Climate-Change Adapted Podium Landscape at The Barbican

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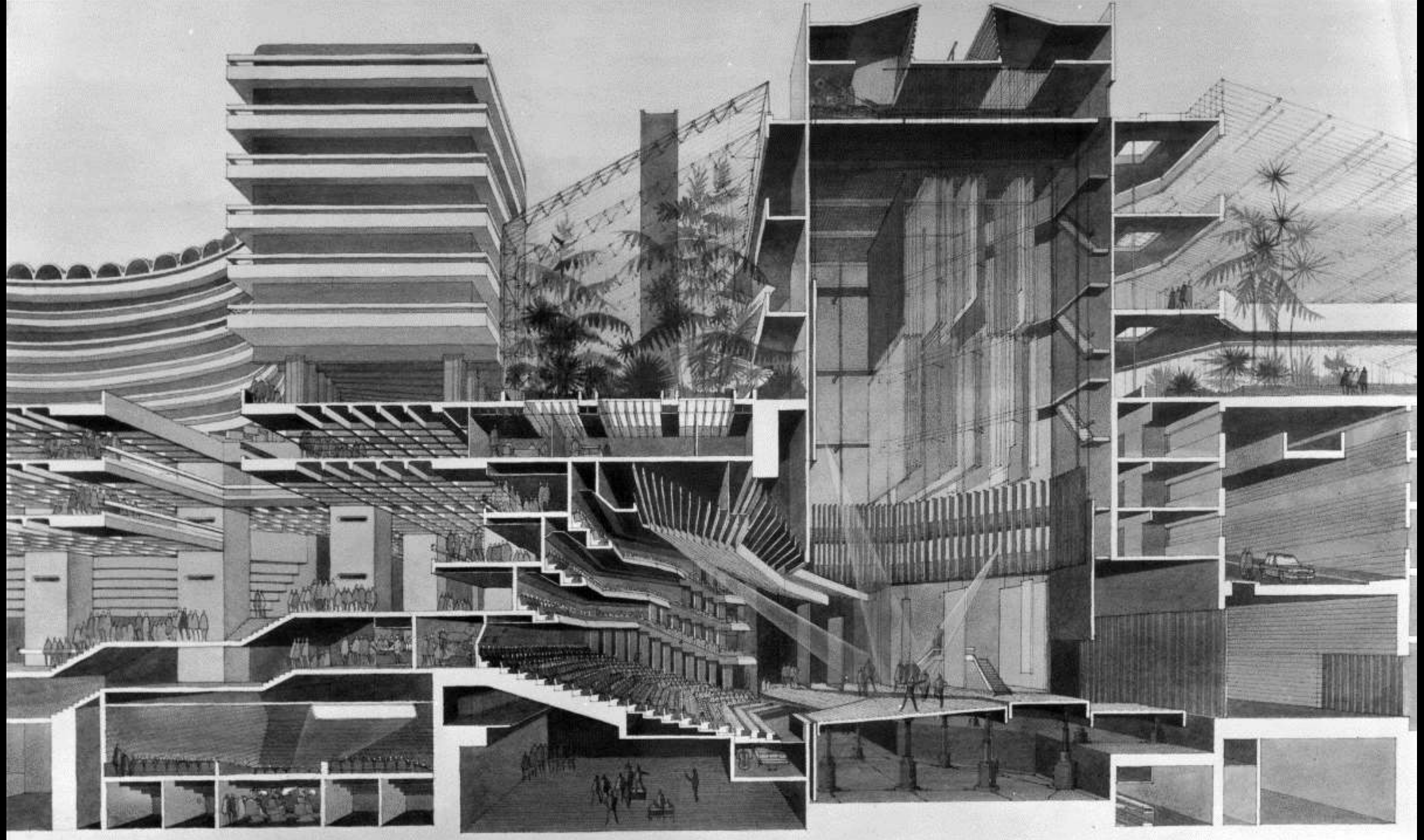

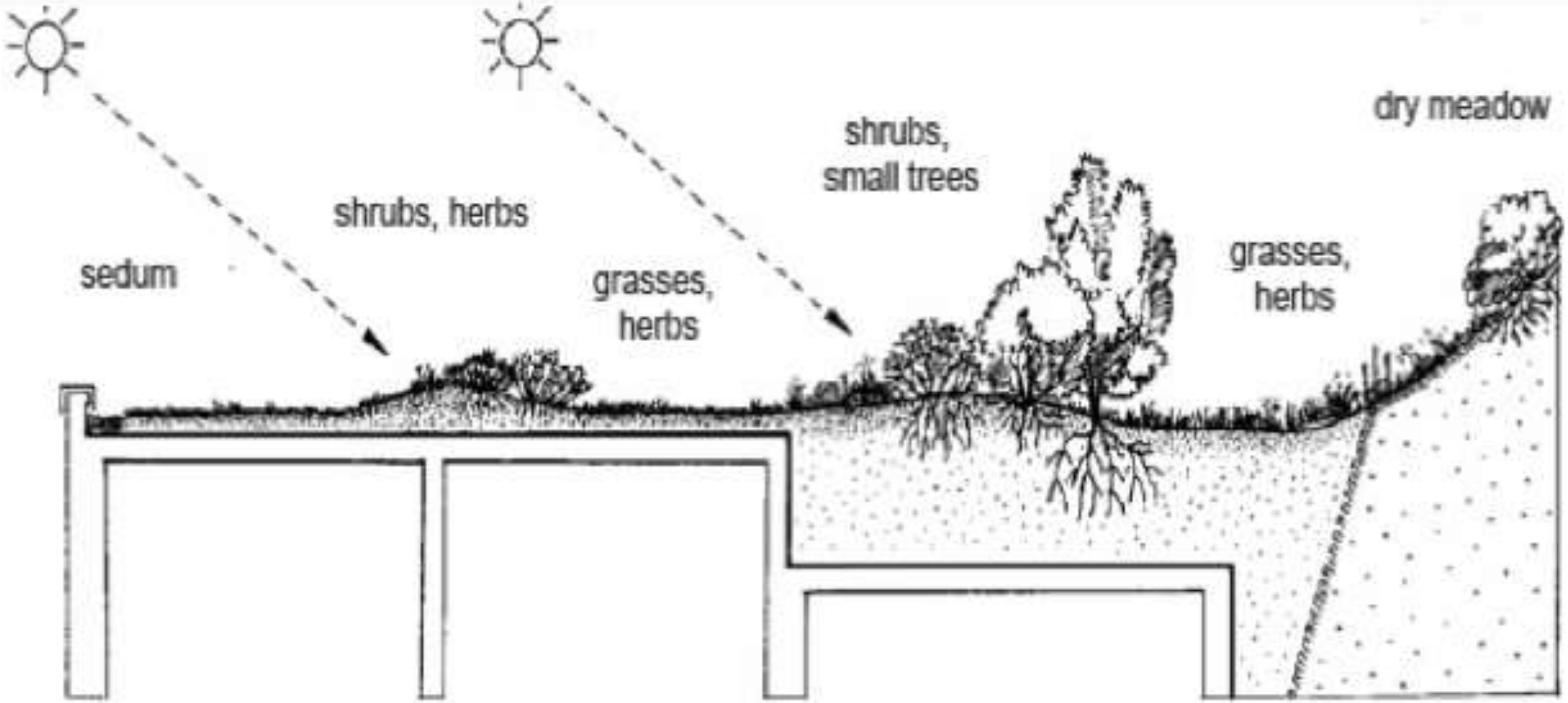

Vegetation types on different micro habitats on roofs. Source: Krupka, B. 1992

Extensive Consultation with Residents and Stakeholders

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Trees and Shrubs

Spring and Summer
Bedding

No ‘brown’
landscape in winter

Extensive Consultation with Residents and Stakeholders

Trees and Shrubs

Birds and Wildlife Enclosure

Spring and Summer Bedding

Colour and interest all year

No ‘brown’ landscape in winter

Use of evergreens and multi-stem shrubs

Main Design Concepts

- No automatic irrigation. Hand watering in extreme dry periods only. ‘Climate-Change Adapted’
- Diverse, naturalistic plantings, as a contrast (and complement) to the extreme architecture
- Dramatic Flowering impact from spring to autumn with ‘waves of colour’ erupting across the whole site
- Use of evergreen perennials, seedheads and strong forms for winter interest
- Overwhelming, immersive experience of being in nature

	Extensive Green Roof	Semi-Intensive Green Roof	Intensive Green Roof
Maintenance	Low	Periodically	High
Irrigation	No	Periodically	Regularly
Plant communities	Moss-Sedum-Herbs and Grasses	Grass-Herbs and Shrubs	Lawn or Perennials, Shrubs and Trees
System build-up height	60 - 200 mm	120 - 250 mm	150 - 400 mm on underground garages > 1000 mm
Weight	60 - 150 kg/m^2 13 -30 lb/sqft	120 - 200 kg/m^2 25 - 40 lb/sqft	180 - 500 kg/m^2 35 - 100 lb/sqft
Costs	Low	Middle	High
Use	Ecological protection layer	Designed Green Roof	Park like garden

Source: International Green Roofs Association

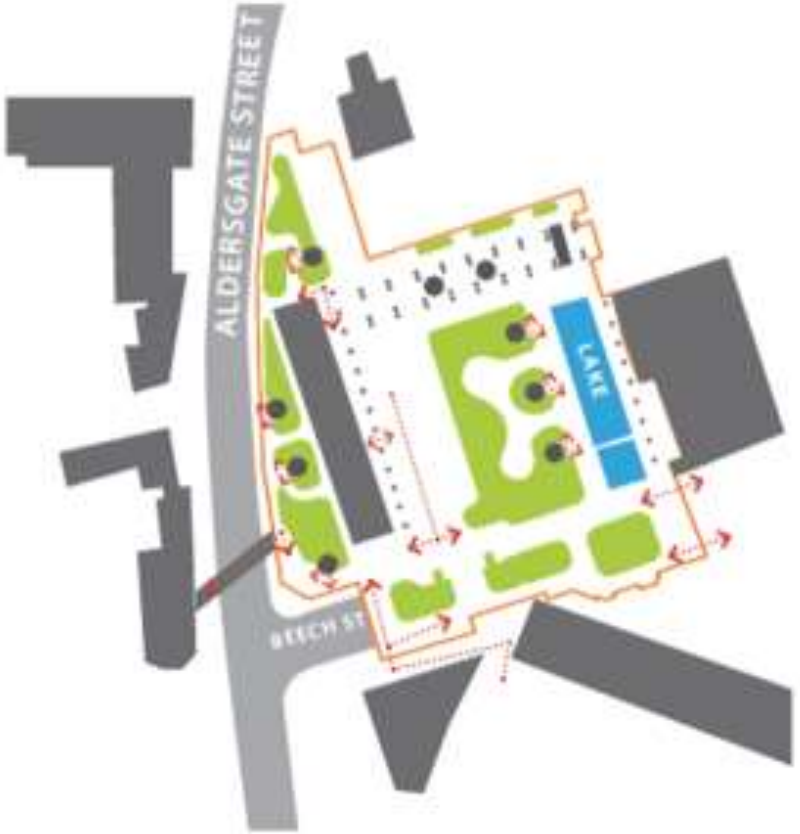
Steppe Grasslands

Adapted to very exposed conditions, very low rainfall, dry summers, cold winters, thin soils. Grassy matrix with bulbs (e.g Tulipa) and perennials

02 SITE ANALYSIS

Site Layout

The site consists of 13 no. planting beds ranging in size between 14m² and 910m².
The perimeter of the planting beds and style of the perimeter kerb will remain the same.

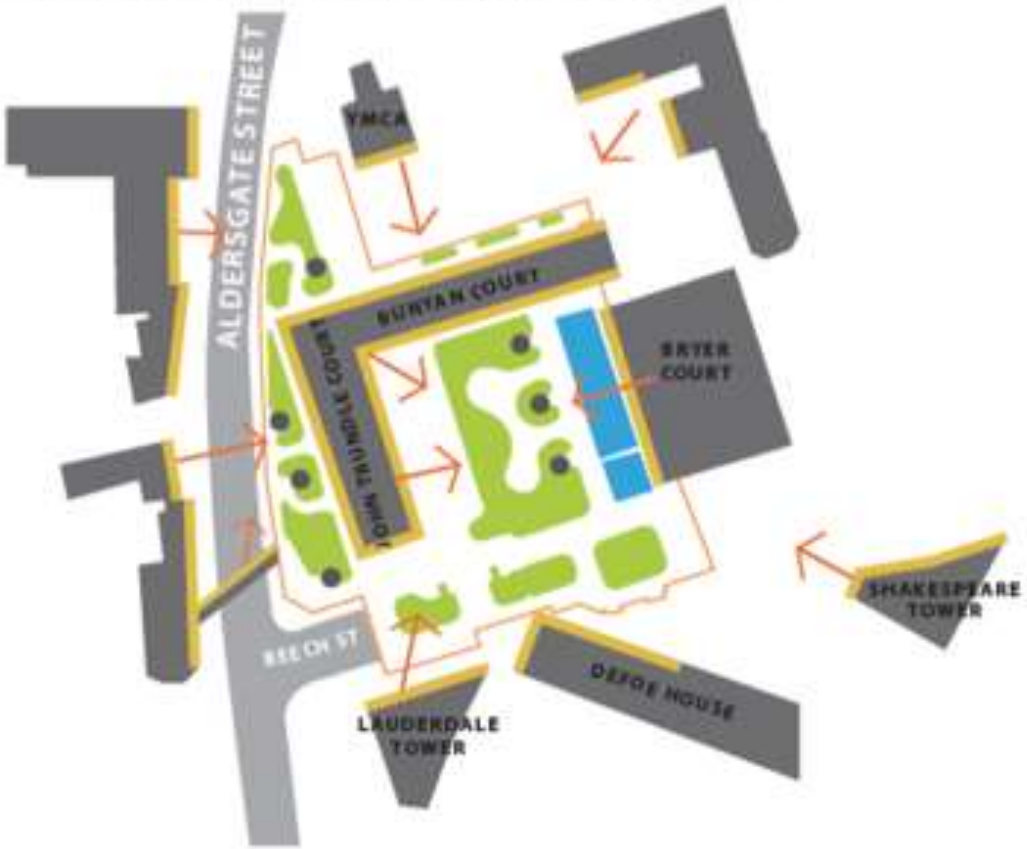


Garden areas

Circulation and Access

Views & Natural Surveillance

Beech Gardens are in a prominent position enclosed by a number of residential buildings including John Trundle Court, Bunyan Court and Bryer Court. These buildings enjoy views into the garden and provide natural surveillance. The high-rise residential Lauderdale and Shakespeare towers also both have views over the gardens.



Views

Frontages with views to the gardens

Shade Analysis:
1 June


1 June 0700


1 June 0900


1 June 1100


1 June 1300


1 June 1500


1 June 1700


1 June 1900


1 June 2100

1 December


1 December 0700


1 December 0900


1 December 1100


1 June 1300


1 December 1500


1 December 1700

04 DESIGN APPROACH

Zoning

We have used natural templates and models to apply different planting types that are suited to each of the identified planting zones within the site.

We are using clumps and individuals of mature multi-stemmed trees to give instant height, structure and maturity to the gardens. These trees will be anchored to survive the exposed conditions and have been selected particularly for their winter interest, and they are sited in the parts of the site that will support the deepest soil (substrate) depths. Multi-stem birch (*Betula jacquemontii*) are clustered in some of the more shady zones of the site, and will light up these darker areas, especially in the winter. Multi-stem Tibetan Cherry (*Prunus serrula*) has vibrant burnished mahogany brown bark that shines in the winter sun, and is situated in the more open sunny areas.

Landform is used to provide visual differentiation to the site, and to create differing growing conditions for different plants and plant mixes. The soil level is mounded and sculpted to create this differentiation, building up to the greater depths required for the trees.

The herbaceous or lower-level planting is divided into four different zones that reflect the sun/shade balance across the site. All have a naturalistic character that will provide for year-round visual interest and succession of colour highlights. These zones are:

Zone 1 - Sun Zone

These areas receive the greatest amount of sun throughout the day, and are in the most open and exposed areas. The plantings will be a designed version of 'steppe meadows' that naturally occur on thin soils in dry climates, and which are some of the most diverse vegetation types in the world. Beautiful grasses create a matrix amongst which a diverse mix of flowering perennials and bulbs will produce a long succession of colourful flowers.

Zone 2 - Woodland Edge

Plant mixes that will create an evergreen ground cover beneath the multi-stem trees, within which flowering perennials and bulbs will create long-season flowering displays. Focus on white and pale flowers to light up these shady zones.

Zone 3 - Half sun/half shade

These intermediate areas combine pockets of the sun zone plantings with the woodland edge plantings under the clumps of multi-stem trees.

Zone 4 - Deep Shade

These smaller planting areas are north facing and receive almost permanent shade. The beds will have coppiced Purple Filbert beneath which will be robust perennials and bulbs to provide flowering interest and seasonal cover.

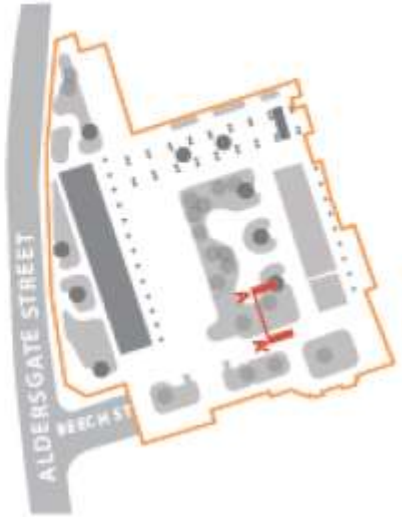
Diagram illustrating the proposed planting zones within Beech Gardens

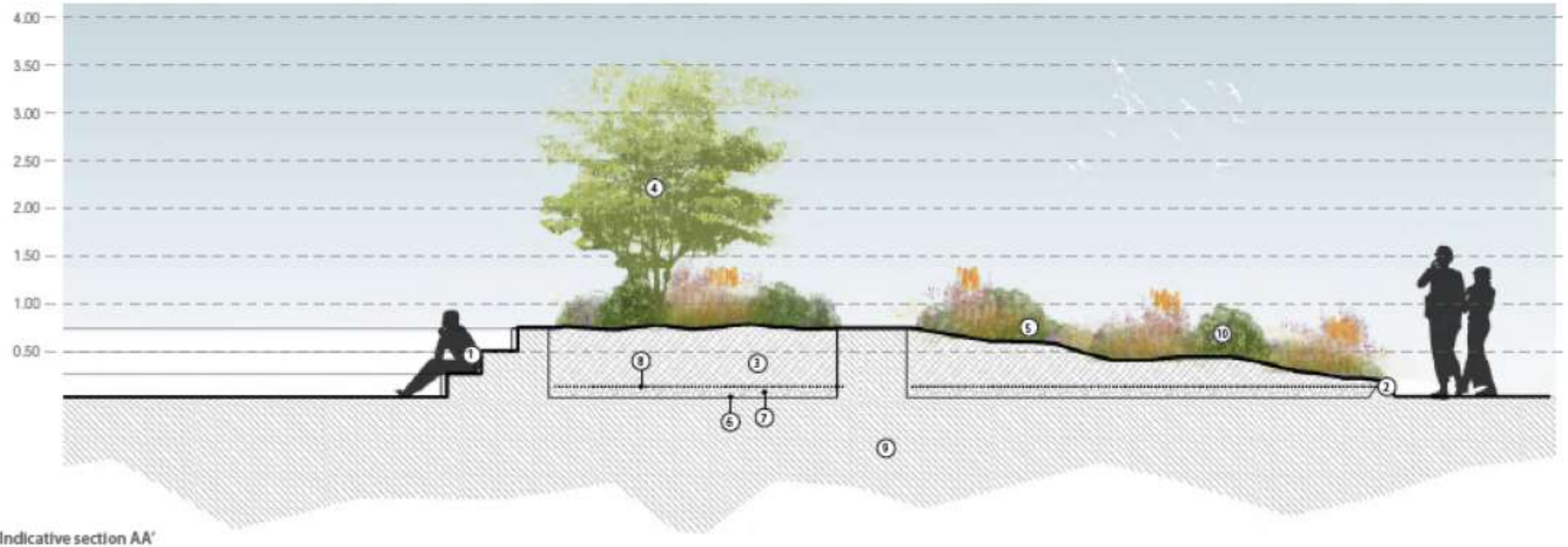
Concept visualisation of half sun/ half shade planting areas

Concept visualisation of sun zone planting area

KEY

1. Existing steps
2. Existing edge to planting area
3. Substrate - a mineral-based free draining 'semi-intensive' green roof substrate. Substrate to be graded to existing edges and sculpted to gently flowing undulations to enhance variation in planting heights.
4. Tree planting - Tibetan Cherry (*Prunus serrula*)
5. Sun Zone planting mix
6. Root barrier
7. Drainage layer - no fines aggregate
8. Filter fleece
9. Existing substructure
10. Scotch Rose to give height to planting





Indicative section AA'

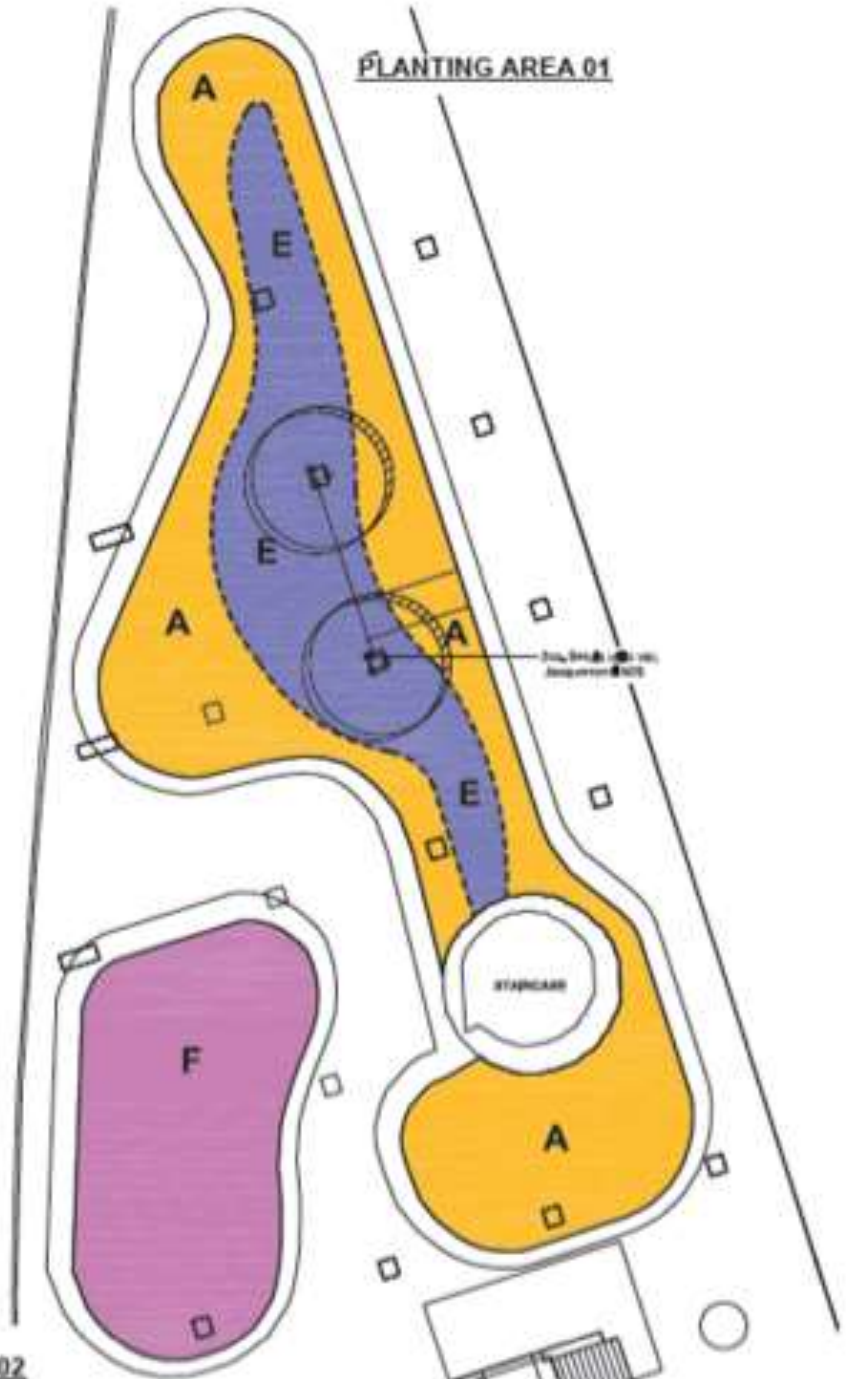
Some simple principles

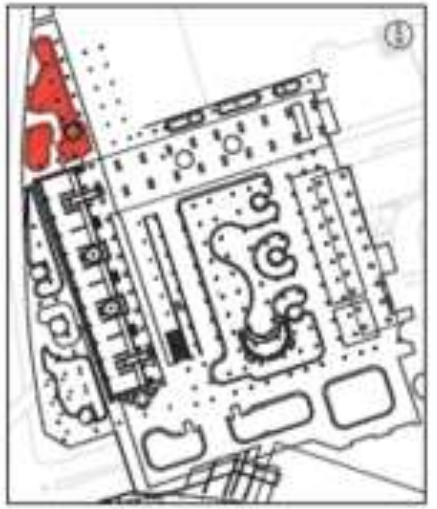
- Up to 20 species in a mix
- 9-11 plants per square metre
- Clump-forming species rather than spreaders
- Use limited soil fertility
- Have more later-flowering species, fewer early flowering species
- Short-lived quick flowering species vs longer-term slower developing species

899
400

PLANTING PLAN 01

PLANTING AREAS 01 & 02





KEY PLAN

NTS @ A3

KEY

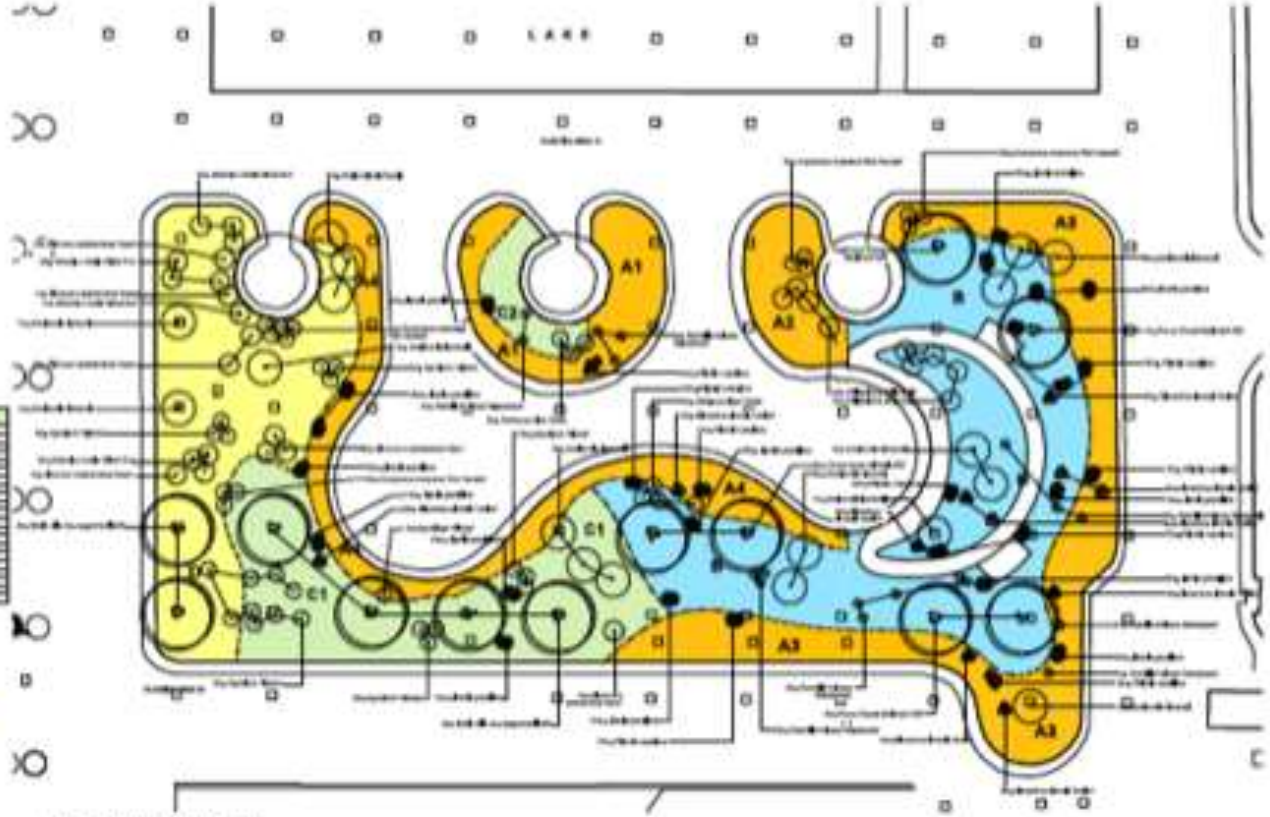
PROPOSED NEW MULTI-STEM TREE PLANTING
Refer to Planting schedules for more information.

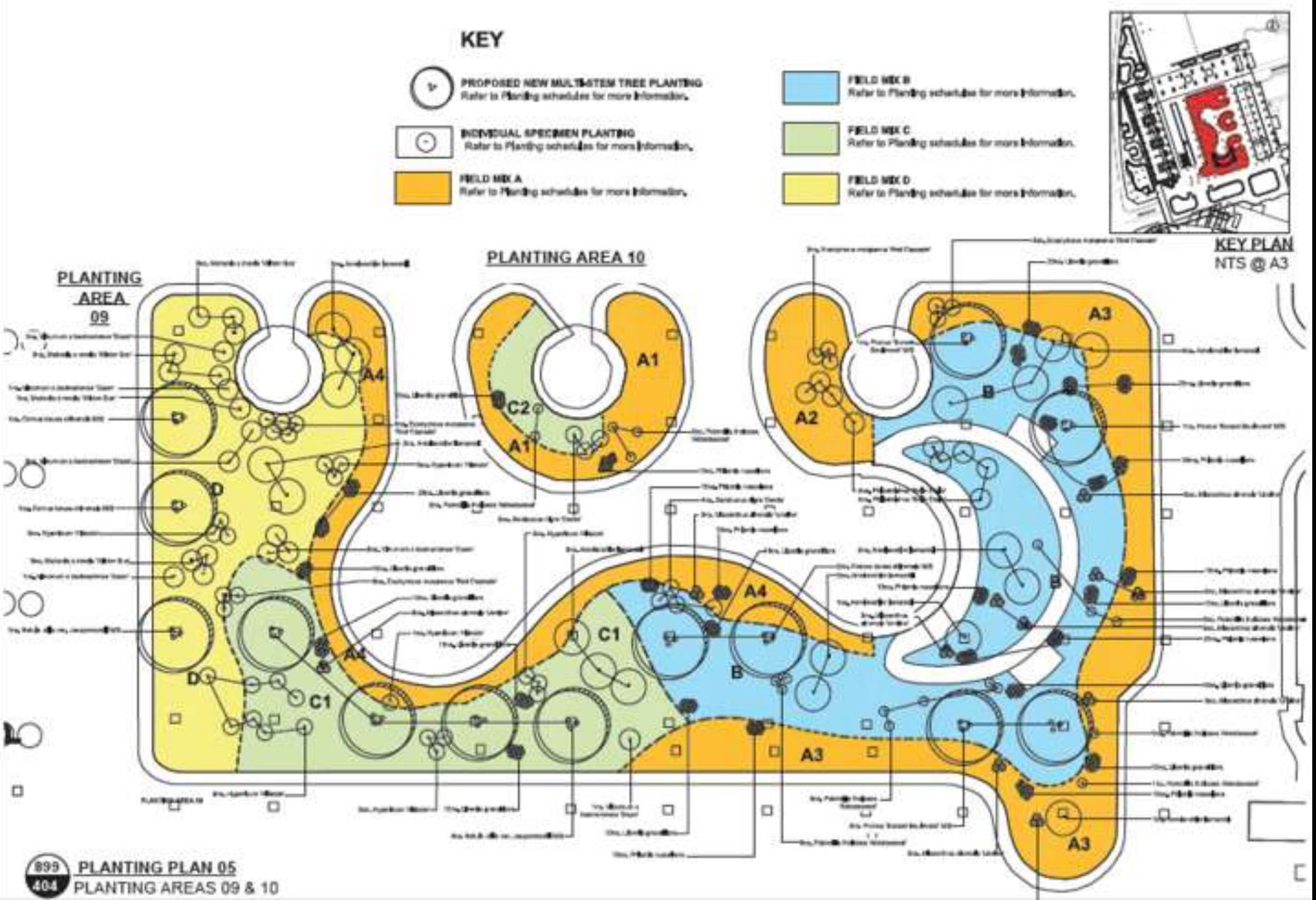
FIELD MIX A
Refer to Planting schedules for more information.

FIELD MIX E
Refer to Planting schedules for more information.

FIELD MIX F
Refer to Planting schedules for more information.

Field Mix for Sun, medium height		Character
Name	**Average number of plants m2**	
Achillea 'Terracotta'	0.5	C
Aster amellus 'Violet Queen'	0.5	C
Crocosmia 'Emberglow'	0.5	C
Echinops 'Veitch's Blue'	0.1	A
Euphorbia characias	0.2	A
Euphorbia characias 'Humpty Dumpty'	0.3	F
Euphorbia polychroma	0.5	F
Gaura 'Whirling Butterflies'	0.75	F
Helicotrichon sempervirens	1	A
Knautia macedonica	0.5	F
Kniphofia 'Green Jade'	0.75	A
Kniphofia 'Tawney King'	0.2	A
Leucanthemum superbum 'T.E.Killin'	0.25	C
Lychnis chalcedonica	0.2	F
Malva moschata 'Alba'	0.25	F
Origanum laevigatum 'Herrenhausen'	0.25	F
Papavar orientale 'Beauty of Livermere'	1	C
Perovskia 'Blue Spire'	0.25	C
Salvia 'Carradonna'	1	C
Stachys byzantina	0.25	F
Verbena bonariensis	0.3	A
Total number plants m2	9.55	


LAKE
A1
A2
A3
A4
C1
C2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INDIVIDUAL SPECIMEN PLANTING
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FIELD MIX A
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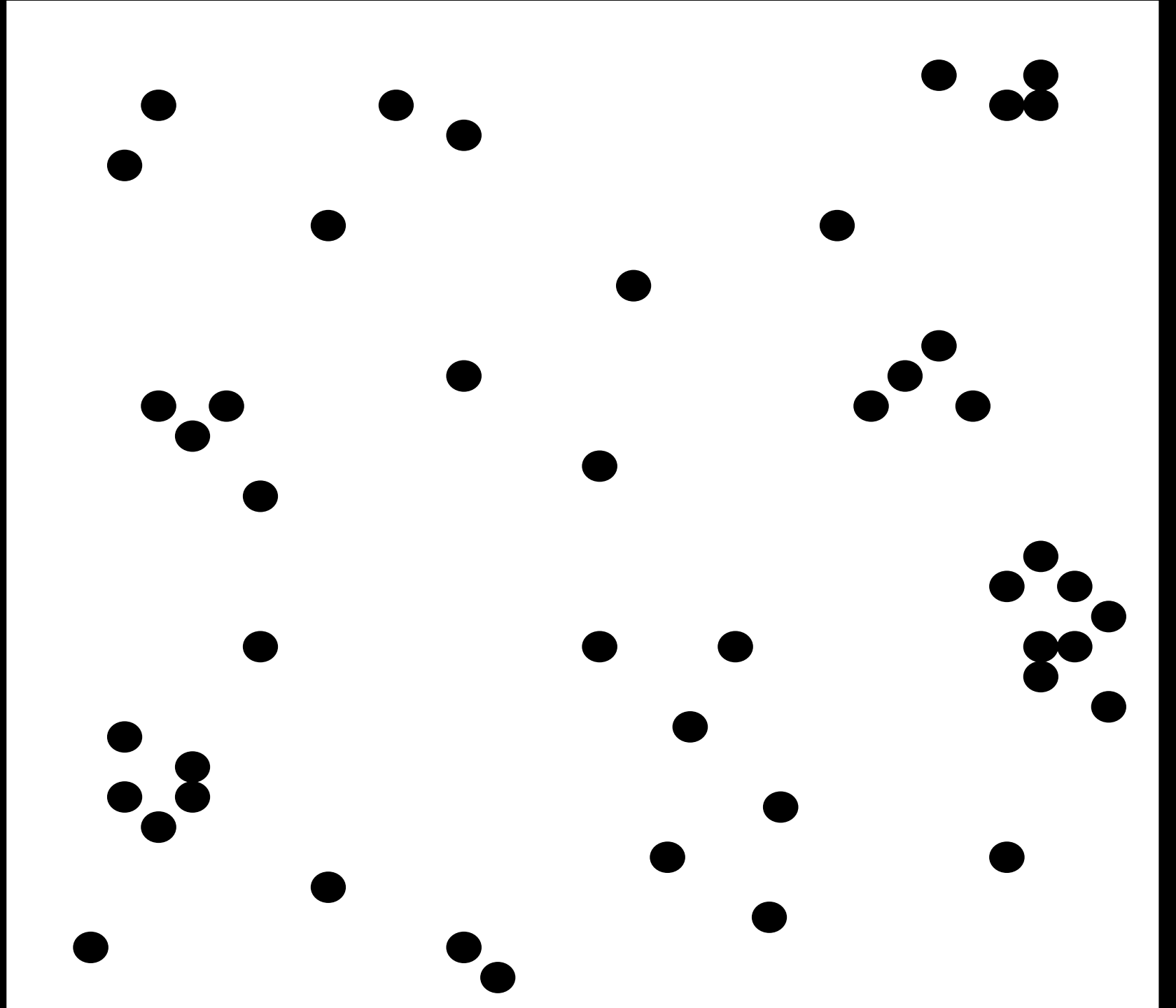
FIELD MIX B
Refer to Planting schedules for more information.
FIELD MIX C
Refer to Planting schedules for more information.
FIELD MIX D
Refer to Planting schedules for more information.
KEY PLAN
NTS @ A3
PLANTING AREA 10
PLANTING AREA 09
A1
A2
A3
A4
B
C1
C2
D
899
404
PLANTING PLAN 05
PLANTING AREAS 09 & 10




Hire
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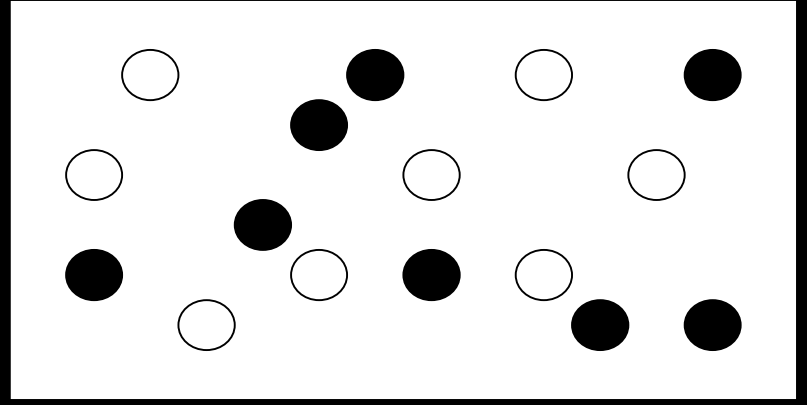

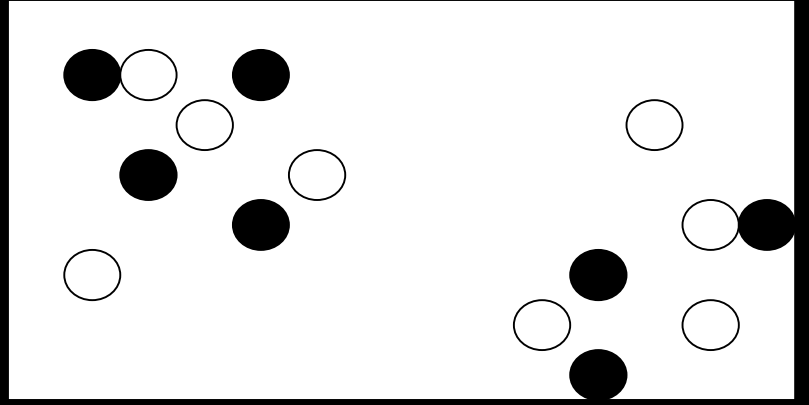

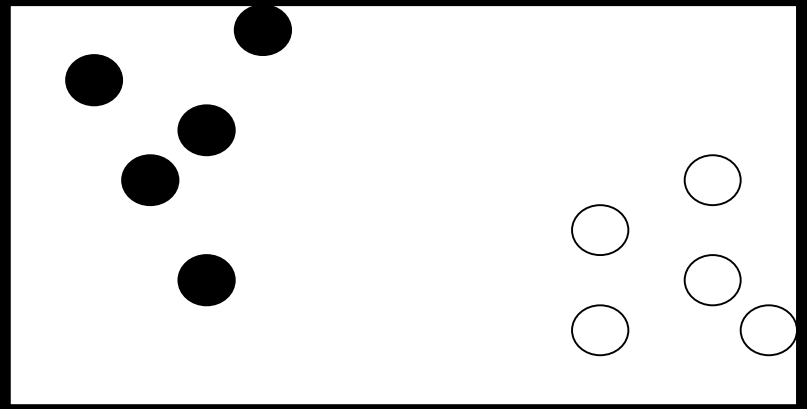

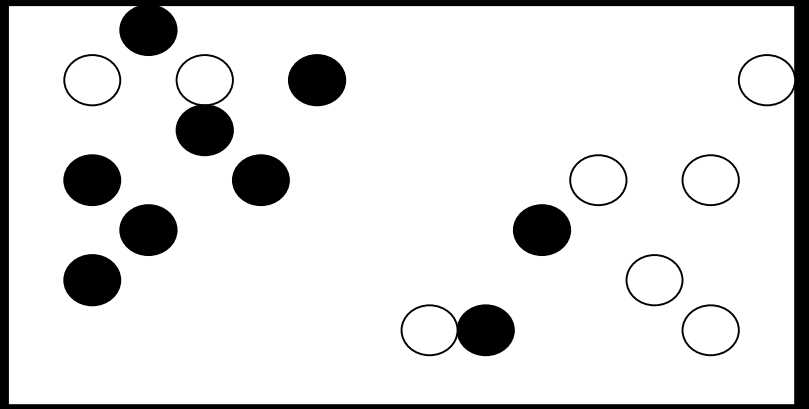

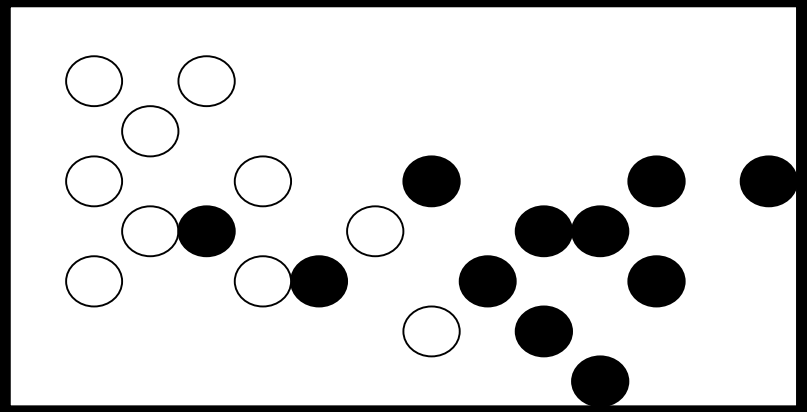

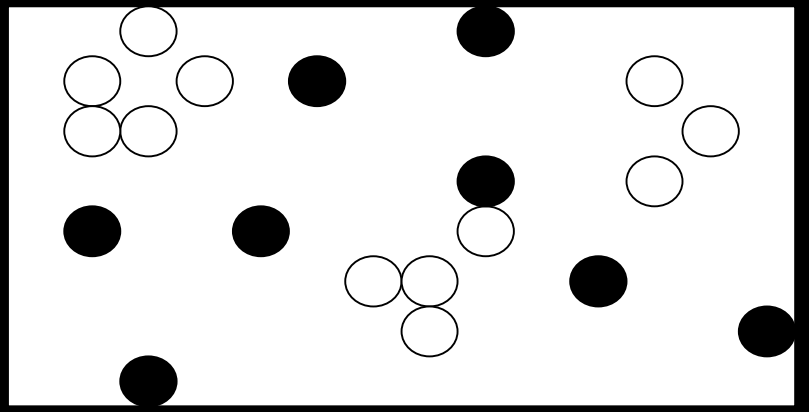

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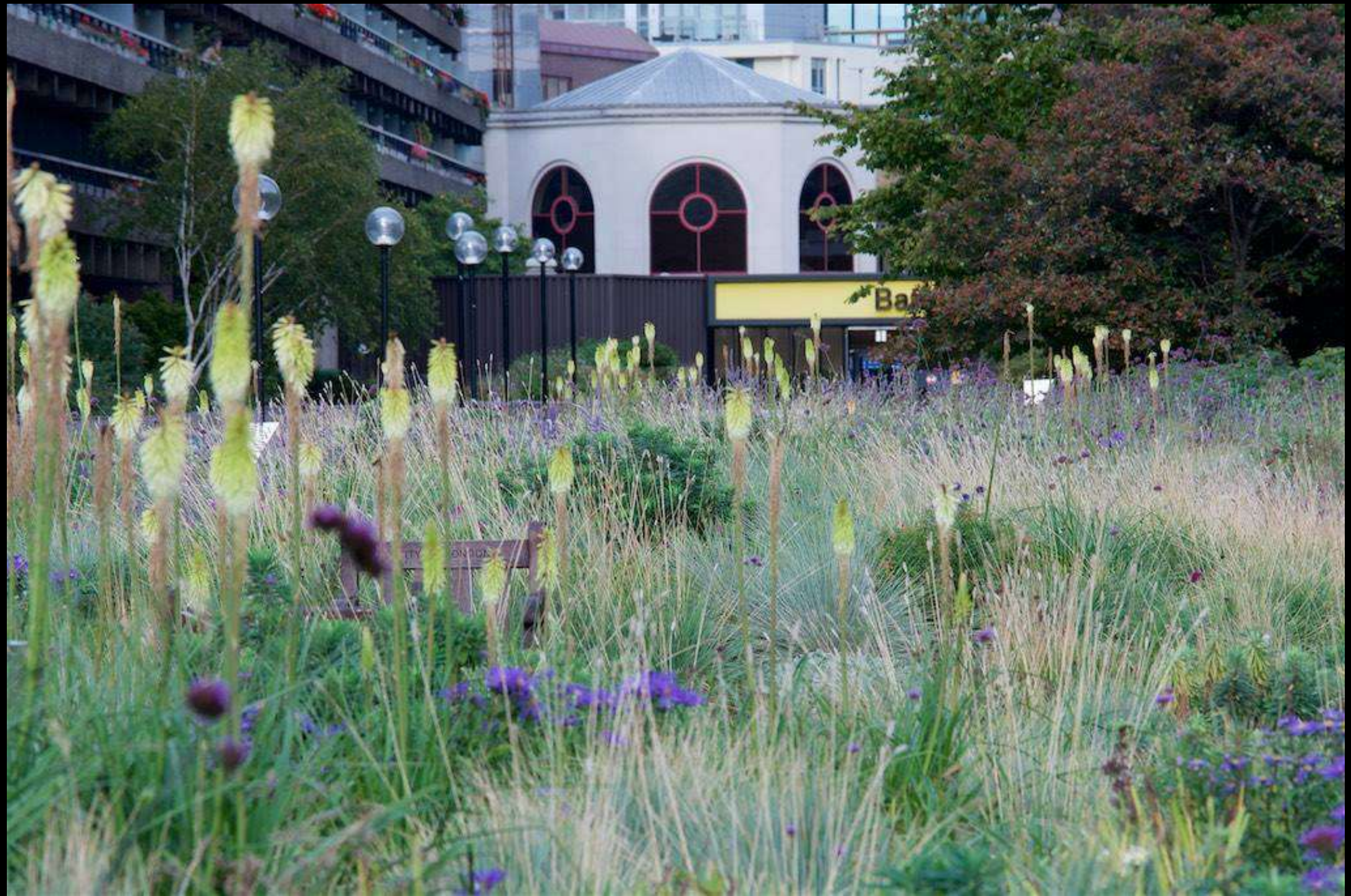
John Trundle
Court




Barbican
Centre


John Trundle
Court