

The Network Rail (Cambridge South Infrastructure
Enhancements) Order



Rebuttal Evidence

NRE-REB-06-01

Appendices - Rebuttal Evidence to OBJ-23 (Cambridge City Council)

**The Transport and Works (Inquiries Procedure)
Rules 2004**

January 2022

The Network Rail (Cambridge South Infrastructure
Enhancements) Order



Rebuttal Evidence

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The Network Rail (Cambridge South Infrastructure Enhancements) Order



Rebuttal Evidence

Appendix A



Legend

[Red outline]	Site Boundary	[Hatched box]	Vegetation Removed
[Black outline]	Buildings	[Black outline]	Fence
[Blue hatched box]	Area removed from TWAO limits	[Light blue box]	Marginal planting
[Cyan line]	Hedgerow	[Green box]	Native Mix
[Green dots]	line of trees	[Grey box]	Parking Bays
[Red outline]	Habitat Reinstated	[Light green box]	Station Planting
[Orange outline]	New Habitat Type	[Dark green box]	Trees
[Light green outline]	Permanant Loss	[Blue box]	Waterbody
[Green outline]	Retained	[Black box]	West forecourt
[Blue box]	Existing Pond	[Light green box]	Wildflower grassland
[Light green box]	Grassland habitat retained (not enhanced)	[Grey box]	Asphalt (vehicular access)
[Dark green box]	Existing woodland retained	[Light green box]	Existing Woodland
[Grey box]	Maintenance Track	[Dark grey box]	Track
[Dark green box]	Existing Trees		

Notes
 Compensatory planting relating to AstraZeneca not shown
 GB Background: Contains OS data © Crown Copyright and database right 2020
 Contains data from OS Zoomstack

Rev	Date	Description	Drawn	Check	Approv
01	13/01/22	INITIAL ISSUE	RM	EP	GS

Client:

NetworkRail PROJECT: **CAMBRIDGE SOUTH INFRASTRUCTURE ENHANCEMENTS**

Site: Cambridge South Client: Network Rail

ARCADIS Design & Consultancy for natural and built assets

Registered office: 80 Fenchurch Street, Tower, London, EC3M 4BT
 Coordinating Office: 80 Fenchurch Street, Tower, London, EC3M 4BT
www.arcadis.com

Title:
Retained Enhanced and Created Habitat within Site Boundary

Designed	E. Proudlove	Date: 13 JAN 22	Signed
Drawn	R. Millman	Date: 13 JAN 22	Signed
Checked	E. Proudlove	Date: 13 JAN 22	Signed
Approved	G. Stone	Date: 13 JAN 22	Signed
Scale:	1:5,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	S2	Project Number:	158454

Suitability Description:
For Information

Drawing Number: 158454-ARC-00-ZZ-DRG-EEN-000674 Revision: P01

The Network Rail (Cambridge South Infrastructure Enhancements) Order



Rebuttal Evidence

Appendix B

The Biodiversity Metric 2.0 - Calculation Tool

Start page

Project details

Planning authority:	
Project name:	
Applicant:	
Application type:	
Planning application reference:	
Assessor:	
Reviewer:	
Revision:	
Assessment date:	
Planning authority reviewer:	

Instructions

Main menu

Results

View all

Reset view

Cell style conventions

	Enter data
	Automatic lookup
	Result

The Biodiversity Metric 2.0 - Calculation Tool

Main menu

Street tree helper		
Tree size	Tree number	Area
Small		0.0000
Medium		0.0000
Large		0.0000
Total	0.00	0.0000

Start page

Instructions

Technical data

Results

Start here

1

2

3

4

On-site
baseline

A-1
On-site
habitat

B-1
On-site
hedge
baseline

C-1
On-Site
river
baseline

On-site post development

A-2 Habitat
creation

A-3 Habitat
enhancement

A-4 Habitat
accelerated
succession

B-2 Hedgerow
creation

B-3 Hedgerow
enhancement

C-2 River
creation

C-3 River
enhancement

Off-site
baseline

D-1
Off-site
habitat

E-1
Off-site
hedge
baseline

F-1
Off-site
river
baseline

Off-Site post development

D-2 Habitat
creation

D-3 Habitat
enhancement

D-4 Habitat
accelerated
succession

E-2 Hedgerow
creation

E-3 Hedgerow
enhancement

F-2 River
creation

F-3 River
enhancement

The Biodiversity Metric 2.0 - Calculation Tool

Return to start
page

Headline results

Detailed results

Habitat trading
summary

On-site baseline	<i>Habitat units</i>	179.82
	<i>Hedgerow units</i>	4.83
	<i>River units</i>	6.07
On-site post-intervention (Including habitat retention, creation, enhancement & succession)	<i>Habitat units</i>	169.09
	<i>Hedgerow units</i>	5.36
	<i>River units</i>	6.69
Off-site baseline	<i>Habitat units</i>	8.80
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Off-site post-intervention (Including habitat retention, creation, enhancement & succession)	<i>Habitat units</i>	37.56
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Total net unit change (including all on-site & off-site habitat retention/creation)	<i>Habitat units</i>	18.04
	<i>Hedgerow units</i>	0.53
	<i>River units</i>	0.61
Total net % change (including all on-site & off-site habitat creation + retained habitats)	<i>Habitat units</i>	10.03%
	<i>Hedgerow units</i>	10.91%
	<i>River units</i>	10.11%

Summary Figures

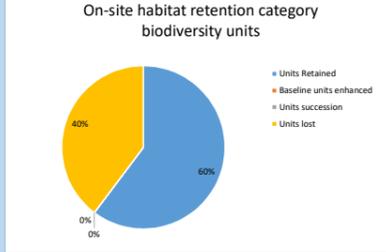
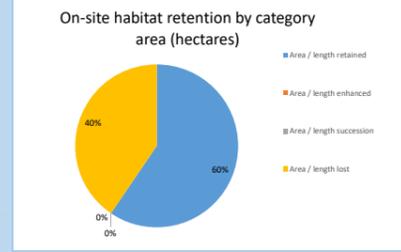
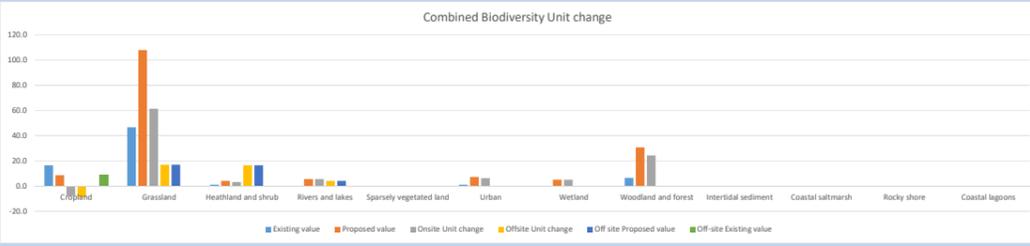
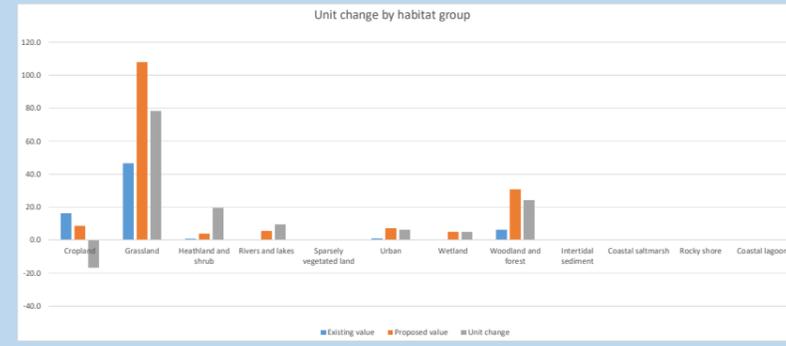
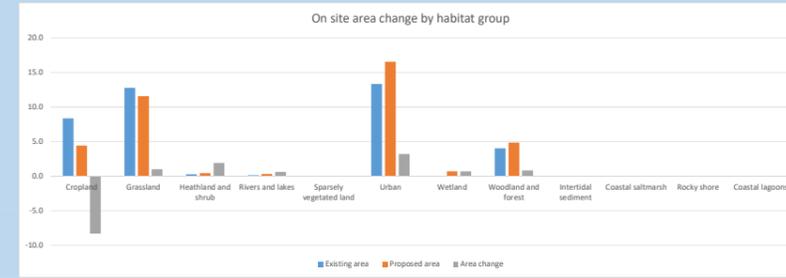
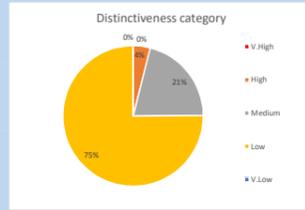
Net project biodiversity units (including all on-site & off-site habitat retention/creation)	Habitat units	18.04
	Hedgerow units	0.53
	River units	0.61
Total project biodiversity % change (including all On-site & Off-site Habitat Creation + Retained Habitats)	Habitat units	10.03%
	Hedgerow units	10.91%
	River units	10.11%

On-site habitat retention and enhancement

	Habitats	Hedgerows	Rivers
Total site area / length	38.93	1.13	0.44
Total site units	179.82	4.83	6.07
Area / length retained	23.17	0.44	0.24
Units Retained	108.35	2.06	3.31
Area / length enhanced	0.00	0.00	0.19
Baseline units enhanced	0.00	0.00	2.62
Area / length succession	0.00		
Units succession	0.00		
Area / length lost	15.76	0.69	0.01
Units lost	71.47	2.77	0.14

Area lost by distinctiveness

Category	Area lost (hectares)	Area lost (%)
V.High	0	
High	0.59	4
Medium	3.12	21
Low	11.18	75
V.Low	0	



Habitat group	On-site		Baseline		Post development on site		Onsite Change	
	Existing area	Existing value	Proposed area	Proposed value	Area change	Onsite Unit change		
Cropland	8.4	16.4	4.4	8.6	-3.9	-7.8		
Grassland	12.8	46.6	11.6	107.9	-1.2	61.3		
Heathland and shrub	0.3	1.0	0.5	4.0	0.2	3.0		
Rivers and lakes	0.1	0.1	0.3	5.6	0.2	5.5		
Sparsely vegetated land	0.0	0.0	0.0	0.0	0.0	0.0		
Urban	13.4	1.0	16.6	7.3	3.2	6.3		
Wetland	0.0	0.0	0.7	5.0	0.7	5.0		
Woodland and forest	4.1	6.4	4.9	30.7	0.8	24.3		
Intertidal sediment	0.0	0.0	0.0	0.0	0.0	0.0		
Coastal saltmarsh	0.0	0.0	0.0	0.0	0.0	0.0		
Rocky shore	0.0	0.0	0.0	0.0	0.0	0.0		
Coastal lagoons	0.0	0.0	0.0	0.0	0.0	0.0		

Overall Change	
Area change	Unit change
-8.3	-16.6
1.0	78.3
1.9	19.5
0.6	9.6
0.0	0.0
3.2	6.3
0.7	5.0
0.8	24.3
0.0	0.0
0.0	0.0
0.0	0.0
0.0	0.0

Habitat group	Off-site		Baseline		Post development Off-site		Off-site Change	
	Existing area	Existing value	Proposed area	Proposed value	Area change	Offsite Unit change		
Cropland	4.4	8.8	0.0	0.0	-4.4	-8.8		
Grassland	0.0	0.0	2.2	17.0	2.2	17.0		
Heathland and shrub	0.0	0.0	1.8	16.5	1.8	16.5		
Rivers and lakes	0.0	0.0	0.4	4.1	0.4	4.1		
Sparsely vegetated land	0.0	0.0	0.0	0.0	0.0	0.0		
Urban	0.0	0.0	0.0	0.0	0.0	0.0		
Wetland	0.0	0.0	0.0	0.0	0.0	0.0		
Woodland and forest	0.0	0.0	0.0	0.0	0.0	0.0		
Intertidal sediment	0.0	0.0	0.0	0.0	0.0	0.0		
Coastal saltmarsh	0.0	0.0	0.0	0.0	0.0	0.0		
Rocky shore	0.0	0.0	0.0	0.0	0.0	0.0		
Coastal lagoons	0.0	0.0	0.0	0.0	0.0	0.0		

Habitat group	Combined		Baseline		Combined Post development		Combined change	
	Existing area	Existing value	Proposed area	Proposed value	Proposed area	Proposed value		
Cropland	12.8	25.2	4.4	8.6	-8.3	-16.6		
Grassland	12.8	46.6	13.8	124.9	1.0	78.3		
Heathland and shrub	0.3	1.0	2.2	20.5	1.9	19.5		
Rivers and lakes	0.1	0.1	0.8	9.7	0.6	9.6		
Sparsely vegetated land	0.0	0.0	0.0	0.0	0.0	0.0		
Urban	13.4	1.0	16.6	7.3	3.2	6.3		
Wetland	0.0	0.0	0.7	5.0	0.7	5.0		
Woodland and forest	4.1	6.4	4.9	30.7	0.8	24.3		
Intertidal sediment	0.0	0.0	0.0	0.0	0.0	0.0		
Coastal saltmarsh	0.0	0.0	0.0	0.0	0.0	0.0		
Rocky shore	0.0	0.0	0.0	0.0	0.0	0.0		
Coastal lagoons	0.0	0.0	0.0	0.0	0.0	0.0		

B-1 Site Hedge Baseline

Condense / Show Columns Condense / Show Rows

Main Menu Instructions

Baseline ref	Hedge number	UK Habitats - existing habitats		Habitat distinctiveness		Habitat condition		Ecological connectivity			Strategic significance			Suggested action to address habitat losses	Ecological baseline Total hedgerow units	Retention category biodiversity value						Comments			
		Hedgerow type	length KM	Distinctiveness	Score	Condition	Score	Ecological connectivity	Connectivity	Connectivity multiplier	Strategic significance	Strategic significance	Strategic position multiplier			Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost	Assessor comments	Reviewer comments		
1		Line of Trees	0.26	Low	2	Moderate	2	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	1.04	0.24	0	0.96	0	0.02	0.08	Site assigned 'Moderate' condition due to young, immature trees.			
2		Line of Trees	0.28	Low	2	Moderate	2	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	1.12	0	0	0	0	0.28	1.12	Site assigned 'Moderate' condition due to young, immature trees.			
3		Line of Trees	0.14	Low	2	Moderate	2	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.56	0	0	0	0	0.14	0.56	Site assigned 'Moderate' condition due to young, immature trees.			
4		Native Hedgerow	0.12	Low	2	Moderate	2	Low	Unconnected habitat	1	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	Same distinctiveness band or better	0.528	0.07	0	0.308	0	0.05	0.22	Site assigned 'Moderate' condition due to failing several criteria. Site assigned 'Medium' strategic significance as hedgerows are BAP Habitats for Cambridgeshire and Peterborough.			
5		Native Hedgerow	0.05	Low	2	Poor	1	Low	Unconnected habitat	1	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	Same distinctiveness band or better	0.11	0.01	0	0.022	0	0.04	0.088	Site assigned 'Poor' condition due to failing four criteria. Site assigned 'Medium' strategic significance as hedgerows are BAP Habitats for Cambridgeshire and Peterborough.			
6		Native Hedgerow	0.11	Low	2	Moderate	2	Low	Unconnected habitat	1	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	Same distinctiveness band or better	0.484	0	0	0	0	0.11	0.484	Site assigned 'Moderate' condition due to failing several criteria. Site assigned 'Medium' strategic significance as hedgerows are BAP Habitats for Cambridgeshire and Peterborough.			
7		Native Hedgerow	0.06	Low	2	Moderate	2	Low	Unconnected habitat	1	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	Same distinctiveness band or better	0.264	0.01	0	0.044	0	0.05	0.22	Site assigned 'Moderate' condition due to failing several criteria. Site assigned 'Medium' strategic significance as hedgerows are BAP Habitats for Cambridgeshire and Peterborough.			
8		Native Hedgerow	0.11	Low	2	Good	3	Low	Unconnected habitat	1	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	Same distinctiveness band or better	0.726	0.11	0	0.726	0	0	0	Site assigned 'Medium' strategic significance as hedgerows are BAP Habitats for Cambridgeshire and Peterborough.			
Total Site length/KM			1.13													Total Site baseline	4.83	0.44	0.00	2.06	0.00	0.69	2.77		

B-2 Site Hedge Creation

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

		Multipliers																		
		Spatial quality										Temporal multiplier		Difficulty of creation multiplier	Hedge units delivered	Comments				
Baseline ref	New hedge number	Proposed habitats		Habitat distinctiveness		Habitat condition		Ecological connectivity			Strategic significance					Time to target condition/years	Time to target multiplier	Assessor comments	Reviewer comments	
		Habitat type	Length km	Distinctiveness	Score	Condition	Score	Ecological connectivity	Connectivity	Connectivity multiplier	Strategic significance	Strategic significance	Strategic position multiplier							
1		Line of Trees	0.26	Low	2	Moderate	2	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	20	0.490	1	0.51	Assigned 'Moderate' condition as it is assumed the management will remain the same as before development.		
2		Line of Trees	0.28	Low	2	Moderate	2	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	20	0.490	1	0.55	Assigned 'Moderate' condition as it is assumed the management will remain the same as before development.		
3		Native Species Rich Hedgerow	0.04	Medium	4	Good	3	Low	Unconnected habitat	1	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	10	0.700	0.67	0.25	It is anticipated this habitat will be managed to achieve a "Good" condition		
4		Line of Trees	0.1	Low	2	Moderate	2	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	20	0.490	1	0.20	Assigned 'Moderate' condition as it is assumed the management will remain the same as before development.		
5		Native Species Rich Hedgerow	0.1	Medium	4	Good	3	Low	Unconnected habitat	1	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	10	0.700	0.67	0.62	It is anticipated this habitat will be managed to achieve a "Good" condition		
6		Native Species Rich Hedgerow	0.19	Medium	4	Good	3	Low	Unconnected habitat	1	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	10	0.700	0.67	1.18	It is anticipated this habitat will be managed to achieve a "Good" condition		
Creation Length/KM			0.97															3.30		

C-1 Site River Baseline

Condense / Show Columns Condense / Show Rows
 Main Menu Instructions

Existing river type			Habitat distinctiveness		Habitat condition		Strategic significance			Suggested action	Ecological baseline	Retention category biodiversity value						Comments	
Baseline ref	River type	length KM	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier		Total river units	Length retained	Length enhanced	Units retained	Units enhanced	Length impacted	Units Lost	Assessor Comments	Reviewer comments
1	Rivers & Streams (Other)	0.44	Medium	4	Moderate	3	Within Local Plans	High strategic significance	1.15	Avoid	6.072	0.24	0.19	3.312	2.622	0.01	0.138	Site assigned 'Moderate' condition due to being largely enroached with scrub and dominated by Common Reed. Site assigned 'High' strategic significance due to presence in the local plans.	
Total site length KM		0.44								Total Site	6.07	0.24	0.19	3.31	2.62	0.01	0.14		

C-2 Site River Creation

Condense / Show Columns Condense / Show Rows

Main Menu Instructions

Baseline ref	Proposed habitats		Habitat distinctiveness		Habitat condition		Strategic significance			Temporal multiplier		Difficulty of creation category	Difficulty of creation multiplier	Riparian encroachment		River units delivered	Comments	
	River type	Length km	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier	Time to target condition/years	Time to target multiplier			Extent of encroachment	Multiplier		Assessor comments	Reviewer comments
1	Rivers & Streams (Other)	0.01	Medium	4	Moderate	3	Delivery within Local Plans	High strategic significance	1.15	5	0.837	High	0.33	4.01 - 6 m	0.85	0.03	This area, which will be cleared to facilitate a new bridge crossing, will be allowed to revegetate following works. Due to increased shading, the area is assumed to achieve a moderate condition.	
	Creation Length/KM	0.01														0.03		

D-1 Off Site Habitat Baseline

Condense / Show Columns Condense / Show Rows

Main Menu Instructions

Baseline ref	Habitats and areas			Habitat distinctiveness		Habitat condition		Ecological connectivity			Strategic significance			Suggested action to address habitat losses	Ecological baseline Total habitat units	Retention category biodiversity value							Bespoke compensation agreed for unacceptable losses	Comments	
	Broad habitat	Habitat type	Area (hectares)	Distinctiveness	Score	Condition	Score	Ecological connectivity	Connectivity	Connectivity multiplier	Strategic significance	Strategic significance	Strategic position multiplier			Area retained	Area enhanced	Area succession	Baseline units retained	Baseline units enhanced	Baseline units succession	Area lost		Units lost	Assessor comments
1	Cropland	Cropland - Cereal crops	4.4	Low	2	N/A - Agricultural	1	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required	8.80	0.00	0.00	0.00	0.00	0.00	4.40	8.80			
		Total site area ha	4.40											Total Site baseline	8.80	0.00	0.00	0.00	0.00	0.00	4.40	8.80			

D-2 Off Site Habitat Creation

Condense / Show Columns Condense / Show Rows
 Main Menu Instructions

Proposed habitat	Area ha	Distinctiveness	Score	Condition	Score	Post development/ post intervention habitats										Habitat units delivered	Comments			
						Ecological connectivity			Strategic significance			Temporal multiplier		Difficulty multipliers			Spatial risk multiplier		Assessor comments	Reviewer comments
						Ecological connectivity	Connectivity	Connectivity multiplier	Strategic significance	Strategic significance	Strategic position multiplier	Time to target condition/years	Time to target multiplier	Difficulty of creation category	Difficulty of creation multiplier		Spatial risk category	Spatial risk multiplier		
Grassland - Other neutral grassland	2.2	Medium	4	Good	3	Low	Unconnected habitat	1	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	15	0.586	Low	1	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	1	17.02		
Heathland and shrub - Mixed scrub	1.76	Medium	4	Good	3	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	7	0.779	Low	1	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	1	16.46		
Lakes - Ponds (Priority Habitat)	0.44	High	6	Good	3	Low	Unconnected habitat	1	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	10	0.700	Medium	0.67	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	1	4.09		
Totals	4.40																Total Units	37.56		