

# Twickenham Riverside Sustainable Construction Checklist





## Design Team

<b>Applicant</b>	London Borough of Richmond upon Thames
<b>Project Manager</b>	Arcadis
<b>Architect</b>	Hopkins Architects
<b>Landscape Architect</b>	LDA Design
<b>Structural Engineer</b>	Webb Yates Engineers
<b>Mechanical &amp; Electrical Engineer</b>	Skelly & Couch
<b>Transport Consultant</b>	WSP
<b>Quantity Surveyor</b>	Arcadis
<b>Planning Consultant</b>	Savills
<b>Townscape &amp; Heritage Consultant</b>	Iceni Projects
<b>Sustainability Consultant</b>	Method Consulting
<b>Accessibility Consultant</b>	Lord Consultants
<b>Fire Consultant</b>	FDS Consult UK
<b>Ecology Consultant</b>	BSG Ecology
<b>Arboricultural Consultant</b>	Thomson Environmental Consultants
<b>Daylight &amp; Sunlight Consultant</b>	GIA Chartered Surveyors
<b>Acoustic Consultant</b>	TetraTech
<b>Air Quality Consultant</b>	Entran
<b>Land Contamination Consultant</b>	Geosphere Environmental
<b>Archaeological Consultant</b>	AOC Archaeology Group
<b>Viability Consultant</b>	Lambert Smith Hampton
<b>Principal Designer</b>	Nick Perry Associates
<b>BIM Consultant</b>	BIM Technologies

**LBRUT Sustainable Construction Checklist - June 2020**

This document forms part of the Sustainable Construction Checklist SPD. This document **must** be filled out as part of the planning application for the following developments: all residential development providing **one or more new residential units (including conversions leading to one or more new units)**, and all other forms of development providing **100sqm or more of non-residential floor space**. Developments including new non-residential development of less than 100sqm floor space, extensions less than 100sqm, and other conversions are strongly encouraged to comply with this checklist. Where further information is requested, please either fill in the relevant section, or refer to the document where this information may be found in detail, e.g. Flood Risk Assessment or similar. **Further guidance** on completing the Checklist may be found in the Justification and Guidance section of this SPD.

Property Name (if relevant):  Application No. (if known):

Address (include postcode):  Completed by:

For Non-Residential Size of development (m2)  For Residential Number of dwellings

**1 MINIMUM COMPLIANCE (RESIDENTIAL AND NON-RESIDENTIAL)**

**Energy Assessment**

Has an energy assessment been submitted that demonstrates the expected energy and carbon dioxide emissions saving from energy efficiency and renewable energy measures, including the feasibility of CHP/CCHP and community heating systems? If yes, please select TRUE.

**Carbon Dioxide emissions reduction**

What is the on site carbon dioxide emissions reduction against a Building Regulations Part L (2013) baseline  %  
*Policy LP 22 B. and Draft London Plan Policy 9.2.5 require a 35% onsite reduction in CO<sub>2</sub> emissions beyond Building Regulations 2013.*

What is the percentage reduction from efficiency measures alone  %  
*Policy LP 22 C. and Draft London Plan Policy 9.2.6 require a 10% onsite reduction in CO<sub>2</sub> emissions beyond Building Regulations 2013 from efficiency measures for residential and 15% for non-residential.*

Percentage of **total** site CO<sub>2</sub> emissions saved through renewable energy installation?  %

What is the total remaining carbon to be offset  Tonnes  
*Policy LP 22 B. and Draft London Plan Policy 9.2.4 require Major developments to achieve Zero Carbon after offsetting.*

Are remaining emissions going to be offset through offset fund payment in accordance with current guidelines issued for the cost per tonne of CO<sub>2</sub>?

What is the total predicted cost of offset?  £  
*The London Plan sets this as £95/tonne per year over 30 years, this should be updated based on As Build calculations.*

**1A MINIMUM POLICY COMPLIANCE (NON-RESIDENTIAL AND DOMESTIC REFURBISHMENT)**

*Please check the Guidance Section of this SPD for the policy requirements*

**Environmental Rating of development:**

Non-Residential new-build (100sqm or more) BREEAM Level  Have you attached a pre-assessment to support this?

*Excellent required under Policy LP22 A 3*

Extensions and conversions for residential dwellings BREEAM Domestic Refurbishment  Have you attached a pre-assessment to support this?

*Excellent required under Policy LP22 A 4*

Extensions and conversions for non-residential buildings BREEAM Level  Have you attached a pre-assessment to support this?

*Excellent required under Policy LP 22*

Score awarded for Environmental Rating:  **Subtotal**

BREEAM: Good = 0, Very Good = 4, Excellent = 8, Outstanding = 16

**1B MINIMUM POLICY COMPLIANCE (RESIDENTIAL)**

**Score**

**Water Usage**

Internal water usage after gray/rainwater systems limited to 105 litres person per day. (Excluding an allowance 5 litres per person per day for external water consumption). Calculations using the water efficiency calculator for new dwellings have been submitted.

*110l/p/d Required for new dwellings under Policy LP22 A 2 105l/p/d required under Draft London Plan Policy S15*

**Subtotal**

**2. ENERGY USE AND POLLUTION**

**2.1 Need for Cooling**

a.	How does the development incorporate cooling measures? Tick all that apply:	<b>Score</b>
	Energy efficient design incorporating specific heat demand to less than or equal to 15 kWh/sqm	6
	Reduce heat entering a building through providing/improving insulation and living roofs and walls	2
	Reduce heat entering a building through shading	3
	Exposed thermal mass and high ceilings	4
	Passive ventilation	3
	Mechanical ventilation with heat recovery	1
	Active cooling systems, i.e. Air Conditioning Unit	0

See Draft London Plan S14

**2.2 Heat Generation**

b.	How have the heating and cooling systems, with preference to the heating system hierarchy, been selected (defined in London Plan policy S13) Tick all heating and cooling systems that will be used in the development:	<b>Score</b>
	Connection to existing heating or cooling networks powered by renewable energy	6
	Connection to existing heating or cooling networks powered by gas or electricity	5
	Site wide CHP network powered by renewable energy	4
	Site wide CHP network powered by gas	3
	Communal heating and cooling powered by renewable energy	2
	Communal heating and cooling powered by gas or electricity	1
	Individual heating and cooling	0

See Draft London Plan S13

**2.3 Pollution: Air, Noise and Light**

a.	Does the development plan to implement reduction strategies for dust emissions from construction sites?	2
b.	Does the development plan to include a biomass boiler? If yes, please refer to the biomass guidelines for the Borough of Richmond, please see guidance for supplementary information. If the proposed boiler is of a qualifying size, you may need to complete the information request form found on the Richmond website.	
c.	Has an air quality impact assessment been provided? If yes, has 'Emissions Neutral' been achieved If yes, have occupants of new development been protected from existing pollution If no to any of the above are there any sensitive receptors as defined in Policy LP 10 present?	1 1 -1
	see Policy LP 10	
d.	Please tick only one option below Has the development taken measures to reduce existing noise and enhance the existing soundscape of the site? Has the development taken care to not create any new noise generation/transmission issues in its intended operation?	3 1
	see Policy LP 10	
e.	Has the development taken measures to reduce light pollution impacts on character, residential amenity and biodiversity?	3
	see Policy LP 10	
f.	Have you attached a Lighting Pollution Report?	-

**Subtotal** 17

Please give any additional relevant comments to the Energy Use and Pollution Section below

Please refer to the Energy Statement and Air Quality Assessment for further details

**3. TRANSPORT**

**3.1 Provision for the safe efficient and sustainable movement of people and goods**

a.	Does your development provide opportunities for occupants to use innovative travel technologies?	
	Please explain:	
	<div style="border: 1px solid black; height: 25px; background-color: #e0f0e0;"></div>	
		<b>Score</b>
b.	Does your development provide for 100% active provision for electric vehicle charging point(s) and have you successfully demonstrated that it would be able to operate satisfactorily in the future expectation of all vehicles being electrically powered?	2
c.	<b>For major developments ONLY:</b> Has a Transport Assessment been produced for your development based on TfL's Best Practice Guidance? If you have provided a Transport Assessment as part of your planning application, please tick here and move to Section 3 of this Checklist.	5
	See policy LP44	
d.	<b>For smaller developments ONLY:</b> Have you provided a Transport Statement?	5
e.	Does your development provide cycle storage? (Standard space requirements are set out in the Council's Parking Standards - Local Plan Appendix 3) If so, for how many bicycles? Is this shown on the site plans?	2 123
	See Local Plan Appendix 3	
f.	Will the development create or improve links with local and wider transport networks? If yes, please provide details.	2

**Subtotal** 7

Please give any additional relevant comments to the Transport Section below

**4 BIODIVERSITY**

**4.1 Minimising the threat to biodiversity from new buildings, lighting, hard surfacing and people**

- a. Does your development involve the loss of an ecological feature or habitat, including a loss of garden or other green space? (Indicate if yes) -2  
If so, please state how much in sqm? 630 sqm
- b. Does your development involve the removal of any tree(s)? (Indicate if yes)  
If so, has a tree report been provided in support of your application? (Indicate if yes)
- c. Does your development plan to add (and not remove) any tree(s) on site? (Indicate if yes)
- d. Please indicate which features and/or habitats that your development will incorporate to improve on site biodiversity:
 

Pond, reedbed or extensive native planting	6	Area provided:		sqm
An extensive green roof	5	Area provided:	67.3	sqm
An intensive green roof	4	Area provided:		sqm
Garden space	4	Area provided:	1520	sqm
Additional native and/or wildlife friendly planting to peripheral areas	3	Area provided:		sqm
Additional planting to peripheral areas	2	Area provided:		sqm
A living wall	2	Area provided:	0.04	sqm
Bat boxes	0.5			
Bird boxes	0.5			
Swift boxes	0.5			
Other	0.5			
- e. Does your development use at least 70% of available roof plate as green/brown roof 1  
*Policy LP 17 requires 70%*

**Subtotal** 10

Please give any additional relevant comments to the Biodiversity Section below

**5 FLOODING AND DRAINAGE**

**5.1 Mitigating the risks of flooding and other impacts of climate change in the borough**

- a. Is your site located in a high flood risk zone (Zone 3)? (Indicate if yes) -2  
Have you submitted a Flood Risk Assessment? (Indicate if yes)
- b. Which of the following measures of the drainage hierarchy are incorporated onto your site? (tick all that apply)
 

Store rainwater for later use	5
Use of infiltration techniques such as porous surfacing materials to allow drainage on-site	3
Attenuate rainwater in ponds or open water features	4
Store rainwater in tanks for gradual release to a watercourse	3
Discharge rainwater directly to watercourse	2
Discharge rainwater to surface water drain	1
Discharge rainwater to combined sewer	0
Have you submitted a Drainage Statement (Indicate if yes)	
- c. See Policy LP 21 and Draft London Plan SL 13  
Please give the change in area of permeable surfacing which will result from your development proposal: 1034 sqm  
Please provide details of the permeable surfacing below please represent a loss in permeable area as a negative number

**Subtotal** 7

Please give any additional relevant comments to the Flooding and Drainage Section below

Soft landscaped areas and permeable paving (50% area assumed based on SuDS report, page 29).

**6 IMPROVING RESOURCE EFFICIENCY**

**6.1 Reduce waste generated and amount disposed of by landfill though increasing level of re-use and recycling**

- a. Will demolition be required on your site prior to construction? *[Points will only be awarded if 10% or greater of demolition waste is reused/recycled]* 1  
If so, what percentage of demolition waste will be reused in the new development? 0 %  
What percentage of demolition waste will be recycled? 99.68 %
- b. Does your site have any contaminated land? 1  
Have you submitted an assessment of the site contamination? 2  
Are plans in place to remediate the contamination? 2  
Have you submitted a remediation plan? 1  
Are plans in place to include composting on site? 1
- c. Will a waste management plan and facilities be in place in line with Policy LP24 Yes

**6.2 Reducing levels of water waste**

- a. Will the following measures of water conservation be incorporated into the development? (Please tick all that apply): 1  
Fitting of water efficient taps, shower heads etc 1  
Use of water efficient A or B rated appliances 4  
Rainwater harvesting for internal use 4  
Greywater systems 4  
Fit a water meter 1

**Subtotal** 6

Please give any additional relevant comments to the Improving Resource Efficiency Section below

**7 ACCESSIBILITY**

**7.1 Ensure flexible adaptable and long-term use of structures**

a. **If the development is residential**, will it meet the requirements of the nationally described space standard for internal space and layout? 1  
If the standards are not met, in the space below, please provide details of the functionality of the internal space and layout

**AND**  
b. **If the development is residential**, will it meet Building Regulation Requirement M4 (2) 'accessible and adaptable dwellings'? 2  
If this is not met, in the space below, please provide details of any accessibility measures included in the development.

For major residential developments, are 10% or more of the units in the development to Building Regulation Requirement M4 (3) 'wheelchair user dwellings'? 1

**OR**  
c. **If the development is non-residential**, does it comply with requirements included in Richmond's Local Plan LP1, LP28.B, LP30 & LP45? 2  
Please provide details of the accessibility measures specified in the Local Plan that will be included in the development

Policy LP 1 - Detailed review carried out of the site including pedestrian and cycle networks carried out by the design team to allow integration of accessibility and inclusive design into the scheme. Consultation with stakeholders has also included for

**Subtotal** 6

Please give any additional relevant comments to the Design Standards and Accessibility Section below  
Please refer to the inclusive design statement section of the design and access statement for further details

**LBRUT Sustainable Construction Checklist- Scoring Matrix for New Construction (Non-Residential and domestic refurb)**

**TOTAL** 62


Score	Rating	Significance
84 or more	A+	Project strives to achieve highest standard in energy efficient sustainable development
75-83	A	Makes a major contribution towards achieving sustainable development in Richmond
56-74	B	Helps to significantly improve the Borough's stock of sustainable developments
40-55	C	Minimal effort to increase sustainability beyond general compliance
39 or less	FAIL	Does not comply with SPD Policy

**LBRUT Sustainable Construction Checklist- Scoring Matrix for New Construction Residential new-build**

Score	Rating	Significance
85 or more	A++	Project strives to achieve highest standard in energy efficient sustainable development
68-84	A+	Project strives to achieve higher standard in energy efficient sustainable development
59-67	A	Makes a major contribution towards achieving sustainable development in Richmond
39-58	B	Helps to significantly improve the Borough's stock of sustainable developments
24-38	C	Minimal effort to increase sustainability beyond general compliance
23 or less	FAIL	Does not comply with SPD Policy

**Authorisation:**

I herewith declare that I have filled in this form to the best of my knowledge

Signature  Date 27.07.21