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Andrew Mott
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23rd April 2024

Dear Andrew,

Biodiversity Net Gain Updates – Old Wood Energy Park, Wysall

In response to comments made by Paul Phillips of Rushcliffe Borough Council on 26th March 2024 in relation to application ref: 24/00161/FUL, I have re-examined the Biodiversity Net Gain (BNG) calculations originally undertaken for the above site in order to confirm that no net loss is being undertaken within watercourse units.

Kingston Brook

The original BNG calculations are shown in Figure 1 overleaf, with watercourses showing a loss of -0.06 units, equating to -2.35%. This was due to a small, prefabricated bridge (~7m in width) being installed over Kingston Brook which crosses through the southern parcel of the site. This was therefore recorded as an overall loss of watercourse units within the metric.

One of the elements of the BNG Metric specific to watercourses relates to the level of human induced 'encroachment' into the watercourse and the riparian zone alongside it. All ditches and streams within this version of the metric were erroneously recorded at baseline as having no encroachment either within the watercourses themselves or along the riparian zone.

After re-examining the calculations, I can confirm that the baseline watercourse units given to the above site (2.69 units) were incorrect. Section 10.4.1 of the User Guide states:

Riparian zone encroachment describes any feature or intervention within the riparian habitat zone that reduces the quantity, quality or ecological function of the riparian habitat. Examples include existing buildings or hardstanding, established footpaths, management interventions (such as agriculture), or structures that prevent wildlife from accessing the riverbank.

In this instance then, grazing up to the edge of the banks along Kingston Brook constitutes agricultural encroachment of the riparian zone. As can be seen from site photos (Figure 2), there are no fences along the watercourse, with sheep able to graze up to the edge of the watercourse, in some instances causing poaching. According to Table 10-4 within the Use Guide, Major Riparian Zone encroachment for rivers and canals is described as:

Any encroachment 0m to 4m from bank top OR where encroachment occupies greater than 25% of the total riparian zone area.

In this instance, the correct conclusion is that Kingston Brook is experiencing sheep grazing, sometimes to an excessive level, within 4m of the bank top and also along the entire length of the riparian zone within the site boundary, which constitutes Major Riparian Zone encroachment on both banks.

Ditches

Additionally, two ditches were noted within the southern parcel of the site, one running along the western site boundary along the adjacent off-site woodland, and one which runs along the eastern boundary of Field 13. For ditches, the User Guide states that Major Riparian Zone encroachment constitutes:

Any encroachment 0m to 2m from bank top OR where encroachment occupies greater than 25% of the total riparian zone area.

In this instance, the fields either side of this ditch (Fields 13 to the west and Field 12 to the east) were under agricultural use, with modified grassland within 5m of the bank being cut for agricultural purposes (Figure 3). This then fits in with the second stipulation of major encroachment, as modified grassland in agricultural management was present along more than 25% of the length of the total riparian zone.

BNG Metric Update

On the back of these two changes, I have updated the baseline calculations for these features within the Metric. The third ditch along the western boundary of the southern site parcel is still considered to have no riparian zone encroachment and therefore remains unchanged. These updates mean that baseline watercourse units should be recorded as 2.34. Additionally, with grazing and agricultural management removed post-construction, these features will no longer be experiencing riparian encroachment, which will lead to enhancement of both features.

Therefore, with these changes in place, the updated gain in watercourses will actually be 0.34 units, equating to a +14.40% gain (Figure 4).

As best practice, and due to an inherent issue within the BNG Metric 4.0 relating to an error when populating the watercourse enhancement tab, the calculations have been made using the most up to date Metric (The Statutory Metric). There has been no change in calculations pertaining to habitat units or hedgerow units with the use of the Statutory Metric.

Along with this letter, please find the updated BNG metric (Natural England Statutory Biodiversity Calculation Tool), which confirms what I have said in this letter.

Please do not hesitate to contact me should you have any queries or comments on the enclosed information.

Yours sincerely

[redacted]

Rebecca Sandey MSc ACIEEM
Senior Ecologist

FINAL RESULTS			
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	165.80	
	Hedgerow units	43.19	
	Watercourse units	-0.06	
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	80.65%	
	Hedgerow units	62.34%	
	Watercourse units	-2.35%	Total net gain achieved is less than target set ⚠
Trading rules satisfied?		No - Check Trading Summaries ▲	

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Habitat units	10.00%	205.57	226.13	0.00	Unit requirement met or surpassed ✓
Hedgerow units	10.00%	69.28	76.21	0.00	Unit requirement met or surpassed ✓
Watercourse units	10.00%	2.69	2.95	0.33	

Figure 1: BNG Headline Results included within Ecological Impact Assessment v2.0 (Clarkson and Woods, 07/12/2023)

Figure 2: Grazing along the length of Kingston Brook, causing poaching in some areas

Figure 3: Field 13 under agricultural management to the west of the wet ditch

FINAL RESULTS			
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	165.80	
	Hedgerow units	43.19	
	Watercourse units	0.34	
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	80.65%	
	Hedgerow units	62.76%	
	Watercourse units	14.40%	
Trading rules satisfied?		Yes ✓	

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Habitat units	10.00%	205.57	226.13	0.00	No additional area habitat units required to meet target ✓
Hedgerow units	10.00%	68.81	75.69	0.00	No additional hedgerow units required to meet target ✓
Watercourse units	10.00%	2.34	2.58	0.00	No additional watercourse units required to meet target ✓

Figure 4: BNG Headline Results included within Ecological Impact Assessment v4.0 (Clarkson and Woods, 23/04/2024)