

SuDS

Permeable paving combined in places, with bioretention tree pits, and a series of SuDS features across the site provide some surface water mitigation. In addition, a series of shallow swales in both the courtyards and in public green areas provide local mitigation.

Despite the scale of proposed green open space existing tree roots create considerable constraints. The extension of the Peace Garden to the south, created through demolition of an existing building thus creates the best opportunity for SuDS on the site. The retention basins proposed here are 'offline' and only in use during storm conditions. This feature will be used primarily as a play space.

Surface water drainage connects to an existing surface water sewer under St Ann's Road in the north west corner of the site. Ground levels in the southeast corner of the site are consequently raised to facilitate drainage. This also provides an opportunity to create flood retention basins and associated habitats, also 'offline' within RMA1.



Extent of permeable paving

- Bioretention Tree Pits
- SuDS Swale Retention Basins
- Rain Gardens
- Permeable Paving
- Footway



SuDS Planting

Various typologies of SuDS planting will be incorporated across the site ranging from naturalistic wet grassland and wooded swales to smaller street raingardens. All planting within the SuDS features will use species that cope well with seasonal fluctuations in moisture levels, both drought and inundation.

Swales and raingardens within the public realm and courtyards will utilise textural and naturalistic planting to form a characterful setting, utilising robust planting palettes. A new naturalistic swale feature within the extended SINC area will create an ecotone condition to the existing woodland edge.

Street trees will feature bioretention tree pits planted with robust tree species, such as *Alnus incana*.

Key:

1. Wet grassland bioswales (SINC)
2. Wooded bioswales
3. Raingardens in courtyards
4. Bioretention tree pits



1. Wet grassland bioswales



2. Wooded bioswales



3. Raingardens in courtyards



4. Bioretention tree pits



Prunus padus



Alnus glutinosa



Corylus avellana



Alnus incana



Wet meadow mix



Lychnis flos-cuculi



Fritillaria meleagris



Dryopteris filix-mas



Polystichum setiferum



Helleborus foetidus



Iris pseudacorus



Juncus effusus



Carex pendula



Symphyotrichum
'Little Carlow'



Narcissus
pseudonarcissus



Rudbeckia
'Goldsturm'

Urban Greening Factor & Biodiversity Net Gain

The London Plan policy G5 requires that major development proposals should contribute to the greening of London by including urban greening from the outset of the development design process. As set out in the design codes the UGF and BNG metrics are calculated across the whole masterplan site. A score of 0.414 has been calculated which includes RMA1, and the approved detailed Phase 1A and the illustrative masterplan. This exceeds the 0.4 recommended by the GLA for predominantly residential projects.

In order to be compliant with the emerging policy, stating that developers are required to demonstrate measurable net gain as part of new development, a Biodiversity Net Gain Metric 3.0 has been undertaken for the proposed development by Middlemarch. This shows that the proposals have capacity to deliver substantial biodiversity net gain which exceeds the 10% recommendation.

Key:

- Flower-rich planting
Area: 862m²

Groundcover planting
Area: 2219m²

Hedges & shrub mixes
Area: 1565m²

Lawns
Area: 4250m²

Grasslands
Area: 4474m²

Defensible planting (shrubs)
Area: 772m²

Raingardens
Area: 1145m²

Bioswales
Area: 1277m²
- SINC Woodland (new)
Area: 302m²

SINC Woodland (retained)
Area: 2997m²

Green roofs (intensive)
Area: 329m²

Green roofs on tall blocks
Intensive green roofs: 6058m²
(40% total tall blocks roof area)
Extensive green roofs: 756m²
(5% total tall blocks roof area)

Private gardens
(not included in UGF calculation)

Permeable paving
Area: 11622m²

Mature hedgerow (retained)
Area: 137m²
- Existing trees
Area: 4155m²

New trees (large; 25m² per tree)
Total number: 131
Total canopy area: 3275m²

New trees (medium; 10m² per tree)
Total number: 216
Total canopy area: 2160m²

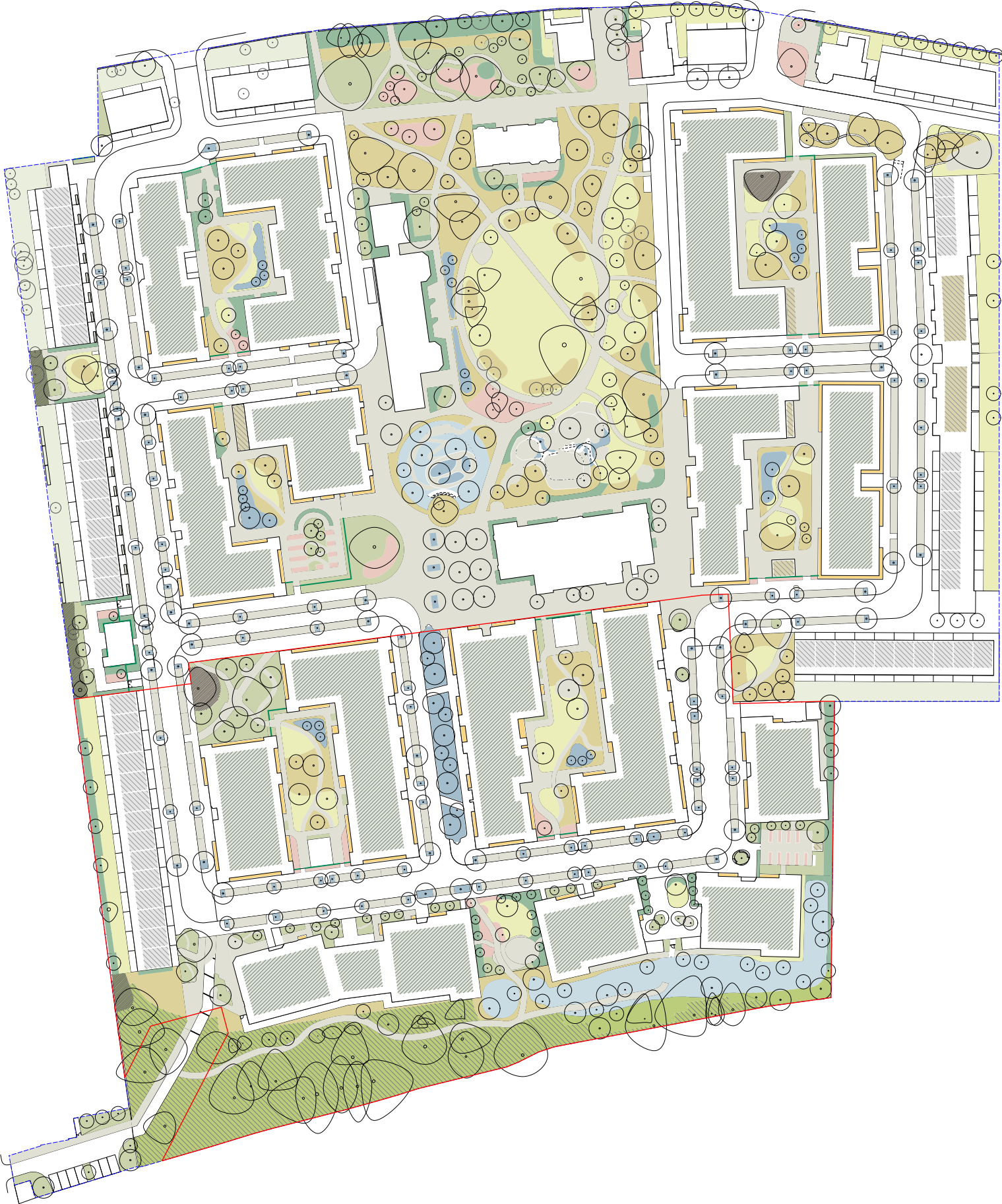
New trees (small; 4m² per tree)
Total number: 79
Total canopy area: 316m²

Bark mulch over hi-vis membrane
(not included in UGF calculation)

Vertical planting (2m height)
Area: 340m²

Site boundary of hybrid planning application

Site boundary of Phase 1B & 2 application



URBAN GREENING FACTOR				
	Surface Cover Type	Factor Value	Area sqm	NOTES
A	Semi-natural vegetation (e.g. woodland, flower-rich grassland) created on site.	1	9232	inc. existing SINC woodland, new SINC habitats, native hedgerows, bioswales and grasslands
B	Wetland or open water (semi-natural; not chlorinated) created on site.	1	0	
C	Intensive green roof or vegetation over structure. Vegetated sections only. Substrate minimum settled depth of 150mm – see livingroofs.org for descriptions.	0.8	6377	40% of total roof area on blocks and areas as shown on plans on terraced building roofs and small structures
D	Standard trees planted in natural soils or in connected tree pits with a minimum soil volume equivalent to at least two thirds of the projected canopy area of the mature tree – see Trees in Hard Landscapes for overview.	0.8	9556	inc. existing retained tree canopy cover (excluding trees within SINC) and proposed tree canopy cover, allowance of 25m² canopy area per large tree, 10m² per medium tree and 4m² per small tree
E	Extensive green roof with substrate of minimum settled depth of 80mm (or 60mm beneath vegetation blanket) – meets the requirements of GRO Code 2014.	0.7	756	5% of total roof area on blocks
F	Flower-rich perennial planting – see Centre for Designed Ecology for case-studies.	0.7	862	as shown on UGF plan
G	Rain gardens and other vegetated sustainable drainage elements – See CIRIA for case-studies.	0.7	1145	inc. planted swales, raingardens and planted bioretention tree pits
H	Hedges (line of mature shrubs one or two shrubs wide) – see RHS for guidance.	0.6	2337	inc. existing and new hedges, including defensible planting
I	Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree.	0.6	350	allowance for 10 large trees (25m²) and 10 (10m²) medium
J	Green wall – modular system or climbers rooted in soil – see NBS Guide to Façade Greening for overview.	0.6	340	inc. climbing plants to courtyard fencing
K	Groundcover planting – see RHS Groundcover Plants for overview.	0.5	2219	as shown on UGF plan
L	Amenity grassland (species-poor, regularly mown lawn).	0.4	4250	all amenity lawns as shown on plans
M	Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2014I.	0.3	0	
N	Water features (chlorinated) or unplanted detention basins.	0.2	0	
O	Permeable paving - see CIRIA for overview.	0.1	11622	as shown on UGF plan
P	Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0	40125	

Total project area: 71792
UGF value: 0.414

Urban Greening Factor Calculation
area 0.413700691

Urban Greening Factor Table

St Anns New Neighbourhood (Phases 1A, 1B, 2 and

Headline Results

Return to results menu

On-site baseline	Habitat units	19.68
	Hedgerow units	0.37
	River units	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	22.49
	Hedgerow units	1.17
	River units	0.00
On-site net % change (Including habitat retention, creation & enhancement)	Habitat units	14.29%
	Hedgerow units	214.99%
	River units	0.00%
Off-site baseline	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	2.81
	Hedgerow units	0.80
	River units	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	14.29%
	Hedgerow units	214.99%
	River units	0.00%

Biodiversity Net Gain Headline Results
Refer to Appendix 3 RT-MME-159856-01 Biodiversity Metric 3.0
St Anns New Neighbourhood (All Phases)
Middlemarch Ecology Consultants, November 2023

2.8 Soft Landscape

Edible Planting

Food growing and edible planting form a key part of the Scheme across the site, and will take shape both through formal and informal provision.

Growing areas featuring raised beds for the community to grow vegetables will be incorporated into the courtyards. More informally, fruiting and berrying trees, soft fruit shrubs and edible groundcover planting will be integrated throughout the landscape, giving foraging opportunities both for people and wildlife. Several orchards will be also be established across the site which will integrate existing mature fruiting trees as well as newly planted orchard tree species within a meadow setting. In Phase1B&2 the focus is on the courtyards or the spaces between the villas.

Key:

- 1 Growing Hub: Secure community space for compost production / tool storage
- 2 Forest Garden: Fruit and nut trees with an edible understorey
- 3 Residential Courtyards: Raised beds for food growing and fruit trees



1. Growing hub



Ficus carica



Rubus idaeus



Allium
schoenoprasum



Sambucus nigra



2. Forest Garden



Sorbus aucuparia



Corylus avellana
'Webb's Prize Cob'



Allium ursinum



Rheum rhabarbarum



3. Residential Courtyards



Juglans regia



Fragaria vesca



Allium tripedale



Rosmarinus officinalis

Tree Pit Construction

It is important to ensure that all newly planted trees are given a sufficient rooting volume in order for them to be able to develop to their full potential. The rooting volume will therefore be adapted to suit the mature size of the tree. Where a large tree pit is not possible, a smaller tree species will be selected instead.

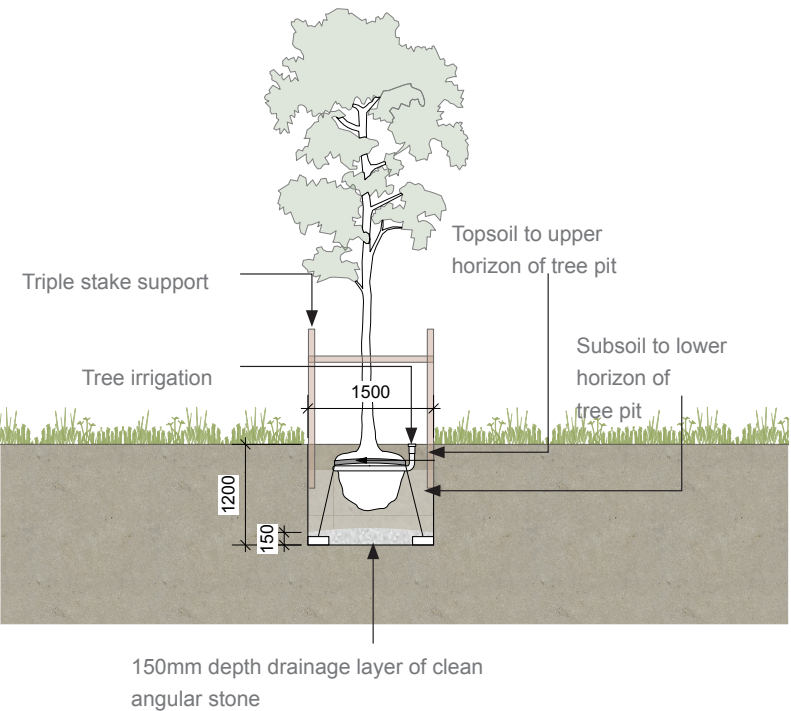
The majority of trees will be positioned within soft landscaping, which will create optimal conditions for good root and canopy development. Trees in hard landscaping will be provided with loadbearing soil crate systems, to ensure that the required good quality rooting volume is achieved without over-competition of rootzone.

All trees will be provided with staking or underground guying as well as irrigation and aeration systems as required to secure their health in the long term.

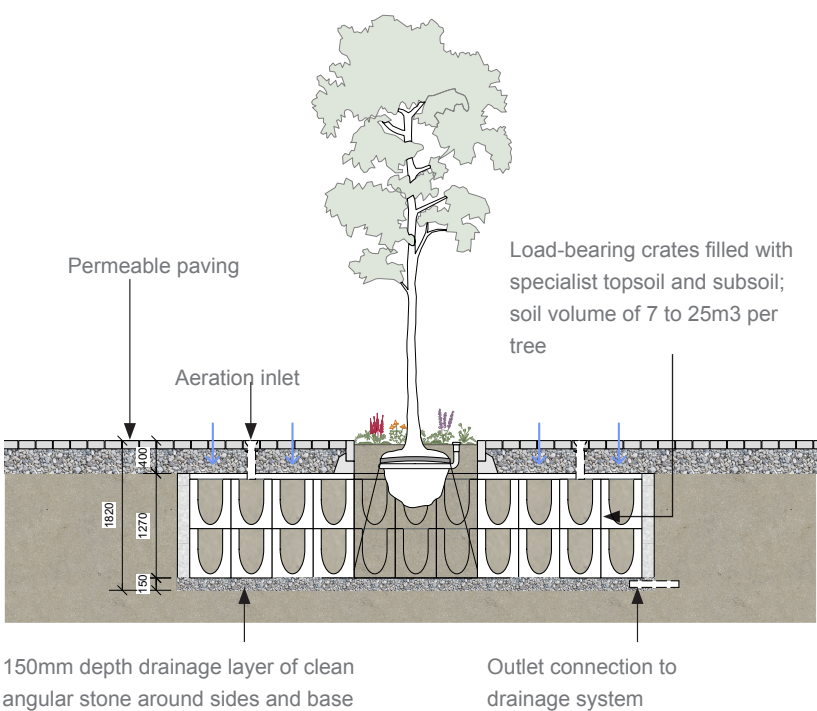
Tree pit volume vs. mature tree size:



Typical tree pit detail:
Tree pit in soft



Typical tree pit detail:
Bioretention tree pit in hard landscape



Typical tree pit detail:
Connected tree pit in hard landscape

