CLAIMS

1. A multi-storey modular building comprising a plurality of concrete-based prefabricated modules, the building comprising:

a first concrete-based prefabricated module wherein at least a portion of the module is load bearing, the first prefabricated module including at least two concrete-based vertical walls and at least one horizontal structure selected from a ceiling or a floor that is at least partially attached to the at least two vertical walls;

a plurality of first receiving members at least partially embedded in at least a first vertical wall of the first concrete-based prefabricated module vertical walls, each receiving member including an opening for receiving a connecting member;

a second concrete-based prefabricated module wherein at least a portion of the module is load bearing, the second prefabricated module including at least two concrete-based vertical walls and at least one horizontal structure selected from a ceiling or a floor that is at least partially attached to the at least two vertical walls;

a plurality of second receiving members at least partially embedded in at least a second vertical wall of the second concrete-based prefabricated module vertical walls, each receiving member including an opening for receiving a connecting member;

the first concrete-based prefabricated module and the second concrete-based prefabricated module being positioned adjacent to one another within a single storey of the multi-storey modular building with interconnecting members received within respective first and second receiving members;

in-situ cast concrete embedding the first and second receiving members and filling a space between the first concrete-based prefabricated module first vertical wall and the second concrete-based prefabricated module second vertical wall;

wherein the first and second receiving members are C-channels; and

wherein the connecting members are perforated plates, a shear studs, or a metal bars such that the connecting members bears against lipped portions of the C-channels to prevent the first and second prefabricated modules from separating during concrete casting.