



EDNC Consortium

EDNC, Cranbrook

Phase 2 Hedgebank Management Plan

Ecological Monitoring – Condition Survey – Year 1

November 2017

FPCR Environment and Design Ltd

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-	Draft 1	BL / February 2017	
	Draft 2	JRM / August 2017	KEF / November 2017

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1.0 INTRODUCTION

- 1.1 This document outlines the condition survey that is to be undertaken annually by the project Ecologist, to only identify any additional management works where changes have occurred to those specified in the approved *Hedgebank Management Plan Rev J*.
- 1.2 This report will be used to inform and provide information to the 5 year management review.

2.0 ECOLOGICAL MONITORING

- 2.1 The following methodology and scope of works outlined below have been extracted from the approved Plan.

Pre-construction

- 2.2 The baseline pre-construction surveys for hedgerows / hedgebanks for Phase 2 were approved in the *Hedgebank Management Plan Rev J*.

Construction

- 2.3 During construction of adjacent works, protective fencing will be inspected as outlined in the approved *Hedgebank Management Plan Rev J*.

Post-construction

- 2.4 Post-construction ecological monitoring will involve an annual walkover inspection of all hedgerows on site by a suitably qualified Ecologist to ensure the hedgerows are developing in accordance with the approved Plan.
- 2.5 During the walkover survey, the condition of each hedgerow will be inspected to ensure the following key Plan objectives are met:
- *“To ensure the hedgebanks are appropriately managed and maintained for the benefit of new residents;*
 - *To maintain and enhance the existing nature conservation value of retained hedgebanks.”*
- 2.6 The ongoing management process will include monitoring and review of the following:
- Monitoring of newly planted / established shrubs with specific replacement of dead or dying species on a like for like basis;
 - Monitoring of ditches associated with hedgerows, recommendation of ditch clearance to original profile to allow full functionality;
 - Monitoring of hedgerow structure, with all breaches, gaps and leggy sections being noted and recommended for remedial works;
 - Recommendation of laying or coppicing once a hedgerow has progressed to HMC7/8 for the formal five year review.
- 2.7 *Appendix A* outlines the condition survey sheet.

- 2.8 If post construction monitoring identifies the need for additional remedial management works, i.e. replacement of dead planting on a like for like basis, the landscape contractors will be instructed accordingly.
- 2.9 Changes within the five year formal review shall be amended following agreement with East Devon District Council. A formal review of the *Hedgebank Management Plan* will take place at the beginning of year five, to be completed before the end of year 5 and reviews thereafter should be at subsequent 5 year periods. The *Hedgebank Management Plan* will provide revised objectives and prescriptions for a further period (years 6 to 10 and subsequent five year periods) and will be submitted to and agreed in writing by East Devon District Council.

3.0 2017 MONITORING RESULTS

- 3.1 Due to delayed works within 2016 it was agreed between East Devon District Council (EDDC), Cranbrook Town Council (CTC), the Consortium Site Manager and FPCR Environment and Design Ltd on 14.02.2017 that hedgerow management works will commence the following season between January and February 2018 from year 1 of *Appendix A, Hedgebank Management Plan, Rev J*.
- 3.2 Year 1 monitoring took place in July 2017, prior to the proposed management works in January and February 2018. Monitoring was based on the previously described condition and management of each hedgerow as stated in *Appendix A, Hedgebank Management Plan, Rev J*.
- 3.3 A summary of all comments/amendments is given below in *Table 1*. Additionally, an updated *Appendix A, Hedgebank Management Plan, Rev J* is provided in *Appendix B* of the present report to reflect the results of Year 1 (2017) monitoring. The indicative management regime is represented in *Figures 1 – 8*.
- 3.4 Comment/amendments were only given if it was felt that the previous classification/management was no longer accurate. No comment was made if it was felt that the previous description was still accurate. Text within *Appendix B* is coded to reflect new changes, with **bold and underlined** text representing new notes, and ~~striked~~ text representing outdated/deleted previous notes.

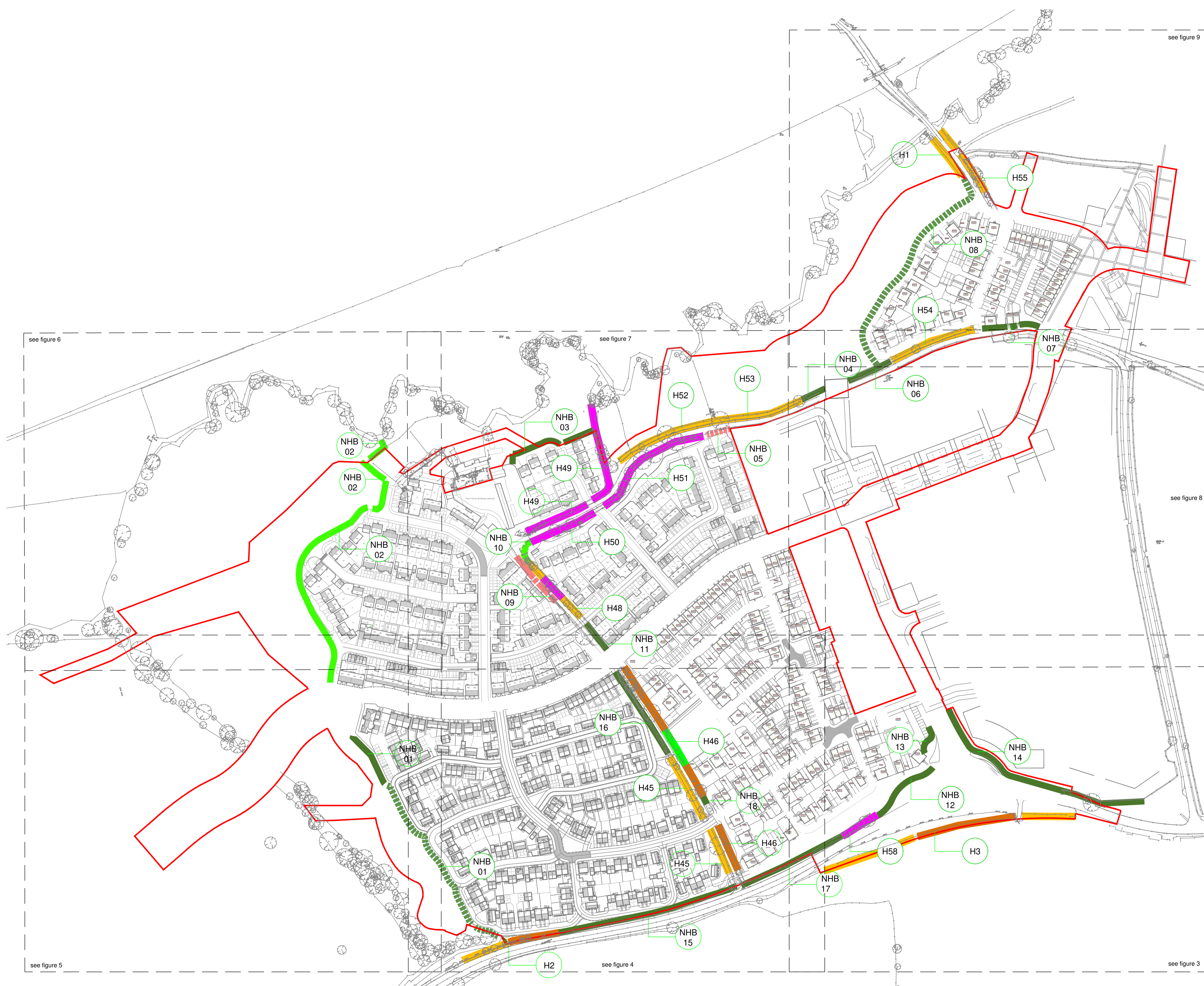
Table 1: Summary of 2017 monitoring

Hedge ref.	HMC cycle	Additional notes
H1	5	Southern section has been removed.
H2	1/7	-
H46	4/5/6	Mid-section adjacent to Northwood Acres play area has been removed and re-planted.

Hedge ref.	HMC cycle	Additional notes
H49	N.East 1 / mid-section 5 / West 1	<p>N.East: Short and largely gappy section below existing mature trees. Gapping up required with shade tolerant species.</p> <p>Central: Short section (c.15m) east of Sweet Coppin still largely intact. Management here through continued mechanical flailing.</p> <p>W: Section affected by recent construction. Woody species are limited to occasional <i>Up</i> and <i>Sn</i> on bank and the single <i>Qr</i> specimen. The remainder of the bank is dominated by herbaceous ruderal species, notably nettle and thistle. Here management is required. Grub up or poison undesirable species and gapping up of hedgebank.</p>
H50	1-5/9	Made ground to south of hedgebank has resulted with H50 being sited on a half-hedgebank. Bank on north bank face to be cast up. Short sections of <i>Ca</i> still present, but gapping up and management of the remainder of hedgebank recommended as per <i>Phase 2 Hedgebank Management Plan</i> .
H52	5	Recently cast up / layed.
H54	5/6	-
H58	7-8/9	Maintain elm/oak section through mechanical cutting until the planting/establishment of NHB17.
NHB05	-	No planting. Metal fence present instead of hedgerow.
NHB09	-	No planting. Lawns are laid in front of houses.
NHB10	4	<p>Grub out or poison undesirable species.</p> <p>Monitoring of each hedgebank to ensure that the details (B) remain as specified.</p>

FIGURES

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NOTES

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- Materials and workmanship shall generally be in accordance with the following documents - BS3336 Nursery Stock and BS4428. Recommendations for General Landscape Operations.
- Plant material to be the sizes and dimensions as stated in the schedule and shall be healthy with good fibrous root systems.
- For hardworks, drainage design, services and root barriers see Brookbanks drawings.
- Tree Planting Requirements for Drainage Construction (extract). The root barrier panel shall extend to either (a) 2.0m depth minimum, or if greater (b) the maximum of the root plate detailed in Table 3.1 of 'Tree Roots in the Built Environment' by Roberts, Jackson and Smith 2006 plus 0.5m (F.o.S) rounded up or down to the nearest 0.25m.
- Built development layout is indicative only, see architects drawings for details.

KEY

Infrastructure Boundary

Native Hedgerow Planting

Species	Common Name	Size	%
Acer campestre	Field Maple	60-80cm br	15
Corylus avellana	Hazel	60-80cm br	25
Cornus sanguinea	Dogwood	60-80cm br	10
Crataegus monogyna	Hawthorn	60-80cm br	30
Ilex aquifolium	Holly	3L	5
Prunus spinosa	Blackthorn	60-80cm br	5
Rosa canina	Dog rose	60-80cm br	5
Viburnum opulus	Guelder rose	60-80cm br	5

To be planted at 6 plants per linear m, double staggered row. Plant in pure species of 3 to 9 plants, with blocks randomly located along the length. Plants to be protected by stakes and rabbit guards. Hedgerow base to be mulched.

Half-hedgebank with Native Hedgerow Planting

Hedgebank with Native Hedgerow Planting

Section recommended for laying/coppicing and casting up over a 5 year period.

Section recommended for coppicing and casting up

Section recommended for gapping up and maintained as new hedgerow casting up where required.

Felling required to continue and reviewed after 5 years.

Newly planted or managed hedgerow, to be monitored and maintained as new hedgerow

Leave to Naturalise

Alternative to hedgerow installed

Hedgebank to be constructed to tie into finished plot and road levels average bank height to be 1m detail as drawing 4671/CP/22. See note above for hedge species.

Note 1: Only 1/2 of the total of all the hedges are to be laid/coppiced or hailed in any one year.

Note 2: Hedgerow maintenance prescriptions current at time of surveying (september 2014). It is by no means an exhaustive list and should be reviewed and amended on a yearly basis.

Scale Bar @ A1

0 20 40 60 80 100m

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Cranbrook
East Devon

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PHASE 2 HEDGEBANK MANAGEMENT
MONITORING - YEAR 1

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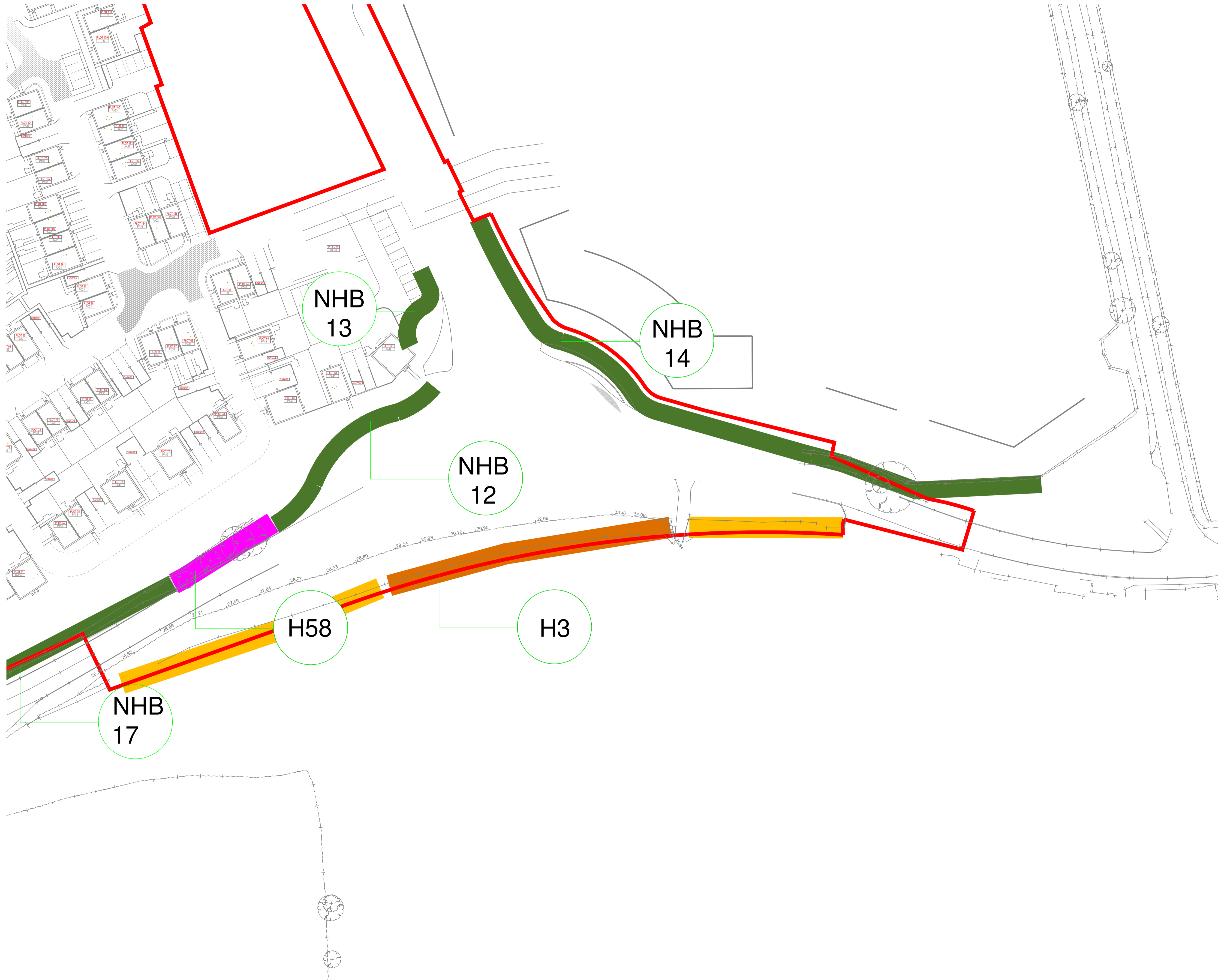
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FIGURE 1

rev

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Native Hedgerow Planting

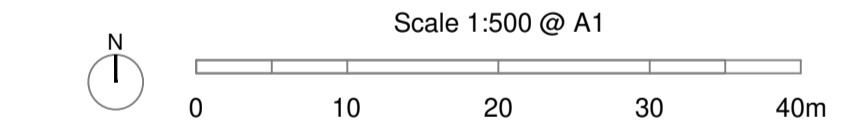
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- Section recommended for coppicing and casting up
- Section recommended for gapping up and maintained as new hedgerow casting up where required.
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**PHASE 2 HEDGEBANK MANAGEMENT
MONITORING - YEAR 1**

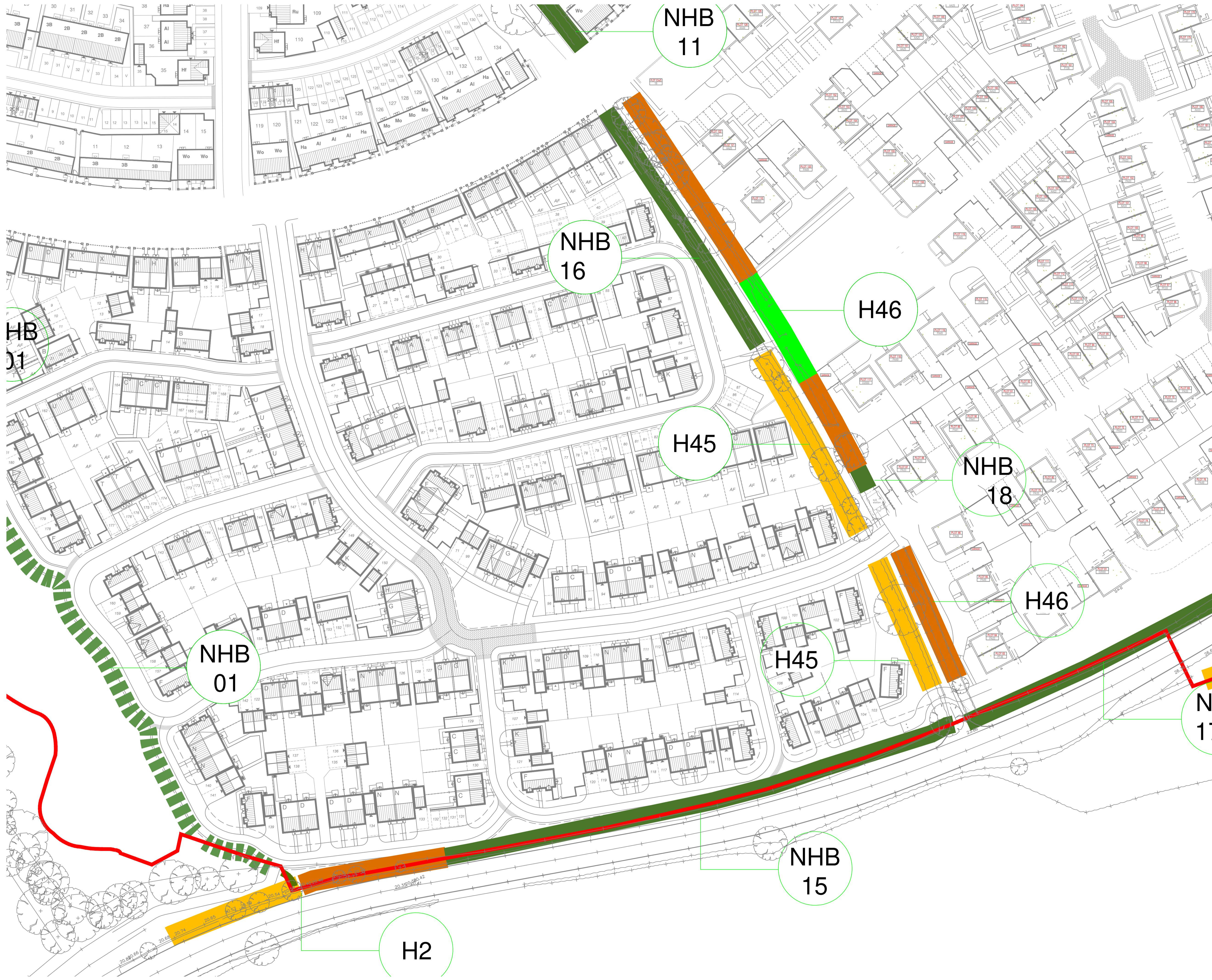
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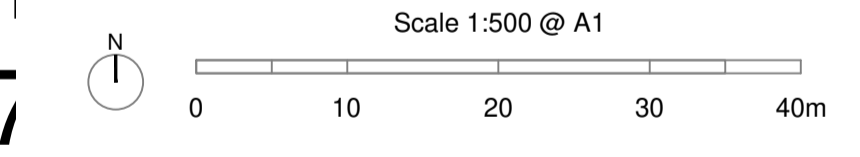
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FIGURE 3

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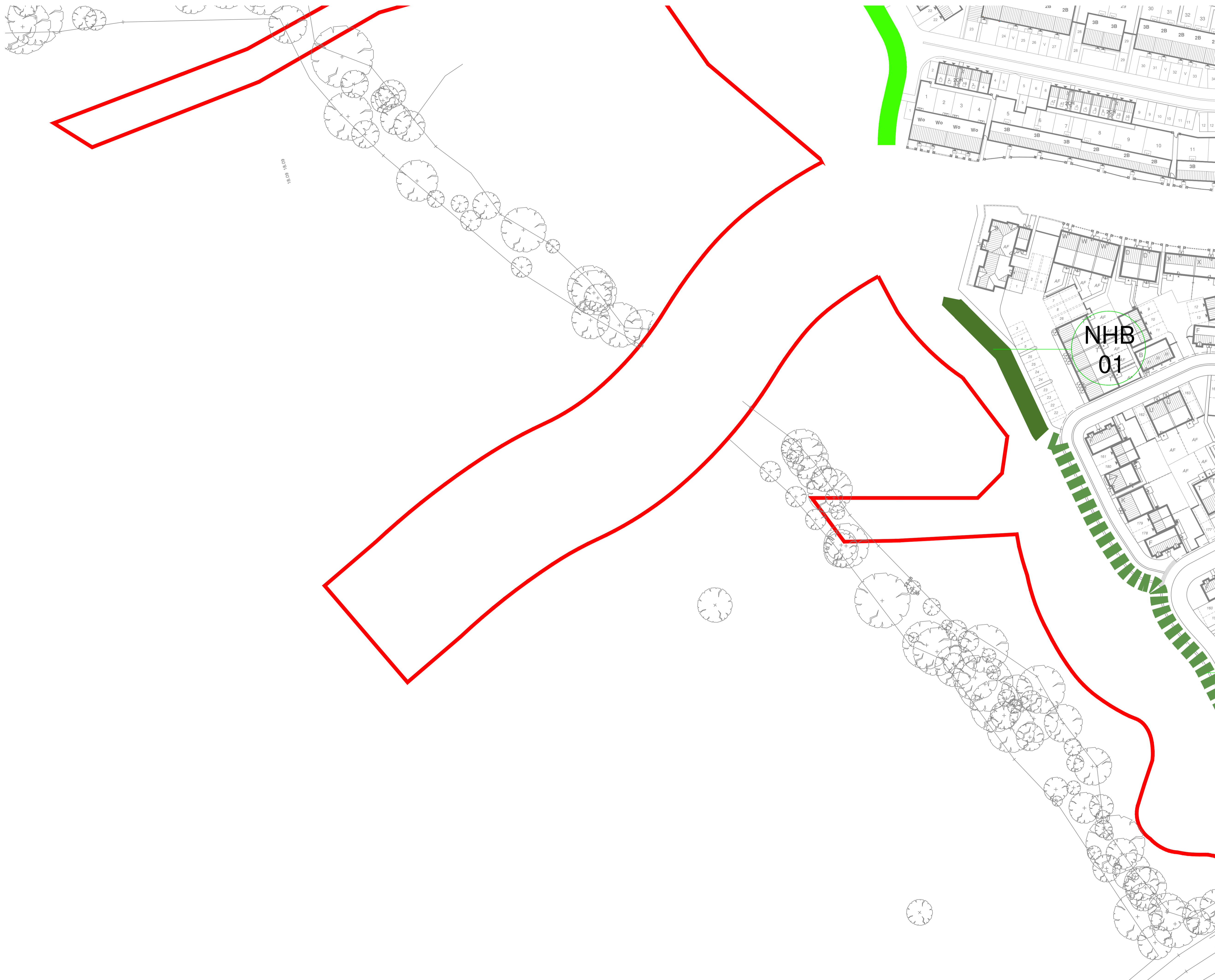
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FIGURE 3

CAD file: J:\4600\4671\CAD\4671-HB-02 PHASE 2 HEDGERBANK PLAN MONITORING - YEAR 1



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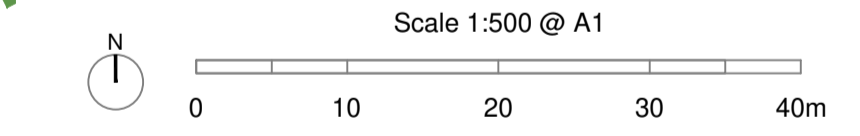
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FIGURE 4

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Half-hedgbank with Native Hedgerow Planting

Hedgbank with Native Hedgerow Planting

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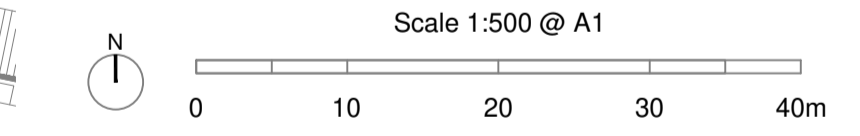
Leave to Naturalise

Alternative to hedgerow installed

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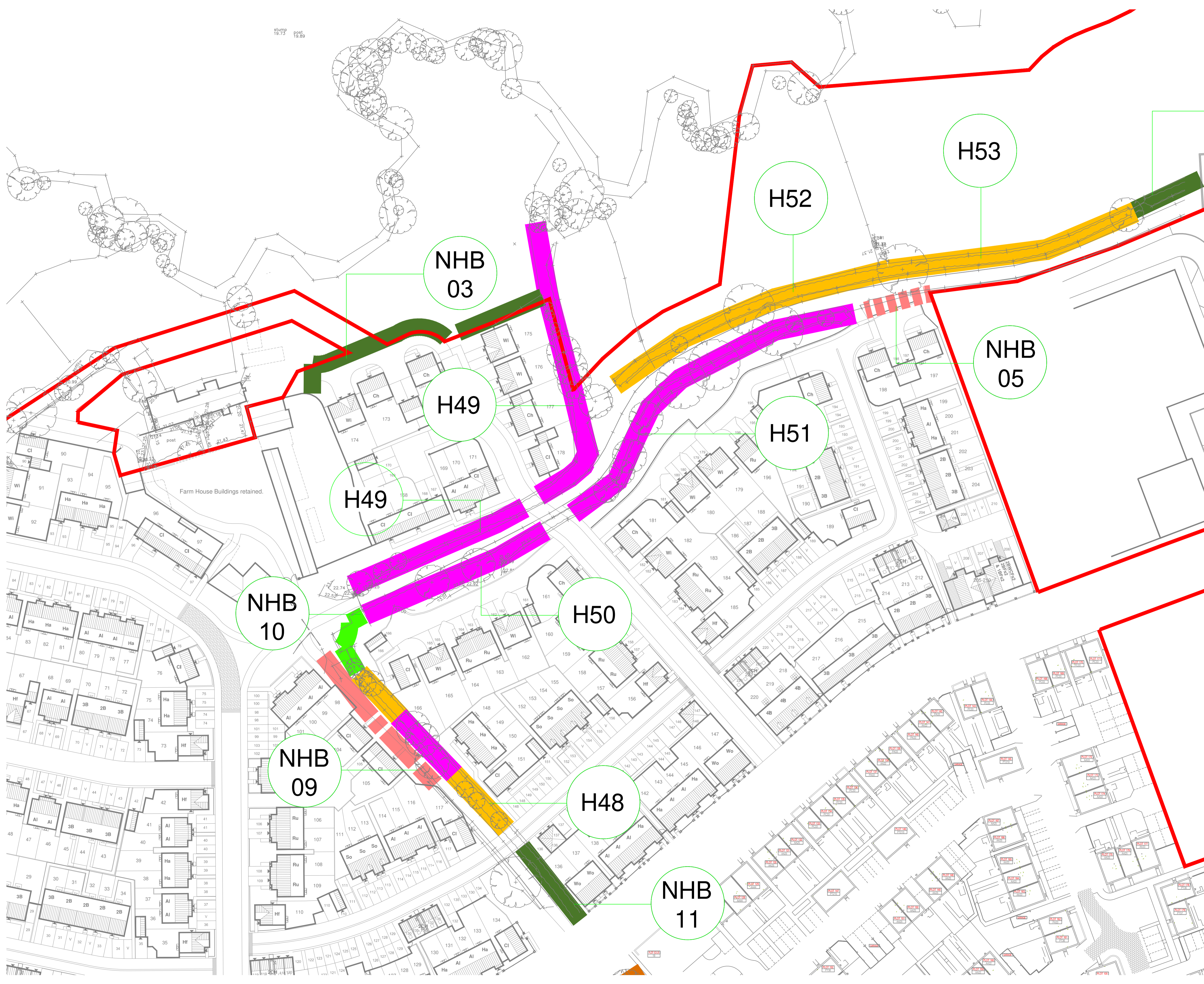
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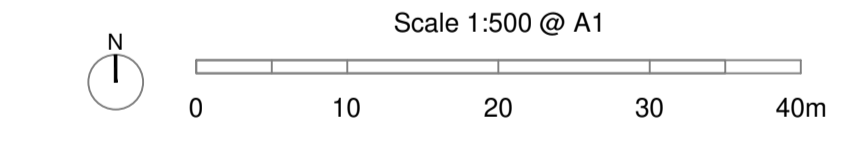
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Note 2: Hedgerow maintenance prescriptions current at time of surveying (september 2014). It is by no means an exhaustive list and should be reviewed and amended on a yearly basis.



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drawing title
PHASE 2 HEDGERBANK MANAGEMENT
MONITORING - YEAR 1

scale
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drawn
SP

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August 2017

drawing number
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FIGURE 6



NOTES

- All dimensions to be verified on site. Do not scale this drawing. All discrepancies to be clarified with project Landscape Architect. This drawing is the property of FPCR Environment and Design Ltd and is issued on the condition it is not reproduced, retained or disclosed to any unauthorised person, either wholly or in part without written consent of FPCR Environment and Design Ltd. Ordnance Survey material is used with the permission of The Controller of HMSO, Crown copyright 100018896.
- Materials and workmanship shall generally be in accordance with the following documents - BS3336 Nursery Stock and BS4428. Recommendations for General Landscape Operations.
- Plant material to be the sizes and dimensions as stated in the schedule and shall be healthy with good fibrous root systems.
- For hardworks, drainage design, services and root barriers see Brookbanks drawings.
- Tree Planting Requirements for Drainage Construction (extract): The root barrier panel shall extend to either (a) 2.0m depth minimum, or if greater (b) the maximum of the root plate detailed in Table 3.1 of 'Tree Roots in the Built Environment' by Roberts, Jackson and Smith 2006 plus 0.5m (F.o.S) rounded up or down to the nearest 0.25m.
- Built development layout is indicative only, see architects drawings for details.

KEY

- Infrastructure Boundary

Native Hedgerow Planting

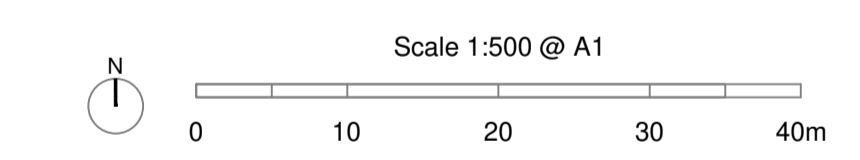
Species	Common Name	Size	%
Acer campestre	Field Maple	60-80cm br	15
Corylus avetana	Hazel	60-80cm br	25
Cornus sanguinea	Dogwood	60-80cm br	10
Crataegus monogyna	Hawthorn	60-80cm br	30
Ilex aquifolium	Holly	3L	5
Prunus spinosa	Blackthorn	60-80cm br	5
Rosa canina	Dog rose	60-80cm br	5
Viburnum opulus	Guelder rose	60-80cm br	5

To be planted at 6 plants per linear m, double staggered row. Plant in pure species of 3 to 9 plants, with blocks randomly located along the length. Plants to be protected by stakes and rabbit guards. Hedgerow base to be mulched.

- Half-hedgbank with Native Hedgerow Planting
- Hedgbank with Native Hedgerow Planting
- Section recommended for laying/coppicing and casting up over a 5 year period.
- Section recommended for coppicing and casting up
- Section recommended for gapping up and maintained as new hedgerow casting up where required.
- Falling required to continue and reviewed after 5 years.
- Newly planted or managed hedgerow, to be monitored and maintained as new hedgerow
- Leave to Naturalise
- Alternative to hedgerow installed

Hedgerbank to be constructed to tie into finished plot and road levels average bank height to be 1m detail as drawing 4671/CP/22. See note above for hedge species.

Note 1: Only 1/3 of the total of all the hedges are to be laid/coppiced or hailed in any one year.
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drawing title
**PHASE 2 HEDGEBANK MANAGEMENT
 MONITORING - YEAR 1**

scale
 1:500 @ A1

drawn
 SP

date
 August 2017

drawing number
FIGURE 7

rev
 -



NOTES

- All dimensions to be verified on site. Do not scale this drawing. All discrepancies to be clarified with project Landscape Architect. This drawing is the property of FPCR Environment and Design Ltd and is issued on the condition it is not reproduced, retained or disclosed to any unauthorised person, either wholly or in part without written consent of FPCR Environment and Design Ltd. Ordnance Survey material is used with the permission of The Controller of HMSO, Crown copyright 100018896.
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- Built development layout is indicative only, see architects drawings for details.

KEY

Infrastructure Boundary

Native Hedgerow Planting

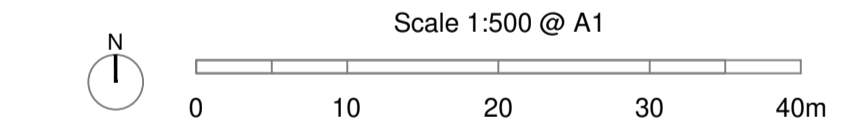
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Corylus avetana	Hazel	60-80cm br	25
Cornus sanguinea	Dogwood	60-80cm br	10
Crataegus monogyna	Hawthorn	60-80cm br	30
Ilex aquifolium	Holly	3L	5
Prunus spinosa	Blackthorn	60-80cm br	5
Rosa canina	Dog rose	60-80cm br	5
Viburnum opulus	Guelder rose	60-80cm br	5

To be planted at 6 plants per linear m, double staggered row. Plant in pure species of 3 to 9 plants, with blocks randomly located along the length. Plants to be protected by stakes and rabbit guards. Hedgerow base to be mulched.

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- Section recommended for gapping up and maintained as new hedgerow casting up where required.
- Flailing required to continue and reviewed after 5 years.
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Hedgebank to be constructed to tie into finished plot and road levels average bank height to be 1m detail as drawing 4671/CP/22. See note above for hedge species.

Note 1: Only 1/3 of the total of all the hedges are to be laid/coppiced or hailed in any one year.
 Note 2: Hedgerow maintenance prescriptions current at time of surveying (september 2014). It is by no means an exhaustive list and should be reviewed and amended on a yearly basis.



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date
August 2017

drawing number
FIGURE 8

rev
-

CAD file: J:\4600\4671\CAD\4671-HB-02 PHASE 2 HEDGEBANK PLAN MONITORING - YEAR 1.

APPENDICES

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APPENDIX B: Initial ten year monitoring programme – Year 1 Monitoring Results (2017)

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To be read in conjunction with Figure 1-8

EXISTING HEDGE SPECIES KEY

Reference	Latin Name	Common Name
Ac	<i>Acer campestre</i>	Field Maple
Cs	<i>Cornus sanguinea</i>	Dogwood
Ca	<i>Corylus avelana</i>	Hazel
Cl*	<i>Cupressocyparis leylandii*</i>	Leyland cypress*
Cm	<i>Crataegus monogyna</i>	Hawthorn
Ee	<i>Euonymus europaeus</i>	Spindle
Ia	<i>Ilex aquifolium</i>	Holly
Lv	<i>Ligustrum vulgare</i>	Privet
Fe	<i>Fraxinus excelsior</i>	Ash
Fs	<i>Fagus sylvatica</i>	Beech
Md	<i>Malus domestica</i>	Domestic Apple
Ps	<i>Prunus spinosa</i>	Blackthorn
Qr	<i>Quercus robur</i>	Oak
Rc	<i>Rosa canina</i>	Dog Rose
Rf	<i>Rubus fruticosus</i> agg.	Bramble
Sn*	<i>Sambucus nigra*</i>	Elder*
Sca	<i>Salix caprea</i>	Goat Willow
Sci	<i>Salix cinerea</i>	Grey Willow
U Spp.	<i>Ulmus Spp.</i>	Elm Spp.
Ug	<i>Ulmus glabra</i>	Wych Elm
Up	<i>Ulmus procera</i>	English Elm
VI	<i>Viburnum lantana</i>	Wayfaring Tree
Vo	<i>Viburnum opulus</i>	Guelder Rose

* Undesirable species to be removed

PROPOSED HEDGE SPECIES

Reference	Latin Name	Common Name	Size	Percentage
Ac	<i>Acer campestre</i>	Field Maple	60-80cm br	15
Cs	<i>Cornus sanguinea</i>	Dogwood	60-80cm br	10
Ca	<i>Corylus avelana</i>	Hazel	60-80cm br	25
Cm	<i>Crataegus monogyna</i>	Hawthorn	60-80cm br	30
Ia	<i>Ilex aquifolium</i>	Holly	3L	5
Ps	<i>Prunus spinosa</i>	Blackthorn	60-80cm br	5
Rc	<i>Rosa canina</i>	Dog Rose	60-80cm br	5
Vo	<i>Viburnum opulus</i>	Guelder Rose	60-80cm br	5

MANAGEMENT OPERATIONS KEY

Reference	OPERATION
B	Bank creation
Ca	Casting Up
C	Coppicing
D	Ditch Management (note)
Em	Ecological Monitoring
G	Gapping Up
L	Laying
Mc	Mechanical Cutting
Mm	Management Monitoring (Arb. survey not necessary)
Mnp	Maintenance of New Planting
P	Planting
SF	Stock fencing
SSR	Selective Species Removal
Oo	Other operations (note)

PROPOSED HEDGEBANK SEED MIX i.e Germinal Seed WFG Hedgerow Shaded (except where orientation/drainage requires alternatives).

Mixture Breakdown		Percentage
Latin	Common	
<i>Festuca arundinacea</i>	Tall fescue	25
<i>Festuca rubra spp litoralis</i>	Slender Creeping Red Fescue	25
<i>Cynosurus cristatus</i>	Crested Dogstail	15
<i>Festuca rubra</i>	Strong Creeping Red Fescue	10
<i>Poa nemoralis</i>	Wood Meadow Grass	5
<i>Melilotos alba</i>	White Meliot	3
<i>Agrostemma githago</i>	Corncockle	2.3
<i>Geum urbanum</i>	Wood Avens	2
<i>Silene dioica</i>	Red Campion	2
<i>Chrysanthemum segetum</i>	Corn Marigold	1
<i>Filipendula ulmaria</i>	Meadow Sweet	1
<i>Galium mollugo</i>	Hedge Bedstraw	1
<i>Hypericum perforatum</i>	Perforated St John's Wort	1
<i>Iris pseudacorus</i>	Iris	1
<i>Silene alba</i>	White Campion	1
<i>Torillis japonica</i>	Hedge Parsley	1
<i>Alliara petiolata</i>	Garlic Mustard	0.8
<i>Allium ursinum</i>	Ransoms	0.5
<i>Hyacinthoides non scripta</i>	Bluebell	0.5
<i>Lychnis flos-cuculi</i>	Ragged Robin	0.5
<i>Teucrium scorodonia</i>	Wood Sage	0.5
<i>Digitalis purpurea</i>	Foxglove	0.4
<i>Clematis vitalba</i>	Traveller's Joy	0.3
<i>Stachys officinalis</i>	Betony	0.2

Ref.	Length (m)	Hedge Species Ref App B	Ditches (m)	HMC Cycle Point	Management Operations Length (m)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Notes	
		Sci, U spp.		<u>N.East 1 / mid-section 5 / West 1</u>	145G	Sept/March as required										<p>Park boundary and W section a Green Lane /Open Space boundary. The northern most section is formed by tall leggy grey willow on a wide low bank, the mid-section is formed by three early mature oak trees with a gappy understory of elder and hawthorn, the western extent is dominated by elm on a low bank with rabbit warrens. Hedgerow to be coppiced with potential casting up where required.. Western extent of hedgerow requires gapping up following casting up. Monitoring of establishment of new shrubs. Specify replacement of dead or dying species on a like for like basis. Shade tolerant species to be planted under existing tree canopies.</p> <p><u>2017: N.East: Short and largely gappy section below existing mature trees. Gapping up required with shade tolerant species.</u></p> <p><u>Mid-section: Short section (c.15m) east of Sweet Coppin still largely intact. Management here through continued mechanical flailing.</u></p> <p><u>W: Section affected by recent construction. Woody species are limited to occasional Up and Sn on bank and the single Qr specimen. The remainder of the bank is dominated by herbaceous ruderal species, notably nettle and thistle. Here management is required. Grub up or poison undesirable species and gapping up of hedgebank. Further details of 'gapping up' are provided in Chapter 2.11 of Phase 2 Hedgebank Management Plan.</u></p>	
					145Mnp		June/Nov	June/Nov	June/Nov	June/Nov							
					145Mc					Cut between Jan /Feb			Cut between Jan /Feb				Cut between Jan /Feb
					145Mm		Report Update				Report Update						Report Update
					145Em		June /August	June /August	June /August	June /August	June /August	June /August	June /August	June /August	June /August		June /August
Ref.	Length (m)	Hedge Species Ref App B	Ditches (m)	HMC Cycle Point	Management Operations Length (m)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Notes	
H50	65	Ca, Cm, Ps, Qr,	None	1,5	65C	Oct/ Jan										Short dense section of hazel along the western section leading into a gappy	

Ref.	Length (m)	Hedge Species Ref App B	Ditches (m)	HMC Cycle Point	Management Operations Length (m)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Notes
		Sn, Up			65Ca	Oct/Jan as required										<p>outgrown hedge on a shallow eroded bank. Hedgerow recommended to be coppiced, cast up and gapped up and flailed after a 4 year period. Monitoring of establishment of new shrubs. Specify replacement of dead or dying species on a like for like basis. Shade tolerant species to be planted under existing tree canopies.</p> <p><u>2017: Made ground to south of hedgebank has resulted with H50 being sited on a half-hedgebank. Bank on north bank face to be cast up. Short sections of Ca still present, but gapping up and management of the remainder of hedgebank recommended as per Phase 2 Hedgebank Management Plan.</u></p>
					65G	Oct/March as required										
					65Mc				Cut between Jan /Feb		Cut between Jan /Feb		Cut between Jan /Feb			
					65Mnp		June/Nov	June/Nov	June/Nov	June/Nov						
					65Mm		Report Update			Report Update				Report Update		
					65Em	June /August	June /August	June /August	June /August	June /August	June /August	June /August	June /August	June /August	June /August	
H51	95	Ac, Ca, Cm, Ee, Fe, Ia, Ps, Qr, Rc, Sn	Intermittent ditch on Green Lane side. 750mm x 250mm	1	95Ca	Oct/Jan as required										<p>Thin species rich hedgerow with shading by mature oak trees. Contains frequent field maple, occasional hazel and spindle on a shallow bank. Hedgerow recommended for sectional casting up and gapping up where required, followed by continued flailing. Specify replacement of dead or dying species on a like for like basis. Shade tolerant species to be planted under existing tree canopies. To be reviewed after year 5 to assess further coppicing once H52 becomes re-established.</p> <p>Reinstate ditch at time of construction of Green Lane</p>
					95G	Oct/March as required										
					95Mnp		June/Nov	June/Nov	June/Nov	June/Nov						
					95Mm		Report Update			Report Update				Report Update		
					95Em	June /August	June /August	June /August	June /August	June /August	June /August	June /August	June /August	June /August	June /August	
					95m Mc	Cut between Jan /Feb			Cut between Jan /Feb		Cut between Jan /Feb		Cut between Jan /Feb		Cut between Jan /Feb	
					95Mm		Report Update			Report Update				Report Update		
					95Em	June /August	June /August	June /August	June /August	June /August	June /August	June /August	June /August	June /August	June /August	
					95D	Clear following cut	check	check	Clear following cut	check	check	Clear following cut	check	check	Clear following cut	

