

Susan Davies

From: Matthew Phillips
Sent: 04 February 2016 15:02
To: planning_admin
Subject: FW: P/2015/0812 TOTAL FITNESS, STANSTY ROAD, WREXHAM (RBA Ref:5010) - SW Drainage

Flood officer response

From: Neil Taunt
Sent: 04 February 2016 14:57
To: Matthew Phillips
Subject: FW: P/2015/0812 TOTAL FITNESS, STANSTY ROAD, WREXHAM (RBA Ref:5010) - SW Drainage

Hi Matthew,

Following on from the recent submission below in relation to the surface water attenuation requirement for the above site, I am now satisfied that there is a viable scheme for the site and would request that the following condition be included on any permission granted:

ZH06 COMPREHENSIVE DRAINAGE

No part of the development shall commence until a scheme for the comprehensive and integrated drainage of the site indicating how foul water, surface water and land drainage will be dealt with has been submitted to and approved in writing by the Local Planning Authority. The scheme as approved shall be implemented in accordance with a timescale to be agreed as part of the submitted details and maintained thereafter.

Any questions then please let me know.

Many thanks

Neil

Neil Taunt MCIWEM C.WEM CEnv CSci

Senior Flood Management Officer / Uwch Swyddog Rheoli Llifogydd



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 Housing, Public Protection and Environment Department, Wrexham County Borough Council, Abbey Road South, Wrexham Industrial Estate, Wrexham LL13 9PW

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From: Neil Taunt
Sent: 04 February 2016 14:51
To: Richard Broun
Cc: michael.forgrave@gowerhomes.co.uk; Matthew Phillips; Rhion Williams
Subject: RE: P/2015/0812 TOTAL FITNESS, STANSTY ROAD, WREXHAM (RBA Ref:5010) - SW Drainage

Richard,

Many thanks for the submitted information which is sufficient to demonstrate, for this site, there is a feasible method for the disposal of surface water for the site. I am now in a position to request a suitably worded condition addressing detailed surface water design be included if the application is successful.

I am aware of your frustrations, but would reiterate that the earlier it can be determined that drainage proposals are viable, the less chance of delay, wasted effort and costs for all parties involved later in the process.

Regards

Neil

Neil Taunt MCIWEM C.WEM CEnv CSci

Senior Flood Management Officer / Uwch Swyddog Rheoli Llifogydd



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From: Richard Broun [<mailto:richard.broun@rba.ltd.uk>]

Sent: 03 February 2016 11:46

To: Neil Taunt

Cc: michael.forgrave@gowerhomes.co.uk; Matthew Phillips; Rhion Williams

Subject: RE: P/2015/0812 TOTAL FITNESS, STANSTY ROAD, WREXHAM (RBA Ref:5010) - SW Drainage

Neil

You will be aware from our discussions on 20 January 2016 that, in my opinion, your request for additional information regarding the disposal of surface water is unreasonable.

It has already been demonstrated that the ground conditions in the area are suitable for the use of infiltration devices and we have previously stated that, apart from a relatively small area of the access road near the public highway, all the run-off from a 1.0% AEP event will be contained within the site boundary. The proposed development is not over dense (approximately 50% of the site will be impermeable surfaces) and there is no reason to suggest that sufficient storage (either above or below ground) cannot be provided. In my view this matter can therefore be dealt with by a standard drainage condition as part of any planning consent. In this way the applicant is not put to unnecessary expense in the event that consent is not granted.

I am aware that you do not share this opinion and in order to move matters on I can further confirm the following:

- Below ground storage will be provided to cater for the run-off from a 3.33% AEP (1 in 30 year) event. This will take the form of trench or pc concrete ring soakaways which, because of the ground conditions, are likely to extent to a depth of approximately 3m to intercept the gravel strata. Preliminary calculations suggest that the volume of storage requires will be in the order of 170 cum which, assuming a minimum void ratio of 0.95, equates to a storage depth of approximately 1.5m in a 40m long trench soakaway. However because of their depth the proposed soakaways are likely to provide significantly more storage than this figure.
- For the 1.0% AEP (1 in 100 year) event, preliminary calculations suggest that an additional 50 cum of storage will be required. Due to the hydraulic restrictions of road gullies and rwps this will initially be provided above ground resulting in flood depths of up to 100mm on roads, parking areas and in gardens. The proposed FFLs of the new buildings will be set to ensure that internal flooding cannot occur during these conditions.

- External flood will tend to subside relatively quickly as water drains through the gully system into the excess storage provided below ground within the soakaways.

Hopefully the above information is sufficient for you to now advise the planning authority that you are able to withdraw your current objection to the proposed development.

If you need more information or wish to discuss the above matter in greater detail then please let me know.

Regards

Richard Broun

for **RBA LTD | CONSULTING CIVIL & STRUCTURAL ENGINEERS**

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From: Neil Taunt [<mailto:Neil.Taunt@wrexham.gov.uk>]

Sent: 12 January 2016 10:43

To: Rhion Williams

Cc: michael.forgrave@gowerhomes.co.uk; Matthew Phillips

Subject: RE: P/2015/0812 TOTAL FITNESS, STANSTY ROAD, WREXHAM (RBA Ref:5010) - SW Drainage

Rhion,

Many thanks for the submitted information with regards to soakaway tests and infiltration rates at a number of locations across the site. The requirement for the soak away tests is to enable an indicative drainage design to be developed, outlining the likely storage or attenuation volume required on site to ensure site layout will permit required system storage. Although schematic proposals for the drainage system have been previously submitted, there has been no estimation of the storage requirement for the site. Prior to being able to recommend a suitably worded condition on any granted permission, please submit sufficient evidence to confirm that sufficient storage can be achieved taking into account site conditions, in accordance with the guidance set out in the attached document that hopefully you are aware of.

If you have any additional questions then please let me know.

Regards

Neil

Neil Taunt MCIWEM C.WEM CEnv CSci

Senior Flood Management Officer / Uwch Swydddog Rheoli Llifogydd



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From: Rhion Williams [<mailto:rhion.williams@rba.ltd.uk>]
Sent: 08 January 2016 17:31
To: Neil Taunt
Cc: michael.forgrave@gowerhomes.co.uk
Subject: FW: P/2015/0812 TOTAL FITNESS, STANSTY ROAD, WREXHAM (RBA Ref:5010) - SW Drainage
Importance: High

Neil

Further to our Richard Broun's email below GroundSolve Ltd have excavated three trial holes and undertaken percolation tests at the location of the proposed geocellular soakaways serving the dwellings and private parking areas as detailed in their report dated 31 December 2015 attached.

The trial pit records confirm that the ground conditions on the site are consistent with the ground conditions encountered on the 'Sidings' site a short distance to the North comprising glacial deposits of sand and gravels at varying depth, generally overlain by made ground. A band of clay of varying thickness was encountered in trial pits TP1 and TP3 from 0.5m to 1.15m respectively.

As detailed in the attached report infiltration rates obtained from trial pits TP1 and TP2 are comparable with a minimum infiltration rate of 9.788×10^{-5} m/s and 5.108×10^{-5} m/s respectively with a lower infiltration rate of 6.279×10^{-6} m/s in TP3. These infiltration rates are consistent with the results obtained in the initial testing at the 'Sidings' site which ranged from 3.24×10^{-6} m/s up to 3.14×10^{-4} m/s (see extract attached) where soakaways were constructed.

The above infiltration rates are considerably higher than the lower typical infiltration rates for 'good infiltration media' detailed in CIRIA C697 The SUDS Manual Table 4.7 which are in the range 1.389×10^{-7} to 2.778×10^{-7} m/s.

The results of the percolation tests confirm that the proposed surface water drainage strategy (detailed in the email below) using soakaways for the disposal of surface water from the proposed development is suitable.

Based on the above I would be grateful if you can confirm to the Planning Authority that you now have no material objection to the proposed development on drainage / flood risks grounds, subject to the proposed drainage strategy being conditioned as part of any consent.

If you require any additional information or wish to discuss this matter please do not hesitate to contact us.

Regards

Rhion Williams

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From: Richard Broun [<mailto:richard.broun@rba.ltd.uk>]
Sent: 07 December 2015 09:35
To: Neil Taunt
Cc: michael.forgrave@gowerhomes.co.uk; pdparhitects@aol.com
Subject: P/2015/0812 Total Fitness (RBA Ref: 5010)

Neil

Further to our telephone conversation last week regarding the potential flood risk associated with the above development I would confirm the matters discussed as follows:

- The existing Total Fitness site drains to a series of soakaways in the car park with a section of the access road falling towards the public highway.
- A borehole investigation undertaken for the previous owner showed that the site to be underlain with a band of gravel which is similar to the ground conditions encountered on the adjacent development at the Sidings. Percolation tests carried out as part of this development gave good results allowing soakaways to be designed in accordance with the SuDS Manual.

- Whilst percolation tests have not yet been carried out for the Total Fitness development, it is anticipated that satisfactory results will be obtained as the site lies between the existing soakaway system serving the car park and the Sidings development.
- During extreme storm conditions (ie 1.0% AEP + CC events) some run-off from the existing site will drain onto the main road.
- It is not possible to avoid a similar situation after the development of the site but the levels of new entrance will be designed in such a way that only a similar impermeable area drains towards the public highway.
- The remainder of the site will be designed in such a manner that the run-off from extreme storm events is contained within the site boundary with any flooding occurring to shallow depths on the adoptable roads (for highway run-off) or within private gardens (for roofs and parking areas). Once the storm has subsided the flood water will drain to the site soakaways via a series of land drains.

For planning purposes I accept that the porosity of the ground needs to be established and I can confirm that the Developer will either undertake a series of percolation tests or (more likely) fill up one of the existing soakaways to make sure it half empties in a 24 hour period. The results of these investigations will be forwarded to your Authority in due course.

Based on the above I would be grateful if you can confirm to the Planning Authority that you now have no material objection to the proposed development on drainage / flood risks grounds, subject of course to the above strategy being conditioned as part of any consent.

Finally I understand that the Highway Authority may wish to address the flooding of the underpass, which occurs during severe storm conditions, by pumping water to a suitably enlarged soakaway within the development site. I have discussed this matter with Gower Homes and they would be happy to assist the Council in this matter. This would obviously be subject to agreeing the precise layout of such a system and all additional costs being borne by the Highway Authority.

Hopefully the above is an accurate record of our discussions but if you need more information or wish to discuss any matter in greater detail then please give me a call.

Regards

Richard Broun

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