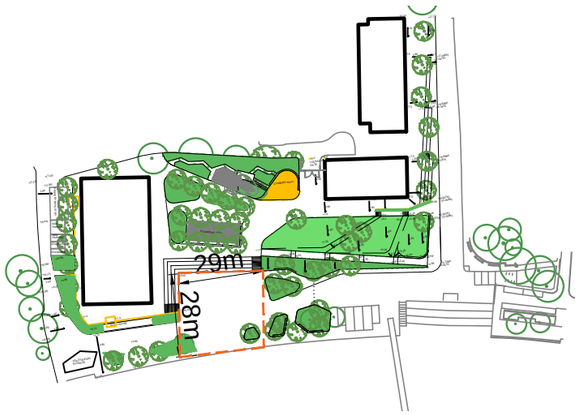
Design
Town Square - Scale comparisons

National Theatre

Precedent Site Area

Twickenham Riverside Square Area



Twickenham Riverside - area of Town Square

National Theatre - area of flexible plaza

Design
River Promenade

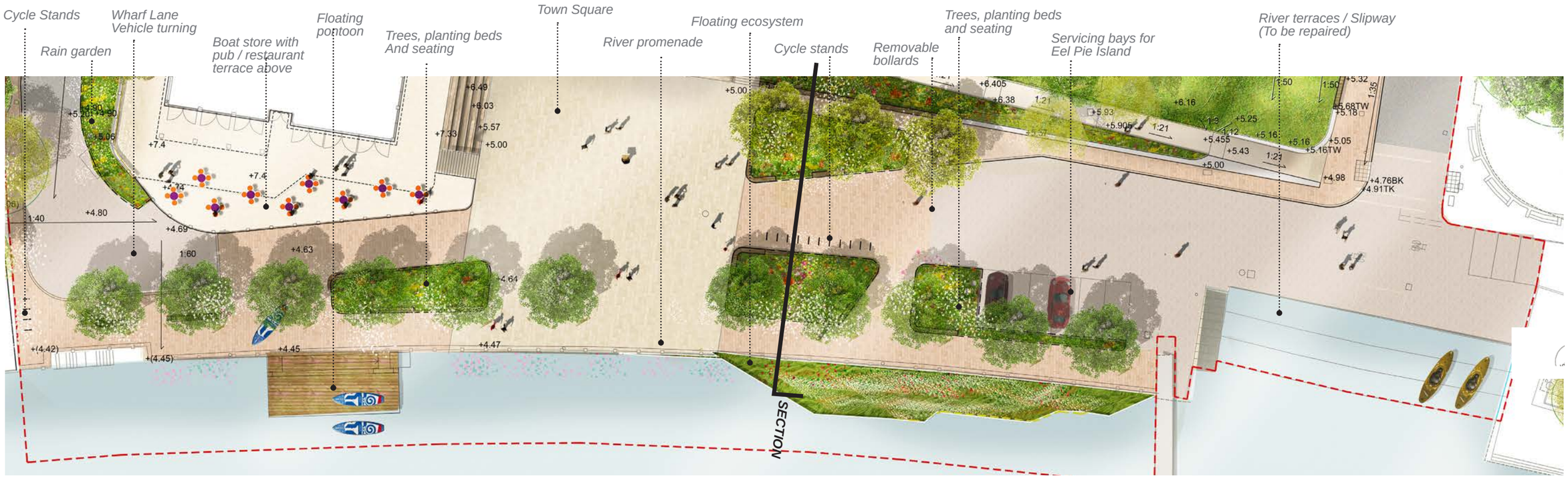
The existing river promenade is retained along the entire length of the site, and the walkway will be improved through new trees, planting and seating.

The existing Pin Oaks have not been flourishing in the wet conditions (when the river floods this lower part of the site) and so an investigation is to be carried out to understand the causes of the failure - and then trees plants that are suited to the ground conditions.

The greening of the river corridor will extend into the river - with a series of floating ecosystems attached to the river wall that will support aquatic flora and fauna.

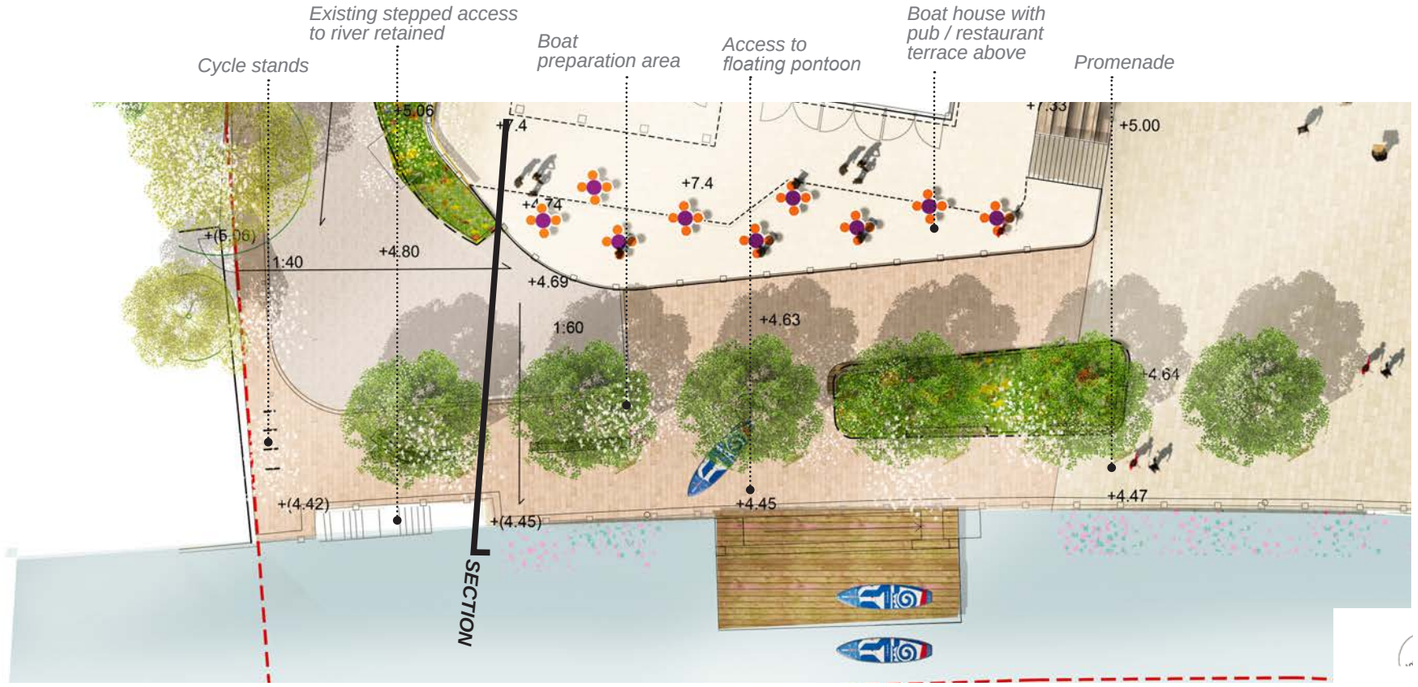
Precedent: Gardens at Paddington

Illustrative section

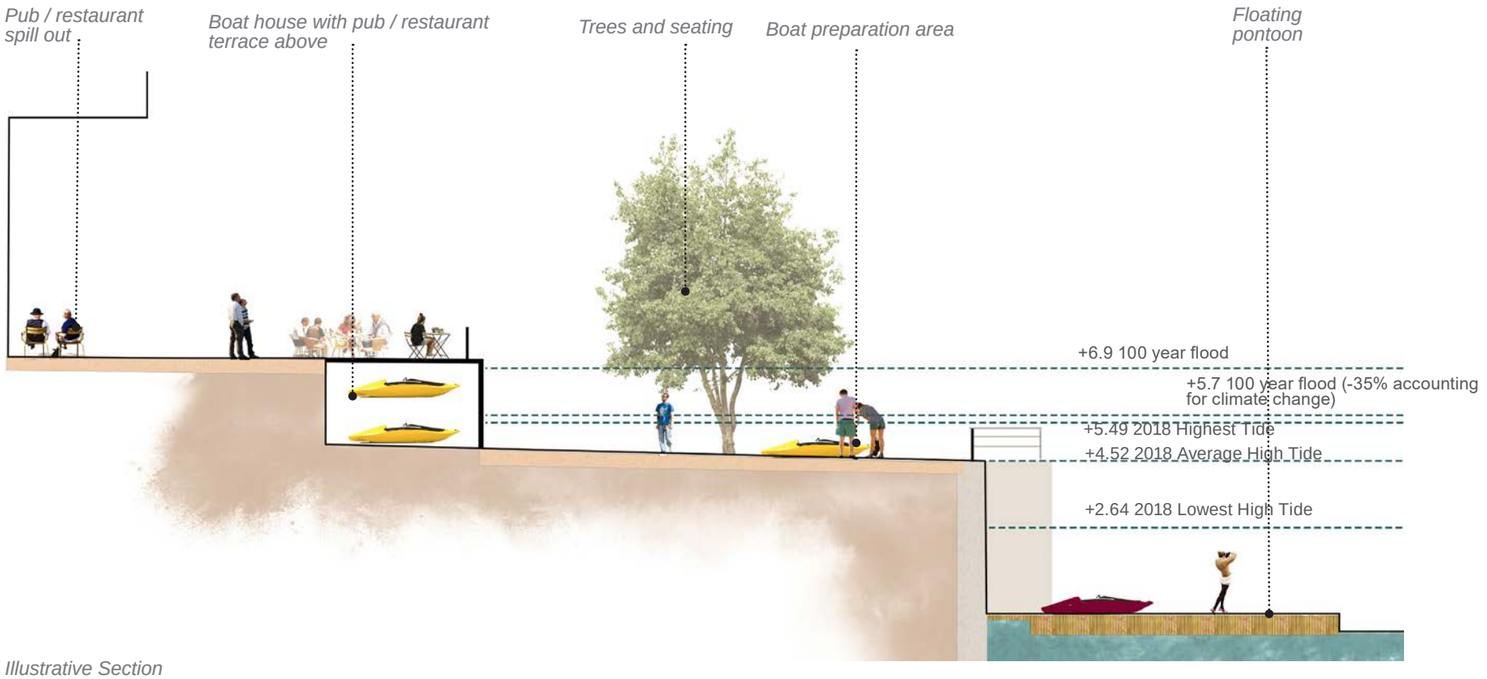


River Promenade plan

Design
River Activity



Plan of river activity area



Illustrative Section

A new point of access down to the river is proposed at the end of Wharf Lane. A lockable boat store is to be built against the flood retention wall surrounding the new building, with a floating pontoon immediately opposite accessed via a walkway.

Space is to provided between the boat store and the river promenade for getting boats out of the store and preparing before carrying down to the pontoon. From discussion with local groups, there is interest in paddle boarding and kayaking - and the floating pontoon is to be scaled so can accommodate other boats such as for the local Dragon boat racing.

Sea Kayak

Standard Kayak

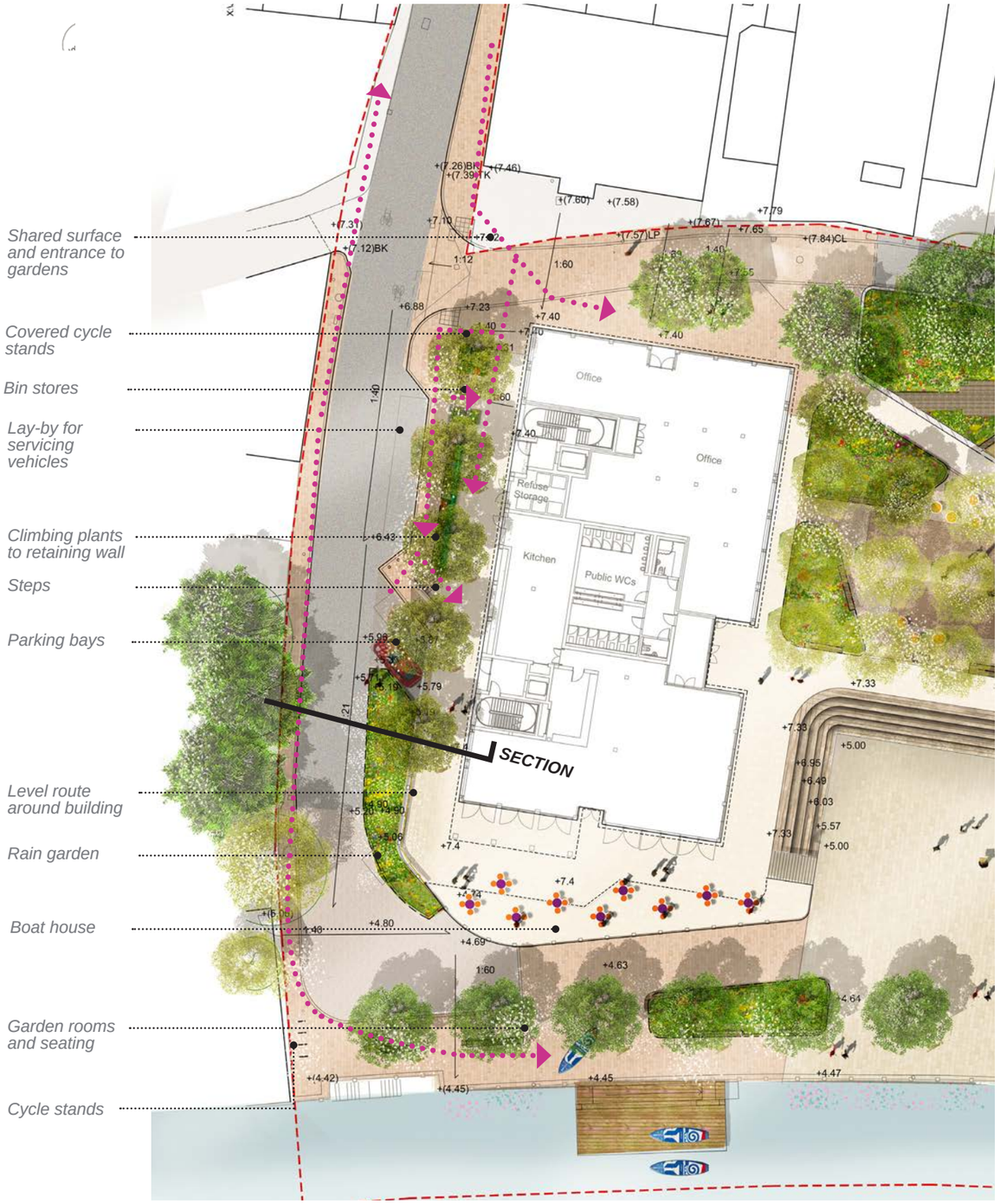
Paddle Board

Paddle Board Mega Size

2 Person Canoe

Dragon Boat

Design
Wharf Lane



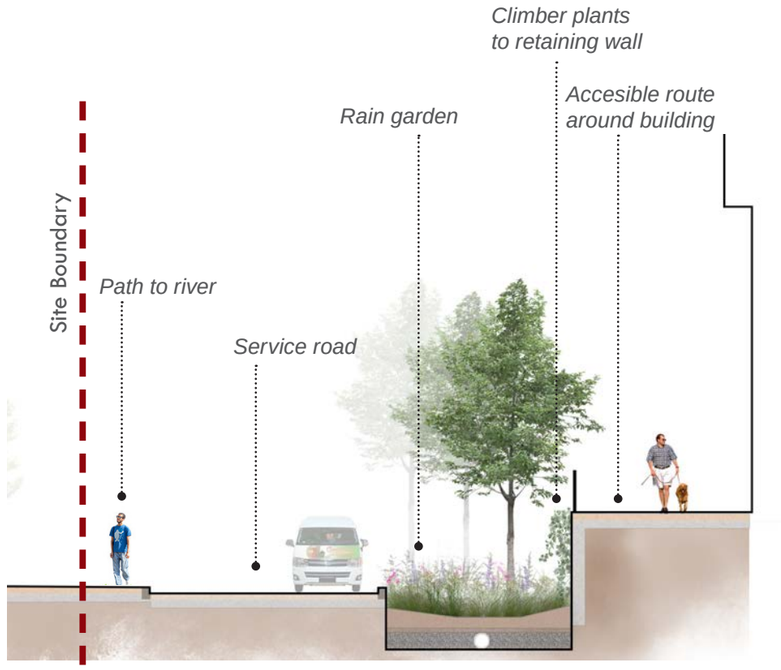
Plan of Wharf Lane

Wharf Lane will be improved with high-quality stone paving all the way down to the river similar to Water Lane. The junction of Wharf Lane and the service road will be raised slightly to create a shared surface and accessible route through to the gardens entrance.

At the corner of Wharf Lane and the service road an accessible path extends along Wharf Lane adjacent to the new building and around to the pub / restaurant terrace. A service bay, parking bays, covered cycle stands and bin store are located just below this junction for easy access to the building.

The flood protection retaining wall will be greened with climbers and a planting bed that turns into a rain garden in the lower part of Wharf Lane.

Wharf Lane will be greened with climbers up the flood protection retaining wall, tree planting, and a rain garden along the lower section of Wharf Lane.



Illustrative section

Strategies
Flood Protection

The site floods regularly and is quite constricted as a result of required flood mitigation measures. The top of the river wall is mostly at +4.45AOB however the 1 in 100 year flood level is at +5.7AOB, meaning that the promenade floods intermittently.

The new design will take into account the need for flood attenuation and storage at the lower levels and assumes +6.9AOB as the 1 in a 100 year flood level to account for a 35% increase as result of climate change.

The master-plan has a flood mitigation barrier designed into it to protect the new buildings and upper garden levels, the diagram opposite explains the flood-able area of the site.

Key

+6.9 contour line - 100 year flood level with 35% climate change

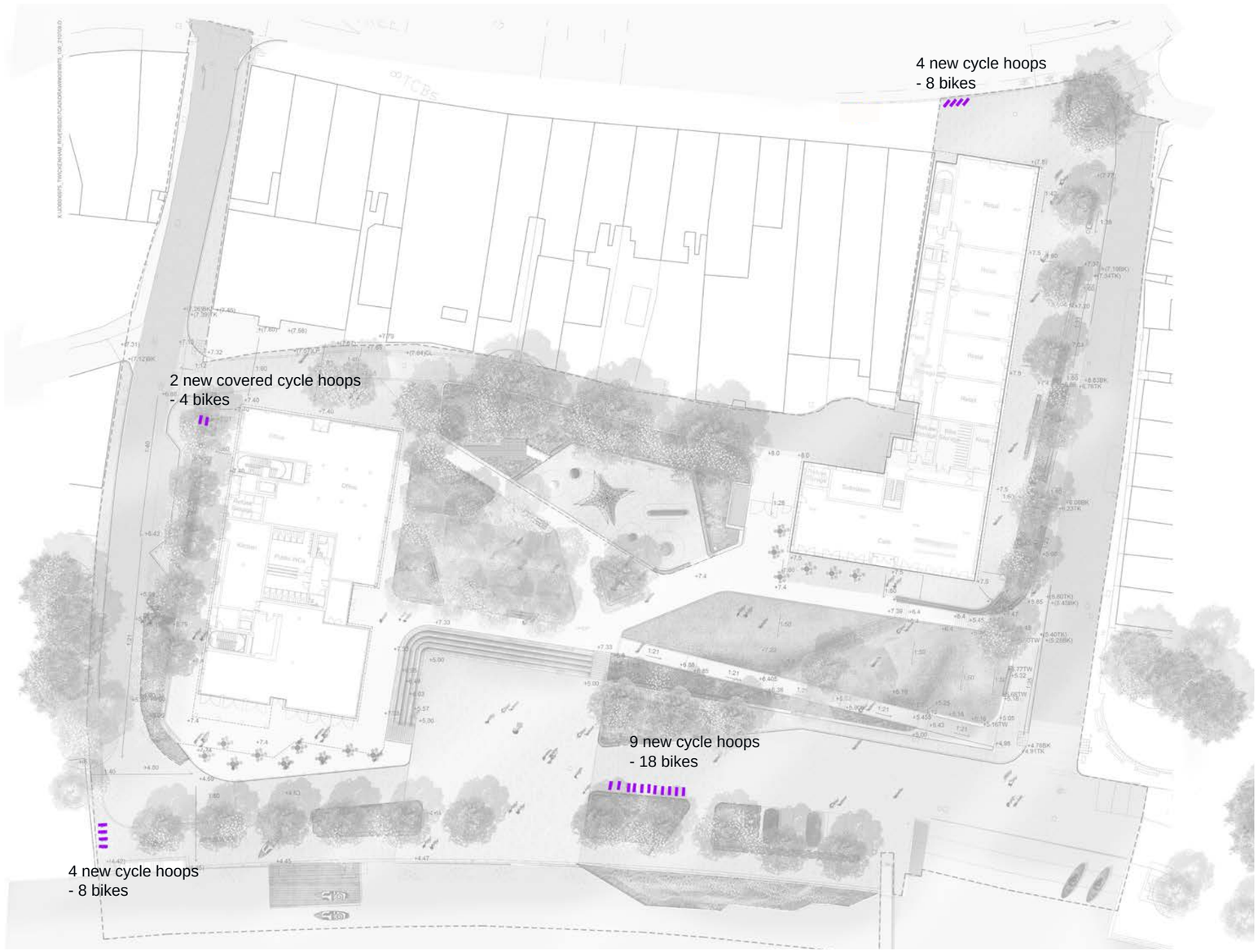
+5.7 contour - 100 year flood current level

Area below +6.9

Strategies
Cycle Parking

Proposed cycle parking is to be located at the main entrances and stopping points in the site - at the top of Water Lane, the entrance to the gardens along Wharf Lane, and at either end of the river promenade.

The 19 cycle hoops will provide parking for 38 bicycles.



Key

Cycle parking hoops

Strategies
Pedestrian movement - Existing

Pedestrian circulation and accessibility on the current site is quite restricted, with poor access from the Diamond Jubilee Gardens down to the riverside.

An accessible route to the gardens is only available at one point from Wharf Lane and adjacent to the back of house service route to the north of the site.

Routes down to the river front are provided along Water Lane and Wharf Lane. There is a pedestrian route along the river front but the majority of the space is given over to car parking spaces and access to the gardens from the river front is only available from a set of steps.

Refer to transport statement for more information on cycle routes.

Key

Main pedestrian routes

Secondary pedestrian routes

Strategies
Pedestrian movement - Proposed

The revised layout provides access to the gardens at three points – from Water Lane, Wharf Lane and from the river front itself. The lower level and new square prioritises pedestrians and the garden terraces are further opened up through stepped access adjacent to the seating terraces.

New accessible routes from the top of Water Lane and Wharf Lane are proposed round into the gardens adjacent to the new buildings, and the route through the site from the Thames Path up through the gardens is improved.

Key

Main pedestrian routes

Secondary pedestrian routes

Tertiary pedestrian routes

Strategies
Levels and Drainage

The levels strategy has been developed to ensure accessible routes (no routes steeper than 1:21) between existing levels are provided and flood storage requirements are met across the site. Rain gardens provide drainage opportunities along Wharf Lane.

Key

+ (0.00)	Existing levels		Rain garden
+ 0.00	Proposed levels		

Strategies
Seating

The seating strategy provides numerous places to rest throughout the site. Opportunities to enjoy views looking over the river or into the performance area are carefully considered, while there is also ample private and intimate areas for rest and reflection. There is additional seating around the petanque and play areas as well as additional movable seating proposed for the cafe and lawns.

Key

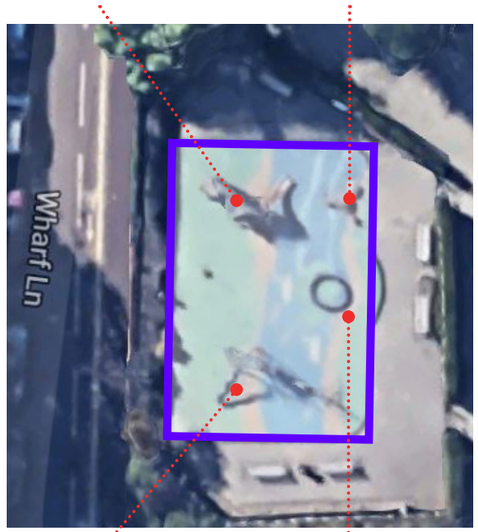
- Accessible benches and seating walls
- Seating wall within play area (not accessible)
- Proposed informal movable seating
- Timber seating terraces (only lower terrace is accessible)

Strategies
Play

EXISTING

Existing play - 187 msq

Play tower with slide *3-Person Seesaw*



Climbing frame *Roundabout*

3-Person Seesaw *Play tower with slide*

Roundabout *Climbing frame*

Existing Play Area

Existing Equipment (total 4 pieces, maximum 15 children at the same time)

1 Play tower with slide (aged 2+, 3 children)
1 Seesaw (aged 3+, 3 children)
1 Roundabout (aged 6+, 4 children)
1 Climbing frame (aged 6+, 5 children)

PROPOSED

The existing play area within the gardens is to be re-provided and improved in a new location adjacent to the new cafe.

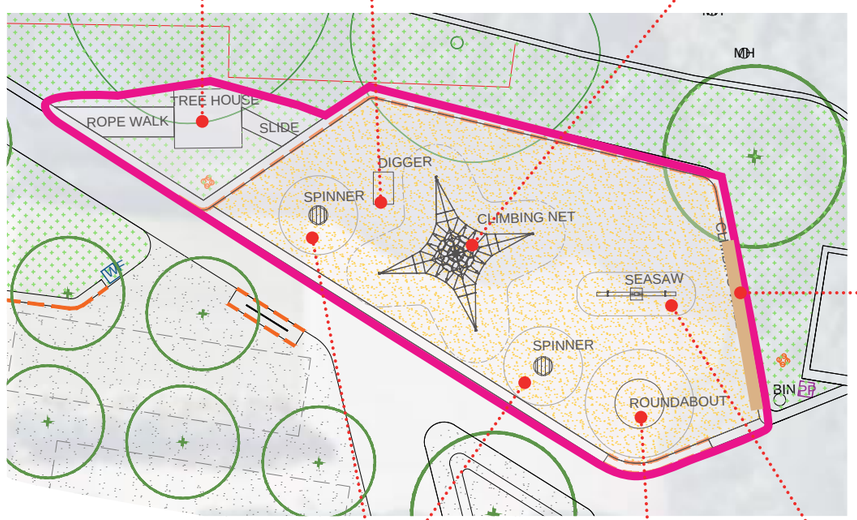
As well as this new play area there are many other more informal play opportunities for all ages designed within the gardens - such as the grass lawns and slope, chess tables, and petanque courts

Proposed play = 343 msq

Required play to reprovide existing 15 play spaces (187 msq)
+ anticipated extra child yield 383msq (based on previous scheme calculations of child yield (GLA)

= Total requirement 187 + 148.6 = 335.6 msq

Tree house with slide *Digger* *Climbing net*



Climbing wall

Spinner *Roundabout* *2-Person Seesaw*

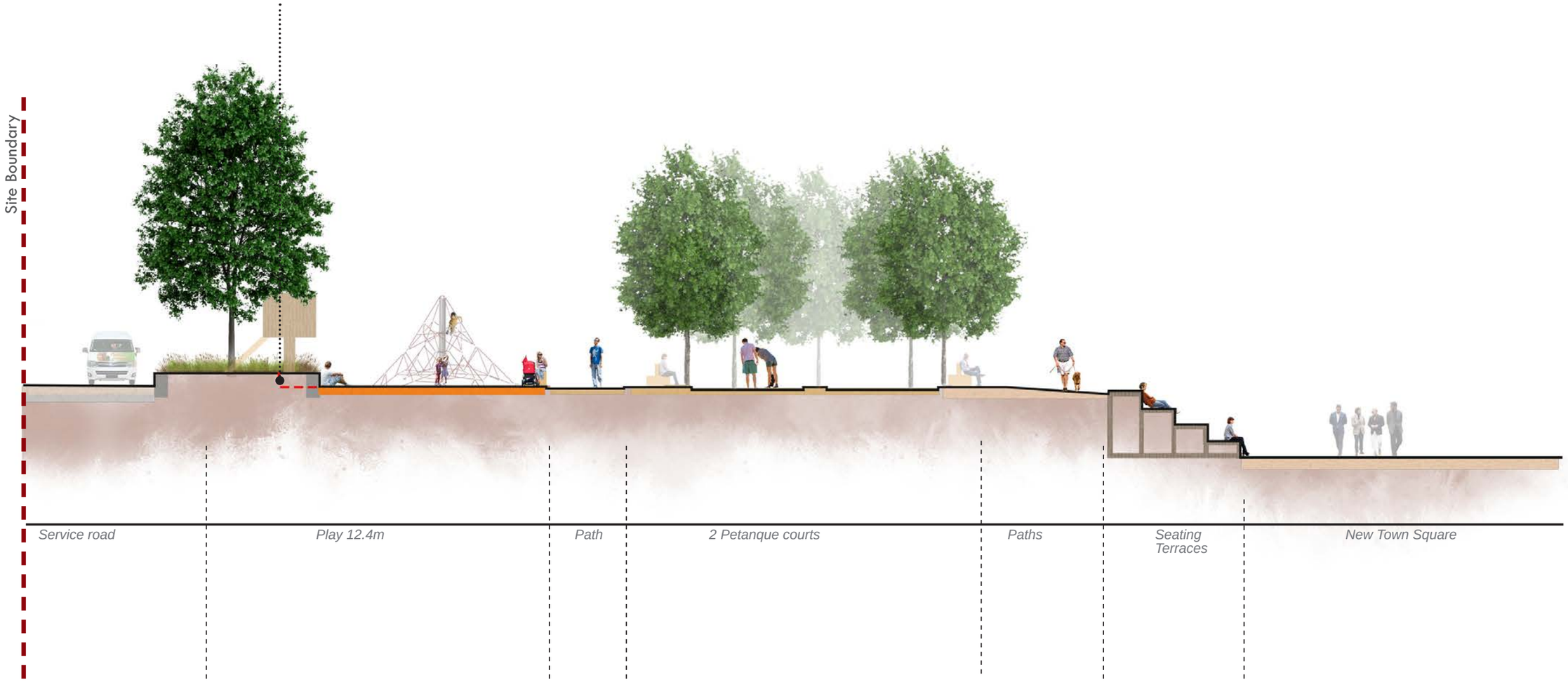
Proposed Play Area

Proposed Equipment (total 8 pieces, Maximum 23 children at the same time)

1 Tree house with slide (aged 2+, 3 children)
1 Seesaw (aged 3+, 2 children)
1 Roundabout (aged 6+, 4 children)
1 Digger (aged 3+, 1 Child)
1 Climbing net (aged 5+, 7 children)
1 Climbing wall (aged 6+, 4 children)
2 Spinners (aged 2+, 1 Child each)

Location Plan

Previous edge of planter location



Illustrative section

Strategies
Play

The adjacent diagram shows existing play areas within walkable distance from our site.

Play Area for children aged under 5 years old (within 100m walking distance):

NIL

Play Area for children aged 5 - 11 years old (within 400m walking distance):

- Champion's Wharf's Play Beach
- Playground adjacent to Holly Road

Play Area for children aged 12+ years old (within 800m walking distance):

- Craneford Way Playing Fields
- Jeremy Hooton Tennis Coaching
- Richmond Baseball Club
- Riverside Drive Playground
- Richmond & Kew Football
- Sheen Parks Tennis – King George's Field
- Tennis Court adjacent to Moor Mead Road
- Tennis courts, basketball courts and football pitch adjacent to Grotto Road
- Twickenham Lawn Tennis Club

Strategies
Play

Masterplan wide play requiremen (sqm):

Age Group	Child Yield	Required Space for Play	Proposed Space for Play	Maximum Distance from site
0 - 4 years	7.5	75	144	100
5 - 11 years	5.1	51	130	400
12+ years	2.3	23	187	800

Total Proposed Play Space = 343 sqm

Key

0 - 4 years

5 - 11 years

12+ years

5+ years

Strategies
Open Space

The plans below shows an increase of existing and proposed open space* within the site boundary. For the proposed plan a breakdown is provided of the areas above and below the flood line, and also between hard and soft surfaces.

*The definition for open space has been taken from the London Plan: ‘Publicly accessible space between and around buildings, including streets, squares, forecourts, parks and open spaces.’

Existing Open Space

Existing Open Space

Total Site Area = 13414 sqm

Total Existing Open Space = 4366 sqm

Park Area= 3293 sqm
Open Space along Promenade = 1073 sqm

Proposed Open Space

Flood Line
Softscape outside Floodable Area
Softscape within Floodable Area
Hardscape outside Floodable Area
Hardscape within Floodable Area

HARD (Total: 5431 sqm)		SOFT (Total: 1553 sqm)	
Outside Flood-able Area 2785	Within Flood-able Area 2646	Outside Flood-able Area 685	Within Flood-able Area 868
Outside Diamond Jubibee Garden 1153	Within Diamond Julibee Garden 1121	Outside Diamond Jubibee Garden 622	Within Diamond Julibee Garden 523

Total Site Area = 13414 sqm

Total Proposed Open Space Area = 6984 sqm

Strategies
Urban Greening Factor

The adjacent plan shows the different areas of greening within the site that correspond to the categories used to calculate the Urban Greening Factor. These areas are then used in the table on the next page to calculate the score of 0.32.

The guidelines recommend a score of 0.3 for commercial developments, and 0.4 for residential development, and as a mixed use development the proposal is achieving a score mid way between these.

Key

- Rain Garden
- Floating Wetlands
- Climbing Plants
- Flower-rich Perenial
- Green Roof
- Amenity Grass
- Existing Trees (including existing tree relocated within the site)
- Permeable Paving
- Proposed Trees

Twickenham Urban Greening Factor Analysis

Total Site Area (ha)	13414

Surface Cover Type	Factor	Area (ha)	Ratio
Semi-natural vegetation (e.g. woodland, flower-rich grassland) maintained or established on site.	1.0	819.72	0.06
Wetland or open water (semi-natural; not chlorinated) maintained or established on site.	1.0	1039.58	0.08
Intensive green roof or vegetation over structure. Substrate minimumsettled depth of 150mm.	0.8	NA	NA
Standard trees planted in connected tree pits with a minimum soil volume equivalent to at least two thirds of the projected canopy area of the mature tree.	0.8	1450.66	0.09
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	62.40	0.00
Flower-rich perennial planting.	0.7	930.23	0.05
Rain gardens and other vegetated sustainable drainage elements.	0.7	63.92	0.00
Hedges (line of mature shrubs one or two shrubs wide).	0.6	NA	NA
Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree.	0.6	NA	NA
Green wall –modular system or climbers rooted in soil	0.6	400	0.02
Groundcover planting.	0.5	NA	NA
Amenity grassland (species-poor regularly mown lawn).	0.4	564.71	0.02
Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2014.I	0.3	4.9	0.00
Water features (chlorinated) or unplanted detention basins.	0.2	NA	NA
Permeable paving.	0.1	588.91	0.00
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0.0	/	/

Total Score	0.32

Strategies
Ecology & Net Gain Strategy

The diagram opposite outlines the ecology strategy. The biodiverse planting palette seeks to provide a wide variety of habitat opportunities. Berry producing trees are proposed where appropriate to encourage bats and support birds. Bat and bird boxes and insect hotels are provided where suitable and appropriate. The existing insect hotels wihin the gardens to be re-located within the site.

There is also an opportunity to enhance the ecology along the river with floating ecosystems that are attached to the river wall. This proposal is being discussed with the Port of London Authority and the Environment Agency.

Example of Bio-diverse Floating Ecosystems

Illustrative Diagram of Floatiing Ecosystems

Key

- Rain Gardens
- Herbaceous Planting
- Green Roof
- Woodland Planting
- Climbing Plants
- Lawn
- Floating Ecosystems
- Existing Trees
- Bat Boxes
- Existing Tree (relocated)
- Generic Bird Boxes
- Proposed Trees
- Insect Hotels

Strategies
Lighting, Power, Water, and Bins

The lighting strategy is to be carefully designed to ensure the site remains safe at night whilst also maintaining a suitable environment for flora and fauna.

External power points, drinking fountains and bins are to be located in the most suitable position as illustrated on the plan.

Key

P	External power pedestal		Existing Light Posts		Linear lighting integrated within benches and terraces
DF	Drinking fountains and bottle fillers		Proposed lighting posts with multiple fixtures		