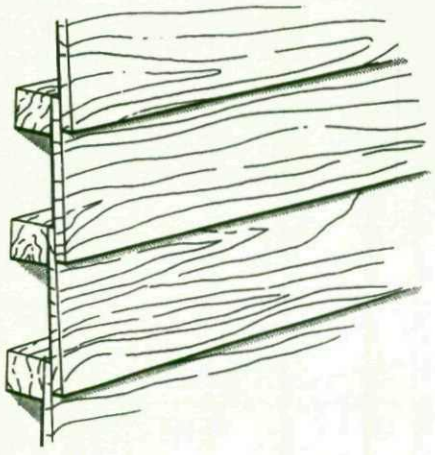
OTHER ROOSTING FEATURES

An alternative to bat boxes is to incorporate roosting features into the buildings structure.



BAT BRICKS

Bat bricks should be placed in a clean, quiet, draught free environment, ideally on a gable end or as close to a soffit as possible. Most bats will roost in a cavity wall rather than in a loft or large space. The cavity wall around the bat brick should be free from insulation material at least from the level of the brick to the top of the wall. Using a good quality bat brick, which enters into a bat roost unit, can prevent bats from gaining access into the wall cavity.



OUTSIDE WALLS

Battens and overlapping boards positioned on the outside of a building can also provide a roosting location. Fix 30mm battens to the upper part of a gable end wall, ideally facing south or west, and nail on horizontal overlapping boards or hanging tiles making sure to leave holes of sufficient size (at least 20mm x 100mm) allowing the bats to enter the roosting site.

Bat Access and Bat Roost Bricks

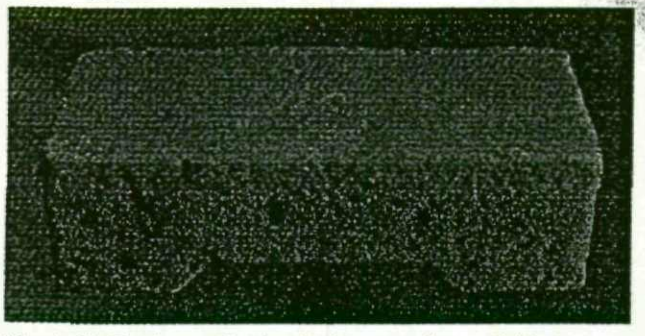
Approved by the Bat Conservation Trust

Over recent years Marshalls Clay Products has become almost as well known for the success of its award winning environmental work as it is for the quality of its brick products. Our land restoration and nature conservation schemes, first developed by Yorkshire Brick Company, have become an integral part of our activities over the years and have been recognised as some of the most successful of their kind anywhere.

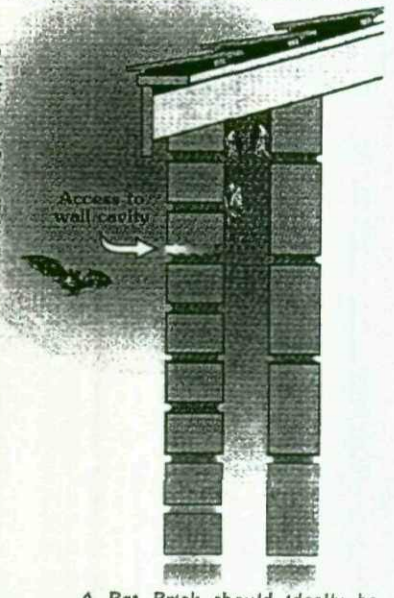
As part of this ongoing philosophy, Marshalls Clay Products have been producing a special Bat Access Brick, specially designed to help the country's badly depleted bat population by providing access to wall cavities or roof spaces where most bat colonies tend to be. *(see diagram)*

In recent years bats have been declining at an alarming rate, (estimates suggest as much as 60%) loss of habitat being a key factor in this decline. Nearly all colonies tend to be on the outside of houses, in wall cavities, under slates, flashing or tiles, etc.

Contrary to popular opinion bats do not make nests and do absolutely no damage to buildings or roof timbers, indeed many people encourage bat colonies in their area because of the large number of insect pests, woodworm, etc. which they eat. Most colonies will use a house for only a few weeks in summer before dispersing by the autumn.



Marshall's Bat Access Brick, which is now also available in stone

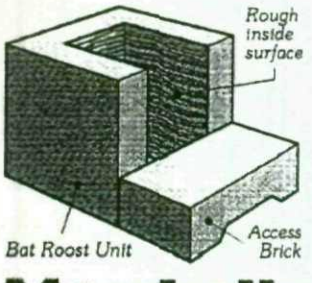


A Bat Brick should ideally be placed as high as possible, at the gable apex or close to the soffit.

Bat Roost Unit

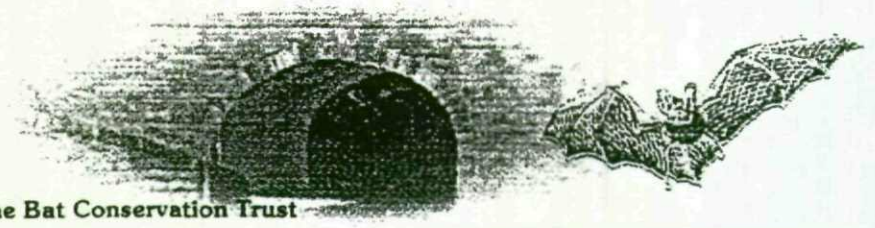
A recent survey of bridges in Yorkshire found that 25% were being used by bats. Other reports showing similar findings suggest that large number of tunnels and bridges are occupied by bats. As bats are protected under the 1981 Wildlife and Countryside Act, engineers should attempt to preserve the bat habitat while carrying out essential maintenance to these structures. If bats are known to use the structure, the Country Agency for Nature Conservation should be consulted.

Following a meeting with The Bat Conservation Trust and British Waterways Technical Services Department, Marshalls Clay Products have developed an elegant solution in the form of their Bat Roost Unit. Used in conjunction with the Bat Access Brick, the unit provides a rough surfaced cavity of 110 X 150 X 215 mm. The module can be used in repairs to bridge arches and abutments as well as in many new construction projects.



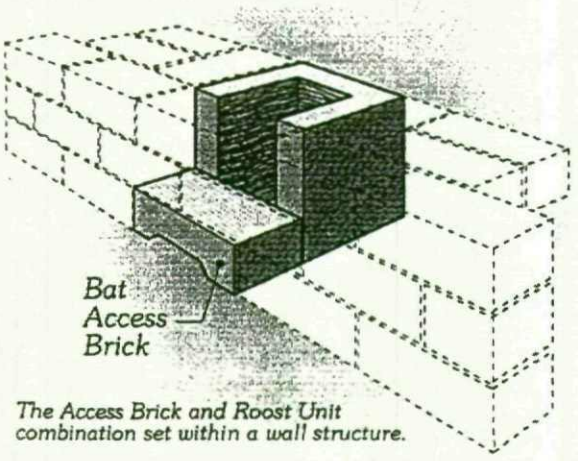
Marshalls
CLAY PRODUCTS
Quarry Lane, Howley Park, Woodkirk, Dewsbury, West Yorkshire WF12 7JJ
Tel (01132) 203535 Fax (01132) 203555

Bat Roost Unit

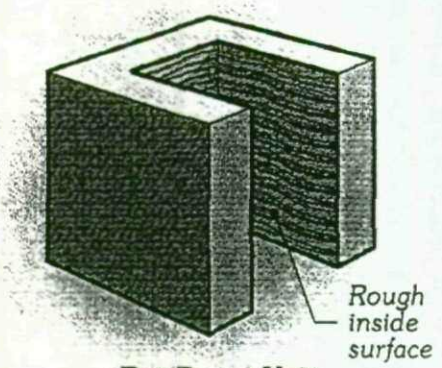


Approved by The Bat Conservation Trust

The preservation of bat habitats is very important to help maintain the diversity of bat species in this country. Engineers and specifiers can now play a significant role by specifying Bat Access Bricks and Bat Roost Units in repair and maintenance work. The Access Unit/Roost Unit combination has been carefully designed to work not just in new or existing walls but also within brick and stone arch structures.



The Access Brick and Roost Unit combination set within a wall structure.



Bat Roost Unit

Bat Access Bricks have been supplied in significant numbers to large organisations such as British Waterways and British Rail, who operate continuous maintenance programmes on bridges and tunnels.

Other organisations are ordering smaller numbers for incorporation into building works and some private individuals are using Bat Access Units in their own homes.

Marshalls Bat Access and Roost Units are approved by the Bat Conservation trust.

For more information on these innovative products contact **Julie Cull** at **Marshalls Clay Products**.
Telephone 01132 203535 ext. 3458

Marshalls

CLAY PRODUCTS
Quarry Lane, Howley Park, Woodkirk,
Dewsbury, West Yorkshire WF12 7JJ
Tel (01132) 203535 Fax (01132) 203555

The Bat Conservation Trust

The Bat Conservation Trust is Britain's only organisation solely devoted to the conservation of bats and their habitats. The BCT aims to prevent further declines in bat populations and to encourage the recovery of threatened species.

If you would like more information about bats or would like to become a bat supporter please contact us at the address



The Bat Conservation Trust
15 Cloisters House
8 Battersea Park Road
London
Tel 0171 627 2629
Fax 0171 6272628

LADYBIRD & LACEWING BOX

Introduction

Ladybirds and Lacewings are natural predators and valuable consumers of common garden pests such as aphids (greenfly and blackfly etc.). By encouraging these natural predators, a greater number of garden pests are consumed, reducing the need for chemical pesticides.

Ladybird and Lacewing boxes provide a number of locations where these insects can spend the winter, ready to consume the common garden pests the following spring.

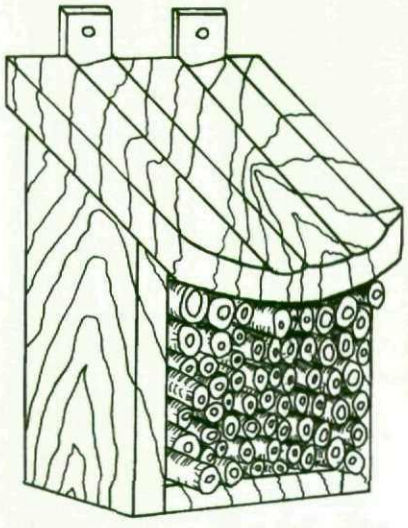
As most people are familiar with ladybirds and happy to have them in their garden, they make an ideal natural pest control method.

Materials

Cedar or Deal at least 20mm thick should be ideal. Never use wood preserver on the inside of the box. Inside the box, various diameters of hollowed bamboo canes should be used; canes should be a minimum of 100 mm long.

Positioning the Box

The boxes should be placed in sunny positions in hedgerows, shrubs, on tree trunks, fence and garden sheds.



MIDDLEMARCH ENVIRONMENTAL

QUALITY ASSURANCE

TITLE: CODE FOR SUSTAINABLE HOMES
ECOLOGICAL ASSESSMENT

WESTHAVEN, CUDWORTH

SUBMITTED TO: BSP CONSULTING

Report Number: RT-MME-104793-01

Revision Number: 00

Description: Final

Date: April 2009

Checked:

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WESTHAVEN, CUDWORTH

APPENDIX 2

EXTENDED PHASE 1 HABITAT SURVEY

WESTHAVEN, DARFIELD ROAD
CUDWORTH, BARNSLEY

A Report to BSP Consulting

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April 2009

EXTENDED PHASE 1 HABITAT SURVEY

WESTHAVEN, DARFIELD ROAD
CUDWORTH, BARNSLEY

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01 OF 02

01 BSP CONSULTING
02 MIDDLEMARCH ENVIRONMENTAL LTD

This report was compiled by:
Lucy Philpott, BSc, AIEEM

*The contents of this report are the responsibility of Middlemarch Environmental Ltd.
It should be noted that, whilst every effort is made to meet the client's brief,
no site investigation can ensure complete assessment
or prediction of the natural environment.*

Contract Number C104793

April 2009

EXECUTIVE SUMMARY

Middlemarch Environmental Ltd was commissioned by BSP Consulting to carry out an initial ecological appraisal at the site of a proposed housing development on Westhaven in Cudworth. It is understood that the site is to be redeveloped for residential housing. To fulfil this brief an ecological desk study and Extended Phase I Habitat Survey were undertaken.

The survey was carried out on 31st March 2009 by Lucy Philpott, Arboricultural Manager. The site is located on Darfield Road in Cudworth, a small village on the outskirts of Barnsley at National Grid Reference SE 392 082. The site is approximately 0.38 ha in extent and is surrounded by residential properties and associated amenity areas. The site is flat and consists predominantly of existing buildings, hardstanding and amenity grassland.

No conservation sites with statutory or non-statutory protection were identified within 1km of the proposed development site.

The buildings and hedgerow on site were considered as notable because of their potential to support protected species. Areas of amenity grassland, hardstanding, introduced scrub and scattered scrub within the site may also be lost as part of the development. These habitats had a low species diversity and offer little habitat for foraging mammals or herpetofauna. These habitat types are also well-represented within the surrounding landscape. The loss of this habitat is therefore not deemed to be a notable consideration

The field survey identified suitable nesting habitat for birds including hedgerow and buildings. The building also offered suitable nesting areas for birds and roosting opportunities for bats. To ensure compliance with wildlife legislation recommendations have been made in relation to bats and nesting birds.

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1. INTRODUCTION

1.1 PROJECT BACKGROUND

In March 2009 BSP Consulting commissioned Middlemarch Environmental Ltd to undertake an initial ecological appraisal of the site of a proposed development at Westhaven, Darfield Road, Cudworth, Barnsley. It is understood that the site is to be redeveloped with new residential housing being constructed. To fulfil the above brief to assess the existing ecological interest of the site, a desk study and an Extended Phase 1 Habitat Survey were undertaken on 31st March 2009.

1.2 SITE DESCRIPTION

The site is located on Darfield Road, in Cudworth a small village on the outskirts of Barnsley at National Grid Reference SE 392 082. The site is approximately 0.38 ha in extent and is surrounded by residential properties and associated amenity areas. The site is flat and consists predominantly of existing buildings, hardstanding and amenity grassland.

2. METHODOLOGY

2.1 DESK STUDY

A desk study was undertaken to determine the presence of any designated nature conservation sites and protected species that have been recorded within a 1 km radius of the site. This involved contacting appropriate statutory and non-statutory organisations which hold ecological data relating to the survey area. Middlemarch Environmental Ltd then assimilated and reviewed the desk study data provided by these organisations.

The consultees for the Desk Study were:

- Natural England - *MAGIC* website for statutory conservation sites;
- Barnsley Biodiversity Trust;
- National Biodiversity Network Gateway website.

The data collected from these consultees is discussed in Section 3. Raw data are provided in Appendix 1.

2.2 EXTENDED PHASE 1 HABITAT SURVEY

An Extended Phase 1 Habitat Survey was conducted following the methodology of JNCC (1993) as modified by IEA (1995). Phase 1 Habitat Survey is a standard technique for classifying and mapping British habitats. The aim is to provide a record of habitats that are present on site. During the survey, the presence, or potential presence, of protected species was noted. Data recorded during the field survey is discussed in Section 4.

A summary of legislation relevant to the ecology of the site is included in Appendix 2.

3. DESK STUDY RESULTS

3.1 INTRODUCTION

From the details provided by the consultees all relevant ecological data has been reviewed. The results from these investigations for the site are summarised below in Sections 3.2 and 3.3. Data are provided in Appendix 1.

3.2 NATURE CONSERVATION SITES

Reference to the Multi Agency Geographical Information for the Countryside (MAGIC) website and the local biodiversity information indicate that no nature conservation sites with statutory protection and no nature conservation sites with non-statutory protection occur within a 1 km radius of the survey area.

3.3 PROTECTED SPECIES

It should be noted that there is no Biological Records Centre covering the Barnsley Area and that no data were provided by the Barnsley Biodiversity Trust. The records of protected species are therefore limited to NBN Gateway data. A search of the NBN site indicated that numerous bat records have been submitted for Cudworth village particularly Pipistrelle *Pipistrellus pipistrellus*. Other protected species data on the NBN Gateway for the area is at a resolution too low to provide meaningful information (e.g. 10km). The absence of records should not be taken as confirmation that a species is absent from the search area.

4. EXTENDED PHASE 1 HABITAT SURVEY

4.1 INTRODUCTION

The results of the Extended Phase 1 Habitat Survey are presented in Section 4.2. An annotated Extended Phase 1 Habitat Survey Drawing (Middlemarch Environmental Ltd Drawing Number C104793) is attached in Appendix 3. This drawing illustrates the location and extent of all habitat types recorded on site. Any notable features or features too small to map are detailed using target notes. The survey was carried out on 31st March 2009 by Lucy Philpott, Senior Ecological Consultant. Table 4.1 details the weather conditions at the time of the survey.

Parameter	Condition
Temperature (°C)	10
Cloud (%)	100
Wind	3-4
Precipitation	Dry

Table 4.1: Weather Conditions During Survey Period

4.2 SURVEY CONSTRAINTS

The conditions at the time of the survey were considered to be optimal and there were no constraints.

4.3 HABITATS

The following habitat types were recorded on site during the field survey:

- Amenity grassland
- Buildings
- Hardstanding
- Introduced shrub
- Scattered broadleaved tree
- Scattered scrub
- Species poor defunct hedgerow

These habitats are described below. They are ordered alphabetically, not in order of ecological importance.

Amenity grassland

This habitat was closely mown at the time of the survey and had a low species diversity. Principal species included perennial rye-grass *Lolium perenne*, meadow grass species, *Poa* sp., dandelion, *Taraxacum officinale* agg., clover, *Trifolium* sp., daisy, *Bellis perennis*, plantain species, *Plantago* sp., yarrow *Achillea millefolium* and ragwort *Senecio jacobia*. The amenity grassland habitat occupied approximately 0.15 ha.

Buildings

The building on site was a two storey brick built structure with a pitched tiled roof. Some single storey, flat, felt roofed extensions were present alongside the existing buildings. All windows and doors had been boarded at the properties. A wooden soffit was present along the roof line of the properties. The building had numerous lifted and missing tiles and holes present in the soffit box. Buildings covered approximately 0.07 ha.

Hardstanding

Paving was recorded around the edges of the buildings on site with groundsel *Senecio vulgaris* noted in gaps between the slabs. The access road comprised tarmac and supported no vegetation.

Introduced shrub

Flower beds which were associated with the former properties on site has now become overgrown with grasses and tall ruderal species such as dock *Rumex* sp, nettle *Urtica dioica* and creeping thistle *Cirsium arvense*. Principal species of the former flower bed included rose *Rosa* sp., wall flower species *Erysimum* sp., daffodil *Narcissus* sp., and iris *Iris* sp.

Scattered broadleaved trees

A single ash *Fraxinus excelsior* tree was situated on the eastern boundary of the study site. This tree was mature, 9.5 m in height and in good condition.

Scattered scrub

Elder *Sambucus nigra* was noted scattered along the south western building boundary.

Species poor defunct hedgerow

The hedgerow runs along the south western boundary of the site and comprises of pyracanther *Pyracanther* sp., elder *Sambucus nigra*, flowering current *Ribes sanguineum* and bramble *Rubus*

fruticosus agg. The base of the hedgerow was overgrown with ivy *Hedera helix*, cleavers *Galium apparine* and nettle *Urtica dioica*.

4.4 FAUNA

During the field survey field signs of faunal species were noted and mapped. The time of year at which the survey is undertaken will affect species or field signs directly recorded during the survey.

A range of common bird species, including blackbird *Turdus merula*, starling *Sturnus vulgaris* and blue tit *Cyanistes caeruleus* were recorded on site during the field survey. A house sparrow *Passer domesticus* was noted nesting within the building at the time of the survey.

5. DISCUSSIONS AND CONCLUSIONS

5.1 NATURE CONSERVATION SITES

Reference to the Multi Agency Geographical Information for the Countryside (MAGIC) website and the local biodiversity information indicate that no nature conservation sites with statutory protection and no nature conservation sites with non-statutory protection occur within a 1 km radius of the survey area.

5.2 HABITATS

It is understood that the site is to be redeveloped with new residential housing being constructed. This will involve the loss and/or disturbance of the existing habitats at the site. However, there is considerable potential for enhancement at the site, thorough the provision of protected species features (bird and bat boxes) and sympathetic landscaping. This is discussed in further detail in Middlemarch Environmental Ltd Code for Sustainable Homes Report RT-MME-104793-01.

The ecological importance of the habitats present on site is assessed against their presence on the UK and Local BAPs and on Section 41 of the NERC Act and their ability to support protected or notable species. Those habitats which meet any of these criteria and are considered likely to be impacted by the proposals are highlighted as notable considerations. This is summarised in Table 5.1 and further discussed in the text below.

Habitat Type	UK BAP?	Local BAP?	NERC Act?	Is Habitat a Notable Consideration?
Amenity grassland	✗	✗	✗	No
Buildings	✗	✗	✗	Yes
Hardstanding	✗	✗	✗	No
Introduced shrub	✗	✗	✗	No
Scattered scrub	✗	✗	✗	No
Species poor defunct hedgerow	✓	✗	✓	Yes

Table 5.1: Summary of Ecological Importance of Habitats on Site

The mosaic of habitats recorded within the site boundaries could be considered under the 'Urban and Built Up Areas' Habitat Action Plan on the Barnsley Biodiversity Action Plan and under the 'Built Up Areas and Gardens' Broad Habitat type on the UK BAP.

The buildings and hedgerows on site were considered as notable because of their potential to support protected species. The hedgerow has a moderate potential to support nesting birds, whereas the buildings on site have features with the potential to support both nesting birds and bats. A nesting house sparrow was recorded utilising the building during the survey.

Areas of amenity grassland, hardstanding, introduced scrub and scattered scrub within the site will be lost as part of the development. These habitats had a low species diversity and offer little habitat for foraging mammals or herpetofauna. These habitat types are also well-represented within the surrounding landscape. The loss of this habitat is therefore not deemed to be a notable consideration.

5.3 PROTECTED/NOTABLE SPECIES

Table 5.2 summarises which species are notable considerations for any development of the survey area. It also states whether these species are targeted by national or local Biodiversity Action Plans (BAPs) or afforded some protection under the NERC Act 2006.

Species	UK BAP?	Local BAP?	NERC Act?	Is Species a Notable Consideration?
Herpetofauna				
Reptile species	#	×	#	No
Great crested newt *Triturus cristatus*	✓	✓	✓	No
Birds				
All species	#	#	#	Yes
Mammals				
Water vole *Arvicola terrestris*	✓	✓	✓	No
Bat species *Chiroptera* sp.	#	#	#	Yes
Otter *Lutra lutra*	✓	✓	✓	No
Badger *Meles meles*	×	×	×	No
Invertebrates				
White-clawed crayfish *Austropotamobius pallipes*	✓	✓	✓	No
Key: # Species dependent				

Table 5.2: Summary of Ecological Importance of Species on Site

The habitats on site may provide nesting habitat for a variety of bird species. The habitats of principal importance will be the hedgerow but birds are also utilising the building. The site also provides foraging habitat for a variety of bird species. Removal of any or all of these habitats will reduce the number of available nesting locations within the locality. It is however considered that this will not impact upon the nesting bird population. This is due to the large amount of alternative nesting locations within the vicinity of the site and the small amount of vegetation proposed for removal.

The desk study identified records of bat species within 1 km of the study site. The buildings within the survey area offer potential features for roosting bats including gaps in the soffit boxes and gaps around the tiles and roof apex of the building. The site also offers suitable foraging habitat for bats including hedgerow and introduced shrub beds. Bats therefore may be impacted by the proposed development if the recommendations made within Section 6 are not followed.

No ponds are situated within 500 m of the study site. The site is dominated by habitats which are considered to be suboptimal for great crested newts and reptiles. As such it is considered that these species will not be impacted by the proposals.

No watercourses are situated within or close to the study site and as such otter, water vole and white-clawed crayfish will not be impact by the development proposals.

The site offers some suitable habitat for badgers including amenity grassland. No evidence of badgers such as latrines, setts or foraging was recorded during the site visit. Badgers are as such not a notable consideration for the development.

6. RECOMMENDATIONS

6.1 Nature Conservation Sites

No further action required.

6.2 Habitats

The following recommendations are made regarding the habitats present on site:

- **Habitat Loss:** In accordance with the provision of Planning Policy Statement 9 (Biodiversity & Geological Conservation) and Local Planning Policy, a habitat/species enhancement scheme should be incorporated into the landscaping scheme of any proposed works to maximise the ecological value of the site. This could involve, for example, the planting of native seed/fruit bearing species which will be of value to wildlife and the provision of bird and bat boxes.

- *If possible, the existing defunct species poor hedgerow should be retained and enhanced,* supporting this key UK BAP habitat.

- **Trees:** Any trees and/or hedgerows on site, or overhanging the site, which are not to be removed as a part of any proposed works should be protected in accordance with British Standard "Trees in relation to construction - Recommendations" BS5837:2005. Protection should be installed on site prior to the commencement of any works on site.

6.3 Protected / Notable Species

The following recommendations are made regarding protected species that are potentially present on site:

Bats

A bat survey should be undertaken on the existing building at the site.

Initial bat surveys can be undertaken throughout the year. Nocturnal bat surveys and activity assessments can only be undertaken when bats are active (April to September inclusive – weather dependent).

The development should not include lighting which will increase the illumination of boundary features such as the trees and hedgerow.

Birds

If any trees, hedges, scrub or buildings are to be removed, these works should be undertaken outside the bird-nesting season. The bird-breeding season is weather dependent but generally extends from March to September inclusive. If this is not possible the vegetation/building to be removed should be inspected by a suitably qualified ecologist. If birds are found to be nesting any works which may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally.

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APPENDICES

APPENDIX 1: Desk Study Data

APPENDIX 2: Overview of Relevant Legislation

APPENDIX 3: Extended Phase I Habitat Survey Drawing C104793-01

APPENDIX 1

Desk Study Data

APPENDIX 2

Overview of Relevant Legislation

GENERAL LEGISLATION AND POLICY OVERVIEW

This section provides an overview of the framework of legislation and policy which underpins nature conservation and is a material consideration in the planning process in England.

The Conservation (Natural Habitats. &c.) Regulations 1994 (as amended)

The Habitat Regulations 1994 (as amended 2009) transpose EEC Council Directive 92/43 (The Habitats Directive) into UK law. The regulations place duty upon the relevant authority of the UK government to identify sites which are of importance to the habitats and species listed in Annexes I and II of the Habitats Directive. Those sites which meet the criteria are, in conjunction with the European Commission, designated as Sites of Community Importance, which are subsequently identified as Special Areas of Conservation (SAC) by the European Union member states. The regulations also place a duty upon the UK government to maintain a register of European protected sites designated as a result of EC Directive 79/409/EEC on the Conservation of Wild Birds (The Birds Directive). These sites are termed Special Protection Areas (SPA) and, in conjunction with SACs, form a network of sites known as Natura 2000.

The regulations also provide for the protection of individual species of fauna and flora of European conservation concern listed in Schedules 2 and 4 respectively. Schedule 2 includes species such as otter and great crested newt for which the UK population represents a significant proportion of the total European population. It is an offence to deliberately kill, injure, disturb or trade these species in the UK. Schedule 4 plant species are protected from unlawful destruction, uprooting or trade under the regulations.

The Wildlife and Countryside Act (WCA)1981

The WCA, as amended, consolidates and amends pre-existing national wildlife legislation in order to implement the Bern Convention and the Birds Directive. It compliments the Conservation (Natural Habitats. &c.) Regulations 1994 (as amended), offering protection to a wider range of species. The Act also provides for the designation and protection of national conservation sites of value for their floral, faunal or geological features, termed Sites of Special Scientific Interest (SSSIs).

Schedules of the act provide lists of protected species, both flora and fauna, and detail the possible offences that apply to these species. All relevant species specific legislation is detailed later in this Appendix.

The Countryside and Rights of Way (CRoW) Act 2000

The CROW Act, introduced in England and Wales in 2000, amends and strengthens existing wildlife legislation detailed in the WCA. It places a duty on government departments and the National Assembly for Wales to have regard for biodiversity, and provides increased powers for the protection and maintenance of SSSIs.

The Act also contains lists of habitats and species (Section 74) for which conservation measures should be promoted, in accordance with the recommendations of the Convention on Biological Diversity (Rio Earth Summit) 1992.

The Natural Environment and Rural Communities (NERC) Act 2006

Section 40 of the NERC Act places a duty upon all local authorities and public bodies in England and Wales to promote and enhance biodiversity in all of their functions. Sections 41 (England) and 42 (Wales) list habitats and species of principal importance to the conservation of biodiversity. These species and habitats are a material consideration in the planning process.

The Hedgerow Regulations 1997

The Hedgerow Regulations make provision for the identification of important hedgerows which may not be removed without permission from the Local Planning Authority.

UK Biodiversity Action Plan

The United Kingdom Biodiversity Action Plan (UKBAP), first published in 1994 and updated in 2007, is a government initiative designed to implement the requirements of the Convention of Biological Diversity to conserve and enhance species and habitats. The UKBAP contains a list of priority habitats and species of conservation concern in the UK, and outlines biodiversity initiatives designed to enhance their conservation status. Lists and Broad and Local habitats are also included. The priority habitats and species correlate with those listed on Section 74 of the CRoW Act and Section 41/42 of the NERC Act.

The UKBAP requires that conservation of biodiversity is addressed at a County level through the production of Local BAPs. These are complimentary to the UKBAP, however are targeted towards species of conservation concern characteristic of each area. In addition, a number of local authorities and large organisations have produced their own BAPs.

UKBAP and Local BAP targets with regard to species and habitats are a material consideration in the planning process.

PLANNING POLICY

Planning Policy Statement 9

Planning Policy Statement 9 provides guidance to local authorities regarding the protection of biodiversity and geology through the planning system in England. Key principles relating to biodiversity include:

- Development plan policies and planning decisions should be based upon up-to-date information about the environmental characteristics of their areas. These characteristics should include the relevant biodiversity and geological resources of the area. In reviewing environmental characteristics local authorities should assess the potential to sustain and enhance those resources.

- Plan policies and planning decisions should aim to maintain, and enhance, restore or add to biodiversity and geological conservation interests. In taking decisions, local planning authorities should ensure that appropriate weight is attached to designated sites of international, national and local importance; protected species; and to biodiversity and geological interests within the wider environment.

- Plan policies should promote opportunities for the incorporation of beneficial biodiversity and geological features within the design of development.

National planning policy is implemented through local and regional planning policies.

Species Specific Legislation

Nesting and Nest Building Birds

Nesting and nest building birds are protected under the Wildlife and Countryside Act WCA 1981 (as amended). Some species (listed in Schedule 1 of the WCA) are protected by special penalties.

Subject to the provisions of the act, if any person intentionally –

(a) kills, injures or takes any wild bird;
(b) takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or
(c) takes or destroys an egg of any wild bird,

he shall be guilty of an offence.

'Reckless' offences with regard to the disturbance of nesting wild birds included in Schedule 1 of the Wildlife and Countryside Act were added by the Countryside and Rights of Way Act 2000.

Bats

Bats and the places they use for shelter or protection (i.e. roosts) are protected under both European Law (The Conservation (Natural Habitats &c.) Regulations 1994) and UK law (the Wildlife and Countryside Act (WCA) 1981). This protection means that bats, and the places they use for shelter or protection, are a material consideration in the planning process.

European Law

The most recent amendment (2009) to Regulation 39 of the Habitat Regulations, states that a person commits an offence if he-

- deliberately captures, injures or kills a bat;
- deliberately disturbs bats; or,
- damages or destroys a bat roost (breeding site or resting place).

It is an offence for any person to-

- have in his possession or control;
- to transport;
- to sell or exchange; or
- to offer for sale,

any live or dead bats, part of a bat or anything derived from bats which has been unlawfully taken from the wild. A person found guilty of an offence is liable on summary conviction to imprisonment for a term not exceeding six months and/or to a fine not exceeding level 5 on the standard scale.

UK Law

Whilst broadly similar to the above legislation, the following differences occur:

- Section 9(1) of the WCA 1981 (as amended) makes it an offence to *intentionally* (rather than deliberately) kill, injure or take any protected species.

- Section 9(4)(a) of the WCA makes it an offence to *intentionally or recklessly** damage or destroy, *or obstruct access to*, any structure or place which a protected species uses for shelter or protection.
- Section 9(4)(b) of the WCA makes it an offence to *intentionally or recklessly** disturb any protected species *while it is occupying a structure or place which it uses for shelter or protection.*

*Reckless offences were added by the Countryside Rights of Way Act 2000.

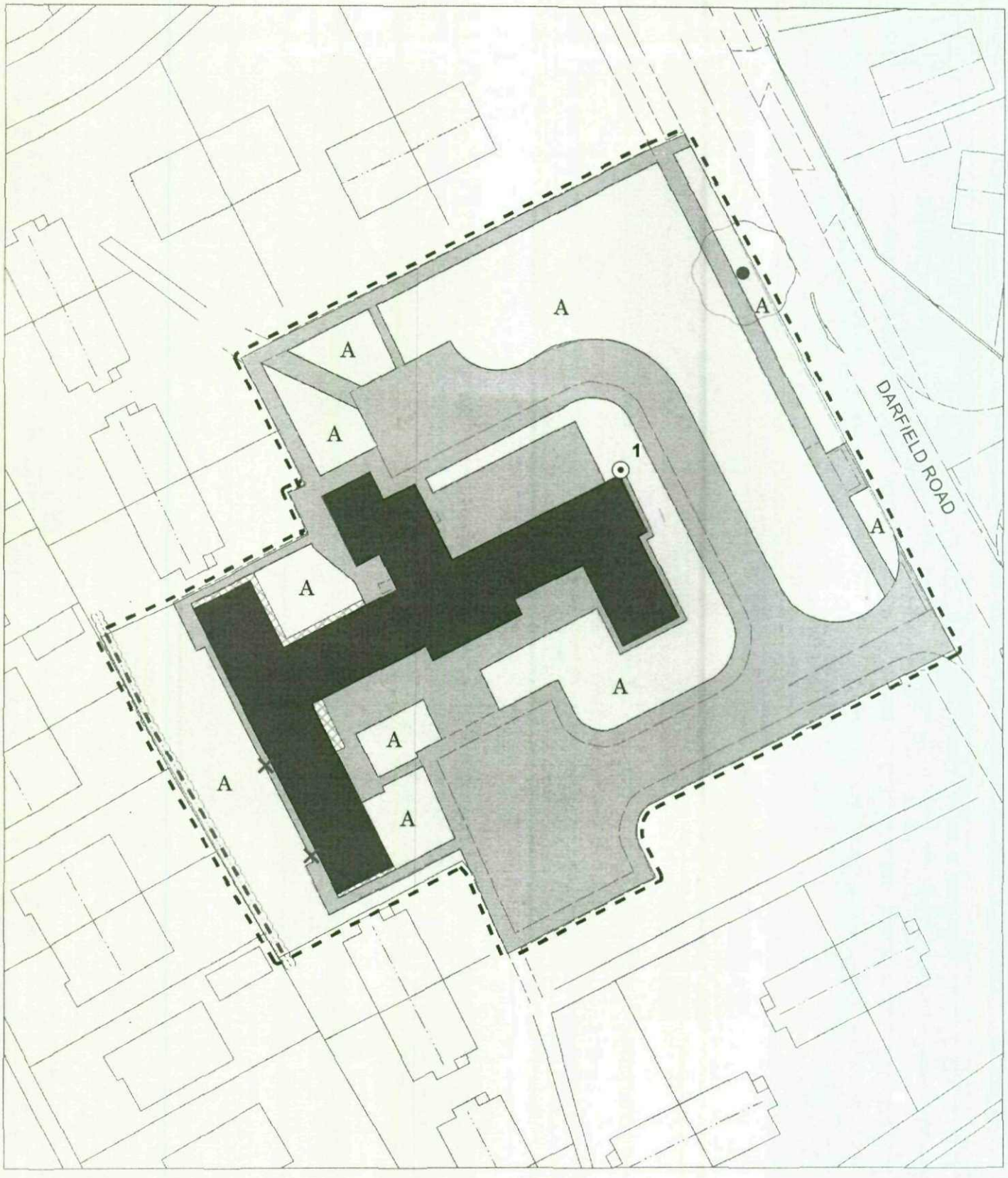
The Natural Environment and Rural Communities Act 2006 places a duty on public bodies to have regard for the conservation of biodiversity and maintains lists of species and habitats which are of principal importance for the purposes of conserving biodiversity in England and Wales. Bats are included on these lists.

As bats re-use the same roosts (breeding site or resting place) after periods of vacancy, legal opinion is that roosts are protected whether or not bats are present.

The reader is referred to the original legislation for the definitive interpretation.

APPENDIX 3

Middlemarch Environmental Ltd Drawing C104793-01
Extended Phase 1 Habitat Survey



Legend

- Broad-leaved tree
- Scattered scrub
- Target note
- Site boundary
- Species-poor defunct hedgerow
- A — Amenity grassland
- Building
- Hardstanding
- Introduced shrub

N

Client: BSP Consulting	Project: Westhaven, Cudworth
Drawing: Extended Phase 1 Habitat Survey	Drawing Number: C104793-01
Revision: 00	Date: April 2009
Scale at A4: 1:500	Drawn By: SKS
Approved By: JC	Notes: -

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C104793-01

TARGET NOTES

1. Gap at edge of roof above soffit – house sparrow *Passer domesticus* was observed exiting.

MIDDLEMARCH ENVIRONMENTAL LTD

QUALITY ASSURANCE

TITLE: WESTHAVEN, DARFIELD ROAD
CUDWORTH, BARNSLEY

EXTENDED PHASE 1 HABITAT SURVEY

A Report to BSP Consulting

Contract Number: C104793

Report Number: RT-MME-104793-02

Revision Number: 00

Description: Final

Date: April 2009

Checked by:

James Calow
Principal Consultant

Approved by:

Dr Philip Fermor
Managing Director

TADW
ARCHITECTS

WESTHAVEN, CUDWORTH

APPENDIX 3

ARBORICULTURAL SURVEY

WESTHAVEN, DARFIELD ROAD
CUDWORTH, BARNSLEY

A Report to BSP Consulting

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April 2009

ARBORICULTURAL SURVEY

WESTHAVEN, DARFIELD ROAD
CUDWORTH, BARNSLEY

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This study was conducted and compiled by
Ken Simons and Lucy Philpott AIEEM

This report is the responsibility of Middlemarch Environmental Ltd,
It should be noted, that whilst every effort is made to meet the client's brief,
no site investigation can ensure complete assessment
or prediction of the natural environment

Contract Number C104794

April 2009

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1. INTRODUCTION

1.1 INTRODUCTION

BSP Consulting commissioned Middlemarch Environmental Ltd to undertake an Arboricultural Survey on a tree and hedgerow within the site at Westhaven on Darfield Road, Cudworth in Barnsley. It is understood that the site is to be redeveloped for residential housing.

1.2 SITE DESCRIPTION

The site is located on Darfield Road, in Cudworth a small village on the outskirts of Barnsley at National Grid Reference SE 392 082. The site is approximately 0.38 ha in extent and is surrounded by residential properties and associated amenity areas. The site is flat and consists predominantly of existing buildings, hard standing and amenity grassland. A hedgerow forms the western boundary of the study site and a mature ash is situated along the eastern site boundary.

The location of the trees can be found on Middlemarch Environmental Ltd Drawing Number C104794-01 Appendix 1.

2. ARBORICULTURAL SURVEY METHODOLOGY

2.1 DESK STUDY

A desk study was undertaken to identify if any of the trees present within or in close proximity to the site are covered by Tree Preservation Orders (TPO's). It identified whether the site is situated within a Conservation Area. This involved consultation with the local council.

2.2 CONDITION STATUS

A full arboricultural survey has been undertaken, assessing the species and status of all trees present. This survey has been carried out in accordance with BS 5837 Trees in Relation to Construction (2005).

All trees have been identified with a metal tag at 1.8 m above ground level. Individual trees above 75 mm (diameter at 1.5 m above ground level) have had their position confirmed on the survey drawing (Appendix 1). The trees were visually assessed and a schedule prepared listing tree number, species, trunk diameter at 1.5 m above ground level, tree height, crown spread (radius), age class and estimated remaining years. Any specific observations or recommendations with regard to management were also noted. All these observations and measurements are summarised in Table 3.3, in Section 3.2.

The condition of each tree was assessed according to the following categories:

Category A Those trees of high quality and value. This category includes:

- Significant trees that are structurally sound and can be retained in the long term (i.e. greater than 40 years), or
- Trees that can be retained in the long term following remedial tree surgery.

Category B Those trees of moderate quality and value. This category includes:

- Trees that may only live 15 to 40 years, or
- Trees that may live for more than 40 years but whose removal may be required in that timescale to allow development of retained trees, or

- Trees that are defective but could be retained in the medium term by remedial tree surgery.

Category C Those trees of low quality and value. This category includes:

- Trees that can only be retained in the short term (i.e. 5 to 15 years), or
- Trees that have little landscape impact due to poor form or condition, or
- Trees having a stem diameter of less than 150 mm at 1.5 m above ground level that could be replaced.

Category R Trees that are dead, dying or diseased that will become dangerous in the near future (within 10 years).

Categories A, B and C have further sub-categories with regards to the reasons for tree retention:

1: Mainly arboricultural values

2: Mainly landscape values

3: Mainly cultural values, including conservation (e.g. veteran trees or wood pasture).

2.3 Root Protection Area (RPA)

In order to avoid damage to the roots or rooting environment of retained trees, the RPA has been calculated for each of the category A, B and C trees. This is a minimum area in m^2, which should be left undisturbed around each retained tree.

These figures are calculated utilising the formula below taken from BS5837 Trees in relation to Construction (2005):

Single Stem Tree

$$\text{RPA } (m^2) = \left(\frac{\text{Stem diameter (mm) @ 1.5m x 12}}{1000} \right)^2 \text{ x } 3.142$$

Tree with more than one stem arising below 1.5m above ground level

$$\text{RPA } (m^2) = \left(\frac{\text{Basal diameter (measured immediately above root flare (mm) x 10}}{1000} \right)^2 \text{ x } 3.142$$

3. RESULTS

3.1 DESK STUDY

Marcus Pinker (Temporary Forestry Officer, Barnsley Metropolitan Borough Council) confirmed by email on 30th March 2009 that there are no Tree Preservation Orders within or closely surrounding the study area. Marcus also confirmed that the site is not situated within a Conservation Area.

3.2 WEATHER CONDITIONS

The survey was completed on 31st March 2009 by Ken Simons, Arboricultural Consultant and Lucy Philpott, Arboricultural Manager. The weather conditions at the time of the survey are shown in Table 3.1.

Conditions	Result
Temperature (°C)	10
Cloud Cover (%)	100
Precipitation	3-4
Wind Speed (Beaufort)	Dry

Table 3.1: Weather Conditions at Time of Survey

3.3 SURVEY RESULTS

Tree and shrub species recorded during the survey are listed in Table 3.2.

Common Name	Scientific Name
Ash (Common Ash)	*Fraxinus excelsior*
Elder	*Sambucus nigra*
Flowering Currant	*Ribes sanguineum*
Pyracantha/Firethorn	*Pyrancantha* sp.

Table 3.2: Tree Species Recorded During Survey

The full results of the Arboricultural Assessment are detailed in Table 3.3.

Tree No.	Species	Diam at 1.5 m (mm)	Height (m)	Crown Spread (m)				Crown Clearance (m)	Age Class	Estimated Remaining Contribution (Years)	Category	Comments including Physiological & Structural Condition	Preliminary Management Recommendations
				N	E	S	W						
Tree 1	Ash	530	9.5	7.5	3	6.5	6.5	3	Mature tree.	20	B2	• Fair physiological condition. Fair structural condition. • Highway tree. • Heavily crown lifted on eastern side over highway. • Large wounds at 3 m. • Slight disruption to kerbs noted.	None
Grp 1	Pyracantha Elder Flowering Currant	n/a (20/30)	2	0.5	0.5	0.5	0.5	0	Mature tree.	20	B2	• Good physiological condition. Fair structural condition. • Predominantly Pyrancantha hedgerow, with elder and flowering currant.	Remove elder component. Replace failed pyrancantha with either similar species or hawthorn.

Key

Age Class
Young = tree within first third of average life expectancy
Early Mature = tree within second third of average life expectancy
Mature = tree within final third of average life expectancy
Over mature = tree beyond average life expectancy

Physiological Condition
Good = no health problems
Fair = symptoms of ill health that may be remedied
Poor = poor health

Structural Condition
Good = no structural defects
Fair = remedial structural defects
Poor = significant structural defects

Table 3.3: Results of Arboricultural Survey

3.4 ROOT PROTECTION AREA (RPA)

Table 3.4 provides details of the Root Protection Area (RPA) of all trees surveyed which were classified as Category A, B or C specimens. This table also gives an approximate root protection radius for these trees.

Tree No.	Species	Diameter at 1.5 m (mm)	Approximate Root Protection Radius (m)	Root Protection Area (m^2)
Tree 1	Ash	530	6.36	127.09
Grp 1	Pyracantha Elder Flowering Currant	(200-300)	2.00	-

Table 3.4: RPA and Approximate Root Protection Radius of Category A, B and C Trees Surveyed

4. DISCUSSION & CONCLUSIONS

The desk study identified that the site was not situated within a Conservation Area and that there were no trees subject to Tree Preservation Orders within or close to the proposed development site.

One tree and a hedgerow have been inspected in accordance with BS 5837: 2005 Trees in Relation to Construction. The tree and hedgerow are considered to be Category B specimens, those of moderate quality and value.

The plans provided (TADW Architects Drawing 80895 03 P4, Appendix 2) indicate that the development should not impact upon either the hedge or tree if they are adequately protected during the development. Several recommendations are made in Section 5 with regards to management of the hedgerow.

5. RECOMMENDATIONS

- The hedgerow and tree should be retained and protected as part of the development.
- The elder component of the hedgerow should be replaced as this has grown up where the original hedgerow components have failed. If allowed to grow, the elder may adversely affect the hedgerow feature. It is recommended that it is replaced with further pyrancantha or hawthorn.

The following generic guidance should also be taken into account during the construction phase of any development, or significant engineering, proposals for this site:

- Any mature trees that are to be retained should be adequately protected by Heras fencing (in line with BS5837) extending at least to the Root Protection Radius (RPR), to prevent accidental damage by vehicles or contractors (see Table 3.3, for RPA and RPR for each tree).
- Tree protection should be included in the induction and/or briefing sessions by the contractors to their workforce.
- Soil compaction, from the storage of large quantities of materials and plant tracking, may result in changes to soil permeability and local drainage. This may lead to waterlogging or loss of soil crumb structure. These effects may in turn lead to root asphyxiation and root death, a cause of instability and or mortality in trees. For this reason, heavy machinery and the storage of materials should be excluded from the crown radius of all trees.
- The recommendations of BS5837 (2005) and NJUG Volume 4 (as appropriate to operations) should be followed when working close to trees.
- Any damaged tree branches should be treated by a competent tree surgeon.
- If works takes place during the bird breeding season, usually from March to September inclusive, mature trees and buildings should be checked for nesting birds. If any trees are to be removed this should be done outside the breeding season or in the presence of a suitably qualified ecologist.

REFERENCES AND BIBLIOGRAPHY

Arboricultural Advisory Information Services. (2007). 'Practice Note 12. Through Trees to Development'.

BS5837. (2005). 'Guide for trees in relation to construction'.

Johnson, O. and More, D. (2004). *Tree Guide*. Collins, London.

NJUG Volume 4. (2007). 'Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees'.

The Conservation (Natural Habitats, &c.) Regulations (1994). HMSO, London.

APPENDICES

APPENDIX 1: Middlemarch Environmental Ltd Drawing C104794-01

- Plan of Trees Surveyed
-

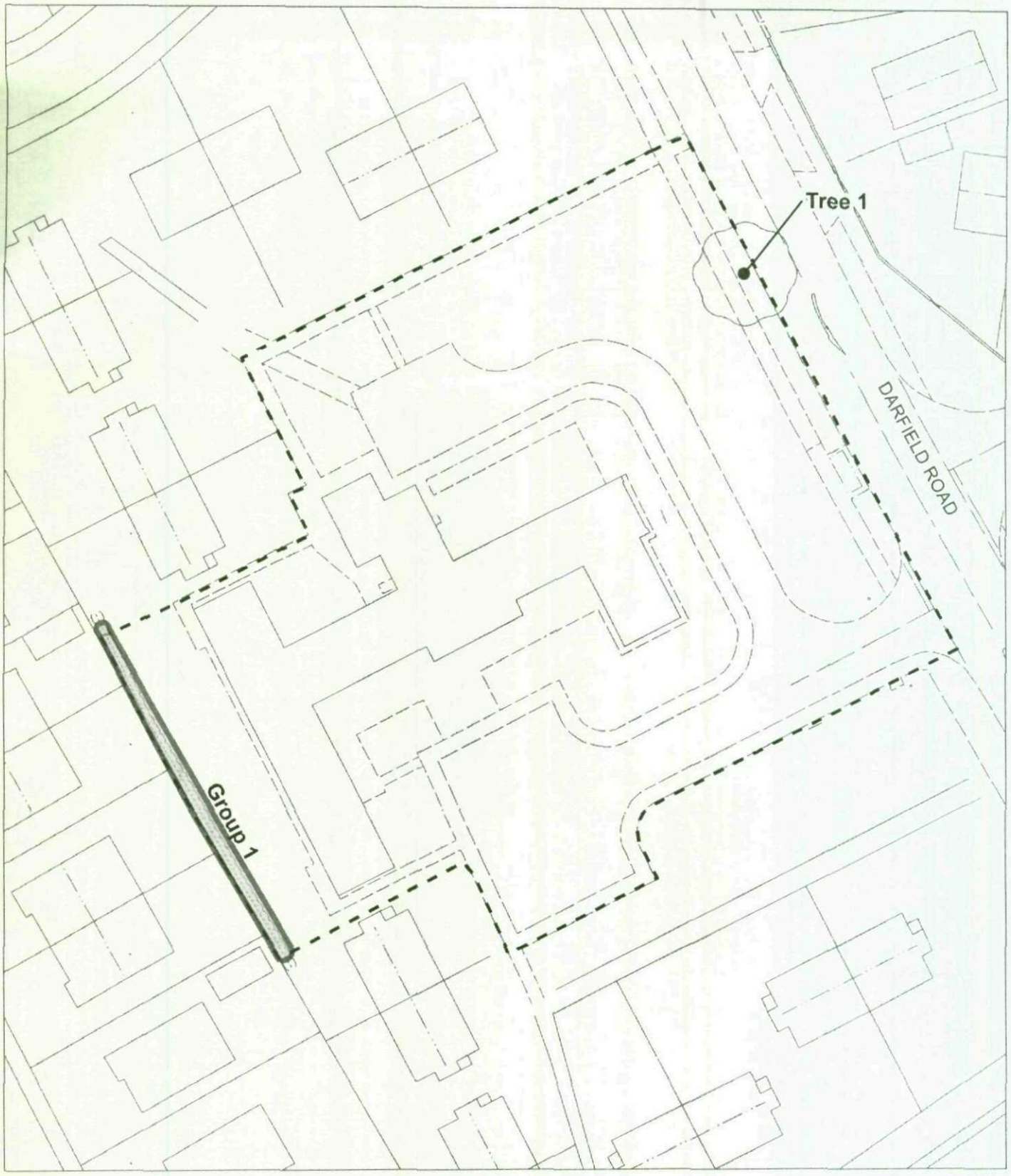
APPENDIX 2: Proposed Development Plans

TADW Architects Drawing 80895 03 P4

APPENDIX 1

Middlemarch Environmental Ltd Drawing C104794-01

- Location of Trees Surveyed



Legend

- Category B tree
- Category B group
- Site boundary

BSP Consulting	Westhaven, Cudworth
Arboricultural Survey	C104794-01
00	May 2009
1:500	SKS
LP	-

MIDDLEMARCH ENVIRONMENTAL

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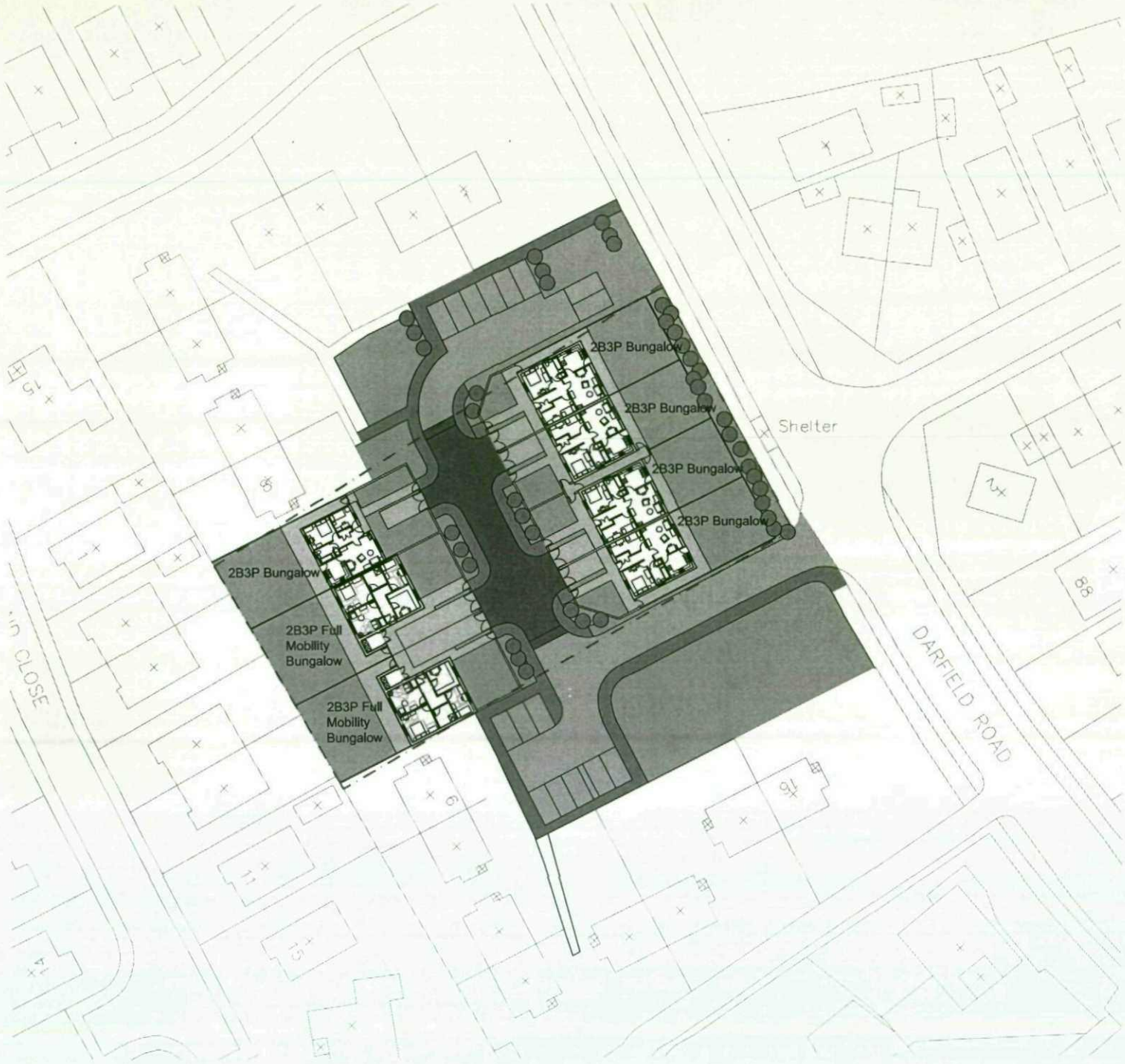
This map is based on drawing "100060OL_Ref1.dwg" copyright of Greenhatch Group, supplied by the client.

C104794-01

APPENDIX 2

Proposed Development Plans

TADW Architects Drawing 80895 03 P4



PLEASE NOTE:
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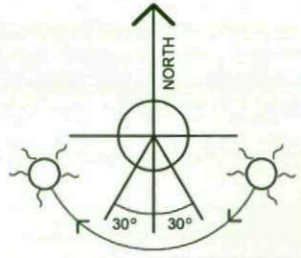
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Schedule of Accommodation:

5 no. 2B 3P Bungalows

2 no. 2B 3P Full Mobility Bungalows
(non standard) **66 sqm**

Total: 7 units



Issue	Description	Date	Drawn	Checked
P4	2B 3P Bungalows revised and existing road retained as requested by client	02 April 08	PLG	GN
P3	Revised following comments from client	29 Feb 08	AM	GN
P2	Revised following comments from client	27 Feb 08	AM	GN
P1	Preliminary issue	22 Feb 08	AM	GN

Client: Northern Counties Housing Association

Job: Westhaven, Cudworth

Title: **Proposed Site Plan Option 2**

Scale: 1:500 @ A3

Job Number	Drawing Number	Issue
80895	03	P4

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ARCHITECTS

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www.tadw.co.uk

MIDDLEMARCH ENVIRONMENTAL LTD

QUALITY ASSURANCE

TITLE: ARBORICULTURAL SURVEY

WESTHAVEN, DARFIELD ROAD
CUDWORTH, BARNSLEY

A Report to BSP Consulting

Contract Number: C104794

Report Number: RT-MME-104794

Revision Number: 00

Description: Final

Date: April 2009

Checked by:

John Polley
Senior Ecological Consultant

Approved by:

Dr Philip Fermor
Managing Director

TADW
ARCHITECTS

WESTHAVEN, CUDWORTH

APPENDIX 4

Schedule of Accommodation:

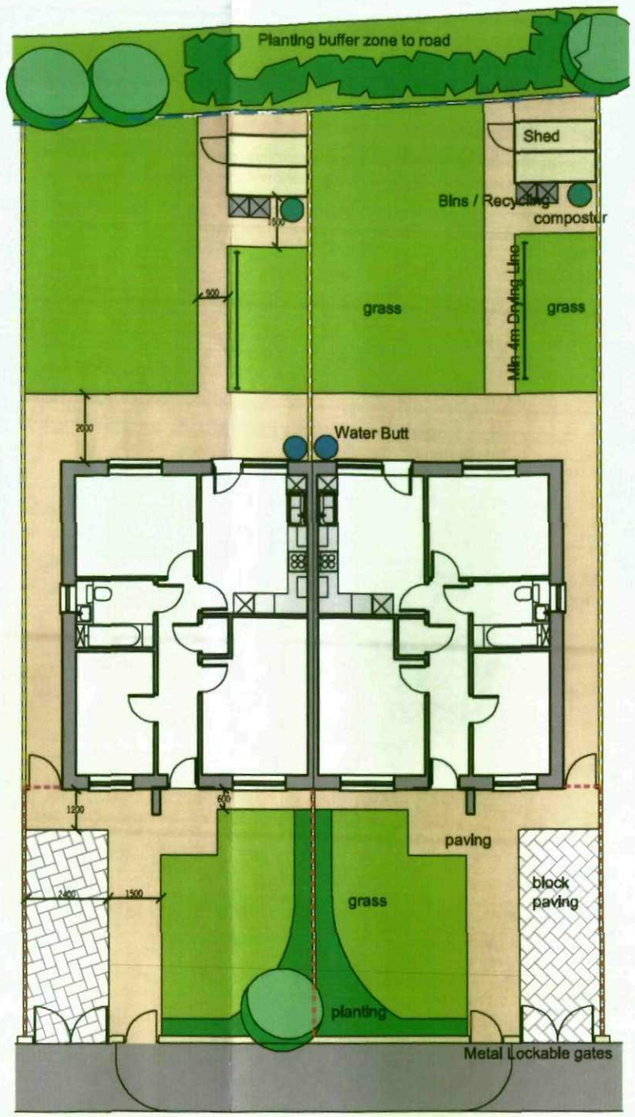
Plots 1- 7 2B 3P Bungalows (60.5 sqm)

Plots 8-9 2B 3P Full Mobility Bungalows 66 sq m int floor area (70.5 sq m inc ex store)

Total: 9 units



01/12 SITE PLAN AS PROPOSED
1:500 @ A3



02/12 TYPICAL PLOT LAYOUT
NOT TO SCALE

Surface Finishes

- Grassed Area
- Planting/Shrubs
- Paved Area
- Road and Pavements -Tarmac Note all pavements shown hatched to be new or realigned pavements
- Road and Pavement - Coloured Tarmac
- Driveways - Block Paviours Colour and finish to be agreed

Fence Types

Type A - 600mm low level Fence between front gardens

Type B -1800mm High Fence with 300mm Trellis to site boundary facing Darfield Road

Type C - 1200mm High Fence with 600mm trellis Note 1800mm Fence for first panel from building between semis

Type D - 1800mm High Fence to end garden perimeter walls (Plots 1 and 6)

Front Boundary Wall Treatment: 600mm high x 225mm wide, facing brick wall with square piers at openings and railings in between. Metal railings to top of wall and gates (refer to drawing for details)

Raised Planting Bed (to Plot 7 and 8 only)

Other

Min 4m washing line - (for 1-2 bed dwellings)

2400 x 1800mm garden shed Note - Cycle Store included (upto 3 bed space)

Bins / Recycling

Composter

Water Butt

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Issue	description	date	drawn	checked
P1	Issued for comments	01 MAY 09	PLG	GN

Client: Guiness Northern Counties Housing Association

Job: Westhaven, Cudworth

Title: **SITE PLAN AS PROPOSED**

Scale: 1:500 @ A3

Job Number	Drawing Number	Issue
80895	12	P1

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TADW
ARCHITECTS

WESTHAVEN, CUDWORTH

APPENDIX 5

Applicants on the standard and transfer list, with a list status of live, under entry or home visit, who state town as an area of preference by household type as at 31.07.08

Standard List

CUDWORTH

Household Type	No of Applications
Couple 1 Other Min 1 Bed 16-29	10
Couple 1 Other Min 1 Bed 30-39	2
Couple 1 Other Min 1 Bed 40-49	1
Couple 1 Other Min 2 Bed 16-29	36
Couple 1 Other Min 2 Bed 30-39	23
Couple 1 Other Min 2 Bed 40-49	9
Couple 1 Other Min 2 Bed 50-59	5
COUPLE 1 OTHER MIN 2 BED ELDERLY	6
COUPLE 1 OTHER MIN 2 BED MEDICAL	5
COUPLE 2 OTHER MIN 2 BED MEDICAL	2
Couple 2 Others Min 2 Bed 16-29	20
Couple 2 Others Min 2 Bed 30-39	11
Couple 2 Others Min 2 Bed 40-49	7
Couple 2 Others Min 2 Bed 50-59	2
Couple 2 Others Min 3 Bed 30-39	3
Couple 2 Others Min 3 Bed 40-49	7
Couple 2 Others Min 3 Bed 50-59	3
Couple 3 Others Min 2 Bed 30-39	4
Couple 3 Others Min 2 Bed 40-49	1
Couple 3 Others Min 3 Bed 16-29	3
Couple 3 Others Min 3 Bed 30-39	8
Couple 3 Others Min 3 Bed 40-49	3
COUPLE 3 OTHERS MIN 3 BED MEDICAL	1
Couple 3 Others Min 4 Bed 30-39	2
Couple 3 Others Min 4 Bed 40-49	2
Couple 3 Others Min 4 Bed 50-59	3
Couple 4 Others Min 3 Bed 16-29	3
Couple 4 Others Min 3 Bed 30-39	3
Couple 4 Others Min 3 Bed 40-49	1
Couple 4 Others Min 4 Bed 30-39	1
Couple 4 Others Min 4 Bed 40-49	2
Couple 4 Others Min 4 Bed 50-59	1
Couple 6 Others Min 4 Bed 40-49	2
Couple No Others Min 1 Bed 16-29	47
Couple No Others Min 1 Bed 30-39	12
Couple No Others Min 1 Bed 40-49	10
Couple No Others Min 1 Bed 50-59	25

Single No Others Min 1 Bed 40-49	10
Single No Others Min 1 Bed 50-59	14
SINGLE NO OTHERS MIN 1 BED ELDERLY	19
SINGLE NO OTHERS MIN 1 BED MEDICAL	5
Sum:	**169**

Household Type	No of Applications
Couple 1 Other Min 2 Bed 16-29	1
Couple 1 Other Min 2 Bed 30-39	2
Couple 1 Other Min 2 Bed 40-49	1
Couple 1 Other Min 2 Bed 50-59	2
COUPLE 1 OTHER MIN 2 BED ELDERLY	3
COUPLE 1 OTHER MIN 2 BED MEDICAL	2
Couple 2 Others Min 2 Bed 16-29	4
Couple 2 Others Min 2 Bed 30-39	6
Couple 2 Others Min 2 Bed 40-49	1
Couple 2 Others Min 3 Bed 30-39	3
Couple 3 Others Min 2 Bed 30-39	1
Couple 3 Others Min 3 Bed 30-39	1
Couple 3 Others Min 3 Bed 40-49	1
Couple 4 Others Min 3 Bed 30-39	1
Couple 4 Others Min 3 Bed 40-49	1
Couple 4 Others Min 3 Bed 50-59	1
Couple 4 Others Min 4 Bed 30-39	4
Couple 4 Others Min 4 Bed 40-49	2
COUPLE 4 OTHERS MIN 4 BED MEDICAL	1
Couple 5 Others Min 4 Bed 30-39	1
Couple No Others Min 1 Bed 16-29	2
Couple No Others Min 1 Bed 30-39	3
Couple No Others Min 1 Bed 40-49	1
Couple No Others Min 1 Bed 50-59	4
COUPLE NO OTHERS MIN 1 BED ELDERLY	13
COUPLE NO OTHERS MIN 1 BED MEDICAL	2
Single 1 Other Min 1 Bed 16-29	1
Single 1 Other Min 2 Bed 16-29	10
Single 1 Other Min 2 Bed 30-39	3
Single 1 Other Min 2 Bed 40-49	1
Single 1 Other Min 2 Bed 50-59	5
SINGLE 1 OTHER MIN 2 BEDS ELDERLY	3
SINGLE 1 OTHER MIN 2 BEDS MEDICAL	2
Single 2 Others Min 2 Bed 16-29	3
Single 2 Others Min 2 Bed 30-39	2
Single 2 Others Min 3 Bed 30-39	3
Single 2 Others Min 3 Bed 40-49	2
Single 2 Others Min 3 Bed 50-59	3
Single 3 Others Min 3 Bed 16-29	1
Single 3 Others Min 3 Bed 30-39	3
Single 3 Others Min 3 Bed 40-49	1
Single 4 Others Min 4 Bed 30-39	1
Single 4 Others Min 4 Bed 40-49	1
Single 5 Others Min 4 Bed 40-49	1
Single No Others Min 1 Bed 16-29	6
Single No Others Min 1 Bed 30-39	5

COUPLE NO OTHERS MIN 1 BED ELDERLY	75
COUPLE NO OTHERS MIN 1 BED MEDICAL	11
COUPLE ONE OTHERS MIN 1 BED ELDERLY	1
COUPLES 2 OTHERS MIN 3 BED ELDERLY	3
Single 1 Other Min 1 Bed 16-29	14
Single 1 Other Min 1 Bed 30-39	1
Single 1 Other Min 1 Bed 40-49	1
Single 1 Other Min 2 Bed 16-29	98
Single 1 Other Min 2 Bed 30-39	23
Single 1 Other Min 2 Bed 40-49	20
Single 1 Other Min 2 Bed 50-59	8
SINGLE 1 OTHER MIN 2 BEDS ELDERLY	2
SINGLE 1 OTHER MIN 2 BEDS MEDICAL	3
Single 2 Others Min 2 Bed 16-29	40
Single 2 Others Min 2 Bed 30-39	18
Single 2 Others Min 2 Bed 40-49	6
Single 2 Others Min 2 Bed 50-59	1
Single 2 Others Min 3 Bed 16-29	4
Single 2 Others Min 3 Bed 30-39	11
Single 2 Others Min 3 Bed 40-49	11
Single 2 Others Min 3 Bed 50-59	3
SINGLE 2 OTHERS MIN 3 BED ELDERLY	1
Single 3 Others Min 2 Bed 16-29	1
Single 3 Others Min 2 Bed 30-39	1
Single 3 Others Min 3 Bed 16-29	8
Single 3 Others Min 3 Bed 30-39	16
Single 3 Others Min 3 Bed 40-49	4
Single 3 Others Min 3 Bed 50-59	1
Single 3 Others Min 4 Bed 40-49	6
Single 4 Others Min 3 Bed 16-29	3
Single 4 Others Min 3 Bed 30-39	4
Single 4 Others Min 4 Bed 30-39	2
Single 5 Others Min 4 Bed 16-29	1
Single 5 Others Min 4 Bed 30-39	1
Single 5 Others Min 4 Bed 40-49	2
Single No Others Min 1 Bed 16-29	176
Single No Others Min 1 Bed 30-39	46
Single No Others Min 1 Bed 40-49	52
Single No Others Min 1 Bed 50-59	31
SINGLE NO OTHERS MIN 1 BED ELDERLY	50
SINGLE NO OTHERS MIN 1 BED MEDICAL	13
	1
Sum:	**1060**

Transfer List

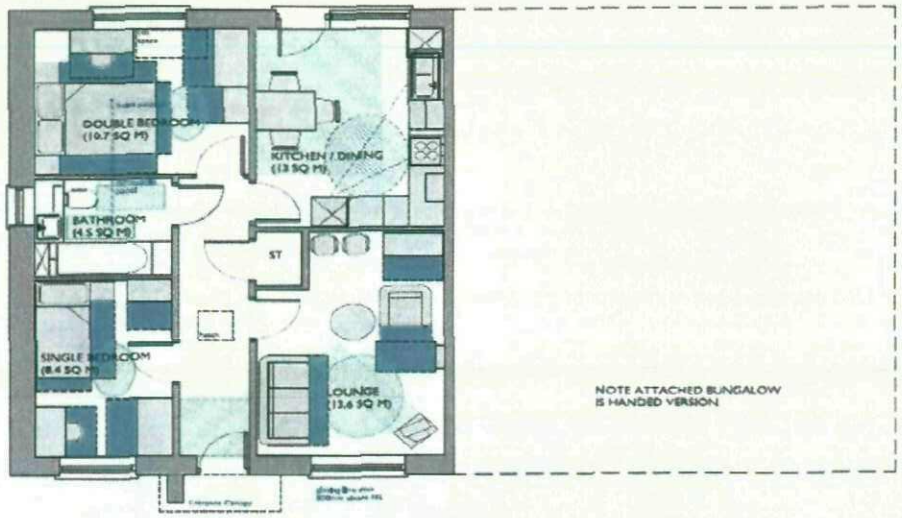
CUDWORTH

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APPENDIX 6

Plots 1-7



Plots 8-9



Birds-eye View



Map



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Contact List

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BERNESLAI HOMES	**Berneslai Homes** Housing Development Wendy Hepple: 01226 772754 wendyhepple@berneslaihomes.co.uk
	Berneslai Homes New-Build Nominations 01226 775454 www.berneslaihomes.co.uk

Berneslai Homes : A fresh approach to people, homes and communities

www.berneslaihomes.co.uk

BERNESLAI HOMES

BARNSLEY Metropolitan Borough Council

Guinness Northern Counties

Expression of Interest

Westhaven

Please provide us with your details if you would like to express an interest, or would like more information on new-build properties.

Name	Address	Telephone No.

Comments

Berneslai Homes : A fresh approach to people, homes and communities

TADW
ARCHITECTS

WESTHAVEN, CUDWORTH

APPENDIX 7

Crime Reduction Officer's Report

Location: Westhaven, Cudworth, Barnsley

Officer: Chris Squires

Scheme: 9 bungalows on site of a former sheltered housing scheme.

DATE: **22 August 2008**

Layout

The layout of the scheme is conducive to good design with properties overlooking each other.

Area

The area is predominantly social housing accommodation in the form of semi-detached houses with this small development of elderly persons set off the main Darfield Road. The area is considered a medium crime risk area with the main offence types of burglary, criminal damage and vehicle crime the most prevalent.

Perimeter

The rear and sides of the properties require security fencing and locking gates. A minimum height of 1.8m is required for the rear/side and access gate to the rear.

Front boundaries with gates are shown on the plan for the new build bungalows, this will create some disparity between these and the existing bungalows. To help define space on the site and provide clearer demarcation between the public and private realm it would be good practice to also install low fences and gates to the existing bungalows as well thereby knitting both old and new schemes together.

Shell

The building specifications need to conform to the standards found on the secured by design web site www.securedbydesign/newhomes.com. Application forms for SBD may also be obtained from this site.

Landscape

Clear sight lines should be maintained across the sight and any trees or shrubs should not be placed where they can be used as a climbing aid or obstruct lighting.

Other Features

The scheme should include improved street lighting to BS5489 part 9 using white light in the newly formed parking areas,.

Design and Access statements

By agreeing to implement the secured by design scheme and its principles at the earliest stage a developer is able to demonstrate its obligations under the **Department for Communities and Local Government (DCLG) circular 1/2006 "Guidance on changes to the Development Control System** it emphasises;

The PPS1 policy is a key objective for new developments should be that they create safe and accessible environments where crime and disorder or fear of crime does not undermine quality of life or community cohesion. Paragraph 87 of this document states unequivocally that Design and Access Statements for outline and detailed planning applications. It should therefore demonstrate how crime prevention measures have been considered in the design of the proposal and how the design reflects the attributes of safe sustainable places set out in 'Safer Places – the planning system and crime prevention (ODPM/ Home Office 2003)'. If adequate crime prevention information ***is not*** *included in the explanation of the design principles applied to the amount, layout, scale, landscaping, appearance and context of the development, this may hinder the application. Crime has a potential adverse economic, social and environmental impact on developments and PPS1 requires such impacts to be avoided or mitigated*

Yours sincerely

Chris Squires
Crime Reduction Officer

Crime Prevention and Architectural Liaison advice is given without the intention of creating a contract. Neither do the Home Office nor the Police Service take any legal responsibility for the advice given. Fire Prevention Advice, Fire Safety Certificate conditions, Health and Safety Regulations and Working Practices will take precedence over any Crime Prevention Advice.

Citizen Focus: Improving Satisfaction and Confidence is a priority for the South Yorkshire Police service.

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WESTHAVEN, CUDWORTH

APPENDIX 8



PLEASE NOTE:
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Schedule of Accommodation:

6 no. 2B 3P Bungalows
(NCHA standard type B 2.1)

2 no. 2B 3P Full Mobility Bungalows
(NCHA standard type W 2.2)

2 no. 2B 3P Flats
(non standard)

Total: 10 units

Issue	description	date	drawn	checked
P1	Preliminary Issue	22 Feb 08	AM	GN

Client: Northern Counties Housing Association

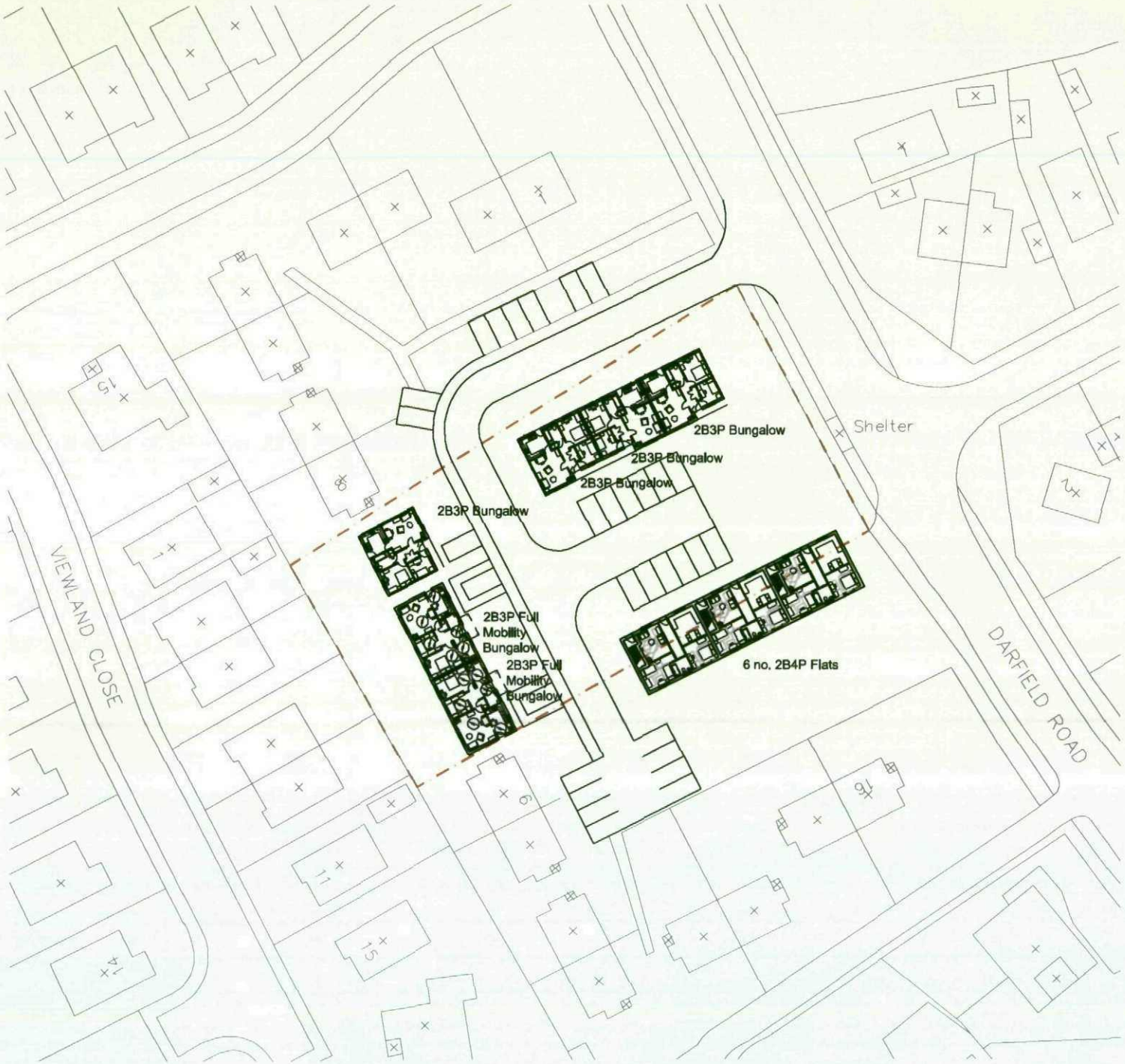
Job: Westhaven, Cudworth

Title: **Proposed Site Plan Option 1**

Scale: 1:500 @ A3

Job Number	Drawing Number	Issue
80895	02	P1

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Schedule of Accommodation:

4 no. 2B 3P Bungalows
(NCHA standard type B 2.1)

2 no. 2B 3P Full Mobility Bungalows
(NCHA standard type W 2.2)

6 no. 2B 3P Flats
(non standard)

Total: 12 units

Issue	description	date	drawn	checked
P1	Preliminary issue	22 Feb 08	AM	GN

Client: Northern Counties Housing Association

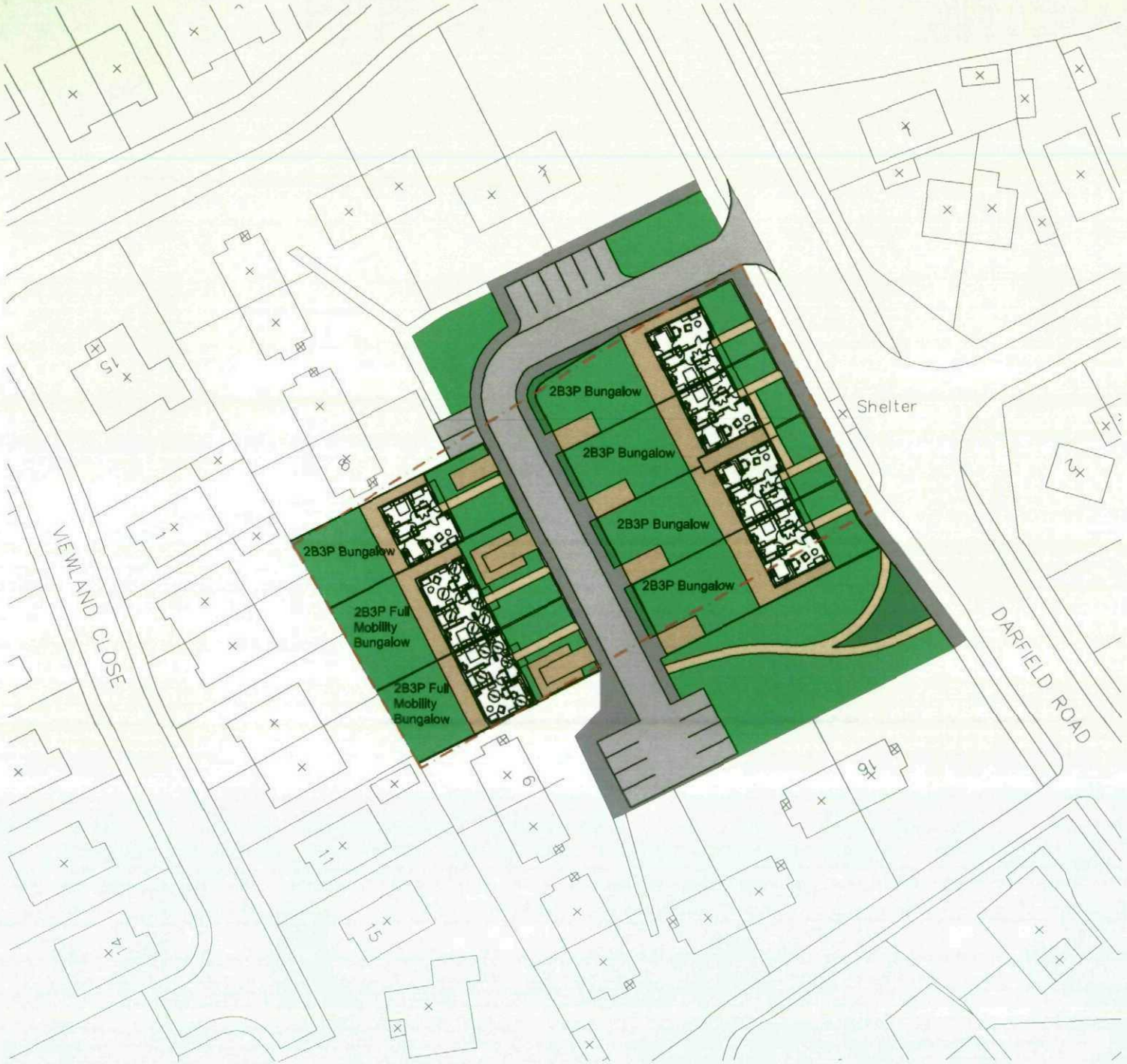
Job: Westhaven, Cudworth

Title: **Proposed Site Plan Option 2**

Scale: 1:500 @ A3

Job Number	Drawing Number	Issue
80895	03	P1

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Schedule of Accommodation:

5 no. 2B 3P Bungalows
(NCHA standard type B 2.1)

2 no. 2B 3P Full Mobility Bungalows
(NCHA standard type W 2.2)

Total: 7 units

Issue	description	date	drawn	checked
P2	Revised following comments from client	27 Feb 08	AM	GN
P1	Preliminary issue	22 Feb 08	AM	GN

Client: Northern Counties Housing Association

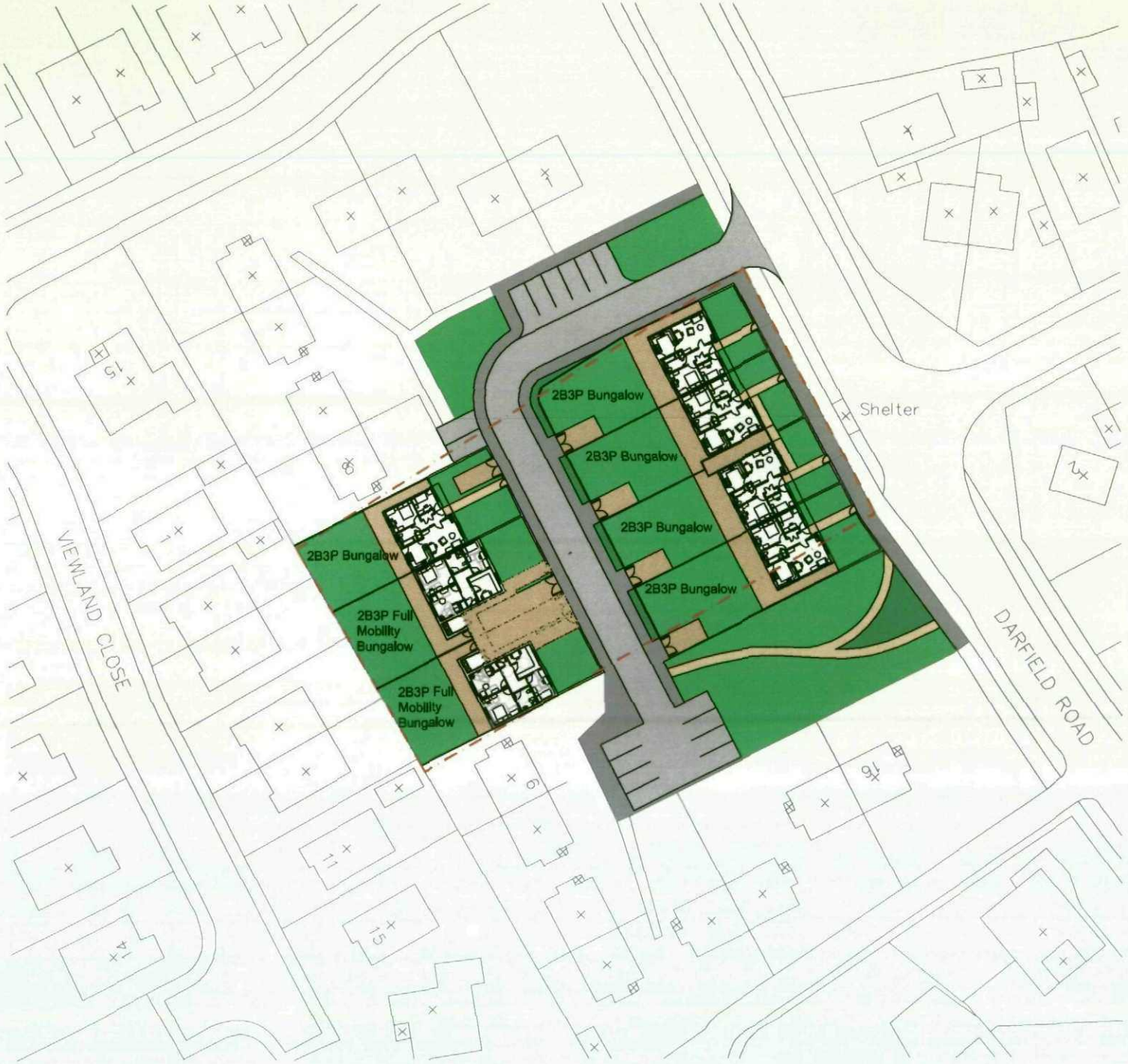
Job: Westhaven, Cudworth

Title: **Proposed Site Plan Option 2**

Scale: 1:500 @ A3

Job Number	Drawing Number	Issue
80695	03	P2

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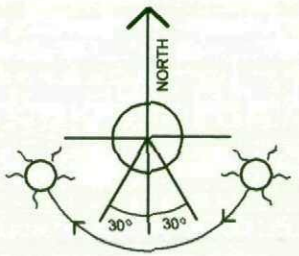
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Schedule of Accommodation:

5 no. 2B 3P Bungalows
(NCHA standard type B 2.1)

2 no. 2B 3P Full Mobility Bungalows
(non standard) **66 sqm**

Total: 7 units



Issue	description	date	drawn	checked
P3	Revised following comments from client	29 Feb 08	AM	GN
P2	Revised following comments from client	27 Feb 08	AM	GN
P1	Preliminary issue	22 Feb 08	AM	GN

Client: Northern Counties Housing Association

Job: Westhaven, Cudworth

Title: **Proposed Site Plan Option 2**

Scale: 1:500 @ A3

Job Number	Drawing Number	Issue
80895	03	P3

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Schedule of Accommodation:

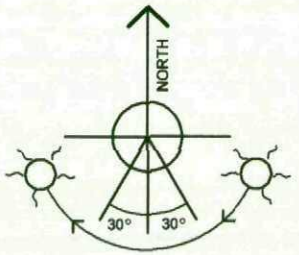
7 no. 2B 3P Bungalows - 60 sq m

2 no. 2B 3P Full Mobility Bungalows
(non standard) **66 sqm**

Total: 9 units

Notes

- **Access Road to be relocated**
- **2B 3P units reduced in size by 4 sq m**
- **Built outside of Site Boundary**



issue	description	date	drawn	checked
P1	Preliminary Issue	02 May 08	PLG	GN

Client: Northern Counties Housing Association

Job: Westhaven, Cudworth

Title: **Proposed Site Plan Option 3**

Scale: 1:500 @ A3

Job Number	Drawing Number	Issue
80895	04	P1

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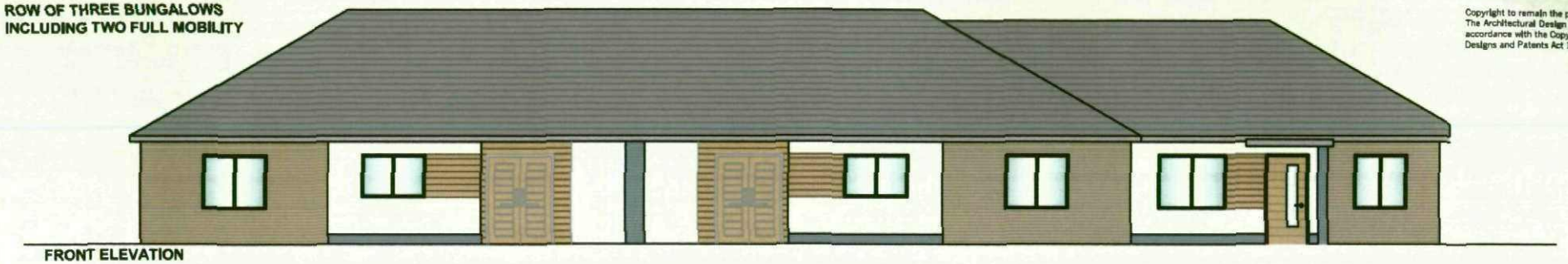
WESTHAVEN, CUDWORTH

APPENDIX 9

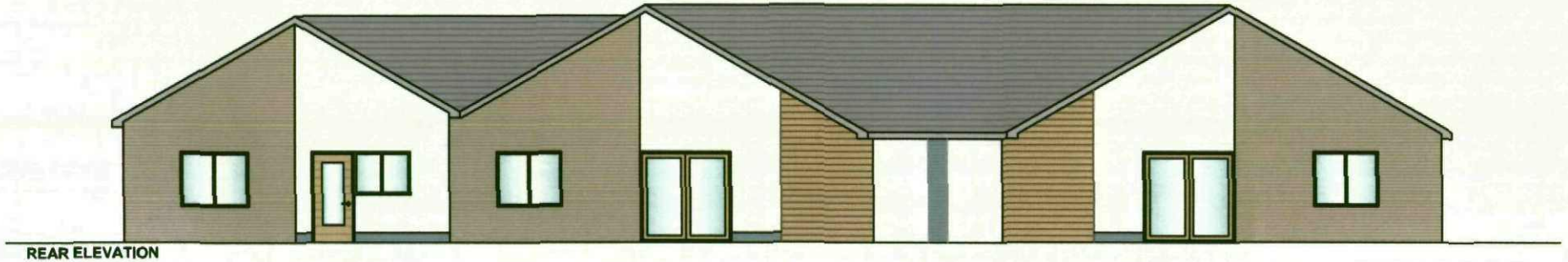
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ROW OF THREE BUNGALOWS INCLUDING TWO FULL MOBILITY

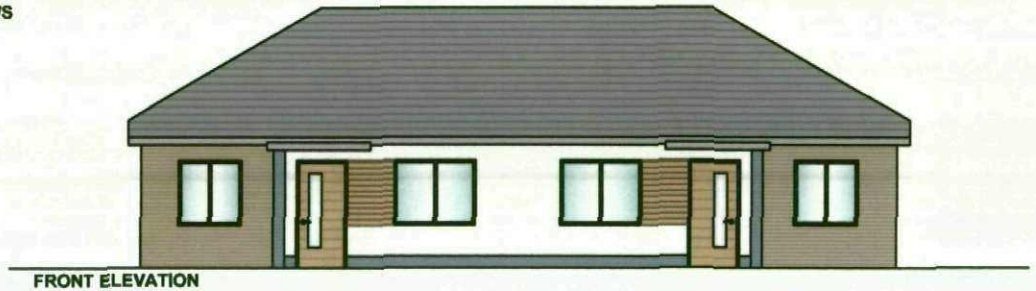


FRONT ELEVATION

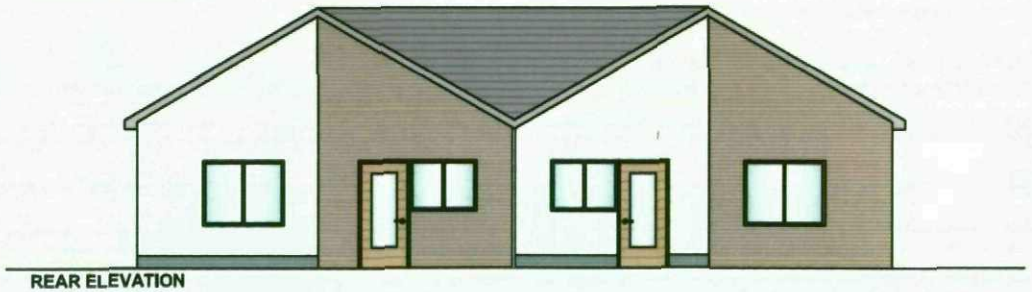


REAR ELEVATION

SEMI-DETACHED BUNGALOWS



FRONT ELEVATION



REAR ELEVATION

Issue	description	date	drawn	checked
P1	Issued for comments	24 July 08	AM	GN

Client: Northern Counties Housing Association

Job: Westhaven, Cudworth

Title: **Sketch Elevations**

Scale: 1:100

Job Number	Drawing Number	Issue
80895	05	P1

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