

Arch 464  
ECS  
Spring 2018

Name \_\_\_\_\_

Quiz #2

## "Bristol Water"

For this problem you are the water use and conservation consultant for Chandler Court Passivhaus-standard social housing in Bristol, UK. Your role is to critique Chandler Court's green, educational, and poetic alternatives for water use and treatment in the building and on its site.



*View to Chandler Court from the entry (X on the site plan on page 2). Note PV panels on south-facing roof.*

All photos and drawings: The Architects' Journal 8 March 2018.

**Context.** Bristol's climate is classified as warm and temperate. Bristol has a significant amount of rainfall during the year. This is true even for the driest month. In Bristol, the average annual temperature is 9.8 °C. Freezing temperatures are rare. About 819 mm (32") of precipitation falls annually. The variation in the precipitation between the driest and wettest months is 35 mm—52 mm (2") in April to 87 mm (3.5") in December.

**READ THE ENTIRE QUIZ BEFORE YOU BEGIN!**

# Transforming Bristol's garage land

*The Architects' Journal*, 8 March, 2018 by Jon Astbury

An ambitious election pledge to build an average of 2,000 new homes a year in Bristol by 2020 was one that helped win Labour candidate Marvin Rees a decisive victory in the 2016 mayoral elections. Bristol has long been in the throes of a housing crisis; earlier this year the *Bristol Post* reported that the total number of council homes had risen from 39,179 in 2010 to 39,185 in 2017 – a net gain of just six. Rees's pledge included the provision of 800 new 'affordable' homes every year.

Emmett Russell Architects (ERa) has been working with the council at a tiny, suburban acupuncture scale, providing 20 new homes across three infill sites in the northern suburbs. These small blocks all occupy former garage sites, a few of many in the suburbs that have become neglected and gathered a general reputation as drug hotspots. Here, we look at one of these, Challenger Court, sitting between Satchfield Crescent and Challenger Avenue in Henbury.

These are by their nature difficult plots – built-around, often ignored and accessed via small private routes. It was never a consideration to give them good views or natural light. The sites sit in neighbouring suburbs, surrounded by ubiquitous 60s housing, a patchwork of private and council-owned, made a little more characterful by Bristol's topography and dotted with a few tower blocks. Challenger Court's site is sandwiched between the rear gardens of the houses to the north and south, and has resulted in an elongated run of two storeys of one-bedroom flats. These pocket projects are a means of addressing specific needs:

in this case the need to downsize for an older demographic forced out of larger properties by the bedroom tax. As Russell comments, 'commercially, they don't necessarily stack up very well ... it's a way to test and experiment with strategies; something that the council recognises may come at a slight premium.'

At Challenger Court, a parking area has been placed directly at the entrance, to minimise vehicular traffic along the block's frontage where a gently crooked route lined with bin stores leads down to a single garage and a small landscaped area. A minor landscaped wedge separates the small street from a straight, pedestrian scaled-route, where the sustainable drainage system (SUDS) cuts a tiny channel in front of the housing block. This is crossed by rather symbolic 'bridges' that lead to each of the communal entrances, defined by two steel boxes (one above providing a balcony for the upper flat, and one to the right for bicycle storage), which are separated between each entrance by another landscaped patch. This carefully considered idea of sequencing is the result of a fruitful relationship with landscape architect Roundfield, which pushed for nicely landscaped sites. It has paid off, both by subtly dictating the site's new usages to those who have known them as garages, and more conceptually, attempting to visually narrate the route of water from the drains back into the landscape – an idea made clear in the drainage channels and also in shared landscaped beds that sit below drainpipes.

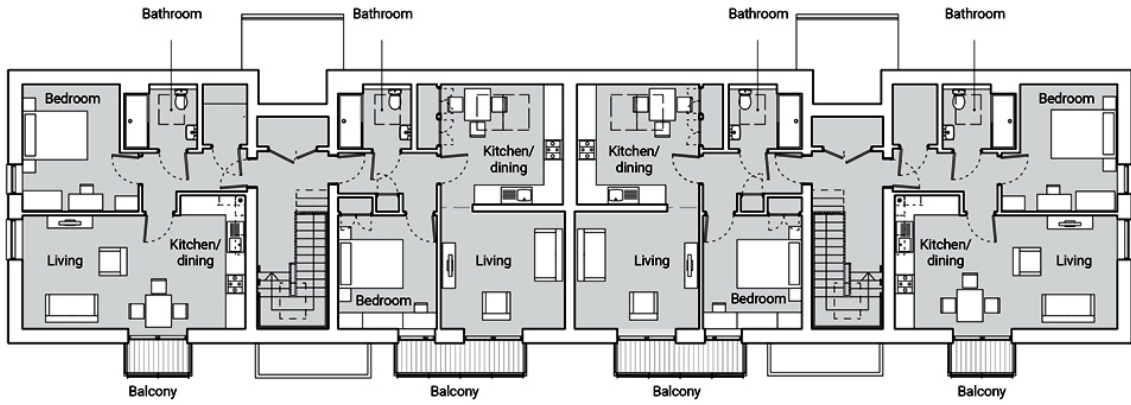
Challender Court's communal stairwells give some space over to further bike storage, and draw light in, like the upper flats, via skylights rather than windows to the north of the building (over the kitchen and bathroom). Here the skylights serve the dual purpose of bringing in light and preventing overlooking into neighbouring gardens; also the reason for the balcony surrounds using steeply angled louvres, which allow light in while reducing downwards views.

It may seem excessive to put so much into defining and crafting these small, tucked-away plots that few will see when there are thousands of homes yet to deliver. But taken as somewhat experimental case studies for the council to refer back to, and as an example of what ERa and Roundfield could achieve on their larger site at Lockleaze, these are hopeful and delightful slices of suburbia.

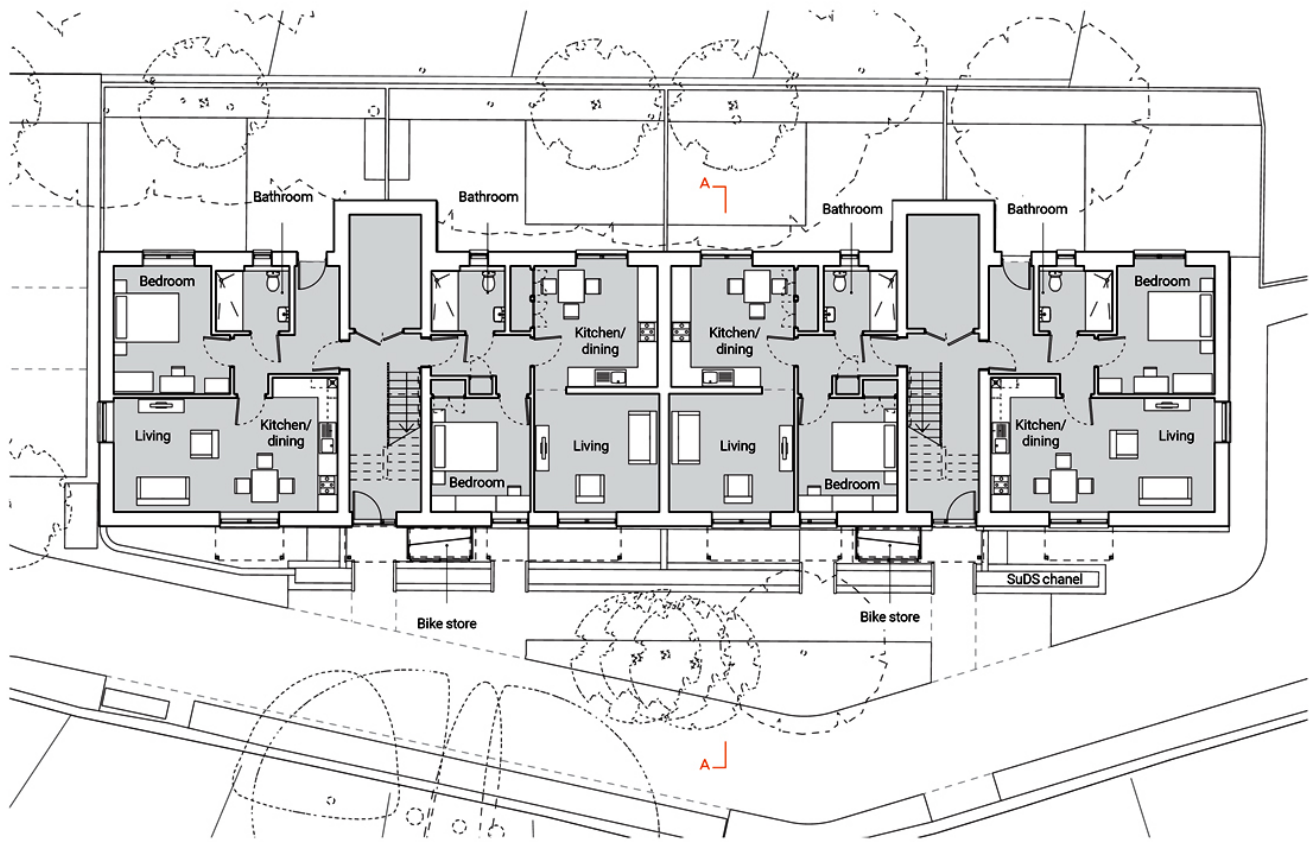
## Challender Court



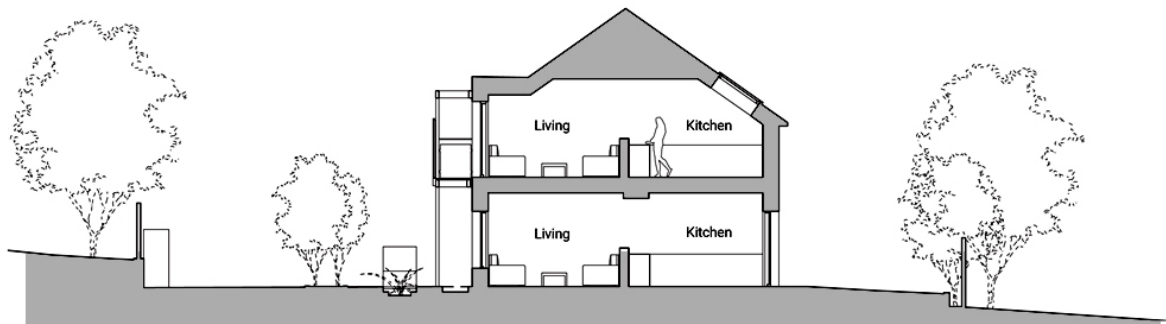
Site plan



Challender Court: first floor plan



Challender Court: ground floor plan

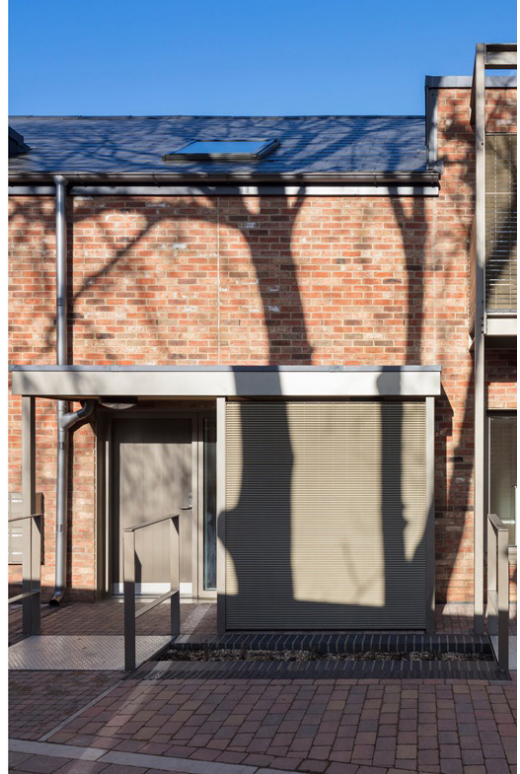


Challender Court: section A-A





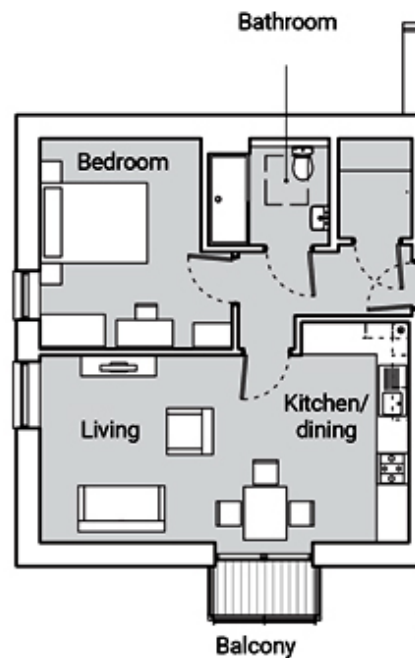
4 pts. 1. **Critique four** strategies that do or could demonstrate management of **stormwater** on the site. Cite evidence from the photo below as well as in plans and photos throughout the quiz to **validate** your critique. **Fully explain each strategy** for its merits, aesthetics, and missed opportunities.



*Entry to common stair with downspout, bridge, and SuDS channel. Entry profile below.*



- 3 pts. 2. **Critique three** possible strategies for management of **gray water** in the building or on the site. Cite evidence from the plan below as well as in plans and photos throughout the quiz to **validate** your critique. **Fully explain each strategy** for its merits, aesthetics, and missed opportunities.



**Challender Court: first floor plan**

*Typical plan. Kitchens and bathrooms are stacked.*

3 pts. 3. The units have dual flush toilets (HETs). **Discuss** the possibility of installing **three** options for producing less black water. **Fully explain each option** for its merits, aesthetics, and feasibility.

