







5.3.2 Boundary treatments

The adjacent diagram illustrates the site boundary treatments



Key

-  Party wall retained
-  New 1.8m high fencing proposed between Townhouse gardens
-  1.2m high fencing / railings
-  Existing boundary fence retained / improved with agreement of relevant neighbour
-  New boundary wall
-  Woven trellis fence - 600mm

Plan illustrating proposed and existing boundary treatments

5.4 Mews street

The residential mews street is designed as a surface shared by pedestrians, cyclists and vehicles. The hierarchy throughout the scheme favours pedestrian and non-vehicular access with traffic flow infrequent and slow-moving. This will be achieved with changes in paving orientation, contrasting tones and finishes.

The mews street character is defined with a varied mix of tree planning suitable for the street environment, creating a verdant tree-lined street with private residential entrances.

The flow of traffic through the street will be two-way. The street layout has been tracked and allows for maintenance and vehicle access.

Key features

- Defensible planting
- Car parking
- Street trees
- Shared surface zone
- Bin and bike stores with green roofs



Example of pedestrian surface treatment



Example of shared surfaces



Example of a typical Mews street

The street will be divided as shown in the illustrative section to the right. The 1.5m vehicle overrun allows pedestrians to reclaim a portion of the street. This, in turn, slows down traffic, creating a safe and attractive neighbourhood.

Outdoor storage and 1.5m buffer planting creates privacy screening from neighbours as well as an open playspace.

Key materials

Materials and planting have been selected to complement the architecture and provide a rich variety of textures.

The key materials are shown in detail at the bottom right hand corner of this page.



Illustrative section of the Mews street



Key plan



Metal planter boxes

Paving sets with accent banding

Mews street plan extract

Paving edge flush with planting

Bike and bin storage

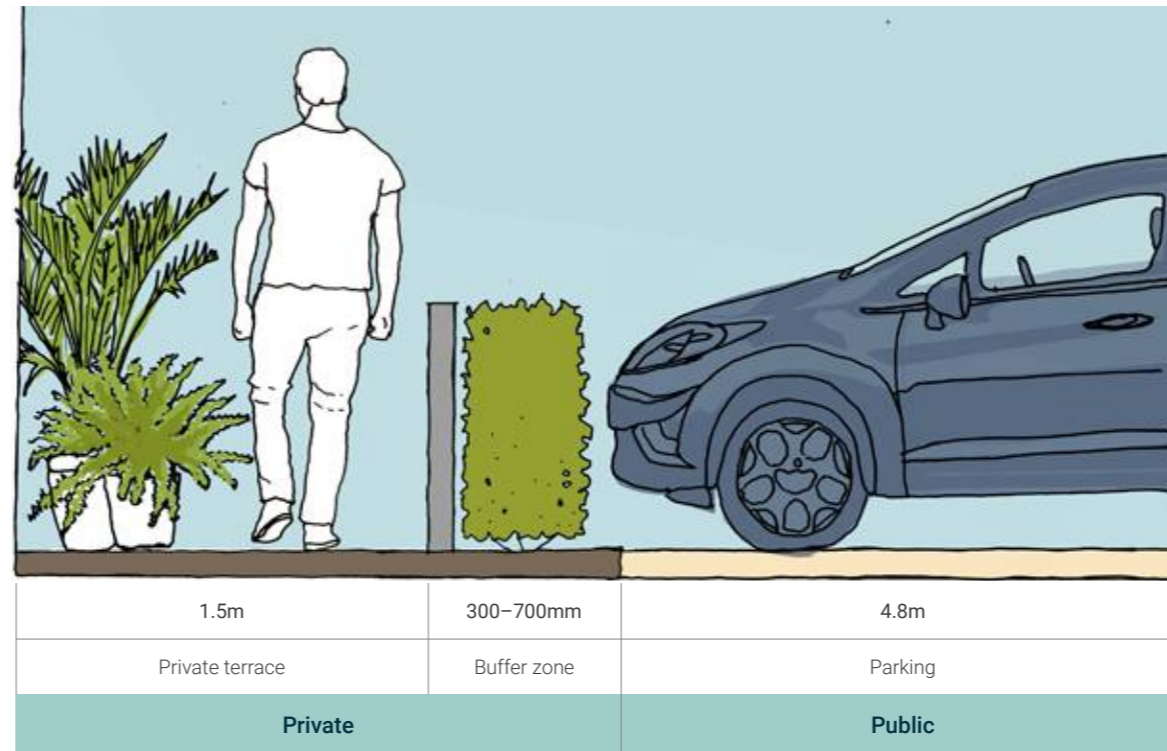
5.4.1 Defensible edges

Residences at ground level are provided with defensible zones to separate properties and private terraces from the public realm.

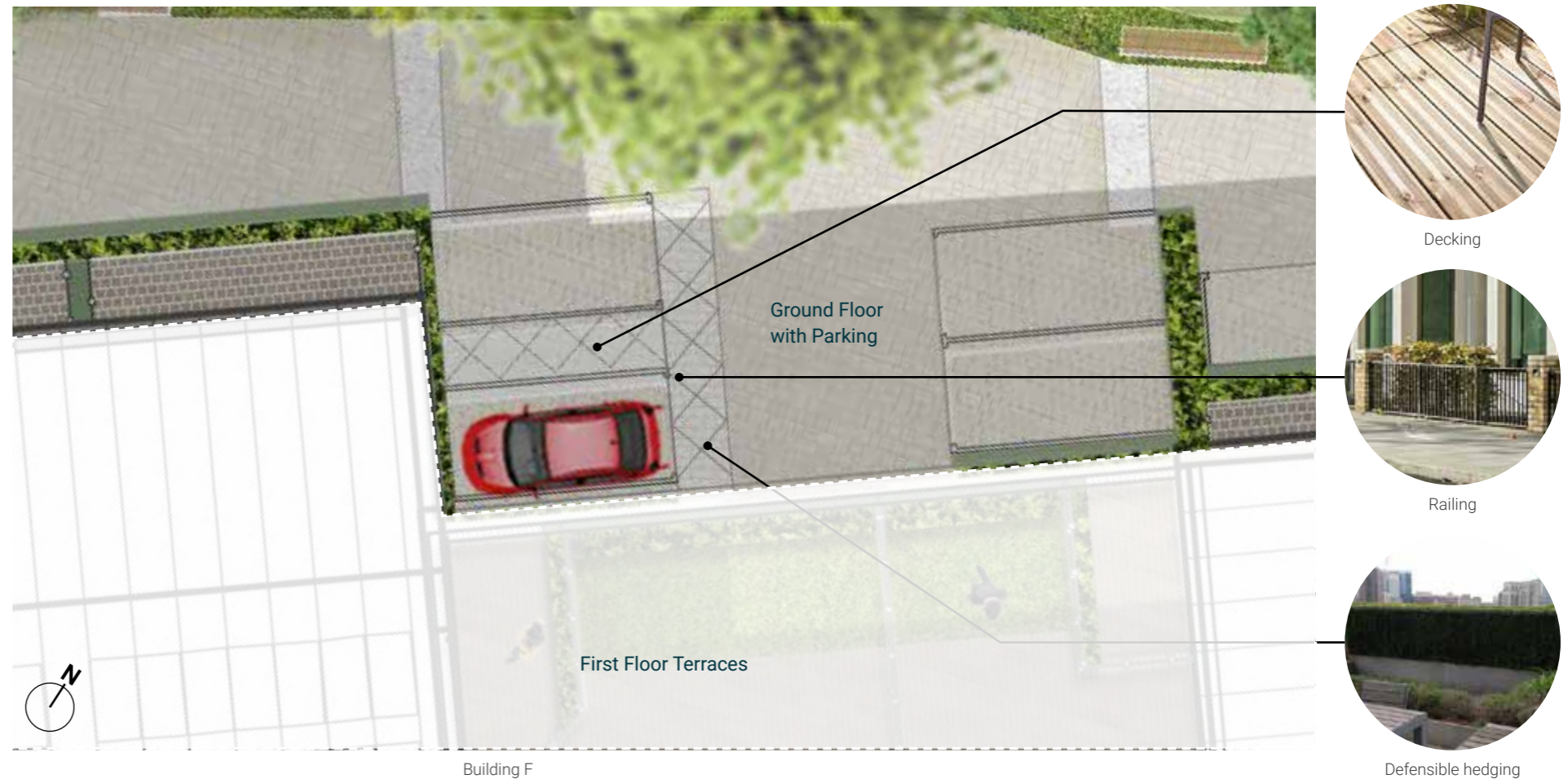
Boundary finishes are detailed with a 1m high railing and where possible, hedge and shrub planting up to 1m in height. This provides a secondary layer of defensible space between the private space and public footpath / carriageway.

To ensure compliance with Secure by Design guidance, boundary treatments will be no higher than 1m to ensure natural surveillance in and out of the properties and to mitigate spaces for loitering.

Soft planting will consist of native hedgerows, and where space permits, herbaceous planting.



Key plan



Building F

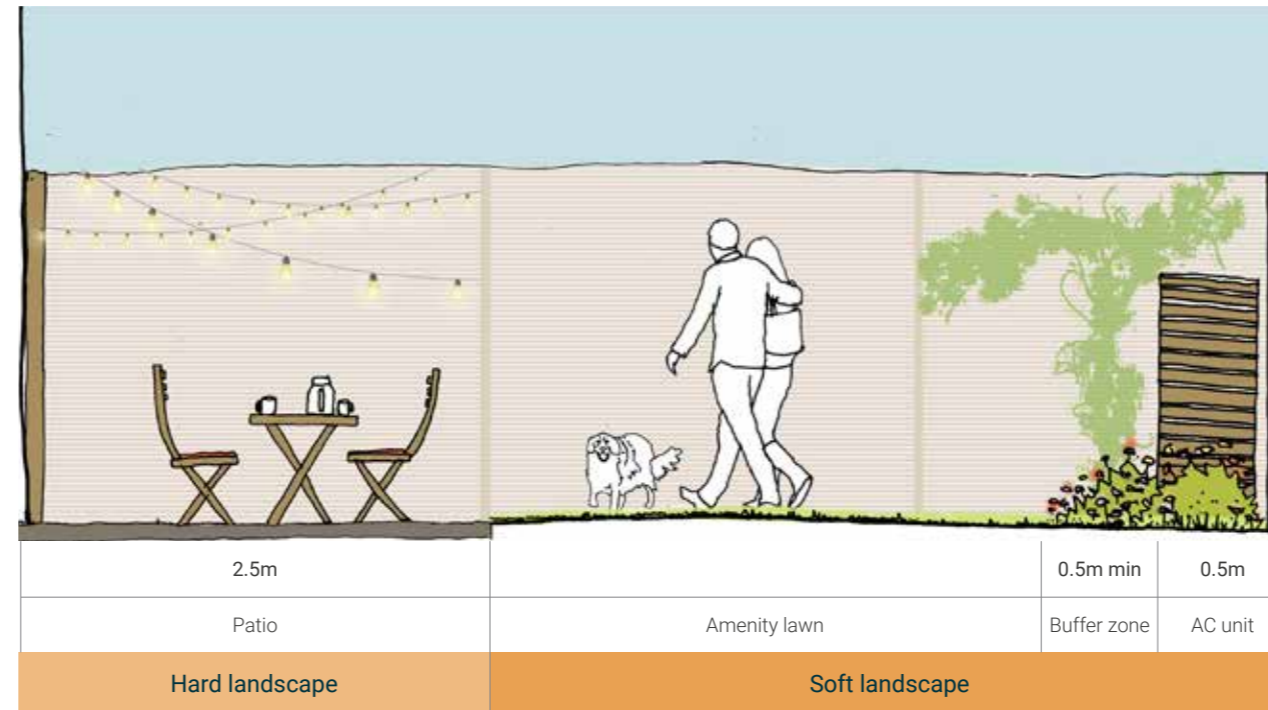
5.4.2 Rear private gardens

Every home along the mews street has a rear garden comprising a mixture of patio, lawn, planting and timber fencing.

An air source heat pump is also provided in each rear garden and is concealed with a timber clad screen, which also functions as an acoustic barrier.

In addition, planting beds will help soften the timber screen as well as providing a defensible space between the garden and boundary edge to help preserve privacy.

Paving will be permeable in nature to help reduce grey water run-off and improve the site's sustainable urban drainage strategy.



Illustrative section of a private rear garden



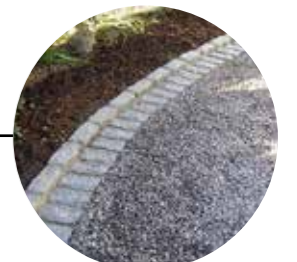
Key plan



Patio flags



Acoustic barrier fence



Gravel



Venetian gate

5.5 Green corridor

The street widths are reduced here with areas of lush planted borders and trees, creating chicane elements to slow down vehicle speed when approaching the riverfront.



Illustration of apartment building, viewed from the Mews street



Key plan

5.6 Communal roof terrace

A communal roof terrace is located on the third floor of Building F providing 124 sq m of multifunctional space for residents of that building.

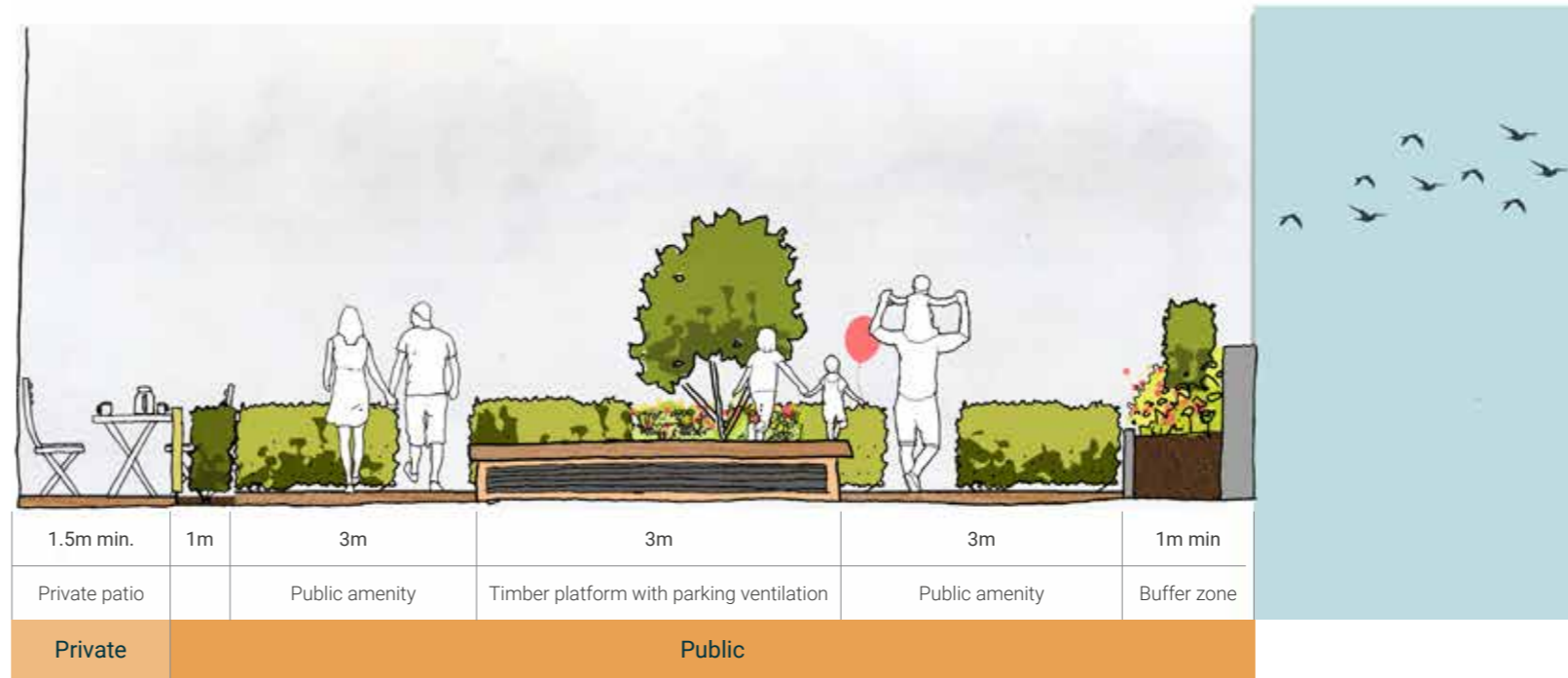
The communal terrace is accessible to residents of eastern core only.

A large seating area with small to medium-sized trees, appropriate to the podium location, will provide shade and rain cover and will allow for the terrace to be utilised throughout the seasons.

The communal amenity provision is:

Terrace = 124 sq m

There is a 1m wide minimum planting buffer around the entire perimeter. Tall planting against the parapet will provide privacy by preventing overlooking from residents on the terraces above.



Illustrative section of communal roof terrace



Key plan



Third floor communal roof terrace

5.7 Riverfront

The riverfront character is designed to complement the River Crane setting by providing physical and visual connections with nature. This can enhance both health and wellbeing for residents and the local community, and create a place for nature where birds, bats and insects can nest, forage and rest.

The aspiration along the riverfront is to utilise this natural asset and the surrounding green and blue character of the corridor.

A meandering gravel path is proposed along the waterfront, buffered with new trees and understory planting, dedicated playspace, incidental play in the form of stepping logs and balance beams, and places to stop, sit and relax.

Key features

- New tree and understory planting
- Frames the riverfront
- New and enhanced wildlife habitat
- Incidental and dedicated playspace
- Seating opportunities for all



Example of play equipment



Example of planting

The adjacent illustrations demonstrate a typical detail from the river's edge to the adjacent dwellings.

Introduction of 5m buffer zone, heavily planted with native and wildlife friendly planting, natural pathway and play elements; a 1.2m wide pathway will consist of self binding gravel (breedon / hogging or similar acceptable materials); and a 1.5m high hedge with a 600mm tall woven trellis to the southern face which will prevent light spill onto the river. The 5m buffer does not include any lighting as recommended by the ecology consultant.

New tree planting are proposed along the river's edge with understory woodland and biodiverse rich planting. Details of which are provided within the softscape section of this chapter.

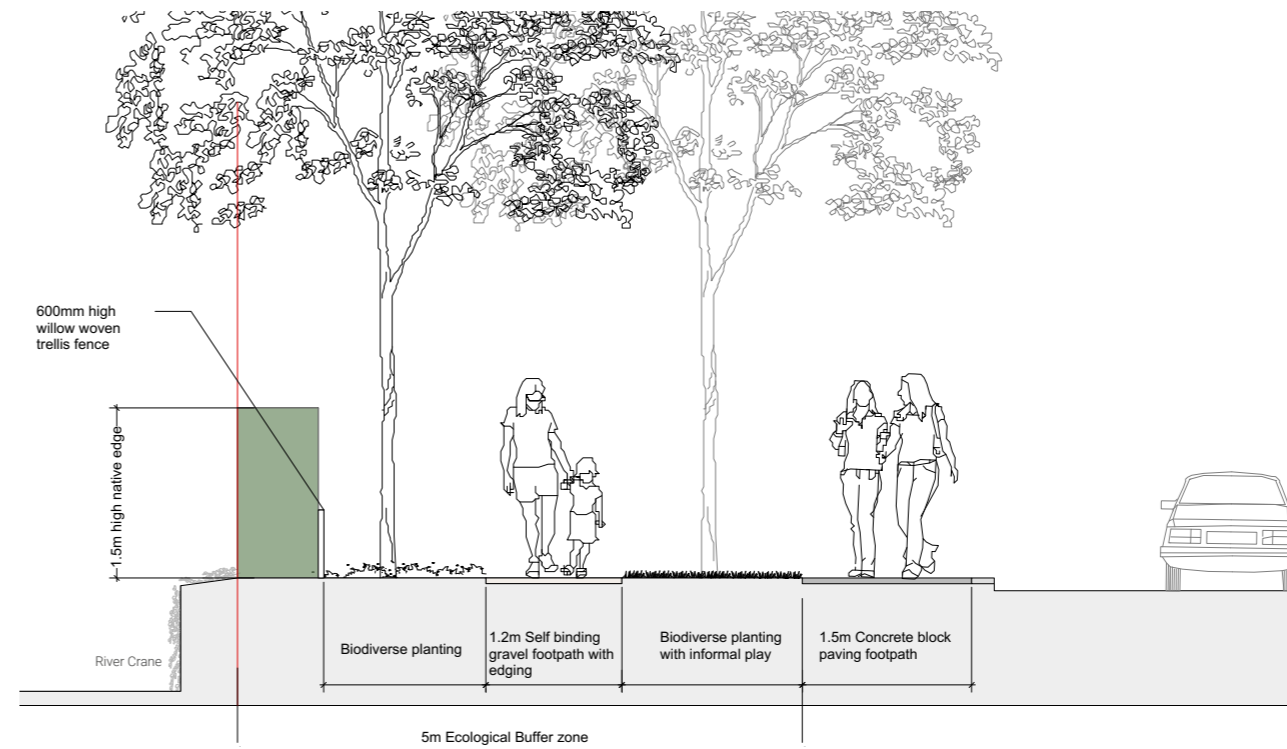
Public amenity spaces consist of benches and a permeable gravel footpath that meanders through the trees.

Away from the 5m buffer zone a pedestrian-first environment is retained through material finishes, and a designated footway is provided adjacent to the carriageway which is delineated by a contrasting kerb. Parking spaces are also differentiated by using different tones and banding.

All vehicular routes, building footprints and hard-landscaping are outside the 5m buffer zone.

Key materials

Paving setts with contrasting materials to differentiate key zones, such as parking space



Key plan



5.8 Local play

The site benefits from numerous green amenity spaces within a short walking distance. Based on the analysis of the surrounding play areas, it is considered that there is sufficient playspace for 5+ year olds in the surrounding area. It is therefore proposed that playspace for 5 to 12+ year olds will be accommodated within the parks and greens listed below.

The walk times for each open space are listed below. These distances take into account severance from roads, infrastructure and water bodies.

A – Crane Park (15 minute walk) (2ha)

The park is designed to encourage wildlife. The banks of the River Crane are home to a thriving colony of marsh frogs and the rare water vole. Crane Park Island is a designated Local Nature Reserve.

B – Kneller Gardens (10 - 13 Minutes minute walk)

A pleasant park that is part of the River Crane Walk and connects with Crane Park to the south west and Mereway Nature Park to the east.

Facilities include:

- Café and changing room
- One full-sized football pitch and two mini football pitches
- Four tennis courts / basketball court and table tennis
- Play equipment for under 13s as well as older children
- Outdoor gym equipment

C – Mereway Nature Park (9 minute walk)

Neighbouring Kneller Gardens, this conservation site provides varied grasses and bramble for a diverse range of species. Seating is available for those who want to stop and rest.

D – Craneford Way Recreational Park (10 minute walk)

A large area of grassland with a popular play area for younger children, Craneford Way forms part of the River Crane Walk.

E – Twickenham Green (5 minute walk)

The green is a great place for informal ball games, and with cricket matches often hosted during summer. There are changing facilities available, as well as a café.

F – Radnor Gardens (14 minute walk)

Housing several rare and beautiful trees such as the Indian Bean (Catalpa Speciosa), this open space provides a great educational opportunity for children.

Facilities include:

- A café
- Bowls club
- Play area
- Fishing is permitted with the appropriate licence



Map indicating surrounding play areas

	Walking		Basketball		Playground 0 - 13		Outdoor gym		Football pitch		Spaces to stop & rest		Dog walking		Allotment
	Habitat		Tennis		Trees		Park & garden		Conservation site		Community groups		Ponds & rivers		Cricket

5.9 Playspace requirements

Where a development estimates child occupancy of ten children or more, the development proposal should make provision for dedicated on-site play space by following the benchmark standard of 10 sqm per child as set out within the Mayor's SPG.

The GLA's population yield calculator generates a total child occupancy of 72 children which generates a total play space requirement of 720 sq m as shown in Table 1 of this page.

However, Section 6 of Richmond's Planning Obligations SPD permits all residential units with private gardens to discount play provision for 0-4 year olds.

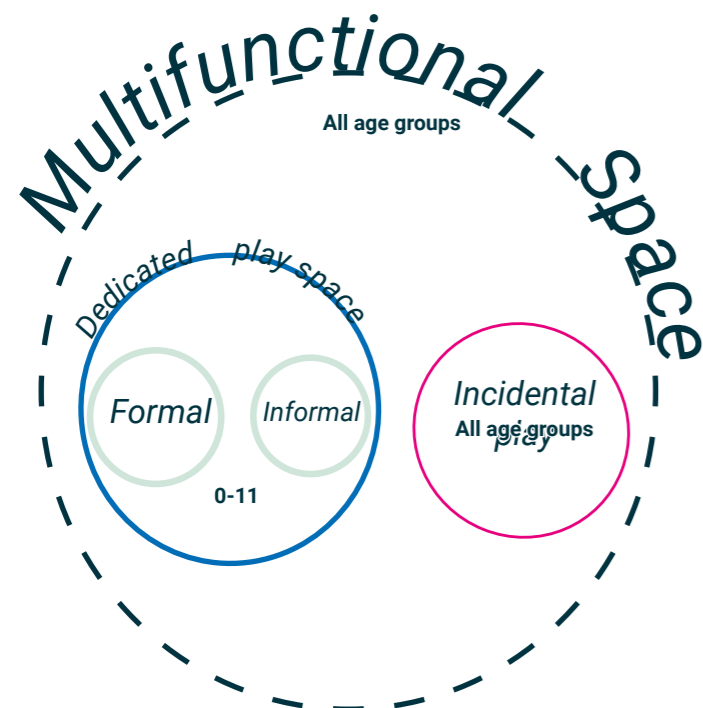
"If a development includes residential units with private outdoor amenity space (i.e. gardens), the requirement for play provision for under fives can be discounted."

With consideration to Section 6 of the SPG, table 2 generates a child occupancy of 28 children after discounting all town houses with private gardens.

The table also discounts 7 oversized terraces located on the first floor of Block F. Further detail to explain this rationale is provided on the following page.

The total playspace required for children 0 - 11, as shown in table 2 is 248 sq m. The GLA population yield calculator breaks play space as follows;

Age	Target (sq m)
0-4	149
5-11	99
12+	38
Total	286



Shaping Neighbourhoods SPG - Components of Playable / multifunction space

GLA Population Yield Calculator

	1 bed	2 bed	3 bed	4 bed
Market and Intermediate Units	10	16	39	4
Social Units	23	17	7	0

Total Units	116
-------------	-----

Geographic Aggregation	Outer London
------------------------	--------------

PTAL	PTAL 0-2
------	----------

Notes
 Sample size of 24 sites
 Shaded cells require user input
 Select both geography and PTAL
 For developments in Outer London with PTAL 5-6 use [London/PTAL 5-6] or [Outer London/3-4] to calculate yield

Yield from Development (persons)			
	Market & Intermediate	Social	Total
Ages 0, 1, 2, 3 & 4	16.9	16.2	33.1
Ages 5, 6, 7, 8, 9, 10 & 11	12.4	11.8	24.2
Ages 12, 13, 14 & 15	5.0	4.6	9.6
Ages 16 & 17	2.6	2.4	5.0
18-64	133.7	68.8	202.5
65+	3.2	1.6	4.8
Total Yield	173.7	105.6	279.2

Play Space Calculator

Total Children	71.9
----------------	------

	Benchmark (m ²)	Total play space (m ²)
Play space requirement	10	719.4

Table 1: GLA Population Yield calculator - whole site including Townhouses with gardens

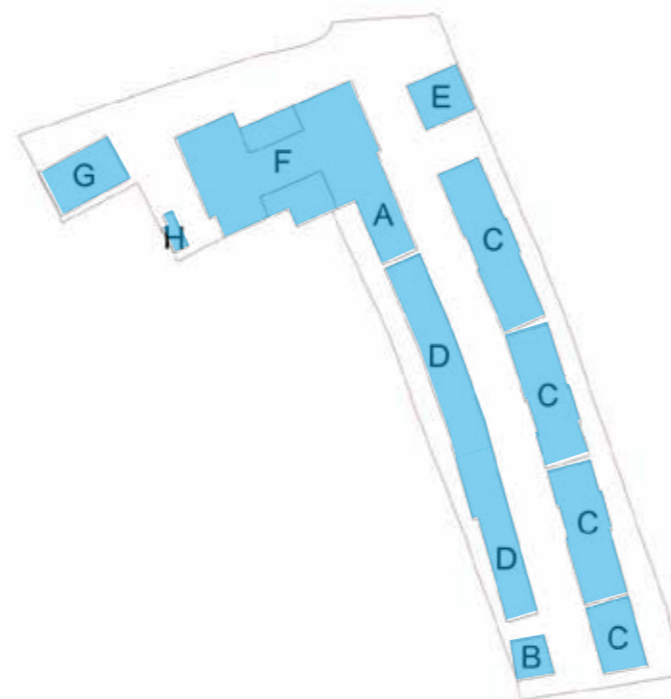


Diagram indicating residential units calculated in Table 1 of the GLA Population Yield calculator

GLA Population Yield Calculator

	1 bed	2 bed	3 bed	4 bed
Market and Intermediate Units	9	11	1	0
Social Units	21	14		0

Total Units	56
-------------	----

Geographic Aggregation	Outer London
------------------------	--------------

PTAL	PTAL 0-2
------	----------

Notes
 Sample size of 24 sites
 Shaded cells require user input
 Select both geography and PTAL
 For developments in Outer London with PTAL 5-6 use [London/PTAL 5-6] or [Outer London/3-4] to calculate yield

Yield from Development (persons)			
	Market & Intermediate	Social	Total
Ages 0, 1, 2, 3 & 4	4.4	10.5	14.9
Ages 5, 6, 7, 8, 9, 10 & 11	2.8	7.1	9.9
Ages 12, 13, 14 & 15	0.5	2.0	2.5
Ages 16 & 17	0.3	1.0	1.3
18-64	34.5	46.6	81.1
65+	0.8	1.1	1.9
Total Yield	43.3	68.4	111.7

Play Space Calculator

Total Children	28.6
----------------	------

	Benchmark (m ²)	Total play space (m ²)
Play space requirement	10	286.5

Table 2: GLA Population Yield calculator - whole site excluding Townhouses with gardens

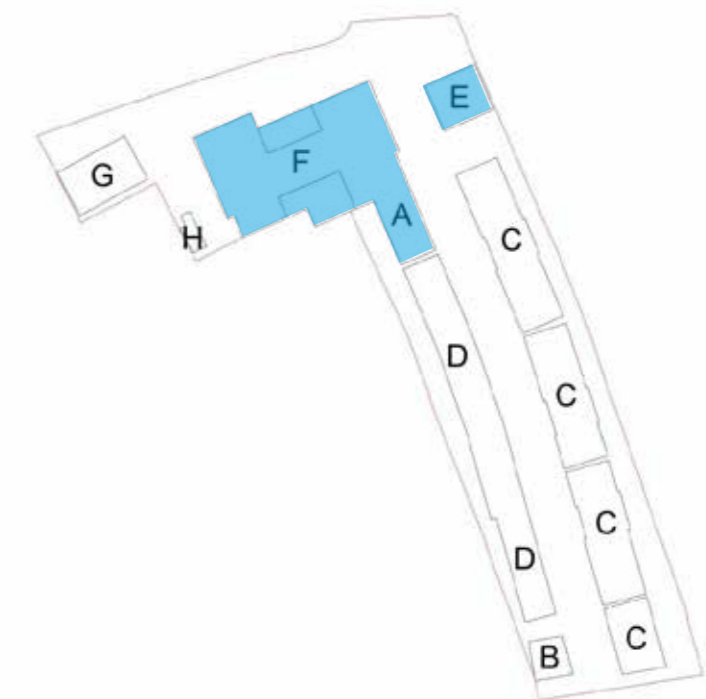


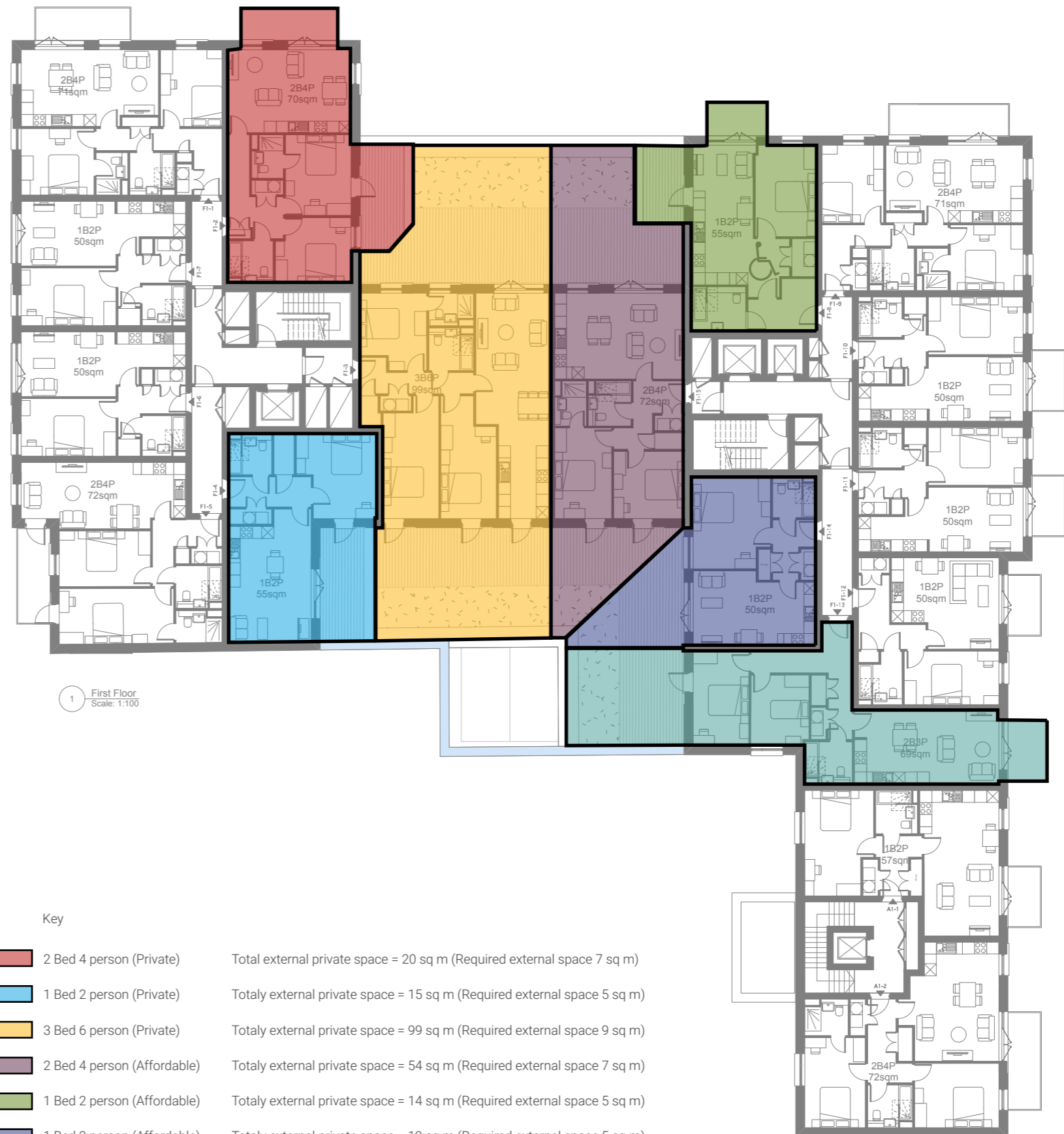
Diagram indicating residential units calculated in Table 2 of the GLA Population Yield calculator

5.10 Block F - First floor amenity provision

The adjacent diagram illustrates the first floor layout of Block F.

The coloured apartments indicate the units that were discounted from table 2 of the GLA Population Yield calculator.

These units were discounted because each unit is generously provided with oversized external private space. Details of which are provided in the key below the diagram.



1 First Floor
Scale: 1:100

Key	
 2 Bed 4 person (Private)	Total external private space = 20 sq m (Required external space 7 sq m)
 1 Bed 2 person (Private)	Totally external private space = 15 sq m (Required external space 5 sq m)
 3 Bed 6 person (Private)	Totally external private space = 99 sq m (Required external space 9 sq m)
 2 Bed 4 person (Affordable)	Totally external private space = 54 sq m (Required external space 7 sq m)
 1 Bed 2 person (Affordable)	Totally external private space = 14 sq m (Required external space 5 sq m)
 1 Bed 2 person (Affordable)	Totally external private space = 19 sq m (Required external space 5 sq m)
 2 Bed 3 person (Affordable)	Totally external private space = 33 sq m (Required external space 6 sq m)

5.11 Playspace strategy

Further to comments from the Local Planning Authority during the determination of the planning application the play strategy has been reviewed to provide additional detail and information.

Dedicated play space is provided at both ends of the riverside ecology buffer zone.

These play spaces are designed to compliment the riverside setting with only natural materials being proposed. For example all play equipment will be made of timber, including fencing and benches.

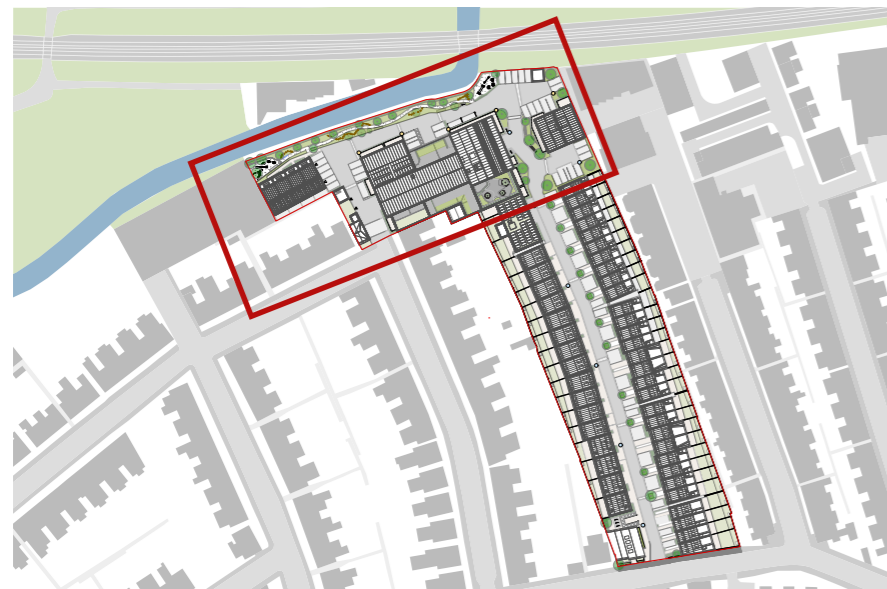
The dedicated play space to the west includes play equipment for young children up to the age of 4 in the form of rocking animals and balancing equipment. The narrative for this space is that equipment will mirror the types of animals found along the river edge i.e. birds / fish / bats and riverside mammals.

The playspace to the east is focussed more on balance and climbing equipment. The space is designed for children up to the age of 12. This provides children with a cross-generational space, where young children have something to aspire to.

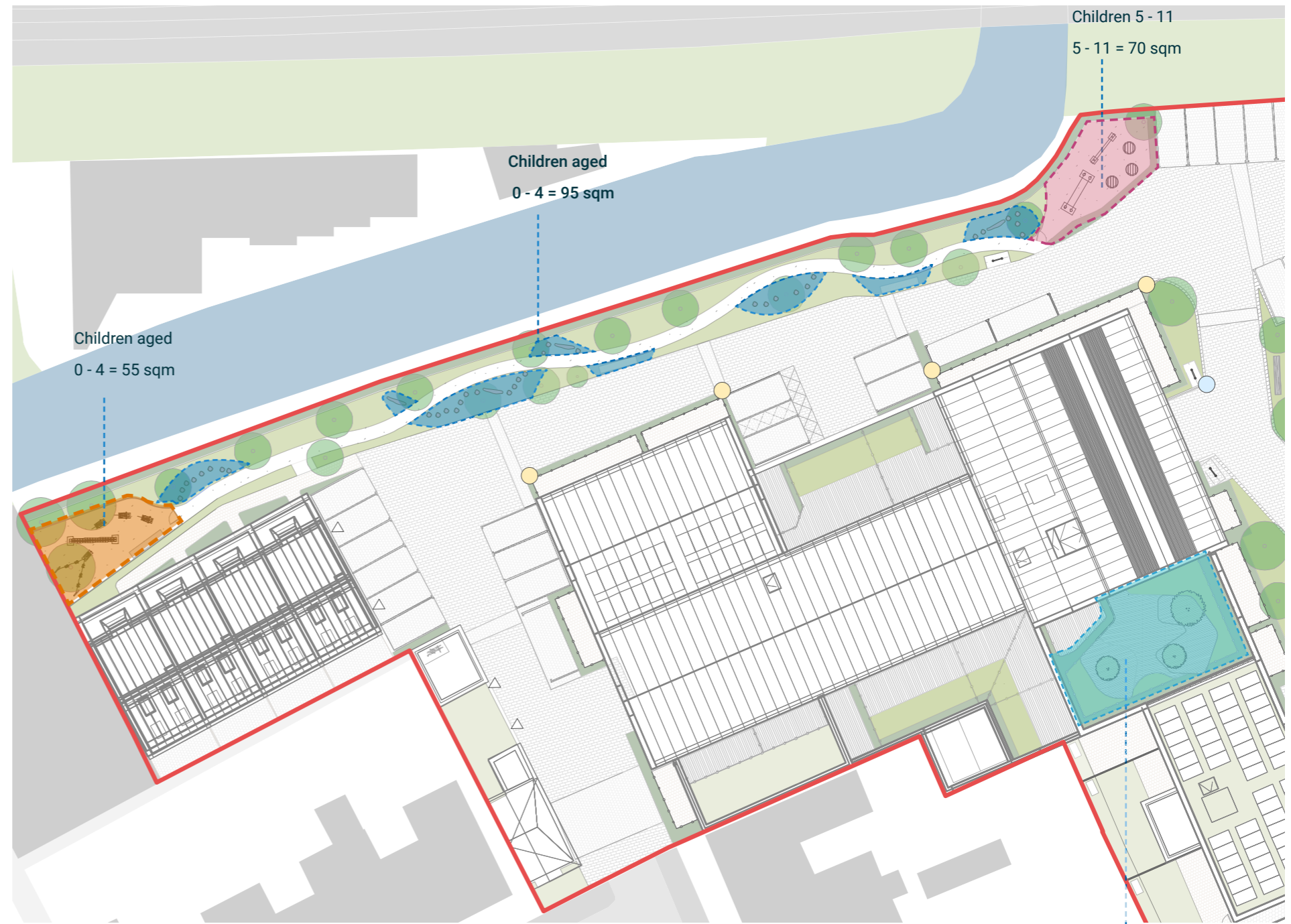
A loose gravel footpath connects both play spaces, which meanders through the ecological zone. Intermittently informal play, such as timber stepping logs and balance beams are proposed to provide a nature trail for young children.

Age	Target (sq m)	Proposed (sq m)	Note
0-4	149	150	+1 sqm play space
5-11	99	70	-29 sqm play space
12+	38		Off site contribution
Multifunctional space	n/a	109	All age groups
			+43 sqm play space
Total	286	329	(Includes multifunctional space on the podium)





Any deficit for older age playspace is part covered by the inclusion of additional multi-functional space on site which can be used for informal recreation and socialising combined with a financial contribution to fund off-site provision.



Key plan



Digram - Riverside and play space layout

Key		
	Dedicated play space (ages 0 - 4) 55 sq m	
	Dedicated play space (ages 5 - 11) 70 sq m	
	Incidental play space (ages 0 - 4) 95 sq m	Includes timber stepping logs, balance beams
	Multifunctional space (All ages) 109 sq m	Seating space for carers / minders and socialising and passive recreation, flexible space for informal play

Rocking animals

- Suitable for children 0 - 4
- Animal themes to reflect biodiversity of the river i.e. fish, birds, bats and/or bugs
- Materials - play materials should be natural i.e. timber to compliment the riverside setting



Precedent image - Little fish rocking equipment, Timber play

Informal play

- Suitable for children up to the age of 12, but primarily aimed at children aged 0 - 4
- Materials - materials should be natural i.e. timber to compliment the riverside setting



Precedent image - Timber stepping logs & balance beams, Timber play

Timber fence to enclose dedicated play spaces

- 1.2m high timber picket fence
- Features - single leaf gate, with self closing mechanism



Precedent image - Timber picket fence. Image by Rhino Play

Balancing equipment

- Suitable for children up to the age of 12-
- Materials - materials should be natural i.e. timber to compliment the riverside setting



Precedent image - Rocking balance beam, Timber play

Balancing & climbing equipment

- Suitable for children up 5+
- Materials - materials should be natural i.e. timber to compliment the riverside setting



Precedent image - Balance Beam & linear climbing frame, Timber play

Timber park benches

- Features - with backrest to provide a comfortable respite for all ages
- Suitable for all ages, including adults and minders to supervise children



Precedent image - Timber bench



5.12 Planting strategy

The existing site provides very little in the way of green infrastructure, primarily consisting of weeds and some natural vegetation along the waterfront.

There is a great opportunity to enhance and increase green infrastructure across the site. With consideration to aspect, location, and biodiversity, the emerging landscape proposals include a variety of softscape typologies:

- Biodiverse green roofs
- Native hedgerows
- Ornamental and herbaceous flower beds
- Lawns and spring bulbs
- Intensive green roofs with raised beds and small to medium-sized trees
- Riverfront trees
- Street trees

The variety of plant typologies will provide nesting and foraging opportunity for birds, bats and insects.



Native hedge

- Ligustrum vulgare
- Crataegus monogyna
- Fagus sylvatica
- Ilex aquifolium
- Lonicera periclymenum
- Prunus spinosa
- Coryllus avellana
- Rhamnus frangula
- Hedera helix

Climbing plants

- Hydrangea petiolaris
- Hedera helix
- Jasminoides trachelospermum
- Pyracantha



Woodland & herbaceous planting

- Skimmia Japonica
- Lonicera Nitida 'Maigreen'
- Escallonia 'Apple Blossom'
- Hypericum sp
- Lavandula sp
- Narcissus sp
- Galanthus nivalis
- Dryopteris filix mas
- Hedera sp
- Lavandula Augustifolia
- Cestrum aurantiacum

Native / biodiverse planting

- Cynoglossum officinale
- Silene dioica
- Stachys sylvatica
- Galium verum
- Primula veris
- Prunella vulgaris
- Ranunculus acris
- Rumex acetosa
- Trifolium pratense
- Agrostis capillaris
- Cynosurus cristatus
- Festuca rubra
- Phleum bertolonii



Amenity Lawn

- Pre grown turf rolls, not seeded



Roof terrace - Herbaceous

- Allium schoenoprasum
- Anemone x hybrida
- Kniphofia 'Royal Standard'
- Lamprocapnos spectabilis
- Liriope muscari
- Rudbeckia fulgida
- Senecio cineraria
- Verbena bonariensis

Roof Terrace Hedging

- Ligustrum vulgare
- Pittospermum



Plan indicating planting strategy

5.13 Tree strategy - existing

An Arboricultural Impact Assessment (AIA) has been undertaken to confirm the development impacts in response to the proposed development and is summarised below and on the adjacent diagram, further detail can be found within the AIA that accompanies this application.

Removal strategy

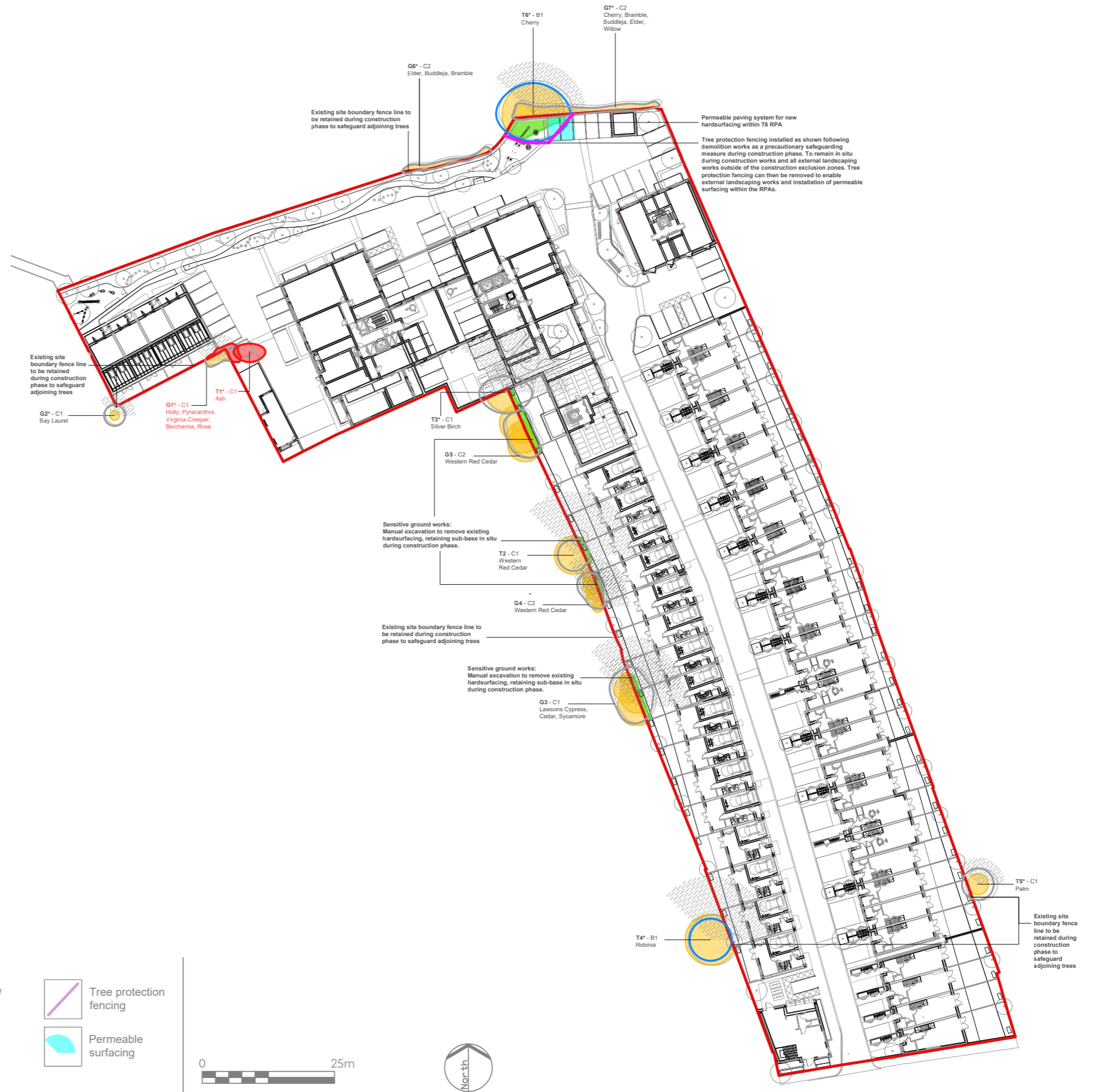
T1 - Removal of low value Ash (T1)









G1 - cutting back to the site boundary of the stand of ornamental / introduced shrubs (G1) on north western boundary owing to conflicts with Block G.

The removal of T1 and cutting back of G1 relates to on-site trees, only requiring the removal of vegetation which is on-site.

Trees will be replaced via establishment of new site-wide replanting strategy which is detailed on the following pages.

All works to existing trees must be in line with the Arboriculture method statement.



	Category B - Trees of Moderate Quality and Value		Tree Shading Constraints		Sensitive ground works / manual excavation		Tree protection fencing
	Category C - Trees of Low Quality and Value		Root Protection Areas (RPAs)		Proposed tree removal		Permeable surfacing

5.14 Tree strategy - proposed

The emerging schemes comprises 69 proposed trees. The trees have been carefully located and selected with consideration to aspect, location, character aesthetic, and seasonality.

The specimens will eventually mature to form green corridors along the riverfront and streets, creating nesting and foraging opportunities for birds, bats and insects.

Pinus sylvestris and Salix alba are generally confined to the riverfront, with street trees lining the mews street, creating a green corridor that links to the existing River Crane green / blue corridor.

The trees are a mixture of native and non-native species, which have been developed with the ecology consultant, Richard Grave Associates.

There are also a number of feature trees, including pines, which will provide year-round colour.

Biosecurity & climate resilience

Biosecurity and a changing climate is an emerging threat to ecosystem resilience, with new regulations and guidelines continuously being developed in response to pests, pathogens, and climate change.

Native species are still vitally important in developments but the current threat means some of or native species are being exposed to hotter, warmer summers as well as prolonged periods of drought and wet - species that are unable to adapt are being lost.

These variable conditions however present an opportunity to consider alternative species that are adaptable to the changing British climate. This may include native species, but also non invasive species from the continent or further abroad.

Following feedback from the Local Planning Authority we have reviewed the tree strategy to include trees that;


- Improve biodiversity
- Larger canopies
- Successional growth
- Suitable for the ecological river front
- Suitable for car park
- Suitable for street planting




Plan indicating trees strategy

5.15 Tree strategy




 Pinus sylvestris




 Salix alba




 Acer campestre



 Corylus colurna




 Alnus x spaethii



 Pyrus calleryana 'Chanticleer'




 Sorbus aucuparia



 Tilia platyphyllos







 Ulmus 'Dodoens'



 Acer platanoides 'Cleveland'


5.15.1 Tree strategy - schedule

Quantity	Botanical name	Common name	Girth (cm)	Root zone	Installation height (cm)	Mature height	Canopy spread (m)	Specification	Native / non-native
3	 Pinus sylvestris	Scots Pine	n/a	RB	300-350	21	8	Leader with laterals; feathered to base; clear stem 150cm	Native
2	 Salix alba*	White Willow	14-16	RB	400-450	15	10	Extra heavy standard, clear stem 175-200cm	Native
6	 Acer campestre	Common Maple	10-12	RB	300-350	15	7	Standard, clear stem 200cm, four breaks	Native
8	 Pyrus calleryana 'Chanticleer'	Ornamental Pear	14-16	RB	400-450	17	4	Extra heavy standard, clear stem 175-200cm	Non-native
8	 Sorbus aucuparia	Mountain Ash	12-14	45-85L	350-425	7	4	Heavy standard, clear stem 175-200cm, five breaks	Non-native
8	 Betula pendula	Silver Birch	14-16	RB	400-450	10	5	Extra heavy standard, clear stem 175-200cm, five breaks	Non-native
3	 Amelanchier	Shadbush		RB	200-250			Multi stem, three bushy; five stems minimum	Non-native
5	 Amelanchier lamarckii	June Berry	12-14	RB	300-350	8	3	3x; Heavy Standard; clear stem 175-200cm; 5 breaks	Non-native
3	 Corylus colurna	Turkish Hazel	18-20	RB	450-500	8	6	3x; Extra Heavy Standard; clear stem minimum 200cm	Non-native
3	 Ulmus 'Dodoens'	Elm 'Dodoens'	14-16	RB	400-450	14	10	3x; Extra Heavy Standard; clear stem 175-200cm; 5 breaks	Non-native
3	 Alnus x spaethii	Alder	16-18	RB	400-450	15	8	3x; Extra Heavy Standard; clear stem minimum 200cm	Non-native
3	 Acer platanoides 'Cleveland'	Norway Maple 'Cleveland'	12-14	RB	350-425	12	6	3x; Heavy Standard; clear stem minimum 200cm; 5 breaks	Non-native
5	 Malus sylvestris	Crab apple	12-14	RB	350-425	8	4	3x; Heavy Standard; clear stem 175-200cm; 5 breaks	Native
4	 Euonymus europaeus	Spindle	n/a	10L	80-100	3	3	Branched; 6 breaks	Native
4	 Tilia Platyphyllos	Broad leaved lime	10-12	RB	300-350	30	20	2x; Selected Standard; clear stem 175-200cm; 4 breaks	Native
1	 Alnus glutinosa	Common alder	12-14	RB	350-425	15	8	3x; Large Feathered	Native


RB Rootball
 B Bare rooted and bagged
 Riverfront trees
 Street trees
 Car park trees

* Hight and spread of Salix alba species to be maintained by a qualified arboriculturalist / tree surgeon




 Alnus glutinosa



 Malus sylvestris



 Euonymus europaeus



 Betula pendula