

Design Review Report

Twyn yr Odyn, Vale of Glamorgan

DCFW Ref: 65

Meeting of 19th February 2015



Declarations of Interest

Panel members, observers and other relevant parties are required to declare **in advance** any interests they may have in relation to the Design Review Agenda items. Any such declarations are recorded here and in DCFW's central records.

Review Status

Meeting date

Issue date

Scheme location

Scheme description

Scheme reference number

Planning status

PUBLIC

19th February 2015

2nd March 2015

Nr Wenvoe, Vale of Glamorgan

Low impact dwelling

65

Pre-application

Declarations of Interest

Alex Miller works at Gaunt Francis Architects, the practice of Commission Chairman Alan Francis. This is not a GFA scheme but a personal project by Alex Miller for her own home. Neither Alan Francis nor anyone connected with GFA attended the review, and Alex Miller presented the scheme alone.

Consultations to Date

None to date. Pre-application advice has been applied for from the Vale of Glamorgan Council.

The Proposals

The scheme proposes a single dwelling, workshop and landscape strategy for a rural/green field site near Wenvoe in the Vale of Glamorgan. The concept is based on One Planet Development principles – an approach outlined in Planning Policy Wales: Technical Advice Note 6 (TAN 6) : *Planning for Sustainable Rural Communities* – which allows for low-impact/One Planet development in open countryside where development would usually be restricted. The proposals aim to provide affordable and self-sustaining development for the applicants/designer to inhabit. The site is within a green wedge in the Vale of Glamorgan's Local Development Plan, close to an existing residential cluster, former quarry sites, an underground reservoir, equestrian field and farmland. The site is currently accessed via an unmade track.

Main Points in Detail

This review was carried out at a good stage in the project, when there is time to add value and allow for design iterations and improvement. This is a potentially interesting and high quality scheme in terms of design and planning, due to the proposed use of the One Planet Development (OPD) concept. At the Design Review, the Design Commission's role is to comment on design quality and suggest areas for further work

and improvement. It is not the Commission's role to second guess the outcome of a planning application.

The following points summarise key issues from the review discussion, and can be used to inform work ahead of making a planning application:

Professional planning advice

Due to the OPD approach, the Design Commission urges that the applicant seeks professional planning advice in relation to this project. The case and need for allowing development on this site under TAN 6 will need to be clearly justified, and a planning professional should be able to advise on the type of questions and concerns the local authority may have. It will be essential to have a good understanding of all relevant national and local planning policy and guidance. The precedent cases of the use of OPD will also be useful. It is important to address the PPW TAN, and note that the Practice Guidance accompanies TAN 6.

Pre-application consultation with the local planning authority should be used to establish whether any professional surveys – such as ecological etc. - are required for the planning submission. An evidence-rich planning application will be required to enable the local authority to properly assess the proposals.

Site

Setting aside any planning issues, the site seems appropriate for this type of low-impact, self-sustaining development. It is encouraging to see that thorough site analysis and testing has been undertaken, and that this is informing the site layout and positioning of the dwelling. As the Management Plan and designs develop, the site analysis should continue to inform decisions.

This green-wedge site demands an exceptional quality of design and architecture, particularly as there is the potential for this scheme to set a precedent for this type of development.

Parking provision within the site should be addressed, as well as access for delivery of materials during construction of the dwelling.

More investigation is required into methods for sourcing, storing and treating water on-site.

Space for storing garden equipment etc. also needs to be given further consideration.

Building form and layout

The building layout should consider the long-term needs of occupants in the future, as well as the immediate. The designer/applicant should check any standards or regulations which apply to this type of development, including those that deal with accessibility.

There are many factors which contribute to the energy efficiency and energy demand of a building, which are particularly relevant to a project which aims to be self-sufficient and off-grid. Orientation, form, surface area to volume ratio, number and positioning of openings, amount and location of glazing, layout and buffer spaces should all be

considered early in the design process, ideally with the use of environmental modelling. It would be good practice to refer to the DCFW/Welsh Government *Practice Guidance: Planning for sustainable buildings*, which can be found online via the WG website. This encourages early consideration of sustainability issues in the design and planning process.

The form of the building presented at the review, has quite a large surface area to volume ratio. The design may benefit from being a simplified, more compact form.

There are many environmental lessons to be learned from traditional buildings - such as those at St Fagans National History Museum - which were, by necessity, self-sufficient. The layout, form and orientation of these buildings were often used to provide the best comfort conditions whilst using minimal resources. Study of local vernacular dwellings may also give clues to appropriate visual appearance.

Materials and construction

It will be important to consider the life-span of all the materials and systems proposed for use in the building, and to explain these in the planning application/management plan.

It will also be important to demonstrate from where building materials will be sourced, and what impact this will have on embodied energy. As recycled materials and components are proposed, the drawings submitted for planning should clearly indicate where any variation might occur – in windows and doors, for example.

A grass roof was indicated on drawings shown at the review. Whilst a grass can provide thermal and biodiversity benefits, the structural implications of this heavy material must be clearly understood. The structural requirements of the roof, may impact feasible building form and construction materials. It may be useful to look at examples of grass-roofed dwellings in Norway, or consider alternative green-roof systems, such as widely used sedum.

It will also be important that the construction process, programme and their impact on the site are carefully considered. Storage of materials and equipment on-site should be well-planned. The time and physical demands of self-build should not be underestimated. The build programme should form part of the project business case.

Heating, cooling and ventilation

As mentioned above, predictable and efficient energy use will be essential to this project. A clear and tested heating, cooling and ventilation strategy will be important. The design should be optimised to make best use of passive strategies, such as natural ventilation, solar gains in winter, solar shading, orientation for cool food storage etc.

The orientation and positioning of the green house(s) will be particularly important to avoid overheating, both within the dwelling, and inside the greenhouse itself.

Thermal modelling should be used to develop the design, test ideas and demonstrate efficiency.

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A Welsh language copy of this report is available upon request.

Attendees

Architect/Developer:	Alex Miller
Local Authority:	N/A at this time
Design Review Panel:	
Chair	Ewan Jones
Lead Panellist	Amanda Spence, Design Advisor, DCFW Mike Gwyther-Jones Maria Asenjo Carole-Anne Davies, Chief Executive, DCFW
Observing:	Sue Jones, DCFW