The Triangle is located off Northern Road in Swindon, 20 minutes walk north of Swindon central train station. It comprises 16 two-bed houses, 13 three-bed houses, 7 four-bed houses, 4 one-bed apartments, and 2 two-bed apartments. There are homes for Intermediate Rent and Rent To Homebuy, as well as homes for affordable rent to local people registered with Swindon Borough Council.

WHY WAS HEMP-LIME CHOSEN?

- Hemp is renewable
- Hemp-lime is relatively much lower in embodied carbon than brick or concrete
- To challenge the view that in order to reduce emissions post occupancy you need to use materials high in embodied carbon
- To support local industry (UK hemp and lime)
- To test the dynamic performance of hemp-lime (as opposed to lab-testing)
- DECC/HCA provided a £20,000 grant/unit for renewable materials

Two other products were considered: clay block and wood fibre-concrete mix. The former was discounted
as it was not considered renewable under the funding agreement, and the latter because of its higher embodied carbon.

WHAT ISSUES WERE FACED AND OVERCOME?
Though relatively minor, the two most significant challenges were lack of familiarity with the product and the cold/wet weather: there was a skills and training gap at all levels, from those applying the product on site to those managing the programme and costs; while drying time during the colder months created substantial delays. Despite these issues the project has come in ahead of schedule.

WHAT ARE THE PROS AND CONS?
Contractors reported that significant benefits were the ease of inclusion of services within the structure, and the ‘off-grid’ application of the hemp-lime, which could be cast without the need for power cables.

As with all materials it is limited in terms of its application in certain locations (areas either wholly or predominantly brick, for example, where render would appear out of context); and brick-faced hemp-lime structures are currently unviable.

There is a ‘portfolio risk’ too in that investors may want to see how hemp-lime performs at scale before investing seriously.

WOULD YOU USE IT AGAIN AND, IF SO, WHAT CHANGES WOULD YOU MAKE?
The development partnership would use it again, particularly with the team that are now more familiar with the product and certainly on smaller projects that can be carried out in the warmer/dryer months. For larger projects (that will need to go through the colder months) they would look into the use of hemp-lime panels manufactured off-site.

WHAT WAS THE ELEMENTAL COST?
It’s difficult to put an exact unit price on the material due to the variables of time and training, but overall the scheme has been developed to Code Level 4 at a price broadly comparable to standard materials, even without the grant.