

HOUSING STOCK UPGRADE BISF ENVELOPE REFURBISHMENT for Helena Housing with Mansell



HIGH SPEC UPGRADED BISF PROPERTY

UPGRADED PROPERTIES

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- 01 – Decra or similar lightweight roofing sheet system
- 02 – Upgraded high performance upvc windows, allowing for fire escape
- 03 – Thermal through colour render applied to building envelope
- 04 – Brick slips to lower front elevation
- 05 – New canopy
- 06 – High performance door
- 07 – New lightweight polycarbonate roof for external/cycle shed
- 08 – New bedding plants
- 09 – New trees
- 10 – Rotary washing line (CfSH level 3)

- 11 – General Improvements to landscaping (CfSH level 3)
- 12 – Improved ramped access
- 13 – Existing hedges trimmed and retained
- 14 – Any existing trees to be retained
- 15 – Climbing plants
- 16 – Bird and bat boxes added to trees (CfSH level 3)
- 17 – Segregated refuse bin store

HIGH SPEC UPGRADED BISF PROPERTIES

- 18 – High performance windows
- 19 – Solar PV
- 20 – Solar thermal panel



UPGRADED PROPERTY PLAN



UPGRADED FRONT ELEVATION



UPGRADED SECTION / GABLE ELEVATION



UPGRADED REAR ELEVATION WITH WATER BUTT



The BISF house (British Iron and Steel Federation) was originally designed as an innovative post-war solution of providing pre-fabricated dwellings to replace homes destroyed in the war. 107 of these remain at Moss Bank, St Helens. Upgrade projects have demonstrated that these dwellings are capable of cost effective refurbishment to reduce their energy usage.

Our design proposals for the dwellings at Moss Bank provide upgraded thermal performance as well as improved visual appearance. The existing cladding was stripped back to the steel frame allowing repairs to be carried out prior to the application of a new high performance and low maintenance cladding system using a rigid phenolic insulation. The void in the steel frame is also filled with fibre insulation allowing the new enveloping system to deliver greatly enhanced thermal performance and air-tightness.

Our proposals also included the consideration of renewable energy sources where cost-effective and the replacement of high performance windows to improve the overall insulating performance of the external envelope. Together with careful detailing at the wall and window junctions this aims to reduce cold bridging and enhance air-tightness. Roofs are overlaid with a new lightweight steel roof covering, closely replicating the appearance of traditional tiling, while not greatly increasing the loading on the existing lightweight structure, together with new roof insulation and replacement fascias, eaves and soffit boards.

Our proposals also included landscape enhancement to the boundaries and amenity space, encouraging biodiversity and sustainability.

Value: £4m (approx)
Completed: Spring 2009
Commission: Feasibility for Bid