

# Humber Zero Biodiversity Net Gain Report

VPI Immingham

Project number: 60668866

February 2023

## Quality information

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# 1. BIODIVERSITY NET GAIN - VPI

## 1.1 Introduction

1.1.1 This assessment sets out the measures that have been undertaken to date with regard to delivering Biodiversity Net Gain (BNG), and comprises:

- A calculation of the current Biodiversity Baseline value of the VPI Site (the planning application site boundary for the Humber Zero VPI Immingham Post Combustion Carbon Capture development, referred to as 'the Proposed VPI Development').
- A calculation of the pre-intervention scenario (the effects of the Proposed VPI Development prior to habitat creation and enhancement measures).
- The level of habitat creation and enhancement required to achieve 10% net gain.
- A range of options to deliver BNG, together with a summary of progress made on each option at the point that the planning application was submitted.

## 1.2 Planning Policy Context

### National Policy

1.2.1 The Environment Act, 2021 (Schedule 14: Biodiversity gain as condition of planning permission) states that:

- The biodiversity gain objective is met in relation to development for which planning permission is granted if the biodiversity value attributable to the development exceeds the pre-development biodiversity value of the onsite habitat by at least the relevant percentage.
- The biodiversity value attributable to the development is the total of:
  - The post-development biodiversity value of the onsite habitat.
  - The biodiversity value, in relation to the development, of any registered offsite biodiversity gain allocated to the development.
  - The biodiversity value of any biodiversity credits purchased for the development.
- The relevant percentage is set at 10%.

### Local Policy

1.2.2 The North Lincolnshire Core Strategy, which was adopted in June 2011 (North Lincolnshire Council, 2011), sets out the long-term vision for North Lincolnshire and provides a blueprint for managing growth and development in the area up to 2026. Policies CS5, CS16, CS17 relate to the protection of biodiversity resources, the maintenance of wildlife networks and green corridors, and ensuring ecological enhancement through good design, respectively.

1.2.3 On 11 December 2022, North Lincolnshire Council submitted its draft Local Plan to the Secretary of State for an Examination in Public, under Regulation 22 of the Town and Country Planning (Local Planning) (England) Regulations 2012. (North Lincolnshire Council, 2022). Policy DQE3 sets out the aims for Biodiversity and Geodiversity, with the notable inclusion in Point 8 for '*All schemes shall, as appropriate to their nature and scale, use the DEFRA*

*biodiversity metric to demonstrate that a proposal will deliver a minimum 10% measurable net gain for biodiversity'.*

## 1.3 Methods

1.3.1 The habitats were condition-assessed using information on habitat types collected during a Phase-1 Habitat survey of the Site from May-July 2022 (reported in the Environmental Statement Volume I Chapter 13: Ecology and Nature Conservation) and the current Defra Biodiversity Metric 3.1 methodology (Panks *et al.*, 2022), hereafter referred to as 'the Metric'. The Metric calculation tool was used to determine the value of the Site's biodiversity as Biodiversity Units (BU).

## 1.4 Baseline Conditions

1.4.1 The Site comprises eight habitat types (28.48ha) and one river type (0.626km) generating 55.64 BU and 4.80 BU respectively. The contribution of each Habitat and River type is given in Tables 1.1 and 1.2, and are illustrated on Figure 1.

**Table 1.1: Baseline of habitats present on the Site and their contributing values.**

Broad Habitat Category	Habitat Type	Condition	Area (ha)	Habitat BU
<b>Grassland</b>	Modified grassland	Good	0.646	3.88
		Poor	4.593	9.19
	Other neutral grassland	Moderate	0.277	2.22
<b>Heathland and shrub</b>	Bramble scrub	N/A	2.906	11.62
	Mixed scrub	Moderate	0.228	1.82
		Poor	0.443	1.77
<b>Urban</b>	Artificial unvegetated, unsealed surface	N/A	0.152	0.00
	Developed land; sealed surface	N/A	15.056	0.00
	Open Mosaic Habitats on Previously Developed Land	Poor	4.148	24.89
<b>Woodland and forest</b>	Other woodland; broadleaved	Moderate	0.032	0.26
<b>Total</b>			<b>28.48</b>	<b>55.64</b>

**Table 1.2: Baseline of rivers present on the Site and their contributing values**

Broad Habitat Category	River Type	Condition	Length (km)	River BU
<b>River</b>	Ditches	Moderate	0.626	4.80
<b>Total</b>			<b>0.626</b>	<b>4.80</b>

## 1.5 Impacts of the Proposed Development

1.5.1 The Proposed Development is likely to result in the total loss of almost all habitats within the Site boundary. The drain that runs through the Site will also be impacted by the scheme, as too, a section of the drain along Rosper Road. The predicted BU requirements to achieve a 10% net gain are presented in Table 1.3, and the post-intervention scenario illustrated on Figure 2.

**Table 1.3: Impact of the Proposed VPI Development and requirement to achieve 10% net gain.**

BU Type	Proposed VPI Development impact (i.e., habitat creation/ enhancement to achieve no net loss) (BU)	Habitat creation/ enhancement to achieve 10% net gain (BU)
Habitat	55.50	61.06
River	4.30	4.78

1.5.2 The IDB drain will be diverted around the central development area. Most of the new drain will remain open (0.441km) but a proportion will be culverted (0.137km). Once complete, the diverted drain and culverting measures for an access off Rosper Road will deliver 2.44 BU, leaving a deficit of 2.34 BU required through additional River creation/ enhancement measures, to achieve 10% net gain for Rivers.

1.5.3 It should be noted that once the Proposed Development related impacts have occurred, any delays in habitat creation measures will incur an additional BU penalty within the Biodiversity Metric.

## 1.6 BNG Delivery Strategy

1.6.1 Several options have been identified to deliver BNG for the Proposed Development. The options that have been explored, together with progress made to date, are summarised in Table 1.4.

1.6.2 The final details of the BNG delivery strategy will be agreed with North Lincolnshire Council in accordance with the requirements of a planning condition.

**Table 1.4: Options for delivery of biodiversity net gain and progress made to date.**

Option	Description	Progress and viability
1	Maximise enhancement opportunities within all retained habitats within the VPI Site.	Due to the requirements of the Proposed VPI Development and other future decarbonisation projects limiting the use of laydown areas for long-term habitat creation, there are no meaningful opportunities to retain, create or enhance habitats within the VPI Site.
2	Create and/or enhance habitat off-site on land within the ownership or control of VPI.	No other land within VPI's current ownership has been identified as available for BNG purposes.
3	Create and/or enhance habitat off-site, on land within the ownership or control of another Humber Zero stakeholder.	No land within the ownership of other Humber Zero stakeholders has been made available at this time.
4	Engage a commercial habitat banking company to buy credits in ongoing habitat creation and enhancement schemes within the local area.	The Environment Bank was invited to make an offer to provide the requisite number of BUs. Unfortunately, they have limited land availability and the requirement to provide high distinctiveness habitats is a constraint on their ability to offer a BNG solution at this time.
5	Buy BU credits directly from a habitat creation and enhancement scheme within or adjacent to the Local Planning Authority region.	The Green Investment in Greater Lincolnshire (GIGL) project, which is funded by the Natural Environment Investment Readiness Fund (NEIRF), is expected to be delivered by the Lincolnshire Wildlife Trust in March 2023 and therefore should be available to be explored further before and during the construction timeframe for the project of 2023 to 2027. The mechanism is likely to be similar to Option 4.
6	Approach local landowners directly to determine those interested in setting aside land for the purpose of selling BU.	This will require working with a land agent to identify areas large enough to deliver the Proposed Development's BNG requirements and agreeing the price of BUs to be paid to landowners to deliver and

		manage the scheme. This option has yet to be explored in any detail.
7	Identify and engage with other stakeholders to explore a strategic 'pan-Humber' approach to deliver multiple schemes within Humber Estuary catchment.	Given the continued pace of industrial development and decarbonisation projects in the Humber area, each new scheme will face the same issues with regard to delivering BNG. A Humber BNG Alliance, combining industrial stakeholders, North & North-East Lincolnshire Council and the Humber Nature Partnership, could look to develop a pan-Humber approach. This option has yet to be explored in any detail.
8	Purchase land for the purpose of BNG.	VPI could purchase land specifically for BNG. Obtaining the area required will need input from a land agent and will be limited to land availability and suitability amongst other constraints. This option has yet to be explored in any detail.
9	Buy BU credits from a habitat creation and enhancement scheme outside of and not in sufficient proximity to the Local Planning Authority region.	This solution will only be considered if no viable alternative is found within the North Lincolnshire Council or adjacent area.

## 1.7 Conclusion

- 1.7.1 BNG is a relatively new concept and is not yet fully integrated into the planning system. The mechanisms for off-site delivery in particular are either not yet available or are in their infancy. The requirement to off-set losses of 'river' habitats, such as the IDB drain, pose additional challenges.
- 1.7.2 Based on the enquires to date, no opportunities have been identified to secure sufficient credits in an off-site scheme or to buy credits from another stakeholder. However, this is likely to remain the preferred option in most cases as it provides a clean, one-off solution without the need to become involved on long-term site management, although this convenience is likely to attract a cost premium. Once BNG becomes more established, other habitat providers can be expected to enter the market, which should introduce competition and, subject to demand, see the cost of BUs stabilise and possibly fall in some cases. However, the ability to off-set the losses of some habitats, for example, those of high distinctiveness value or rivers *and* of sufficient size *and* within a distance acceptable to the LPA, is still likely to remain a considerable challenge.
- 1.7.3 Delivery Options 3, 4, 5, 6 and 8 are all variations on a similar theme, although given the anticipated build time of 2023-2027, there is ample time to investigate them further. All are likely to incur long-term management liabilities and whilst these costs are likely to be factored in to most if not all bespoke commercial solutions, an 'in-house' solution of buying land would require long term funding of all management costs, currently for 30 years. It may be possible to partner with a local conservation organisation to deliver this management, such as the Lincolnshire Wildlife Trust.
- 1.7.4 Finally, the demand for development land within the north-east area of North Lincolnshire is likely to increase and the opportunities for sourcing land for BNG purposes locally is likely to prove a significant challenge for many schemes for the foreseeable future. The strategic Pan-Humber BNG Alliance approach (Delivery Option 7) has significant long-term merits and whilst delivering it will require a considerable investment in time and capital, new developments such as the VPI Humber Zero present an opportunity to start that conversation.
- 1.7.5 In summary, whilst challenging, a number of options are available and given the project timeline, there is every reason to be confident a solution can be both found and delivered.

## 1.8 References

Butcher B, Carey P, Edmonds R, Norton L, Treweek J, 2020. The UK Habitat Classification User Manual Version V1.1.

Butcher B, Carey P, Edmonds R, Norton L, Treweek J, 2020. The UK Habitat Classification – Habitat Definitions V1.1.

CIEEM, 2021. Biodiversity Net Gain Report & Audit Templates. Version 1. Chartered Institute of Ecology and Environmental Management, Winchester.

CIRIA, 2019. Biodiversity net gain. Good practice principles for development: A practical guide. CIRIA, London.

North Lincolnshire Council. 2011. The North Lincolnshire Development Framework. Core Strategy Adopted June 2011. North Lincolnshire Council, Church Square House, Scunthorpe.

North Lincolnshire Council. 2022. North Lincolnshire Local Plan – Stage 6 (2022) Submission and examination). North Lincolnshire Council, Church Square House, Scunthorpe.

Panks S, White N, Newsome A, Nash M, Potter J, Heydon M, Mayhew E, Alvarez M, Russell T, Cashon C, Goddard F, Scott S J, Heaver M, Scott S H, Treweek J, Butcher B, Stone D, 2022. Biodiversity metric 3.1: Auditing and accounting for biodiversity - User Guide. Natural England.

The Environment Act 2021.

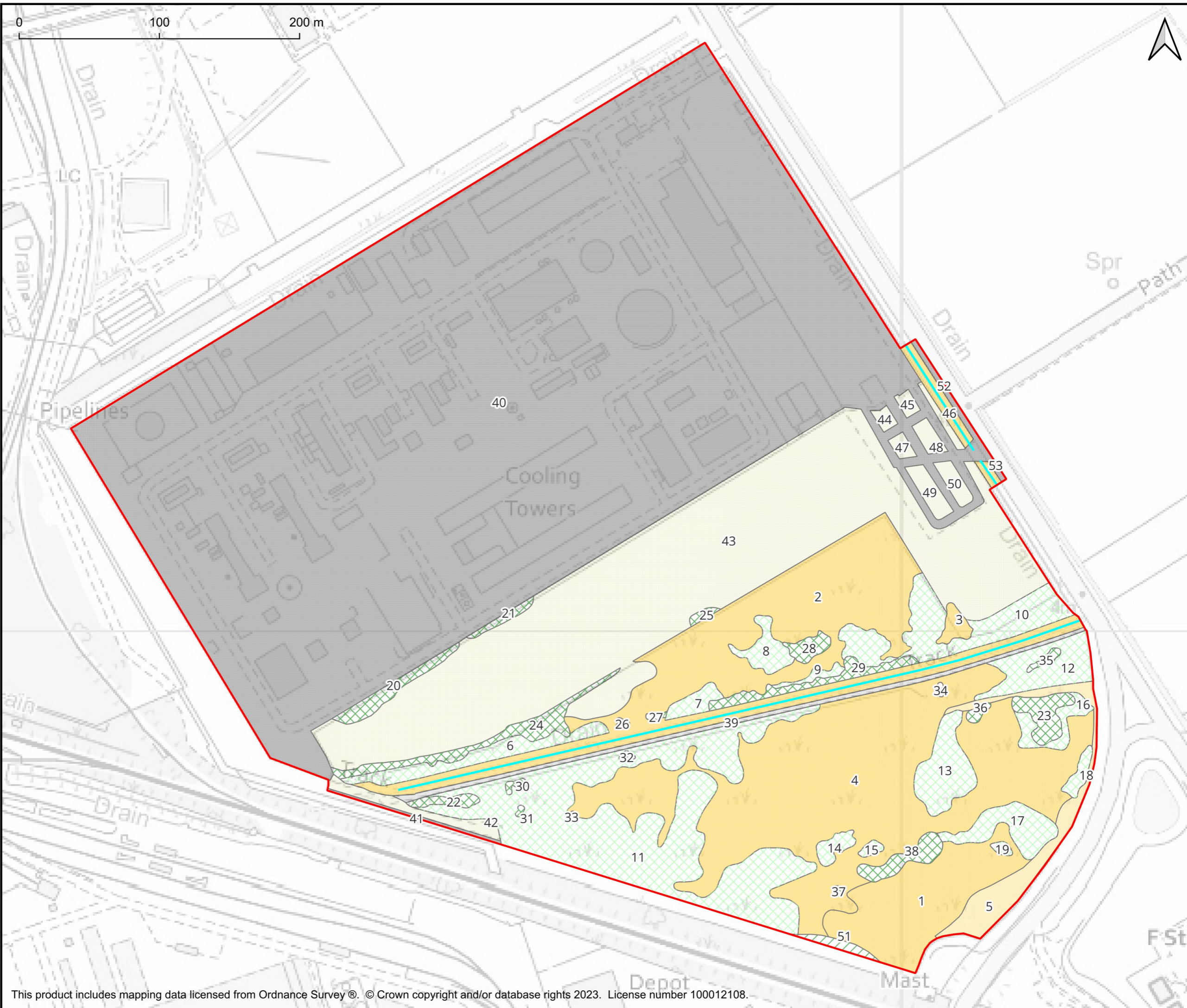
**KEY**

-  VPI site boundary
-  River - Ditches
-  River - Culvert
-  Grassland - Modified grassland
-  Grassland - Other neutral grassland
-  Heathland and shrub - Bramble scrub
-  Heathland and shrub - Mixed scrub
-  Urban - Artificial unvegetated, unsealed surface
-  Urban - Developed land; sealed surface
-  Urban - Open Mosaic on Previously Developed Land
-  Woodland and forest - Other woodland; broadleaved

SITE NAME:  
**Humber Zero - VPI Immingham.**

DRAWING TITLE:  
**Biodiversity net gain baseline.**

**Figure 1**  
Dwg no.: ES78-L082-017      Date: Feb 2023



**KEY**

- VPI site boundary
- River - Ditches
- River - Culvert
- Grassland - Modified grassland
- Urban - Developed land; sealed surface



SITE NAME:  
**Humber Zero - VPI Immingham.**

DRAWING TITLE:  
**Biodiversity net gain  
post-intervention.**

**Figure 2**  
Dwg no.: ES78-L082-018      Date: Feb 2023



# The Biodiversity Metric 3.1 - Calculation Tool

## Start page

Project details	
Planning authority:	North Lincolnshire Council
Project name:	Humber Zero
Applicant:	VPI
Application type:	
Planning application reference:	
Assessor:	Luke Hartley ACIEEM - ESL (Ecological Services) Ltd
Reviewer:	Dave Hughes MCIEEM - ESL (Ecological Services) Ltd
Metric version:	3.1
Assessment date:	03/02/2023
Planning authority reviewer:	

Instructions

Main menu

Results

Cell style conventions	
	Enter data
	Automatic lookup
	Result

View all

Reset view

On-site baseline map

Insert

On-site post intervention map

Insert

Off-site baseline map

Insert

Off-site post intervention map

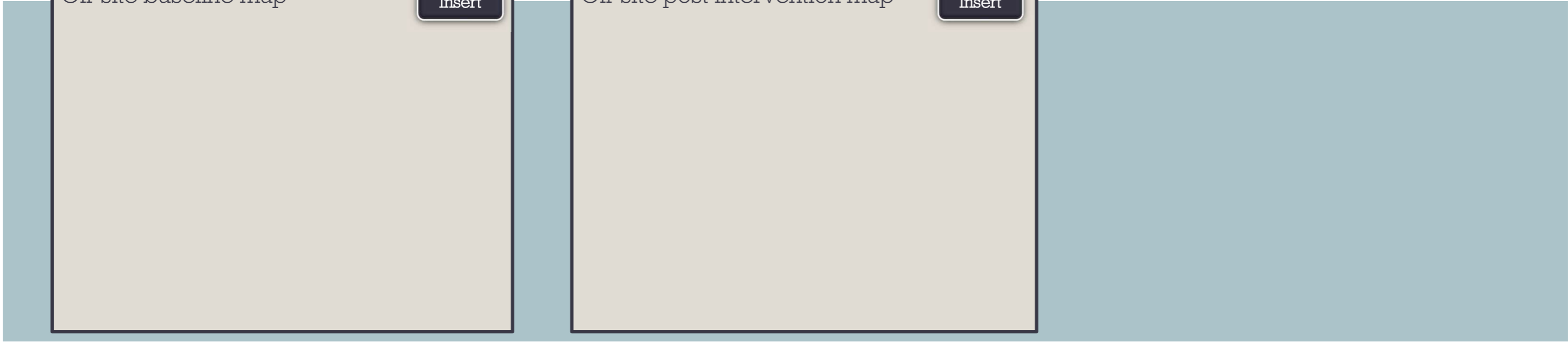
Insert

On site baseline map

Insert

On site post intervention map

Insert



Humber Zero  
 Headline Results

Return to results menu

On-site baseline	<i>Habitat units</i>	55.64
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	4.80
On-site post-intervention <small>(Including habitat retention, creation &amp; enhancement)</small>	<i>Habitat units</i>	0.14
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	2.95
On-site net % change <small>(Including habitat retention, creation &amp; enhancement)</small>	<i>Habitat units</i>	-99.74%
	<i>Hedgerow units</i>	0.00%
	<i>River units</i>	-38.64%
Off-site baseline	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Off-site post-intervention <small>(Including habitat retention, creation &amp; enhancement)</small>	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Total net unit change <small>(including all on-site &amp; off-site habitat retention, creation &amp; enhancement)</small>	<i>Habitat units</i>	-55.50
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	-1.85
Total on-site net % change plus off-site surplus <small>(including all on-site &amp; off-site habitat retention, creation &amp; enhancement)</small>	<i>Habitat units</i>	-99.74%
	<i>Hedgerow units</i>	0.00%
	<i>River units</i>	-38.64%
Trading rules Satisfied?	No - Check Trading Summary ▲	

Return to results menu

### Trading Summary

Distinctiveness Group	Trading Rule	Trading Satisfied?
Very High	Bespoke compensation likely to be required ✖	Yes ✓
High	Same habitat required =	No ▲
Medium	Same broad habitat or a higher distinctiveness habitat required (≥)	No ▲
Low	Same distinctiveness or better habitat required ≥	No ▲

### Very High Distinctiveness

Habitat group	Group	On Site Unit Change	Off Site Unit Change	Project wide Unit Change	Unit Losses
Grassland - Lowland dry acid grassland	Grassland	0.00	0.00	0.00	
Grassland - Lowland meadows	Grassland	0.00	0.00	0.00	
Grassland - Upland hay meadows	Grassland	0.00	0.00	0.00	
Heathland and shrub - Mountain heaths and willow scrub	Heathland and shrub	0.00	0.00	0.00	
Lakes - Aquifer fed naturally fluctuating water bodies	Lakes	0.00	0.00	0.00	
Sparsely vegetated land - Calaminarian grasslands	Sparsely vegetated land	0.00	0.00	0.00	
Sparsely vegetated land - Limestone pavement	Sparsely vegetated land	0.00	0.00	0.00	
Wetland - Blanket bog	Wetland	0.00	0.00	0.00	
Wetland - Depressions on Peat substrates (H7150)	Wetland	0.00	0.00	0.00	
Wetland - Fens (upland and lowland)	Wetland	0.00	0.00	0.00	
Wetland - Lowland raised bog	Wetland	0.00	0.00	0.00	
Wetland - Oceanic Valley Mire[1] (D2.1)	Wetland	0.00	0.00	0.00	
Wetland - Purple moor grass and rush pastures	Wetland	0.00	0.00	0.00	
Wetland - Transition mires and quaking bogs (H7140)	Wetland	0.00	0.00	0.00	
Woodland and forest - Wood-pasture and parkland	Woodland and forest	0.00	0.00	0.00	
Rocky shore - High energy littoral rock - on peat, clay or chalk	Rocky shore	0.00	0.00	0.00	
Rocky shore - Moderate energy littoral rock - on peat, clay or chalk	Rocky shore	0.00	0.00	0.00	
Rocky shore - Low energy littoral rock - on peat, clay or chalk	Rocky shore	0.00	0.00	0.00	
Rocky shore - Features of littoral rock - on peat, clay or chalk	Rocky shore	0.00	0.00	0.00	
Intertidal sediment - Littoral seagrass on peat, clay or chalk	Intertidal sediment	0.00	0.00	0.00	
		0.00	0.00	0.00	0.00

### Very High Distinctiveness Summary

Very High Distinctiveness Units available to offset lower distinctiveness deficit	0.00
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### High Distinctiveness

Habitat group	Group	On Site Unit Change	Off Site Unit Change	Project wide Unit Change	Losses not yet accounted for
Grassland - Traditional orchards	Grassland	0.00	0.00	0.00	
Grassland - Floodplain Wetland Mosaic (CFGM)	Grassland	0.00	0.00	0.00	
Grassland - Lowland calcareous grassland	Grassland	0.00	0.00	0.00	
Grassland - Tall herb communities (H6430)	Grassland	0.00	0.00	0.00	
Grassland - Upland calcareous grassland	Grassland	0.00	0.00	0.00	
Heathland and shrub - Lowland Heathland	Heathland and shrub	0.00	0.00	0.00	
Heathland and shrub - Sea buckthorn scrub (Annex 1)	Heathland and shrub	0.00	0.00	0.00	
Heathland and shrub - Upland Heathland	Heathland and shrub	0.00	0.00	0.00	
Lakes - High alkalinity lakes	Lakes	0.00	0.00	0.00	
Lakes - Low alkalinity lakes	Lakes	0.00	0.00	0.00	
Lakes - Marl Lakes	Lakes	0.00	0.00	0.00	
Lakes - Moderate alkalinity lakes	Lakes	0.00	0.00	0.00	
Lakes - Peat Lakes	Lakes	0.00	0.00	0.00	
Lakes - Ponds (Priority Habitat)	Lakes	0.00	0.00	0.00	
Lakes - Temporary lakes, ponds and pools	Lakes	0.00	0.00	0.00	
Sparsely vegetated land - Coastal sand dunes	Sparsely vegetated land	0.00	0.00	0.00	
Sparsely vegetated land - Coastal vegetated shingle	Sparsely vegetated land	0.00	0.00	0.00	
Sparsely vegetated land - Inland rock outcrop and scree habitats	Sparsely vegetated land	0.00	0.00	0.00	
Sparsely vegetated land - Maritime cliff and slopes	Sparsely vegetated land	0.00	0.00	0.00	
<b>Urban - Open Mosaic Habitats on Previously Developed Land</b>	<b>Urban</b>	<b>-24.89</b>	<b>0.00</b>	<b>-24.89</b>	<b>-24.89</b>
Wetland - Reedbeds	Wetland	0.00	0.00	0.00	
Woodland and forest - Felled	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Lowland beech and yew woodland	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Lowland mixed deciduous woodland	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Native pine woodlands	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Upland birchwoods	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Upland mixed ashwoods	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Upland oakwood	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Wet woodland	Woodland and forest	0.00	0.00	0.00	
Coastal lagoons - Coastal lagoons	Coastal lagoons	0.00	0.00	0.00	
Rocky shore - High energy littoral rock	Rocky shore	0.00	0.00	0.00	
Rocky shore - Moderate energy littoral rock	Rocky shore	0.00	0.00	0.00	
Rocky shore - Low energy littoral rock	Rocky shore	0.00	0.00	0.00	
Rocky shore - Features of littoral rock	Rocky shore	0.00	0.00	0.00	
Intertidal sediment - Littoral mud	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Littoral mixed sediments	Intertidal sediment	0.00	0.00	0.00	
Coastal saltmarsh - Saltmarshes and saline reedbeds	Coastal Saltmarsh	0.00	0.00	0.00	
Intertidal sediment - Littoral biogenic reefs - Mussels	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Littoral biogenic reefs - Sabellaria	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Features of littoral sediment	Intertidal sediment	0.00	0.00	0.00	

### High Distinctiveness Summary

High Distinctiveness Units available to offset lower distinctiveness deficit	0.00
Unit Deficit; Like for like not satisfied	✖ -24.89

Intertidal sediment - Littoral muddy sand	Intertidal sediment	0.00	0.00	0.00	
		-24.89	0.00	-24.89	-24.89

Medium Distinctiveness					
Habitat Group	Group	On site unit change	Off Site Unit Change	Project wide unit change	Cumulative Broad Habitat Change
Cropland - Arable field margins cultivated annually	Cropland	0.00	0.00	0.00	0.00
Cropland - Arable field margins game bird mix	Cropland	0.00	0.00	0.00	
Cropland - Arable field margins pollen & nectar	Cropland	0.00	0.00	0.00	
Cropland - Arable field margins tussocky	Cropland	0.00	0.00	0.00	
Grassland - Other lowland acid grassland	Grassland	0.00	0.00	0.00	
Grassland - Other neutral grassland	Grassland	-2.22	0.00	-2.22	-2.22
Grassland - Upland acid grassland	Grassland	0.00	0.00	0.00	-15.22
Heathland and shrub - Blackthorn scrub	Heathland and shrub	0.00	0.00	0.00	
Heathland and shrub - Bramble scrub	Heathland and shrub	-11.62	0.00	-11.62	
Heathland and shrub - Gorse scrub	Heathland and shrub	0.00	0.00	0.00	
Heathland and shrub - Hawthorn scrub	Heathland and shrub	0.00	0.00	0.00	
Heathland and shrub - Hazel scrub	Heathland and shrub	0.00	0.00	0.00	
Heathland and shrub - Mixed scrub	Heathland and shrub	-3.60	0.00	-3.60	
Lakes - Ponds (Non- Priority Habitat)	Lakes	0.00	0.00	0.00	0.00
Lakes - Reservoirs	Lakes	0.00	0.00	0.00	
Sparsely vegetated land - Other inland rock and scree	Sparsely vegetated land	0.00	0.00	0.00	0.00
Urban - Cemeteries and churchyards	Urban	0.00	0.00	0.00	
Urban - Biodiverse green roof	Urban	0.00	0.00	0.00	0.00
Urban - Urban Tree	Urban	0.00	0.00	0.00	
Woodland and forest - Other Scot's Pine woodland	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Other woodland, broadleaved	Woodland and forest	-0.26	0.00	-0.26	-0.26
Woodland and forest - Other woodland, mixed	Woodland and forest	0.00	0.00	0.00	0.00
Intertidal sediment - Littoral coarse sediment	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Littoral sand	Intertidal sediment	0.00	0.00	0.00	
Intertidal Hard Structures - Artificial hard structures with Integrated Greening of Grey Infrastructure (IGGI)	Intertidal	0.00	0.00	0.00	
		-17.69	0.00	-17.69	

Medium Distinctiveness Summary	
Medium Distinctiveness Units available to offset lower distinctiveness deficit	0.00
Medium Distinctiveness Broad Habitat Deficit to be offset by trading up	-17.69
Higher distinctiveness surplus units minus Medium Distinctiveness Broad Habitat Deficit	0.00
Cumulative surplus of units	0.00

Low Distinctiveness					
Habitat group	Group	On site unit change	Off Site Unit Change	Project wide unit change	
Cropland - Cereal crops	Cropland	0.00	0.00	0.00	0.00
Cropland - Horticulture	Cropland	0.00	0.00	0.00	
Cropland - Intensive orchards	Cropland	0.00	0.00	0.00	
Cropland - Non-cereal crops	Cropland	0.00	0.00	0.00	
Cropland - Temporary grass and clover leys	Cropland	0.00	0.00	0.00	
Cropland - Cereal crops winter stubble	Cropland	0.00	0.00	0.00	
Grassland - Modified grassland	Grassland	-12.92	0.00	-12.92	
Grassland - Bracken	Grassland	0.00	0.00	0.00	
Heathland and shrub - Rhododendron scrub	Heathland and shrub	0.00	0.00	0.00	
Lakes - Ornamental lake or pond	Lakes	0.00	0.00	0.00	
Sparsely vegetated land - Ruderal/Ephemeral	Sparsely vegetated land	0.00	0.00	0.00	0.00
Urban - Bioswale	Sparsely vegetated land	0.00	0.00	0.00	
Urban - Allotments	Urban	0.00	0.00	0.00	0.00
Urban - Facade-bound green wall	Urban	0.00	0.00	0.00	
Urban - Ground based green wall	Urban	0.00	0.00	0.00	
Urban - Ground level planters	Urban	0.00	0.00	0.00	
Urban - Other green roof	Urban	0.00	0.00	0.00	
Urban - Intensive green roof	Urban	0.00	0.00	0.00	
Urban - Introduced shrub	Urban	0.00	0.00	0.00	
Urban - Rain garden	Urban	0.00	0.00	0.00	
Urban - Actively worked sand pit quarry or open cast mine	Urban	0.00	0.00	0.00	
Urban - Sustainable urban drainage feature	Urban	0.00	0.00	0.00	
Urban - Vacant/derelict land/ bareground	Urban	0.00	0.00	0.00	
Urban - Vegetated garden	Urban	0.00	0.00	0.00	
Woodland and forest - Other coniferous woodland	Woodland and forest	0.00	0.00	0.00	
Coastal saltmarsh - Artificial saltmarshes and saline reedbeds	Coastal saltmarsh	0.00	0.00	0.00	
Intertidal sediment - Artificial littoral coarse sediment	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Artificial littoral mud	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Artificial littoral sand	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Artificial littoral muddy sand	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Artificial littoral mixed sediments	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Artificial littoral seagrass	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Artificial littoral biogenic reefs	Intertidal sediment	0.00	0.00	0.00	
Intertidal Hard Structures - Artificial hard structures	Intertidal	0.00	0.00	0.00	
Intertidal Hard Structures - Artificial features of hard structures	Intertidal	0.00	0.00	0.00	
Heathland and shrub - Sea buckthorn scrub (other)	Heathland and shrub	0.00	0.00	0.00	
		-12.92		-12.92	

Low Distinctiveness Summary	
Low Distinctiveness Net Change in Units	-12.92
Cumulative surplus of units	-12.92







Total area lost (excluding area of Urban trees and Green walls)	13.35
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C-1 Site River Baseline

Condense / Show Columns

Condense / Show Rows

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Existing river type			Habitat distinctiveness	Habitat condition	Strategic significance	Watercourse encroachment	Riparian encroachment	Suggested action	Ecological baseline	Retention category biodiversity value						Comments	
Baseline ref	River type	Length (km)	Distinctiveness	Condition	Strategic significance	Extent of encroachment	Extent of encroachment		Total river units	Length retained	Length enhanced	Units retained	Units enhanced	Length Lost	Units Lost	Assessor Comments	Reviewer comments
1	Ditches	0.522	Medium	Moderate	Low potential/action not identified in any plan	No Encroachment	No Encroachment	Restore	4.18	0		0.00	0.00	0.52	4.18	Entire drain to be filled in and re-routed. Passes 6 of 8 criteria. Fails Criteria 1 due to being heavily dependent on effluent from nearby refineries and runoff and Criteria 2 due to a lack of plant species diversity.	
2	Ditches	0.104	Medium	Moderate	Low potential/action not identified in any plan	No Encroachment	Major	Restore	0.62	0.084		0.50	0.00	0.02	0.12	Rosper Road drain. Approximate 20m stretch to be culverted permanently to facilitate new Site access. Passes 6 of 8 criteria. Fails Criteria 1 due to being heavily dependent on effluent from nearby refineries and runoff and Criteria 2 due to a lack of plant species diversity.	
3																	
4																	
5																	
6																	
7																	
		0.63							4.80	0.08	0.00	0.50	0.00	0.54	4.30		

C-2 Site River Creation

Condense / Show Columns

Condense / Show Rows

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Baseline ref	Proposed habitats		Habitat distinctiveness	Habitat condition	Strategic significance	Temporal multiplier		Difficulty multipliers	Watercourse encroachment	Riparian encroachment	River units delivered	Comments	
	River type	Length (km)	Distinctiveness	Condition	Strategic significance	Standard or adjusted time to target condition	Final time to target condition/years	Final difficulty of creation	Extent of encroachment	Extent of encroachment		Assessor comments	Reviewer comments
1	Ditches	0.441	Medium	Moderate	Low potential/action not identified in any plan	Standard time to target condition applied	5	Low	No Encroachment	Major	2.21	New drain will be identical to current drain in profile and serve the same function. Additional riparian encroachment will occur with the development of the Site.	
2	Culvert	0.137	Low	Poor	Low potential/action not identified in any plan	Standard time to target condition applied	1	Low	N/A - Culvert	Major	0.20	Culverted stretch to the west to allow for site access along the piperacks adjacent of the railway corridor.	
3	Culvert	0.02	Low	Poor	Low potential/action not identified in any plan	Standard time to target condition applied	1	Low	N/A - Culvert	Major	0.03	New site access off Rosper Road.	
4													
5													
6													
7													
8													
		0.60									2.44		