Partnerships blossom in Hackney

Fairmule House in Hackney lays claim to be the largest solid timber building in the UK. Instead of employing steel or concrete for its superstructure, this project used solid timber laminated panels for its walls, roof and floors. Building control surveyors from the London Boroughs of Newham and Hackney joined forces under the LABC Partnership scheme to help smooth the construction process on this exemplar building

Developer Aqua Properties approached architects Quay2c to manage the construction of this mixed-use development, situated on a 23.5 x 12-14.5 metre deep plot between Hackney Rd and Kingsland Rd.

The plot was on a classic brownfield site used for car parking, south facing to a narrow street and with some mature trees in a small park to the rear. Quay2c were unhappy with the look and layout of the existing scheme, which included three double bedroom flats and eight singles. All were single aspect, served by a lift and a dark, unventilated corridor in the middle of the building. Aqua asked Quay2c to look at alternative layouts that would be supported by Hackney Planning Department, whose main proviso was that any new scheme must keep the same envelope as the existing scheme.

An application was made and duly approved for 11 double-aspect cross-ventilated flats (six double bedrooms and five single bedrooms, all but one with balconies or terraces). Bedrooms were positioned to the rear and living spaces to the street, all accessed from two naturally-lit common staircases, encouraging horizontal circulation in the social realm of the street rather than in the dark corridor of the previous scheme.

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To the ground and first floor seven varying sizes of business units have been introduced (most of which are double aspect), encouraging a greater diversity of uses to complement the flats above.

As with all their projects, Quay2c looked closely at the history of the area and found that the park to the rear was an overspill graveyard from the main church on Shoreditch High St.

One of the few graves left there is that of Thomas Fairchild. He was one of the many market gardeners in the area supplying the new urban gentry of the City and Bloomsbury in the late 17th and early 18th century. The building of the amazing Columbia Rd market hall, now demolished, in the mid 19th century and the current flower market nearby, are remnants of this history.

Fairchild was famous for being the first man to genetically modify plants, combining a Sweet William and a carnation to manufacture his famous "Fairchild mule" hybrid. As a consequence, the new building was named Fairmule House and Quay 2c used the theme of gardens and hybrids to think through the design of ▶

the building.

The Thomas Fairchild theme of gardens and hybrids to this project concurs well with Quay2c's long-standing interest in sustainable issues and their aesthetic; that the natural world could be the source for the superstructure of the building was supported by Eurban, a design and build company specialising in solid timber construction.

Eurban used sustainable laminated softwood panels to construct the walls, (115mm) floors (170mm) and roof (170mm). For example, the first panel to be craned onto site was a massive 2.7m x 14m wide and 115mm deep!

The advantages of the solid timber structure system were many and included:

- Speed of erection – six-week contract period
- Carbon neutral sustainability
- Super tolerances on highly engineered panels
- A solid feel and good on acoustics
- Very good on heat loss through relatively thin walls
- The Government's Modern Methods of Construction agenda well served.

Light is a magic ingredient for all things to grow, and so there was a strong desire to have lots of glazing to the southern, street side of the project. A matrix of galvanised steel panels, recalling garden watering cans and containers, complemented by green window frames, animates the front facade. As carnations are the more tightly structured of the two plants Fairchild utilised, these were appropriated to the urban side of the building.

At street level glass signage panels incorporate microscopic images of carnations along with black species plaques found in botanical gardens.

A digital cross breed between carnations and Sweet Williams occupy two upper areas of glazing to give a flowering of light when the sun shines into the two common staircases.

The back elevation is clad in western red cedar shingles with recessed balconies to enjoy the view. The glass balustrades have abstract images of the more open structured Sweet Williams laminated into them. The top storey on all sides and the western party wall uses a fibrous cement weatherboard, imprinted with fake wood grain as a fire resistant finish.

The roof is a green blanket of sedum with tapered insulation below sitting on the solid timber roof. The windows are double glazed with Super Low "E" glass from Denmark. They are a composite hybrid of low maintenance recycled aluminium to the outside and warm laminated softwood to the inside.

The overall building cost was around £1.5 million, and the solid timber structure, with its fast site times, was viewed by the client to be competitive with a steel or concrete structure.

From a building control perspective, the architects chose the LABC Partnership route with Newham because it allowed the flexibility of including the plan checking authority (Newham) in the design team, and therefore the need to explain the design philosophy only once. The site inspection authority (Hackney) would then be comfortable knowing that the plans had been checked and approved. Other projects using this design in the future would then be easier to construct.

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Ken Taylor, Project Architect, Quay2c, explained: "Newham Building Control were proactive in approaching us to provide the building control service on another project at Chancery Court which they'd monitored since the planning stage. As it turned out, Fairmule House in Hackney came on stream earlier and a Partnership arrangement was suggested. This worked well for us as we wished to use the solid timber superstructure.

"The Building Control Manager at Newham, Len Davies, was particularly helpful in assisting us through the inevitable technical hurdles that we faced with the type of materials involved.

"We also found it useful that if issues did come up on site that Newham had approved at the plan checking stage, there was a good source of second opinion, in Hackney, on site.

"Finally, the big advantage to the Partnership scheme is the build up and continuity to the relationship that saves all those 'starting from square one' conversations when you are approaching different building control officers in

Design team at Fairmule House

Client:	**Aqua Properties**
Architect & Designer:	**Quay 2c**
Structural Engineer:	**Anders Associates**
Mechanical & Electrical Engineer:	**Brinson Staniland Partnership**
Planning Supervisor (Health & Safety):	**Safetrack Associates**
Groundwork Contractor:	**Westwood Ltd**
Solid Timber Structure Design and Build Contractor:	**Eurban**
Main Contractor (Fit Out):	**LI Construction**
Building Control:	**London Boroughs of Newham (Partner Authority) and Hackney (Site Inspection Authority)**

different boroughs."

As Len Davies confirmed: "Because of our early involvement in the design team, most of the problems were resolved at an early stage, and the additional resource of environmental engineers and other specialists in the design team ensured the very best minds were engaged in overcoming them.

He continued: "There was no shortage of information at any stage in the construction process. Both local authorities were kept up to date by the design team and the architect ensured that any problems with communication were resolved quickly.

"The structural panels allowed for rapid construction, and because of the high quality control measures under which they were created, consistency of construction was first class. This ensured a high standard of workmanship was maintained throughout the construction process," he added finally.

The Fairmule House project was a finalist in the Structural Innovation category of the 2007 LABC National Built in Quality Awards.

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