

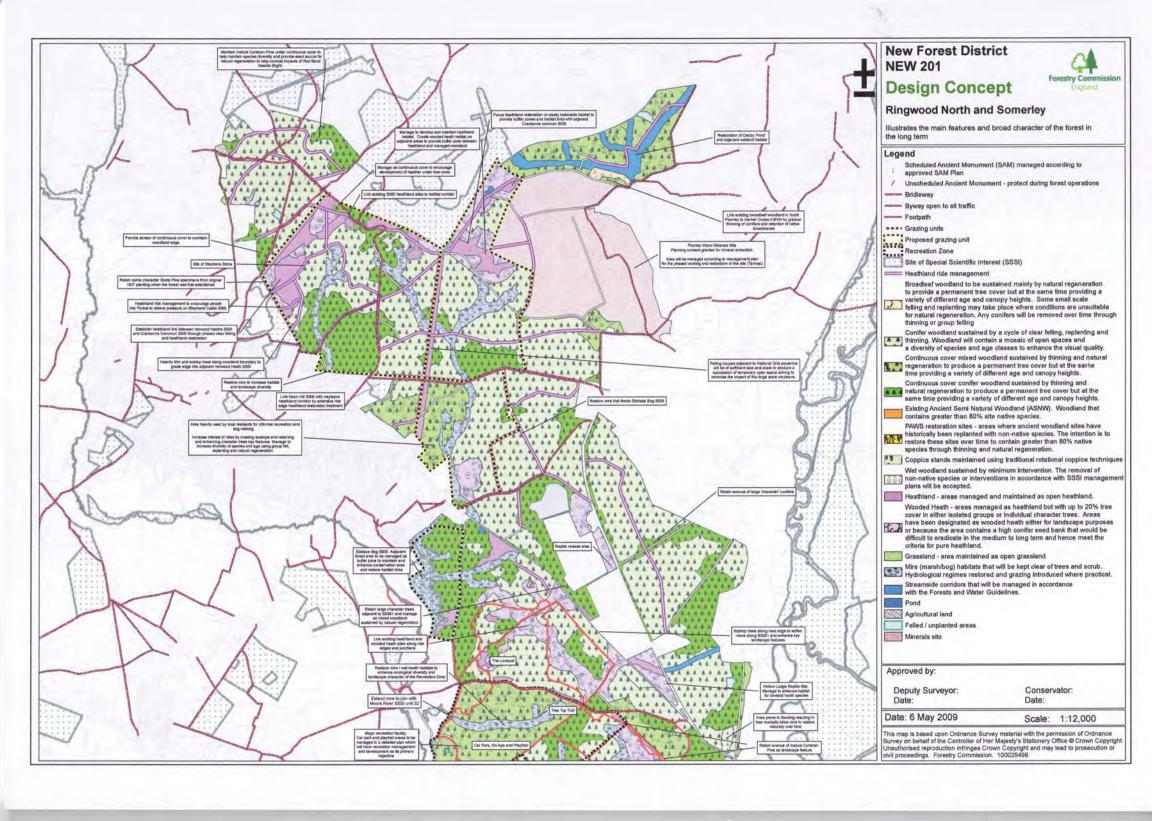


Forest District: New Forest
Title: GPS Tracks Dorset
Type of Map Stock
Scale: 1:12,500
Date: April 2010

—— GPS Tracks

Management area
Compartment Bdy
Compartment No, 2032
and Area (ha) 32
Sub-compartment Bdy
Sub-compartment, SS/DF
Species & Planting Year 56
FC Road:
Class A (Main road)
Class A (Main road) Class B (Spur road)
Class C (Other road)
Transfer Point

# Appendix 4: Design Concept – taken from East Dorset Forest Design Plan



# **Appendix 5: Surface Water Drainage Solution**



ANDREW MALCOLM ASSOCIATES Ltd. 15 Wild Rose Crescent Locks Heath Southampton SO31 6TG Tel/fax 01489 605526 Email amassoc@ntlworld.com

23 October 2012

# Drainage Assessment for Proposed Development Land at rear of 217-241 Ringwood Road, Verwood, Dorset, BH31 7AG

Please note the following comments regarding the proposed drainage strategy at the above site. Copies of relevant correspondence and reports are attached at the end of the report.

# Foul Drainage

(To be read in conjunction with Drainage Strategy dwg.no.LIND37-sk1revA).

Wessex Water have provided details of their existing sewers in the vicinity of the site. These confirm that there is an existing foul sewer running along Ringwood Road to the Ebblake Sewage Pumping Station located to the south of the site next to 253 Ringwood Road. Connected to the sewer in Ringwood Road, there is a 150mm diameter sewer laid to the boundary of the site, in the driveway fronting no's 219-223 Ringwood Road.

An enquiry has been made to Wessex Water and they have confirmed that the existing sewers and pumping station have sufficient capacity to serve the development. See E-mail from Wessex Water dated 01-06-12.

With respect to the existing sewer laid to the boundary of the site, the site falls gently away to the east from this boundary and as such the sewer does not have sufficient depth to serve the whole of the proposed development by gravity. To develop the site it will therefore be necessary to provide a new foul pumping station to serve at least 12 of the proposed units, even if the existing sewer in the driveway fronting no's 219-223 Ringwood Road is re-laid at a flatter gradient.

It should be noted that in accordance with new drainage legislation, the proposed pumping station will need to be constructed to adoptable standards, which could have an impact on the site layout.

An alternative foul drainage solution for these 12 units is to provide a new gravity sewer to the existing foul sewer in Parklands Close. To implement this option it will be necessary to negotiate an easement with the owners of 3rd Party Land or to requisition the sewer from Wessex Water.

## Storm Drainage

(To be read in conjunction with Drainage Strategy dwg.no.LIND37-sk1revA).

Wessex Water have provided details of their existing sewers, which confirm there are no surface water sewers in the vicinity of the site.

● Page 2 October 23, 2012

In accordance with current planning policies, the surface water run-off from the proposed development should be disposed of using SUDS. This involves a surface water drainage system that should replicate as near as possible the existing green field run-off.

The western half of the existing site is open farm land and gently falls eastwards through a heavily wooded area to the Ebblake Stream on the Eastern Boundary. The wooded area is the lowest part of the site and in some areas is very wet, often with standing water. The surface water run-off from the open land soaks into the ground or in the event of an exceptional storm, flows overland to the wooded area. There is no direct connection from the woodland area to the Ebblake Stream, and so it has permanently wet areas which do not dry up unless there is a prolonged dry spell.

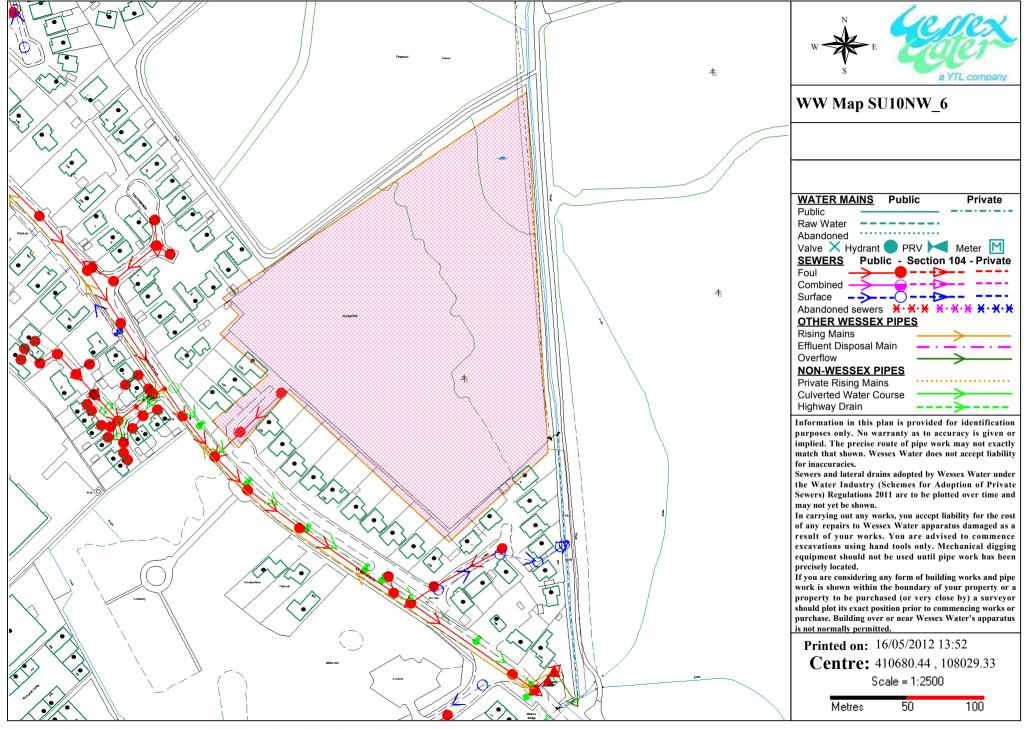
GESL have carried out a site investigation, including soakage tests. These details have been attached to this report and confirm that although soakaways can be used for the disposal of surface water run-off, they are only viable to a depth of 1.0m. Below this depth ground water and running sand is encountered.

Taking into account these issues, a SUDS scheme has been developed using shallow trench/cellular soakways and porous paving. These infiltration features should be designed to cater for a 1in100yr storm +30% allowance for climate change in accordance with PPS25 and the code for sustainable homes.

This method of surface water run-off disposal, ensures that the proposed drainage system replicates as near as possible the existing green field run-off, so that there will be no discharge to the Ebblake Stream. Consequently there will be no affect on the quality of water in the stream, as any pollutants in the form of debris and sediments washed from hard surfaces on the proposed development will be discharged to the infiltration features already described.

The use of porous paving is often promoted as a Suds solution, even for sites where it is evidently not suitable because of ground conditions or the topography. In this instance the site is relatively flat and the ground conditions provide adequate soakage potential at shallow depths, so the proposed development lends itself to the use of porous paving wherever possible. However, its use is not recommended on those carriageways that are more heavily trafficked and these should be of a more traditional blacktop construction, with soakaways used for the disposal of surface water run-off.

It should be noted that using this strategy the proposed estate roads could not be offered for adoption. However, if the Water and Flood Management Act is implemented (currently scheduled for October 2013), Dorset County Council will be responsible for the approval and future maintenance of all SUDS and consequently the roads could be adopted, as the highway drainage will discharge to SUDS features maintained by themselves.





### Malcolm Andrew <amassoc@ntlworld.com>

# WW Resp Ebblake PS SU10NW/ 6

2 messages

Gillian Sanders < Gillian.Sanders@wessexwater.co.uk> To: Andrew Malcolm <amassoc@ntlworld.com> Cc: Dave Cherrett < Dave. Cherrett@wessexwater.co.uk > 1 June 2012 11:00

#### Dear Andrew.

I refer to our email correspondence below.

Further to investigation it has been confirmed that Ebblake Pumping Station is included within a Wessex Water upgrade program. Apologies that this fact was not discovered earlier. I have been advised by the project manager that the upgraded pumping station will be able to accomodate flows from an additional 50 dwellings. If further development proceeds within the catchment; additional storage may be required.

I note from the proposed East Dorset Core Strategy that the other "major" proposed sites at Verwood (North Western Neighbourhood and Upper School at Howe Lane) are outside of the Ebblake Pumping Station catchment.

Connection to the public sewerage system for the Ringwood Road Site should not precede the necessary improvements. It would be helpful if you could advise, if you plan to proceed with the site; your proposed construction date / build rates.

### Many thanks.

# **Gillian Sanders**

Planning Liaison

Phone: 01225 526303 01225 528000 Fax:

e-mail: gillian.sanders@wessexwater.co.uk

Web: www.wessexwater.co.uk

> ----Original Message-----From: Gillian Sanders **Sent:** 22 May 2012 16:14 To: 'Andrew Malcolm'

Subject: RE: WW Resp SU10NW/6 Proposed Development, Land at rear of 217-241 Ringwood Road,

Verwood. BH31 7AG

Thanks Andrew - trying to program in for next week - will drop you a line then.

### Regards

### **Gillian Sanders**

Planning Liaison

Phone: 01225 526303 01225 528000 Fax:

e-mail: gillian.sanders@wessexwater.co.uk

www.wessexwater.co.uk

-----Original Message-----

From: Andrew Malcolm [mailto:amassoc@ntlworld.com]

Sent: 21 May 2012 11:49 To: Gillian Sanders

Cc: Michael. Obrien@lindenhomes.co.uk; Richard Ayre (Linden Homes)

Subject: Re: WW Resp SU10NW/6 Proposed Development, Land at rear of 217-241

# **Andrew Malcolm**

"Richard Ayre (Linden Homes)" < Richard . Ayre@lindenhomes.co.uk > From:

Date: 04 May 2012 13:56

To:

"Andrew Malcolm" <amassoc@ntlworld.com>
GE8715 TP LOGS.PDF; GE8715 Figs.pdf; GE8715 soakage test calc sheet.pdf Attach:

FW: GE8715 Ringwood Road, Verwood - Preliminary Information Subject:

As discussed.

Tel: 01626 357 670

Richard Ayre -Strategic Land and Planning Director Linden South richard.ayre@lindenhomes.co.uk Mob: 07866 571761

Linden Homes Strategic Land Homeside House Silverhills Road Newton Abbot Devon TQ12 5YZ http://www.gallifordtry.co.uk



**From:** Gavin Roberts [mailto:gavin.roberts@gesl.net]

**Sent:** 04 May 2012 13:35

**To:** Richard Ayre (Linden Homes)

**Subject:** GE8715 Ringwood Road, Verwood - Preliminary Information

Richard

Further to the ground investigation undertaken on this site yesterday, please find draft logs, soakage test results and plans attached.

The ground conditions generally comprised sand and groundwater was present at varying depths, generally as a steady seepage at c. 1m and a more rapid ingress at c. 2.5m bgl. These water inflows resulted in running sand at shallow depth and rapid collapse of the pits at depth. However, this could be mitigated during any possible development by keeping foundations shallow and allowing for support and groundwater control for any deep excavations.

It is likely that shallow foundations would be suitable with a minimum founding depth of 0.75m (assuming nonshrinkable soils). This could need to increase at the southern and western portion of the site where clays and clayey sands were present as distinct layers.

Trial pit soakage testing failed in TP1, where the test was undertaken in a 3m deep pit, but the test undertaken at shallow depth in TP2 did see water levels fall sufficiently for permeability values to be calculated. Thus, it is probable that shallow trench soakaways would function better than deep chambers, or attenuation tanks.

In-situ probing recorded CBR values of 5-7% and thus adoptable roads are likely to be constructible without any special measures other than removal or compaction of any 'soft' spots in the formation.

There was a fair amount of interest from neighbouring residents although due to poor weather none actually engaged us in conversation.

Lab testing is in hand and the ground investigation report is on target for issue in approximately 3 weeks time.

In the meantime if I can be of any further assistance please do not hesitate to come back to me.

kind regards

Gavin

**Gavin Roberts Technical Director** M: 07789 907670 www.gesl.net



Please consider the environment before printing this email

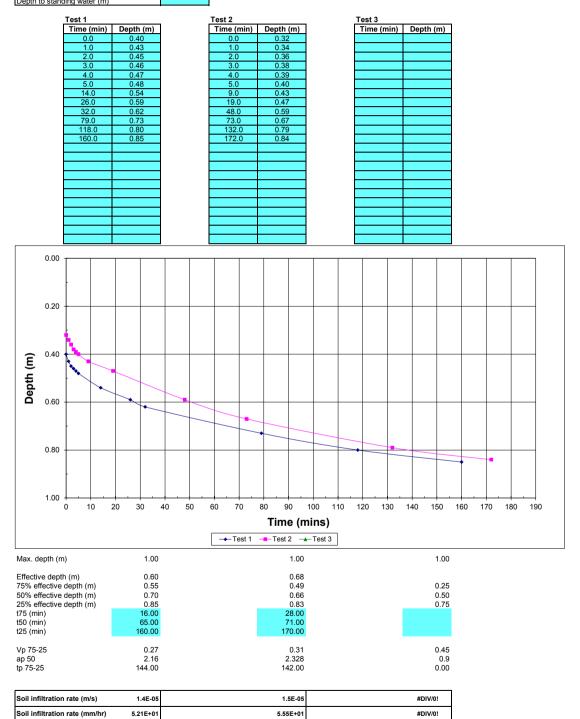


28 Crescent Road, Brighton, East Sussex, BN2 3RP Tel: 01273 699 399 Fax: 01273 699 388

# Soakaway Test Results (after BRE Digest 365)

Project Name: Ringwood Road, Verwood Job No. : GE8715 Client : Linden Homes Strategic Land Date : 03/05/2012

Pit reference	TP2
Pit depth (m)	1.00
Pit width (m)	0.60
Pit length (m)	1.50
Double to otan diam contan (as)	



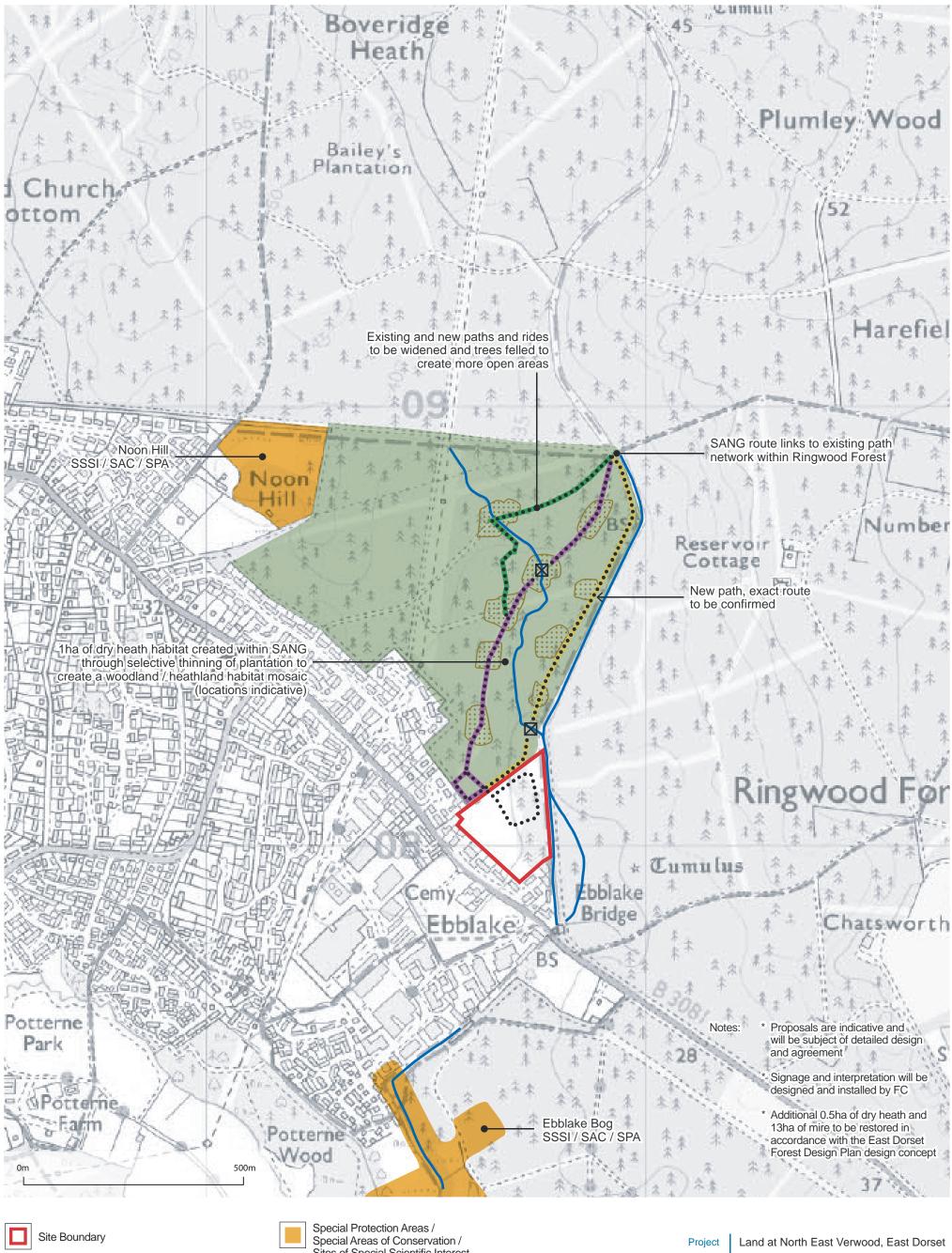
### Notes:

Blue cells require input data Infiltration calculated to method in 'BRE Digest 365 (1991) - Soakaway Design' First line of table must be depth at time = 0

2

# Plan

SANG and Habitat Mitigation / Enhancement Proposals (1522/P13 February 2013 JSA/JTF)





Route A

Route B

Route C

Approximate route of Ebblake Stream



Open Access Land (Countryside and Rights of Way Act 2000)

Dry Heath Restoration



**Drawing Title** 

# SANG and Habitat Mitigation / **Enhancement Proposals**

Scale Drawing No. Date Checked

As Shown (approximate) 1522/P13 February 2013 JSA/JTF







21 May 2013

Land off Ringwood Road, Verwood, East Dorset

**Ecological Assessment** 

Report Number: 1522\_R11a\_LW\_RW

Author: Lauren West

Checked by: Julian Arthur MCIEEM CENV

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# **Appendices**

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Appendix 2: Invertebrate Survey Report

Appendix 3: Reptile Survey Methodology and Results

Appendix 4: Protected Sites Appendix 5: Target Notes

Appendix 6: Legislation and Planning Policy

Appendix 7: Suitable Accessible Natural Greenspace (SANG) Proposal – February 2013 (1522\_R05i)

Appendix 8: Suitable Accessible Natural Greenspace (SANG) Proposal – February 2013 (1522\_R10a)

Appendix 9: Woodland Transition Zone Strategy (1522\_R08b)

# **Plans**

Habitat Features (1522/P08c May 2013 LW/JTF)

Fauna Survey Results (1522/P11b May 2013 LW/JTF)

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# Appendix 8: Suitable Accessible Natural Greenspace (SANG) Proposal – February 2013 (1522\_R10a)

Addendum Addressing Increase in Size of Development



10 April 2013

Land at North East Verwood, East Dorset

Suitable Accessible Natural Greenspace (SANG) Proposal – February 2013

Addendum Addressing Proposed Increase in Size of Development

Report Number: 1522\_R10a\_JA\_RW

Author: Julian Arthur

Checked:

# **Contents**

Section 1: Addendum Addressing Proposed Increase in Size of Development						
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# Section 1: Addendum Addressing Proposed Increase in Size of Development

- 1.1. A SANG strategy has been agreed with Natural England to address potential adverse effects to the Dorset Heathlands Special Protection Area (SPA) as a result of proposed development at Land North East of Verwood (Tyler Grange Report ref. 1522\_R05i\_JSA\_JTF).
- 1.2. The strategy relies upon the enhancement and diversification of habitats to encourage public access and enjoyment of conifer forestry/woodland owned by the Forestry Commission within the adjacent Ringwood Forest. The Forestry Commission and the developer have agreed the strategy and the principles of a mechanism to secure its delivery. Natural England has confirmed that this provides confidence that the SANG strategy will be implemented and mitigation secured to the standards required by the Habitats Regulations.
- 1.3. In accordance with published best practice, the SANG would provide an attractive area for recreation through provision of walkways and enhancement of Ringwood Forest.
- 1.4. The agreed strategy relates to a development of approximately 50 units, which has been identified in the Joint East Dorset and Christchurch Core Strategy. This quantum of development was dictated by a now deleted policy in the draft Core Strategy. Consequently, and in response to technical work that indicates the capacity of the site is larger, the developer is now seeking to promote a development of approximately 65 units.
- 1.5. This increase in potential development size does not alter the SANG requirements.
- 1.6. However, Ringwood Forest is of inherent ecological value, supporting populations of birds that are found in the SPA, as well as strictly protected reptile species. To address potential adverse effects associated with increased use of the forest as a result of the SANG, there is a need for habitat restoration to improve the opportunities in the forest for these species.
- 1.7. In respect of a 50 unit development, the agreed strategy is for the developer to fund the creation of 1.5ha of dry heath habitat through plantation felling and management, and restoration of 13ha of mire habitat, in accordance with the Forestry Commission's East Dorset Forest Design Plan Design Concept. As well as mitigating potential adverse effects, this would have delivered significant benefits as a result of development, creating UK BAP priority habitats.
- 1.8. It has been agreed with Forestry Commission and Natural England that by increasing the area of heath created by 0.5ha (a total of 2.0ha) then the potential impact relating to an additional approximately 15 units would be mitigated.
- 1.9. The increase in development size would not require modification to the existing drainage strategy to avoid impacts to Ebblake Bog Site of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC) and Ramsar.

# Appendix 9: Woodland Transition Zone Strategy (1522\_R08b)



# Land at Northeast Verwood Woodland Transition Zone Strategy

# **Purpose**

- 1.1. The objectives of the Woodland Transition Zone Strategy are to:
  - Retain a woodland backdrop to development, providing a level of amenity consistent with the existing TPO over time;
  - Screen views from outside of the site; and
  - Retain existing ecology interest in the wetter areas, whilst enhancing woodland outside of these.

### Strategy

- 1.2. The objectives will be achieved by softening and enhancing the existing woodland edge to the new development, replicating local character and providing improved habitat than that which currently exists. The design response will also ensure that the amenity of the woodland block is retained and the remaining woodland compartment managed to improve its long-term vitality and contribution as a development backdrop. The rationale for the design of the transition zone is illustrated on Plan 1522/P10d supported by a more detailed illustrative plan and cross section (1522/P14 and 1522/P15).
- 1.2 The transition zones are as follows:

### 1. New grassland / dry heath mosaic

A mosaic of acid grassland with dry heath species will be created resulting from the felling of existing trees. The sward will be managed twice a year to encourage / maintain diversity. Occasional conifer and deciduous trees will be planted in amongst the grassland to add interest and structure.

A pond will be created here, as part of the SANG strategy, primarily for pet dogs, in order to discourage them from using more valuable habitats off-site. A dog bin will also be provided.

Additional new hedgerow and tree planting will be introduced throughout the development. New planting will include locally sourced native species to respect and complement the existing species.

- New hedge planting will be locally sourced bare root native species including holly, beech
  and hawthorn. Hedgerows will be planted in a double staggered row at 400mm apart and
  500 centres to encourage wildlife.
- Native and locally sourced hedgerow trees will be planted at the same time as the hedgerow in the form of whips which will be 1 to 1.5m tall. Species will include oak, birch and beech.
- Remaining trees will be a mix of standards, feathered and whips. Suggested species include bird cherry and rowan.

Prior to commencement of construction, tree protection measures will be implemented to ensure that the trees to be retained do not suffer direction damage through operations on site or indirect damage from spillage within the root protection zone or storage causing root compaction in accordance with BS 5837.

1



Maintenance measures will include the following:

- Trees will be supported by tree stakes and ties and understorey planting/hedging with shrub shelters, which shall be checked at regular intervals.
- Hedgerows, trees and shrubs shall be irrigated regularly during the establishment of new plants.
- Weed growth shall be controlled through a combination of mulching and herbicides.
- Any failed planting shall be replaced.

## 2. Woodland/grassland interface:

A gradual transition zone ('ecotone') between existing woodland and then new areas of scrub, rough grassland and more amenity grassland will be created. A 'scalloped' edge to this zone will provide visual variety, as well as sheltered locations for lizards, slow-worms and insects, particularly butterflies. New tree species within the woodland /grassland interface will be a mix of oak, Scots pine and birch of varying ages and heights (standards, feathers and whips), whilst scrub understorey will consist of holly, hawthorn, gorse and broom reflecting local native species identified on site.

Tree planting will at 5-10m spacings, in groups and within specific locations agreed on site. The objectives of the planting will be:

- To retain a visual screen in select locations creating depth to the existing planting;
- Provide new and replacement habitat for reptiles and other fauna; and
- Introduce a softer deciduous woodland edge to existing conifer planting which will be thinned.

## 3. Wet mixed woodland /poor fen/marshy grassland:

Selective thinning of overcrowded existing trees will occur to create open glades for new understorey species consisting of a mix of birch, oak, hawthorn, holly and gorse. This will increase the diversity and improve the structure of the woodland, and over time will create a visual screen from along the edge of the existing forestry track to the east, and neighbouring properties.

A 10-15m woodland transition zone will also be implemented along the eastern boundary to replace the poor quality woodland core and overcrowded trees. The design will provide a scalloped edge to the development, with similar characteristics to the woodland/grassland interface (as per zone 2). As the planting matures, it will offer a more diverse structure and the visual enclosure of the site.

### 4. Retained scrub and trees

This contains dwarf gorse, a notable species, and support reptiles, and will be subject of minimal management to retain its interest.



Number	Management Compartment	Interest Features	Objective	Prescription
1	New grassland / dry and wet heath mosaic	n/a	Multi-functional open space: biodiversity, open space	<ul> <li>Model existing ground to provide diverse micro-habitats; lower areas to form pond</li> <li>Seed with native acid grassland species</li> <li>Manage (cut) to establish sward, then to maintain habitat mosaic</li> </ul>
2	Woodland / Grassland interface	Notable invertebrates     Common reptiles	Improve opportunities for notable species     Provide replacement habitat for displaced common reptiles     Control access to sensitive wetland / woodland	Create woodland 'ecotone', by relaxing management at woodland edge to create transition from grassland to scrub to woodland
3	Wet mixed woodland / poor fen / marshy grassland	Notable diving beetle in ephemeral pools	Restore Mire community     Retain and improve opportunities for notable wetland beetle     Decrease shading of poor fen and marshy grassland to increase species richness improve health of retained stock	<ul> <li>Thin overcrowded trees to create open glades and to increase insolation of ground flora</li> <li>Thin trees to improve health of retained stock</li> <li>Avoid footpaths to minimise disturbance to wetland flora</li> </ul>
4	Retained trees and scrub	Dwarf gorse     (Dorset notable species)     Common reptiles	Minimal management, unless required for health and safety reasons. Maximise health of stock	<ul> <li>Manage scrub to promote dense, bushy growth</li> <li>Retain standing and fallen dead wood, unless removal required for health and safety reasons</li> </ul>

**Project Details** 

Title

Existing trees and dwarf gorse retained

Scale

Drawing Ref

Date

Checked

Land at North East Verwood, East Dorset

Open Space Proposals

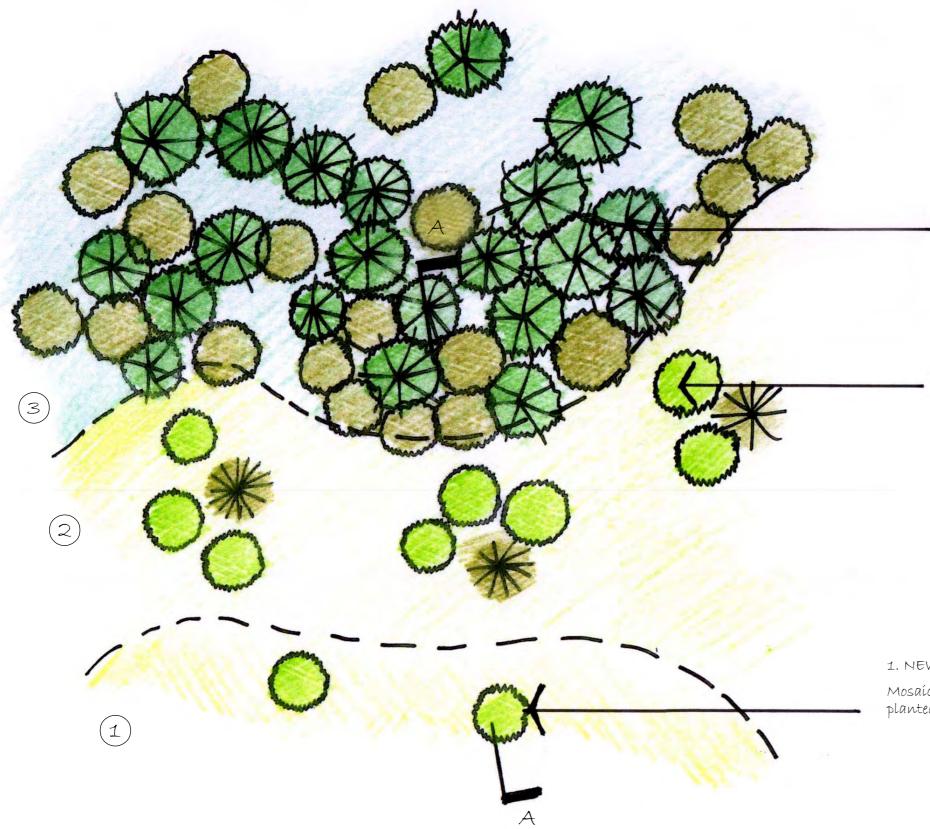
NTS

1522/P10d

April 2013

JSA/JTF





# 3. WET MIXED WOODLAND / POOR FEN / MARSHY GRASSLAND

Existing trees selectively thinned to create new glades and encourage understorey growth

# 2. WOODLAND / GRASSLAND INTERFACE

Mix of deciduous and coniferous trees in groups reducing in density away from the edge of '3' with some understorey planting, rough and amenity grassland

# 1. NEW GRASSLAND / DRY HEATH MOSAIC

Mosaíc of acid grassland / dry heath with occasional deciduous / coniferous trees planted in amongst grassland to add interest

Land at North East Verwood, East Dorset

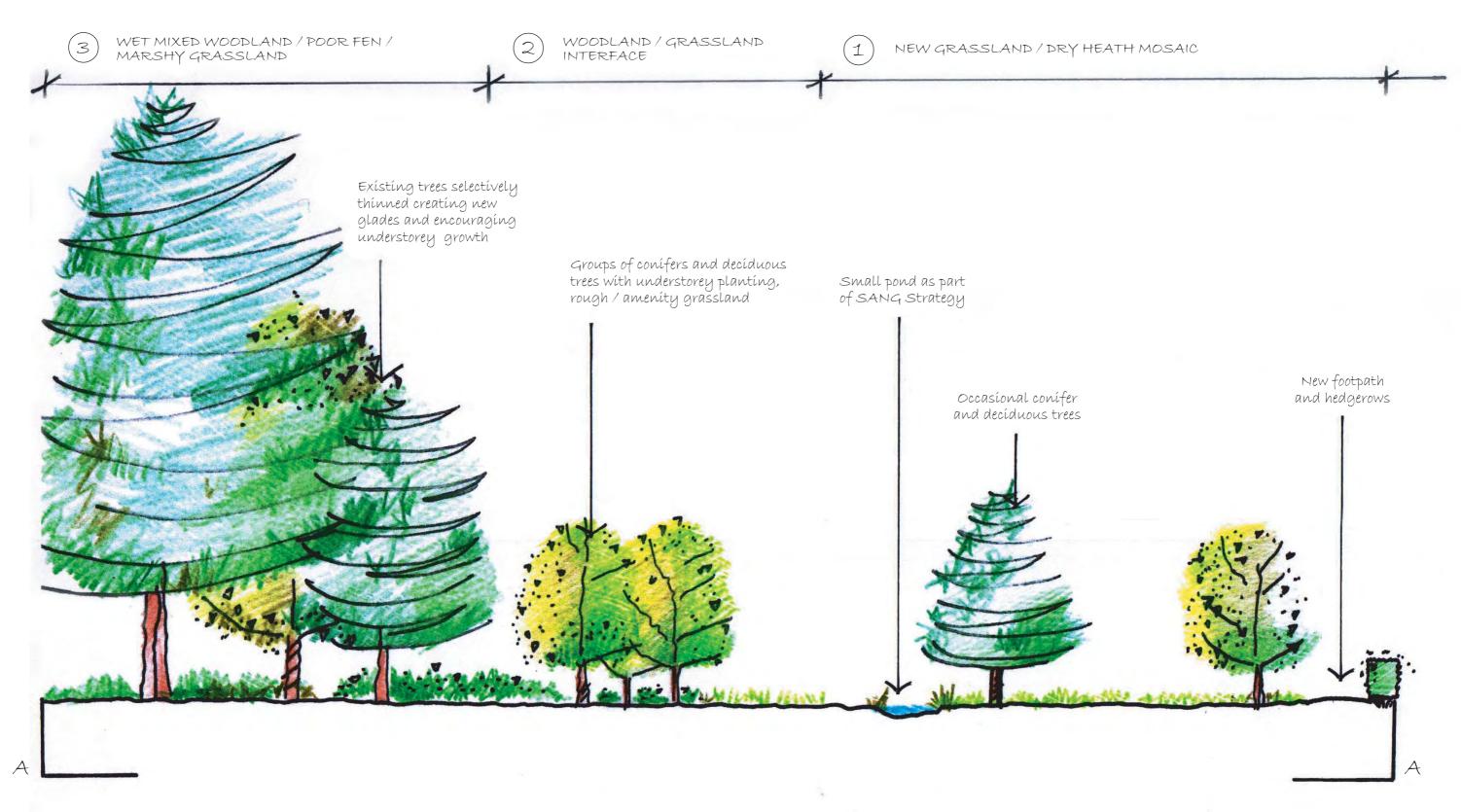
**Woodland Transition Zone Strategy: Drawing Title** Illustrative Masterplan

Not to Scale 1522/P14 Drawing No. March 2013

Checked

MB/JTF





Land at North East Verwood, East Dorset

**Woodland Transition Zone Strategy: Illustrative Cross Section** 

Not to Scale Scale Drawing No. 1522/P15 Date

**Drawing Title** 

March 2013 Checked MB/JTF







21 May 2013

Land off Ringwood Road, Verwood, East Dorset

**Ecological Assessment** 

Report Number: 1522\_R11a\_LW\_RW

Author: Lauren West

Checked by: Julian Arthur MCIEEM CENV

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Appendix 9: Woodland Transition Zone Strategy (1522\_R08b)

# **Plans**

Habitat Features (1522/P08c May 2013 LW/JTF)

Fauna Survey Results (1522/P11b May 2013 LW/JTF)

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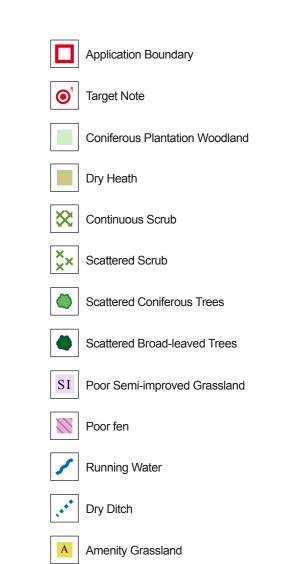


# **Plans**

Habitat Features (1522/P08c May 2013 LW/JTF)

Fauna Survey Results (1522/P11b May 2013 LW/JTF)





Arable / Disc-harrowed Land

Introduced Shrub (rhododendron)

Fence

Mammal Path

Shed



Project

Land off Ringwood Road, Verwood, East Dorset

**Drawing Title** 

Not to Scale 1522/P08c

Drawing No. Date

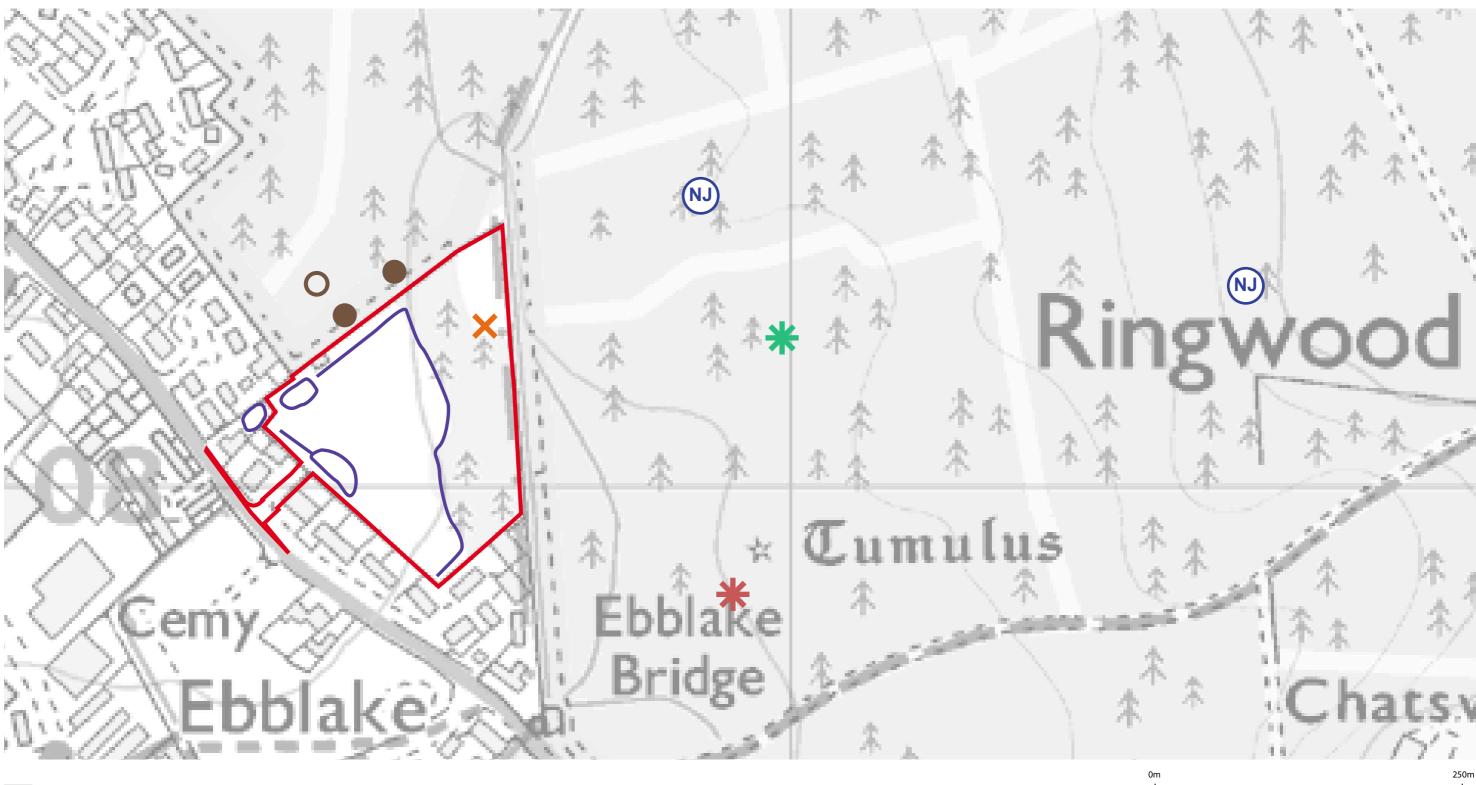
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Scale

May 2013 LW/JTF

**Habitat Features** 







Birds - Annex I Species



Nightjar Caprimulgus europaeus

Badger - Meles meles



Active / Partially Used Sett



O Disused Sett



Invertebrates RDB - EN



Diving Beetle Hydroporus necopinatus

Reptiles - Annex II Species



Smooth Snake Coronella austriaca



Sand Lizard Lacerta agilis

Reptiles - Common Species



Slow Worm Anguis fragilis and Common Lizard Zootoca vivipara

Land off Ringwood Road, Verwood, East Dorset

**Drawing Title** 

Drawing No. Date

Checked

**Fauna Survey Results** As Shown (approximate)

1522/P11b

May 2013 LW/JTF

