

Development Description – Design Response

Site, Surroundings & Landscape

The proposed building will sit within an excavated former quarry, resulting in the lower floors being essentially below ground. Only the principal elevation facing High Hoyland Lane being on view from beyond the site boundaries.

Although rectangular in footprint, the extent of these lower floors will not be visible and importantly the upper floor level will be of a more transparent and 'lighter' structure. The upper 'pavilion' will be more 'linear' in form, respecting and reflecting the scale and proportion of other buildings in the nearby settlement, particularly that of Greenland Cottages. The block plan indicates how appropriately the proportions of the 'above ground' building elements integrate into the built fabric of the wider settlement.

A substantial reduction of approximately 50% has been made to the size of the footprint of the upper floor. The original proposal had a footprint of 253 sq m. The revised proposal reduces this figure down to 127 sq m. Man-made external works will be kept to an absolute minimum and the creation of external steps and retaining walls will give way to the introduction of a more naturally created transition between the various levels created, allowing the building to sit within a natural landscape.

Wider garden areas beyond the building will remain and are generally at a higher level. FDA Landscapes have been involved in the preparation of a landscaping scheme to enhance the building and ensure it is successfully integrated and respects the surrounding landscape.

The height of the building will be considerably lower than 'The Mount', the adjacent dwelling to the north and the position and height of the new dwelling will result in a natural step in the profile of roof levels along this stretch of High Hoyland Lane.

Available views are to the south or southwest with secondary windows on the north elevation and none of any significance on the east elevation.

Views of the building from High Hoyland Lane will be particularly restricted when approaching from the east and there will only be a brief opportunity to see the building when approaching from the southwest, all due to the existing mature landscape and tree screening. Long distance views of the site from any public footpath or bridleway will re-affirm that the building does not have a negative impact on the 'openness' of the wider landscape.

Building form and materials.

During the engineering works necessary to complete the excavations for the development, the stone from the former quarry will be inspected and set aside for re-use where the material is deemed suitable. The stone will be prepared for use as walling material or alternatively, if not considered suitable for this purpose, will be salvaged for use in the formation of the retaining embankments created as part of the external / engineering re-grading works and will be introduced in a carefully integrated way, creating 'natural rock supported transitions' between the various changes in ground levels.

At the very least, the stone will be salvaged and re-used in the creation of 'gabion baskets' for use in retaining walls etc.

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The majority of the building will be below ground and will take advantage of the energy saving benefits of thermal mass.

The ground floor foundation/floor construction will be a fully externally insulated reinforced raft slab, preventing cold bridging issues.

The walls will be constructed in a 350mm Neopor Block system, which provides a U value of 0.14W/m²K which supersedes Pasiv Haus requirements. It has a core of 150mm concrete with 150mm external sleeve of insulation and a 50mm internal sleeve. The plastic hard ties eliminate any thermal bridging.

Where exposed above ground, the walls will have an external skin of natural 'dry-stone walling' with a recessed back pointing detail.

Upper floors will be constructed in an insulated 'Op- Dek' system using profiled sheet and concrete. The roof which is designed to have a minimum thickness with a 'floating thin edged' projecting overhang beyond the glass and stone walls will be constructed in timber and steel and incorporate an insulated 'cut to falls' warm roof with an 'Armourplan' single layer pvc membrane roof finish.

The main windows are located on the south and south-western elevations, where the advantages of passive solar design will come into play. These window locations also have the benefit of the distant views over the surrounding countryside.

The windows will achieve high U value standards and the main 'glass wall' windows will be set within recessed head and cill tracks to minimise the amount of framing visible to emphasise the 'lightness' of the structure. Roof overhangs will be created over most of these windows to allow shading in the height of summer.

High levels of air tightness will be achieved throughout and potential thermal bridging details will be avoided.

A mechanically vented heat recovery system will be introduced as part of a comprehensive programme of energy saving measures.

Heating and hot water will be provided by a specialist designed system incorporating an air source heat pump and bio-mass boiler.

'Grey water' and rainwater will be recovered and harvested.

A ground based photovoltaic array will take advantage of the wider screened garden area and this will be discretely located remote from the building. The site is large enough and the topography such that the panels can be successfully screened from view without reducing their efficiency.

'Award Energy Consultancy' of Harrogate have initially been involved in the production of the detailed specifications and energy saving measures and will work with the applicant to deliver more detailed guidance moving forward.