

Biodiversity Net Gain Assessment

Langstone Technology Park,
Masterplan

February 2022

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1. Introduction

Project Background

- 1.1 Phlorum Limited was commissioned by PRC to compile a Biodiversity Net Gain Assessment in relation to the proposed Masterplan development Langstone Technology Park, here on referred to as 'The Site'. The site address is Langstone Technology Park, Havant, PO9 1SA.
- 1.2 This is a second revision of the BNG calculator, with additional enhancement and habitat creation.

Site Description and Context

- 1.3 The site comprised of buildings, hardstanding, amenity grassland, broad-leaved semi-natural woodland, introduced shrub, scattered trees, standalone trees, ruderal vegetation and running water and a dry ditch.
- 1.4 The site lies directly below the A27 and Havant Bypass and is situated within the village of Langstone. Langstone is a part of the Borough of Havant, Portsmouth. 700m to the south is Southmoor Lake which feeds directly to the English Channel.
- 1.5 The National Grid Reference for the centre of the site is SU 71280 05672. The survey area extended over approximately 16 hectares (ha).

Description of Development

- 1.6 Current proposals are for the phased demolition of existing buildings and the erection of new flexible use employment floorspace (Use Classes E(g)(i)-(iii)/B2/B8) and ancillary uses (Use Classes E(b), E(d) and E(f)); and associated works. All matters reserved except Access.

Documentation Provided

- 1.7 This document has been developed with reference to the findings contained within the previous ecological reports:
 -  Preliminary Ecological Appraisal (PEA) (Phlorum, 2021);
 -  Biodiversity Enhancement Plan (Phlorum, 2021); and
 -  Preliminary Ecological Appraisal (PEA) (The Ecology Co-op, 2019).

2. Methodology

Establishing the Baseline Habitat

- 2.1 The desktop study involved conducting database searches for statutory and non-statutory designated sites, legally protected species and features of interest within a 2km radius of the site. This was carried out by Phlorum (Phlorum, 2021).
- 2.2 Phlorum then carried out a Preliminary Ecological Appraisal (Phlorum, 2021) of the site, following the guidance set by the Joint Nature Conservation Committee, handbook for Phase 1 surveys (JNCC 2010).

Calculating Biodiversity Net Gain/Loss

- 2.3 The calculation of Biodiversity Net Gain (BNG) was undertaken using 'The Biodiversity Metric 3.0 published by Natural England (2021). The metric uses site habitats, as areas and linear lengths, to calculate a score for the site. Each habitat is scored according to its relative biodiversity value. This value is then adjusted depending on various factors, to calculate the 'biodiversity units' for each habitat.

Baseline Calculation

- 2.4 Site baseline habitats are assessed based on the following:
 -  On-site habitat (terrestrial areas);
 -  On-site hedge (terrestrial linear lengths); and
 -  On-site river (aquatic linear lengths).
- 2.5 The baseline habitat map from the Preliminary Ecological Appraisal is used to calculate the individual parcels of habitats on the site, such as terrestrial areas (e.g. woodland, grassland), terrestrial lengths (e.g. hedgerows) and aquatic lengths (e.g. streams, rivers). Each area is measured in *hectares* and each linear feature in *kilometres*.
- 2.6 The Biodiversity Metric 3.0 calculator requires habitats present on site to be described using the UKHabs Classification System. As a result, the calculator in the technical data section includes a tool to translate Phase 1 habitats into UKHabs habitats.
- 2.7 Once the UKHabs habitat names, and areas/lengths have been measured the parcels need to be assessed against the following criteria:
 -  **Habitat Distinctiveness** – The calculator creates an automated score based on the type of habitat present. Highly diverse habitats, particularly those habitats of Principal Importance under the NERC Act (2006) or Annex 1 habitats in the Habitats Directive (1992) score 'high', whilst sites with low diversity such as arable crops have 'low' scores.

-  Habitat Condition – An assessment of the quality of the habitat parcel assessed during the baseline surveys.
-  Strategic Significance – An assessment based on the information set out in local plans or policies.

- 2.8 The calculator realises the importance of individual trees but there is no UKHabs habitat for these in the area calculation. As a result, the 'Urban Street Tree Helper', which allows numbers of trees to be converted to an area in hectares is used. Trees are categorised as 'small', 'medium' or 'large'.

Post Development Calculation

- 2.9 The post development areas are calculated by initially assessing the areas/length of habitats retained, enhanced, and created plus any offsite areas created or enhanced.
- 2.10 A 'Habitat Condition' and 'Strategic Significance' assessment are carried out on the post-development habitats. Where habitats have been created or enhanced, additional factors are considered, such as time taken for each of these habitats to reach target condition (temporal multiplier) and the difficulty of recreating these habitats (difficulty multiplier).
- 2.11 The baseline biodiversity score and post-development score are then calculated and compared the biodiversity impact loss or gain is calculated for each habitat (e.g. terrestrial habitat, terrestrial linear and /or linear aquatic habitat).
- 2.12 If needed offsite enhancement and/or creation of habitats can be carried out and assessed.

Caveats

- 2.13 The BNG calculates habitats and only provide a score to represent the biodiversity on site. As a result, compensation and mitigation should be designed using appropriate expertise and common sense.
- 2.14 As only habitats are calculated an increase in biodiversity due to increase in fauna (e.g. birds, bats, insects, reptiles, amphibians, or other mammals) is not included. The creation of bird/bat/insect boxes, log piles, and/or hibernacula's can significantly enhance the ecosystems on a site, but these enhancement are not calculated by the BNG calculator. The BNG calculator is a good guide to help increase biodiversity but habitats need both flora (plants) and fauna (animals) enhanced to ensure healthy and sustainable ecosystems.
- 2.15 The existing levels of protection provided to certain habitats or protected species are not changed by this calculator. The impact on protected species are not considered by the calculator, and must be assessed separately.
- 2.16 In nature the boundaries between ecological habitats are not usually an easily defined line, unless human impact such a hard surface (e.g. buildings/roads), fences, ploughing, and/or felling has occurred. As a result, the habitat areas used are based on best judgement and therefore are subjective.

- 2.17 The calculator requires area measurements in *hectares* and linear measurements in *kilometres*, which for small sites can result in smaller areas/lengths not being recorded when only 2 decimal places area used.

3. Biodiversity Net Gain Assessment

Existing Habitats

- 3.1 The existing habitats identified on site during the Preliminary Ecological Appraisal are shown in Tables 1 and 2 below.

Table 1: Existing Terrestrial Habitat Calculation

PEA habitat	UKHabs habitat	Area (ha)	Habitat Distinctiveness	Habitat Condition	Strategic Significance	Biodiversity Units
Building	Developed Land/ Sealed surface	4.39	Very Low	N/A	Area/ Compensation not in local strategy	0.0
Hardstanding	Developed Land/ Sealed surface	7.44	Very Low	N/A	Area/compensation not in local strategy	0.0
Amenity Grassland	Modified Grassland	2.53	Low	Moderate	Area/compensation not in local strategy	5.06
Broad-Leaved Semi Natural Woodland	Lowland mixed deciduous Woodland	0.9	High	Moderate	Area/compensation not in local strategy	10.80
Introduced shrub	Introduced shrub	0.1	Low	Poor	Area/compensation not in local strategy	0.2
Ruderal Vegetation	Ruderal	0.1	Low	Poor	Area/compensation not in local strategy	0.2
Tree	Urban Tree	0.15	Medium	Moderate	Area/compensation not in local strategy	1.20

Table 2: Existing Aquatic Linear Habitat Calculation

PEA habitat	UKHabs habitat	Length (km)	Habitat Distinctiveness	Habitat Condition	Strategic Significance	Biodiversity Units
Running Water	Other River/Stream	0.4	High	Poor	Area/compensation not in local strategy	2.4
Dry Ditch	Ditch	0.07	Medium	Poor	Area/compensation not in local strategy	0.28

Development Proposals and Assessment of Impacts

3.2 The proposed post development habitats are shown in Tables 3, 4, and 5 below.

Table 3: Proposed Terrestrial Habitat Calculation

PEA habitat	UKHabs habitat	Area (ha)	Habitat Distinctiveness	Habitat Condition	Strategic Significance	Biodiversity Units
Building	Developed Land/ Sealed surface	4.91*	Very Low	N/A	Area/compensation not in local strategy	0.0
Green Roof	Extensive Green Roof	0.43	Low	Good	Area/compensation not in local strategy	2.16
Hardstanding	Developed Land/ Sealed surface	7.61	Very Low	N/A	Area/compensation not in local strategy	0.0
Amenity Grassland	Modified Grassland	0.3 retained	Low	Moderate	Area/compensation not in local strategy	0.6
Amenity Grassland	Modified Grassland	0.12 enhanced	Very High	Good	Area/compensation not in local strategy	1.4
Broad-Leaved Semi Natural Woodland	Lowland mixed deciduous Woodland	0.9 enhanced	High	Moderate	Area/compensation not in local strategy	11.67
Ruderal Vegetation	Ruderal	0.1 retained	Low	Poor	Area/compensation not in local strategy	0.2
Introduced Shrub	Introduced Shrub	0.76	Low	Poor	Area/compensation not in local strategy	1.47

* Please note total building area is 5.34 ha, 4.91 indicates building without green roof.

Table 4: Proposed Terrestrial Linear Habitat Calculation

PEA habitat	UKHabs habitat	Length (km)	Habitat Distinctiveness	Habitat Condition	Strategic Significance	Biodiversity Units
Intact hedge - native species-rich	Native hedgerow	3.3	Low	Good	Area/compensation not in local strategy	12.91

Table 5: Proposed Aquatic Linear Habitat Calculation

PEA habitat	UKHabs habitat	Length (km)	Habitat Distinctiveness	Habitat Condition	Strategic Significance	Biodiversity Units
Running Water	Other River/Stream	0.4 retained	High	Poor	Area/compensation not in local strategy	2.4
Dry Ditch	Ditch	0.07 retained	Medium	Poor	Area/compensation not in local strategy	0.28

Headline Results

3.3 The headline results, including total unit and % change are shown in Table 6 below.

Table 6: Results

	Habitat Area Units (terrestrial area)	Habitat Length Units (Terrestrial linear length)	Aquatic Length Units (Aquatic linear length)
On-site Baseline	17.46	0.00	2.68
On-site post-intervention	17.50	12.91	2.68
Total net unit change	0.04	12.91	0.00
Total net % change	0.22% gain	100%	0.00%

4. Discussion

Discussion

- 4.1 A Biodiversity Net Gain Assessment has been carried out for the proposed development of Langstone Technology Park. The site comprised of buildings, hardstanding, amenity grassland, broad-leaved semi-natural woodland, introduced shrub, standalone trees, ruderal vegetation and running water and a dry ditch.
- 4.2 Current proposals are for the phased demolition of existing buildings and the erection of new flexible use employment floorspace (Use Classes E(g)(i)-(iii)/B2/B8) and ancillary uses (Use Classes E(b), E(d) and E(f)); and associated works. All matters reserved except Access.
- 4.1 The existing area habitats on the site are considered by the Biodiversity Net Gain assessment to have a value of **17.46 units**. The post-development area habitats are considered by the Biodiversity Net Gain Assessment to have a value of **17.50 units**. This is an **0.04 net change** in habitat units which equates to a **0.22% net gain**. This reflects the retention of grassland and ruderal vegetation, the creation of introduced shrub and green roof, and the enhancement of grassland and woodland.
- 4.2 The enhancement will consist of the following:
-  The areas of amenity grassland which are being improved to meadow grass (purple region in Appendix B).
 -  The areas of semi-natural broadleaved woodland that are being retained will be split into four equal sections where one section is left untouched, with no management or cutting, and the remaining three sections' understories are cut on a three-year cycle i.e., cut once every three years.
- 4.3 The existing terrestrial linear features on the site are considered by the Biodiversity Net Gain assessment to have a value of **0.00 units**. The post-development area habitats are considered by the Biodiversity Net Gain Assessment to have a value of **12.91 units**. This is a **+12.91 net change** in habitat units which equates to a **100% net gain**.
- 4.4 The existing aquatic linear features on the site are considered by the Biodiversity Net Gain assessment to have a value of **2.68 units**. The post-development area habitats are considered by the Biodiversity Net Gain Assessment to have a value of **2.68 units**. This is a **no net change** in habitat units.
- 4.5 There are also significant gains for ecology on site that are not captured by the quantitative BNG assessment, such as species-specific enhancements. The proposals include plans for bat boxes within the woodland region to the east of the site, as well as swift and sparrow boxes on the buildings.

5. Conclusions and Recommendations

Conclusions

- 5.1 The proposed development will result in the following biodiversity net change;
-  0.22% net gain of habitat areas;
 -  100% net gain of terrestrial linear features; and
 -  0.00% change in aquatic linear features.
- 5.2 The site proposals also demonstrate ecological enhancements through the provision of bird and bat boxes

6. References

-  Baker J., Hoskins R. and Butterworth T. (2019). Biodiversity Net Gain. Good practice principles for development: A practical guide. Ciria, London. Baker J., Hoskins R. and Butterworth T. (2019). Biodiversity Net Gain. Good practice principles for development: Case studies. Ciria, London.
-  British Standards Institute (2013). 24040:2013. *Biodiversity-Code of Practice for Planning and Development*. Standards Policy & Strategy Committee. Milton Keynes: BSI.
-  CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal Second Edition*. Chartered Institute of Ecology and Environmental Management, Winchester.
-  CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester.
-  Department for Communities and Local Government (2019) *National Planning Policy Framework (NPPF)* (on-line). Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf [Accessed on 04/04/2019].
-  Joint Nature Conservation Committee (2010). *Handbook for Phase 1 habitat survey - A technique for Environmental Audit*. JNCC, Peterborough.
-  Natural England. (2021). *The Biodiversity Metric*. 3.0 (JP029).
-  Phlorum (2021). *Preliminary Ecological Appraisal (PEA) for Langstone Technology Park, Masterplan*. Unpublished report by Phlorum.

Figures and Appendices

Appendix A

Habitat Map

Legend

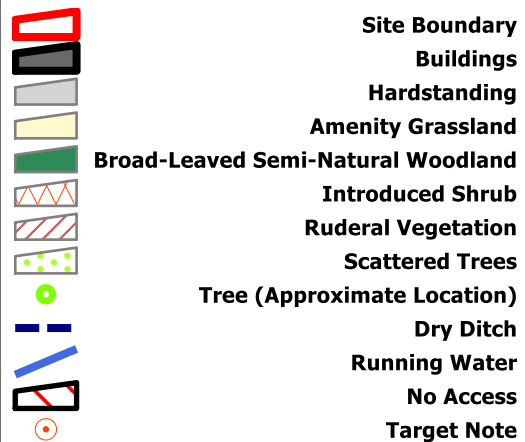


Figure 1: Langstone Technology Park (Masterplan) Habitat Survey Map

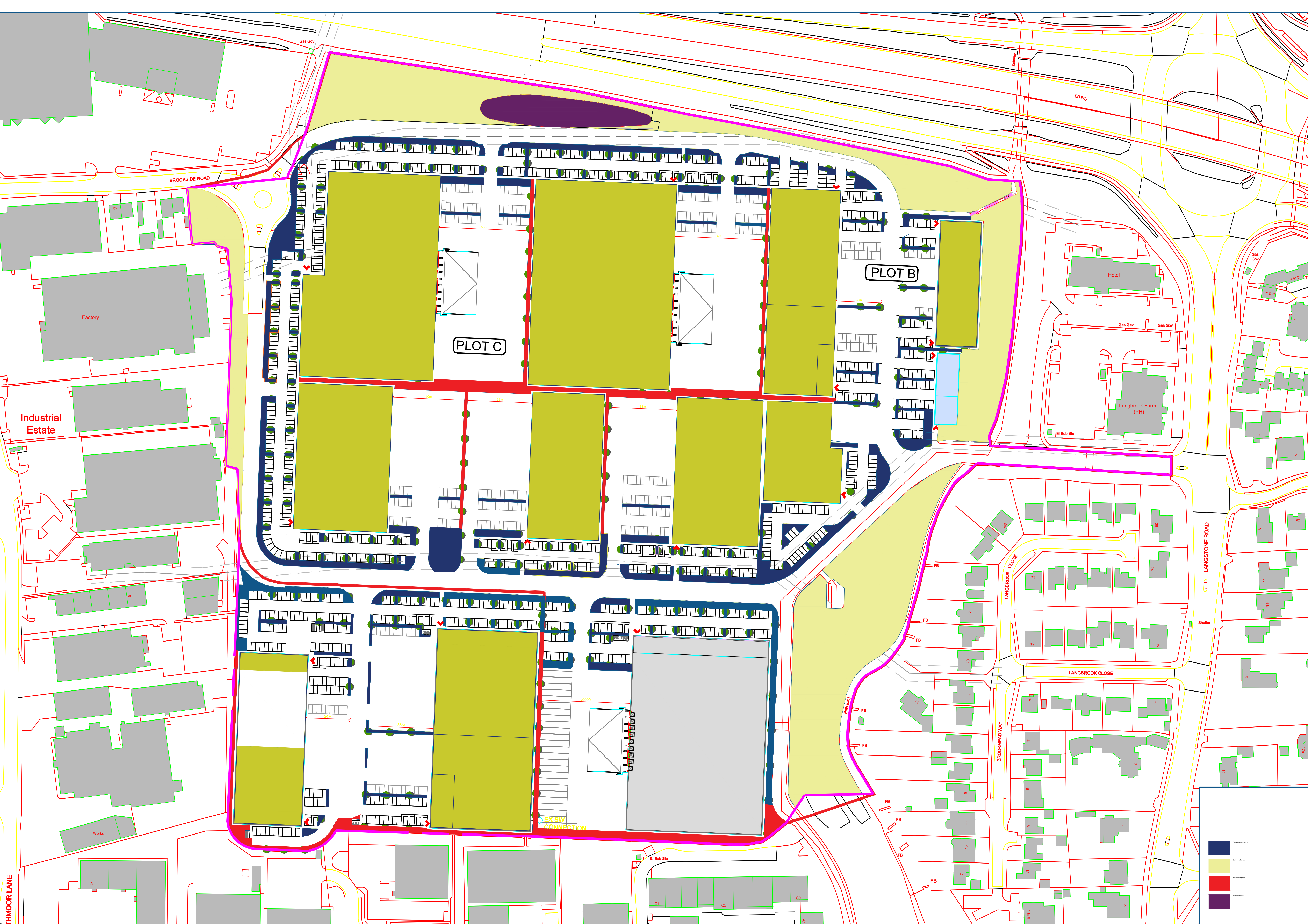
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On the:16/12/2021
Not to Scale
Ref:10538



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Appendix B

Post Development Landscape Plan



Industrial Estate

PLOT C

PLOT B

Hotel

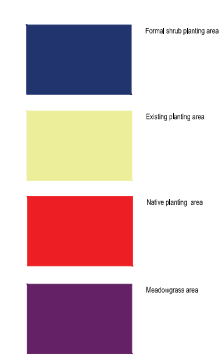
Langbrook Farm (PH)

LANGSTONE ROAD

LANGBROOK CLOSE

LANGBROOK CLOSE

BROOKMEAD WAY





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