

Our ref: RAA/11280422/070410

09 April 2010

Chris McGough  
Ashtenne Industrial Fund Limited Partnership  
8 Village Way  
Greenmeadow Springs  
Cardiff  
CF15 7NE

**WSP Development and  
Transportation**

Fairway House  
Paramount Business Park  
St Mellons  
Cardiff  
Wales  
CF3 0LW  
Tel: +44 (0)29 2036 6300  
Fax: +44 (0)29 2036 6399  
<http://www.wspgroup.com>

WSP Group plc  
Offices worldwide  
[www.wspgroup.com](http://www.wspgroup.com)

Dear Chris,

**Units 1 to 4, Caerphilly Road, Ystrad Mynach  
Statement on Flood Risk and Alternative Uses**

It was good to meet you on 1<sup>st</sup> April to discuss flooding issues and how they might affect Units 1 to 4, Dyffryn Industrial Estate, Caerphilly Road, Ystrad Mynach. Following on from our previous flood scoping report (May 2007), the purpose of this letter is to inform you of the most significant risks and benefits that could be expected if this site was proposed for a change of use to a more vulnerable use such as residential.

The key points of reference for this letter are:

- WSP FCA scoping report dated May 2007
- Telephone conversation with the Environment Agency flood risk modelling team (Nick Steele, 6<sup>th</sup> April 2010)
- Telephone conversation with Caerphilly CBC planning department (Victoria Morgan, 6<sup>th</sup> April 2010)
- Ystrad Mynach Hospital FCA held for public viewing at CCBC planning offices, Pontllanffraith (Reviewed 7<sup>th</sup> April 2010)
- Correspondence between GVA Grimley and CCBC (2006 to 2008)
- CCBC draft LDP

There are a series of different issues affecting the ability to develop this site for residential use. These issues are discussed under separate headings as follows:

Flood Zone Classification

The site is clearly identified on Welsh Assembly TAN 15 Development Advice Maps as lying within Zone C1. This is an area which is at risk of flooding from a 0.1% (or more frequent) flood event but does benefit from flood defences. Housing (and other highly vulnerable development) can be located in Zone C1 as long as the planning and the technical criteria set down in TAN 15 are complied with. Caerphilly CBC Planning Department has permitted residential development (and changes of use to residential) within TAN 15 Zone C1. St Ilans School, Caerphilly is located within Zone C1 and is currently being promoted for residential development in the emerging LDP.

#### TAN 15 Criteria

When TAN 15 was originally introduced in July 2004, the criteria for permitting development were rigidly applied. However it soon became apparent that many potential development sites became blighted by the guidance. Another effect of the guidance was to prevent new development on existing sites within the floodplain, and this meant that there was no opportunity to improve the flood resilience of existing developments which could be at a high risk of flooding. Clearly some flexibility was needed and this arrived in 2007 when the EA issued internal guidance on how to interpret and apply TAN 15 in certain circumstances.

A key beneficiary of this slight change in policy can be seen at the new Ystrad Mynach Hospital, just to the north of the Dyffryn Industrial Estate, adjacent to your site. This hospital is being constructed on a site formerly occupied by Caerphilly Council Offices. The site was located in a TAN 15 Zone C1 and was known to flood, as evidenced in December 1979. Flood defences were improved following that event but as detailed hydraulic modelling has shown, the site is still vulnerable to flooding for events greater than the 1% event. If TAN 15 guidance were strictly applied, this hospital development (which is classed as emergency services) would probably not have gained planning consent. Section A1.14 is a much quoted extract from TAN 15 and this defines that the frequency flooding threshold for emergency services type of development should be 0.1% or 1 in a 1000 years.

The hospital site and your site are located in the same flood zone – Zone C1. The hospital is classified as emergency services by TAN 15. This is the highest grade of vulnerability identified by TAN 15. Housing is classified as highly vulnerable, but this is still less vulnerable than developments classed as emergency services.

In order to permit this development, flexibility had to be agreed by both the EA and Caerphilly CBC. In the case of Ystrad Mynach Hospital, development was permitted because significant flood mitigation measures were agreed.

The mitigation measures for Ystrad Mynach hospital include:

- Raised and realigned flood defences, which actually increased flood depths elsewhere (on less vulnerable land)
- Entire hospital raised on stilts above the extreme flood level, with undercroft parking
- Staff parking provided in a raised parking area
- A new highway access featuring a new long span viaduct across the River Rhymney, with no bridge piers located in the floodplain
- Emergency warning systems linked to river levels

#### Relevance to Dyffryn Industrial Estate Units 1 to 4

The planning consent of other flood constrained developments in the area (most notably Ystrad Mynach Hospital) is proof that a flexible approach to flooding can be considered particularly if mitigation measures can be implemented.

With respect to flood zone classification, Units 1 to 4 are located in Zone C1 and therefore there are parallels with other permitted residential development in the County.

In respect of TAN 15 Criteria, it is likely that Units 1 to 4 marginally fail to comply, just like Ystrad Mynach hospital. This assessment is based upon an inspection of the hydraulic modelling that was used to support the Ystrad Mynach hospital FCA. Modelling (which is still reasonably accurate at the location of Units 1 to 4) predicts that whilst the site is defended from flooding, during the important 1% threshold event, the site is flooded to a depth of approximately 250mm. Flood water velocities are also slightly higher than TAN 15 would normally permit. During the 0.1% event it would appear that flood depths would be approximately 600mm, and this is compliant with TAN 15 thresholds for events of this magnitude.



Mitigation measures could be applied to a new residential development at Units 1 to 4 that would enable a TAN 15 compliant development to be designed and constructed. With flood depths only 250mm during the 1% event it should be possible to design slab levels and overland flood routes to accommodate this relatively small volume of water. This could be proved by detailed hydraulic modelling, similar in principle to the work that underpinned the FCA for Ystrad Mynach hospital.

There are however more benefits that could be accrued. A redevelopment of Units 1 to 4 would afford the opportunity to provide flood relief to Caerphilly Road. This road is the only highway access to a large residential development to the West. It regularly floods, and during extreme events it is predicted that flood depths will reach 1.2m – well in excess of the depth at which emergency vehicles can operate. Units 1 to 4 occupy land that separates Caerphilly Road from the main River Rhymney. It is therefore feasible that a development could be designed with flood alleviation routes through it, lowering peak flood levels on Caerphilly Road. This would be a significant planning gain.

Another benefit is related to the existing industrial estate to the north. The adjacent building to Units 1 to 4 is a CCBC Day Centre. This caters for vulnerable members of society and would be classified as a highly vulnerable use – much more vulnerable than the industrial estate that surrounds it. A new development on Units 1 to 4 could be designed as a temporary refuge in times of extreme flood.

#### Conclusion

The development of the new hospital on the adjacent site clearly demonstrates that flood issues are not insurmountable in this vicinity. The planning application for the hospital will have flood modelling that is publicly available that shows development in this area can take place with reasonable mitigation measures.

It is considered that a viable residential development could be constructed on the land currently occupied by Units 1 to 4, Dyffryn Industrial Estate. This development would need to incorporate relatively minor mitigation measures to manage flood consequences to an acceptable level. These mitigation measures could be modified to provide added benefits to local residents and highways infrastructure.

I trust that this statement provides a clear and brief summary of the flood related issues affecting this site. If you require a more detailed assessment or clarification on any of the issues raised, please do not hesitate to contact the undersigned.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'R. Allen', with a horizontal line underneath.

**Richard Allen**  
**Associate Director**  
DDI: 02920 366343