FAREHAM
BOROUGH COUNCIL

The Welborne Plan

Statement on Issues and Questions

Issue 9: Energy, Water and Waste (WEL36 – WEL40)

September 2014

CD-16

9.1 ***Is the reference to the 'Passivhaus' standard within policy WEL36 justified? If it is then what is the justification for only 10% of dwellings being expected to meet that standard?***

9.1.1 Passivhaus principles can be applied to any new domestic or non-domestic building, as well as any existing buildings through suitable retrofits. In a Passivhaus, thermal comfort is achieved to the greatest practical extent through the use of passive measures listed below:

- good levels of insulation with minimal thermal bridges
- passive solar gains and internal heat sources
- excellent level of airtightness
- good indoor air quality, provided by a whole house mechanical ventilation system with highly efficient heat recovery

9.1.2 To maximise solar heat gain a Passivhaus would ideally be designed with 30° of North-South orientation[1]. This allows large windows in south facing rooms to benefit from light and heat, with smaller windows in the north elevation to minimise heat loss. Given that the Welborne site, for the most part, slopes gently southwards with limited shading it is considered to be ideally suited to make the most of solar gain.

9.1.3 Whilst Passivhaus standards can be delivered on any building design, compact buildings with a simple building form are the easiest (and cheapest) to build to the Passivhaus standard[2]. A complex building form has a larger surface area from which to lose heat, and thus design of the building is important from the outset. Terraced rows and simple flatted blocks are therefore simpler to design to Passivhaus standards than complex detached dwellings.

9.1.4 The Welborne site is of a substantial scale, with 6,000 residential units to be built across the site. This scale of development, along with limited site constraints, means that there is ample opportunity to provide a reasonable amount of dwellings that are orientated north-south (or within 30° of north-south). The scale of development also requires a wide variation of building design and mix of house types. This provides an opportunity to easily factor in simpler building forms suitable for Passivhaus amongst other, more complicated, buildings.

9.1.5 There is ongoing debate over the cost of Passivhaus, in terms of how much it costs over and above the cost of a "standard" unit that meets basic building regulations. Whilst UK based examples are relatively infrequent, one project[3] concluded that the average construction cost of a Passivhaus was just 5.54% higher than a "standard house". The technology is more tried and tested in other European countries, but still relatively immature in the UK, the likelihood is, therefore, that costs are likely to come down over

[1] http://www.passivhaus.org.uk/filelibrary/Primers/KN4430_Passivhaus_Designers_Guide_WEB.pdf
[2] http://www.peterwarm.co.uk/disguising-simple-building-shapes/
[3] http://www.passive-on.org/en/downloads/Passive-On-Long%20Description-v1-0.pdf

time. A briefing note by Willmott Dixon from 2010 stated that "*although there are Passivhaus constructions in countries such as Germany and Austria, that have no higher capital costs than buildings which accord with current building regulations, as a rule of thumb – especially in countries such as the UK where the construction of Passivhaus buildings is still relatively new – it incurs a rise of the capital costs of about 5-15%*"[4].

9.1.6 The Council believes that meeting Passivhaus principles on a proportion of the housing on the site would contribute significantly to the high level development principles in policy WEL2 that relate to high standards of sustainable design. For this reason and given the points raised above, the Council is satisfied that inclusion of reference to the Passivhaus standard in the policy is justified.

9.1.7 A further conceivable benefit of providing a proportion of Passivhaus on site is that it will add to the "range" of products being offered by the developer, which in turn will help ensure market interest and optimise sales rates. However, where there remain some uncertainties over the costs of achieving these standards, in order to ensure overall viability is not compromised the policy has a suitable level of flexibility.

9.1.8 It must be noted that Passivhaus techniques represent just one approach to meeting high sustainability standards. Whilst a higher proportion of Passivhaus units could easily form part of a developers overall Energy Strategy, which is also required in policy WEL36, it is equally conceivable that alternative methods could be utilised which also achieve high energy efficiency standards. The current approach in the Welborne Plan represents a statement of intent towards high levels of sustainable design, whilst allowing developers to investigate all potential options and ensuring that Passivhaus principles are applied on a minimum of 10% of housing per phase, unless it can be demonstrated that this quantum of provision is financially unviable.

9.2 ***Are there other renewable energy targets, for example in relation to thermal efficiency and energy generation that should be referred to in LP3 and which could then be reflected in the Energy Strategy that is to accompany the relevant planning applications?***

9.2.1 The Council undertook an Eco-Opportunities Study (EV22) to consider, amongst other things, the on-site generation of energy and heat, the use of building materials and climate change adaption. The general conclusion of the study was that there are a wide variety of options open that would deliver the high level principle of achieving high sustainability standards. The technology tested included:

- Gas Combined Heat & Power network
- Biomass Combined Heat & Power network

[4] http://www.willmottdixongroup.co.uk/assets/b/r/briefing-note-7-passivhaus.pdf

- Wind turbines
- Solar PV
- Passivhaus
- Solar thermal
- Heat pumps

9.2.2 The study concluded that there were two potential approaches that could be adopted. The first being a centralised heating and/or power system that provided energy for the development, with the second being technologies applied on individual buildings, such as PV, Passivhaus etc. Both options could potentially be achieved in a variety of ways.

9.2.3 The study noted that by setting high standards for on-site energy generation, one is likely to push the development into a certain type of technology, such as Combined Heat and Power (CHP). Whilst all of the technologies tested were technically feasible, the study stated that by certain types, such as CHP, "*would reduce flexibility in the masterplan and introduce other complexities in terms of delivery…it can take a long time for the initial investment to be paid back*"[5].

9.2.4 The Eco-Opportunities Study (EV22) also recommended against setting "*less challenging*" standards, especially in the initial phases of development. This would reduce the likelihood of developers considering all available options, but instead utilising the cheapest at the outset, which is likely to be individual buildings technology as it requires little initial outlay. This would reduce the likelihood of a more strategic approach, such as a district heating system, being delivered in the long term. Such systems require a base load (number of dwellings) to be a viable proposition and if more houses are developed with alternative technologies it reduces the base load and the feasibility of a district heating system (for example).

9.2.5 A further consideration is the consultation version of the Housing Standards Review, August 2013, which seeks to set carbon and energy targets in Building Regulations, and indicates that there could be no need for energy standards to be set locally. Although the finalised Housing Standards Review has not been published, the consultation draft demonstrates a clear direction of travel, stating that "*progressive strengthening of Building Regulations means it is no longer appropriate for local plan policies to specify additional standards for how much of energy use from homes should come from on-site renewables. Developers should be free to decide the most appropriate solutions to meet stronger Building Regulations.*"[6] It is anticipated that the Housing Standards Review will be published in the next year, and whilst the exact content may change it is considered highly likely that the focus away from on-site energy generation standards will continue.

[5] http://www.fareham.gov.uk/pdf/planning/WelborneCoreDocuments/EV22_Eco-Opportunities_Study_Final_Report.pdf (page 33)
[6] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/230250/1-_Housing_Standards_Review_-_Consultation_Document.pdf (page 65)

9.2.6 The Council considers that there is wide variety of technology available that can deliver energy efficiency (see response to Inspectors question 9.1) and energy generation, as demonstrated in the Eco-Opportunities Study (EV22). By providing flexibility, by not setting specific targets, the Council is allowing the market to determine the most suitable solution based on market conditions, viability and the technology available at the time. By requiring an Energy Strategy through WEL36 the Local Plan ensures that energy generation and efficiency is a key consideration, and ensures that all potential options will considered.

9.3 ***Policies should provide a clear indication of how a decision maker should react to a development proposal. However, there is uncertainty regarding water supply and wastewater disposal. The supporting text to policy WEL37 advises that water supply and wastewater treatment services will need to be delivered 'potentially prior to the first main residential phase'. If this is the case why is the policy not more specific about how these infrastructure elements will be secured?***

9.3.1 The approach taken by LP3 in respect of water supply and wastewater disposal has been to identify and present potential and viable solutions for both infrastructure requirements. LP3 recognises that due to a de-regulated market, the choice of both water supply and wastewater disposal are commercial decisions to be made by the site developers and to show a preference for a particular solution for either water supply or wastewater disposal could be commercially disadvantageous. However, as set out below, there are a number of clear options that developers can rely upon to deliver the necessary infrastructure within the phasing of the development, if this proves necessary.

9.3.2 Policy WEL37 is considered to be sufficiently robust to ensure that the decision maker will only grant planning permission for a phase of development where an appropriate water supply and wastewater conveyance infrastructure is provided, most likely through evidence of the proposed works.

9.3.3 Paragraph 9.21 is felt to be in continuity with policy WEL37 in that it affirms the need for appropriate water supply and wastewater conveyance infrastructure to be in place potentially prior to first phase of development, or alongside the opening phase. This requirement is to ensure that Welborne provides the infrastructure that is necessary to provide for its own needs and does not rely on existing infrastructure, where although some capacity does exist, evidence shows this to be limited and would therefore require a phased approach in order to achieve a comprehensive solution[7].

9.3.4 In terms of identifying a viable option, further evidence on the wastewater solution for Welborne has been obtained from both Southern Water (EV58) and Albion Water (EV57, EV59) and incorporated within a Position

[7] CD-20: Statement of Common Ground - Wastewater (Sept 2014)

Statement on Wastewater (CD-20). This evidence shows that for Southern Water, a short-term option to obtain additional capacity in the existing sewer network close to Welborne through minor works is possible, whilst the long-term infrastructure is completed. This is to ensure that the delivery of housing and employment in the first few years is not prevented or slowed through waiting for completion of the long-term solution.

9.3.5 Similarly, Albion Water have indicated that although new sewerage infrastructure would be required to connect Welborne to the Knowle Sewage Treatment Works (STW), the plant itself could, with some minor upgrade works, provide a wastewater solution for an initial 500 - 800 homes at Welborne. Provision to treat all wastewater from Welborne at Knowle STW is possible in terms of capability, but would require additional treatment plant to be constructed in the medium term. Furthermore, discussion with the Environment Agency would be needed if future discharge volumes are likely to exceed limits with the current discharge consent for Knowle STW.

9.4 ***Has the issue of flood risk been adequately assessed and considered, particularly in relation to the communities of Wallington, Funtley and Titchfield?***

9.4.1 In relation to flood risk, LP3 has been informed by the PUSH Strategic Flood Risk Assessment (SFRA) document (LD01). The SFRA provides a strategic overview of flood risk across the South Hampshire sub-region, including Welborne and the surrounding communities of Wallington, Funtley and Titchfield. The effective management of potential flood risk is a key requirement of LP3 and of any planning application at Welborne.

9.4.2 LP3 recognises the Welborne site to not be at risk from fluvial flooding from either the Wallington River to the east or the River Meon to the west. The Plan does however recognise that the development could increase the risk of flooding downstream and also give rise to additional surface water run-off, that could potentially also be an issue that would need to be successfully mitigated.

9.4.3 Evidence from map set 1F-3 (Impact of Land Use Change on Surface Water Runoff) (Appendix 9A to this document) in the Strategic Flood Risk Assessment, indicates that for the majority of Welborne there would be a high impact in the level of surface water runoff at Welborne, due to the loss of largely permeable, greenfield land. Indeed the SFRA (p.27-28) states: *"In principle, developing in existing highly permeable areas will have the highest impact on surface water runoff regimes, as a high proportion of rainfall would have previously been able to infiltrate into the ground. This index does not assume that in these 'high impact' areas, excess surface water runoff from development will be difficult to mitigate, as highly permeable areas are often better suited to the implementation of SUDS, which will cope better with potentially high amounts of surface water to be mitigated."*

9.4.4 In order to mitigate the increase in surface water run-off that may arise from the development of Welborne, LP3 requires flood risk assessment across the Welborne site to be managed through a site-wide Sustainable Drainage System (SuDS). This requirement for SuDS is set as both a high-level development principle for the site in policy WEL2 and as a detailed requirement in policy WEL39.

9.4.5 A SuDS based approach to the management of flood risk at Welborne has been developed and refined through dialogue with the Environment Agency, throughout the development of LP3. As such their representation on the Welborne Plan (WP018) provides strong support for both policy WEL2 and policy WEL39.

9.4.6 In addition to the SuDS requirements of WEL39, the policy also requires the site promoters to undertake a site specific Flood Risk Assessment (FRA) of the development site in order to demonstrate that the SuDS strategy proposed for the site will not increase flood risk on the Welborne site or elsewhere.

9.4.7 In addition, to site wide flood management, policy WEL5 also places a requirement for the site specific FRA to specifically investigate the impact that development adjacent to Funtley may have on local drainage patterns with appropriate mitigation to be identified and included as part of the site wide SuDS strategy. This approach to the localised flood management of Funtley is supported by Hampshire County Council in their role as Lead Local Flood Authority and by the Environment Agency.

9.5 *Is there evidence that a satisfactory sustainable Urban Drainage System (SuDS) can be delivered?*

9.5.1 SuDS represent a tried and tested approach to drainage solutions for new developments and have gained increasing importance in the planning system following the 2007 Pitt Review, as a key way in which to manage and reduce flood risk. The plethora of guidance on the subject that followed the 2007 Pitt Review (including PPS25 Practice Guide and CIRIA Planning for SUDS) set out that there are a range of approaches to incorporating SuDS in new development, which can be tailored for site specific circumstances.

9.5.2 In addition, relevant published guidance is clear that the early consideration of SuDS in the planning process can ensure that it is considered within the land budget for the site and is designed in conjunction with landscape proposals for the development. Whilst contaminated land and higher-density development can represent constraints to the type of SuDS approach used, these are not significant considerations for the Welborne site.

9.5.3 The general approach of LP3 towards requiring a site-wide SuDS scheme

and the specific requirements of it, as detailed by policy WEL39 have not raised any objections from the Environment Agency, who through their representation, has provided support to the Council's proposed policy and for the overall approach towards SuDS at Welborne. Policy WEL39 requires the submission of a SuDS Strategy with the initial planning applications for the site. This would promote the early consideration of SuDS in the design process to ultimately allow a cost-effective system to be delivered. Furthermore, the comprehensive approach to the delivery of Welborne (set out in policy WEL4) ensures that SuDS could be planned for in a comprehensive manner, with the section 106 legal agreement securing the delivery and management of the system.

9.5.4 The current Department for Communities and Local Government (DCLG) Consultation "Delivering Sustainable Drainage Systems"[8] would require SuDS delivered over conventional drainage in new major developments. Currently, the only proposed exception to this approach in the consultation is for minor developments. It is the expectation of the Council that the design and construction of the SuDS for Welborne would be in accordance with the emerging National Standards for Sustainable Drainage. This would ensure that the SuDS are built to an adoptable standard and as such, would have the option of being adopted by the SuDS Approval Body (SAB), once Schedule 3 of the Flood and Water Management Act 2010 is enacted.

9.5.5 Although the type of SuDS that is appropriate for Welborne is dependent on the infiltration rates of underlying ground across the site, it is the understanding of the Council that this will not determine whether SuDS can be delivered or not, but how SuDS would be delivered. On that basis and in the absence of an objection from the Environment Agency, the Council is confident that a satisfactory SuDS system can be delivered on the site.

9.6 *Is policy WEL40 and in particular the location of the Household Waste Recycling Centre, appropriate and justified?*

9.6.1 Policy WEL40 is based on evidence from Hampshire County Council in their role as Waste Disposal Authority (WDA). The evidence (EV24) identifies that the existing three Household Waste Recycling Centres (HWRCs) in the vicinity of Welborne do not have the capacity to cope with the expected level of usage that will arise from 6000 new dwellings at Welborne, alongside 2000 new dwellings at north Whiteley (Winchester City Council) and 1500 dwellings at Boorley Green (Eastleigh Borough Council).

9.6.2 An assessment of existing industrial sites in the catchment of Welborne by Hampshire County Council failed to identify any existing sites on which it would be suitable to locate a HWRC. As such, the development of Welborne presents an opportunity to locate a new HWRC, which would not only serve and be part-funded by Welborne (alongside the developments at Boorley Green and north Whiteley – see EV24), but will also provide a

[8] Delivering Sustainable Drainage Systems Consultation

closer and more modern HWRC for local communities. This is in accordance with Policy 29 (1.) iii. of the Hampshire Minerals and Waste Plan.

9.6.3 In respect to the particular location of the HWRC at Welborne, policy WEL40 provides flexibility with regard to the specific location within the employment areas in the south of Welborne; east and west of the A32. The rationale for policy WEL40 is that a HWRC has similar land use attributes to the B2 and B8 use classes that are envisaged in these areas (alongside B1 uses), and so would be complimentary to the envisaged surrounding uses. This is in accordance with Policy 29 (2.) b of the Hampshire Minerals and Waste Plan.

9.6.4 In addition to complimentary surrounding employment use, various design and mitigation requirements are required by WEL40 to ensure the protection of residential amenity in the area, including not being located directly adjacent to residential areas, and also aid integration alongside the adjacent employment uses.

9.6.5 As such, having considered the existing wording of WEL40 in respect to the protection of residential amenity, it is proposed to strengthen the requirements by proposing the following **minor modification** as follows:

WEL40 – Household Waste Recycling Centre and Recycling (numbered list)

The new facility will require:

i. A site amounting to 0.8 hectares, which is suitable for a split-level facility and at a location agreed with the Council;

ii. Appropriate design and layout to facilitate integration alongside B1, B2 or B8 employment uses;

iii. Direct highway access which avoids any adverse highways impacts on the A32 or to internal site routes;

iv. to not be located directly adjacent to existing or proposed residential areas;

~~iv~~v. To be designed to avoid adverse impacts on the amenity of any nearby residential areas; and

~~v~~vi. To incorporate landscape screening to ensure that the facility is not intrusive into significant views from the surrounding area and from the M27 motorway.

Appendix 9A
Impact of Land Use Change on Surface Water Runoff