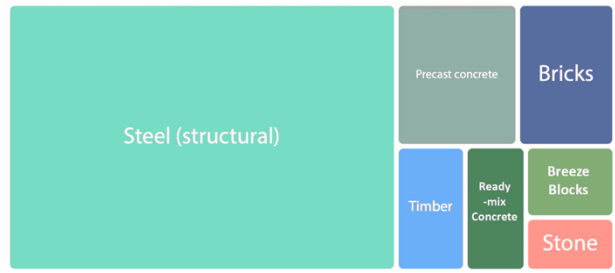
A Return to Stone Building in London in the 21st Century



Following the last five decades of high-rise building with steel, concrete and glass, perhaps clad with a veneer of stone only a few millimetres thick, we are once again seeing the beginnings of a Renaissance in stone building. Compare the load-bearing Portland Stone columns of the Royal Exchange Building, completed in 1844 with the soaring towers of glass, steel and concrete (left). There's the matter of scale but when you're aware of the facts, it's hard to imagine why load-bearing stone building ever went away. Building with stone is much better for the environment. Steel has a carbon footprint of 2,400 kg CO_2/kg of material, whereas stone produces an average of only 5 kg CO_2/kg (see the infographic below comparing CO_2 production for different building materials; adapted from *Minerals Processing Association 2026*). Stone is not a sustainable resource, however many quarries are large with significant available reserves. There is little need to reopen brand new quarries. Most large quarries also already have the infrastructure to cut and dress stone onsite. On leaving the quarry, the ready-cut stone just needs to be transported to the building site. This means that it has a much lower carbon footprint than materials like concrete, brick and steel which also requires quarrying and then significant processing of minerals before manufacture of the final product can even start. Other benefits of building with stone are that it doesn't matter if it gets wet during transportation, so it requires minimal packaging and it is fire resistant, particularly if you are building with granite! Other sustainable building materials such as timber, straw bales and other plant derived materials are flammable (and therefore illegal to use in many buildings). Steel, brick and cement production use huge amount of water in their manufacture. The Stone Federation of Great Britain estimates that stone quarrying uses 200-300 litres of water per tonne but compare that with steel manufacture at around 500-1000 litres, and 2000-3000 litres for a tonne of bricks. Most importantly, stone reclaimed from demolished buildings can be reused in future structures. Stone used with minimal dressing is also excellent for displaying its mineralogy, palaeontology and other textures (left).







Architectural firms like Studio Weave and Amin Taha's Groupwork, both working in collaboration with Webb Yates Engineers are embracing stone as a, low carbon, load-bearing construction material and their buildings are beginning to appear in London. Three examples are shown below. Left, Petra Heights on Finchley Road (2026, Groupwork, NW3 6EP) is constructed from Norwegian larvikite, a variety of the intrusive igneous rock called monzonite. In the middle are the new public toilets at Maida Vale (2025, Studio Weave, W9 3QA) which have reused larvikite and rapakivi granites reclaimed from the demolition of 100 Liverpool Street on its facade. On the right is Amin Taha's former offices and home on Clerkenwell Close (2016, Groupwork, EC1R 0QJ) built from French, Jurassic Chomerac Limestone.







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