

Twickenham Riverside Ecological Enhancement Statement



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Twickenham Riverside
Ecological Enhancement Statement

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	Name	Position	Date
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1 Introduction

- 1.1 BSG Ecology was commissioned on 17 June 2020 to undertake an Ecological Appraisal of a site in Twickenham, Surrey, centred at Ordnance Survey National Grid Reference TQ 1627 7315 (the 'Site'). BSG Ecology was later commissioned for further survey of a single building within the Site to identify whether it supports a bat roost.
- 1.2 The Site, (approximately 1.3 ha in extent), is located in Twickenham, Surrey, on the northern bank of the River Thames. The Site is predominantly hardstanding, but also contains a small area of broadleaved plantation woodland, an artificial turf area and shrubs which form Diamond Jubilee Gardens, a public garden. The red line boundary also extends within the River Thames. There are several commercial buildings within the Site, including the café for the Diamond Jubilee Gardens, and retail buildings on King Street.
- 1.3 The proposals include the demolition of existing buildings and structures and redevelopment of the site comprising residential (Use Class C3), ground floor commercial/retail/café (Use Class E), and public house (Sui Generis), boathouse locker storage, floating pontoon and floating ecosystems with associated landscaping, restoration of Diamond Jubilee Gardens and other relevant works.
- 1.4 Biodiversity gain calculations were undertaken using DEFRA Metric 2.0 (See BSG Ecology, 2021). These concluded the Proposed Development will result in the following:
- There is a 19% net gain in area habitats.
 - There is a "trading down" of moderate distinctiveness habitat, as the self-seeded woodland within the Site will not be replaced within the Proposed Development.
 - There will be a net loss in linear hedgerow units with no new hedgerow being created within the development replacing the existing hedgerows being removed.
 - There is a 0% change in biodiversity units for the river.
- 1.5 With the enhancements proposed in BSG Ecology, 2021 and as set out in this document net gain will be achieved as follows:
- A 19% net gain in area habitats.
 - No trading down of habitats through provision of either new marginal habitat or woodland planting elsewhere in the Borough.
 - A substantial net gain in hedgerow habitat within the Borough (87 m of species-rich hedge in moderate condition results in a 103.88% net gain in the DEFRA metric 2.0).
 - 0% change in biodiversity units for the river (not accounting for the potential enhancement of the floating ecosystem).
- 1.6 This document summarises the approach taken, and proposals to, deliver biodiversity enhancement as part of the Proposed Development.

2 Enhancement through design

- 2.1 The development proposals have been subject to an iterative process of review following the results of the ecological assessment. This is critical in the application of the mitigation hierarchy which is the established method as set out in Government policy and best practice, of minimising harm to biodiversity and maximising benefits.
- 2.2 Following the extended Phase 1 Habitat Survey and review of desk study information, discussions were held with the London Borough of Richmond upon Thames and the design team to look for ways of reducing all impacts on biodiversity. Multiple iterations of plans were reviewed and commented on by BSG Ecology to ensure that where possible impacts were minimised and opportunities to provide enhancement included. This resulted in the following key changes to the proposals:
- The black poplar will be retained on the Site but moved from its current location towards the south of the Site along the Riverside Promenade. 12 London planes will also be relocated but retained on Site.
 - Incorporation of damper planting areas of native and non-native species of high value to pollinators as rain gardens. These should be specified within the detailed planting plans and schedules.
 - Incorporation of climbing plants supported by wires to create green walls with species of value to pollinators such as clematis *Clematis spp.* and star jasmine *Trachelospermum jasminoides*.
 - Existing insect hotels present within the Site will be retained but relocated to provide a variety of conditions within the Site. Locations are shown on Ecology and net gain strategy. Their precise siting should be agreed with an ecologist.
 - The inclusion of eight swift and four bat boxes integrated within buildings within the Site (see Bird and bat box strategy for locations and specifications) and of three bird and three bat boxes on retained trees within the Site (locations shown on Ecology and net gain strategy). The tree mounted bird boxes will be high quality woodcrete / wood stone boxes with 32 mm entrance holes (such as Vivara Pro Seville 32mm WoodStone Nest Box). The tree mounted bat boxes will be high quality woodcrete / woodstone boxes suitable for crevice dwelling bats such as Schwegler 1FF.
 - Discussions were held regarding the potential to retain self-seeded woodland the short sections of hedgerow however this was not possible to achieve without impinging unacceptably on the key functions of the Site for public use.
 - Discussions were held regarding the potential to incorporate enhanced marginal habitat to the River Thames adjacent to the Site. This included consulting with a specialist provider, the London Port Authority and Environment Agency. As a result a floating ecosystem is shown within the scheme, albeit its final feasibility is still to be established.
- 2.3 The design measures above are shown on the following strategy plans included in the Design and Access statement and reproduced in Appendix A for convenience:
- Ecology and net gain strategy
 - Green roofs strategy
 - Bird and bat boxes (note that this shows features integrated into buildings only)
 - Trees – existing relocated
 - Trees – proposed tree species
 - Trees – canopy size when planted
 - Trees – canopy size after 30 years

3 Measures to ensure enhancement to moderate distinctiveness habitats

Replacement of medium distinctiveness habitat

- 3.1 Self-seeded woodland (a habitat of moderate distinctiveness in calculator terms, though not a priority habitat) to be lost will be compensated for through either habitat enhancement of the River Thames via a floating ecosystem with a suitable planting scheme or through a contribution to fund woodland planting elsewhere in the Borough (to the equivalent of 0.28 biodiversity units). The floating ecosystem proposal is being discussed with the Port of London Authority and Environment Agency. If it is adopted the detailed planting design will be informed by an ecologist and its management will be included within the LEMP.

Enhancement of hedgerow Priority Habitat resource in the Borough

- 3.2 A contribution should be made to Richmond Borough to enable planting of 87 m of new species-rich native hedgerow. As well as compensating for the loss of the defunct species poor hedgerows on Site, this will also provide an increase in medium distinctiveness species-rich native hedgerow in the Borough; an increase calculated in net gain terms as 103% (a result due to the very poor condition and nature of the hedges being lost).

4 Detailed design measures

Detailed design measures

- 4.1 Enhancement principles to be taken forward to relevant detailed plans and specifications (to be informed by an ecologist) include the following:
- Incorporation of native and non-native species of high value to pollinators in detailed proposals for the herbaceous planting, including terrace, woodland style (upper gardens) and river garden areas.
 - Use of tree species of value to wildlife. These should be specified within the detailed planting plans and schedules.
 - Detailed designs for the extensive green roofs should be informed by an ecologist and use plants of high value to pollinators.
 - The detailed design of the pontoon and any modifications to the slipway should seek to increase habitat heterogeneity through creating a more varied structure with opportunities for intertidal and aquatic wildlife including fish.

5 Long term management and engagement with nature

Landscape and Ecological Management Plan

- 5.1 A Landscape and ecology management plan (LEMP) or equivalent should be produced and implemented. In accordance with BS42020¹ the content of the LEMP shall include the following.
- a. Description and evaluation of features to be managed (including planted areas and also wildlife installations such as bird boxes).
 - b. Ecological trends and constraints on site that might influence management.
 - c. Aims and objectives of management.
 - d. Appropriate management options for achieving aims and objectives.
 - e. Prescriptions for management actions.
 - f. Preparation of a work schedule (including an annual work plan capable of being rolled forward over a five-year period).
 - g. Details of the body or organization responsible for implementation of the plan.
 - h. Ongoing monitoring and remedial measures.
- 5.2 The plan shall also set out (where the results from monitoring show that conservation aims and objectives of the LEMP are not being met) how contingencies and/or remedial action will be identified, agreed and implemented so that the development still delivers the fully functioning biodiversity objectives of the originally approved scheme.

Increasing People's Connection with Nature

- 5.3 Tenants or building owners will be supplied with information on Ecology and Biodiversity to inform the owner or occupant of local ecological features, and value and biodiversity on or near the Site. This could be made available online.

¹ BS 42020:2013 British Standard on Biodiversity — Code of practice for planning and development (August 2013)

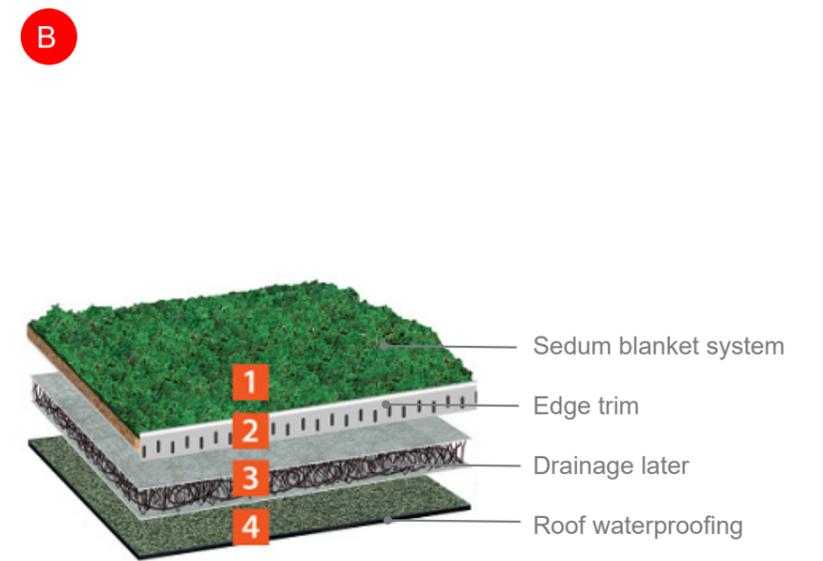
Appendix A: Strategies

Strategies Green roofs

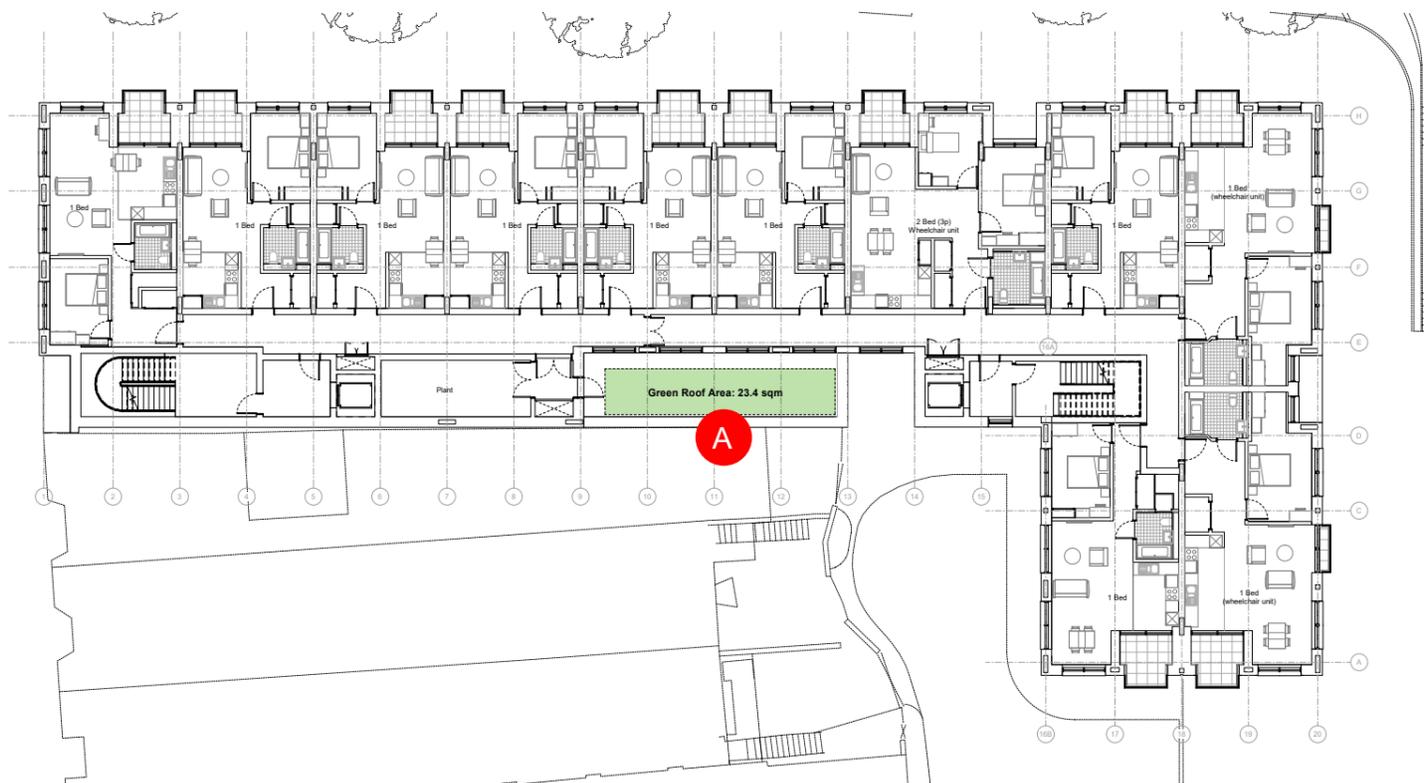
Biodiverse green roofs are proposed on both buildings, with circa 23.4 sq.m of wildflower blanket proposed on top of the single storey bin store and plant space at the west of the Wharf Lane building, and circa 39.0 sq.m of "Rockery Type Plants" proposed on the single storey pub/restaurant foyer in the Wharf Lane Building. 80-100mm of biodiverse substrate is proposed in both instances. Circa 4.9 sq.m of sedum blanket is also proposed on top of the bin store in Wharf Lane.



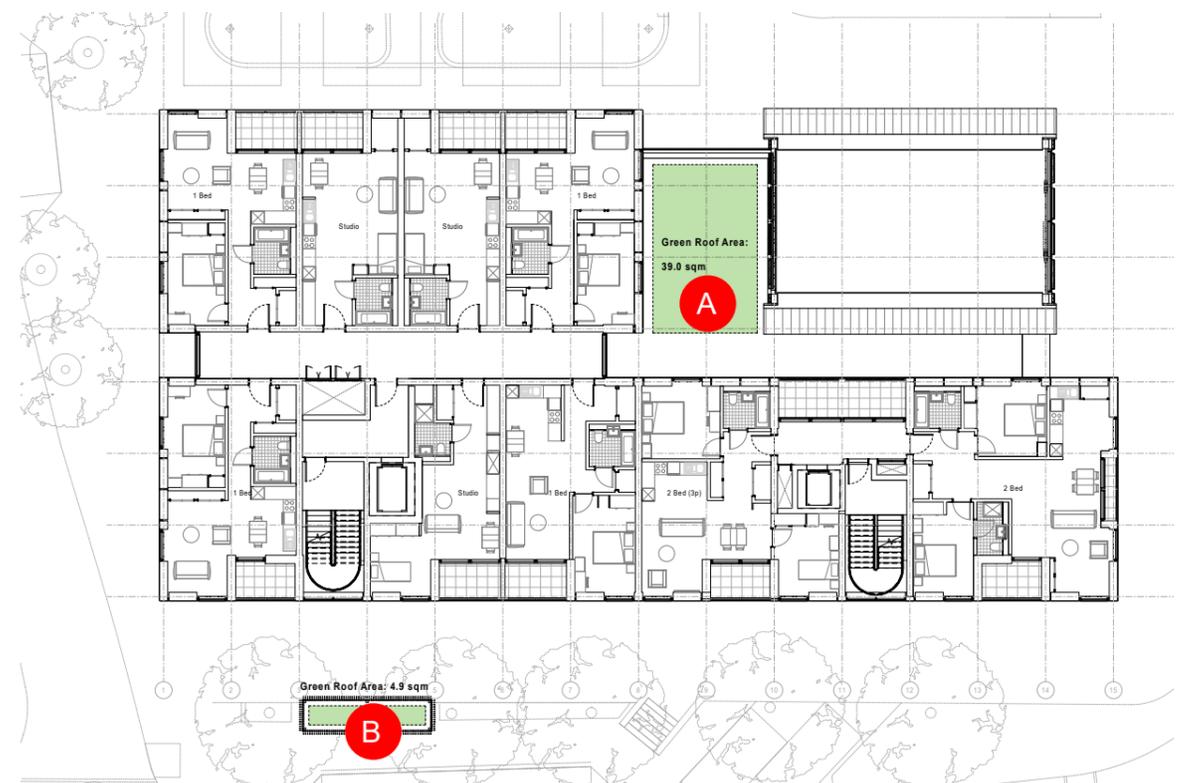
Example of Bio-diverse Roof by Bauder



Example of Sedum Roof by Bauder



Location of Bio-diverse roof on Level 01 of the Water Lane building



Location of Bio-diverse and Sedum roofs on Level 01 of the Wharf Lane building

Key



Proposed green roof locations



Strategies

Bird and Bat Boxes

We are proposing a total of 8 no. bird boxes and 4 no. bat boxes on the south east and south west elevations of the Water Lane building, as shown on the elevation below. The bird boxes will target swifts as requested by the officers, and will be partially shaded by nearby buildings, the gutter and lift overrun. The proposed product is by Bird Brick Houses and fits into the stretcher bond brickwork seamlessly, being faced with the same bricks as used elsewhere and mortared into the external wall. All boxes will be spaced out by up to 6m apart.



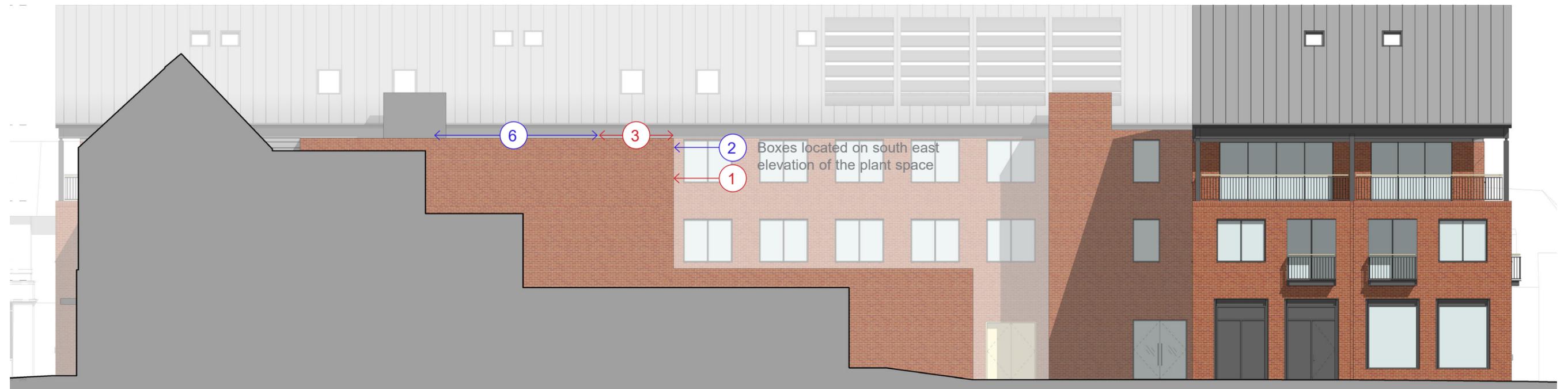
Proposed swift box by Bird Brick Houses



Proposed bat box by Bird Brick Houses



Proposed bird and bat boxes fit seamlessly into the adjacent brickwork by being constructed using the same bricks as used elsewhere



Locations of bird and bat boxes on the south east and south west elevations of the Water Lane building

Key

- ⑧ Number of bird boxes, targeting swifts
- ④ Number of bat boxes

Strategies
Trees - Existing re-located

The existing Black Poplar and the group of umbrella-shaped London Plane trees within the Diamond Jubilee Gardens are to be careful lifted and re-planted in new positions within the gardens.



- Key
-  Existing trees to be retained on Site
 -  Existing trees to be removed on Site
 -  Existing trees to be re-located on Site
 -  Proposed locations for existing trees on Site

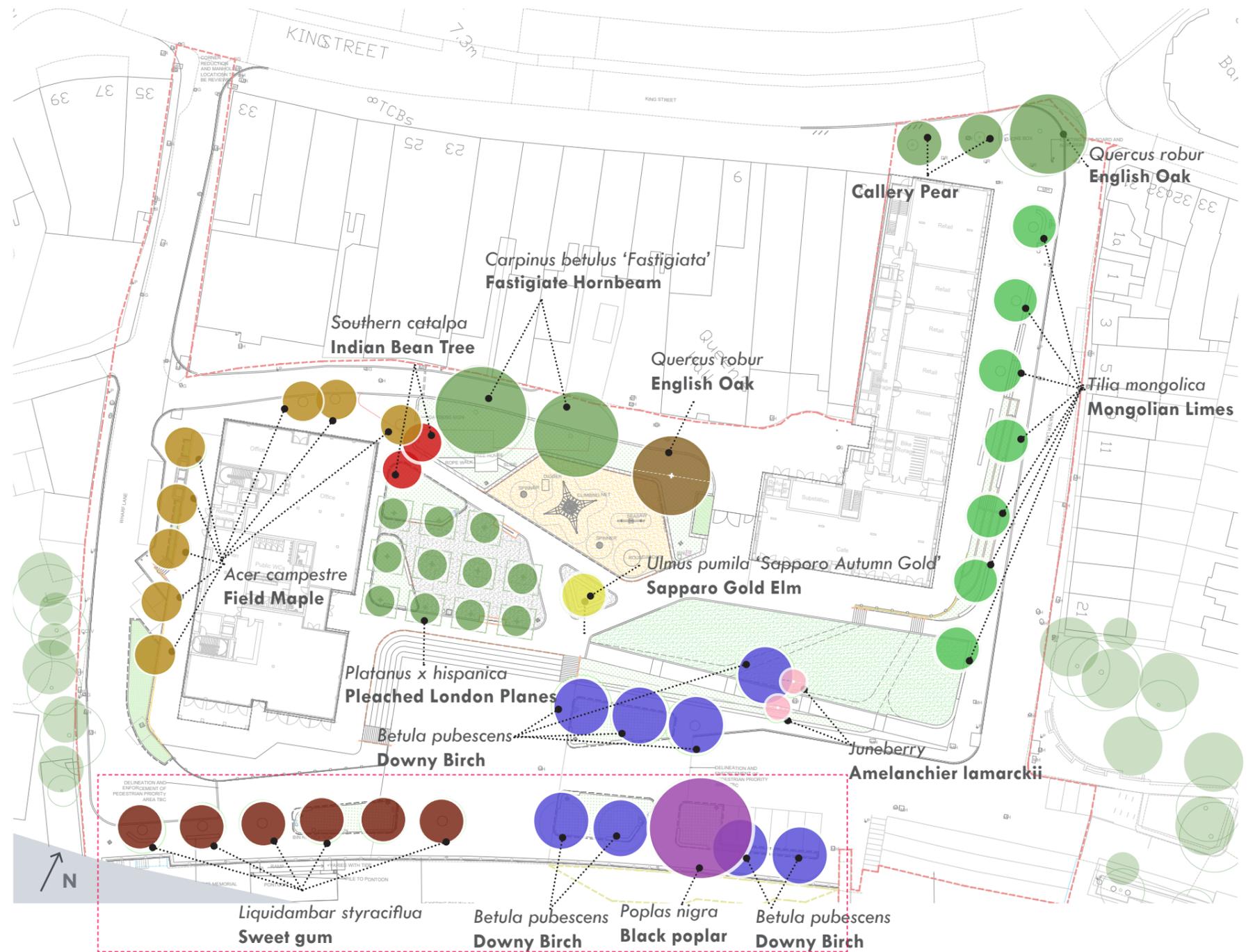
Strategies

Tree - Proposed Tree Species

The tree species have been carefully selected to be suited to the different environmental conditions around the site, and to provide a combination of aesthetic, amenity and ecological value.

The proposed trees species along the riverside promenade are to be confirmed following an investigation into the reasons for failure of the existing Pin Oaks.

The adjacent diagram shows the canopy sizes of tree species after 30 years.



Key



Existing trees to be retained on Site



Proposed tree on Site



Proposed Trees along promenade to be confirmed following soil investigation

Strategies

Trees - Canopy size when planted

The tree strategy has been carefully considered to curate and enhance views across the site as well as maintaining as many high quality existing trees as possible. A wide variety of new trees are also proposed across site improving biodiversity and overall greening.

35 new trees

5 retained in position

12 re-located

52 trees in total

The adjacent diagram shows the canopy sizes of existing trees and proposed trees when planted. The size of proposed trees when planted used to work out the canopy size on the plan is 35-40cm girth.



Key



Existing trees to be retained on site



Proposed trees on site

Strategies

Tree - Canopy size after 30 years

The adjacent diagram shows the canopy sizes of the trees after 30 years.



Key



Existing trees to be retained on Site