

TRANSPORT AND WORKS ACT 1992
TRANSPORT AND WORKS (INQUIRIES PROCEDURES)
RULES 2004
NETWORK RAIL (HUDDERSFIELD TO WESTTOWN
(DEWSBURY) IMPROVEMENTS) ORDER

BIODIVERSITY
PROOF OF EVIDENCE APPENDICES
Niall Machin

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The Network Rail (Huddersfield to Westtown (Dewsbury) Improvements) Order 5 October 2021

Proof of Evidence Appendices – Biodiversity

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CONTENTS

APPENDIX 1: SUMMARY OF ECOLOGICAL SURVEYS UNDERTAKEN POST ES
SUBMISSION - FEBRUARY 2021 TO SEPTEMBER 2021

APPENDIX 2: ILLUSTRATIVE PLANTING PLANS

APPENDIX 1: SUMMARY OF ECOLOGICAL SURVEYS UNDERTAKEN POST ES SUBMISSION - FEBRUARY 2021 TO SEPTEMBER 2021

The full survey details are made available as Core Documents.

Table A1: List of surveys undertaken post ES Submission

Survey Type and Feature	Survey Summary	Survey Dates	Reason for Survey
Bats			
Colne Viaduct Underbridge MVL3/109	Ground based hibernation survey. Dusk Emergence/ Dawn re-entry survey	02-02-21; 23-02-21; 09-06-21; 01-07-21; 15-07-21	To inform a draft licence application
Peels Pit Underbridge MVL3/100	Daytime structure assessment	21-07-21	To confirm/update assumed evaluation of Ecological Feature and impacts prediction reported in ES.
Trees 41812_T3/ T5/ T6/ T7 (Ravensthorpe)	Ground based hibernation survey. Dusk/Dawn re-entry survey.	T3, T5, T6, T7 (Hibernation) 02-02-21; 23-02-21 T3 Dusk/Dawn: 24-05-21; 03-06-21; 16-06-21 T5 Dusk/Dawn 26-05-21; 10-06-21 T6 Dusk/Dawn 19-05-21; 10-06-21 T7 Dusk/Dawn 19-05-21; 10-06-21	To confirm/update assumed evaluation of Ecological Feature and impacts prediction reported in ES.
Tree 32150_T1/ T2	Ground based hibernation survey.	02-02-21; 23-02-21	To confirm/update assumed evaluation of Ecological Feature and impacts prediction reported in ES.
Bat boxes in Woodland south of Helm Lane	Box inspection (internal)	21-07-21; 17-08-1; 24-08-21	Changes to red line boundary (proposed access track) resulting in potential direct impact to bat boxes.

The Network Rail (Huddersfield to Westtown (Dewsbury) Improvements) Order 5 October 2021

Proof of Evidence Appendices – Biodiversity

Survey Type and Feature	Survey Summary	Survey Dates	Reason for Survey
Hill House 29334_B5 small brick building	External building inspection	14-05-2021	Design evolution with building to be demolished which therefore required a survey.
32540_B1 Thornhill Road Building	Daytime inspection and dusk emergence survey	17-08-21	Design evolution with building to be demolished which therefore required a survey.
32030_B1 Heaton Road Cottages	Dusk emergence/ Dawn re-entry	07-07-21; 16-07-21; 21-07-21	To inform a draft licence application
Great crested newt			
Ladywood Lakes GCN_19a (Main Lake) GCN_19b (Side Lake)	eDNA and Presence/ Likely Absence surveys	20-05-2021 (eDNA and HSI) Presence/ Likely absence 17/18-05-2021; 20/21-05-2021; 27/28-05-2021; 07/08/06/2021.	Positive eDNA result received in 2020. Repeat eDNA survey and Presence/ Likely Absence surveys carried out in 2021 to confirm evaluation of feature and impact prediction
Badger			
Heaton Lodge	Badger survey	13-06-21.	Update of 2020 surveys to inform draft licence application.
Water vole			
Colne Valley water vole of AF010 near RS3	Habitat suitability and presence/ likely absence of water vole	24 –08–21 08-09-21	Surveys undertaken to inform ES were carried out in November 2020 outside of the optimum survey period. Additional visits were therefore completed within the optimum period of July – September 2021
Floating water plantain			
River Calder at proposed new Baker Viaduct Underbridge; RBA/2 (at which in-channel works are proposed)	Aquatic macrophyte survey (targeting floating water plantain)	02-08-21	Seeking to confirm the presence/absence of floating water plantain from the River Calder at the residual identified location of potential in-channel working for the Scheme, following consultation with Natural England.

Results

This section provides a summary of baseline updates arising from ecology surveys collected 17th October 2020 – September 2021.

Bats

Table A2 provides a summary of where features subject to survey have been confirmed to support roosting bats. Full details of bat surveys are provided in the Additional Survey Data Report Appendices: Appendices A-G. (NR107). No other evidence of roosting by bats was recorded during the surveys reported in this Appendix.

Table A2: Summary of Bat Surveys

Survey Type	Structure / Tree	Date and Observations
Hibernation Surveys	Colne Viaduct Underbridge MVL3/109	A single bat recorded hibernating in roost feature on 23-02-21 under span 1 concluded to be a Daubenton's bat <i>Myotis daubentonii</i> (see Additional Survey Data Report Appendix A for details)
Dusk Emergence/ Dawn Re-entry	Colne Viaduct Underbridge MVL3/109	At least two individual Daubenton's bats were observed using access points associated with spans 2-3 (see Additional Survey Data Report Appendix A for details). Droppings collected under spans 1-3 confirmed to Daubenton's bat.

Great Crested Newt

No evidence of great crested newt was obtained during surveys. For full details of results refer to Additional Survey Data Report Appendices H, H1 and H2 (NR107).

Badger

Four setts were recorded corresponding to setts 004, 007, 011 and 022 described in the Confidential Appendix - Badger Survey Report (151667-TSA-00-TRU-REP-W-EN-00642). Sett_007 was considered active. Sett_004 and Sett_011 were considered to be partially used. Sett_022 was considered to be disused. Setts 005, 006, 008, 009, 010 and 012 previously recorded (151667-TSA-00-TRU-REP-W-EN-00642) were not located. No other signs of badger presence were recorded (e.g. clear pathways, footprints, latrines etc) indicating low badger activity in the area. For full details of these results refer to Additional Survey Data Report Appendix I (NR107).

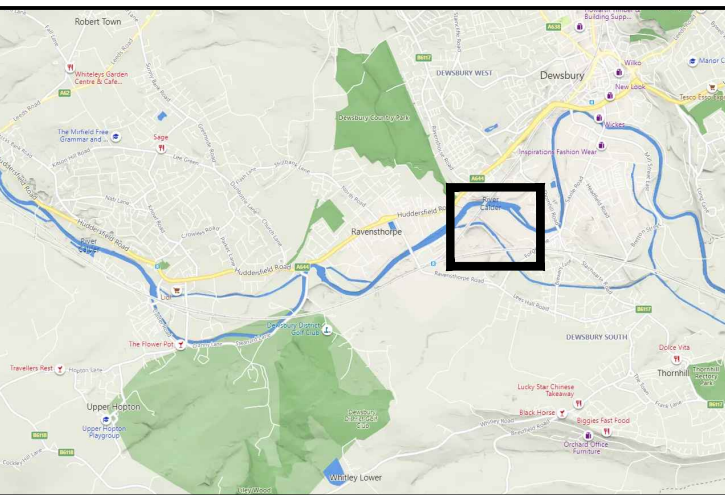
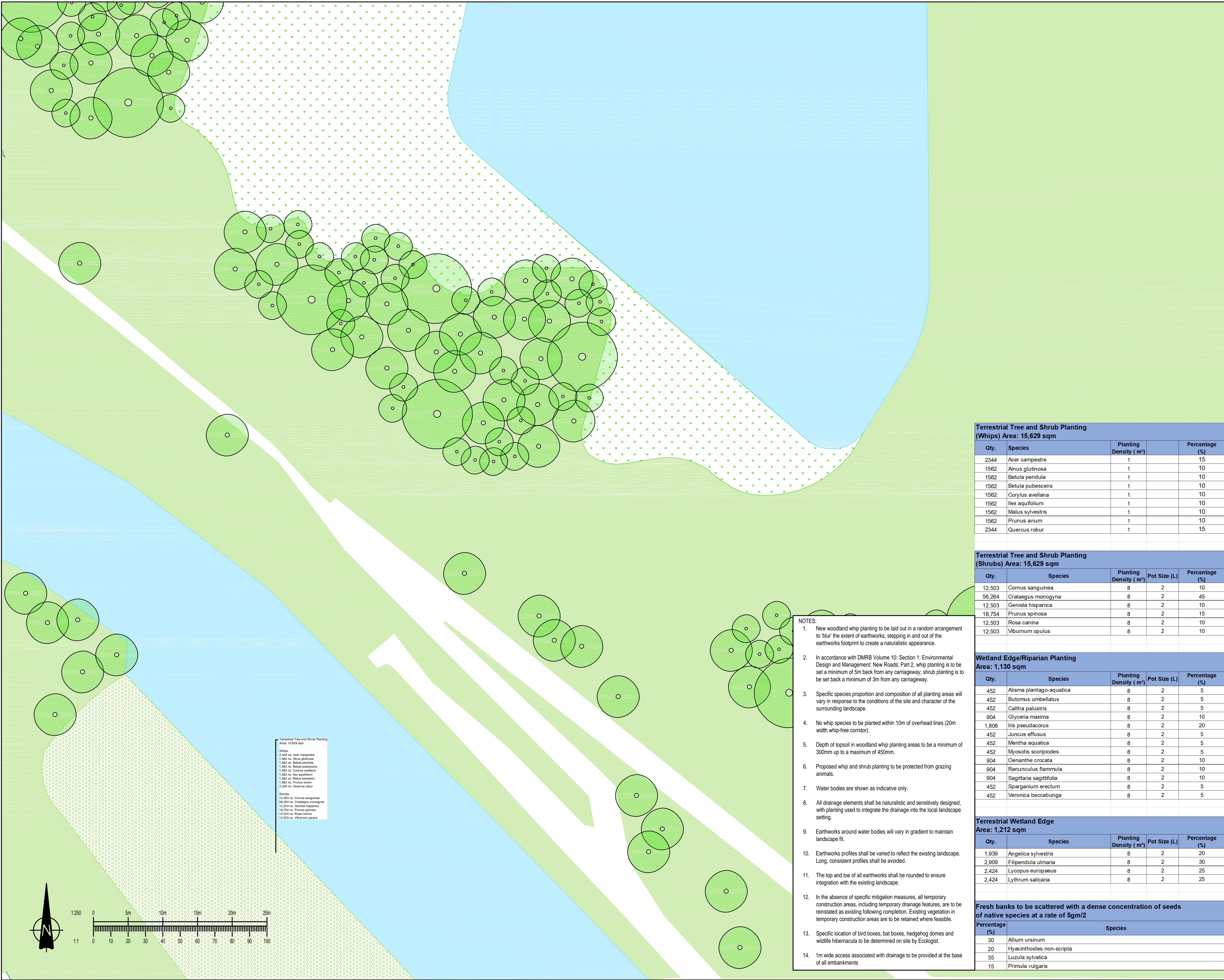
Water Vole

No evidence of water vole was obtained during survey. The water course AF010 was assessed as providing suboptimal habitat for water vole. For full details of these results refer to Additional Survey Data Report Appendix J (NR107)

Floating water plantain

No floating water plantain was identified to be present within the 140m survey extent (from NGR SE 23322 20516 to SE 23464 20504) of the River Calder. For full details of these results refer to NR115.

APPENDIX 2: ILLUSTRATIVE PLANTING PLANS



Sheet Location Plan. NTS

SOFT LANDSCAPE KEY

- Existing Trees
- Existing Landscape
- Wetland Edge/Riparian Planting
- Terrestrial Wetland Edge Planting
- Species Rich Grassland
- Terrestrial Tree and Shrub Planting with Species Rich Grassland below

Notes: This drawing is a DRAFT Example landscape planting plan

Terrestrial Tree and Shrub Planting (Whips) Area: 15,629 sqm				
Qty.	Species	Planting Density (m ²)		Percentage (%)
2344	Acer campestre	1		15
1562	Alnus glutinosa	1		10
1562	Betula pendula	1		10
1562	Betula pubescens	1		10
1562	Corylus avellana	1		10
1562	Ilex aquifolium	1		10
1562	Malus sylvestris	1		10
1562	Prunus avium	1		10
2344	Quercus robur	1		15

Terrestrial Tree and Shrub Planting (Shrubs) Area: 15,629 sqm				
Qty.	Species	Planting Density (m ²)	Pot Size (L)	Percentage (%)
12,503	Cornus sanguinea	8	2	10
56,264	Crataegus monogyna	8	2	45
12,503	Genista hispanica	8	2	10
18,754	Prunus spinosa	8	2	15
12,503	Rosa canina	8	2	10
12,503	Viburnum opulus	8	2	10

Wetland Edge/Riparian Planting Area: 1,130 sqm				
Qty.	Species	Planting Density (m ²)	Pot Size (L)	Percentage (%)
452	Alisma plantago-aquatica	8	2	5
452	Butomus umbellatus	8	2	5
452	Caltha palustris	8	2	5
904	Glyceria maxima	8	2	10
1,808	Iris pseudacorus	8	2	20
452	Juncus effusus	8	2	5
452	Mentha aquatica	8	2	5
452	Myosotis scorpiodes	8	2	5
904	Oenanthe crocata	8	2	10
904	Ranunculus flammula	8	2	10
904	Sagittaria sagittifolia	8	2	10
452	Sparganium erectum	8	2	5
452	Veronica beccabunga	8	2	5

Terrestrial Wetland Edge Area: 1,212 sqm				
Qty.	Species	Planting Density (m ²)	Pot Size (L)	Percentage (%)
1,939	Angelica sylvestris	8	2	20
2,909	Filipendula ulmaria	8	2	30
2,424	Lycopus europaeus	8	2	25
2,424	Lythrum salicaria	8	2	25

Fresh banks to be scattered with a dense concentration of seeds of native species at a rate of 5gm/2				
Percentage (%)	Species			
30	Allium ursinum			
20	Hyacinthoides non-scripta			
35	Luzula sylvatica			
15	Primula vulgaris			

- NOTES:**
1. New woodland whip planting to be laid out in a random arrangement to 'blur' the extent of earthworks, stepping in and out of the earthworks footprint to create a naturalistic appearance.
 2. In accordance with DMRB Volume 10: Section 1: Environmental Design and Management: New Roads, Part 2, whip planting is to be set a minimum of 5m back from any carriageway; shrub planting is to be set back a minimum of 3m from any carriageway.
 3. Specific species proportion and composition of all planting areas will vary in response to the conditions of the site and character of the surrounding landscape.
 4. No whip species to be planted within 10m of overhead lines (20m width whip-free corridor).
 5. Depth of topsoil in woodland whip planting areas to be a minimum of 300mm up to a maximum of 450mm.
 6. Proposed whip and shrub planting to be protected from grazing animals.
 7. Water bodies are shown as indicative only.
 8. All drainage elements shall be naturalistic and sensitively designed, with planting used to integrate the drainage into the local landscape setting.
 9. Earthworks around water bodies will vary in gradient to maintain landscape fit.
 10. Earthworks profiles shall be varied to reflect the existing landscape. Long, consistent profiles shall be avoided.
 11. The top and toe of all earthworks shall be rounded to ensure integration with the existing landscape.
 12. In the absence of specific mitigation measures, all temporary construction areas, including temporary drainage features, are to be reinstated as existing following completion. Existing vegetation in temporary construction areas are to be retained where feasible.
 13. Specific location of bird boxes, bat boxes, hedgehog domes and wildlife hibernacula to be determined on site by Ecologist.
 14. 1m wide access associated with drainage to be provided at the base of all embankments

REV	P	30.09.21	DRAFT ISSUE FOR EXAMPLE	DL	TH
Status	Date	Description	By	CHK	

Amendments

Project

Transpennine Route Upgrade

Title

EXAMPLE Landscape Planting Plan Sheet 2 of 2

Subsidiary

PLANNING

Designed By: DDL Director: TH Ref: WIE15642

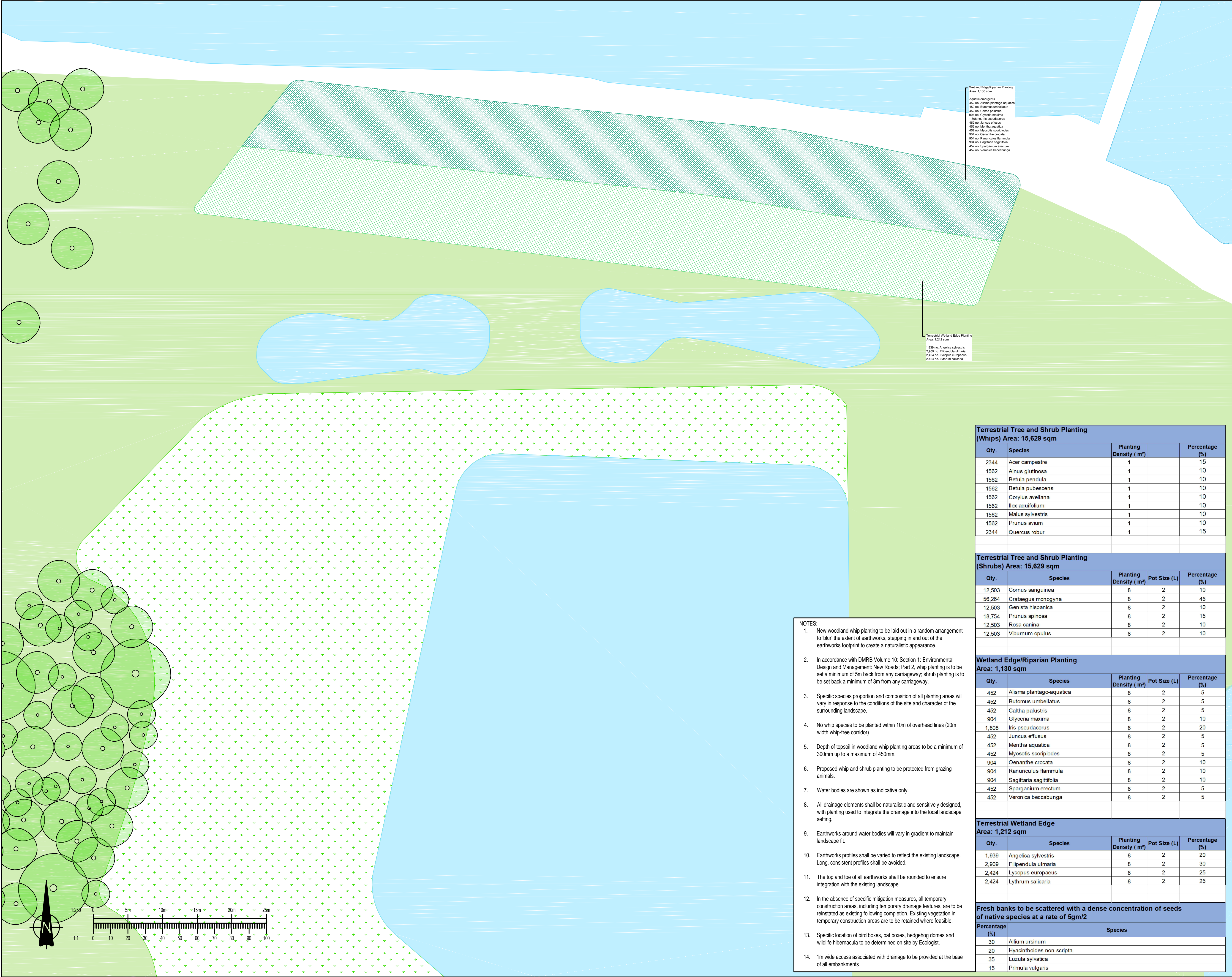
Drawn By: DDL Date: Sept 21 Scales @ A1: 1:250

Project - Originator - Volume - Level - Type - Role - Number

Revision

WIE15642-100-DR-L-1001

P01



Wetland Edge/Riparian Planting
Area: 1,130 sqm

- Aquatic emergent
- 452 no. Alisma plantago-aquatica
- 452 no. Butomus umbellatus
- 452 no. Caltha palustris
- 904 no. Glyceria maxima
- 1,808 no. Iris pseudacorus
- 452 no. Juncus effusus
- 452 no. Mentha aquatica
- 452 no. Myosotis scorpioides
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- 904 no. Sagittaria sagittifolia
- 452 no. Sparganium erectum
- 452 no. Veronica beccabunga

Terrestrial Wetland Edge Planting
Area: 2,212 sqm

- 1,939 no. Angelica sylvestris
- 2,909 no. Filipendula ulmaria
- 2,424 no. Lycopodium europaeus
- 2,424 no. Lythrum salicaria

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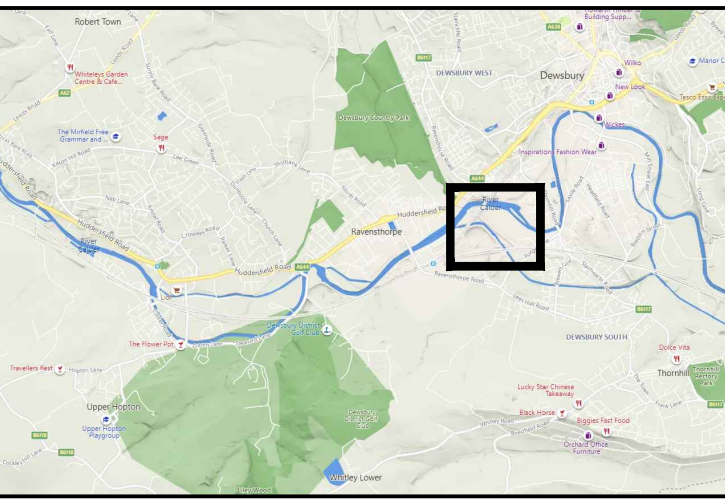
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Status	Date	Description	By	CHK	
Amendments					

Project

Transpennine Route Upgrade

Title

EXAMPLE Landscape Planting Plan

Sheet 1 of 2



PLANNING				P
Designed By	DDL	Director	TH	Ref WIE15642
Drawn By	DDL	Date	Sept 21	Scale @ A1 1:250
Project - Originator - Volume - Level - Type - Role - Number				Revision
WIE15642-100-DR-L-1000				P01