# Biodiversity Net Gain Technical Note

Tyler Grange

## Lidl, Birstall

## 9th November 2021

TG Report No. 13438_R02d_AS_CW

| Report No: | Date | Revision | Author | Checked |
|---|---|---|---|---|
| 13438_R02d | 9th November 2021 | D | Amy Sherwin, MBiol | Joseph Dance BSc (Hons) MCIEEM |

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# Section 1: Introduction

1.1. This note has been prepared by Tyler Grange Ltd on behalf of LIDL GB. It sets out the results of a Biodiversity Net Gain (BNG) calculation utilising Defra's Metric Version 2.0 for a parcel of land located opposite the Birstall Shopping Park, in Birstall (OS SE 23584 27437), hereafter referred to as the 'Site'. This report has been produced alongside an Ecological Impact Assessment (EcIA) of the site (Tyler Grange report reference **13438_R01a_EcIA_AS_MM_260321** dated 26th March 2021) and should be read in conjunction with the EcIA for the site.

1.2. The National Planning Policy Framework (NPPF) published February 2019, states that planning and decisions should contribute to and enhance the natural environment by, amongst other, *'identifying and pursuing opportunities for securing measurable net gain for biodiversity'.* The Kirklees Council Local plan strategy and policies (*Policy LP30*) also specifies the need for net gain in biodiversity.

1.3. Emerging national and local policy to be incorporated within the Environment Bill (publication expected to be during 2021) will mandate net gains in biodiversity post-development in accordance with approved metrics.

1.4. In line with the requirement of Local Planning Policy and section 170 of the NPPF, this note provides the summary of the baseline biodiversity value of the site assessed against the proposed post-development value to detail the change in biodiversity value onsite.

# Section 2: Methodology

2.1 The DEFRA Biodiversity Metric 2.0 (JP029) was published on the 29th July 2019[1] and was the current version in use at the time of assessment. This calculator is used to '*measure and account for biodiversity losses and gains resulting from development*'. The calculator requires baseline habitat data as well as the information on habitats to be lost and created to calculate the total number of biodiversity units on site post-development.

2.2 Baseline: an extended Phase I habitat survey of the site was undertaken by Tyler Grange in August 2020. This data was used to determine the area and value of habitats currently on site '*the baseline*'. This data was then transported into classification of the UK Habitats[2]to utilise within the Defra 2.0 metric.

2.3 Retained/ replacement habitats: the landscape proposals (see **Appendix 1**) was then used in combination with the baseline date, to calculate the areas of retained and replacement habitats on site.

2.4 The calculator automatically assigns distinctiveness scores to each habitat type, and the user inputs scores for condition, ecological connectivity, strategic significance and total area (in hectares); as per the guidance, the area of trees on site was calculated using the integrated 'street tree helper' tool within the metric spreadsheet.

2.5 No condition or connectivity scores are required for hardstanding or building as part of the calculator.

2.6 Biodiversity units: the information above was then input into the Defra V2.0 calculator, to determine the number of biodiversity units at baseline and at post-intervention (i.e. habitat creation + retention). The calculator then uses this data to produce the total net unit and percentage change. The Defra calculator is provided separately to this note.

2.7 Further information on the baseline habitats is available in the EcIA for the site (**13438_R01a_EcIA_AS_MM_260321** – Tyler Grange).

[1] http://publications.naturalengland.org.uk/publication/5850908674228224
2 UK Habitat Classification Working Group (2018) UK Habitat Classification – Habitat Definitions V1.0

# Section 3: Results

3.1. Table 3.1. below summarises the existing biodiversity baseline value of the site.

**Table 3.1** habitat units at baseline

| Habitat type | Area (ha) | Baseline Units | Units lost | Units retained | Units enhanced |
|---|---|---|---|---|---|
| Tall Ruderal (Sparsely vegetated land – ruderal/ephemeral) | 0.10 | 0.22 | 0.22 | 0.00 | 0.00 |
| Poor semi-improved grassland | Too small to register in the metric | 0.00 | 0.00 | 0.00 | 0.00 |
| Introduced shrub | 0.03 | 0.20 | 0.20 | 0.00 | 0.00 |
| Mixed plantation woodland | 0.19 | 1.39 | 1.39 | 0.00 | 0.00 |
| Hardstanding | 1.17 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **1.51** | **1.80** | **1.80** | **0.00** | **0.00** |

3.2. **Table 3.2** below summarises the post-development value of the site, which excludes enhancements. The BNG calculations workbook provides additional detail regarding habitat condition for each proposed habitat type.

**Table 3.2** Post development habitat creation

| Habitat type | Area (ha) | Units delivered |
|---|---|---|
| Introduced Shrub | 0.06 | 0.28 |
| Amenity Grassland | 0.01 | 0.02 |
| Hardstanding | 1.42 | 0.00 |
| Artificial Unvegetated Unsealed Surface | 0.02 | 0.00 |
| **Total** | **1.51** | **0.30** |

3.3. **Table 3.3** below summarises the projected net biodiversity value of the site post development.

**Table 3.3** Projected Net Biodiversity Value

| Habitat | Baseline | Lost | Retained | Created | Enhanced | Percentage change |
|---|---|---|---|---|---|---|
| Habitats | 1.80 | 1.80 | 0.00 | 0.30 | - | -1.50 units / net loss of 84.40% |

3.4. It is also noted that the proposals show additional native tree planting scattered within the mixed scrub and across hardstanding, but that the number of trees originally onsite exceeds this number, resulting in an overall net loss.

3.5. Additional native hedgerow planting is also proposed, as indicated in **Appendix 1** and accounted for in the accompanying metric. The new hedgerows would comprise species of field maple *Acer campestre*, hazel *Corylus avellana*, hawthorn *Crataegus monogyna*, holly *Ilex aquifolium*, wild privet *Ligustrum vulgare*, dog rose *Rosa canina* and elder *Sambucus nigra*. The overall length would total 240m, resulting in a net gain in hedgerow length of 240m. As the baseline hedgerow value is 0 units as no hedgerows are present, it is not possible to calculate the uplift in hedgerow percentage gains with the metric. This hedgerow planting would generate a total of 0.46 hedgerow units.

# Section 4: Conclusion

4.1. The Defra 2.0 Metric has calculated that without including off-site habitat creation, the proposed development at this stage as illustrated on the attached illustrative landscape strategy plan would amount to a relatively minor measurable net loss in biodiversity value of **1.50** biodiversity units, equating to a **83.40%** net loss in biodiversity value.

4.2. The existing EcIA report for the site has made recommendations for the inclusion of bat roost and bird nesting features to provide enhancements to this regard.

4.3. It will, therefore, be necessary for off-site contributions to be made to the Local Planning Authority or 3rd-party land owner to create the required deficit of units off-site.

4.4. To achieve a 10% net gain, as targeted by Kirklees Council and emerging National Policy, it will therefore be necessary for the creation of an additional 1.68 biodiversity units off-site. This is calculated as: 10% increase on baseline of 1.80 = 1.98. Residual post-development value = 0.30. 1.98 – 0.30 = 1.68 units.

# Appendix 1: Landscape Proposals

SEE DRAWINGS BY SMR ARCHITECTS FOR SURFACING AND BOUNDARY DETAILS

WOODHEAD ROAD

BANKWOOD WAY

RETAIL UNIT
24535 SF

GARDEN CENTRE
5510 SF

EXTERNAL PLANT

PROPOSED FOOD STORE

Paradigm House 1

53nr Euonymus fortunei 'Emerald n Gold'
83nr Hebe albicans 'Red Edge'
19nr Bergenia cordifolia 'Purpurea'
59nr Lavandula angustifolia 'Hidcote'
73nr Prunus laurocerasus 'Otto Luyken'
22nr Bergenia cordifolia 'Purpurea'
56nr Hebe pinguifolia 'Pagei'
29nr Hebe pinguifolia 'Pagei'
12nr Prunus laurocerasus 'Otto Luyken'
102nr Viburnum davidii
49nr Skimmia japonica 'Rubella'
90nr Lavandula angustifolia 'Hidcote'
67nr Hebe albicans 'Red Edge'
25nr Bergenia cordifolia 'Purpurea'
65nr Spiraea japonica 'Goldflame'
28nr Viburnum davidii
44nr Euonymus fortunei 'Emerald Gaiety'
46nr Santolina chamaecyparissus nana
75nr Cornus sanguinea 'Mid-Winter Fire'
72nr Skimmia japonica 'Rubella'
24nr Spiraea japonica 'Goldflame'
47nr Choisya ternata 'Sundance'
28nr Ceanothus thyrsiflorus repens
26nr Spiraea japonica 'Goldflame'
26nr Geranium endressii 'Wargrave Pink'
30nr Bergenia cordifolia 'Purpurea'
53nr Cistus 'Silver Pink'
76nr Euonymus fortunei 'Emerald n Gold'
76nr Hebe albicans 'Red Edge'
40nr Viburnum davidii
Native Hedge Mix (5/lin m double)
14nr Acer campestre
14nr Corylus avellana
139nr Crataegus monogyna
28nr Ilex aquifolium
42nr Ligustrum vulgare
14nr Rosa canina
28nr Sambucus nigra
Buj
SoS
ChFF
ChPC
CraMo
AcE
AcC
SaS
PeC

39nr Euonymus fortunei 'Emerald Gaiety'
33nr Lavandula angustifolia 'Hidcote'
32nr Philadelphus 'Manteau d'Hermine'
27nr Ceanothus thyrsiflorus repens
30nr Choisya ternata 'Sundance'
41nr Skimmia japonica 'Rubella'
62nr Escallonia 'Apple Blossom'
48nr Geranium endressii 'Wargrave Pink'
30nr Hebe albicans 'Red Edge'
50nr Philadelphus 'Manteau d'Hermine'
57nr Cistus 'Silver Pink'
64nr Santolina chamaecyparissus nana
22nr Lavandula angustifolia 'Hidcote'
27nr Ceanothus thyrsiflorus repens
23nr Skimmia japonica 'Rubella'
39nr Viburnum davidii
35nr Euonymus fortunei 'Emerald Gaiety'
20nr Lavandula angustifolia 'Hidcote'
25nr Skimmia japonica 'Rubella'
Native Hedge Mix (5/lin m double)
46nr Acer campestre
46nr Corylus avellana
461nr Crataegus monogyna
92nr Ilex aquifolium
138nr Ligustrum vulgare
46nr Rosa canina
92nr Sambucus nigra

## PLANTING NOTES

All trees to be planted and procured in accordance with BS 8545:2014. The providing nursery shall demonstrate Plant Healthy Certification and/or an adopted biosecurity policy.
Aftercare shall be in accordance with the approved Landscape Management Document.

## PLANTING SCHEDULES

ORNAMENTAL PLANTING SCHEDULE

Herbaceous

| Nr | Name | Ht in cm | Pot(L) | Density |
|---|---|---|---|---|
| 96 | Bergenia cordifolia 'Purpurea' | | 3L | 5.00 |
| 74 | Geranium endressii 'Wargrave Pink' | | 3L | 5.00 |

Shrub

| Nr | Name | Ht in cm | Pot(L) | Density |
|---|---|---|---|---|
| 82 | Ceanothus thyrsiflorus repens | 30-40cm(D) | 3L | 5.00 |
| 77 | Choisya ternata 'Sundance' | 30-40cm | 3L | 5.00 |
| 110 | Cistus 'Silver Pink' | 30-40cm | 3L | 5.00 |
| 75 | Cornus sanguinea 'Mid-Winter Fire' | 40-60cm | 3L | 5.00 |
| 62 | Escallonia 'Apple Blossom' | 30-40cm | 3L | 5.00 |
| 118 | Euonymus fortunei 'Emerald Gaiety' | 20-30cm(D) | 3L | 5.00 |
| 129 | Euonymus fortunei 'Emerald n Gold' | 20-30cm(D) | 3L | 5.00 |
| 256 | Hebe albicans 'Red Edge' | 20-25cm | 3L | 5.00 |
| 85 | Hebe pinguifolia 'Pagei' | 20-30cm(D) | 3L | 5.00 |
| 224 | Lavandula angustifolia 'Hidcote' | 20-25cm | 3L | 5.00 |
| 82 | Philadelphus 'Manteau d'Hermine' | 30-40cm | 3L | 5.00 |
| 85 | Prunus laurocerasus 'Otto Luyken' | 30-40cm | 3L | 5.00 |
| 110 | Santolina chamaecyparissus nana | 20-25cm | 3L | 5.00 |
| 210 | Skimmia japonica 'Rubella' | 30-40cm | 3L | 5.00 |
| 115 | Spiraea japonica 'Goldflame' | 30-40cm | 3L | 5.00 |
| 209 | Viburnum davidii | 20-25cm | 3L | 5.00 |

All shrub material shall be first quality, sturdy, well rooted non-refridgerated stock with well branched heads and fibrous root systems. Shrubs shall be planted into 450mm good quality fibrous topsoil incorporating organic compost and slow release fertiliser in accordance with all good horticultural practice.
A proprietary geotextile membrane is to be installed between the soil and mulch of the planted areas (with 200mm minimum overlap) cut with T or X slits to fit around the plants as required. Sufficient pegs to be used to ensure that membrane does not lift. All plant material shall be a minimum of 3L pot size unless otherwise specified and conform to BS3936 Part 1 and BS 4428.
Finished beds shall be dressed with 50mm depth of purple slate chippings.

### TREE SCHEDULE

| SPECIES | | NUMBERS REQUIRED |
|---|---|---|
| | Ht in m | 4.5 min |
| | Girth in cm | 16-18 |
| Acer campestre 'Elsrijk' | | 7 |
| Betula utilis jaquemontii (Buj) | | 9 |
| Carpinus betulus 'Frans Fontaine' (CbFF) | | 4 |
| Pyrus calleryana 'Chanticleer' (PvC) | | 3 |
| Sorbus aucuparia 'Sheerwater Seedling' (SaS) | | 5 |

All trees to have clear stems to 2.0m above ground level with well developed branching heads with a single, central leader and healthy, fibrous root systems.
Trees shall be planted into pits of an appropriate size to accommodate the root system without restriction, backfilled with a 3:1 topsoil:compost mix and shall be secured to a machine rounded stake using 1 no. tree tie with rubber spacer. Finished height of stake shall not exceed 1/3 height of staked tree above ground.
Extra heavy standard trees in hard landscape within tree grilles to be underground guyed and fitted with an irrigation system such as RootRain by GreenBlue Urban. Underneath hard surfacing a crate system such as StrataCell by GreenBlue Urban, is to be installed. The extent of the pit to be fitted with a tree pit crate system is shown by the blue dashed line. All pits are to be 1m deep.

### NATIVE HEDGE

NATIVE HEDGE SCHEDULE

| Nr | Name | Height/cm | Age | Root | Pot/L |
|---|---|---|---|---|---|
| 60 | Acer campestre | 60-80cm | 1u1 | BR | |
| 60 | Corylus avellana | 40-50cm | 1/0 | BR | |
| 600 | Crataegus monogyna | 40-50cm | 1u1 | BR | |
| 120 | Ilex aquifolium | 50-60cm | | C | 2L |
| 180 | Ligustrum vulgare | 50-60cm | 0/1 | RB | |
| 60 | Rosa canina | 50-60cm | 1/1 | BR | |
| 120 | Sambucus nigra | 60-80cm | 1/1 | BR | |

Hedge to be planted in a previously prepared trench, 500mm wide and 450mm deep backfilled with a 3:1 mix of multipurpose topsoil to BS3882:2007 and planting compost. Bareroot transplants to be dipped in a suitable mychorrizal dip before planting. Plants to be planted in a double staggered row, 300-350mm wide, at 5nr. plants per linear metre with species planted randomly throughout in groups of 7 to 30 of a single species.
The hedge lines shall be mulched after planting with forest mulch to a uniform depth of 50mm.

### TURFING

The topsoiled area to be turfed, is to be grade and cross-graded to even running falls, to allow the finished levels of the turf to be 40mm above the adjoining paved areas. The surface should be lightly and uniformly firmed by rolling or treading and reduced to a fine tilth up to 25mm in depth. All rubbish, stones greater than 50mm in diameter etc, shall be removed from the surface.
Apply an even application of approved fertiliser at a rate of 70g/m² and rake in. No turves shall be laid in exceptionally frosty weather or in other unsuitable weather conditions.
The turves shall be laid in a stretcher bond pattern, closely butted and firmed into position, to the correct levels. The turves should be laid off planks, working over turves previously laid. A dressing of fine, sifted topsoil (complying with BS 3882) should be applied to the laid turf and brushed well into the joints.
Turves shall be watered regularly to prevent them drying out before they establish.

## KEY

- Existing trees, hedges and vegetation to be retained
- Existing trees, hedges and vegetation to be removed
- Proposed Extra heavy standard (16-18cm girth) tree
- Proposed Beech hedging
- Proposed native hedge
- Proposed ornamental shrub planting
- Proposed amenity grass seed
- Proposed species rich grass seed
- Proposed wildflower grass seed
- Proposed wildflower grass seed for wet soils
- Proposed 2000mm high close boarded timber fencing (detailed by others)
- Proposed 2000mm high acoustic fence (detailed by others)
- Proposed 450mm high knee high fence (detailed by others)
- Proposed 2000mm high paladin fence (detailed by others)
- Proposed retaining wall to engineers details (detailed by others)
- Proposed 1100mm high brick wall with railing (detailed by others)
- Proposed bird boxes (from left to right) Swift box Sparrow box
- Proposed wildlife habitat boxes (from left to right) Schwegeler 2FE bat boxes or equivalent Insect refuge Underground bee shelter

| | |
|---|---|
| Rev G: Updated to include additional native hedge to car park boundary and adjustment of species list (SF) | Nov 21 |
| Rev F: Native hedge added behind the store (SF) | Oct 21 |
| Rev E: Additional tree planting (SF) | Oct 21 |
| Rev D: Entrance to Paradigm House updated and knee rail added (SF) | Sept 21 |
| Rev C: Bollards and cycle hoops added in front of retail units (SF) | Sept 21 |
| Rev B: Updated to latest sitelayout (SF) | July 21 |
| Rev A: Amended in line with Proposed Site Plan Rev P3 (SEL) | Mar 21 |


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client: Lidl Great Britain Ltd

project: Proposed Store
BANKWOOD WAY, BIRSTALL

drawing title: LANDSCAPE DETAILS

| scale | date | drawn by | drawing no |
|---|---|---|---|
| 1:200 @A0 | Mar 21 | SEL | R/2459/1G |

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Landscape | Ecology | Arboriculture