

## Greenwich Millennium Village Phase 3, 4 and 5

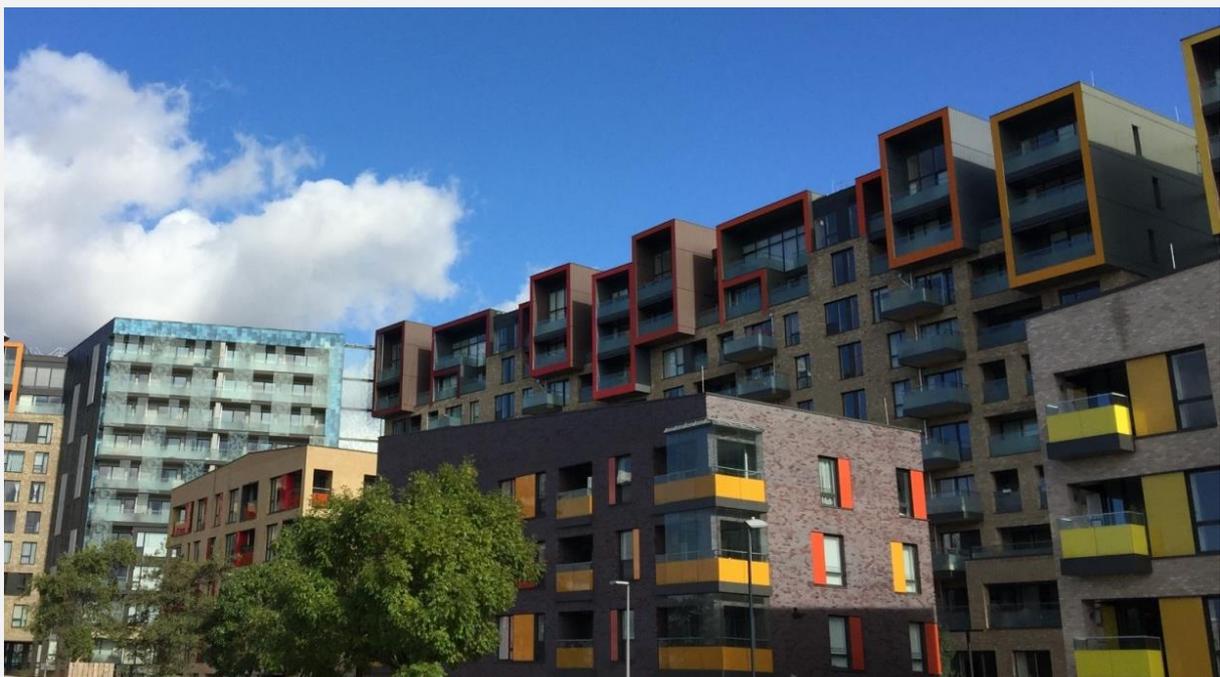
Complete	Area	Client	Architect
2015 to 2032	UK England	GMV Limited (Countryside and Taylor Wimpey)	Jestico & Whiles, Studio 54 Architecture, Peter Barber Architects

Greenwich Millennium Village is a large scale residential scheme that provides 2,800 homes and commercial space over five major phases on a 72 acre site at the southern end of the Greenwich Peninsula. Located on the banks of the Thames River, the community is built around a man-made lake, village green and an Ecology Park.

Developed as the first of the government's Millennium Communities programme, Phases 1 and 2 were completed in 2009 by others. Design for Phases 3, 4 and 5 began in 2009 as a separate project to provide a mixture of 1,746 affordable and private homes in a mixture of apartments and townhouses in lower rise buildings set off by a feature line of high-rise apartments.

The contemporary, high-end living spaces are all rated Code Level Four for sustainable homes and are designed to integrate features aimed to reduce the Village's impact on the environment. These include double and quadruple glazing, high levels of thermal insulation and air tightness to improve the buildings' efficiency.

Greenwich Millennium Village received a CEEQUAL Whole Project Award in 2013 and, in the same year, was a finalist for the Housing Design Award.



## Services provided

The project began as a design competition with Sandy Brown on two of the three final teams. The competition sought to get fresh ideas for dealing with the noise from the adjacent wharf and aggregates site, which operates dredger deliveries off the Thames and concrete-making activities day and night.

This had resulted in additional project specific acoustic criteria being conditioned by the council for external facade noise limits, in broadband and at low-frequencies, which were derived from a theoretical maximum of noise from only wharf and aggregate sources.

Sandy Brown used extensive survey work and computer modelling to help the design team create a new masterplan and building designs to bring a human scale and neighbourhood feeling to the large site while protecting the homes from the adjacent noise.

Our ongoing involvement from planning to completion testing for each phase of the project considered a range of factors:

- facade and internal noise levels
- environmental noise
- ventilation strategy
- sound insulation of residences
- acoustics finishes / reverberation



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## Special acoustic features

Long, 10-storey apartment blocks were strung together to provide a barrier to the wharf and aggregate noise, allowing the rest of the Greenwich Millennium Village site to form the desired 'neighbourhood' feel in peace. Large glass screens were placed between each barrier building to allow light into the site while still keeping out the noise.

The sound insulation required of the walls and windows of the barrier buildings was very high to keep out the drone of the dredgers. This resulted in triple-skin walls and double insulated windows being specified, which were mocked-up in a laboratory to ensure they would provide the needed performance.

Specific limits were conditioned by the local council for external facade noise from the wharf and aggregate site alone. Where this noise level was exceeded, windows on that facade were not allowed to open. We used computer models to determine which windows could and could not be opened.

Where there were marginal situations where windows might not otherwise have been allowed to open, Sandy Brown developed strategies to reduce the noise levels locally, including increasing balcony screening, adding canopies, and reorienting window locations to maximise natural screening.

As noise levels would change over the course of the 17 year construction, computer models were created for each phase of the design, with every window being assessed for several parameters in each, and the worst case criterion governing the specification.

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