

Mr G.J. Peeters
Pellikaan Construction Limited

18th March 2021

Re: Palmer Park, Reading – Addendum for DEFRA Biodiversity Metric 2.0 Calculation

Dear Gert-Jan

The following letter report sets out supplementary information for the DEFRA Biodiversity Metric 2.0 calculation requested by Reading Borough Council's Ecology consultation in relation to a planning application at Palmer Park, Reading, which seeks consent for a leisure centre extension and associated landscaping (Ref: 201735).

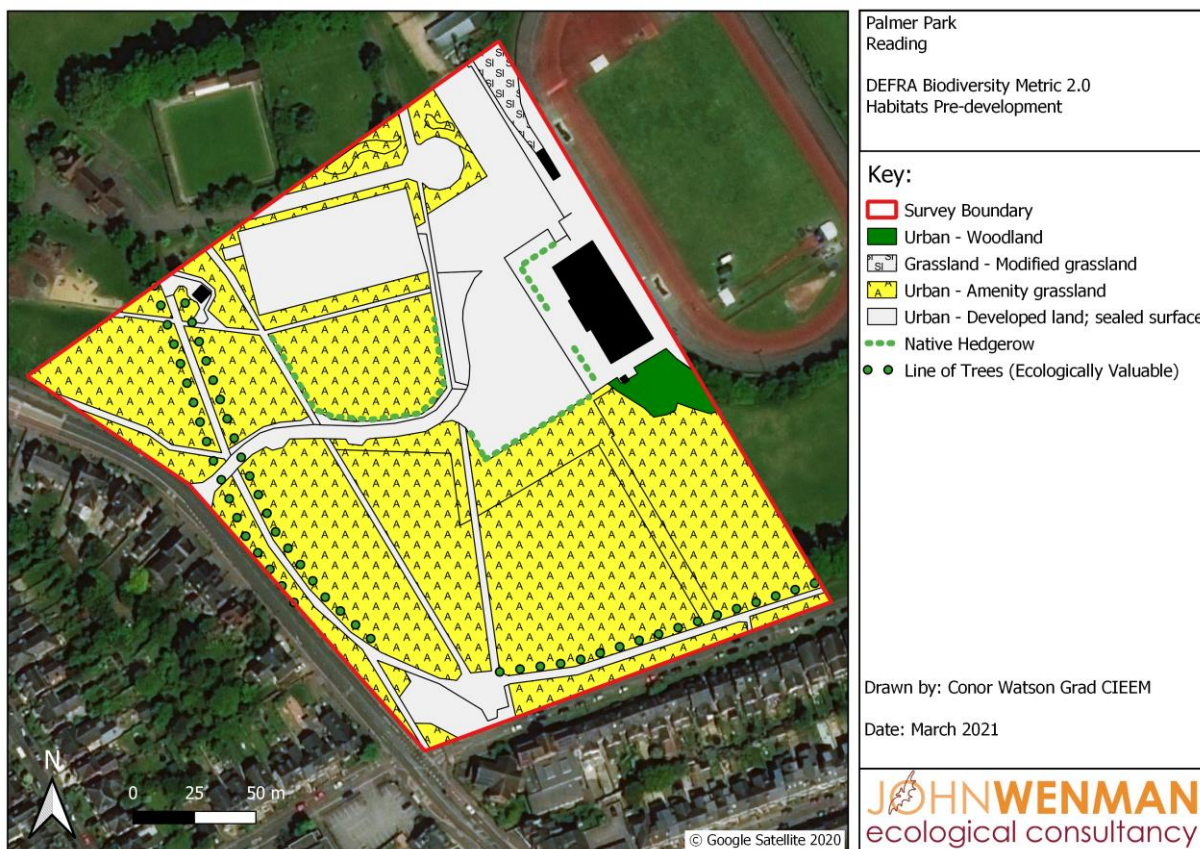
The information requested is as follows:

- 'Cross referenced habitat maps showing habitats before and after development (and their measurements).
- A specific Biodiversity Impact Assessment report setting out the assumptions that they have made.
- An updated spreadsheet that refers to the 1) maps and 2) report.'

This letter report endeavours to address the points listed above as follows.

Habitat Maps and Measurements

A preliminary ecological appraisal (PEA) was conducted by John Wenman Ecological Consultancy LLP in August 2019 and is reported separately (Ref: R2298/b). The PEA described and mapped the existing habitats on site using definitions based on JNCC Phase 1 Habitat survey guidelines. For the biodiversity net gain calculation, these habitat types were converted into the UK Habitat Classification habitat types using the technical data within the DEFRA Biodiversity Metric 2.0 tool e.g. 'Broadleaved woodland' was input as 'Urban – Woodland'. Figures 1 and 2 below show existing pre-development habitats and proposed habitats i.e. post-development; refer to Tables 1 and 2 for habitat area and linear measurements.



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Figure 1. Map of Existing Habitats Pre-development.

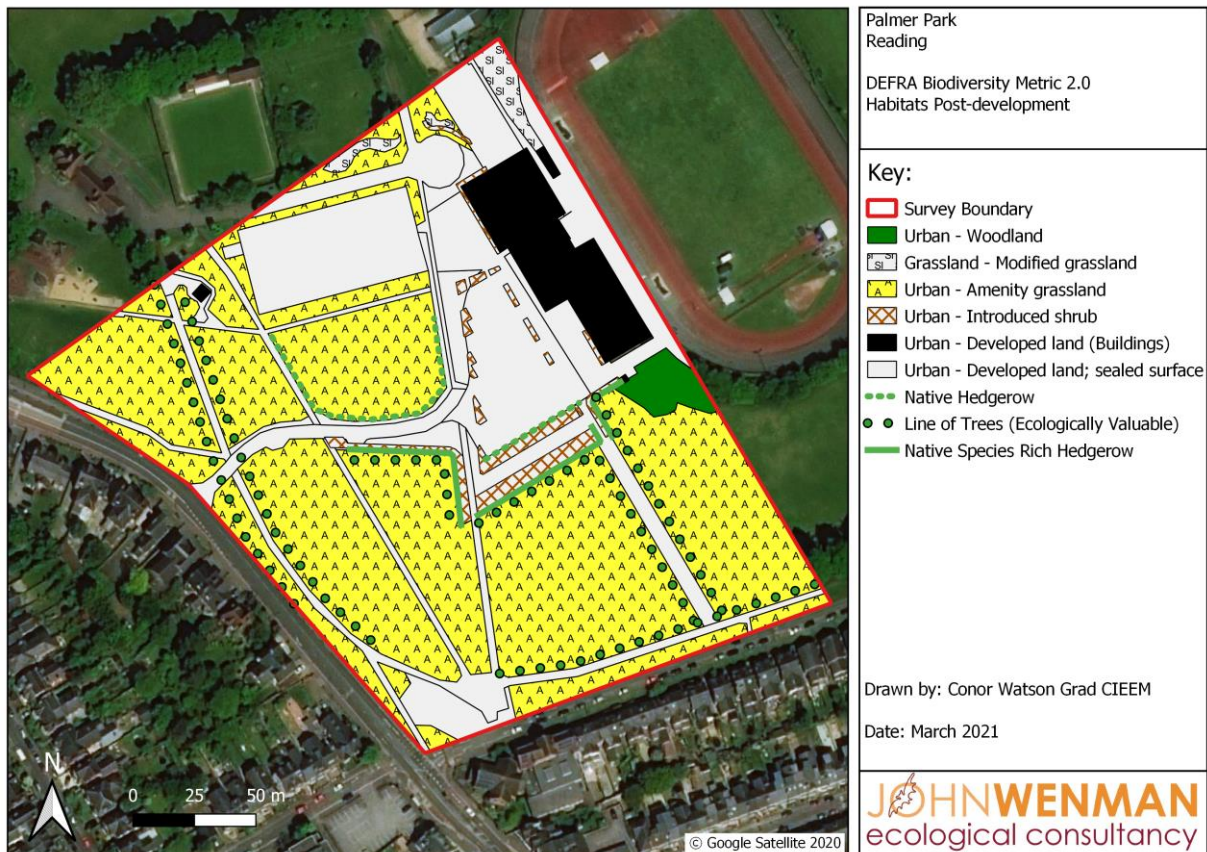


Figure 2. Map of Proposed Habitats Post-development.

Table 1. Habitat Area Measurements for DEFRA Biodiversity Metric 2.0

Phase 1 Habitat Type	DEFRA Habitat Type	Pre- development Area (ha)	Area Retained (ha)	Area Enhanced (ha)	Area Created (ha)	Post- development Area (ha)
Broadleaved woodland	Urban - Woodland	0.06	0	0.06	0	0.06
Amenity grassland	Urban – Amenity grassland	2.91	2.62	0.02	0	2.64
Other habitat & Buildings	Urban – Developed land; sealed surface	1.69	1.69	0	0.2	1.89
Poor semi- improved grassland	Grassland – Modified grassland	0.04	0.04	0	0	0.04
N/A	Urban - Introduced shrub	0	0	0	0.12	0.12

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Table 2. Habitat Linear Measurements for DEFRA Biodiversity Metric 2.0

Phase 1 Habitat Type	DEFRA Habitat Type	Pre- development Length (km)	Length Retained (km)	Length Enhanced (km)	Length Created (km)	Post- development Length (km)
Scattered broadleaved trees	Line of Trees (Ecologically Valuable)	0.45	0.45	0	0.3	0.75
Species poor hedgerow	Native hedgerows	0.29	0.13	0	0	0.16
N/A	Native species rich hedgerow	0	0	0	0.17	0.17

Biodiversity Impact Assessment

The preliminary ecological appraisal (PEA) report produced by John Wenman Ecological Consultancy LLP (Ref: R2298/b) assessed the impact of the proposed redevelopment. In summary, the proposals will only lead to the limited loss of amenity grassland and species poor hedgerow – habitats of negligible ecological value in their current condition. Most of the site will remain unaffected by the proposals. Recommendations in the PEA report consist of precautionary measures (i.e., avoid nesting season and maintain short grass prior to construction), further bat survey and lighting advice, and ecological enhancement opportunities in line with the National Planning Policy Framework.

The suggested ecological enhancements have been incorporated into the proposed landscaping scheme in Figure 3 below.



Figure 3. Proposed Landscaping Plan.

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The ecological enhancements/considerations in the proposed landscaping scheme include:

- Installing a minimum of three bat and bird boxes in the woodland;
- Planting a new native tree avenue;
- Planting a new native species rich hedge with a mixed native tree buffer;
- Using a combination of amenity and wildflower seed on ground disturbed by construction; and
- Planting mixed native bulbs.

Urban – Woodland

The 0.06ha patch of broadleaved woodland will remain unaffected by the proposals and will mature and be subject to management as necessary to maintain and increase its biodiversity value. To help achieve a biodiversity net gain, a minimum of three bat and bird boxes will be installed on trees in the woodland. Two woodcrete bat boxes will be fixed to trees away from sources of artificial light; positioned four metres above ground-level to avoid predation and oriented towards the south for shelter against strong winds and exposure to the sun for part of the day. At least one woodcrete bird box will be fixed at least three metres above ground-level with northerly orientations and shelter, thus providing suitable nesting conditions away from direct sunlight and the wettest winds. The DEFRA Metric Technical Supplement does not provide clear and relevant guidance on habitat condition change for small urban woodland habitat parcels such as this, so this was classified as a change from moderate to fairly good condition.

Urban – Amenity grassland

Of the amenity grassland on-site, a total of 0.27ha will be lost to redevelopment and 0.02ha to enhancement. Although this habitat does not hold any significant ecological value, to compensate for loss, 0.02ha of the grassland will be enhanced with native bulb planting such as snowdrop, daffodil and snakeshead fritillary (Grassland – Modified grassland). The Technical Supplement does not provide clear and relevant guidance on improving small urban grasslands, so this was classified as a change from poor to fairly poor condition.

Urban – Developed land; sealed surfaces (buildings, carpark, paths etc.)

As part of the redevelopment proposals, the footprint of developed land (i.e., carpark) will encroach into surrounding amenity grassland by 0.2ha.

Grassland – Modified grassland

A 0.04ha patch of poor semi-improved grassland in the northwest corner of the site will remain unaffected by the proposals.

Urban – Introduced shrub

The redevelopment proposals include the addition of 0.12ha of formal introduced shrub and soft landscaping around the Sports Centre and carpark.

Line of Trees (Ecologically Valuable)

The mature lime (*Tilia x europaea*) tree-lines following the footpaths around the site were of high ecological value and are to be retained as part of the proposals. To help achieve a biodiversity net gain on-site, a new single native tree avenue is to be planted along a proposed walkway in the southeast of the site. This tree-line (30m including tree buffer) will create a dark corridor for species that are sensitive to light (i.e., bats) connecting the small patch of woodland and the mature tree-lines on-site. If lighting is required along the avenue, it should be kept to a minimum by using baffles and shields, and lighting with peak wavelengths greater than 550nm to reduce impact on bats.

Native hedgerows

The species poor hedgerows had only a couple of native woody species and lacked ecological value in their current state. The proposals remove a total of 13m of hornbeam (*Carpinus betulus*) hedges near the stadium and non-native hedge along the edge of the existing carpark. To compensate for habitat loss and to help achieve a Biodiversity Net Gain, a species rich hedgerow (17m) and mixed native tree buffer (included in 30m tree-line) will be planted along the proposed edge of the carpark. Native woody species detailed in Table 3 below should constitute over 70% of the planting mix and should be sourced from suppliers that adhere to the Flora Locale Code of practice for the supply of native flora. The roots should be mulched to protect the plant from drying out and once the hedgerow is established, it should only be cut every two or three years.

Common name	Scientific name	Value to wildlife
Blackthorn	<i>Prunus spinosa</i>	Early flowers provide a valuable pollen and nectar source for bees in spring.
Dog-rose	<i>Rosa canina</i>	Fruits provide an important food resource for wintering birds such as redwing and waxwing.
Dogwood	<i>Cornus sanguinea</i>	Flowers are visited by insects and berries are eaten by many mammals and birds.
Field maple	<i>Acer campestre</i>	Attracts aphid food source for ladybirds, hoverflies and birds, and the flowers provide nectar and pollen to insects.

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Hawthorn	<i>Crataegus monogyna</i>	Supports more than 300 insects and flowers eaten by hazel dormice.
Hazel	<i>Corylus avellana</i>	Leaves are a food source for many caterpillars, which with hazelnuts; provide an important foraging resource for birds and mammals.
Hornbeam	<i>Carpinus betulus</i>	Seeds provide food resource to birds and small mammals in autumn.

Table 3. Recommended hedgerow and tree buffer species.

The ecological enhancements/considerations listed above were input into the DEFRA Biodiversity Metric 2.0. The calculation gave a total net 4.11% increase for habitat units and 25.21% for hedgerow units.

If you have any questions or require additional information, then please feel free to contact us.

Yours sincerely,



Conor Watson Grad CIEEM
Ecologist

Reviewed by



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