RIVERFORD GARDENS

Riverford Gardens is a 6-acre site in the south side of Glasgow. The site is currently under development by CCG Homes and is scheduled to be completed in 2020.

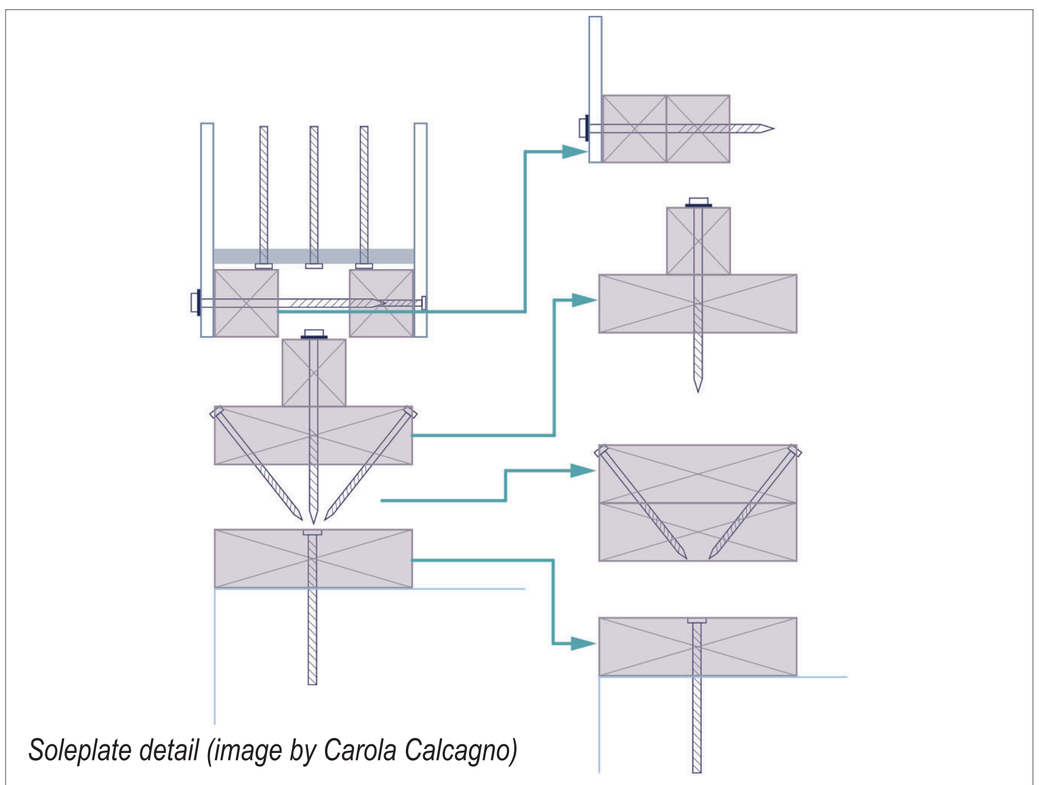
One of the house types featured in the development has been the subject of further research by Edinburgh Napier University Centre for Offsite Construction and Innovative Structures (COCIS).

Riverford Gardens will include a mix of 156 homes and apartments, variously distributed throughout the site to create open public spaces,shared and private green areas and amenities for residents.

The entire development at Riverford Gardens features the application of CCG's timber offsite panelised system. In addition, an advanced soleplate detail, researched and designed in partnership with ENU COCIS, is applied throughout the project.

From the housing mix of the site, a three-bedroom semi-detached house type was selected for further research with an emphasis on the structural design for stability or "racking performance".

Although British Standard (BS5628) has been withdrawn as the British Standards Institute approved standard, the majority of structural engineers in Scotland still adopt the use of its design principles, in preference to that of Eurocode5



Soleplate detail (image by Carola Calcagno)

The design principles of both Eurocode 5 and BS5268 are very different in approach but provided comparable results with respect to specification for maintaining stability as a result of applied wind action

LOCATION	Glasgow, Scotland
YEAR	under construction
PARTNERS	CCG Homes, MAST Architects, Ramage Young, Edinburgh Napier University (ENU)

Riverford Gardens site (image provided by CCG Homes)

In the UK there are currently two standards which are used in industry practice for the structural design of Timber Frame systems: the British Standard (BS 5268), and Eurocode5 (EC5). Using the Riverford Gardens 3 bedroom semi-detached house the structural capacity of the panels was assessed in accordance with the design requirements of both the superseded British Standard and EC5.

Both design principles were shown to provide very comparative results, giving a marginal difference of 2% in favour of the superseded British Standard design approach. However, the BS 5268 design method required a higher degree of additional material specification to that of Eurocode5, making it a less efficient approach.

Riverford Gardens (image provided by CCG Homes)