

Part of the ES Group

PLOT 4200, ARC OXFORD

Biodiversity Net Gain Report

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ARC

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CONTENTS

1	INTRODUCTION	1
2	BIODIVERSITY METRIC 4.0	2
3	RESULTS AND DISCUSSION OF METRIC	3
4	EVALUATION	10
5	LEGISLATION AND POLICY CONTEXT	13
6	SUMMARY AND CONCLUSIONS	15

PLANS

PLAN ECO1	Site Location
PLAN ECO2	Baseline Habitats
PLAN ECO3	Post-Development Habitats

APPENDICES

APPENDIX 1	Macgregor Smith Biodiversity – Existing Areas (Drawing Number: 1389-SK001 Rev: A)
APPENDIX 2	Macgregor Smith Landscape General Arrangement Plan (Drawing Number: 1389-001 Rev: P3)
APPENDIX 3	Macgregor Smith Planting Plan – Ground Level (1 of 2) (Drawing Number: 1389-201 Rev: P3)
APPENDIX 4	Macgregor Smith Planting Plan – Ground Level (2 of 2) (Drawing Number: 1389-202 Rev: P3)
APPENDIX 5	Macgregor Smith Planting Plan – Roof Level (Drawing Number: 1389-203, Rev: P3)
APPENDIX 6	Defra Metric 4.0 (Provided Separately)

1. INTRODUCTION

1.1. Background & Proposals

- 1.1.1. Ecology Solutions was commissioned by ARC to undertake a Biodiversity Net Gain (BNG) assessment of Plot 4200 ARC Oxford (see Plan ECO1), hereafter referred to as 'the site'.
- 1.1.2. The site will be assessed through the application of the Biodiversity Metric 4.0 Calculation Tool.
- 1.1.3. The site is subject to a planning application for the demolition of seven existing buildings, and construction of a single larger building, together with associated car parking and landscaping including a large biodiverse roof.

1.2. Site Characteristics

- 1.2.1. The 1.3 ha site is located to the west of John Smith Drive. The site is bounded by residential buildings to the west, and to the east, south and north by employment development.
- 1.2.2. The site comprises seven office buildings with extensive areas of hardstanding forming associated access and car parking. The habitats currently present on site include limited areas of modified grassland, introduced shrub, and 62 small and medium trees.

1.3. **Biodiversity Net Gain Report**

1.3.1. This document assesses the level of Biodiversity Net Gain within the site. This report has been prepared with due consideration to the guidance published by the Chartered Institute of Ecology and Environmental Management (CIEEM)¹² in relation to Biodiversity Net Gain. This assessment is based on the results of the habitat survey completed by Ecology Solutions in October 2023, as well as recent satellite imagery of the site and the Macgregor Smith Biodiversity – Existing Areas plan (appendix 1).

¹ CIEEM (2019). *Biodiversity Net Gain. Good Practice Principles for Development, A Practical Guide.*

² CIEEM, CIRIÁ, IEMA (2016). Biodiversity Net Gain: Good Practice Principles for Development.

2. BIODIVERSITY METRIC 4.0

2.1. The Biodiversity Metric 4.0 was released on 24 March 2023 and uses habitat features as a proxy measure for capturing the value and importance of nature. It uses calculations to assess the importance of each habitat based on its size, ecological condition and location.

2.2. Methodology

- 2.2.1. Habitats were classified based on their conformity to UK Habitat Classifications³ and condition assessments were completed for habitats identified within the site. The Biodiversity Metric 4.0 Technical Annexes 1 and 2⁴ in addition to professional judgment were used to inform the habitats' condition criteria.
- 2.2.2. Measurements for habitats pre-development were calculated using QGIS and Google Earth as well as information gathered from the habitat survey carried out by Ecology Solutions in October 2023 and reference to the Macgregor Smith Biodiversity Existing Areas Plan (Appendix 1).
- 2.2.3. Measurements for the proposed landscaping have been completed using QGIS with reference to Macgregor Smith Landscape General Arrangement Plan (Appendix 2) and Planting Plans (Appendices 3,4 and 5).

³ UKHab Ltd (2023). UK Habitat Classification Version 2.0 at https://ukhab.org.

⁴Natural England (2023). *The Biodiversity Metric 4.0, Technical Annexes 1 and 2,* Natural England Joint Publication JP039

3. RESULTS AND DISCUSSION OF METRIC

3.1. This section should be read in conjunction with the Biodiversity Metric calculation tool which has been provided separately.

3.2. Baseline Habitat (Pre-Development)

- 3.2.1. Table 3.1 below summarises the habitats present on-site under the applicant's control (see Plan ECO2). The information included within this table is based on information gathered during the habitat surveys undertaken by Ecology Solutions in June and October 2023.
- 3.2.2. A baseline total of 6.18 habitats units are present within the development site.

Baseline Habitats							
Baseline habitat E E	Baseline Biodiversity Units	Condition Criteria / I Indicator Score	Pass or Fail /	Condition	Ecological Features and Condition Notes	After Works	
Modified C Grassland	0.26	Grassland Low Distin C1 – Between 6-8 species per m ² C2 – Sward height is varied C3 – Scattered scrub <20% C4 – Physical damage <5% C5 – Bare ground between 1-10% C6 – Bracken <20% C7 – Absence of Invasive non-native species	ctiveness Pass Fail Pass Fail Pass Pass Pass	Moderate (5 / 7 condition criteria passed = Moderate)	Modified grassland verge alongside John Smith Drive; other small areas of modified grassland in the current car park area. Species present include Perennial Rye Grass <i>Lolium</i> <i>perenne</i> (A), False Oat-grass <i>Arrhenatherum elatius</i> (F), Cocks-foot <i>Dactylis</i> <i>glomerata</i> (O), Ground Ivy <i>Glechoma heder</i> (O), Yorkshire Fog <i>Holcus lanatus</i> (O), Fescue <i>Festuca sp.</i> (O), Daisy <i>Bellis perennis</i> (R), Common Mouse-ear <i>Cerastium fontanum</i> (O), Common Bent <i>Agrostis</i> <i>capillaris</i> (O), Creeping Buttercup <i>Ranunculus repens</i> (O), Ribwort Plantain <i>Plantago lanceolata</i> (O), and White Clover <i>Trifolium repens</i> (F). The species composition reflects an amenity grassland habitat supporting 6-8 species per m ² . The sward height is not varied only supporting very short swards, evidence of	0.26 units lost	

						mowing regime limiting height diversity.	
						There is physical damage	
						due to intense mowing and	
						frequent trampling bordering	
						footpaths.	
						The habitat is awarded a	
						'Moderate' condition	
Introduced Shrub	0.51	Automatically assign	ed N/A c	ondition	N/A	Amenity planting areas along	0.51 units lost
		assessment				the northern, southern and	
						western boundaries, as well	
						as alongside buildings and in	
						small areas within the car	
Developed land:	0.00		od N/A o	ondition	Ν/Δ	Area comprises of pon-	The building and
sealed surface	0.00	assessment		onunion	N/A	residential buildings and	hardstanding
Scaled Sullace		233635ment				associated car park area	surfaces will be lost
							as part of the
							proposals.
Urban Trees	5.41	Urban Trees	Small	Medium	Moderate	Forty-nine small and 13	1.14 units lost
			sized	sized		medium sized trees are	
			trees	trees	(4 / 6 condition criteria	located throughout the site,	2.15 units retained
		C1 – Tree is native	Pass	Pass	passed)	largely at the boundaries but	
		species	_		-	also scattered in the car	34 small and 8
		C2 – Tree canopy	Pass	Pass		parking area.	medium sized
		predominantiy				Trees have been assessed	largely at the site
			Fail	Fail	-	as "blocks of trees" given	houndary will be
		mature	1 all	1 411		their location bordering urban	retained in the new
		C4 - Little to no	Fail	Fail		land.	development.
		evidence of	i un	1 411			
		anthropogenic				All trees have been grouped	
		impacts				based on achieving a	
		C5 – Natural	Pass	Pass		'Moderate' condition.	
		ecological niches					
		present					

Plot 4200, ARC Oxford Biodiversity Net Gain Report January 2024

	C6 – More than 20% tree canopy oversailing vegetation beneath	Pass	Pass	There is evidence of pruning regimes where trees overhanging habitats have had their growth limited / been cut back.	
				Less than 50% of the trees are mature in age, most are considered as either early or semi-mature.	

Table 3.1 Summary of Baseline Habitats.

3.3. **Post-Development**

- 3.3.1. Table 3.2 below summarises the habitats that are proposed onsite postdevelopment and are illustrated in Plan ECO3 and Appendix 2.
- 3.3.2. The landscape strategy includes the creation of a variety of habitats including amenity grassland, ornamental planting, rain gardens and a biodiverse green roof, in addition to urban trees.
- 3.3.1. Overall, the site has a baseline of 6.18 habitat units, and the proposed scheme would result in 10.53 habitat units. This results in an increase of 70.35% (+4.35 habitat units) from pre-development to post-development.
- 3.3.2. The targeted conditions for proposed habitats will be achieved through appropriate management undertaken during the operational phase of the proposals. This will ensure that the proposed habitats continue to offer biodiversity benefit in the future.

Trading Rules

3.3.3. The proposed development is set to satisfy all trading rules by providing a betterment of habitats over the baseline position.

Post-Development Habitats						
Proposed Habitat	Landscape Plan Habitat	Target Condition	Biodiversity Units Delivered	Target Condition Notes		
Modified Grassland	Amenity Lawn - Tiller's 'Arena' turf	Poor	0.12	A lawn mix will be planted along the eastern boundary of the site comprising of hard- wearing grass species. The grassland is expected to be heavily managed, as well as having a low species diversity, hence a 'Poor' quality habitat will be achieved.		
Introduced Shrub	Planting mixtures 2-6	N/A	0.40	Introduced shrub planting will be managed for their amenity value and, as such, will provide localised opportunities for wildlife. No condition score is applicable.		
Urban Tree	Proposed semi-mature specimen planting	Moderate	5.71	A total of 45 semi-mature clear-stem trees and six new standard multi-stem trees will be planted onsite, as per the landscape plan. The trees will be a mixture of native and non- native species, including Small-leaved Lime, Black Alder <i>Alnus glutinosa</i> , Turkish Hazel <i>Corylus colurna</i> , Wild Cherry <i>Prunus avium</i> , <i>Liquidamber stryaciflua</i> , <i>Ulmus 'Vada'</i> , <i>Zelkova serrata</i> and Field Maple <i>Acer campestre</i> . All of the new trees are expected to reach a medium size within the standard time to the		
				target condition (27 years). All trees are categorised as small sized in 'Moderate' condition (average girth of 25- 30cm), owing to the fact that management will limit their growth and size in developed areas. Trees bordering shrub habitat will be managed appropriately to ensure they mature overtime and continue to provide ecological benefits for the site. All trees will be subject to a suitable pruning / management regime as per the suppliers' guidelines to enhance tree canopy and health.		

Plot 4200, ARC Oxford Biodiversity Net Gain Report January 2024

Biodiverse green roof	Planting Mix 8 – Biodiversity Roof	Good	0.81	A mix of 40% sedum (14 species including non-native and sub-species) and 60% wildflowers (24 native species) will be planted, providing varied opportunities for wildlife, including nectar sources for invertebrates. Management will ensure that the diversity of the green roof is maintained long term and will ensure undesirable species do not become dominant. The inclusion of native species will attract a range of invertebrate species, which in turn will provide foraging opportunities for bats and birds. The planting will provide amenity value as well as a variety of opportunities for vertebrates and invertebrates including nectar sources. The planting mixture will comprise of meadow-style flowering plants tolerant of exposure to wind and sunlight. The provision of micro-habitats such as sand and brash piles will elevate the ecological value, bee bricks (or similar) will be incorporated into the design providing net gains for local invertebrates.
				With a varied depth of 80-150 mm (with at least 50% at 150 mm and planted according to the landscape plan) and incorporating the above measures, the roof is expected to achieve a 'Good' condition when managed according to the landscape plan.
Rain Garden	Planting Mix 1 – Rain Garden	Moderate	0.04	Two new rain gardens (shallow depressions) will include a robust and adaptive plant mixture suited to seasonally wet soils with tall grasses and flowering perennials dominating. The planting will provide a varied vegetation structure beneficial to wildlife. This habitat
				is expected to achieve a 'Moderate' condition when managed according to the landscape plan.
Developed Land; Sealed Surface	N/A	N/A	0.00	This area includes the proposed building and associated hardstanding infrastructure. No condition is applicable.

Table 3.2. Summary of post-development habitats.

4. EVALUATION

4.1. The Principles of Evaluation

Biodiversity Net Gain – Good Practice Principle for Development

- 4.1.1. CIRIA, CIEEM and IEMA have developed principles of good practice to achieve Biodiversity Net Gain. These principles provide a framework that helps improve the UK's biodiversity by contributing towards strategic priorities to conserve and enhance nature through sustainable development. There are ten principles in total, and all principles must be applied together as one approach. The ten principles are set out below.
- 4.1.2. **Principle 1. Apply Mitigation Hierarchy.** Do everything possible to first avoid and then minimise impacts on biodiversity. Only as a last resort, and in agreement with external decision makers where possible, compensate for losses that cannot be avoided. If compensation for losses within the development footprint is not possible or does not generate the most benefits for nature conservation, then offset biodiversity losses by gains elsewhere.
- 4.1.3. **Principle 2. Avoid losing biodiversity that cannot be offset by gains elsewhere.** Avoid impacts on irreplaceable biodiversity; these impacts cannot be offset to achieve no net loss or net gain.
- 4.1.4. **Principle 3. Be inclusive and equitable.** Engage stakeholders early, and involve them in designing, implementing, monitoring and evaluating the approach to net gain. Achieve Net Gain in partnership with stakeholders where possible and share the benefits fairly among stakeholders.
- 4.1.5. **Principle 4. Address risks.** Mitigate difficulty, uncertainty and other risks to achieving Net Gain. Apply well accepted ways to add contingency when calculating biodiversity losses and gains in order to account for any remaining risks, as well as to compensate for the time between the losses occurring and the gains being fully realised.
- 4.1.6. **Principle 5. Make a measurable net gain contribution.** Achieve a measurable, overall gain for biodiversity and the services ecosystems provide while directly contributing towards nature conservation priorities.
- 4.1.7. **Principle 6. Achieve the best outcomes for biodiversity.** Achieve the best outcomes for biodiversity by using robust, credible evidence and local knowledge to make clearly justified choices when:
 - Delivering compensation that is ecologically equivalent in type, amount and condition, and that accounts for the location and timing of biodiversity losses.
 - Compensating for losses of one type of biodiversity by providing a different type that delivers greater benefits for nature conservation.
 - Achieving net gain locally to the development while also contributing towards nature conservation priorities at local, regional and national levels.
 - Enhancing existing or creating new habitat.

- Enhancing ecological connectivity by creating more, bigger, better and joined areas for biodiversity.
- 4.1.8. **Principle 7. Be additional.** Achieve nature conservation outcomes that demonstrably exceed existing obligations (i.e. do not deliver something that would occur anyway).
- 4.1.9. **Principle 8. Create a net gain legacy.** Ensure net gain generates long-term benefits by:
 - Engaging stakeholders and jointly agreeing practical solutions that secure net gain in perpetuity.
 - Planning for adaptive management and securing dedicated funding for long-term management.
 - Designing net gain for biodiversity to be resilient to external factors, especially climate change.
 - Mitigating risks from other land uses.
 - Avoiding displacing harmful activities from one location to another.
 - Supporting local-level management of net gain activities.
- 4.1.10. **Principle 9. Optimise sustainability.** Prioritise Biodiversity Net Gain and, where possible, optimise the wider environmental benefits for a sustainable society and economy.
- 4.1.11. **Principle 10. Be transparent.** Communicate all net gain activities in a transparent and timely manner, sharing the learning with all stakeholders.

Lawton's Principle

- 4.1.12. Principles for enhancing England's wildlife sites were developed as part of the Lawton Review⁵. Across the UK, these principles can be used to design Biodiversity Net Gain activities to boost wildlife sites. They are:
 - Improving the quality of wildlife sites;
 - Increasing the size of the wildlife sites;
 - Enhancing connections between, or joining up wildlife sites;
 - Creating new wildlife sites; and
 - Reducing pressure on wildlife sites.

4.2. **Post-Development Evaluation**

- 4.2.1. The site's contribution to Biodiversity Net Gain has been assessed with due regard to the principles outlined and discussed above.
- 4.2.2. The landscape strategy includes a variety of habitats including native tree planting, amenity lawn, rain gardens and biodiverse green roof establishment. In addition, ornamental shrubs and non-native trees will be planted associated with the new building and hardstanding surfaces.
- 4.2.3. Created habitats as described above will be ecologically diverse through stringent management. Further enhancements and safeguards will be

⁵ Department for Environment, Food and Rural Affairs (2010). *Making Space for Nature: A Review of England's Wildlife Sites*, DEFRA.

implemented and detailed in a long-term Landscape Ecology Management Plan⁶ (LEMP) to ensure delivery of biodiversity gains.

- 4.2.4. Overall, when based against the Biodiversity Metric version 4.0, the site exceeds the recommended 10% net gain as stated in the Environment Act.
- 4.2.5. Wording of Policy G2 of the Oxford Local Plan states that *"the biodiversity calculator should demonstrate an improvement of 5% or more from the existing situation".* Overall, the above current measures exceed the required net gain threshold for the proposed development.

Baseline	Habitat Units	6.18
	Hedgerow Units	0.00
Post-intervention	Habitat Units	10.53
	Hedgerow Units 0.00	
Total Net Unit Change	Habitat Units	+4.35
	Hedgerow Units	0.00
Total Net Percentage	Habitat Units	+70.35%
Change	Hedgerow Units	N/A

 Table 4.1. Summary of Biodiversity Net Gain results.

⁶ Ecology Solutions (January 2024) Plot 4200, ARC Oxford. Landscape and Ecological Management Plan. Ref:

^{11800.}LEMP.vf

5. LEGISLATION AND POLICY CONTEXT

5.1. The planning policy framework that relates to Biodiversity Net Gains at the site is issued nationally through the National Planning Policy Framework (NPPF), and locally through the Oxford Local Plan.

5.2. National Policy

National Planning Policy Framework (December 2023)

- 5.2.1. Guidance on national policy for Biodiversity Net Gain is provided by the NPPF, published in March 2012, revised on 24 July 2018, 19 February 2019, July 2021, 5 September 2023 and again on 20 December 2023. The following sections of the policy relate to Biodiversity Net Gain:
- 5.2.2. Paragraph 180(d) states that planning policies and decisions should contribute to and enhance the natural and local environment by minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current future pressures.
- 5.2.3. Paragraph 185(b) states that to protect and enhance biodiversity and geodiversity, plans should promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and purse opportunities for securing measurable net gains for biodiversity.
- 5.2.4. Paragraph 186(d) states that when determining planning application, local planning authorities should apply the following principle: development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

5.3. Local Policy

Oxford Local Plan 2016-2036 (adopted June 2020).

- 5.3.1. The adopted local plan has one policy relating to Biodiversity Net Gain, as summarised below.
- 5.3.2. **Policy G2: Protection of biodiversity and geo-diversity** is concerned with development that is to have an adverse impact on a site of biodiversity or geodiversity importance, particularly regarding sites that may have an impact on sites of national importance (SAC's SSSI's). Where development is permitted and likely to cause harm, proposals must include measures that minimise harm and provide mitigation and enhancements to the nature conservation value of the Site. The policy further states that "the biodiversity calculator should demonstrate an improvement of 5% or more from the existing situation".

5.4. Environment Act 2021

5.4.1. The Act details a legal requirement for all developments to ensure that a minimum of 10% net gain in Biodiversity is delivered. While Section 6 of the Environment Act states that a Biodiversity Net Gain is required for new developments, this is not a mandatory requirement until such time as the Secretary of State adopts a regulation determining it so; this is will now come into effect on 12th February 2024

6. SUMMARY AND CONCLUSIONS

- 6.1. Ecology Solutions was commissioned by ARC to establish that the proposed development delivers a long-term net gain for biodiversity, through the application of the Biodiversity Metric version 4.0 Calculation Tool.
- 6.2. The site is subject to a planning application for the demolition of seven existing buildings, and construction of a single larger building, together with associated car parking and landscaping including a large biodiverse roof.
- 6.3. The Biodiversity Metric 4.0 was used to calculate the pre-development baseline units. Overall, the proposed scheme will result in a total net unit change of +4.35 habitat units. This results in an increase of +70.35% from pre- to post-development.
- 6.4. The landscape strategy includes a variety of habitats including native tree planting, amenity lawn and ornamental shrub and biodiverse green roof planting.
- 6.5. Overall, when based against the Biodiversity Metric version 4.0, the site will deliver significantly greater gains than the requirement to provide a simple 'net gain' stipulated by the NPPF, the 5% required locally by Oxford City Council, and the 10% soon to be made mandatory by the Environment Act.

PLANS

PLAN ECO1

Site Location



Based upon the Ordnance Survey map with permission of the Controller of His Majesty's Stationery Office, © Crown Copyright. Ecology Solutions Ltd, Cokenach Estate, Barkway, Royston, Hertfordshire, SG8 BDL. 100044628

PLAN ECO2

Baseline Habitats





PLAN ECO3

Post-Development Habitats

Proposed Habitat (on site)
Introduced Shrub
Modified Grassland
Rain Garden
Biodiverse Green Roof
Individual Trees (urban)
0.018 0.036 km



APPENDICES

APPENDIX 1

Macgregor Smith Biodiversity – Existing Areas (Drawing Number: 1389-SK001 Rev: A)



This drawing is protected by copyright. Contractors must check all dimensions on site.	Only figure dimensions are to be worked fror
Discrepancies must be reported to landscape architect before proceeding.	

Drawing 1389-S

 JOHN SMITH DRIV 	<u>-</u>	

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.00 xford	Drawn by	HW
	Checked by	LP
ersity - Exisiting Areas	Scale	1:500@A3
SK001	Revision	А

APPENDIX 2

Macgregor Smith Landscape General Arrangement Plan (Drawing Number: 1389-001 Rev: P3)



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Project	Plot 4200 ARC Oxford	Drawn by	нw
Status	Draft Planning	Checked by	LP
Title	Landscape General Arrangement Plan	Scale	1:250@A1
Drawing	1389-001	Revision	P3

APPENDIX 3

Macgregor Smith Planting Plan – Ground Level (1 of 2) (Drawing Number: 1389-201 Rev: P3)



	Key		
	Application Boundary		
			Planting Mix 4 - Plot entrances
	Existing tree retained		l otal area: //4m-
	Refer to Arboricultural Survey.		Feature Specimens
)	Proposed semi mature tree		Hydrangea 'Little Lime' (15 litre plant)
- -	Deserved Multisters Consistence		Cornus alba 'Sibirica' (15 litre plant)
)	Proposed Multistem Specimens		Groundcover Laver
			2 litre plants at density of 6 no. per m ² in a
2.1	Amenity lawn		random mix
1	Total area: 633m ²		5% Carex testacea
	Tiller's 'Arena' turf		10% Prunus zabeliana
			10% Rosa 'Kent'
+	Planting Mix 1 - Rain Garden		20% Sesleria autumnalis
	Total area: 98m²		Seasonal Change Laver
	Feature Specimens		2 litre plants at density of 6 no. per m ² in a
	Amelanchier lamarkii (15 litre plant)		random mix
	Rodgersia aesculifolia (15 litre plant)		5% Achillea 'Terracotta'
	Conversion of the second		5% Geum 'Mai Thai'
	2 litre plants at density of 6 no. per m ² in a		5% Liatris spicata
	random mix		5% Perovskia 'Little Spire'
	5% Dryopteris filix-mas		10% Salvia nemorosa 'Caradonna' 5% Verbena bonariensis
	10% Luzula nivea 10% Molinia 'Moorbexe'		She Verbena bonanensis
	10% Polystichum setiferum	000000	Planting Mix 5 - Western boundary
	15% Sesleria autumnalis	64444	Total area: 380m²
	Conservation and a service		3 litre shrubs at density of 3 no. per m ²
	2 litre plants at density of 6 no. per m ² in a		2 litre ferns and grasses at density of 6 no.
	random mix		per m²
	5% Anemanthele lessioniana		15% Cornus alba 'Sibirica'
	5% Anemone x hybrida 'Honorine Jobert' 5% Astrantia White Giant'		20% Luzula sylvatica
	10% Calamagrostis 'Karl Foerster'		10% Polystichum munitum
	10% Calamagrostis brachytricha		25% Pyracantha 'Saphyr Red'
	10% Rudbeckia fulgida var. deamii		20% Miscanthus Abundance
	5% Sanguisorba Tanna	2352	Planting Mix 6 - Enhanced public footpath
11	Planting Mix 2 - Shade-tolerant car park	2322	Total area: 219m²
77.	beds		Fastura Sassimona
	Total area: 536m²		Dryopteris affinis 'Cristata' (5 litre plant)
	Groundcover layer		Hydrangea 'Little Lime' (15 litre plant)
	2 litre plants at density of 6 no. per m ² in a		
	random mix		Groundcover Layer
	10% Hakonechloa macra		random mix
	5% Heuchera 'Autumn Bride'		10% Hakonechloa macra
	10% Polystichum setiferum		10% Polystichum setiferum
	10% Melica unifiora albida 15% Sesleria autumpalis		10% Prunus Low n Green 25% Sesleria autumnalis
	Seasonal Change Layer		Seasonal Change Layer
	2 litre plants at density of 6 no. per m ² in a		2 litre plants at density of 7 no. per m ² in a
	5% Anemone 'Honorine Jobert'		5% Achillea 'Terracotta'
	5% Anemanthele lessoniana		15% Calamagrostis 'Karl Foerster'
	5% Astrantia 'Large White'		5% Geum 'Mai Thai'
	5% Dryopteris filix-mas 15% Molinia 'Moorbeve'		10% Salvia Caradonna 10% Verbena bonariensis
	10% Sedum 'Matrona'		
			Proposed hedge
11	Planting Mix 3 – Car park finger beds and		65 l/m
	Total area: 151m ²		Taxus baccata 1.2m height, rootballed, planted
	Course de surse la surse		@ 3 no / linear metre, in a double staggered
	aroundcover layer 2 litre plants at density of 6 no. per m² in a		row
	random mix		
	55% Sesleria autumnalis		

Seasonal Change Layer 2 litre plants at density of 6 no. per m² in a random mix 15% Polystichum setiferum 15% Molinia Moorhexe' 15% Sedum 'Matrona'

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Project	Plot 4200 ARC Oxford	Drawn by	QZ
Status	Draft Planning	Checked by	LP
Title	Planting Plan - Ground Level 1 of 2	Scale	1:250@A1
Drawing	1389-201	Revision	P3

APPENDIX 4

Macgregor Smith Planting Plan – Ground Level (2 of 2) (Drawing Number: 1389-202 Rev: P3)



	110)				
	Applica	ation Boundary			
			// //	Plant	ing Mix 4 - Plot entrances
	Existin	g tree retained	/ // /.	Iotai	area: //4m-
	Refer to	Arboricultural Survey.		Featu	ire Specimens
)	Propos	ed semi mature tree		Hydra	angea 'Little Lime' (15 litre plant)
5				Cornu	<i>us alba</i> 'Sibirica' (15 litre plant)
)	Propos	ed Multistem Specimens		Grou	ndcover Laver
				2 litre	plants at density of 6 no. per m² in a
2.9	Amenit	ty Jawn		rando	om mix
23	Total a	rea: 633m²		5%	Carex testacea
	Tiller's '	Arena' turf		10%	Polystichum setiferum
				10%	Prunus zabellana Rosa 'Kent'
_	Plantin	a Mix 1 - Roin Gordon		20%	Sesleria autumnalis
+	Total a	rea: 98m²			
				Seaso	onal Change Layer
	Feature	Specimens		2 litre	e plants at density of 6 no. per m² in a
	Amelan	chier lamarkii (15 litre plant)		rando	Achilles 'Terresette'
	Rodger	sia aesculifolia (15 litre plant)		10%	Calamagrostis 'Karl Ecoreter'
	C			5%	Geum 'Mai Thai'
	2 litre r	plants at density of 6 no ner m² in a		5%	Liatris spicata
	randon	n mix		5%	Perovskia 'Little Spire'
	5%	Dryopteris filix-mas		10%	Salvia nemorosa 'Caradonna'
	10%	Luzula nivea		5%	Verbena bonariensis
	10%	Molinia 'Moorhexe'	P - A	Diant	ing Mix 5 - Western boundary
	10%	Polystichum setiferum	000000	Total	area: 380m ²
	10%	Sesieria automnans			
	Season	al Change Layer		3 litre	e shrubs at density of 3 no. per m ²
	2 litre p	plants at density of 6 no. per m² in a		2 litre	e ferns and grasses at density of 6 no.
	randon	n mix		per m	1 ²
	5%	Anemanthele lessioniana		15%	Cornus alba Sibirica Driventeria filiy, maa
	5%	Anemone x hybrida 'Honorine Jobert'		20%	Luzula sylvatica
	5% 10%	Astrantia White Glant		10%	Polystichum munitum
	10%	Calamagrostis hrachytricha		25%	Pyracantha 'Saphyr Red'
	10%	Rudbeckia fulgida var. deamii		20%	Miscanthus 'Abundance'
	5%	Sanguisorba 'Tanna'		-	
			52522	Plant	ing Mix 6 – Enhanced public footpath
1/1	Plantin	g Mix 2 – Shade-tolerant car park	5/67	TULA	area. 215111
<u> </u>	Total a	rea: 536m²		Featu	ire Specimens
	. otai a			Dryop	oteris affinis 'Cristata' (5 litre plant)
	Ground	lcover layer		Hydra	angea 'Little Lime' (15 litre plant)
	2 litre p	plants at density of 6 no. per m² in a			
	randon	n mix Aeologium agologogdrium		Grou	ndcover Layer
	10%	Aspienium scolopenanum Hakonechloa macra		rando	plants at density of 7 no. per m- in a
	5%	Heuchera 'Autumn Bride'		10%	Hakonechloa macra
	10%	Polystichum setiferum		10%	Polystichum setiferum
	10%	Melica uniflora albida		10%	Prunus 'Low 'n' Green'
	15%	Sesleria autumnalis		25%	Sesleria autumnalis
	Season	al Change Laver		Saac	anal Change Laver
	2 litre r	plants at density of 6 no. per m ² in a		2 litre	plants at density of 7 no. per m ² in a
	randon	n mix		rando	om mix
	5%	Anemone 'Honorine Jobert'		5%	Achillea 'Terracotta'
	5%	Anemanthele lessoniana		15%	Calamagrostis 'Karl Foerster'
	5%	Astrantia 'Large White'		5%	Geum 'Mai Thai'
	5% 15%	Uryopteris filix-mas Molinia 'Moorbeve'		10%	Saivia Caradonna Verbena bonariensis
	10%	Sedum 'Matrona'		1076	
				Propo	osed hedge
el. 1/2	Plantin	g Mix 3 – Car park finger beds and		65 l/r	n
10	border	S		-	
	i otal a	rea. ISIIII		Taxus	baccata I.2m height, rootballed, planted
	Ground	icover layer		@ 3 n	o / inear metre, in a double staggered
	2 litre p	plants at density of 6 no. per m ² in a		1.000	
	randon	n mix			
	55%	sesieria autumnalis			

Seasonal Change Layer 2 litre plants at density of 6 no. per m² in a random mix 15% Polystichum setiferum 15% Molinia Moorhexe' 15% Sedum 'Matrona'

Macgr	regor Smith	www.m hello@m	nacgregorsmith.co.uk Ol225 464 690 nacgregorsmith.co.uk
Project	Plot 4200 ARC Oxford	Drawn by	QZ
Status	Draft Planning	Checked by	LP
Title	Planting Plan - Ground Level 2 of 2	Scale	1:250@A1
Drawing	1389-202	Revision	P3

APPENDIX 5

Macgregor Smith Planting Plan – Roof Level (Drawing Number: 1389-203 Rev: P3)



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This drawing is protected by copyright. Contractors must check all dimensions on site. Only figure dimensions are to be w Discrepancies must be reported to landscape architect before proceeding.

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25m

Macgr	egor Smith	www.macgregorsmith.co.uk 01225 464 690 hello@macgregorsmith.co.uk		
Project	Plot 4200 ARC Oxford	Drawn by	QZ	
Status	Draft Planning	Checked by	LP	
Title	Planting Plan - Roof Level	Scale	1:250@A1	
Drawing	1389-203	Revision	P3	



ECOLOGYSOLUTIONS

Part of the ES Group

Ecology Solutions Limited | Cokenach Estate | Barkway | Royston | Hertfordshire | SG8 8DL

01763 848084 | east@ecologysolutions.co.uk | www.ecologysolutions.co.uk