



# Assessing viability in planning under the National Planning Policy Framework 2019 for England

England

1st edition, March 2021

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RICS guidance note, England

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# Foreword

Following concerns over the way viability assessment practice was developing, particularly after the High Court decision on Parkhurst Road (*Parkhurst Road Ltd v Secretary of State for Communities and Local Government & Anor* [2018] EWHC 991 (Admin) 27 April 2018), MHCLG revised the National Planning Policy Framework (NPPF) in July 2018 and updated the national Planning Practice Guidance (PPG). Subsequently the NPPF was revised again in 2019, albeit not in respect of viability. Further amendments continue to be made to the PPG.

Previously in financial viability assessments, the prices paid for land in the market were sometimes used as a justification by developers for being unable to deliver planning policy requirements, introducing an element of circularity within the process. Higher land prices reduce developer contributions and reduced developer contribution expectations can fuel higher land prices. The PPG now makes explicit that this should not occur under the new approach. Market valuations of land will need to take account of this stronger expression of policy requirements.

The government's approach shifts the focus of viability assessment to plan making. The purpose of viability assessment in the plan-making stage is to test, on an area-wide basis, whether the planning policies in a plan are realistic, and that the total cost of the policies will not undermine the deliverability of the plan. This is necessarily at a more strategic level, and the PPG indicates that testing should be proportionate – for instance, not all sites need to be assessed for viability in plan making, assurance is not required that all sites are viable, and site typologies can be used. Estimates across site typologies are inherently broader, and a balance needs to be struck: the viability assessment should be sufficiently detailed to provide a fair assessment but not so detailed that it makes the plan-making process overly complicated or expensive.

Where planning applications comply with the up-to-date policies set out in the plan, further FVAs are not necessary. An applicant can still choose to submit a viability assessment at the planning application stage, but they will need to be able to demonstrate good reasons to justify this. The decision maker will decide what weight to give their viability assessment, having regard to the plan policies, whether the evidence underpinning them is up to date and whether there have been changes in site circumstances since the plan was brought into force. As such, where up-to-date planning policies are in place, there is a higher bar to justify the viability assessment. The PPG is clear that the price paid for land is not a justification for failing to accord with plan policies.

The government's intention in changing national planning policy and practice in this area is to more firmly integrate the delivery of planning policy into the operation of the market. Planning policy benefits the market in many ways. It results in sustainable development that meets the needs of the population and ensures that places function well and prosperously; the market equally benefits from these outcomes. An assessment of viability for planning purposes is distinct and separate from a market valuation for secured lending or company accounts purposes in accordance with [RICS Valuation – Global Standards](#). The figures produced in a viability appraisal for planning purposes are to assist in the delivery of local planning policy in accordance with the NPPF and PPG.

In August 2020, the government published a White Paper, *Planning for the Future*. This sets out proposals to further reform the system of developer contributions, replacing s.106 planning obligations and the

Community Infrastructure Levy (CIL) with a new Infrastructure Levy. While this new approach is in development, the current system of developer contributions continues to apply.

In 2019, RICS published a professional statement, **Financial viability in planning: conduct and reporting**, which is mandatory for all RICS members carrying out financial viability assessments. This guidance note supplements and gives added guidance to RICS members and other stakeholders in the planning process on undertaking and understanding financial viability assessments (FVAs) in both a plan-making and decision-taking context. This guidance note is based on the NPPF and PPG as at the date of publication. It is up to all users to check any subsequent updates of either document.

# RICS professional standards and guidance

## RICS guidance notes

### Definition and scope

RICS guidance notes set out good practice for RICS members and for firms that are regulated by RICS. An RICS guidance note is a professional or personal standard for the purposes of *RICS Rules of Conduct*.

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RICS recognises that there may be legislative requirements or regional, national or international standards that take precedence over an RICS guidance note.



## Document status defined

The following table shows the categories of RICS professional content and their definitions.

### Publications status

Type of document	Definition
<i>RICS Rules of Conduct for Members and RICS Rules of Conduct for Firms</i>	These Rules set out the standards of professional conduct and practice expected of members and firms registered for regulation by RICS.
International standard	High-level standard developed in collaboration with other relevant bodies.
RICS professional statement (PS)	Mandatory requirements for RICS members and RICS regulated firms.
RICS guidance note (GN)	A document that provides users with recommendations or an approach for accepted good practice as followed by competent and conscientious practitioners.
RICS code of practice (CoP)	A document developed in collaboration with other professional bodies and stakeholders that will have the status of a professional statement or guidance note.
RICS jurisdiction guide (JG)	This provides relevant local market information associated with an RICS international standard or RICS professional statement. This will include local legislation, associations and professional bodies as well as any other useful information that will help a user understand the local requirements connected with the standard or statement. This is not guidance or best practice material, but rather information to support adoption and implementation of the standard or statement locally.

# Glossary

This glossary uses definitions from the glossaries of the National Planning Policy Framework and RICS professional standards and guidance notes current at the date of publication. These documents may be updated from time to time and the definitions may change.

This glossary defines terms that are used primarily in viability testing or that have a precise meaning in a viability context. A supplementary glossary appears at the end of this guidance note, which defines terms in more general use.

<b>Abnormal costs</b>	Costs that are associated with abnormal site conditions such as contamination, flood risk, substructure, listed buildings, etc.
<b>Affordable housing</b>	Housing, for sale or rent, for those whose needs are not met by the market (including housing that provides a subsidised route to home ownership and/or is for essential local workers), and which complies with one or more of the definitions set out in the NPPF glossary relating to either affordable housing for rent, starter homes, discounted market sales housing or any other affordable route to home ownership.
<b>Alternative use value (AUV)</b>	PPG paragraph 017 defines this as ‘the value of land for uses other than its existing use’. The alternative use is limited to those uses that would fully comply with up-to-date development plan policies, including for example any policy requirements for contributions towards affordable housing at the relevant levels set out in the plan. Where it is assumed that an existing use will be refurbished or redeveloped, this will be considered as an AUV when establishing the benchmark land value (BLV).
<b>Area-wide assessment</b>	See <i>Viability in plan making</i> .
<b>Assessor</b>	The surveyor or other ‘suitably qualified practitioner’ instructed to undertake the financial viability assessment (FVA; PPG paragraph 020).
<b>Benchmark land value (BLV)</b>	The value to be established on the basis of the existing use value (EUV) plus a premium for the landowner (PPG, paragraph 013) or the alternative use value (AUV) in which the premium is already included. PPG paragraph 014 is clear that there ‘may be a divergence between benchmark land values and market evidence; and plan makers should be aware that this could be due to different assumptions and methodologies used by individual developers, site promoters and landowners.’
<b>Comparable transaction evidence/ comparable evidence</b>	A transaction used in the valuation process as evidence to support the valuation of another property ( <b>Valuation of development property</b> , RICS guidance note). Land transaction evidence must be compliant with or adjusted for plan policy requirements.

<b>Construction cost</b>	All costs of base construction and construction breakdown, from project start to the practical completion of the construction process. PPG paragraph 012 refers to build costs and also to appropriate data sources for those costs.
<b>Cost projection or change</b>	Projections of the amount of growth or decline in the costs of development as part of a cash flow approach to an FVA (see Chapter 4).
<b>Date of valuation</b>	The date of valuation in a decision-taking context is the date upon which the planning authority or the Secretary of State resolves to grant or refuse a planning application. In plan making, the date of valuation is the date of the adoption of the local plan following its testing by an independent examination inspector.
<b>Decision-taker</b>	The local planning authority (LPA), planning inspector or any other body required to make decisions based on the evidence and reports of the assessor(s). The PPG also refers to the 'decision-maker'.
<b>Deliverable</b>	To be considered deliverable, sites for housing should be available now, offer a suitable location for development now and be achievable with a realistic prospect that housing will be delivered on the site within five years (see NPPF glossary for expanded definition).
<b>Development appraisal</b>	A financial appraisal of a development. It is normally used to calculate either the residual site value or the residual development profit, but it can be used to analyse or determine other outputs ( <b>Valuation of development property</b> , RICS guidance note). In FVAs for planning purposes, the primary role is to determine residual land value in accordance with the process set out in Chapter 5.
<b>Development contributions</b>	Contributions expected from development set out in local plans, often tied to the grant of development permissions and often secured through s.106 planning obligations (under s.106 of the <i>Town and Country Planning Act 1990</i> ). Contributions may include the provision of affordable housing, education, health, transport, flood and water management, and green and digital infrastructure, including site-specific mitigation. Transport infrastructure can be secured through s.278 agreements, under s.278 of the <i>Highways Act 1980</i> (see <i>Planning obligation</i> ). Contributions can also be secured through the Community Infrastructure Levy (CIL) in areas where this has been introduced by the charging authority.
<b>Development cost</b>	The total cost of undertaking a development, excluding developer profit and the cost of the land. See Chapter 5 for the application of land value in an FVA.

<b>Development/ developer profit/ return</b>	<p>The amount by which, on completion, the estimated income of a development exceeds the total outlay. This can be expressed in various forms (based on <a href="#">Valuation of development property</a>, RICS guidance note). For the purpose of plan making, the PPG states that an assumption of 15–20% of gross development value (GDV) may be considered a suitable return to developers in order to establish the viability of plan policies. Plan makers may choose to apply alternative figures where there is evidence to support this according to the type, scale and risk profile of the planned development. A lower figure may be more appropriate for delivery of affordable housing in circumstances where this guarantees an end sale at a known value and reduces risk. See also <i>Discount rate</i>, <i>Internal rate of return (IRR)</i>, <i>Net present value (NPV)</i>, <i>Return on cost/value</i>, <i>Risk-adjusted return</i> and <i>Target return/profit</i> for definitions of the different types of profit metric.</p>
<b>Development plan</b>	<p>The development plan is defined in s.38 of the <i>Planning and Compulsory Purchase Act 2004</i> and includes adopted local development documents as prescribed by s.17 of the <i>Planning and Compulsory Purchase Act 2004</i>, which contain the development planning policies for an area. These are commonly called a local plan, but can consist of other development plan documents prepared by LPAs such as core strategies, site allocation plans, development management policy documents, minerals and waste plans, etc. (see <i>Local plan</i>). In addition to this, in London, the London Plan is part of the development plan that sets out strategic policies. Neighbourhood plans introduced under the <i>Localism Act 2011</i>, when duly made, are also part of the development plan for that neighbourhood area. Where there is a conflict between development plan documents, it is the last document to be adopted/approved that has precedence (s.38(5) <i>Planning and Compulsory Purchase Act 2004</i>). In dealing with planning applications, LPAs are under a statutory duty to determine an application in accordance with the development plan, unless material considerations indicate otherwise (s.38(6) <i>Planning and Compulsory Purchase Act 2004</i>). The development plan does not include supplementary planning documents or supplementary planning guidance.</p>
<b>Development risk</b>	<p>The risk associated with carrying out, implementing and completing a development, including site assembly, planning, construction, post-construction letting and sales (<a href="#">Valuation of development property</a>, RICS guidance note). The return for the risk is included in the developer return and the PPG makes it clear that it is the developer's job to mitigate this risk, not plan makers and decision takers.</p>
<b>Emerging policies/plan policies</b>	<p>Policies in emerging plans that are going through the statutory procedure.</p>

<b>Existing use value (EUV)</b>	EUV is the value of land in its existing use, with no expectation of that use changing in the foreseeable future (based on <a href="#">Valuation of development property</a> , RICS guidance note). PPG paragraph 015 advises specifically that the EUV excludes hope value from any assessment of the existing use value. <i>International Valuation Standards</i> 104 paragraph 150.1 defines current/existing use as ‘the current way an asset, liability, or group of assets and/or liabilities is used’.
<b>Financial viability assessment (FVA)/viability assessment</b>	The assessment of viability (see <i>Viability in plan making</i> and <i>Viability in decision taking</i> ), sometimes referred to as a development or economic viability assessment. The PPG refers to it as a viability assessment, while RICS professional statements and guidance notes refer to it as a financial viability assessment. It is a report assessing the financial viability of a development or development typology. Any viability assessment should follow the government’s recommended approach to assessing viability, as set out in PPG paragraph 010. For consistency in all RICS guidance, a viability assessment will be referred to as a financial viability assessment (FVA) throughout this guidance note.
<b>Gross development value (GDV)</b>	The aggregate market value of the proposed development, assessed on the special assumption that the development is complete on the date of valuation in the market conditions prevailing on that date. Where an income capitalisation approach is used to estimate the value of the completed development, the prospective purchaser’s costs are explicitly deducted to determine the market value, which in turn identifies the expected total contract value. In these circumstances, GDV should include a deduction for anticipated purchaser’s costs only. The seller’s costs are deducted to obtain the net development value (based on <a href="#">Valuation of development property</a> , RICS guidance note). Section 6.3 and Appendix B of <a href="#">Valuation of development property</a> , RICS guidance note, make it clear that the timing of the GDV and projections in value are such that the date of valuation and market conditions referred to above can be assumed as at the date of their occurrence.
<b>Hope value</b>	An element of market value in excess of the existing use value (EUV), reflecting the prospect of some more valuable future use ( <a href="#">Valuation of development property</a> , RICS guidance note).
<b>Infrastructure</b>	<p>Infrastructure can be secured through s.106 obligations and the Community Infrastructure Levy (CIL).</p> <p>Infrastructure funded through the CIL includes roads and other transport facilities, flood defences, schools and other educational facilities, medical facilities, sporting and recreational facilities, and open spaces as defined in s.216(2) of the <i>Planning Act 2008</i>.</p>
<b>Minimum return</b>	The amount of the premium above the EUV that it is considered a reasonable landowner would be willing to accept for their land. The premium should provide a reasonable incentive, in comparison with other options available, for the landowner to sell land for development while allowing a sufficient contribution to fully comply with policy requirements (PPG paragraph 013).



<b>Planning obligation</b>	A legal obligation entered into under s.106 of the <i>Town and Country Planning Act 1990</i> to mitigate the impacts of a development proposal (NPPF). See also <i>Developer contributions</i> for more detail of planning obligations.
<b>Planning purposes</b>	A financial viability assessment for 'planning purposes' means an assessment carried out for the purposes described in the NPPF and PPG on viability in statutory planning. All measures of value in the assessment are for that purpose and guided by the authoritative requirement of the PPG, which takes precedence over any other RICS professional statements and guidance.
<b>Plan policy-compliant</b>	Policy-compliant means a development that fully complies with up-to-date plan policies (PPG paragraph 002). Developments that have policy requirements reduced because of viability are not plan policy-compliant.
<b>Premium</b>	The premium should reflect the minimum return at which a reasonable landowner would be willing to sell their land. The premium should provide a reasonable incentive, in comparison with other options available, for the landowner to sell land for development while allowing a sufficient contribution to fully comply with plan policy requirements (PPG paragraphs 013 and 016).
<b>Return on cost/ value</b>	The ratio of profit to either the costs of the development or the value of the completed development. PPG paragraph 018 identifies a standardised input of 15% to 20% of GDV as a suitable return for the purpose of plan making. The PPG acknowledges other alternative returns according to the type, scales and risk profile of planned development. Affordable housing provision often attracts lower risk and lower returns (see also <i>Development/developer profit/return</i> ).
<b>Scheme typology</b>	Represents the type of development likely to come forward as part of the plan. Scheme typologies relate to development schemes with similar characteristics, such as proposed use, location, scale and value.
<b>Site-specific assessment</b>	Relating to the viability assessment of a single development site or project.
<b>Site typology</b>	Relating to sites with similar characteristics, such as existing or proposed land use, location, scale, brownfield or greenfield.
<b>Standardised inputs</b>	'Standardised inputs' in PPG paragraph 020 means appropriate inputs to underpin valuations, and that the normal hierarchy of evidence quality for those inputs can apply (for example, <a href="#">Comparable evidence in real estate valuation</a> , RICS guidance note, sets out primary, secondary and tertiary data sources). These should all be clearly set out. Standardised inputs are not specifically defined in the PPG, but it does set out the evidence and approach to FVA inputs and evidence in paragraphs 010 to 019.
<b>Value change or projection</b>	Projections of the amount of growth or decline in the capital or rental value of the project as part of a cash flow approach to an FVA (see Chapter 4).

<b>Viability in plan making</b>	The process of assessing viability at the plan-making stage by looking at whether the value generated by a development is more than the cost of developing it (PPG paragraph 010).
<b>Viability in decision taking</b>	The process of assessing viability at the decision-taking stage by looking at whether the value generated by a development is more than the cost of developing it (PPG paragraph 010).

# 1 Introduction

## 1.1 Background

**1.1.1** The UK government's planning policies for England and its expectations of how these are to be applied, including the consideration and treatment of viability, were previously contained in the National Planning Policy Framework (NPPF) 2012 and the Planning Practice Guidance (PPG) 2014. RICS published the 1st edition of the *Financial viability in planning* guidance note in 2012 to provide practical guidance to its members on the implementation of these policies.

**1.1.2** In 2018, the government revised the NPPF and PPG on viability. The NPPF and PPG were further revised in 2019 in relation to decision taking and the transparency of the viability process. All references to the PPG can be taken to refer to the viability section of the PPG unless expressly stated otherwise.

**1.1.3** In response, RICS has published two documents:

- a** **Financial viability in planning: conduct and reporting**, RICS professional statement, May 2019, in order to address professional behavioural matters and to clarify reporting requirements. This includes mandatory requirements for RICS members carrying out viability assessments.
- b** This guidance note, which replaces the 2012 *Financial viability in planning* guidance note. It provides guidance for carrying out and interpreting the results of viability assessments under the NPPF and the updated PPG.

**1.1.4** This guidance sets out best practice for the implementation of the revised current planning policy. The NPPF and PPG are the 'authoritative requirement', as defined in **RICS Valuation – Global Standards** (commonly known as the Red Book). This means that any valuation-based requirements in the PPG take precedence over any other valuation basis or approach set out in the standards. The implications of this are set out in this guidance note, particularly in Chapter 2.

**1.1.5** The PPG refers to viability assessments, whereas previous guidance has referred to them as financial viability assessments. For consistency with the previous guidance note and the professional statement, this guidance note refers to such assessments as financial viability assessments (FVAs) throughout.

**1.1.6** It is important that practitioners and other stakeholders in the process keep themselves aware of any changes to government policy and guidance, and the effect they may have on the advice contained in this guidance note. Following any relevant amendments to the PPG and/or NPPF, where RICS considers it necessary to clarify the extent to which existing advice remains applicable, it will do so. In particular, RICS may revise its existing advice and/or provide new advice. If so, notification of this will be published on our website, and will have the same regulatory status as this guidance note. Unless and until such notification is published, this guidance note should be treated as having continued unaltered effect.

## 1.2 National Planning Policy Framework and Viability Planning Practice Guidance

**1.2.1** The NPPF sets out the government's planning policies for England and how these should be applied. It provides a framework within which locally-prepared plans for housing and other developments can be produced. It reinforces the delivery of sustainable development in accordance with up-to-date local plans. It asserts the plan-led system as the main determinant when it comes to exercising choices about what and where to develop and the granting of planning permission. This is in accordance with section 38(6) of the *Planning and Compulsory Purchase Act 2004*, which requires the following:

'If regard is to be had to the development plan for the purpose of any determination to be made under the planning Acts the determination must be made in accordance with the plan unless material considerations indicate otherwise.'

**1.2.2** Development plans are important in ensuring high-quality, sustainable and viable development. To ensure the deliverability of the development, plans need to contain policies that, taken as a whole in the context of the development envisaged by the plan, are not likely to make the development required to deliver the plan financially unviable. At the plan level, **viability** is a tool that is used to ensure planning policies are realistic and their cumulative cost does not undermine deliverability of the plan, taking account of a variety of factors, including the reasonable expectations of landowners and developers. The PPG is clear that it is the responsibility of site promoters to engage in plan making; to take account of any costs, including their own profit expectations and risks; and ensure that proposals for development are policy-compliant (PPG paragraph 006). At a site-specific level, viability can be used to assess the financial impact of planning policies on individual development schemes.

**1.2.3** An important component of financial viability is the provision of development contributions (NPPF paragraph 34 and PPG paragraph 002). If development contributions are set too high, landowners may not release land. The extent to which landowners may decide to hold onto land will depend on various factors: the supply of, and demand for, housing and other uses in the locality; the location of the land relative to other developments in the area; whether the land is a strategic site essential to plan delivery; and landowner expectations in relation to a changing planning regime. Paragraph 002 of the PPG states that an FVA 'should not compromise sustainable development but should be used to ensure that policies are realistic, and that the total cumulative cost of all relevant policies will not undermine deliverability of the plan'. Plan-makers will need to consider these factors when setting developer contributions at levels that allow a 'suitable' return for the developer (PPG paragraph 018) and a 'minimum return at which it is considered a reasonable landowner would be willing to sell the land' (PPG paragraph 013).

**1.2.4** The likely behaviour of landowners in deciding whether to sell their land is a consideration, but some changes to planning policy and practice will affect the value of land. PPG paragraph 002 states that the 'price paid for land is not a relevant justification for failing to accord with relevant policies in the plan'. It also states that landowners and site purchasers 'should consider this when agreeing land transactions'. This may take time to achieve, and plan-makers may seek to balance these influences through successive plans in order to maximise developer contributions. Viability should inform landowners about reasonable expectations, having regard to planning policy and their options. Landowners and their advisers also need to be aware that some plan-makers have powers to acquire land compulsorily. They will also be aware of the LPA's call for sites to inform choices about allocations of land for development. Where that option is a consideration, assessors should also be aware of the valuation basis applied to compulsory acquisition.

**1.2.5** The NPPF requires plans to set out the contributions expected from development. This should include setting out the levels and types of affordable housing provision required, along with other infrastructure (such as that needed for education, health, transport, flood and water management, and green and digital infrastructure; NPPF paragraph 34). Such policies should not undermine the delivery of the plan. The PPG sets out additional guidance for carrying out FVAs for both plan-making and decision-taking. As indicated previously, future amendments to the NPPF or PPG take precedence over the contents of this guidance note.

**1.2.6** The most common uses of FVAs are:

- formulating planning policy through plans that include policies seeking the payment of infrastructure contributions, and the delivery of new urban extensions and/or new settlements
- assessing the composition, quantity and timing of planning obligations, including affordable housing, which is expected to be met on site, unless off-site provision or an appropriate payment in lieu can be robustly justified
- estimating viable compositions of affordable housing tenures
- assessing applications that incorporate enabling development for heritage assets and other forms of enabling development
- assessing the bulk, scale and massing (and specification relative to cost and value) of a proposed scheme
- reviewing land uses
- assessing continuing existing uses in terms of obsolescence and depreciation
- dealing with heritage assets and conservation issues
- carrying out pre-commencement viability reviews, and reviews throughout the delivery period of the development
- testing the viability of a policy, scheme, or permission that underlies a Compulsory Purchase Order and
- testing the viability of developments and their capacity to make contributions through the Community Infrastructure Levy (CIL) to inform CIL charging schedules.

**1.2.7** CIL charging schedules are not formally part of the relevant plan, but they should generally be consistent with that plan and should be viability tested in a similar way. There are benefits to undertaking infrastructure planning for the purpose of plan making and setting the levy at the same time.

**1.2.8** Paragraph 002 of the PPG states that FVAs are required primarily at the plan-making stage and that it is the role of site promoters to engage in plan making. Once policies on developer contributions have been set in the plan, planning applications that comply with them should be assumed to be viable (NPPF paragraph 57). Where applicants do not feel that policy-compliant obligation levels are viable, it is up to them to demonstrate whether there are any particular circumstances to justify the need for an FVA at the decision-taking stage. The price paid for land is not a relevant justification for failing to accord with relevant policies in the plan. Landowners and site purchasers, as well as those advising them, should consider this when agreeing land transactions.

**1.2.9** The definition of policy compliance was a major point at issue in cases decided under the Viability PPG of 2014. Paragraph 002 of the PPG states that 'policy compliant means development which fully complies with up-to-date plan policies. A decision-maker can give appropriate weight to emerging policies'. Policy-compliant does not mean a lower level of affordable housing than has been agreed in viability testing.



**1.2.10** Paragraph 57 of the NPPF also gives guidance to plan-makers regarding the weight to be placed on FVAs when making decisions:

‘The weight to be given to a viability assessment is a matter for the decision maker, having regard to all the circumstances in the case, including whether the plan and the viability evidence underpinning it is up-to-date, and any change in site circumstances since the plan was brought into force. All viability assessments, including any undertaken at the plan-making stage, should reflect the recommended approach in national planning guidance, including standardised inputs, and should be made publicly available.’

**1.2.11** The assessment of the benchmark land value (BLV) is an important part of the FVA. The PPG identifies the existing use value (EUV) plus a premium as the primary approach for assessing the BLV, but recognises that an alternative use value (AUV) ignoring a premium can also be used in some circumstances. Chapter 5 and related appendices provide guidance on how to assess the BLV based on the principles set out in PPG paragraphs 013 to 017. This includes advice relating to the assessment of the AUV, EUV and premium.

**1.2.12** Regarding transparency, NPPF paragraph 57 and PPG paragraph 010 state that ‘any viability assessment should follow the government’s recommended approach to assessing viability as set out in this Planning Practice Guidance and be proportionate, simple, transparent and publicly available’. This applies to FVAs carried out to support plan making (unless the plan was submitted on or before 24 January 2019 and so being examined under the transitional arrangements under NPPF Annex 1) and decision taking. Paragraph 010 states the following:

‘Improving transparency of data associated with FVA will, over time, improve the data available for future assessment as well as providing more accountability regarding how viability informs decision taking.’

**1.2.13** The current viability process set out in the NPPF and PPG is summarised in Table 1, and the rest of this guidance note identifies the new approach to FVA.

### The role of viability assessment in plan making and development management

	Plan-making stage	Development management stage
<b>Purpose</b>	To inform policy making by LPAs, including policies that require contributions to be made, as well as the deliverability of allocated sites.	To inform decision taking by LPAs.
<b>Requirement</b>	<b>Required</b> to test viability of plans; typology approach advocated, as well as individual site assessment for key strategic sites.	<b>Not envisaged as necessary where an up-to-date local plan is in place</b> , unless the applicant can demonstrate particular circumstances that justify the need for an FVA at the application stage. The weight given to the assessment is a matter for the decision maker, having regard to all the circumstances of the case.

## The role of viability assessment in plan making and development management

<p><b>Process</b></p>	<p>Lead taken by LPA.</p> <ul style="list-style-type: none"> <li>] FVA prepared by assessor appointed by LPA and published as part of evidence base underpinning local plan.</li> <li>] Stakeholders, including landowners, may appoint their own advisors who can provide evidence and assessments that the LPA and examination inspector can take into account during the relevant examination process.</li> </ul>	<p>Lead taken by applicant.</p> <ul style="list-style-type: none"> <li>] Initial FVA prepared by assessor appointed by applicant.</li> <li>] LPA may appoint an assessor (often at the applicant's expense) to advise on whether to accept the FVA.</li> <li>] If accepted, initial FVA is reviewed by LPA's assessor, who may then prepare an FVA in response.</li> </ul>
<p><b>Evidence base</b></p>	<p>FVA informed by wide evidence base of values and costs that reflect the location and types of development likely to come forward across the plan area.</p> <p>Costs and values will be based on average rates from comparable schemes.</p>	<p>FVA informed by evidence of costs and values appropriate to the specific site and scheme. FVA undertaken at plan-making stage should be referred to where available.</p> <p>FVA will reflect detail set out in planning application, in terms of size and built form of the proposed scheme. Detailed build cost plan and schedule of value should be provided.</p>
<p><b>Benchmark land value</b></p>	<p>BLVs are generally based on EUV plus premium.</p> <p>Occasionally, AUVs may be used where an LPA wishes to test the viability of different types of development.</p> <p>A range of BLVs may be tested for both specific sites and site typologies to enable policy making.</p>	<p>BLVs are based on EUV plus premium as the primary approach.</p> <p>If the BLV is based on the AUV, this will be based on a detailed alternative scheme for the application site.</p> <p>Policy is already in place, so the BLV or AUV will need to reflect any relevant requirements.</p>

Table 1: Revised process for area-wide and site-specific FVAs

# 2 FVAs in planning and development

## 2.1 The FVA framework

**2.1.1** Viability has become an increasingly important consideration in planning in England. Whether preparing policy or considering a specific site proposal or scheme, viability is inherently linked to the ability to satisfy planning policy, and to deliver regeneration objectives and economic development as well as meet housing need. It is important therefore that all plan-makers and decision-takers – including government, local planning authorities, the Planning Inspectorate and all those involved in neighbourhood plans – have a good understanding of land and property markets. Planning policy and practice are a major influence on markets and prices, so LPAs must be cognisant of the impact their decisions may have on the price and delivery of land, as well as all the other options that landowners have. Developers, landowners and valuers should also understand and give proper consideration to the legal and policy framework of the planning system, and fully reflect planning policies in commercial decision taking and the pricing and valuation of development land.

**2.1.2** The NPPF and PPG set the framework for an FVA. The Red Book is clear that the requirements of the PPG or any other overriding authority take precedent over any Red Book requirements or guidance (see section 2.2).

**2.1.3** Paragraphs 010 to 019 of the PPG – under the general heading of ‘Standardised inputs to viability assessment – what are the principles for carrying out a viability assessment?’ – set out how an FVA should be approached. The PPG provides guidance on each of the main inputs into the viability assessment, and also discusses the different approaches that can be taken to the input data in either plan making or decision taking. Paragraph 010 of the PPG sets out the FVA framework and states the following:

‘Viability assessment is a process of assessing whether a site is financially viable, by looking at whether the value generated by a development is more than the cost of developing it. This includes looking at the key elements of gross development value, costs, land value, landowner premium, and developer return’.

**2.1.4** Requiring assessments of the GDV, the costs of development, the value of the land and a return to the developer, the FVA process represents a residual valuation framework as set out in [Valuation of development property](#), RICS guidance note. The FVA must be supported by appropriate evidence; at the plan-making stage that evidence is informed by engagement with developers, landowners, infrastructure and affordable housing providers. Chapters 3 to 5 of this guidance note give detailed advice on the application of these principles, which are set out in paragraphs 011 to 018 of the PPG.

**2.1.5** Practitioners should note the comment in PPG paragraph 014 that states:

‘There may be a divergence between BLVs and market evidence; and plan-makers should be aware that this could be due to different assumptions and methodologies used by individual developers, site promoters and landowners’.

The PPG is clear that market evidence can be used as a cross-check for BLV, but should not be used in place of BLV. RICS notes that there is peer reviewed, RICS Research Trust-funded research (Crosby and Wyatt, *Financial Viability Appraisal in Planning Decisions: Theory and Practice* (2015)) to support this divergence, and different assumptions made could also be related to standardised inputs described later in this guidance. Therefore, there should not be an expectation that every viability assessment will accord directly with transaction market evidence. The approach set out in this guidance note acknowledges these possibilities, and the recommended approach to the assessment of BLV set out in this guidance note is designed to identify both apparent divergences and the reasons for them. BLV should not be assumed to equate to market value. It is based on PPG requirements and a prescribed method that may not accord with assumptions and methods used to assess the price paid for land in the marketplace at any particular point in time. Recognising this possible divergence between BLV for planning purposes and prices paid in the market, PPG paragraph 011 states that ‘Under no circumstances will the price paid for land be a relevant justification for failing to accord with relevant policies in the plan’.

## 2.2 Application of the Red Book and related RICS guidance

**2.2.1** FVAs are not valuations as such, but there is significant valuation content within an FVA. For that reason, these valuation aspects are within the jurisdiction of the Red Book and other RICS mandatory statements and professional guidance. All RICS members carrying out FVAs must adhere to these provisions. The implications of this are detailed in paragraph 2.2.3.

**2.2.2** Undertaking an FVA is a complex process requiring significant expertise and knowledge. Gaming of the process – one **stated reason** for the UK government’s new NPPF and PPG – can happen under these circumstances. The complexity of this guidance reflects the complexity of the process and the need to ensure objectivity and professional integrity in the viability process.

**2.2.3** FVAs for planning purposes are carried out under the NPPF/PPG; this is regarded as the ‘authoritative requirement’ in the Red Book. This means that the UK government’s technical requirements on the assessment of viability take precedence, but Red Book professional standards still apply. RICS members undertaking this work must adhere to the following:

- statutory and other authoritative requirements (including the NPPF and the PPG)
- the **Financial viability in planning: conduct and reporting** RICS professional statement; it provides the mandatory requirements for the conduct and reporting of valuations in the FVA, and has been written to reflect the requirements of the PPG
- PS 1 and PS 2 of the Red Book.

**2.2.4** This and other RICS guidance notes are intended to assist practitioners in applying the government’s required approach and should be referenced as appropriate, including:

- **Valuation of development property**, RICS guidance note
- **Comparable evidence in real estate valuation**, RICS guidance note
- **Valuation of land for affordable housing**, RICS guidance note. This is being updated in response to this guidance note and **Valuation of development property**.

## 2.3 Viability principles

**2.3.1** The planning process works within a market context to deliver sustainable development supported by appropriate infrastructure. Successful planning policies are intended to improve the environment and enhance value for all stakeholders in the process, and development contributions add to that value enhancement.

**2.3.2** Local planning authorities (LPAs) will have housing and commercial development needs that are likely to require the provision of infrastructure (such as that needed for education, health, transport, flood and water management, green and digital infrastructure, and affordable housing). The final plan policies need to specify the appropriate level of development contributions that are required to meet those needs.

**2.3.3** Other stakeholders will have requirements and expectations. Developers will expect to make a return, and landowners may have other options available to them and may not have to release land for development. Unless LPAs are contemplating the use of compulsory purchase powers to achieve their planning objectives, they will usually rely on landowners identifying their land as a potential development opportunity in response to an LPA 'call for sites'. However, the FVA may need to take into consideration the other options open to the landowner.

**2.3.4** Landowner expectations are a very important element in the voluntary release of land for development, but these expectations may include individual criteria, such as cultural ties to the land, that create different values to individual owners and may impact on the release price of that land. The viability assessment system has to operate on a more objective level, and landowners and other stakeholders in the planning process cannot expect assessors to include subjective individual criteria when producing objective market evidence. The reasonable landowner is not defined in the PPG but is not interpreted in any other property market valuation as the actual owner. The other options open to the landowner in PPG paragraph 013 should be interpreted as those that may add value to the land. Market valuation definitions within valuation standards include the concepts of willing buyer and willing seller at that value.

**2.3.5** One of the options for landowners is to wait for a better market environment. Land and property markets are cyclical, and the development process also changes over time, as do planning and other policies. These changes have substantial effects on both values and costs, and these changes can occur over the short term.

**2.3.6** In contrast to short-term fluctuations within markets, plans can last for a number of years. Plans need to consider potential changes to the planning and development environment over the plan period and the effect that might have on proposed plan policies. Landowners should be aware of the possibility that land allocated in the plan but not brought forward during the life of the plan may not have that allocation renewed in a reviewed plan.

**2.3.7** In addition to change over time, development land value is ultimately a function of the residual value of the development potential of the site, including a range of development options, once all relevant costs have been deducted. It is particularly prone to valuation variation at the date of valuation, caused by a range of input assumptions at the valuation date.

**2.3.8** Value change over time and the inherent valuation variation within a residual valuation can have a significant impact on the distribution of development revenues. All FVAs should address this issue, whether over the plan period at the plan-making stage, or over the development period at the decision-taking stage.



**2.3.9** Valuation variation can be addressed in three different ways: first by the use of mandatory sensitivity testing of viability assessments; second by the use of site-specific assessments when deemed appropriate; and third by including policies that require the use of review mechanisms within individual planning agreements, whereby additional contributions can be obtained if development returns increase significantly above expected returns.

**2.3.10** Sensitivity testing is addressed in Chapter 4 and the **Valuation of development property** RICS guidance note. All FVAs should include testing of alternative economic scenarios and the sensitivity of individual inputs such as projections of values and costs. The use of sensitivity testing in an FVA is a mandatory requirement of the **Financial viability in planning: conduct and reporting** RICS professional statement.

**2.3.11** PPG paragraphs 007 and 009 reflect on the impact of market cyclicity during the life of the plan. Paragraph 007 gives market downturns as one example of the justification for a site-specific FVA, but it is restricted to 'a recession or similar significant economic change'. This implies the exclusion of normal market cyclicity, which is embedded in the level of developer return.

**2.3.12** Review mechanisms are addressed in PPG paragraph 009 and in Chapter 3 of this guidance note. Paragraph 009 states:

'Review mechanisms are not a tool to protect a return to the developer, but to strengthen local authorities' ability to seek compliance with relevant policies over the lifetime of the project.'

But in the event of a recession or other significant economic change, such as the immediate aftermath of a major economic shock like that caused by the COVID-19 pandemic, the LPA may wish to review the plan to ensure plan delivery.

**2.3.13** The level of developer return is an important factor in FVAs. The level of return is related to the level of risk in the development process:

'Potential risk is accounted for in the assumed return for developers at the plan making stage. It is the role of developers, not plan makers or decision makers, to mitigate these risks' (PPG paragraph 018).

Market cyclicity is a development risk and is accounted for in the risk-adjusted developer return used in the FVA. At the date of assessment, these risks are based on expected outcomes that may turn out to be different. The development cash flows that are modelled in the FVA should be those cash flows that are expected (subject to the detailed guidance in Chapter 4 on costs, values and any projections, and that contained in **Valuation of development property**, RICS guidance note). The developer's target return in the FVA takes account of any unexpected variation away from this cash flow (i.e. an actual outcome that varies from the expected outcome). The risk-adjusted return has already compensated the developer for taking on that particular risk. A review intending to reduce developer contributions based on reduced income or increased costs would be an attempt to protect the developer return and is precluded under PPG paragraph 009.

**2.3.14** The outcome of an FVA should not be viewed as a financial certainty. Plan-makers and decision-takers will need to exercise judgement over the level of uncertainty, informed by the sensitivity analysis, attached to each FVA and make their judgements bearing in mind the two major policy imperatives of ensuring maximum development contributions and the delivery of land for development.

**2.3.15** The level of uncertainty regarding both valuations and market cyclicity, the use of generic typologies and less fine-grained data in plan making, and the number of other factors that drive development values make it particularly important to treat the FVA as indicative rather than definitive in terms of the viability of development when assessing the level of contributions across a plan area. PPG paragraph 002 constrains plan-makers not to use this variation to stretch the level of contributions beyond what is indicated as viable. The PPG envisages that the policy requirements should be set without the need for further viability assessment at the decision-taking stage. Equally, developers and landowners should adjust their expectations to fit the requirements of the planning policy.

## 2.4 Viability framework

**2.4.1** PPG paragraph 010 defines the viability process as 'looking at whether the value generated by a development is more than the cost of developing it. This includes looking at the key elements of gross development value, costs, land value, landowner premium, and developer return.'

**2.4.2** This is a residual valuation framework, as set out in Figure 1 and detailed in [Valuation of development property](#), RICS guidance note. In many instances, an FVA will have regard to not just a single policy's impacts, but a cumulative impact of policy requirements and developer contributions. None of the costs are fixed, and movements in one will impact on the amount available for the others.

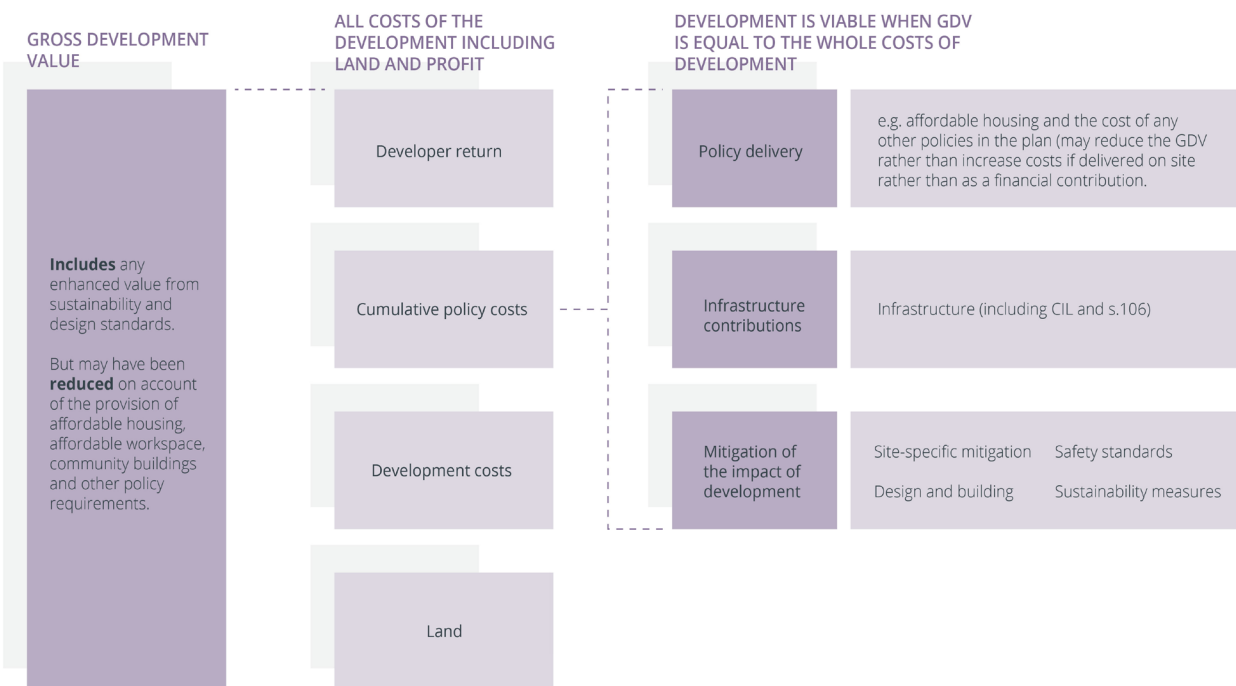


Figure 1: The residual valuation framework

**2.4.3** It is important to note that many policy requirements enhance the value of the development as well as increasing costs (for example design and infrastructure), while some others do not increase the costs of the development (for example the provision of affordable housing) but may reduce the overall value of the development.

**2.4.4** An FVA should determine whether developments are capable of providing levels of developer contributions that comply with policy in both emerging and up-to-date plans. More specifically, an FVA

estimates whether planned developments with policy-compliant levels of developer contributions are able to provide:

- a minimum reasonable return to the landowner (defined as the EUV plus a premium), and
- a suitable return to the developer (defined in PPG paragraph 018).

**2.4.5** If the FVA shows that the landowner and developer returns are not enough to satisfy these benchmarks, the development typology is unviable at the level of developer contributions being tested at the plan-making stage. Similarly, a development site may subsequently become unviable at the level of developer contributions set out in the plan at the decision-taking stage. The PPG only envisages this occurring in certain circumstances set out in PPG paragraph 018, for example if an unallocated site comes forward of a wholly different type from that used in the plan-making FVA. If the FVA illustrates that the typology or scheme is not viable, the plan-maker/decision-taker will need to consider whether to adjust the developer contributions in the plan or the specific decision, taking into account the deliverability of the overall plan or having regard to all the particular circumstances in the individual case. Amendments to the scheme (such as increasing density, altering the mix of uses or reducing design standards) where practical and feasible may improve viability.

**2.4.6** A proper understanding of financial viability is essential in ensuring that:

- land is realistically priced and released for development by landowners to achieve plan delivery
- all reasonable costs of construction related to the development have been accounted for
- developers are able to obtain appropriate market risk-adjusted returns for delivering developments
- assumptions about the amount of development that can be viably delivered over the course of the plan period are robust, and
- CIL charging schedules are set at an appropriate level.

**2.4.7** The CIL section of the PPG explains that when deciding levy rates, an LPA must strike an appropriate balance between additional investment to support development and the potential effect on the viability of developments (paragraph 010). The CIL is part of the cumulative policy costs of development set out in Figure 1, and all such costs should be considered in the FVA.

**2.4.8** The PPG envisages a policy and practice environment in which all stakeholders engage in an iterative process regarding the development of plans and policies to determine the amount of developer contributions. An FVA carried out by a suitably qualified practitioner (called the assessor in this guidance note) should inform this process and provide evidence that all stakeholders can comment on as part of the plan-making process. Ultimately, an examination inspector judges the soundness of the local plan and thus the adequacy of FVAs in a plan-making context.

## 2.5 Transparency

**2.5.1** FVAs (or the reports that contain them) should include an executive summary containing key/headline data. PPG paragraph 021 advises that, as a bare minimum, the executive summary should contain 'gross development value, benchmark land value including landowner premium, costs, as set out in this document [the PPG] where applicable, and return to developer'.

**2.5.2** All FVAs should be prepared on the basis that they will be made publicly available in full, to ensure that FVAs follow the principles set out in paragraph 010 of the PPG. Case law since the introduction of the 2018 NPPF and PPG confirms that FVAs, where they are justified, should reflect the approach set out in the

PPG. Secondly, standardised inputs should be used. Thirdly, the inputs and findings should be set out in a way that aids clear interpretation and interrogation by decision-makers. Finally, as the PPG makes clear, FVAs need not contain commercially sensitive data but, even if some elements are commercially sensitive, they can be aggregated in a published FVA in order to avoid disclosure of this sensitive material. FVAs have a direct bearing on the provision of community infrastructure and services, and are of great interest to the public, so are expected to be placed in the public domain.

# 3 FVAs for plan making and decision taking

## 3.1 Scope

**3.1.1** The revised NPPF and PPG place emphasis on undertaking FVAs at the plan-making rather than the decision-taking stage of the planning process.

**3.1.2** This chapter covers the process of viability assessment at both the area-wide plan-making and site-specific decision-taking stages of the planning process:

- Sections 3.2 to 3.8 provide detailed guidance on FVAs at the plan-making stage.
- Sections 3.9 to 3.11 deal with site-specific assessments.
- Section 3.12 deals with viability reviews in planning agreements.

## 3.2 FVAs for plan making: background

**3.2.1** Spatial development strategies, local plans and other development plan documents, including area action plans that relate to a specific local area, are brought forward by both strategic and local planning policy-making authorities. These include councils (counties, cities, boroughs and districts), National Park Authorities and metropolitan mayors. For the purposes of this guidance, such documents will be referred to as plans and the policy-making authorities as local planning authorities (LPAs). These plans set out a spatial strategy for the proper planning of sustainable development, including the identification of broad areas of land for change and/or the allocation of land for housing and commercial development within an LPA's area. The NPPF requires LPAs to have a five-year housing land supply and a developable supply throughout the plan period.

**3.2.2** Once adopted, a plan forms part of the statutory development plan for an area. Under the statutory framework for planning, the development plan forms the primary basis of decision taking by the LPA.

**3.2.3** At the plan-making stage, FVAs support the development of policies, including those for development contributions. They are usually carried out as part of the evidence base for an emerging plan. They test the financial viability and deliverability of the plan as a whole and of individual strategic sites.

**3.2.4** A Strategic Housing Land Availability Assessment (SHLAA) is a tool that informs an LPA's choice of sites at the plan-making stage. The PPG requires this supply to be tested to ensure that sites are viable and can come forward within a defined time period. Thereafter, the NPPF requires LPAs to update their five-year housing land supply annually.

**3.2.5** Neighbourhood plans may also allocate land for housing in accordance with strategic policies set out in a local plan. These may require FVAs, but they would be expected to draw from FVAs in up-to-date local plans created by parish/town councils or neighbourhood forums. They contain more detailed priorities for development, such as the provision of low-cost housing or the preservation of green space,

and can promote more development than is set out in the local plan. However, they cannot conflict with the strategic policies in the local plan prepared by the LPA, or be used to prevent development that is included in the local plan.

**3.2.6** Following the introduction of the CIL, an LPA may put forward a draft CIL charging schedule that will require an FVA before adoption. Where there is a requirement for a draft charging schedule to be tested alongside other policy requirements, generally only one FVA will be required. The advantage of a single FVA is that it may enable the CIL and infrastructure delivery to be assessed alongside other policy requirements, such as affordable housing. Where an FVA is carried out separately to area-based plans, it should be based on the same approach and data as set out in this guidance note. Where a CIL charging schedule is already in place, these charges should be included in the FVA as development costs. Where plan-making and CIL FVAs are undertaken separately, they need to take existing CIL charging schedules and plan policies into account.

### 3.3 FVAs for plan making: role of the assessor

**3.3.1** We recommend that the appointment of an FVA assessor should be undertaken at the start of the plan-making process. For plan-making FVAs, assessors should note the mandatory requirements set out in section 2.5 of **Financial viability in planning: conduct and reporting**, RICS professional statement.

**3.3.2** The assessor should propose an appropriate testing approach in line with national and other relevant guidance, and respond to the brief provided by the LPA. The approach should be set out in an initial scoping document for approval by the LPA. Other guidance or advice notes for LPAs on drafting invitations to tender for FVAs should also be considered.

**3.3.3** RICS recommends the assessor refines the original brief with the LPA to ensure that it meets the requirements of the NPPF and PPG, and provides additional support where the LPA does not have specialist viability knowledge or experience.

**3.3.4** RICS recommends that the assessor should work with planning officers to review evidence, gather information and agree the FVA approach and assumptions, including specific/strategic sites and typologies for testing.

**3.3.5** Scoping the FVA is an important stage and should set out:

- the purpose of the FVA: testing an area-wide plan and/or the CIL
- any key assumptions and information to be used, including draft policy requirements (or policy options)
- the method: the approach to site selection and typologies, taking into account the projected housing supply over the plan period
- any modelling assumptions: baseline and policy tests
- the approach to sensitivity testing (including modelling growth if appropriate) and
- a process to refine policies during the testing period.

**3.3.6** Development typologies should be representative of the development that is planned and reflect the characteristics of groups of sites identified in the proposed land supply. These typologies will be a combination of site typologies (e.g. greenfield or brownfield) and scheme typologies (e.g. houses or flats for sale or build to rent, other specialist housing, and commercial or mixed-use schemes).

**3.3.7** The assessor will also need to consider the approach to consultation in respect of the FVA unless this is already prescribed by the LPA.

**3.3.8** The LPA will rely on the FVA assessor to identify and quantify key elements in the development that will generate value and enable delivery of planning policies as part of this process. These are likely to include changes to land use, increasing density and delivery of infrastructure requirements.

**3.3.9** The assessor should then collate evidence, conduct the FVA and prepare a draft report on the overall viability of the emerging plan. Evidence may take the form of local information provided by the LPA and other stakeholders, market evidence, emerging plan policy options and site-specific assessments. The evidence will ultimately be consulted upon and tested as part of the local plan examination process by an independent inspector.

**3.3.10** Figure 2 illustrates the process and Appendix A provides a task checklist for the production of an area-wide FVA.

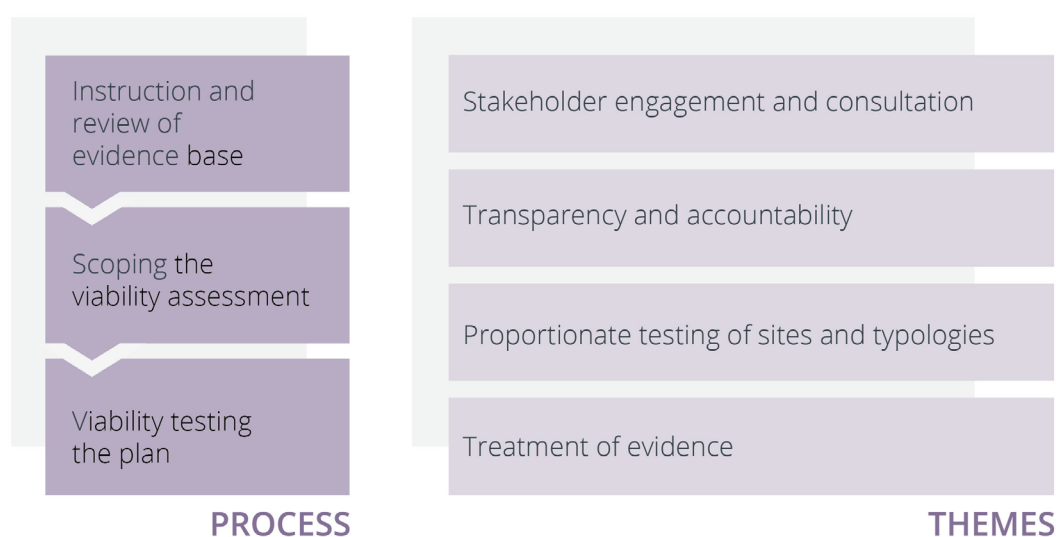


Figure 2: Plan-making viability process and themes

## 3.4 FVAs for plan making: consultation and stakeholder engagement

**3.4.1** Stakeholder engagement and consultation are key components of transparency and accountability, and help LPAs reach sound judgments on the deliverability and policy compliance of proposed allocations. They provide an opportunity for stakeholders to offer evidence and to gain consensus through the iterative process envisaged by the PPG. The NPPF and PPG expect the transfer of information regarding strategic and key development sites between parties engaged in planning policy development. It is expected that landowners and developers will share information with the LPA to inform the process of identifying suitable land to allocate for development.

## Consultation

**3.4.2** The assessor should support the LPA in appropriately documenting the consultation and engagement process, to provide an audit trail of the approach and process for examination. Both stakeholder engagement and consultation should be proportionate to the task.

**3.4.3** The assessor should understand the policy context in their approach to stakeholder engagement. The policy objectives need to be stated and explained, and should consider the importance of addressing need as well as delivery.

**3.4.4** Assessors should discuss with planning officers, agree the approach to engagement/consultation and document this where appropriate. It is the responsibility of the LPA to ensure appropriate engagement/consultation occurs, but it may also be appropriate for assessors to take the lead on technical aspects. Assessors can lead the consultation at the request of the LPA, provided the LPA sets the scope of the consultation.

**3.4.5** In these circumstances, the assessor should state the purpose and focus of the consultation in the scoping document, and set the objectives for consultation. The assessor should also reference the LPA's commitments in their Statement of Community Involvement (SCI). The assessor should take account of relevant provisions of *The Town and Country Planning (Local Planning) (England) Regulations 2012*, insofar as they relate to consultation and the submission of representations (Regulations 18–22).

**3.4.6** Evidence from recent relevant consultation exercises can be reviewed as part of the evidence base for determining the objectives, but not duplicated unless appropriate.

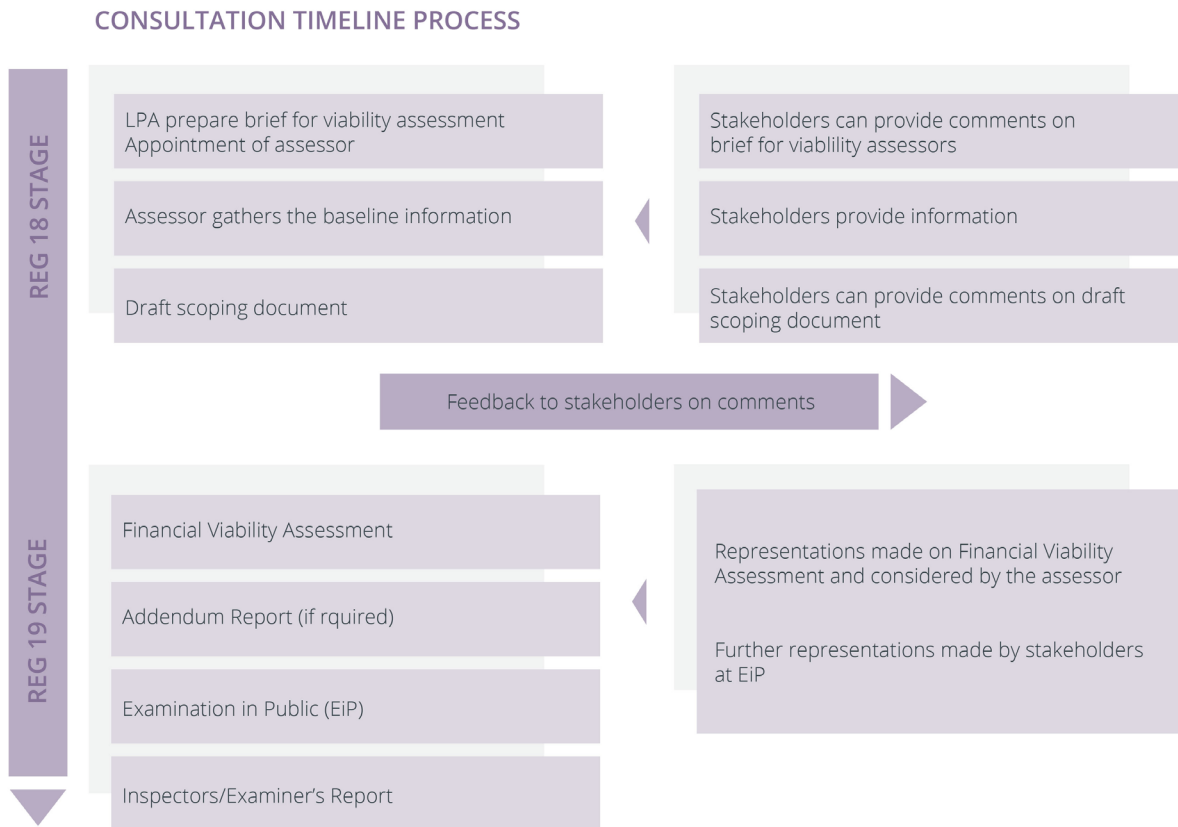
## Stakeholder engagement

**3.4.7** An important part of the engagement/consultation process is the identification of key stakeholders. The assessor could prepare a stakeholder map and, working with the LPA, should take reasonable steps to ensure that groups and individuals who may be stakeholders, or have an interest in the outcome of the FVA, are included.

**3.4.8** The assessor, in discussion with the LPA, should also consider how to consult with individual stakeholders and determine what information is provided and required as part of this process.

**3.4.9** The assessor should map the key points at which stakeholder engagement/consultation should take place. Figure 3 sets out an illustrative diagram of the consultation process. This starts at the Regulation 18 stage (as set out in *The Town and Country Planning (Local Planning) (England) Regulations 2012*) and continues through to the Regulation 19 stage, as explained further in Appendix A.





**Figure 3: The consultation process**

**3.4.10** The assessor should support the LPA in planning the format of the engagement and consultation. Different approaches may be appropriate at different stages of the programme, both informal and formal. Informal consultation may be the most appropriate at the evidence gathering and scoping stages.

**3.4.11** The FVA should be published alongside the draft plan. As part of the formal consultation process, stakeholders will be able review the methodology, inputs and results, and provide comments. This can be an important part of the iterative process.

**3.4.12** Assessors should update the FVA if the consultees provide new information that causes the assessor, using their professional judgement, to adjust their assumptions, inputs and outputs. Any reassessment should be based on an open and transparent process with the LPA and other engaged stakeholders providing further evidence in a timely way and being kept fully briefed on the revised outputs.

**3.4.13** Assessors should make stakeholders aware that their role is to provide technical advice to officers in the LPA, and ultimately their local council and/or the Planning Inspectorate/Secretary of State, who will then be the decision-makers in respect of setting policy requirements.

## 3.5 FVAs for plan making: testing of sites and typologies

**3.5.1** At the plan-making stage, FVAs involve testing representative development typologies and may well involve testing actual key strategic sites. This ensures proper consideration of the financial impact of policy

requirements on different locations, types of site (such as greenfield or brownfield), types of development and specific (usually only key strategic) sites.

**3.5.2** Development typologies are a combination of sites and schemes. They may include:

- representative development typologies and mixes of use, covering a range of sites and schemes likely to come forward over the life of the plan and
- actual (usually strategic) development sites, identified because of their scale and/or by the fact that the plan relies on delivery of development on these sites to meet policy objectives.

**3.5.3** Assessments of these development typologies should provide a profile of viability across a range of sites and schemes.

**3.5.4** Development typologies should respond to the emerging plan policies and be representative of the expected development, with particular regard to the five-year housing land supply and the forms of development the plan relies on.

**3.5.5** The assessor should consider both the range of sites and the schemes likely to come forward during the plan period when designing development typologies. They should include sites identified in planning policy for development, with particular regard to sites with specific viability characteristics or infrastructure requirements, and any strategic sites on which the delivery of the plan depends. Assessors will need to be alive to the statutory obligation to consider the need to review plans five years after adoption.

**3.5.6** Hypothetical site typologies should have characteristics that are shared with a number of typical sites within the plan area. The assessor should establish whether site typologies can be grouped based on similar development characteristics, existing use and values, and whether sample sites or completely hypothetical sites need to be tested to establish a range of values across different sites in the area.

**3.5.7** Any strategic sites assessed should reflect the proposed land uses in the plan, as well as the likely density, height and massing. It may be appropriate (depending on how far the plan-making task has developed) to test variations, such as alternative land use mixes.

**3.5.8** Having established site typologies, the range of scheme typologies appropriate for those sites should be considered. Some schemes may not be achievable in certain locations as they may be unviable regardless of the policies applied, e.g. office development in secondary locations. Consideration of these options may however inform the strategic approach in the plan, rather than the nature and level of policy requirements, and their relevance to the delivery of the plan.

**3.5.9** The assessor should agree the development typologies with the LPA, ensuring they:

- include a range of sites and build typologies that reflect the range of sites likely to come forward for development during the plan period
- include an appropriate mix of specific local sites identified in the land supply and hypothetical sites
- link development to transport and other infrastructure requirements and
- test a range of cost and value assumptions based on appropriate available evidence.

**3.5.10** The assessor should bear in mind that testing all permutations for typologies may not be proportionate. More detailed guidance on the assessment of development typologies is given in Appendix A.

## 3.6 FVAs for plan making: testing a CIL

**3.6.1** The CIL section of the PPG sets out requirements in respect of the testing of sites and typologies, and the latest guidance should be considered in detail by the assessor when scoping the proposed FVA. Much of the CIL section of the PPG mirrors the viability section, but the following elements of the CIL section are particularly relevant for FVAs:

- Where the CIL is tested alongside a draft plan, this should be used as the basis for testing (CIL PPG paragraph 012).
- It is important for the assessor to consider the guidance on setting differential rates across an area, either within geographical zones or by type or scale of development (CIL PPG paragraph 022).
- Levy rates can be set to reflect differences in land value uplift created by development across an area. For example, viability may show that rates can be set at a higher level in existing low-value areas where high-value uses will be created (CIL PPG paragraph 025).
- Although testing for the CIL is a broad test of viability across an area, a sample range of sites should also be assessed in line with the CIL section of the PPG (CIL PPG paragraph 020).
- The approach to testing and setting rates for strategic sites should be considered (CIL PPG paragraph 026).

**3.6.2** The assessor should ensure that strategic sites and sample sites, or development typologies identified, should be considered alongside those used to test the plan and aligned where appropriate.

**3.6.3** More detailed information in respect of FVAs for the purposes of setting the CIL is included in Appendix A.

## 3.7 FVAs for plan making: reporting

**3.7.1** Assessors should refer to the **Financial viability in planning: conduct and reporting** RICS professional statement for mandatory reporting requirements.

**3.7.2** The assessor should ensure that the evidence base, the approach and rationale behind the viability testing, and the findings are presented clearly and in a way that will also support the decision-taking stage of the planning process.

**3.7.3** The report should include the examination of all relevant policies, both national and local; feature a market assessment; set out the assessment methodology; and report the results, including the sensitivity analysis and the conclusions.

**3.7.4** The assessor should consider whether to structure the report by site or typology (with the approach, assumptions and outcomes for that site all together), or whether it is more logical to set out the approach to all the testing, followed by the assumptions and then the findings at the end.

**3.7.5** The approach to testing sites or typologies should be explained, with a summary of the cost and value assumptions, and viability findings, included in the main body of the report.

**3.7.6** It should be straightforward to find the assumptions used in testing development typologies so that, when detailed applications come forward, they can be easily compared.

**3.7.7** Sensitivity analysis will be particularly important, and the basis of this testing should be clearly set out (see section 4.3 for further details).

**3.7.8** Reporting should be relevant and proportionate to the emerging plan policies. The level of testing and the number of tests reported should be proportionate to the level of complexity in the plan and the locality. For example, after reviewing the results, it may be appropriate to report a small number of tests of the overall level of affordable housing, but more tests with different tenure mixes, as this has a significant impact on viability. Reporting on the testing of different cost and value assumptions is mandatory.

**3.7.9** The reporting of BLVs will be an important part of the report. A range of methods and outcomes will be generated from the approach to testing viability set out in Chapter 5 of this guidance note, based on the PPG.

**3.7.10** FVA findings can be reported in a variety of ways to meet the LPA's requirements.

**3.7.11** The FVA should demonstrate whether emerging plan policy requirements would make the plan undeliverable. This would enable the decision-maker to choose between different policy requirements if necessary to ensure the overall deliverability of the plan, bearing in mind the land market adjustment process with respect to changing policies. The report should indicate the level at which policies would be viable.

**3.7.12** A statement of the limitations of the FVA should be appended to the report.

**3.7.13** Area-wide FVAs may report that certain development typologies are unlikely to come forward in some areas regardless of the policies that are applied. This does not provide an indication of the relevant policies that should be applied, but should be helpful in informing the strategic approach adopted in the plan.

**3.7.14** The impact on viability of a CIL, whether proposed or existing, should be considered alongside the policy requirements of the plan. Charging authorities should be able to show and explain how their proposed levy rate (or rates) will contribute towards the implementation of their relevant plan and support development across their area (CIL PPG paragraph 010). This should be clearly set out either in the FVA or a separate LPA document.

## 3.8 FVAs for decision taking: background

**3.8.1** PPG paragraph 007 states the expectation that, where up-to-date policies have set out the contributions expected from development, planning applications that fully comply with them should be assumed to be viable and no FVA will be required.

**3.8.2** The PPG states that it is up to the applicant to justify an FVA at the decision-taking stage of the planning process, so that justification should be regarded as the first stage of the process.

**3.8.3** Where up-to-date plans are in place, a decision-taking FVA can still be allowed but only in certain circumstances. The applicant must demonstrate whether particular circumstances justify the need for an FVA. Such circumstances could include, for example, where development is proposed on unallocated sites of a wholly different type to those used in the FVA that informed the plan, where further information on infrastructure or site costs is required, where particular types of development are proposed that may significantly vary from standard models of development for sale, or where a recession or similar significant economic changes have occurred. It is expected that site owners and land promoters would have engaged with the process at the plan-making stage, so the onus is on the applicant to demonstrate why a decision-taking FVA is needed (PPG paragraph 007).

**3.8.4** When considering whether a proposed scheme is a significantly different development type, the assessor should reference the typologies used in the original plan-making FVA and assess whether they are representative of the development proposed. The typologies may reflect only some of the characteristics of the subject site and scheme, but still provide adequate justification that a decision-taking FVA is not required.

**3.8.5** The PPG identifies a recession or similar significant economic change as possible justification for a decision-taking FVA. For a change in economic circumstances to be taken into account, it needs to be a recession or similar significant change to the values and costs of development – well beyond more normal cyclical movements and outside any sensitivity testing parameters, which are already allowed for in the developer's return. For this reason, assessors at the plan-making stage need to provide sensitivity testing to inform viability over the life of the plan. This can be referred to at the application stage to form a judgement on whether there has been significant divergence from the plan-making viability assumptions.

**3.8.6** Changes in on- and off-site costs could also be related to:

- detailed site investigations and surveys after plan making
- assumptions made in the plan-making FVA on the cost of the infrastructure required to deliver the scheme
- costs associated with planning contributions but not identified at the plan-making stage, such as those relating to s.106, CIL and Strategic Infrastructure Tariff, and
- directly-related sunk (historic) costs not accounted for in the development and site typologies tested.

**3.8.7** Sunk costs relate to costs incurred in relation to the site that have brought it to its present state in anticipation of development. This expenditure would normally be expected to enhance the development site value and so should be reflected in the BLV via the premium.

**3.8.8** A scheme-specific FVA may be required as part of a review mechanism included in the original planning permission derived from a policy requirement. A review mechanism can take a variety of forms, a number of which are outlined in section 3.11.

## 3.9 FVAs for decision taking: date of assessment

**3.9.1** The date upon which the LPA or the Secretary of State resolves to grant or refuse a planning application is the date upon which all relevant information is considered.

**3.9.2** In practical terms, reports and supporting documentation are prepared well in advance of this date. It follows that the assessment date should be carefully considered and agreed with the LPA. If the FVA is provided before the application, then the date of the assessment will clearly be prior to the submission of an application.

**3.9.3** If the FVA is submitted with a planning application, the date of the application (not the date of registration) may be the appropriate assessment date. It is important to note that the decision of the LPA regarding a planning application needs to be based on material considerations at the date of determination, so the findings of an FVA undertaken at the date of application will still be relevant at the date of decision but an LPA may request further information. The FVA assessment date can be used by local planning authorities to anchor any subsequent s.106 indexation clause.

**3.9.4** FVAs may need to be updated for market movements during the planning process prior to a determination or appeal. This may also be necessary during the plan-making process.

**3.9.5** Paragraph 009 of the PPG requires plans to set out the circumstances in which review mechanisms may be appropriate, and to provide a clear process and terms of engagement regarding how and when viability will be reviewed over the lifetime of the development. Where a review takes place, the date of valuation needs to be clearly set out in the s.106 agreement.

## 3.10 FVAs for decision taking: reporting

**3.10.1** A decision-taking FVA tests whether the residual land value of a development, assuming policy-compliant developer contributions, is sufficient to allow the reasonable landowner a minimum return. It can also test whether the residual profit is sufficient to allow the developer a reasonable return, based on an agreed and fixed BLV.

**3.10.2** The assessor should consider whether their advice represents the most effective and efficient way to deliver the optimum development proportionate to the scheme being tested. This is sometimes referred to as 'value engineering'. The assessor will need to give the LPA and their advisors confidence that the FVA reflects the way the development would be carried out. If this is not the case, it should be stated and explained.

**3.10.3** The main differences in FVAs for decision taking, compared to for plan making, are that:

- the level of planning requirements has been determined in the plan
- the site will be identified
- the scheme will be specified in more detail
- any abnormal costs can be identified, including any remediation costs and related land remediation relief tax allowances that may be available, and any costs incurred in readying the site for development, and
- the evidence base can be more specifically related to the actual site (where the site was not assessed at the plan-making stage).

## 3.11 Viability reviews in planning agreements (s.106 obligations)

**3.11.1** Paragraph 009 of the PPG sets out the circumstances where viability review mechanisms might be appropriate, and the process for implementing them.

**3.11.2** Policy requirements may be reduced or relaxed to provide flexibility in the early stages of a phased development, where this is clearly demonstrated in a decision-taking FVA and agreed by the LPA as being the maximum reasonable level of contributions at that point in time. In those circumstances, there should be clear agreement as to how policy compliance can be achieved over time in later phases of the development.

**3.11.3** Viability reviews assess the level of surplus that can be used to deliver a higher level of affordable housing or meet other policy requirements that were not provided at the planning application stage.

**3.11.4** Reviews are generally based on either:

- a review of key viability inputs, for example changes in gross development value or build costs, or
- a full review of all viability inputs.

- 3.11.5** The PPG requires a clear process and terms of engagement for any review mechanism. If a review clause is included in the s.106 agreement, an assessor should consider advising on when the review will need to be triggered, and the circumstances and timing of that trigger may need to be specified.
- 3.11.6** The review clause may need appropriate dispute resolution clauses. This could include reference to RICS or the Law Society to appoint an arbitrator or independent expert for valuation or legal disputes, respectively.
- 3.11.7** The viability review mechanism may be set out in the s.106 agreement, and the assessor should provide advice to ensure this will be effective in delivering a greater level of policy compliance over time. This may include, for example, specifying any formulaic approach and/or the basis of any modelling and the approach to inputs. Supplementary planning documents may provide guidance supplementing planning policies in the local plan, and provide assistance and consistency in the use of such mechanisms.
- 3.11.8** The advantage of a formulaic approach is that the review will be more straightforward and involve only limited updating of information. It is usually based on a formula, with the LPA taking a proportion of surplus over and above the original estimates agreed by decision-takers at the application stage.
- 3.11.9** If a full review is undertaken, fixing certain inputs and incorporating these into the s.106 agreement may streamline the FVA process at review.
- 3.11.10** Reviews could be based on the most robust data available; this will generally be evidenced build costs and the sale price or rental value of completed units.
- 3.11.11** The applicant could be required to provide detailed evidence of actual income and expenditure to support the review.
- 3.11.12** For reviews that take place towards the end of the development programme, the review provisions could set out how any surplus revenue can be split between the developer and LPA once the threshold level of viability has been reached, to ensure that a developer remains incentivised to maximise the value from a scheme.
- 3.11.13** Once the surplus has been determined, the assessor may be required to provide advice on the additional amount of affordable housing that the surplus would enable to be delivered on site, or the equivalent level of financial contribution, so that these can be compared. An obligation can specify how any surplus should be utilised.
- 3.11.14** When a surplus has been determined as a result of a late-stage review, it may be unlikely that the additional contributions will be in the form of additional affordable housing, and are more likely to be in the form of a financial contribution.
- 3.11.15** If a scheme comes forward with a higher level of policy compliance than that agreed to be viable by the LPA, it may be appropriate for an earlier viability deficit to be taken into account as part of the review, provided that this has been robustly assessed and is realistic.
- 3.11.16** Reviews should be capped at a policy-compliant level of contributions. For example, if the policy requirement was for 50% affordable housing and the application scheme provided 35% affordable housing, the maximum additional contribution would be capped at the cost of delivering a further 15% affordable housing. This can be calculated at the time of the review, based on costs and values at that time.



## 4 FVA methods and inputs

### 4.1 FVA methods

**4.1.1** The method used should be proportionate to the complexity of the typology or site. It should also be proportionate to the quality of the evidence underpinning the inputs. Approaches should be representative of appraisal methods used by participants in development property markets set within the viability assessment framework of the PPG, which is the authoritative requirement. Sections 6.2, 6.3 and Appendix B of **Valuation of development property**, RICS guidance note set out detailed information on best practice when applying both basic residual and cash flow residual methods of valuation, and pay particular attention to the different input interpretations required to apply either method.

**4.1.2** Where a cash flow model is used, it is particularly important to refer to guidance on inputs included in the PPG and in **Valuation of development property**, RICS guidance note, Appendix B, regarding the treatment of finance and other inputs. The model should reflect the cash flows generated by the development over time and apply a risk-adjusted target rate of return (the internal rate of return or IRR), which can be compared with the developer return metric of return on GDV set out in PPG paragraph 018.

**4.1.3** It is important to note that the IRR of a project needs to be reconciled with the return on GDV profit metric identified in paragraph 018 of the PPG. They are different measures, which should not be expected to be at the same level for any given site or typology. IRRs are time-dependent, whereas basic return on value or cost measures are not and may require adjustment. Therefore, in addition to the mandatory reporting requirements set out in the **Financial viability in planning: conduct and reporting** RICS professional statement, assessors could report the return on cost and the IRR of every financial appraisal undertaken in an FVA, in addition to the primary metric of return on value set out in PPG paragraph 018. This would accord with good valuation practice set out in **Valuation of development property**, RICS guidance note, while not overriding or compromising the authoritative requirements of PPG paragraph 018. Where only a basic residual valuation is undertaken, proprietary software can generate an IRR and the reporting of all of these measures will increase the transparency and veracity of the results.

**4.1.4** The PPG is silent over the use of current or projected levels of values and costs. The only exception relates to the assessment of the EUV, where PPG paragraph 014 states 'Existing use value should be informed by market evidence of current uses, costs and values'.

**4.1.5** While the prospect of future value and cost change may be reflected in current market pricing, there is always some uncertainty and therefore market prices cannot be analysed or interpreted in a static environment. Simply using current costs and values, and ignoring changes over the life of a development, can distort the analysis in all but the simplest of cases. For example, where residual development values are positive, equal growth in both values and costs will always increase current residual land values, and the use of current values and costs in FVAs in a rising market has been shown in peer-reviewed academic research (e.g. *Town Planning Review*, (2019), 90, (4), 407–428) to have been instrumental in reducing the level of developer contributions over time.

**4.1.6** It is recommended that, where assessors consider that the impacts of value and cost change are a significant factor in the market, these changes are identified and taken into account in the FVA, and sensitivity testing of these projections is undertaken in accordance with **Valuation of development**

**property**, RICS guidance note. Any assumptions made concerning projections of costs and values in FVAs must be stated, and the evidence used to underpin projections explained.

**4.1.7** The use of current or projected values has implications for the discount rate or return measure. Using current levels of costs and values, where the expectation is that both costs and values are expected to grow over the development period, produces under-valuation of the cash flows unless compensating adjustments are used on the rate of return. Where values and costs are expected to fall, it produces over-valuation. Where current costs are used, real interest rates should be applied to what is in effect real cash flows when projections are not used. In normal economic conditions, real returns are lower than nominal returns, and the use of current costs should be accompanied by the use of lower returns and vice versa.

**4.1.8** Overall, an FVA is based on a large number of inputs and assumptions. There are a number of checks and balances set out in the PPG and this guidance note, but no assessment model can take into account all the factors that impact on the delivery of planning policy. The assessor in the first instance, and then the decision-maker, should stand back from any modelling results and assure themselves that they pass a sense check. The **Financial viability in planning: conduct and reporting** RICS professional statement describes this process:

‘Following a detailed component review of the inputs into an FVA and running the appraisal, to stand back is to consider the output(s) objectively, and with the benefit of experience, given the complexity of the proposed scheme. This may often be assisted by reviewing the sensitivity analysis.’

Section 2.3 of **Valuation of development property**, RICS guidance note, in particular paragraphs 2.3.2 to 2.3.6, gives additional advice on weighting evidence and sense-checking the results. It should be recognised that such an exercise in this context is being conducted for planning purposes.

## 4.2 Standardised inputs and evidence

**4.2.1** Under the general heading of ‘Standardised inputs to viability assessment’, the PPG provides guidance on each of the main inputs into an FVA, and also discusses the different approaches that can be taken concerning the input data in either plan making or decision taking. The PPG also gives guidance on the hierarchy of evidence and the different sources in property and construction markets (for example direct market evidence versus indices or market intelligence).

**4.2.2** Additional guidance on the individual inputs is provided in RICS guidance notes, particularly **Valuation of development property**, but also relating to market evidence, environmental issues and the valuation of individual property types.

**4.2.3** PPG paragraph 010 states:

‘Any viability assessment should be supported by appropriate available evidence informed by engagement with developers, landowners, and infrastructure and affordable housing providers’.

**4.2.4** Using standardised inputs in the PPG means using appropriate inputs to underpin FVAs, and that the normal hierarchy of evidence quality for those inputs can apply (for example, RICS guidance on comparable market data sets out primary, secondary and tertiary data sources).

**4.2.5** Assessors will be aware of the limitations of both the sources and quality of property market data and should set out these limitations clearly in the FVA report.

**4.2.6** The normal approach to the valuation of development property is to assume the optimal use of the asset, and if individual owners, developers and asset managers want to proceed with a significantly less-than-optimum investment or development, that should not affect price in a competitive environment. But in the case of an FVA, a less-optimal development should not be used to reduce developer contributions. In FVAs undertaken at the decision-taking stage, it is normal to start by reference to the FVA undertaken at the plan-making stage, which, other than for key strategic sites, will have been most likely undertaken on a typology basis. Even in an application-specific FVA where the actual scheme is assessed, assessors need to be aware of schemes that are not optimal and make any necessary adjustments.

**4.2.7** Market information concerning costs, values and optimal assumptions can be used. This means that standardised inputs are market, not individual developer, orientated. The types of evidence could include, but are not restricted to, the following:

- market evidence of rents and yields/sales values, in the context of an understanding of demand and supply relationships across all land uses sourced from public and (where made available) private sources
- where appropriate, other market evidence informing the dynamics of values and costs within development markets and existing uses
- relevant planning, property and economic studies carried out by the LPA and other bodies
- evidence from local developers/promoters, landowners and other stakeholders
- other relevant viability studies for similar area-wide plans or for similar sites
- assessments undertaken by the LPA of viability information submitted in relation to development proposals, at the application stage and as part of s.106 review clauses, and
- land transaction evidence adjusted for policy compliance and for any abnormal costs.

**4.2.8** PPG paragraph 004 outlines the use of evidence of costs and values in the plan-making process. It states that the 'characteristics used to group sites should reflect the nature of typical sites that may be developed within the plan area and the type of development proposed for allocation in the plan'. Paragraph 004 then states that 'Average costs and values can then be used to make assumptions about how the viability of each type of site would be affected by all relevant policies'. Since value is often highly location-dependent, assessors should identify the high- and low-value locations within a plan area. Area-wide assessments should test typologies in different value bands to reflect value variations within an LPA area based on the available evidence. Failure to do this could have a serious impact on the delivery of government policy to decrease the dependence on viability appraisals at the decision-taking stage of the planning process. Individual typologies may include a range of individual characteristics and sub-locations, and paragraph 011 allows for averages to be deployed across each typology. There is a balance to be struck between the number of typologies identified, the range of characteristics within each typology and the accuracy of the FVA for individual sites within each typology.

## Gross development value evidence

**4.2.9** The approach to the assessment of gross development value (GDV) is set out in PPG paragraph 011. The GDV input is the only major input where the PPG differentiates standardised inputs between plan making and decision taking.

#### 4.2.10 Paragraph 011 states:

‘For broad area-wide or site typology assessment at the plan making stage, average figures can be used, with adjustment to take into account land use, form, scale, location, rents and yields, disregarding outliers in the data.’

This would accord with the normal valuation practice (disregarding outliers within any evidence base and establishing the most likely level of any input). Average figures of GDVs can be used across an individual typology but assessors should be aware of the limitations of this approach set out above where there is a wide range of characteristics represented within an individual typology.

**4.2.11** At the site-specific level, market evidence from the actual site or from comparable developments can be used.

**4.2.12** Commercial values should be assessed based on the likely built form and fit-out of space, and should be reflected in appropriate construction costs. The data collected should include as much as appropriate of the following list:

- any existing income that will continue to be received over the development period
- yields for the commercial (where relevant) elements of the scheme, and supporting evidence
- details of likely incentives, rent-free periods and voids
- anticipated letting rates (per quarter) and
- deductions from the commercial GDV to reach the net development value (NDV): Stamp Duty Land Tax (SDLT), agent and legal fees, and VAT.

### Direct development cost evidence

**4.2.13** Paragraph 012 of the PPG states that ‘Assessment of costs should be based on evidence which is reflective of local market conditions’. Additionally, it states that build costs should ‘be based on appropriate data, for example that of the Building Cost Information Service’ (BCIS).

**4.2.14** Wherever possible, cost estimates should be based on market evidence from similar developments. BCIS and other indices are ‘appropriate’ but are not always reflective of local market conditions. The basis for the construction of any cost indices or other data used should be explored and reported, and limitations noted.

**4.2.15** The evidence collected to support assumptions on costs could include, but is not restricted to, the following:

- expected build cost (a full quantity surveyor’s cost report showing how costs have been estimated should be made available for site-specific information; plan making may have to rely on BCIS or other online information)
- demolition and site preparation costs
- any planning costs after the granting of permission
- any anticipated abnormal costs
- details of expected finance rates and fees
- professional fees, including architect, planning consultant, quantity surveyor, structural engineer, mechanical/electrical engineer and project manager
- letting agent fee/letting legal fee and

- environmental standards (e.g. BREEAM or specific policy costs such as urban greening).

**4.2.16** When assessing hypothetical typologies during plan making, average costs across the typology can be assumed for build costs (PPG paragraph 004), as well as for items such as demolition and abnormal site costs.

**4.2.17** Development costs and values should be assessed based on the likely built form and specification of space. For example, building height should be taken into account where evidence shows that values change with height. Consideration should also be given to the additional costs of fitting out where higher values are tested.

**4.2.18** Existing studies of the area that reflect the current built form, and any historical issues with contamination or increased flood risk, should be referenced. BCIS can be used if appropriate, but supporting evidence of costs and duration in the local market should be used where available.

**4.2.19** Infrastructure costs associated with a specific site should be considered, e.g. highway improvement, district heating, etc. For both typologies and specific sites, the impact of infrastructure provision and any potential abnormal costs, including those associated with brownfield sites, should be considered.

**4.2.20** Survey, design and cost analysis work may be required in order to obtain a greater degree of certainty in allocating site development plans and setting strategic policies. This should be considered and discussed with the LPA, and potentially with landowners as site promoters may need to provide some of this information.

**4.2.21** Where a CIL charging schedule is in place, the relevant rates can be applied to the development typology, with appropriate adjustments for any reductions for existing buildings and relief allowable under the CIL regulations.

**4.2.22** All evidence and outcomes of costs and values used should be tested with stakeholders as set out in section 3.4. The consultation should include the approach in the FVA to anticipated changes to costs and values during the plan period, including projections and mandatory sensitivity testing.

**4.2.23** PPG paragraph 012 also states:

‘Explicit reference to project contingency costs should be included in circumstances where scheme specific assessment is deemed necessary, with a justification for a contingency element relative to project risk and developers return’.

## Existing use value evidence

**4.2.24** Paragraphs 014 and 015 of the PPG both identify the evidence base for EUV.

**4.2.25** The EUV in the PPG does not conflict with normal valuation practice, and existing valuation guidance can be utilised in this valuation. For example, [Comparable evidence in real estate valuation](#), RICS guidance note, with guidance on the hierarchy of evidence, should be followed in assessing the EUV. Further information is included in Appendix B.

## Evidence of premiums

**4.2.26** The evidence base for the premium above EUV is set out in paragraph 016. This is the main area in which the PPG overrides the general hierarchy above, placing land transactions below that of other evidence specified in PPG paragraph 016. The approach to setting the premium is discussed in Chapter 5.

## Return to the developer

**4.2.27** In paragraph 018, under the heading of ‘Standardised inputs to viability assessment’, the PPG provides some guidance on how a return to developers is defined for the purposes of the FVA. The paragraph’s focus is on a suitable return for plan making, rather than individual returns for scheme-specific decision taking. It identifies a standardised input of 15% to 20% of GDV as a suitable return for the purpose of plan making, but is silent on a decision-taking developer return. However, PPG paragraph 008 states that where a site-specific FVA accompanies a specific planning application, it ‘should be based upon and refer back to the viability assessment that informed the plan; and the applicant should provide evidence of what has changed since then’. This implies, in addition to other inputs, a similar test regarding developer’s profit to that used at the plan-making stage.

**4.2.28** The PPG acknowledges other alternative outcomes according to the type, scale and risk profile of planned development.

**4.2.29** Practitioners should therefore be familiar with [Valuation of development property](#), RICS guidance note when establishing the return to the developer in FVAs for both plan-making and decision-taking FVAs.

**4.2.30** The timescale of the development is crucial to the formulation of development return. The FVA should be based on evidence of the anticipated length of the pre-build and construction period, the length of the marketing period and any phasing, and the assessor should report all assumptions made.

**4.2.31** The situation where inputs or outcomes are known at the time of the FVA, or subject to little expected variation from the most likely estimate used in the FVA (for example, the forward sale of the affordable housing component), is more likely with decision-taking FVAs. In these cases, where development risks are reduced significantly, lower rates of return can be used. Equally, where a site has particular characteristics that introduce additional uncertainty to the development cash flow, this should be reflected in a higher rate of return/development profit. Using the full range of development return metrics when undertaking FVAs is an integral part of determining an appropriate developer return based on the return on GDV identified in PPG paragraph 018.

## Benchmark land value

**4.2.32** The benchmark land value (BLV) is addressed in paragraphs 013 to 016 of the PPG, as well as section 5.1 of this guidance note. These paragraphs apply equally to plan making and decision taking, with one exception. There is a specific reference to decision-taking FVAs in paragraph 014, where it states that the cost implications of all relevant policy requirements, including developer contributions and, where relevant, any CIL, should be taken into account.

**4.2.33** Under no circumstances will the price paid for the specific site be a relevant justification for failing to comply with relevant policies in the plan. LPAs can request data on the price paid for land (or the price expected to be paid through an option or promotion agreement) if they feel it is appropriate.

**4.2.34** The primary approach to determine the BLV is EUV plus a premium. Where appropriate, the BLV can be informed by the AUV. Guidance on the assessment of the EUV, AUV and BLV is the subject of Chapter 5 and Appendices B to D.



## 4.3 Sensitivity testing

**4.3.1** It is mandatory in the **Financial viability in planning: conduct and reporting** RICS professional statement that FVAs include sensitivity analysis to examine the effect of changes in key inputs. Where projection models are used, this is particularly important given the reliance on forecasting costs and values.

**4.3.2** There are a number of techniques for testing the sensitivity of assessments to changes in inputs, ranging from simple scenarios to simulation modelling.

**4.3.3** Sensitivity testing should be proportionate to the site or typology under review, and the reporting of sensitivity should reflect the needs of the various stakeholders in the process, not all of whom will be familiar with the implications of valuation variation. It is important that the assessor sets out and explains the sensitivity testing undertaken when reporting the findings.

**4.3.4** Variations in key inputs can be modelled in sensitivity analysis and the results used to judge the appropriate level of development profit/return, either as a blended rate or as differential rates on different parts of the development.

## 4.4 Abnormal costs and enabling infrastructure

**4.4.1** Abnormal costs are associated with abnormal site conditions such as contamination, flood risk, listed buildings, etc.

**4.4.2** Enabling infrastructure is that necessary to bring the site or sites forward for development, such as new or improved highways/junctions, schools, medical facilities, etc.

**4.4.3** In plan making, site typologies should take account of possible abnormal costs, perhaps testing a range of cost scenarios. The assessor can make generic assumptions about abnormal costs relating to, for example, contamination. In plan making, enabling infrastructure may impact on the cost of the development of more than one site.

**4.4.4** In decision taking, the abnormal costs and any enabling infrastructure should be estimated in the FVA.

**4.4.5** Abnormal costs should not include those design elements (such as more elaborate facades or landscaping) that a developer chooses to provide without due regard to the increase in value and the optimum development.

**4.4.6** The EUV is not normally affected by any abnormal costs or enabling infrastructure included as part of bringing the development forward. The only costs that impact the EUV are those that would stop the existing use if not remedied. For example, clean-up costs for contamination, works to address changing health and safety legislation, or changing energy efficiency requirements may render an existing use obsolete. The cost of rectification should be deducted from the EUV based on the assumption of the use continuing in the future.

**4.4.7** Abnormal costs related to the development and enabling infrastructure normally impact on the development land value and not the EUV. Each case needs to be treated on its merits, but if the development site value is reduced and the EUV is unaffected, the premium is reduced. Any land transaction evidence also needs to consider the correct adjustments for abnormal costs and enabling infrastructure.



**4.4.8** Anticipated rather than actual abnormal costs also reduce the land value and therefore the premium, rather than impacting on the developer's return or planning contributions. The risks that anticipated costs are higher or lower than anticipated, and that unanticipated costs will occur, are part of the risk premium within the profit margin required by developers. It is only where the premium above EUV falls below the minimum level needed for a reasonable landowner to bring forward the site for development that reducing emerging or actual policy requirements, taking into account the deliverability of the plan and all relevant circumstances, should be considered. The process for making this judgement is set out in Chapter 5.

**4.4.9** Where a residual valuation is being used to identify the residual planning obligations, the BLV used in that calculation must allow for the reduction in land value of a site that has abnormal costs.

**4.4.10** If abnormal costs are not taken into account at the plan-making stage, they may need to be taken into account in any decision-taking FVA, if applicable. Where contamination remediation works are taken into account, the availability of land remediation relief may reduce the net cost of remediation and should be explored; however, this information may be difficult to identify.

# 5 FVAs and benchmark land value

## 5.1 The PPG policy framework for assessing the BLV

**5.1.1** The PPG specifies the framework for the valuation task. It sets out policy parameters that will themselves influence the market(s) within which development land is traded. It specifies an overall framework for FVAs and includes specific guidance on how to assess the BLV. It sets out detailed assumptions, including standardised inputs and policy adjustments.

**5.1.2** The BLV will usually be based upon the EUV plus a premium (EUV+) but may sometimes be based on the AUV excluding a premium where appropriate.

**5.1.3** The BLV should not be expected to equate to the market value. As set out in Chapter 2, the PPG states that they could differ on account of both the assumptions made and the methods employed. The BLV is not a price to be paid in the marketplace; it is a mechanism by which the viability of the site to provide developers' contributions can be assessed. It should be set at a level that provides the minimum return at which a reasonable landowner would be willing to sell.

**5.1.4** Two important differences between market value and BLV are the methods and the resulting evidence base. The market value is normally calculated using the methods proposed in **Valuation of development property**, RICS guidance note, which states that the two normal approaches are the residual approach and the direct comparison approach. The PPG states that the BLV is primarily based on the EUV plus a premium. The evidence base for the market value is grounded in comparative values and costs of the developed property in a residual valuation, and in direct analysis of land transactions in the market comparison approach. The PPG reduces the status of comparable land transactions to that of a cross-check of the BLV. Land values determined by a policy-compliant residual approach or by policy-compliant direct comparison can be used to cross-check the BLV, but the primary approach is the EUV plus a premium.

**5.1.5** The BLV is a benchmark value against which the developer contributions can be assessed. Once those contributions have been set, land markets should take the level of policy requirements into account, just as all markets should take all relevant factors that affect value into account. PPG paragraph 013 states that 'Landowners and site purchasers should consider policy requirements when agreeing land transactions'.

**5.1.6** This means that the actual price paid for a site cannot be used to reduce developer contributions.

## 5.2 BLV valuation framework

**5.2.1** This chapter gives guidance to assessors and decision-makers on the assessment of the valuation components underpinning the assessment of the BLV. These are the EUV, AUV and the premium above the EUV. The EUV and AUV follow standard valuation practice; however, the premium does not and requires detailed discussion as to how it might be identified in FVAs.

**5.2.2** The primary approach is EUV+ (or AUV where appropriate). The other two approaches are cross-checks only to check the robustness of the results of the primary approach:

- The first cross-check is a policy-compliant residual land value, found by applying the residual valuation approach set out in **Valuation of development property**, RICS guidance note.
- The market comparison approach can be used to provide a further cross-check. Where the evidence allows, land transactions adjusted for policy compliance can be used. Outliers should be disregarded as specified in PPG paragraph 011. The normal valuation approach to the analysis of transactions is set out in **Comparable evidence in real estate valuation**, RICS guidance note.

**5.2.3** Both cross-checks must assume policy compliance.

**5.2.4** The plan-maker/decision-taker will establish a reasonable premium for the landowner and determine the BLV informed by the professional judgement of the assessor, based on these three approaches.

**5.2.5** The assessment of the BLV requires the assessment of five components. They should be calculated and reported to the plan-maker/decision-maker **separately** to counter circularity arguments that BLVs from one method of valuation have been used as an input into another method, in order to reduce developer contributions.

**5.2.6** The components that need assessing are:

- EUV
- premium
- AUV, where appropriate
- policy-compliant site value assessed by the residual method and
- policy-compliant site value assessed by the comparative method.

## 5.3 EUV plus premium

**5.3.1** The EUV is the first component for the calculation of the BLV. The EUV is defined in PPG paragraph 015 as the value of land in its existing use. The assessment of the EUV is not straightforward, and detailed guidance on the determination of the EUV is included in Appendix B.

**5.3.2** The landowner's premium is the second component of the BLV. The premium should provide a reasonable incentive for a landowner to bring forward land for development, while allowing a sufficient contribution to fully comply with policy requirements. It is the minimum return that would persuade a reasonable landowner to release the land for development, rather than exercise the option to wait or any other options available to the landowner.

**5.3.3** There is no standard amount for the premium and the setting of realistic policy requirements that satisfy the reasonable incentive test behind the setting of the premium is a very difficult judgement. Advice on how that judgement can be exercised is included in section 5.7.

**5.3.4** The PPG identifies the evidence base for the premium, which can include BLVs from other FVAs. The assessor should consider whether higher weight should be given to FVAs on sites or typologies that delivered policy levels of planning requirements and reflect differences in the micro-location, timing of the assessments, quality of land, site scale, market performance of different building use types and reasonable expectations of local landowners. There is no restriction on the use of FVAs from outside the immediate

locality or LPA area. Appendix D sets out technical issues appertaining to the adjustment of evidence from other FVAs.

**5.3.5** It is important not to penalise landowners or developers who have undertaken preliminary work towards delivering development, or to reward them for letting a site's existing use run down.

**5.3.6** Appendix B addresses the approach to run-down sites and identifies a lower EUV where the site requires additional work to realise the EUV.

**5.3.7** The treatment of costs expended in preparing sites for development is not addressed in the PPG. However, an adjustment to the premium may be appropriate as these costs may not affect the EUV but could affect the value of the development site. For a plan-making FVA, the EUV and the premium is likely to be the same for the same development typology, but it would be expected that a site that required higher costs to enable development would achieve a lower residual value. This should be taken account of in different site typologies at the plan-making stage.

**5.3.8** The evidence of the residual valuations may lead to lower land values for sites where less work supporting development has taken place and higher land values for more developed sites. This assumes the increased costs to enable development are included in the costs of the development appraisal. The difference in BLVs is based on differences in the values of sites rather than the actual sunk costs. As EUVs may not be affected by the level of sunk costs, it is the premium that must be adjusted for these differences.

## 5.4 AUV

**5.4.1** Paragraph 017 of the PPG states that the AUV 'of the land may be informative in establishing benchmark land value'. The AUV refers to the value of land for uses other than its existing use. The technical issues behind the determination of the AUV for both plan making and decision taking are set out in Appendix C.

**5.4.2** The plan can set out the circumstances in which the AUV can be used. For example, this might include evidence that the alternative use would fully comply with up-to-date plan policies if the alternative use could be implemented on the site in question, and there is a market demand for that use. There is also a requirement to explain why the alternative use has not been pursued or, in the case of an extant permission, implemented.

**5.4.3** Permitted development and a use within the same use class are only the existing use when no alterations are necessary to implement the use. Where refurbishment or redevelopment are necessary, it will fall under the AUV provisions of the PPG (paragraph 017).

**5.4.4** The AUV will have to be supported by evidence of the costs and values of the alternative use. The decision-taker will have to decide on the likelihood of that alternative use being implemented if permission for the actual development is not given. This assessment should be set within the context of the other options available to the landowner.

**5.4.5** Where the BLV is based on the AUV, no premium should be added.

## 5.5 Residual valuations

**5.5.1** Assessors should undertake a residual valuation as a cross-check to the BLV, as PPG paragraph 014 requires the BLV including any premium to be tested against plan policies.

**5.5.2** At the plan-making stage, residual valuations can be used to test different levels of policy requirements on residual land values for various development typologies.

**5.5.3** Assessing viability at the plan-making stage is an iterative process and therefore a full range of policy requirements can be tested in order to reach a judgement concerning the balance between contributions and delivery. The different levels of policy requirements could be based on a number of possible policy solutions, ranging from infrastructure and housing need to existing policy requirements. Paragraph 001 of the revised PPG states that 'The policy requirements should be informed by evidence of infrastructure and affordable housing need'. Planning requirements based on need should be the first iteration tested in a residual land valuation.

**5.5.4** There will be a set of emerging plan policy requirements and the residual valuation needs to be tested, assuming planning requirements within these emerging plan policies. These emerging requirements could be compared with:

- policy requirements set out in other FVAs or comparable local plans, and
- existing policies under the old plan.

**5.5.5** The resulting land values from the various iterations can be cross-checked against the EUV and the evidence of premiums from other FVAs or plans.

**5.5.6** For a scheme-specific FVA, the policy-compliant planning requirements should be included in the valuation. For example, if the plan has a policy of 40% affordable housing, this is the percentage of affordable housing that should be included in the residual valuation. The effect of any changes to the valuation inputs should be reflected in both development costs and values, as appropriate.

**5.5.7** Where the current plan has not set precise planning requirements, emerging plan policy requirements should be given appropriate weight.

## 5.6 Market comparison

**5.6.1** Market evidence of land transactions can be used to cross-check the BLV assessment. Land transactions must be adjusted to be compliant with policy requirements in an up-to-date plan or emerging policy requirements at the plan-making stage. There should be no presupposition that a policy obligation will be waived or reduced by the LPA.

**5.6.2** The best-quality land transaction evidence is for straightforward sites where the assumptions behind the transaction can be verified as being in line with planning policy. In cases where valuers are aware of the expectations underpinning transactions, and these expectations do not comply with emerging or actual planning requirements, land transaction prices must be adjusted to reflect compliance. Appendix D provides guidance on these adjustments. The difficulties in assessing policy compliance in transaction evidence may weaken the evidence base, and transactions where the assumptions made are not clearly articulated should not be used.

## 5.7 How to determine the BLV for planning purposes

### 5.7.1 PPG paragraph 013 states:

‘In order to establish benchmark land value, plan makers, landowners, developers, infrastructure and affordable housing providers should engage and provide evidence to inform this iterative and collaborative process’.

The actual process is not prescribed, but there is a clear instruction on the weight to be placed on the different assessment methods and the evidence on which each is based.

### 5.7.2 **Step one** is to undertake a valuation to determine EUV (see Appendix B).

### 5.7.3 **Step two** is the assessment, where appropriate, of the AUV (see Appendix C).

**5.7.4 Step three** is to assess a premium above EUV based on the evidence set out in PPG paragraph 016, which is ‘the best available evidence informed by cross sector collaboration. Market evidence can include benchmark land values from other viability assessments’ comparisons with existing premiums above EUV’. The EUV plus the premium equates to BLV (see Appendix D).

**5.7.5 Step four** is to determine the residual value of the site or typology, assuming actual or emerging policy requirements, and this assessment of land value can be cross checked against the EUV+.

**5.7.6 Step five** is to cross-check the EUV+ approach to the determination of the BLV of the site by reference to land transaction evidence. PPG paragraph 016 states that ‘Any data used should reasonably identify any adjustments necessary to reflect the cost of policy compliance (including for affordable housing), or differences in the quality of land, site scale, market performance of different building use types and reasonable expectations of local landowners’.

**5.7.7** The PPG is unambiguous that EUV+ is the primary approach. The other two valuations must be used to cross-check the resulting BLV and not be the primary determinant of BLV. Chapter 4 gives guidance on sense-checking the FVA, including the assessment of the BLV. In assessing the weight to be put on the cross-check evidence, a major consideration is the evidence base of each method. Evidence of premiums can be difficult to source and subject to very significant variations in locality, typology, site characteristics, etc. Land transaction evidence may be easier to source but may also suffer from the individuality of location, typology and site characteristics, and adjustments for not-up-to-date actual or emerging policy compliance could be virtually impossible if there is a lack of detail concerning the transaction. Residual valuations have valuation variation issues and modelling issues that have been well documented over the past few years, leading to a number of variations in application. Sensitivity modelling is therefore mandatory in order for the assessor to consider the evidence and outcomes.

**5.7.8** Where adjusted land prices are different from the BLV, this could be indicative that assumptions, including planning assumptions but also assumptions regarding inputs into the various methods adopted, are not being applied consistently across market valuations and FVAs (PPG paragraph 014). These possibilities must be tested within the residual valuation framework, for example by assessing the level of the major inputs. Sensitivity testing is mandatory in the **Financial viability in planning: conduct and reporting** RICS professional statement.

**5.7.9** There will be cases where the assessment is that the typology or site cannot deliver the PPG-defined returns to landowner and developer and emerging or actual policy requirements. In these cases, there are a number of planning policy responses such as removing a typology or site from the plan. One option is that developer contributions can be reduced by the plan-maker/decision-taker to

allow that minimum landowner return to be reached to maintain delivery, taking into account all relevant circumstances. There is no guidance in the PPG (and therefore in this guidance note) as to what that minimum return is, nor should there be. It is a feature of real estate markets that each typology and site is unique. The balance between premium and contributions is also unique and fixed amounts would be inappropriate. The PPG and this guidance note provide a framework for the judgement, and the actual assessment of both BLV and contributions should be based on the hierarchy of evidence within that regulatory and advisory framework.

## 5.8 Reporting requirements

**5.8.1** The determination of the BLV is an assessment of land value for planning purposes in accordance with the NPPF and PPG, and it is important that the methods and assumptions adopted are stated in the report.

**5.8.2** The specific reporting requirements are set out in the **Financial viability in planning: conduct and reporting** RICS professional statement. The report must include:

- EUV
- premium
- total BLV
- AUV (where it exists) and
- market evidence and all supporting considerations, including evidence of BLVs from other FVAs, assumptions and justifications.

**5.8.3** In addition, the **Financial viability in planning: conduct and reporting** RICS professional statement requires reporting a sensitivity analysis of the results and an accompanying explanation and interpretation of viability calculations, having regard to risks and suitable returns. This is necessary as valuation variation in development is a well-understood phenomenon caused by the individuality of development sites and the residual nature of development land value.

**5.8.4** FVA assessors should advise on the amount of BLV that would incentivise reasonable landowners to bring the land forward for development. However, it is for the plan-maker to assess the BLV and resulting policy requirements in the plan from the advice and evidence provided by the assessor, and for the decision-taker to assess the BLV and contributions from individual schemes.



# Appendix A: Plan-making viability assessments: further guidance

## A.1 Appointment of the assessor

**A.1.1** The assessor should note the **mandatory requirements** in section 2.5 of **Financial viability in planning: conduct and reporting**, RICS professional statement, concerning conflicts of interest, suitable qualifications, written instructions, objectivity and transparency.

**A.1.2** RICS recommends that the appointment should be at the start of the plan-making process and the terms of the appointment must be agreed in writing, in line with these requirements.

**A.1.3** Before appointment, the assessor should:

- refine and agree a revised brief, including the scope of the FVA, in writing with the LPA and
- agree a timescale for the FVA task with the LPA, including adequate time for the consultation, reflection and plan amendment period, as well as representing the LPA on viability matters at the examination in public.

**A.1.4** The terms of engagement should clearly set out the scope of the FVA task and should include:

- purpose of the FVA: testing area-wide plan and/or CIL
- timescales
- scope of stakeholder engagement
- key assumptions and information to be used, including draft policy requirements (or policy options as appropriate)
- methodology: logical approach to site selection and typologies, taking into account the projected housing supply over the plan period
- modelling assumptions: baseline and policy tests (for example, this may include testing different quanta of affordable housing alongside a 5% increase or decrease in sales values)
- approach to projections, and scenario and sensitivity testing, and
- establishing a process to refine policies during the testing period.

### Role of the assessor and the LPA

**A.1.5** The assessor provides evidence and interpretation of data; the decision is with the LPA and the assessor should make sure stakeholders are aware of both roles in the process.

## A.2 Stakeholder engagement and consultation

### Legal framework

**A.2.1** This is set out in *The Town and Country Planning (Local Planning) (England) Regulations 2012*:

- Regulation 18 relates to the preparation of the plan, and requires that various bodies and stakeholders are notified that the planning authority is preparing that plan. It invites them to comment on what the plan ought to contain and the supporting evidence base.
- Regulation 19 is the second stage of the consultation process when forming a local plan. LPAs must make available each of the proposed submission documents that they intend to submit to the Planning Inspectorate for examination, to enable representations to come forward that can be considered at examination.

### Setting the objectives for stakeholder engagement and consultation

**A.2.2** The assessor should agree the focus and objectives of stakeholder engagement and consultation as part of the scoping process with the LPA. This should be clearly documented. The consultation should be effective and proportionate to ensure that the best possible information is obtained.

**A.2.3** Objectives for consultation may include the following:

- Gather additional information to support the FVA; this will include site- or area-specific information that might impact on development costs (e.g. rural areas with generally sloping topography, or urban areas with majority brownfield sites).
- Research the land market in terms of EUVs and BLVs (EUV plus premium).
- Find out about landowners' and promoters' intentions in respect of potential strategic or key development sites within the plan area.
- Obtain feedback on the evidence base, including cost and value assumptions, the overall methodology and approach, and the findings of the draft FVA.

### Stakeholder mapping

**A.2.4** The assessor should identify stakeholders and agree this with planning officers. The assessor should consider the consultees identified under the provisions of Regulation 18 of *The Town and Country Planning (Local Planning) (England) Regulations 2012* and identify any additional stakeholders relevant to the FVA.

**A.2.5** Possible stakeholders could include landowners, developers, utilities, other statutory undertakings, businesses, community groups, housing associations, heritage associations, etc. In many cases, an LPA agent/developer panel or SHLAA panel will be in place who can contribute to the consultation.

### Type of consultation

**A.2.6** The assessor should agree the appropriate mode of consultation with the LPA for the particular stage in the process or the type of information required. This can include both formal and informal consultation. Assessors may need to be aware of the Statements of Community Involvement, which explain how LPAs will engage with communities in the preliminary stages of plan making.

**A.2.7** The formal consultation should include inviting comments on the FVA published as part of the evidence base for the local plan, with the formal process for making representations and with the LPA

providing responses under Regulations 18 and 19 of *The Town and Country Planning (Local Planning) (England) Regulations 2012*.

**A.2.8** An informal consultation could include landowner and developer meetings for the strategic/key sites, stakeholder events, workshops and questionnaires. Informal consultation may be the most appropriate at the evidence-gathering and scoping stages.

## Information sources and exchange

**A.2.9** The iterative process set out in the PPG envisages a significant transfer of information between stakeholders regarding strategic and key development sites, which will include value and cost evidence.

**A.2.10** Consultation should provide an opportunity for stakeholders to contribute alternative evidence for consideration, but this should be robust with clearly stated sources (for example tender returns for site remediation on similar sites).

**A.2.11** The assessor may not be able to have direct contact with some stakeholders, and information will need to be obtained through planning officers to avoid duplication of work.

**A.2.12** Where an LPA has an up-to-date infrastructure development plan, the information around infrastructure requirements will already have been collated, and this information should be utilised.

## Response to consultation and application of evidence provided

**A.2.13** When analysing responses, an assessor should consider advising on a number of issues regarding the analysis of responses.

**A.2.14** A consistent approach to dealing with comments from stakeholders should be taken, such as grouping responses into categories, e.g. sales values, build costs, etc. It may then be possible to draft responses that deal with comments from a number of stakeholders on the same topic.

**A.2.15** If clear themes arise from comments from a range of stakeholders, the assessor will need to provide advice on the presentation of consultation feedback, and actions arising at an open meeting should also be considered.

**A.2.16** The assessor should advise on the evaluation of the information submitted alongside other appropriate available evidence. It is important to set out how responses have been considered and incorporated into the testing.

**A.2.17** The assessor should consider how they will weigh responses according to the level of supporting evidence provided.

**A.2.18** Any reassessment should be based on an open and transparent process, with the LPA and other stakeholders playing a full role and being kept fully briefed on the revised outputs.

## Consultation on introduction of or amendments to the CIL

**A.2.19** As with the scope of consultation with the FVA for plans, the assessor should agree the scope of the CIL consultation, taking into account the following requirements:

- Alongside the draft charging schedule, the charging authority must also publish appropriate available evidence on infrastructure costs, other funding sources and viability.

- It is up to charging authorities to decide the length of the consultation, but the CIL section of the PPG suggests a minimum of 4 weeks.
- Any person who makes representations in relation to a draft charging schedule can request to be notified when the draft has been submitted for examination, at publication of the examiner's recommendations and following approval of the charging schedule by the charging authority.

## A.3 Identifying and testing typologies and strategic sites

**A.3.1** At the plan-making stage, FVAs involve testing representative development typologies and testing actual strategic sites. This ensures proper consideration of the financial impact of policy requirements on different locations, types of site (such as greenfield or brownfield), types of development and specific (usually strategic) sites.

### Strategic sites

**A.3.2** In conjunction with the LPA, the assessor needs to identify those strategic sites on which the plan relies to meet policy objectives. This may include large sites, sites that provide a significant proportion of planned supply, sites that enable or unlock other development sites, or sites within priority regeneration areas.

**A.3.3** The assessment of strategic sites should reflect the land uses proposed for that site in the plan, as well as the likely height and massing. It may be that it is appropriate to test a number of different options or variations to test alternative land use mixes. These will need to be tested in relation to market demand and the identified housing needs assessment, to establish an appropriate balance of mixes and/or density.

**A.3.4** It will be important to consider phasing and dependency on infrastructure, as well as any abnormal development costs for that site.

### Sample sites

**A.3.5** It may also be appropriate to test samples of sites in particular areas or key types of sites on which the delivery of the plan relies.

**A.3.6** The characteristics used to group these sites should reflect the nature of the sites and type of development proposed for allocation in the plan. Examples might include greenfield sites or sites within an existing industrial area proposed for residential or mixed-use development.

### Hypothetical development typologies

**A.3.7** Development typologies should be representative of the development that is planned and reflect the characteristics of groups of sites identified within the proposed land supply.

### Identification

**A.3.8** These typologies will be a combination of site typologies (e.g. greenfield or brownfield) and scheme typologies (e.g. houses or flats for sale or build-to-rent, other specialist housing, and commercial or mixed-use schemes), and scale (e.g. less than 50, 50–100, 250–500, over 500). They need to be able to provide a profile of viability across a geographical range and/or range of different types of site.

**A.3.9** Individual sites deemed representative of a typology should have as many points of similarity as possible, but should not be considered together where a factor such as a high EUV makes a site untypical

of the typology. For example, where there is a high variation in industrial values across the plan area due to density or quality of space, it may be appropriate to test these sites separately.

**A.3.10** Schemes should reflect current market demand, and also reflect land use limitations and development parameters indicated by the LPA.

**A.3.11** It is important to assess the amount of development that each scheme typology will deliver, compared with the overall amount of development in the plan, to ensure testing is proportionate.

**A.3.12** Once the site and scheme typologies have been agreed, it may be useful to set out in a grid how site and scheme typologies can be combined to arrive at development typologies. These need to cover the majority of development typologies in terms of inputs to assessments.

**A.3.13** Account should be taken of recent local development patterns and other comparable areas, and the density requirements in the plan. Where a new form of development is being proposed, the assessor should ensure their assumptions are based on relevant studies – an example of this may be where the LPA would like to see development coming forward that includes both residential and commercial uses.

**A.3.14** When considering the number of hypothetical development typologies to test, the assessor should remember that there is no requirement for the individual testing of every site, or the need to provide assurance that individual sites are viable.

## Testing

**A.3.15** Development typologies need to include a range of residential typologies in terms of density, but also in built form and tenure. However, densities and built form may be combined to reduce the number of typologies and include only a sample of those likely to come forward.

**A.3.16** In determining the range of non-residential typologies, it is important that the number of typologies is broadly proportionally representative of the type of commercial development likely to come forward. It will not be possible to test every type of commercial development likely to come forward (e.g. gyms, cinemas, nightclubs, etc.) in the hypothetical typologies, and this should be acknowledged. These are likely to form a relatively small component of mixed-used developments, and so are not likely to be of significant scale to warrant separate testing in most cases. In viability testing for the CIL, the limited amount of development will limit the potential for the CIL in any event.

**A.3.17** However, some central urban sites may require the testing of a broader range of commercial development typologies.

**A.3.18** As well as land use and physical characteristics, the assessment of development typologies should include a range of rental or capital value bands where these vary across the area (PPG paragraph 004). Assumptions will also need to be made in respect of appropriate development costs and these need to be clearly articulated, evidenced and reported.

## Additional requirements for testing the CIL

**A.3.19** When carrying out an FVA for the purposes of testing the CIL, assessors should consider the following:

- It is an area-based approach, involving a broad test of viability.
- An appropriate range of types of sites across the plan area should be sampled for testing.

- Differential rates may be appropriate in relation to the following:
  - Geographical zones within the charging authority's boundary. This should be granular enough to reflect significant differences in costs and values but not overly complex.
  - Types of development, e.g. residential, office, hotels, etc. This should be based on development likely to come forward within the area.
  - Scale of development, where this is under or over a specific threshold agreed with the LPA.
  - Uplift in land value where, for example, the site typologies are greenfield or brownfield.
- Differential rates can be set for strategic sites, where a more detailed assessment will be required. Rates can be higher or lower, reflecting the viability of that site and taking into account the requirement for the landowner to deliver specific elements of infrastructure.
- The assessor should also take into account the following (PPG paragraph 025):
  - The uplift in land value that development creates is affected by the existing use of land and its proposed use. For example, viability may be different if high-value uses are created on land in an existing low-value area, compared to the creation of lower-value uses or development on land already in a higher-value area. Charging authorities can take these factors into account in the evidence used to set differential levy rates, in order to optimise the funding received through the levy.
  - Charging authorities should set levy rates in a way that takes account of the infrastructure needs of the area and the additional value generated through planning permissions, in a way that does not undermine deliverability of the plan.
- If the CIL is to be tested as part of the emerging area-based plan, the impact of the CIL should be considered alongside the impact of other policy requirements. Charging schedules are not formally part of the relevant plan, but charging schedules and relevant plans should inform, and be generally consistent with, each other. If a CIL charging schedule is already in place, this should be included as a fixed development cost. Exemptions and reliefs may apply.
- Where a charging schedule is not in place and a CIL is to be tested alongside the policy requirements of the plan, assessors should refer to the CIL guidance when scoping the FVA in order to advise on the level of CIL to test on strategic sites, sample sites and hypothetical development typologies.

## A.4 The plan-making viability process: evidence

### Principles

**A.4.1** Any FVA should be supported by appropriate available evidence and informed by engagement with developers, landowners, and infrastructure and affordable housing providers (PPG paragraph 010).

**A.4.2** The appropriate evidence is set out in PPG paragraphs 010 to 019 under the generic heading of 'Standardised inputs to viability assessment'.

**A.4.3** The evidence base relates to GDVs (paragraph 011), development costs (paragraph 012), BLVs based on EUV plus a premium or AUV (paragraphs 013 to 017) and a return to the developer (paragraph 018).

**A.4.4** PPG paragraph 019 deals with how viability assessment applies to the build-to-rent sector.

**A.4.5** There are a significant number of detailed requirements for the provision and use of evidence in the PPG. Assessors, information providers and decision-makers need to be fully aware of the provisions in the PPG as to what is, and what is not, appropriate evidence for the FVA.

## A.5 Reporting

### Structure of the report

**A.5.1** All reports need to adhere to the mandatory requirements set out in **Financial viability in planning: conduct and reporting**, RICS professional statement, and paragraph 020 of the PPG.

**A.5.2** A sample report may contain the following:

- executive summary
- introduction and background
- description of area (with map)
- planning policy context
- strategic sites and typologies
- market information summary
- build cost and programme
- methodology and approach
- outputs and results
- sensitivity analysis
- concluding statement and
- presentation of results.

### Presentation of results

**A.5.3** There are potentially a very large number of results that could be reported, and the assessor should ensure that unnecessary tests are not carried out or reported; for example, if a development typology is viable at 35% affordable housing, it will also be viable at 20% affordable housing.



# Appendix B: Existing use value (EUV)

**B.1.1** This appendix provides guidance in arriving at an EUV in accordance with paragraph 015 of the PPG.

**B.1.2** The EUV for the purposes of FVAs is the value in the existing use, ignoring any prospect of future change to that use. This may however include permitted development or change of use within the same planning use class, but only where this does not necessitate any refurbishment or redevelopment works to the existing buildings or site works. The provisions relating to refurbishment and redevelopment will apply (see paragraph 2.1.7).

**B.1.3** The PPG paragraph 015 identifies the type of evidence base that can be used to support the determination of the EUV and the sources of that evidence. At the plan-making stage, this should be accomplished with collaboration between the plan-makers, developers and landowners, and can use published sources of information on rental and capital values of land and property, such as:

- land registry records of transactions
- real estate licensed software packages
- real estate market reports
- real estate research
- estate agent websites
- property auction results
- Valuation Office Agency data and
- public sector estate/property teams' locally held evidence.

**B.1.4** PPG paragraph 015 does not limit the data sources, so there is an expectation that normal valuation methods will be employed, with the appropriate method being applied to the appropriate property type. Where possible and appropriate, the market comparison approach will be used; the analysis of transactions is a major part of that approach.

**B.1.5** Normal methods of transaction analysis will apply. In the case of FVAs, the evidence must be adjusted to disregard any hope value for development that requires planning permission, which may be present in the transaction price. Changes of use that do not require permission will be assumed to be already reflected in that price.

**B.1.6** Assessors should make the plan-maker/decision-maker aware of any limitations of data sources, especially where full knowledge surrounding the terms of the transactions is not available and assumptions have been made. These assumptions need to be reported.

**B.1.7** PPG paragraph 017 states that 'where it is assumed that an existing use will be refurbished or redeveloped this will be considered as an AUV when establishing BLV'. Where any assumption regarding the use of the property involves any alterations, including refurbishment or redevelopment, BLV will be based on AUV with no premium.

**B.1.8** What constitutes a repair versus an alteration will be determined by professional judgement as to whether the works bring the building up to standard within the existing use, or whether they go beyond that and fall into the category of refurbishment. In many circumstances, the expenditure in proportion to the building value may be a material consideration in informing this professional judgement. Each case needs to be considered on its merits but a building or site in need of substantial repair would be expected to have a lower EUV than a building or site in good repair, subject to any dilapidations claims. Furthermore, a landowner should not profit from their failure to maintain the building or site.

**B.1.9** Works undertaken to comply with building regulations or statutory requirements, such as the *Disability Discrimination Act 1995* or the need to provide Energy Performance Certificates (EPCs), would generally constitute repairs, as these are required for the continued use of the building. Such works could of course represent a significant cost. If the property cannot be legally used for its current use at the date of valuation, that should be reported, even if the EUV is based on the assumption that remedial works will be carried out.

**B.1.10** All relevant repair and maintenance costs should be reflected in the valuation, and all assumptions made underpinning the assessment of the EUV should be reported.

**B.1.11** Where buildings have been run down and possibly let on shorter-term leases, with no right to renew, in expectation of future development – or even demolished – the EUV will be depressed below that of similar buildings that have not been so affected. It can therefore be assumed that the buildings are still occupied on standard commercial terms where they meet statutory requirements and there is a demand for that use. The condition of the buildings should however be taken into account in assessing the EUV.

**B.1.12** Where a landowner has not renewed leases, it would be inappropriate to determine a lower BLV and penalise the landowner for making the site ready for development. That would occur if a lower EUV is coupled with a premium evidenced from similar sites that had not been made ready for development in this way. A balance is required, reflecting the circumstances at the valuation date, but also the costs actually incurred in delivering the site and bringing it forward for development purposes. Such costs would generally sit in the scheme assessment, as necessary to incur in order to bring the scheme forward. They should not include payments to tenants and other parties who have an interest in the land based on hope value, but should reflect the current use value of these interests and the statutory costs of determining tenancies. Any double counting (value and cost) must be avoided in the EUV, premium and scheme assessment.

**B.1.13** The EUV of a partially implemented development could be nil. The BLV may therefore be more appropriately assessed by reference to the AUV.

# Appendix C: Alternative use value (AUV)

**C.1.1** Plan-makers can set out the circumstances in which the AUV can be used. PPG paragraph 017 sets out indicative circumstances. Where the AUV is being used as the appropriate BLV approach, the applicant must demonstrate that there is demand for the alternative use and why the proposed scheme is being promoted over the AUV, if the AUV suggests greater viability and returns.

**C.1.2** The AUV approach should be based on accurate floor plans and elevations for the alternative scheme. This is essential so that accurate gross to net assumptions can be made and for a detailed cost plan to be prepared.

**C.1.3** Where it is assumed that an existing use will be refurbished or redeveloped, this will be considered as an AUV when establishing the BLV (PPG paragraph 017). Additional commentary is provided in B.1.7 to B.1.10.

**C.1.4** The alternative use must be policy-compliant, and PPG paragraph 017 identifies this as:

‘limited to those uses which would fully comply with up-to-date development plan policies, including any policy requirements for contributions towards affordable housing at the relevant levels set out in the plan’.

**C.1.5** Extant consents also need to meet the tests set out in C.1.1. above. But, as the extant consent is capable of being implemented, assessment of the residual value of the consent as permitted should be provided.

**C.1.6** Assessment of viability for an alternative use, assuming the residual land value as a benchmark, can then be reported as part of scenario testing, to provide the decision-maker with comprehensive details of the alternative options open to the applicant. The weight to be given to an AUV is a matter for the decision-maker.

**C.1.7** Where the AUV is used, it should be supported by evidence of the costs and values of the alternative use to justify the land value.

**C.1.8** Valuation based on the AUV includes the premium to the landowner. If evidence of the AUV is being considered to inform the BLV, it includes the premium.

**C.1.9** Where the BLV is informed by the AUV, it is mandatory to report the AUV.

# Appendix D: Analysing market evidence to support the premium

**D.1.1** This appendix considers the use and application of market evidence in order to inform the second component, or premium, in arriving at the BLV in accordance with paragraph 016 of the PPG. Paragraph 016 identifies different forms of adjusted market evidence to inform the premium. These include specific references to:

- BLVs from other FVAs, and
- land transactions, but only as a cross-check to the other evidence.

**D.1.2** Chapter 5 identifies three methods of valuation to determine the BLV. These are the primary approach, which is the EUV plus a premium, with cross-checking valuations of the BLV using, where appropriate, a policy-compliant residual land value and comparable land transactions.

**D.1.3** Paragraph 016 states:

‘Any data used should reasonably identify any adjustments necessary to reflect the cost of policy compliance (including for affordable housing), or differences in the quality of land, site scale, market performance of different building use types and reasonable expectations of local landowners’.

The data should ideally conform to more general principles regarding data quality set out in [Comparable evidence in real estate valuation](#), RICS guidance note.

## D.2 Market evidence of premiums/BLVs in other FVAs

**D.2.1** Paragraph 016 of the PPG envisages that plan-makers should establish a reasonable premium and states that doing so is an iterative process informed by professional judgement based on best available evidence. BLVs from other FVAs are relevant sources of information to assist in identifying the premium element in an EUV+ approach to the assessment of the BLV.

**D.2.2** Using this approach requires identification of the differences between comparable sites and typologies and the subject site or typology, which are set out in PPG paragraph 016. These adjustments should be made in arriving at the BLV.

**D.2.3** The assessor will need to have knowledge of the circumstances and factors that were considered in determining the EUV and premium uplift within each comparator. This also includes the policy considerations, particularly where comparables are from outside the local plan area. The factors underpinning the assessment of EUVs and premiums in BLVs or other FVAs should be explained. If this information is available, conclusions can be reached as to whether or not these factors are similar to the site for which the BLV is required, and adjustments can be made. Where assumptions have been made concerning information about the comparables, these assumptions must be clearly stated. The more assumptions that have to be made, the less weight that can be put on the evidence.

**D.2.4** The circumstances underpinning the assessments of the EUV and premium, and which may require adjustment, could include:

- the date of the determination of the BLV
- landowner optionality, i.e. the range of options open to the landowner
- state of the property, obsolescence and compliance with environmental and building regulations
- site constraints such as ground conditions, contamination, ransom issues, planning factors, third-party rights and covenants
- uniqueness of opportunity, such as 'one-off' site assembly
- competition from alternative sites
- the weighting of individual BLV/premium evidence relative to the subject property, and
- adjustments made by the plan-maker in arriving at an adopted premium, if any.

**D.2.5** Information on BLVs and premiums in other FVAs can be requested but, if it cannot be provided, the practitioner will need to make assumptions and this will have an impact on the quality of that evidence. It is up to the decision-maker how much weight to accord to that evidence.

**D.2.6** Where the EUV part of the benchmark is a substantial element of the overall assessed value, the premium is usually stated as a percentage increase of the EUV. This is typical in urban and brownfield sites.

**D.2.7** In the case of greenfield, cleared brownfield or some *sui generis* (unique) sites outside of the normal planning use classes, where the EUV is a small proportion of the BLV, the premium is more likely to be stated as a multiplier or could be stated as an actual amount.

**D.2.8** Where the BLV has been determined directly from evidence of BLVs in other FVAs, the EUV must also be calculated and reported, even if it is zero or trivial (see the mandatory reporting and process requirements in [Financial viability in planning: conduct and reporting](#), RICS professional statement), and the premium reported as the difference between the EUV and BLV in either percentage or absolute terms.

## D.3 Market evidence of land transactions

### Principles

**D.3.1** PPG paragraph 016 states that evidence of land transactions can be used, but only as a cross-check to other evidence. The BLV comprises two components, the EUV and a premium; it is therefore important to state whether the comparable land transaction evidence is cross-checking the EUV component, the premium component or the BLV as a whole.

**D.3.2** Many of the same adjustments necessary for all types of market evidence, including the circumstances and factors listed in this appendix, apply equally to land transaction analysis.

**D.3.3** Land transactions should be adjusted to ensure that they are compliant with up-to-date planning policy, including affordable housing requirements, in order to circumnavigate the potential circularity issues identified in Chapter 5.

**D.3.4** The weight given to land transaction evidence will be reduced where some circumstances and facts are not known. Information is required on as many of the relevant factors in land sales as reasonably obtainable, including the sale terms, planning status, date(s) of payment, third-party arrangements and

any option agreements. Land transaction information is partly in the public domain (the Land Registry and other sources), but rarely is all relevant information available. The same standards of data quality apply to land transactions as to other market evidence. Where some elements are not known, assumptions can be made but this will have an impact on the quality of that evidence. Reference should be made to [Valuation of development property](#), RICS guidance note, for further information on the relevant factors.

**D.3.5** It should be clearly stated whether development land has been transacted with or without planning permission. Given the strategic nature of certain sites (amount, associated infrastructure and abnormal costs), sourcing directly comparable land transactions, particularly sites that have transacted without planning permission, is not straightforward.

**D.3.6** Where transacted sites have planning permission, analysis of the land price will be undertaken assuming that permission. Where that permission is not compliant with up-to-date planning policy (or emerging planning policy), it will be necessary to adjust the price to that which would have been paid, assuming full policy compliance with the up-to-date policy.

**D.3.7** The planning permission connected with the comparable transaction may not be optimal for the site. Where that is the case, the land price may reflect optimal rather than sub-optimal permissions. There is a danger here that land prices may be used to evidence a higher BLV within a residual calculation that assumes the sub-optimal permission, reducing developer contributions while protecting developer return. Where it is obvious that the actual scheme is significantly less valuable than the optimal scheme, analysis of transaction evidence should be undertaken by reference to the optimal scheme rather than a sub-optimal actual scheme.

**D.3.8** In large-scale greenfield development, a scheme may be required to provide land to facilitate the delivery of public facilities such as schools, open spaces, etc. This may on occasion be provided by a public body/landowner at nil value and, where this happens, analysis must be undertaken to reflect the intrinsic/intangible value it provides, in order to make the development acceptable in planning terms.

## Analysis of transactions

**D.3.9** The analysis of land transactions is normally undertaken by reference to units of comparison. In the case of development land, these units of comparison can be based upon a number of outcomes, such as price per developable hectare/acre, price per habitable room, price per unit, price per bedroom or price per square metre, or related to the GDV of the actual, proposed or optimum scheme.

**D.3.10** Units of comparison can be very misleading where the comparable transactions differ from each other to any great extent by location, property type or tenure. Where the comparable site includes commercial space, consideration should be given to how this element is accounted for in the analysis. Another important component of the analysis is plan policy compliance.

**D.3.11** In the case of the valuation of developments, it is rarely appropriate to undertake a valuation by one method alone, according to [Valuation of development property](#), RICS guidance note. The same is true for land transaction analysis. It is essential in undertaking unit of comparison-based analysis of land transactions that, in addition to the adjustments noted above, a detailed examination of the transaction is also undertaken in the context of the planned development and its relationship to plan policy.

**D.3.12** Undertaking this analysis requires a residual value of the planned development, taking into account GDV, costs of development, contributions and profitability, in order to reconcile the land transaction price and the planned development. This will give clarity to the basic units of comparison generated by the

transaction, and provide a context to the adjustments to be made to the comparable land transaction prices to make them policy compliant.

**D.3.13** The analysis of transactions should clearly demonstrate how any adjustment for abnormal site costs was undertaken, and how any additional and unusual costs were treated. This includes contamination remediation works and any related land remediation relief available in the market to prospective purchasers, where this can be recognised and quantified.

**D.3.14** An analysis of market transactions should enable a plan policy-compliant market 'norm' to be established and identify those transactions that are significantly above and below that market norm. A subset of transactions from a dataset, excluding outliers, may be more relevant to the subject site for cross-checking with the BLV identified by the primary approach of EUV plus a premium.



# Appendix E: Supplementary glossary

This supplementary glossary also uses definitions from the glossaries of the National Planning Policy Framework and RICS valuation standards and guidance notes current at the date of publication. All these documents may be updated from time to time and the definitions changed.

<b>Assumption</b>	A valuation assumption is a supposition taken to be true. It involves facts, conditions or situations affecting the subject of, or approach to, a valuation that, by agreement, do not need to be verified by the valuer as part of the valuation process. Typically, an assumption is made where specific investigation by the valuer is not required in order to prove that something is true ( <a href="#">RICS Valuation – Global Standards</a> ).
<b>Brownfield land</b>	‘Land that is or was occupied by a permanent structure, including the curtilage of the developed land (although it should not be assumed that the whole of the curtilage should be developed) and any associated fixed surface infrastructure’ (NPPF under <i>Previously Developed Land</i> ).
<b>Build-to-rent</b>	‘Purpose-built housing that is typically 100% rented out. It can form part of a wider multi-tenure development comprising either flats or houses, but should be on the same site and/or contiguous with the main development. Schemes will usually offer longer tenancy agreements of three years or more, and will typically be professionally managed stock in single ownership and management control’ (NPPF).
<b>Cash flow</b>	The movement of money by way of income, capital receipts, expenditure and payments throughout the development and sales period.
<b>Community Infrastructure Levy (CIL)</b>	A charge that can be levied by local authorities on new development in their area. It is a tool for local authorities to use to help them deliver the infrastructure needed to support development in their area.
<b>Conservation (of heritage assets)</b>	‘The process of maintaining and managing change to a heritage asset in a way that sustains and, where appropriate, enhances its significance’ (NPPF).
<b>Design code</b>	A set of illustrated design requirements that provide specific, detailed parameters for the physical development of a site or area (NPPF).
<b>Designated heritage asset</b>	A World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area designated under the relevant legislation (NPPF).

<b>Developable</b>	'To be considered developable, sites should be in a suitable location for housing development with a reasonable prospect that they will be available and could be viably developed at the point envisaged' (NPPF).
<b>Discounted cash flow/cash flow</b>	A method of valuation explicitly setting out the inflows and outflows of an investment/development ( <a href="#">Valuation of development property</a> , RICS guidance note). See also <i>Internal rate of return (IRR)</i> and <i>Net present value (NPV)</i> .
<b>Discount rate</b>	The periodic rate (per quarter, per annum), or rates, of interest selected when calculating the present value of some future cost or benefit (based on <a href="#">Valuation of development property</a> , RICS guidance note).
<b>Enabling development</b>	Development that would not be in compliance with local and/or national planning policies, and not normally be given planning permission, except for the fact that it would secure the future conservation of a heritage asset ('Enabling Development and Heritage Assets' in Historic England, <i>Historic Environment Good Practice Advice in Planning</i> series: Note 4, 30 June 2020).
<b>Environmental impact assessment</b>	'A procedure to be followed for certain types of project to ensure that decisions are made in full knowledge of any likely significant effects on the environment' (NPPF).
<b>Heritage asset</b>	'A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. It includes designated heritage assets and assets identified by the local planning authority, including local listing' (NPPF).
<b>Interest rate/finance rate</b>	The rate of finance applied in a development appraisal ( <a href="#">Valuation of development property</a> , RICS guidance note). This will represent the cost of borrowing.
<b>Internal rate of return (IRR)</b>	The rate of interest (expressed as a percentage) at which all future project cash flows (positive and negative) will be discounted in order that the net present value (NPV) of those cash flows, including the initial investment/land value, be equal to zero. IRR can be assessed both gross and net of finance ( <a href="#">Valuation of development property</a> , RICS guidance note). A gross of finance IRR would be a project return; a net of finance IRR would be a return on equity.
<b>Local housing need/housing need</b>	'The number of homes identified as being needed through the application of the standard method set out in national planning guidance or, in the context of preparing strategic policies only, this may be calculated using a justified alternative approach as provided for in paragraph 60 of the NPPF' (NPPF).

<b>Local plan</b>	'A plan for the future development of a local area, drawn up by the local planning authority in consultation with the community. In law, this is described as the development plan document adopted under the <i>Planning and Compulsory Purchase Act 2004</i> . A local plan can consist of either strategic or non-strategic policies, or a combination of the two' (NPPF).
<b>Local planning authority (LPA)</b>	'The public authority whose duty it is to carry out specific planning functions for a particular area. References to local planning authority include district council, London borough council, county council, Broads Authority, National Park Authority, the Mayor of London and a development corporation, to the extent appropriate to their responsibilities' (NPPF; see also <i>Decision-taker</i> ).
<b>Major development</b>	'For housing, development where 10 or more homes will be provided, or the site has an area of 0.5 hectares or more. For non-residential development it means additional floorspace of 1,000m <sup>2</sup> or more, or a site of 1 hectare or more, or as otherwise provided in <i>The Town and Country Planning (Development Management Procedure) (England) Order 2015</i> ' (NPPF).
<b>Market comparison approach</b>	A method of valuation that assesses value by comparing the circumstances of the subject land or property with that existing in respect of transactions of other similar assets. The PPG states that comparable land transaction evidence must be compliant with or adjusted for actual or emerging plan policies.
<b>Market risk</b>	The uncertainty resulting from unknown future changes in the economy and financial and property markets, irrespective of the property being developed (see also <i>Development risk</i> and <i>Property- or project-specific risk</i> ; <b>Valuation of development property</b> , RICS guidance note).
<b>Market value</b>	Defined in <i>International Valuation Standards (IVS) 104</i> as 'the estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion' ( <b>RICS Valuation – Global Standards</b> ).
<b>Neighbourhood development order</b>	An order made by a local planning authority (under the <i>Town and Country Planning Act 1990</i> ) through which parish councils and neighbourhood forums can grant planning permission for a specific development proposal or classes of development (NPPF).
<b>Neighbourhood plan</b>	'A plan prepared by a parish council or neighbourhood forum for a designated neighbourhood area. In law, this is described as a neighbourhood plan in the <i>Planning and Compulsory Purchase Act 2004</i> ' (NPPF).
<b>Net development value (NDV)</b>	The gross development value (GDV) minus assumed seller's costs ( <b>Valuation of development property</b> , RICS guidance note). See <i>Gross development value (GDV)</i> for explanation.

<b>Net present value (NPV)</b>	The sum of the discounted values of a net cash flow, including all inflows and outflows, where each receipt/payment is discounted to its present value at a specified discount rate. Where the NPV is zero, the discount rate is also the internal rate of return (IRR; <a href="#">Valuation of development property</a> , RICS guidance note).
<b>Optionality</b>	Often referred to as a real option, it is the right, but not the obligation, to pursue a particular course of action, e.g. sell, hold/retain or develop a property ( <a href="#">Valuation of development property</a> , RICS guidance note).
<b>Previously developed land</b>	See <i>Brownfield land</i> .
<b>Property- or project-specific risk</b>	The uncertainty attached to the intrinsic development of a site or property ( <a href="#">Valuation of development property</a> , RICS guidance note). See also <i>Market risk</i> and <i>Development risk</i> .
<b>Projections of values and costs</b>	Projecting from a base rent, sales value or cost to reflect estimated out-turn levels in an appraisal ( <a href="#">Valuation of development property</a> , RICS guidance note).
<b>Residual method of valuation</b>	A valuation/appraisal of a development based on a deduction of the costs of development and either profit or land cost from the anticipated proceeds ( <a href="#">Valuation of development property</a> , RICS guidance note). Depending upon whether the residual amount is the land value or profit, the other element must be deducted in addition to the costs of development to determine the residual amount.
<b>Residual site value/residual land value</b>	The amount remaining once the costs of development of a project are deducted from its net development value (NDV) and an appropriate profit has been deducted (based on <a href="#">Valuation of development property</a> , RICS guidance note).
<b>Risk-adjusted return</b>	The discount rate as varied to reflect the perceived risk of the development ( <a href="#">Valuation of development property</a> , RICS guidance note).
<b>Sensitivity analysis</b>	A series of calculations resulting from the residual appraisal involving one or more variables – rent, sales values, build costs, etc. – that are varied to show the differing results ( <a href="#">Valuation of development property</a> , RICS guidance note). See also <i>Simulation</i> .
<b>Simulation</b>	A simulation considers the probability of outcomes given certain ranges applied to key inputs in the financial viability assessment. It can quantify the level of variation in the valuation of the development based on variation of inputs. It is a method of undertaking sensitivity analysis ( <a href="#">Valuation of development property</a> , RICS guidance note).
<b>Site promoters</b>	These include all landowners, developers, infrastructure and affordable housing providers, and any other stakeholders with interests in securing development across the LPA area or on specific sites.

<b>Special assumption</b>	A valuation special assumption is made by the valuer where an assumption either assumes facts that differ from those existing at the valuation date, or would not be made by a typical market participant in a transaction on that valuation date ( <b>RICS Valuation – Global Standards</b> ).
<b>Statement of Community Involvement (SCI)</b>	A document that sets out how an LPA will engage with the community in the delivery of its planning functions.
<b>Strategic Environmental Assessment</b>	'A procedure (set out in <i>The Environmental Assessment of Plans and Programmes Regulations 2004</i> ) that requires the formal environmental assessment of certain plans and programmes which are likely to have significant effects on the environment' (NPPF).
<b>Sunk costs</b>	Costs, already spent, that facilitate the delivery of the development, and normally reduce the remaining costs of development and increase the value of the site.
<b>Target return</b>	The required rate of return/profit from the project considering its risk, expressed as either a periodic (normally per annum) rate of return or a simple ratio of value or cost.
<b>Valuation variation</b>	A range of possible valuation outcomes based on different estimates of inputs and/or different methodologies applied.
<b>Value engineering</b>	Eliminating unnecessary cost from the project or asset, or from systems, components or processes associated with it, to improve the ratio between benefits and costs ( <b>Value management and value engineering</b> , RICS guidance note).
<b>Yield</b>	Yield can be applied to different commercial elements of a project, for example office, retail, leisure, etc. but also to let housing where appropriate. It is usually calculated as a year's rental income as a percentage of the value of the property. Depending on jurisdiction, variations include capitalisation or cap-rate, all-risks yield, equivalent yield, income yield and initial yield ( <b>Valuation of development property</b> , RICS guidance note).

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## Appeal Decision

Hearing held on 27 September 2016

Unaccompanied site visit made on 26 September 2016

**by Karen L Ridge LLB (Hons) MTPL**

**an Inspector appointed by the Secretary of State for Communities and Local Government**

**Decision date: 25 October 2016**

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**Appeal Ref: APP/R2520/S/16/3150756**

**Land off Poplar Close, Ruskington, Lincolnshire NG34 9TL**

- The appeal is made under Section 106B of the Town and Country Planning Act 1990 against a refusal to modify a planning obligation.
- The appeal is made by RJW Property Management Limited and NJA Property Management Limited against the decision of North Kesteven District Council.
- The development to which the planning obligation relates is an outline planning permission for residential development for 67 dwellings.
- The planning obligation, dated 26 June 2015, was made between North Kesteven District Council and Lincolnshire County Council and RJW Property Management Limited and NJA Property Management Limited and Svenska Handelsbanken AB (PUBL).
- The application Ref. 16/0120/S106BA, dated 25 January 2016, was refused by notice dated 1 April 2016.
- The application sought to have the planning obligation modified as follows: a reduction in the level of affordable housing from 35% provision to 15% provision.

**Summary of Decision: The appeal is allowed and the obligation is modified to provide 25% provision of affordable housing.**

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### Decision

1. The appeal is allowed. For a period of three years from the date of this decision the planning obligation dated 26 June 2015, made between North Kesteven District Council and Lincolnshire County Council and RJW Property Management Limited and NJA Property Management Limited and Svenska Handelsbanken AB (PUBL), shall have effect subject to the modification as set out in the schedule at the end of this decision.

### Main Issue

2. The main issue is whether or not the affordable housing provision means that the development is not economically viable and if so, whether (and to what extent) the planning obligation should be modified.

### Reasons

#### *Background*

3. The appeal site is an undeveloped parcel of land to the south of Poplar Close. On 6 July 2015 outline planning permission was granted for the erection of 67 dwellings. Approval of reserved matters was subsequently granted on 17 December 2015. The outline planning permission was issued following
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- completion of a planning obligation on 26 June 2015 which secured, amongst other things, the provision and construction of a minimum of 35% of the total housing on site as affordable housing, with fractions of 0.5 or more to be rounded up to give a whole number of dwellings.
4. The Appellants now seek a modification of the obligation to revise the amount of affordable housing down to a minimum of 15% of the total housing on site. There are no modifications sought to the terms or tenure split on which the affordable housing is to be provided.
  5. The policy position in relation to the provision remains unchanged. Saved policy H5 of the North Kesteven Local Plan requires the provision of 35% of dwelling units on new developments as affordable housing in the case of developments of 5 or more dwellings and subject to other criteria.
  6. National guidance is found in 'Section 106 affordable housing requirements Review and Appeal' dated April 2013 (the Guidance) which provides that the starting point for reassessing viability will be a review of the original viability appraisal (if any) at the time planning permission was granted. In this case, the Appellants confirm that there was no original full viability appraisal and therefore an open book review of the original appraisal is not possible. In such cases, the Guidance advises that the developer must clearly demonstrate through evidence why the existing scheme is not viable.
  7. The test for viability is whether the evidence indicates that the current cost of building out the development (including the affordable housing provision) at today's prices is at a level which would enable the developer to sell the market units at such a rate that a competitive return would be provided to a willing landowner and a willing developer. Both parties have used a residual appraisal method and utilised the Homes and Community Agency's Development Appraisal Tool. A series of scenarios have been modelled using different inputs which are in dispute.
  8. The parties have agreed a wide range of viability matters in their Statement of Common Ground and there was further agreement on other matters during the course of the Hearing. In particular the site value is agreed and many of the items of expenditure are agreed or are relatively close so as not to affect the final viability appraisal to a significant extent. At the outset the main areas of dispute which lead to the most significant numerical differences in the viability model have been the gross development value in terms of both the market housing and the affordable housing elements and the build costs. I shall begin by examining those matters.
  9. Gross Development Value (GDV) of Market Housing: the scheme comprises 67 two and three bedroom dwellings across a variety of house types. Assessing the likely value of the market homes is made more difficult by virtue of a lack of data in relation to comparable new builds in the area. Both experts have effectively had to examine local data in relation to second hand house sales and then make adjustments to reflect the date of the sale and the house price increases which have occurred. For the open market value units the Appellants estimate that the average sales value across all house types is £1,896psm and the Council estimates it to be £2,400psm.
  10. I make no criticism whatsoever of either approach given the paucity of comparable data. However, essentially taking a limited pool of data and then

extrapolating further to make allowances for house price inflation, age and condition of property and new house premium is a difficult and imprecise exercise designed really to provide ballpark figures.

11. Two bedroom bungalows form a large proportion<sup>1</sup> of the development and were looked at in some detail by the parties. The Appellants estimate that a type E bungalow would realise a value of £135,000 whereas the Council places it at some £155,279. Recent sales data in relation to terraced bungalows reveals sales averaging £2342psm<sup>2</sup>.
12. At the Hearing there was agreement upon one example of a recent sale of a 2 bedroom terraced bungalow for £123,000 or £2372psm<sup>3</sup>. The parties agreed that this was similar to the type E bungalow and that there has been a 3% increase in local house prices in the last 12 months. Making adjustments for a slightly larger floor area and applying a 3% increase to bring the sales price up to date results in a projected sales price of £127,568 for a second hand bungalow of the same size as type E in today's market. Both parties accept that there should then be a premium applied to reflect the fact that new houses are generally more desirable than older, sometimes more dated, properties.
13. The Appellants advocate a premium in the order of 5 to 10% whereas the Council contend that the premium should be at least 15%. I note that there is a general lack of bungalows locally and that new bungalows would be particularly desirable. Having regard to all of the evidence I conclude that a premium of 10% would be the most appropriate because it recognises that there is only so much that purchaser would pay over and above the cost of second hand bungalow to enjoy a new property. It also takes into account the fact that two of each set of three bungalows would be end terraced. This would bring the average value of the type E bungalows to £140,324 or £2618psm. It also accords with the oral evidence of Mr Thomson when he confirmed that, albeit reluctantly, he would be prepared to market the bungalows for this figure. Further it is supported by the approach of the social housing provider ACIS who valued the two bedroom bungalows at £140,000.
14. A further difference arose in relation to the figures used for the floor-areas of the second hand properties. The Council had used data from Council tax records with Council Tax Assessors having calculated floor areas. The Appellant has used floor area figures from the Energy Performance Certificates (EPC) which have been produced following a home inspection by an accredited assessor. The differences were marked in some cases which resulted in consequential differences between the parties prices per square metre. I note however that there was no dispute about the floor area of the bungalows so the above conclusions remain valid.
15. In relation to the other house types, given that the EPCs are produced following a home visit and on-site measuring, on balance I consider these figures are likely to be more reliable. An acknowledgement that the floor areas used by the Council may have underestimated the size of the dwellings used as comparators, results in the price per square metre being inflated and renders the figures unreliable.

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<sup>1</sup> Type E dwellings represent 30 of the 67 dwellings and 19 of the 44 market dwellings.

<sup>2</sup> As confirmed by Mr Newham at the Hearing based upon 13 terraced bungalow sales.

<sup>3</sup> 3 Northfield Close Ruskington (51.85m<sup>2</sup>) which sold for £123,000 on 16.11.15.

16. In relation to the remainder of the dwellings the best evidence that I have remaining before me is the valuations provided by two local estate agents. These were largely within £5000 of each other with one or two notable exceptions. I have already concluded that the two bedroom bungalows should attract an asking price of around £140,000. The only other evidence before me was that of ACIS who valued type A properties and type D properties (as well as the bungalows). Its valuation of the type A and type D properties are in line with Winkworth's figures.
17. On this basis I conclude that the figures suggested by Winkworth are most likely to be representative of what could be achieved in relation to all house types with the exception of the bungalows. 19 of the market dwellings are type E bungalows at £140,324. Adopting the Winkworth figures but substituting a figure of £140,324 for the bungalows would result in a net increase in the Winkworth valuation of GDV<sup>4</sup> for the market housing of £196,156 taking the overall GDV for this element to £6,238,397.
18. In coming to the above conclusion in relation to the GDV of the market housing I have used the best available data in relation to the bungalow element of the scheme and relied upon the valuations in relation to the remainder of the housing. I consider this to be the most pragmatic course.
19. Gross Development Value (GDV) of Affordable Housing: The Appellants' appraisal is based upon a 50:50 split between affordable rent and shared equity. The appraisal assumes affordable rents at 80% of market rents and capitalised at 6% to provide a yield. A 67.5% proportion of market value is used for shared ownership. The Council assumed the same split and the transfer value to be 50% of the market value for the affordable rented properties and 67.5% for the shared ownership properties.
20. Both methods are equally valid although I bear in mind that the Council's assumed market values may be inflated because of the difference in floor areas which I identified earlier. The Council place the GDV of the affordable housing element at £2,048,215 and the Appellants calculate it to be £1,902,395.
21. In addition to the above exercises there is one offer from a social housing provider, ACIS. Interestingly their offer uses assumptions and a methodology very close to those of the Council, albeit based on different valuations for the housing. When their offer in relation to 20 units is scaled up to 23 units it amounts to some £1,605,400. The ACIS valuation puts the value of the bungalows at £140,000 and attributes similar values to the other two house types (A and D) which are the same as those in the Winkworth valuation. I have already concluded that these values are to be preferred. Given that they have adopted the same methodology as the Council I accept the extrapolated ACIS valuation figure as the best evidence in relation to this element. I shall therefore use the figure of £1,605,400 as the GDV of the affordable housing.
22. Build Costs: the Appellants have utilised a blended average from the lower quartile of BCIS data for different house types. Applying a regional adjustment (or rebasing) to North Kesteven results in a build cost of £977psm (including a 2% contingency). The Council are concerned that the BCIS does not truly reflect the build costs of larger schemes. They have done an analysis which records that only 7.55% of BCIS data is derived from schemes involving 50 or

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<sup>4</sup> Ie 19 bungalows x £10,324=196,156

- more houses. I agree that this is likely to skew the figures towards smaller schemes. In addition the BCIS data used by the Appellants relies on a small sample size of 8.
23. The District Valuer has had regard to data from other sources including tender information from 65 tender bids across a number of schemes. Adjusting the figures to North Kesteven results in a build cost of £918psm. When the BCIS data to Lincolnshire, rebased to North Kesteven is used, this results in figures of £824psm for the 2-storey semi-detached units and £888psm for the terraced bungalows. This data is based upon a much larger sample size of 87 and I consider it to be more representative of the likely build costs.
24. At the Hearing the parties confirmed that the total gross floor area across the scheme was 4428m<sup>2</sup> with the bungalows being 2144m<sup>2</sup> and the rest of the housing amounting to some 2284m<sup>2</sup>. Utilising the rebased Lincolnshire BCIS data would result in total build costs of £3,785,888<sup>5</sup>. This is less than the total build costs used by the Council in its appraisal. I appreciate that market conditions may be such that large volume house builders may not wish to venture into the local market. Therefore, I conclude that the Council's higher figure of £918psm is likely to be representative of build costs for the scheme in this particular area. I therefore adopt the Council's figures in relation to build costs. At the Hearing these were confirmed to be £4,064,904 (excluding contingency)<sup>6</sup>.
25. Other Variables: the Council applied a 3% contingency to build costs with no allowance for archaeology matters and the Appellants applied a 2% contingency with archaeology as a separate item. Both parties agreed that the different methods resulted in roughly the same effect so made no difference to the overall appraisal. The Appellants' appraisal included a section headed 'Roads and Sewers' with various items included totalling £913,040. This is now supported by various quotations and is accepted by the Council with the caveat that the sum of £55,000 for archaeology (site preparation) should be excluded because this is within the Council's 3% contingency. In addition a revised quotation for gas services took the adjusted figure to £843,424 excluding the archaeology element or £898,000 with it.
26. Marketing costs were agreed at 1% which results in the Council's estimate of £167,648 being adopted. The Appellant indicated a willingness to accept 17.5% profit which was the figure put forward by the Council.

### **Overall Conclusions**

27. At my request the parties modelled various scenarios prior to the Hearing to illustrate the effect of adopting different permutations of the main variables in dispute. At the outset of my conclusions I note that the Appellants' stated baseline position is that they wish to reduce the affordable housing element down to no less than 15% provision which essentially equates to some 10 affordable units. Provision at the rate of 35% specified in the obligation would result in 23 units. The Appellants' position is notwithstanding the fact that their own appraisal indicates that if the provision is adjusted to 15% provision the scheme would produce a deficit in the order of £195,460. They explained their position on the basis that the houses would be provided over a period of

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<sup>5</sup> Being bungalows £888psm x 2144m<sup>2</sup> = £1,903,872 plus other housing £824psm x 2284m<sup>2</sup>= £1,882,016.

<sup>6</sup> Revised at the Hearing to reflect the agreed sales area.

time which would result in increased market values which in turn would improve the rates of return.

28. Scenario 3 produced by the Council adopted the Appellants' values for market value dwellings and the transfer values for the affordable units and uses the Council's construction costs and assumes the provision of 19 affordable units. This scenario most closely reflects the conclusions which I have come to on the 3 main elements in dispute. However I have increased the Appellants' values for market housing by some £196,156 to cater for my conclusions in relation to the probable values of the bungalows. In addition I have reduced the Appellants' figure for the GDV of the affordable units down by some £296,138<sup>7</sup> in line with the ACIS offer.
29. The effect of these two adjustments to the identified surplus of £24,360 in scenario 3 results in a net deficit of around £75,000<sup>8</sup>. This indicates to me that the provision of 19 affordable units anticipated in scenario 3 is a little too high having regard to all of my conclusions. Scenario 3 helpfully notes that the cost of provision of each affordable house is some £60,579 so a reduction in 2 units from 19 units would take the scheme into surplus. I therefore conclude that the most appropriate modification would be to reduce the provision to 17 units or 25% provision. I shall modify the obligation accordingly.

*Karen L Ridge*

INSPECTOR

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<sup>7</sup> Appellants' estimate £1,901,538 - £1,605,400 (ACIS offer)= £296,138 differential.

<sup>8</sup> Ie Increase surplus by £196,156 to reflect increased market GDV and then decrease it by £296,138 to reflect the reduced affordable housing GDV.

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**SCHEDULE OF MODIFICATIONS TO THE PLANNING OBLIGATION DATED  
26<sup>TH</sup> JUNE 2015**

Deletion of 35% from the requirement for affordable housing in Clause 1 of Part A to the Second Schedule and its replacement with 25%

*END OF MODIFICATIONS*

## **APPEARANCES**

### FOR THE APPELLANT:

Mr James Rigby	Globe Consultants
Mr Andrew Martinelli	Devvia Property Consultancy Limited
Mr Thomson	Wentworth Estate Agents

### FOR THE LOCAL PLANNING AUTHORITY:

Mr David Newham	District Valuer Services
Mr Nick Feltham	Principal Planning Officer, North Kesteven District Council.
Mr Alan Oliver	Area Planning Officer, North Kesteven District Council.

### DOCUMENTS SUBMITTED AT THE HEARING

- 1 Schedule of GDV (market housing) with price comparisons, submitted by the Council.
- 2 Schedule of sale prices for comparator properties across all house types, submitted by the Appellants.
- 3 Energy Performance Certificates for various properties, submitted by the Appellants.
- 4 Email ACIS Group regarding offer for affordable housing element, submitted by the Appellants.
- 5 BCIS average build costs rebased to North Kesteven 26 December 2015 update, submitted by the Appellants.
- 6 BCIS average build costs rebased to North Kesteven 3 September 2016, submitted by the Council.
- 7 BCIS average build costs rebased to Lincolnshire 3 September 2016, submitted by the Council.
- 8 Quotation for construction of new roads and sewers from A1 Infrastructure and Building Limited dated 23 May 2016, submitted by the Appellants.
- 9 British Gas quotation for gas site services dated 6 April 2016, submitted by the Appellants.
- 10 Schedule of various scenarios submitted by the Appellants.
- 11 Memorandum Lincolnshire County Council regarding preparation of section 38 Agreement, submitted by the Appellants.



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## Appeal Decision

Hearing held and site visit made on 5 October 2016

**by Brendan Lyons BArch MA MRTPI IHBC**

**an Inspector appointed by the Secretary of State for Communities and Local Government**

**Decision date: 2 November 2016**

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**Appeal Ref: APP/N2739/S/16/3149425**

**Land off Flaxley Road, Selby YO8 4BW**

- The appeal is made under Section 106B of the Town and Country Planning Act 1990 against a refusal to modify a planning obligation.
  - The appeal is made by Hallam Land Management Limited against the decision of Selby District Council.
  - The development to which the planning obligation relates is the erection of circa 200 dwellings and the conversion of agricultural buildings to form 2 further dwellings.
  - The planning obligation by agreement, dated 3 December 2015, was made between Selby District Council and North Yorkshire County Council and Mary Cook and Hallam Land Management Limited.
  - The application Ref 2016/0161/MLA, dated 11 February 2016, was refused by notice dated 11 April 2016.
  - The application sought to have the planning obligation modified by a reduction in the level of affordable housing from 40% provision to 22% provision.
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### Decision

1. The appeal is allowed in varied form. For a period of three years from the date of this Decision, the planning obligation dated 3 December 2015, made between Selby District Council and North Yorkshire County Council and Mary Cook and Hallam Land Management Limited, shall have effect subject to the modifications set out in the Schedule appended to this Decision.

### Procedural matters

2. Section 106BA of the Town and Country Planning Act 1990 (as amended) provided that, where an application is made to modify an affordable housing requirement contained in a planning obligation, if the requirement means the development is not viable, the application should be dealt with so that it becomes viable. Section 106BC applied the same provisions to an appeal. These sections have now been repealed, but in this case the application under Section 106BA was made to the Council and the subsequent appeal submitted prior to the date of effect of the repeal, so that the appeal can proceed in accordance with the former provisions.
  3. The appeal was made by one party to the Section 106 Agreement, who is the promoter of the development of the site. Notice of the appeal was given in writing to the other signatories, including the existing landowner, who did not take part in the Hearing.
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## Main Issue

4. The main issue is whether the development would be economically unviable while subject to the affordable housing requirement in the Section 106 Agreement and, if so, how the requirement could be modified so that the development would become viable.

## Reasons

5. The appeal relates to 8.38 hectares of agricultural land at the north-western edge of Selby, surrounded on three sides by open countryside. To the east, the land adjoins suburban housing, which varies from older bungalows and houses close to the Flaxley Road frontage, to more recent estates further north.
6. A hybrid planning permission was granted in December 2015, comprising outline planning permission for the erection of circa 200 dwellings and infrastructure, and detailed permission for the conversion of listed agricultural buildings to form 2 additional dwellings.
7. The permission was granted on completion of a Section 106 Agreement between the applicant/promoter, the landowner and the District and County Councils. As well as the payment of financial contributions for education, highway infrastructure and waste and recycling facilities, the Agreement commits to the provision of on-site open space and affordable housing. The affordable housing is to comprise 40% of the total number of dwellings and to be provided in a proportion of 30-50% intermediate /shared ownership units and 50-70% affordable rented units.
8. The appeal is accompanied by a signed Statement of Common Ground ('SoCG') that sets out some of the background to the application and appeal. This explains that the planning application had been accompanied by a Viability Appraisal ('VA') dated 2 April 2015, prepared by consultants Johnson Brook<sup>1</sup>, which had concluded that the proposed development could only viably provide 17% affordable housing (34 units, with the full provision of 200 dwellings), based on an equal split<sup>2</sup> of tenures between intermediate housing and rented. A review of the VA on behalf of the Council by the District Valuer Services ('DVS')<sup>3</sup> disagreed, and concluded that the development could viably provide the full 40% required as normal provision for large sites by Policy SP9 of the Selby District Core Strategy, adopted October 2013, and the Affordable Housing Supplementary Planning Document of February 2014. However, before this difference could be resolved, and in order to pre-empt altered consideration of the proposal due to pending revision of the Council's land supply position, the appellant allowed the application to go forward and concluded the Agreement, as outlined above, so that planning permission could be granted.
9. The Section 106BA application submitted in February 2016 was accompanied by a revised VA, which concluded that the development could viably support only 22% affordable housing. A review by the DVS<sup>4</sup> again concluded that the full 40% could be provided. Following negotiation, further information was submitted, including an updated VA dated 1 April 2016, shortly before the

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<sup>1</sup> Now Johnson Mowat, who represented the appellant at the Hearing

<sup>2</sup> The SoCG refers to a 30:70 split, but the actual VA indicates a 50:50 split

<sup>3</sup> Report dated 5 October 2015

<sup>4</sup> Report dated 1 March 2016

application was refused. This VA continues to form the basis of the appellant's case in the appeal. It envisages 22% affordable housing provision (44 dwellings), with a tenure split of 30:70 intermediate : rented (13 intermediate units, 31 rented).

10. The appellant also commissioned an independent review of the parties' positions by consultants Cushman & Wakefield ('CW')<sup>5</sup>, whose report dated April 2016 includes their own VA. This report considers that up to 24% affordable housing could be provided, based on the parties' assumptions, but that CW's own assessment of values would result in a viable provision of only 14.5%. The report therefore concludes that the appellant's proposed reduction is to be favoured as a reasonable provision.

### *Scheme viability*

11. Guidance on the assessment of viability and the application of Section 106BC is set out in the Government document *Section 106 affordable housing requirements: Review and appeal*, April 2013 ('the Guidance'). This explains the concern that unrealistic Section 106 agreements can be an obstacle to house building, which the government is keen to encourage. Stalled schemes result in no development, no regeneration and no community benefit. The review of unrealistic agreements will result in more housing and more affordable housing being provided.
12. In this case, the development remains at an early stage of the process, being taken forward by the promoter with no housebuilder yet actively involved and no tender data. The indications are that the scheme will not proceed until the dispute over the terms of the Section 106 Agreement can be resolved. The development can be classed as 'stalled' for the purposes of the Guidance.
13. The SoCG sets out a number of elements of viability assessment where the parties are in agreement. These include: abnormal costs of some £1.3m; (other) Section 106 contributions; finance costs at 6.5%; professional fees at 6%; marketing fees at 3%; transfer values to a social housing provider of £65 per sq ft for shared ownership units and £70 per sq ft for rented units; construction costs of garages; costs of conversion of the agricultural buildings to provide 2 dwellings. I have found no reason to take a different position on any of these matters.
14. The appeal submissions focus on four key areas of dispute, and I now consider each of these in turn.

### *Sales values*

15. The best indication of future sales values is likely to come from sales achieved at comparable new-build developments already on the market. The SoCG identifies the Holme Meadows development closer to the centre of Selby as the most suitable comparable scheme, and this is endorsed by the CW review. I agree that the development offers a good comparison in terms of scale and likely quality of residential environment, although the Holme Meadows site has a more urban context.

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<sup>5</sup> Although their report has been written as an independent review, CW confirmed at the Hearing that they appeared in support of the appellant.

16. The second most direct comparison would be the very large development at Staynor Hall, to the south of the town. Again, the quality of the residential environment would be similar to that expected at the appeal site, but the scale of this development is very large, effectively an urban extension with its own school and community facilities, and the location is conveniently close to the southern by-pass road.
17. A third potential comparison is offered by new development in the village of Thorpe Willoughby to the west of Selby. It is generally accepted by all parties that the village is somewhat different from the appeal site in the quality and accessibility of the location, but they differ in the weight to give to comparison sales evidence.
18. The appellant also argues that the evidence of CIL charge zones is significant, as these were based on valuation research. Thorpe Willoughby and Staynor Hall have been placed in the moderate value zone, and the appeal site and the Holme Meadows development in the low value zone.
19. Both main parties have drawn on sales evidence over several years, and their interpretation of the data and its applicability to the appeal site has tended to fluctuate as each new slant on the figures has come to light.
20. By the time of the Hearing, the position of the DVS on behalf of the Council was that sales values at the appeal site should be assessed at £197.50 per sq ft,<sup>6</sup> which represented an increase from the figure of £195 per sq ft used in the DVS's March 2016 VA. In brief, the DVS believes that the appeal site should attract higher values than Holme Meadows because of its semi-rural position. The high proportion of 3 storey development at Holme Meadows should be factored out by focusing on values achieved by 2 storey units, which had been running at £183 per sq ft and in 2016 had increased slightly to £185 per sq ft. The proposed figure of £197.50 per sq ft would represent a premium of some 6.75% over the £185 rate.
21. The appellant's April 2015 VA had incorporated sales values averaging at £180 per sq ft, based on achieved sales values in the area, including reference to Holme Meadows and Staynor Hall. The February 2016 VA increased predicted values to £190 per sq ft apparently by direct comparison with Staynor Hall sales, and by a greater amount than recorded sales at Holme Meadows. For the appeal, the April 2016 VA reverted predicted sales returns to £185 per sq ft, by reference to a more selective choice of achieved values at Holme Meadows and to nearby second-hand sales.
22. The CW report assessed sales returns in some detail, and concluded an average net value for the appeal site of £175 per sq ft, compared with £171 for Holme Meadows and £174 for Staynor Hall. A later note on values by CW, submitted just before the Hearing<sup>7</sup>, argued that the starting point for comparison should be the average value achieved at Holme Meadows of £174 per sq ft, which with a 6% uplift as employed by the DVS would result in a figure for the appeal site of £185 per sq ft.
23. Based on the evidence before me, and my own inspection of the sites, I find that the appeal site would be seen as a more attractive location than Holme Meadows, because of its more rural character and surrounding residential

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<sup>6</sup> Supplementary Information relating to Sales Values, dated 16 June 2016, and VA of same date

<sup>7</sup> Letter to Hallam Land Management Limited, dated 3 October 2016

environment, albeit not all of the highest quality. Its accessibility would be very similar. Therefore I consider it reasonable that values achieved at the appeal site would be higher than those at Holme Meadows. I find that the appeal site would be seen as a less attractive location than Staynor Hall, which is large enough to function as a self-contained new-build environment, less dependent on context and with its own facilities, and also with much better access to the main road network. Values at the appeal site would be likely to be lower than those at Staynor Hall. I give limited weight to the comparison evidence from Thorpe Willoughby, because of its village character and enhanced accessibility.

24. The values achieved at Holme Meadows provide the best starting point. I accept that the most appropriate figure to provide a baseline would be the average value achieved. It was confirmed at the Hearing that this was £174 per sq ft, net of incentives. I prefer this figure because it reflects the mix of 2 storey, 3 storey and 2½ storey unit sales. Based on experience of typical new-build residential development in urban fringe locations, I consider it highly likely that the eventual development of the appeal site will include a significant proportion of 2½ storey and perhaps 3 storey units. The evidence is that the indicative layout submitted with the planning application allowed for some 25% (50 units) as 2½ storey types. The final layout may well be based on that starting point. Allowing for an uplift of some 6%, which is similar to that applied by the DVS, would result in an average value for the appeal site of £185 per sq ft, which is the figure adopted by the appellant.
25. The DVS's use of only the 2 storey values from Holme Meadows would give a somewhat distorted result. The proposed figure of £195 per sq ft would be well in excess of the Holme Meadows average. Crucially it would also exceed the average of £192 per sq ft identified for Staynor Hall in the March 2016 VA.<sup>8</sup> An argument for a return from the appeal site higher than Staynor Hall cannot realistically be sustained, in my view. By contrast, the average figure of £185 per sq ft would sit well between the Holme Meadows and Staynor Hall averages, but somewhat closer to the latter.
26. The more recent increased values quoted for 2016 are for less than half a year (to mid-June) and might not be reflected over the full year. But if they were, the differential rate of increase between the two reference sites would not be highly significant. The updated proposed figure of £197.50 per sq ft would not be any more justifiable than the earlier.
27. I do not give significant weight to the evidence of second-hand sales, because of the difficulty in identifying the correct premium that would need to be added in each particular case. The small estate near the appeal site identified by the CW note might well be the best comparable location, but the small sample size and the variety of figures obtained make any conclusion difficult to justify.
28. For these reasons, I favour the appellant's position on sales values.

#### Build costs

29. The Guidance advises that in reappraising viability, cost estimates and known tender price evidence in the baseline appraisal should be updated. Site specific evidence based on reported cost estimates or invoices should be provided by the appellant and assessed against comparable market evidence. Where

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<sup>8</sup> The more recent Supplementary Note records average sales achieved of £202 per sq ft, but does not make the corresponding reduction for incentives.

- comparability is at issue, figures can be benchmarked against Building Costs Information Service ('BCIS') indices or other appropriate data sets or verified by independent cost consultants.
30. In this case the pre-approval VAs were not informed by detailed estimates or tender price evidence, and such evidence is still not available. The parties continue to rely on relatively generic evidence of costs to inform their latest viability work on the new housing.
  31. The appellant's 2015 VA was based on a BCIS figure for mixed housing developments with additions for external works to give a building cost of £82.50 per sq ft. The February 2016 VA increased this figure to £86.78 per sq ft, recognising that this increase was below that of the BCIS index over the same period. The appellant's position for the appeal, as set out in the April 2016 VA, is based on a build cost of £89.17 per sq ft, which is founded on a BCIS lower quartile figure for estate housing (£79.18 per sq ft), with the addition of 10% for externals and 5% contingency, and a deduction of 2.5% for a large site.
  32. The DVS 2015 VA was also founded on BCIS figures, but the DVS now has considerable reservations about the applicability of BCIS to large housing developments, owing to rapid fluctuations and perceived weaknesses of the source data, particularly in relation to the small size of projects and the absence of input from major housebuilders. The DVS now seeks to place greater reliance on other data available to the service, including bids obtained from developers seeking to secure Homes and Communities Agency ('HCA') land. The DVS's position on behalf of the Council in the appeal<sup>9</sup> was to allow a build cost of £83.01 per sq ft, which included a reduction in the costs of external works to 10% to match the appellant's figure.
  33. The Guidance has a clear preference that actual site-specific information should inform the viability reappraisal. BCIS is referenced as a benchmarking source rather than as the foundation of a cost estimate, and other data sets can be used. In the absence of site-specific data in this case, I consider that the information quoted by the DVS provides the next best available source. This is because, as set out in the DVS March and April 2016 reports, it is mainly derived from actual tenders for large residential projects in the north of England, comprising 81 tender bids across more than 20 sites. The resulting basic cost figure adjusted for Selby of £75.36 per sq ft therefore merits considerable weight. Furthermore, the DVS has been able to validate the figure against the content of over 60 individual appraisals for housing developments of more than 50 units in the north of England over the past 2 years. I accept that the full details of these figures remain confidential, but despite the appellant's concern over transparency, I have no reason to doubt the professional evidence.
  34. The BCIS data may be more robust in other instances, with a larger or more relevant sample size. In this case, the appellant does not specifically challenge the shortcomings identified by the DVS, but considers it inconsistent for the Council to adopt a CIL using BCIS data and then to depart from it in this instance. However, the task of preparing a CIL is of a different nature and scale to the matter now at issue, and the consultants employed by the Council would not have had access to the data now brought forward.

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<sup>9</sup> Supplementary Information relating to Build Costs, dated 16 June 2016, and VA of same date

35. The appellant also raises concern that the DVS figure of £85.32 per sq ft<sup>10</sup> for combined build costs would be the lowest among a number of estimates for the appeal site and several other sites, including some where a VA was prepared by the DVS. A chart tabled at the Hearing shows the range from that low figure up to £90.85 per sq ft. Leaving aside one site that was too small to be included, the DVS response acknowledged that cases will vary, depending on the design and materials to be used, and the form and density of development. I share some of the appellant's surprise that the basic build cost figure did not re-appear in other VAs, but that does not in itself discredit use of the figure in the present appeal. I note that the CW check considered both parties' figures to be within an acceptable range of £80-100 per sq ft.
36. For these reasons, I favour the DVS calculation of cost of the new-build housing at £85.54 per sq ft including 10% externals and 3% contingency, giving a total cost of £17,531,423.

Developer profit

37. The National Planning Policy Framework ('NPPF') provides that, to achieve viability, the costs of any policy requirements such as affordable housing should allow competitive returns to a willing landowner and a willing developer. The level of developer's profit that would ensure a 'competitive return' is not defined. The Guidance acknowledges that profit levels vary significantly between projects to reflect the size and risk profile of the developer and the risks related to the project.
38. The appellant has adopted a profit level of 20% of GDV throughout the process. The appellant's case is that this level is effectively an industry standard, which is endorsed by the Home Builders Federation, and which has been accepted in other appeal decisions and by the Council in two recent developments. The view that profit at this level is seen as a necessity to obtain bank finance was endorsed by CW in their report and at the Hearing.
39. The DVS has maintained the view that a profit of 17.5% of GDV for the market housing would be reasonable, with a lesser return of 5% of costs for the affordable housing. This split is intended to reflect the much lower risk involved in disposing of the affordable housing in a single sale to a registered provider, compared to the uncertainty of the open market, and is endorsed in HCA schemes. The DVS also cites appeal decisions where the principle of a split or reduced 'blended' return has been upheld, and has quoted examples of VAs from north of England sites with a varied range of profit levels.
40. Given evidence of almost diametrically opposed professional experience of the need for a 20% profit margin, in my view the decision on the correct level should err towards the option most likely to prevent development from stalling. Therefore I favour the appellant's submission that an overall profit level of 20% on GDV is required.
41. I take support for this from the DVS update of HCA returns, which indicate that recent housebuilder VAs allowed a mean profit level of 19.2% of GDV of market housing, and 7.9% of costs of affordable housing. These would well exceed the levels promoted by the DVS in this appeal and would be very close to an overall return of 20%.

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<sup>10</sup> £85.54 per sq ft in the April and June 2016 VAs

42. Some further support is offered by the Council's previous acceptance of this level of profit. I agree with the appellant that this should not be linked to the issue of the Council's five-year land supply.
43. Since the appeal was submitted, the Council has resolved a 'fall-back' position, which is not endorsed by the DVS, of 20% profit on GDV<sup>11</sup> with a reduced expectation of 35% affordable housing provision. In the light of my preference for the appellant's submission, this would not have effect as a fall-back option, and the level of affordable housing will be determined by other variables.

Land value

44. National policy does not expand on the concept of a competitive return to a willing landowner. The guidance advises that any purchase price should be benchmarked against both market values and sales prices of comparable sites in the locality.
45. The appellant has argued that a benchmark land value of £200,000 per acre would represent a reasonable return for a landowner. However, the February 2016 VA accompanying the Section 106BA application included a residual land value of £3.66m or £176,768 per acre, which was seen as 'not unviable'. The figure of £176,768 per acre was adopted by the DVS for subsequent VAs, following analysis of a broad range of VAs for north of England sites, and comparison with the value achieved at Thorpe Willoughby.
46. The CW report endorsed an anticipated agreed figure of £3.7m, or £179,000 per acre, as an appropriate benchmark value that would incentivise the owner to release the land for development, although at the lower end of market expectations.
47. The appellant's most recent VA includes a site value of £3.8m, or £183,000 per acre. The difference of £100,000 from the earlier figure would have a very small effect on the potential provision of affordable housing.
48. The appellant has referred to published sources, including a Government document<sup>12</sup> that sets out post-planning permission residential land values, for use only in policy appraisal, with a figure for Selby District £271,000 per acre. I do not give weight to that figure as it is expressly based on nil affordable housing and, as noted in the document, therefore unlikely to be realised in an actual live situation.
49. I acknowledge that arrival at a fair benchmark figure through a process of residual valuation is not an exact science. The difference between the parties is not highly significant. Nevertheless, the Guidance is clear that a benchmark figure should have regard to development plan policies, including affordable housing obligations. Therefore, I consider that the inflation in value from the previous figure of £176,768 per acre, then accepted by the appellant as viable, should be discounted and the funds diverted to the provision of affordable housing.

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<sup>11</sup> Clarified by the Council at the Hearing as 20% profit on GDV of market housing, plus 8% on costs of affordable housing, as previously applied to development in Thorpe Willoughby. The Committee resolution approving the 'fall-back' position was not clear on this point.

<sup>12</sup> *Land value estimates for policy appraisal*, December 2015



*Conclusions*

50. As set out above, I have found that the appellant has raised valid concerns with regard to the effect of sales values and developer's profit on the assumptions needed to sustain the previously agreed proportion of affordable housing, but not with regard to build costs and land value. As a result, I consider that the development would be unviable under the affordable housing requirement of the existing Section 106 Agreement.
51. In order to make the development viable, the proportion of affordable housing will need to be reduced from 40%. The appellant's VA incorporating sales values at the preferred level would deliver 22% affordable housing. It was agreed at the Hearing that the effect of build costs would account for 4% of the affordable housing provision and the effect of the land value difference some 1%. From this I conclude that the maximum affordable housing provision that could viably be provided by the site would be 27% (54 units if the permitted 200 are finally developed). I shall therefore modify the Agreement to incorporate that figure. The split between intermediate and rented units set out in the Agreement does not require amendment.
52. The extent of the modification, which is set out in the attached Schedule, is as sought in the Section 106BA application, and will endure for a period of three years, in accordance with Section 106BC.

*Brendan Lyons*

INSPECTOR

**Schedule of Modifications to the Planning Obligation dated 3 December 2015**

In Clause 1.1, in the definition of Affordable Housing Units, deletion of '40%' and replacement with '27%';

In Clause 1.2.1 of Schedule 1, deletion of '40%' and replacement with '27%'.

## **APPEARANCES**

### FOR THE APPELLANT:

Mark Johnson MRICS MRTPI	Partner, Johnson Mowat
Phil Roebuck FRICS	Director, Cushman & Wakefield
Rebecca Wasse	Hallam Land Management Limited

### FOR THE LOCAL PLANNING AUTHORITY

David Newham MRICS	Principal Surveyor, District Valuer Services
Yvonne Naylor	Principal Planning Officer, Selby District Council

## **DOCUMENTS SUBMITTED AT THE HEARING**

1. Selby BCIS £s per sqm Study
2. Comparison of Build costs (2016)
3. Selby District Council Community Infrastructure Levy: Revised Draft Charging Schedule Report, Peter Brett Associates, November 2014
4. Copies of Appeal Decisions Ref:  
APP/N1160/A/12/2169472/NWF;  
APP/P1615/Q/14/2215840;  
APP/V3120/S/15/3133745;  
APP/V5570/A/14/2214889



## Appeal Decision

Hearing held on 18 October 2017

Site visit made on 18 October 2017

**by Daniel Hartley BA Hons MTP MBA MRTPI**

**an Inspector appointed by the Secretary of State for Communities and Local Government**

**Decision date: 23 October 2017**

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**Appeal Ref: APP/R4408/W/17/3170851**

**Land off Lowfield Road, Bolton upon Dearne, Barnsley S63 2TF**

- The appeal is made under section 78 of the Town and Country Planning Act 1990 against a refusal to grant planning permission.
  - The appeal is made by Mr Steve Gamble (Gleeson Developments Limited) against the decision of Barnsley Metropolitan Borough Council.
  - The application Ref 2015/0725, dated 4 June 2015, was refused by notice dated 22 November 2016.
  - The development proposed is the erection of 97 houses with garages and/or car parking spaces together with the provision of open space and associated roads and sewers.
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### Decision

1. The appeal is dismissed.

### Procedural Matters

2. As part of the appeal, the appellant submitted an amended layout plan (Drawing No 449/3E) which shows a "landscape buffer" between the area of approved public open space on the south western boundary of the appeal site and the adjacent Bolton Dearne Waste Water Treatment Works (WWTW). I do not consider that this amendment constitutes a significant variation to the original plans from a public consultation point of view. Furthermore, the Council has been afforded time to comment on it as part of the determination of this appeal. There was no dispute between the main parties about accepting this plan as part of the hearing discussion. I have therefore considered this amended layout plan for the purposes of determining this appeal.
3. The Council confirmed at the hearing that the Barnsley Local Plan (LP) had already been the subject of examination and that a further round of examination was scheduled for next year. Copies of Policies H8 (Affordable Housing), H9 (Housing in Regeneration Areas) and LG2 (The Location of Growth) of the LP were handed to me at the hearing and I have taken these policies into account as part of the determination of this appeal.

### Main Issues

4. The main issues are (i) whether or not the proposal includes the requisite amount of on-site affordable housing and other planning obligation financial contributions and, if not, whether this is adequately justified from a financial viability point of view; (ii) the effect of the proposed driveway surfacing upon the safe and convenient use of pavements and roads; (iii) the effect of the

proposed driveway surfacing upon the character and appearance of the area; (iv) the effect of the proximity of the proposed development to the neighbouring waste water treatment works in respect of odour and the on-site rising main/sewer in terms of required easements and odour and (v) whether or not the release of the designated Safeguarded Land for housing purposes is justified in respect of the delivery of a sustainable form of development.

## Reasons

### *Site and proposal*

5. The appeal site is undeveloped and comprises a field which is located to the south of dwellings at Lowfield Grove and Crane Well View and immediately to the north east of the WWTW. The site is adjacent to land to the east which has the benefit of planning permission for the erection of 60 dwellings (phase 1<sup>i</sup>) and 58 dwellings (phase 2<sup>ii</sup>). In essence, the proposal constitutes phase 3 of the Gleeson Homes estate of houses.
6. It is proposed to erect 97 dwellings which would be two storeys in height and would include both detached and semi-detached properties. There would be 27 two bedroom, 60 three bedroom and 10 four bedroom dwellings. Access to the site would be from a 'T' shaped junction at Lowfield Road which leads from a humpback railway bridge. Internally, the access would be from the main spine road associated with the approved phases 1 and 2 developments.

### *Affordable housing and planning obligation financial contributions*

7. It was confirmed at the hearing that the appellant had entered into a conditional contract to purchase the site. There was no dispute between the parties in respect of a land valuation of £600,000.
8. I recognise that Gleeson Homes propose to offer some of the properties at a low cost sale price and that the Government has proposed a potential change to the definition of affordable housing, as outlined in the Government's Housing White Paper "fixing our broken housing market" 2017, which if it became policy may mean that such properties were by definition affordable. However, the White Paper is not national planning policy. Whilst it has been the subject of public consultation, it can only be afforded very limited weight as a material planning consideration.
9. Whilst there is some evidence that the Gleeson product does include some homes which are relatively low cost (utilising for example the Government's Help to Buy money), the proposal does not include any affordable dwellings on site that would meet the definition of affordable housing as contained in annex 2 of the National Planning Policy Framework (the Framework). Furthermore, and, in any event, there is no mechanism in place to ensure that any such properties remain affordable in perpetuity.
10. Policy CSP15 of the adopted Barnsley Local Development Framework Core Strategy 2011 (CS) states that for schemes of 15 dwellings or more 15% affordable housing will be expected "*unless it can be demonstrated through a viability assessment that the required figure would render the scheme unviable*". I note that emerging policy H8 of the LP would require 10% affordable housing, but this policy is not yet adopted and so I afford Policy CSP15 of the adopted CS more weight in decision making terms.

11. The appellant submitted updated financial viability assessments as part of the appeal which were appraised by the Council. The appellant contends that these reflect more up to date sales and construction costs (accounting for inflation). It includes an appraisal based on the developer realising a profit equivalent to 20% of GDV. At the hearing, the appellant confirmed that they were prepared to work on the basis of a 20% profit margin which differed from the original submission of 22%. The updated financial appraisals included revised build costs (to reflect build cost inflation), updated sales prices and sales incentives sheets. I consider that it was appropriate to request updates given the passage of time and as Page 19, Box 14 of the RICS Guidance Note Financial Viability in Planning 2012 (RICS Guidance) states that "*viability assessments may occasionally need to be updated due to market movements or if schemes are amended during the planning process*".
12. Further consultation with the Education Authority has revealed that there is a shortage of primary school places in the area and hence there is a request for £147,504. This is in addition to the requested financial contributions of £210,000 for the provision of traffic signals and signage on the humpback bridge over the railway on Lowfield Road and £162,345 for public open space (POS). There is no disagreement between the parties in respect of the amount of the financial contributions. I am satisfied that such requests would meet the tests as laid out in paragraph 205 of the Framework and the Council confirmed at the hearing that, in respect of the highways and POS contributions, there had not been five or more obligations for the said projects since 6 April 2010.
13. The appellant's position is that at a profit level of 22% the development would result in an overall deficit of £400,971. At 20% the deficit would be £244,920 and at 17.5% the deficit would be £49,857. Accordingly, the appellant's view is that no affordable housing could be provided at any of the above profit margins and furthermore, only part of the financial contributions could be supported. Notwithstanding the appellant's views about viability, at the hearing I was provided with two planning obligations (undated) one of which included the payment of £210,000 for the railway bridge highway works and £162,345 for public open space and the second of which included the payment of £210,000 for the railway bridge highway works, £147,504 for education and £14,841 for public open space. In essence, the appellant's position is that in the event that I was to allow the appeal I could effectively choose one of the planning obligations.
14. The Council considers, based on the most up to date appraisals, that at a 17.5% profit margin the proposed scheme could support at least 5% affordable housing together with the full financial sums for public open space, the bridge highway works and education. The appellant does not consider that any affordable housing can be provided on the site, but nonetheless has not sought to dispute the Council's position that a profit margin of 8% is reasonable for affordable homes on the site.
15. The appellant has referred me to an appeal decision<sup>iii</sup> for phase 1 of the wider site relating to the modification of the associated planning obligation by way of the removal of affordable housing requirements. In allowing the appeal, the Inspector commented that "*there are various 'rules of thumb' which are quoted when discussing developer profit, and these generally vary between 15% and 25%. However, in general, it is reasonable to assume that on more marginal sites, profit expectations would be higher*". For the phase 1 development, the

Inspector gave weight to the appellant's view that sales had been very slow and the reasons why the site had not been mothballed. He commented that "*this background tends to support a figure in the upper part of the 'normal range'*". Consequently, and recognising the appellant's use of in-house professionals, the Inspector accepted the appellant's profit shown in the viability appraisal at 22%.

16. Notwithstanding the above appeal decision, it does not automatically follow that the same level of developer profit should be applied in respect of the appeal development (i.e. phase 3). This is a greenfield site and I have not been provided with any compelling evidence from the appellant to indicate that there are significant risks associated with developing this site for housing. Furthermore, I have not been provided with any indication that sales are likely to be very slow on this site. At the hearing, I learnt that most of the phase 2 dwellings had now been built and that there was now one dwelling left to sell. The Council also indicated that they had information from a Gleeson sales representative that there was a waiting list for properties on the phase 3 appeal site.
17. At the hearing, the appellant did not dispute the comment made about the waiting list, but nonetheless felt that it would still be difficult to market the properties for sale and that most of the interested purchasers from the local catchment area had already bought a dwelling on phases 1 and 2. Furthermore, and notwithstanding the fact that the appeal site is greenfield, the appellant's view was that there may be some unforeseen development issues such as land contamination from previous agricultural activities. I am not persuaded that the appellant has reasonably demonstrated that there are any abnormal risks associated with the development of the appeal site for housing and, in any event, the Council has applied a 2.5% contingency for such eventualities. The evidence before me suggests that the recently built houses are selling well and the existence of a waiting list for the phase 3 site indicates to me that there is demand for the proposed new dwellings. Furthermore, I have not been provided with any objective evidence to indicate that it is likely that there would be any significant abnormal or unforeseen development costs arising out of the development of this greenfield site.
18. I note that the appellant has indicated that the Board would not accept a level of developer profit at 17.5% for the private market houses, but I do not consider that this in itself represents reasonable justification for opting for 20%. The appellant has not reasonably substantiated the reasons why the Board would not accept a profit margin of 17.5% for the market dwellings. I acknowledge that a previous Inspector did consider that a higher profit margin was justified for the phase 1 site, but I am bound by such a decision. I have determined this appeal upon the evidence that is before me and I have not found that there is any reasonable evidence of significant risk to justify opting for a higher profit margin. In reaching this conclusion, I have considered Policy H9 of the LP which states that Bolton upon Dearne is an area of "*low housing demand*", but the evidence before me indicates that there continues to be demand for new build dwellings in the locality. I therefore conclude that the development could reasonably operate at a profit margin of 17.5% for the market dwellings.
19. The appellant contends that sales incentives (for example legal fees paid, carpets laid, curtain and light package etc) should be taken into account and

that the sale price as shown by the land registry should not be solely considered. However, I agree with the Council that land registry sales information should be used to inform financial appraisals and note the advice in the RICS Guidance which states on page 14, Box 10 that *"in undertaking scheme specific viability assessments, the nature of the applicant should normally be disregarded as should benefits or disbenefits that are unique to the applicant. The aim should be to reflect industry benchmarks having regard to the particular circumstances in both development management and plan making viability testing"*. I acknowledge that the incentives do in fact represent a cost to the developer, but I cannot be sure whether such incentives will actually be needed for the phase 3 site. Furthermore, and, in any event, I cannot see why such costs (if needed) could not reasonably be paid for out of the identified marketing budget (4%) shown in the financial appraisals or indeed from company profits.

20. On the evidence that is before me, I am persuaded by the Council who conclude that a viable scheme does exist at a profit level of 17.5% and with the provision of some affordable housing. I am satisfied that the Council's approach to assessing the viability of the proposal is reasonable and that it accords with the RICS Guidance in terms of industry benchmarks. At the aforementioned profit level, and accounting for the other reasonable and necessary financial contributions for POS, education and highway safety matters, it would be possible to provide at least 5% affordable homes on the site (10% if based on a blended profit rate of 17.5% for market housing and 8% for affordable housing). As no affordable homes would be secured on the site by means of the completion of a planning obligation, I conclude that the proposal would fail to accord with the affordable housing aims of Policy CSP 15 of the CS, Policy H8 of the LP and the Framework.
21. The appellant has indicated that they would not be in a position to offer all of the required financial contributions for POS, bridge works and education. However, all such financial contributions would be needed in full in order to mitigate the adverse impacts of the development. Indeed, at the hearing it was confirmed that there was no disagreement between the main parties about the amount of financial contributions being sought. The main parties agreed that the financial contributions were needed to make an essentially unacceptable scheme acceptable in planning terms. Whilst Policies CSP 15 of the CS and H8 of the LP do allow the level of affordable housing to be reduced subject to viability testing, the same approach does not apply to financial contributions which are needed to mitigate unacceptable planning impacts.
22. Consequently, even if I had found that the absence of affordable housing was acceptable in viability terms, I would have still concluded that the proposal was unacceptable as the appellant's submitted planning obligations make no provision for the full payment of the necessary financial contributions. In this regard, I conclude that the proposal also conflicts with the Framework which is clear that where safeguards are necessary to make a particular development acceptable in planning terms, and these safeguards cannot be secured, planning permission should not be granted for unacceptable development.



*Driveways – highway / pedestrian safety*

23. The appellant proposes that each private driveway would include a bitumen apron for the first 1.5 metres and thereafter would be constructed from gravel. The appellant has submitted a specification drawing for the private drives and in respect of the gravel section of driveway it states that it would have "38mm of 15-20mm angular crushed aggregate to BS EN 13242 rolled and compacted on cement dust layer (dust evenly to light grey finish) on 250mm Type 1 stone sub base". The bitumen surface would have a "50mm single coat tarmac surface (14mm aggregate)" with a "250mm Type 1 stone sub-base". Timber edge restraints are also proposed.
24. I have carefully considered the evidence submitted by the Council including photographs of driveway surfaces and juxtaposed highways for the existing Lowfield Park housing development as well as photographs relating to other Gleeson housing developments elsewhere (i.e. Barnborough Lane, Goldthorpe, Moorlands Avenue, Barnsley and Parsons Green in Sheffield) where similar driveway surfaces have been created. The latter photographs have been sent by the Council and have formed the basis of four recent planning appeals<sup>iv</sup> where the issue of the same driveway surface has been a determining factor. I have taken these photographs into account as material planning considerations as part of the determination of this appeal. At the hearing, I was informed that no decisions had been made in respect of the aforementioned appeals.
25. I note that the appellant issues a manual (Gleeson Manual) to each house purchaser and that this includes advice on how to maintain the driveways. This includes advice relating to both raking and weeding. I do not doubt, that when the driveway surface is first laid, the gravel remains quite firmly attached to the sub layer of driveway. However, the evidence before me suggests that over time the gravel does become loose as the various photographs that I have seen indicate gravel on the bitmac apron, pavements and highway.
26. I note that the appellant has provided photographs which show that where there have been problems things have improved. However, I am not sure if all residents have swept stones back onto the driveways as at least one interested party has commented that "Gleeson Homes are sending their staff around the estate sweeping the stones off the footways and carriageway back into the residents driveways". Indeed, at the hearing a local resident commented that this had happened the day before the hearing: the appellant did not dispute this and put this down to an "over eager" site manager. In any event, I visited the area on 2 October 2017 and noticed that there was quite a lot of gravel on the highway including at Smithy Croft.
27. Whilst the manual would go some way in helping to keep stones off the highway, and I do not doubt that some residents would conscientiously sweep/rake when any gravel were displaced onto the highway, I am not persuaded that all residents would do this. I am sure that even the conscientious ones would tire of such a routine. In addition, I do agree with the comment made at the hearing by Ms Bilton who indicated that gravel clearance would be very unlikely in the winter months when residents returned from work during hours of darkness. I acknowledge the appellant's comment that it would essentially be a "Saturday job", but for the reasons outlined above I do not consider that all residents would routinely do this or that this would be a satisfactory arrangement.

28. When considered in isolation, the amount of gravel being displaced onto the highway (including pavement) may be sometimes relatively small. However, it is proposed that all driveways would be finished in this surface and I note that such an arrangement already exists in terms of the phase 1 site. When the site is considered as a whole, the evidence before me suggests that there is potential for significant amounts of gravel to be displaced on large parts of the estate roads. Not only would this be an unsatisfactory arrangement in terms of the longevity of the surface of the highway, but it would also result in an unsafe environment for cyclists and pedestrians alike. I acknowledge that there are no recorded accidents associated with gravel on highways from driveways which have been formed using the proposed surface, but that does not mean that such accidents would be unlikely in the future. Furthermore, the sort of accidents associated with loose gravel such as skidding and slipping would be unlikely to be reported to the police. However, that does not mean that it is acceptable to tolerate the potential for such accidents.
29. I recognise that motorised vehicle speeds are quite low in this residential environment. I was able to witness this as part of my site visit. Hence, I doubt that gravel on the road would give rise to significant motorised vehicle skidding and hence accidents. However, a lot would depend upon the magnitude of any future issues and that cannot be totally predicted. Notwithstanding the above, even a small amount of gravel on the pavements or roads could result in a serious accident for a pedestrian (i.e. tripping or slipping) or a cyclist (i.e. skidding).
30. The appellant has put together a video which aims to demonstrate that the driveway surface does not impede use by wheel chair and push chair users and people with mobility difficulties. I acknowledge that this does seem to indicate that the surface does not impede accessibility, although I cannot be certain whether this would change overtime as the driveways age and the gravel becomes dislodged. In any event, this is not the reason why the Council had concerns about the proposed surface. The evidence provided by David Pearson at paragraph 4.11 on page 46 does state that *"it is accepted that on occasion small amounts of crushed aggregate can be dislodged from the surfacing through general wear and tear and this can be transported onto adjacent areas, including the publicly adopted footway"*. The evidence before me indicates that there is potential for gravel to be dislodged both on the pavement and road leading to accidents.
31. I note that the appellant does not consider that South Yorkshire Residential Guide 2011 (SYRG) should be afforded significant weight as they consider that it is *"best practice guidance and therefore it cannot be accorded the same weight as development plan or national policy"*. However, the SYRG which states that *"private single and shared driveways should be surfaced with bound materials to prevent any stones, gravel or similar items being deposited on the adoptable area"* is specifically referenced in the adopted Barnsley Parking Supplementary Planning Document 2012 (SPD) which supplements the CS in so far that it states *"developments will be expected to meet the standards for parking design set out in the South Yorkshire Residential Design Guide considering cycle, motorcycle and car parking as an integral part of the design of residential development"*. As the proposed driveways would not include a bound material to stop gravel from being deposited on the adoptable area, there would be conflict with the SYRG and hence the SPD.

32. For the reasons outlined above, I conclude that the proposed driveway surface is unacceptable and that it would have a severe impact upon matters of highway safety. Therefore, this part of the development would not accord with the highway safety aims of the Framework; Policy CSP 26 of the CS which states that new development will be expected to be designed and built to provide safe, secure and convenient access for all road users, and the SPD. I acknowledge that some Councils and indeed Inspectors have allowed such driveway surfaces in other parts of the country. However, I have not been provided with full details or the exact circumstances which led to these developments being allowed. In any event, I have determined this appeal on the evidence that is before me including photographs provided by the Council and what I was able to see as part of my site visit on 2 October 2017. Consequently, the existence of planning permissions for similar driveway surfaces elsewhere in the country does not outweigh my conclusion on this issue.

*Driveways – character and appearance*

33. I have already found that the proposed driveway surface is unacceptable for highway safety reasons. However, I do also have concerns about the appearance of the surface. I was able to view the proposed surface on my site visit as it had been used in the phase 1 development. I acknowledge that it would provide a contrast to the material used for the highway. However, I consider that the surface would look very temporary in appearance to the extent that the estate looked like it had not been finished. The displacement of gravel on the apron, pavement and roads would look untidy and would depart from what would otherwise be a well-designed residential environment.
34. The above adverse impact would be compounded by the fact that the evidence before me indicates that weeds can/do grow through the surface. Whilst the Gleeson Manual indicates that occupiers of the dwellings should apply a weed killer, I am not persuaded that all residents would do this. Over time there is real potential for the driveways to look unkempt and unsightly and this would be to the detriment of the character and appearance of the estate of houses. Indeed, I visited the site on 2 October 2017 and noticed that some of the driveways (for example at Smithy Croft) did include a lot of weeds.
35. I note that the Council has not always raised character and appearance issues in terms of determining other planning applications relating to the proposed driveway surface. However, the Council did not appear to have the same evidence about the issue previously. In any event, I have determined this planning application on its individual planning merits. I acknowledge the appellant's comment that the provision of tarmac driveways would cost more (about £2,315 per property) taking into account the material and the need for increased storage capacity from surface water run-off. However, this is not a matter which would outweigh my identified concerns relating to the adverse highway safety and design issues.
36. For the reasons outlined above, I conclude that the proposed driveway surface would have a significantly detrimental impact upon the character and appearance of the area. Therefore, the proposal would not accord with the design aims of Policy CSP 29 of the CS and the Framework.

## Odour

37. Both the Council and Yorkshire Water accept that the odour report submitted by the appellant is sound and robust. Indeed, on 20 July 2015 Yorkshire Water commented that *"whilst we accept that the document is robust it reflects the existing layout of the works. Yorkshire Water will be undertaking a complete refurbishment of the WWTW and in all likelihood altering the technology that is used, converting from a filter works to an activated sludge plant"*. Furthermore, and, in any event, there are currently no detailed plans for a sludge plant by which an assessment of the proposal can be made. Yorkshire Water suggests that improvement works are likely to commence in 2018 and that a tendering process is underway. However, there is nothing to suggest that such improvement works will definitely take place and, in any event, at the hearing both Yorkshire Water and the Council confirmed that any changes to the WWTW would at worst have a neutral impact in odour terms.
38. At the hearing, I heard that there had been no material changes to the type, management and treatment of waste water at the WWTW. As there are no details or indeed guaranteed plans in place relating to possible improvement works at the WWTW, I cannot see how the appellant can reasonably undertake an updated or altered odour assessment. On the basis of existing environmental conditions, I have not been provided with any reasonable explanation as to why the conclusion reached in the appellant's odour assessment should be disregarded. Such an assessment concludes that the *"amenity of residents of the Gleeson development would not be witness to any significant detrimental impact"*.
39. Notwithstanding the above, the Council considered that the appellant has not reasonably taken into account the proximity of proposed plots 203-208 to the WWTW. At the hearing, Yorkshire Water commented that given the relatively close proximity of such dwellings to the boundary of the WWTW, the odour report should have also taken into account the perception of odour and hence the potential for complaints from the occupiers of such properties. As part of the site visit, I was able to consider the position of these proposed dwellings and the relationship with the WWTW. Whilst only a snap shot in time, I did not witness any odours when standing in this area. However, I cannot be certain of the actual wind direction at this time.
40. As part of the site visit, it was evident that there was already some established boundary landscaping around the edges of the WWTW which would have the effect of screening it from the ground floor windows of the proposed dwellings. Following discussions between the main parties, it was agreed that it would be possible to increase the landscaped buffer shown on amended planning layout to encompass the entire area annotated as "public open space". The use of quick growing trees was discussed. In addition, the appellant agreed to include a minimum ten metre wide landscape buffer on the southern boundary of the phase 2 site (in the ownership of the appellant) where it meets the boundary with the WWTW. Subject to the imposition of the two aforementioned tree planting areas, I am satisfied that any perceived adverse odour / psychological effects arising out of the proximity of proposed dwellings 203-208 to the WWTW could be suitably mitigated.
41. In reaching the above view, I have also taken into account the agreement between Yorkshire Water and the appellant at the hearing where it was stated

that the most offensive / mal-odours emanating from the WWTW was some 150 metres to the south of the aforementioned dwellings.

42. I am satisfied that with landscaping mitigation the proposed dwellings would not be too close to the WWTW or to the rising main from an odour impact point of view and I do not agree with the Council or Yorkshire Water that a new odour assessment is necessary. I acknowledge that in respect of plot Nos 203-208 the odour contour is on the margin of acceptability, but this reflects the agreed position in the earlier phases of development (i.e. 500 cubic metres plus 10 metres).
43. I conclude that the proposal would be acceptable in terms of (i) the position and orientation of the proposed dwellings to the WWTW (including dwelling Nos 203-208) and (ii) that actual and perceived levels of odour, subject to further tree planting to be secured planning condition, would be acceptable for the occupiers of the proposed dwellings. On this basis, the proposal would suitably accord with the amenity and odour aims of Policy CSP 29 and CSP 40 of the CS; paragraph 120 of the Framework and the Institute of Air Quality Management - Guidance on the Assessment of Odour for Planning 2014.

#### *Sewer Easements and Rising Main*

44. As part of the appeal, the appellant has provided an additional plan which shows the position of the sewer and the rising main. At planning application stage, concerns were raised by Yorkshire Water and the Council respectively about the position of dwellings relative to the sewer which runs alongside the eastern and southern boundaries of the site. Such concerns related to easements and odour, but nonetheless did not specifically form the basis of the Council's reasons for refusal. However, given such concerns it was necessary for me to ask the parties for comments about these matters both before and at the hearing.
45. I have not been provided with any evidence to suggest that the position of the sewer as shown on plan No 449/3E is incorrect. Furthermore, the Council has commented that "*Yorkshire Water are content that the position of the rising main indicated on layout plan 449/3E correlates with their own mapping records*". However, the Council have commented that Yorkshire Water have said that the location of such apparatus on mapping records "*does not necessarily accurately reflect what is beneath the ground*". Nonetheless, neither the Council nor Yorkshire Water has provided me with any information to indicate that the position of the rising main or the sewer is not as shown on the mapping records. The apparatus falls on land that is not in the ownership of the appellant and at the hearing Yorkshire Water commented that it would not be appropriate to undertake investigatory works on such land. On this basis, I am satisfied that the appellant has provided enough information in respect of this issue. This is a view which was eventually shared by Yorkshire Water at the hearing.
46. On the evidence that is before me, I am satisfied that a minimum 5 metre easement either side of the sewer could be retained and that the position of the proposed dwellings (including gardens and fences) would not interfere with the maintenance or repair of this infrastructure. The rising main would be located quite some distance to the west of plot No 206. I do not consider that there is any compelling evidence before me to suggest that the development would lead to maintenance/repair issues in respect of either the sewer or rising



main or that the proximity to such infrastructure would reasonably give rise to any significant odour. In respect of the proposed landscaped buffer, I am satisfied that any planting could be done in such a way as to ensure an appropriate easement to the rising main. This is a matter that could be secured by means of the imposition of a planning condition.

47. I therefore conclude that the proposal would be acceptable in terms of its impact upon the sewer and rising main and that the living conditions of the occupiers of the proposed dwellings would not be adversely affected from any odour associated with such infrastructure. In this regard, the proposal would accord with the amenity and infrastructure aims of the CS and the Framework.

#### *Safeguarded Land and Sustainability*

48. The appeal site falls within land designated as Safeguarded Land under saved Policy GS10 of the adopted Barnsley Unitary Development Plan 2000 (UDP). The policy states that *"in areas shown as safeguarded on the proposals map existing uses will normally remain during the plan period and development will be restricted to that necessary for the operation of the existing uses. Otherwise planning permission for the permanent development of such land will only be granted following a review of the UDP which proposes that development on the land in question"*. Policy GS10 of the UDP covers the plan period of 1986 to 2001. In this regard, I consider that the policy is out of date and hence I afford it very limited weight in decision making terms. Nonetheless, the Council has not yet adopted a new development plan which includes housing allocations for the area and to this extent the proposal conflicts with Policy GS10 of the UDP.
49. The Council has started work on preparing the new Local Plan for Barnsley (LP) and issued it for Examination in December 2016. The LP, once adopted, will replace both the UDP and the CS. The LP proposals map shows the appeal sites as being a proposed Housing Allocation and is referenced as Site AC26 under Policy H3. It indicates that about 86 dwellings would be erected on the site although the Council confirmed at the hearing that this was simply an indicative number.
50. The above policy states that the development would be expected to provide traffic signals at the railway bridge on Lowfield Road, to provide an odour report and to incorporate any appropriate mitigation measures including a landscaped buffer. This draft allocation has been the subject of representations and hence will need to be considered as part of the LP Examination process. Therefore, I can only afford the proposed housing allocation limited weight in decision making terms. Nonetheless, the proposal does accord with the emerging planning policy position relating to the allocation of the appeal site for housing and this is a matter which weighs in favour of the proposal. Indeed, and notwithstanding any representations made by other interested parties in respect of LP Examination (including Housing Allocation AC26), the Council raises no objection to the proposal in land use principle terms.
51. Given the weight that I afford to the aforementioned development plans, it is also necessary for me to determine the appeal against paragraphs 7 and 14 of the Framework. Paragraph 7 of the Framework states that there are three dimensions to sustainable development: economic, social and environmental. These dimensions give rise to the need for the planning system to perform an

economic, social and environmental role. I deal with each of these matters as follows.

52. I have no doubt that the occupiers of 97 dwellings on the site would assist in supporting existing facilities and services in the area and hence that there would be some economic benefits associated with the proposed development. Furthermore, the proposal would lead to some employment at construction stage, albeit that it would be relatively short lived. The appellant has also referred to the local planning authority's receipt of Homes Bonus if the appeal were to be allowed. These economic matters weigh in favour of the proposal.
53. There is no dispute between the main parties that the local planning authority cannot currently demonstrate a deliverable five year supply of housing sites. Indeed, I have been provided with a copy of the Council's housing land supply note dated August 2017 for the period April 2017 to March 2022. Such a note concludes that the Council can currently demonstrate a deliverable supply of only 4.01 years of housing sites. There is no dispute between the parties about this shortfall. I acknowledge that the housing land supply position may change in the event that the emerging LP were to be adopted. However, the LP has not been adopted and so I must determine this appeal on the basis that the local planning authority cannot currently demonstrate a deliverable five year supply of housing sites.
54. In the context of the above, the delivery of 97 dwellings would make a significant contribution to the supply of housing in the area, at a time when there is a shortfall against a five year housing land supply requirement. This is a social matter which weighs positively in the planning balance. In reaching this view, I note that at the hearing the Council did not dispute the appellant's comment that the local planning authority has for many years failed to achieve its annualised completion rate targets. However, I have found that the proposal could support some affordable housing (at least 5%) and there is no mechanism in place to secure such provision. This is therefore a social matter which weighs against the proposal.
55. Weighed against the above social and economic matters are a number of environmental considerations. I have considered the appellant's Transport Assessment prepared by Westgate Consulting (Leeds) Limited and note that there a number of bus services and a railway station within convenient walking distance of the site. Furthermore, the site is close to a significant number of day to day facilities and services and a Travel Plan is proposed. I acknowledge comments made by other interested parties about the frequency of some of the identified public transport services, but nonetheless I consider that the site is sustainably located and that occupiers of the proposed dwellings would not be reliant upon the use of the private motor vehicle for all day to day living and employment purposes. The Council shares this view.
56. In design terms the proposed dwellings would suitably reflect the appearance and scale of those that have already been built/consented for phases 1 and 2 and overall I am satisfied that the plot sizes would be acceptable. I have considered the separation distances between each of the residential properties as well as from existing dwellings which surround the site (including houses at Lowfield Grove, Crane Well View, Lowfield Meadows and the phase 2 development) and I am satisfied that the proposal would not have a

- significantly detrimental impact upon the living conditions of existing or future occupiers of dwellings in respect of light, outlook and privacy.
57. I acknowledge concerns raised by other interested parties about the existing humpback bridge over the railway on Lowfield Road which has poor forward visibility. I also note the concerns raised about the existing difficulties exiting the junction between Station Road and the B6098, Angel Street. However, and given that Network Rail do not look likely to provide traffic signals on the humpback bridge, the appellant has submitted a planning obligation which would include a financial contribution of £210,000 for the provision of traffic signals on the bridge. I have no reason to disagree with the conclusion reached by the Highway Authority that such a contribution would be both necessary and acceptable in terms of mitigating the highway impacts of both this proposal and the approved development on phases 1 and 2 of the wider site. Therefore, and subject to this financial contribution, the proposal would be acceptable in terms of its effect upon the off-site highway network in traffic generation and highway safety terms. However, this is an environmental matter which has neutral weight in the planning balance.
58. I have found that the proposed driveway surface would be unacceptable in terms of both its effect upon the character and appearance of the area and matters of highway safety. These are environmental matters which weigh significantly against the proposal.
59. In conclusion, and for the reasons outlined above, the proposal would have some economic and social benefits and these are positive matters to weigh in the planning balance. Given the number of dwellings proposed, the proposal would make a very positive contribution towards the supply of market housing at a time when the Council cannot demonstrate a deliverable five year supply of housing sites. Furthermore, the appeal site is sustainably located with convenient access to good public transport provision and day to day facilities and services and there does not appear to be any physical impediment to the development of the site for housing. These are environmental matters to which I afford positive weight.
60. Weighed against the above, is the fact that the proposal does not include any on-site affordable housing which would meet the affordable housing definition in the Framework. Indeed, for the reasons outlined in this decision, I consider that a financially viable development could proceed with some on-site affordable housing. The absence of affordable housing is a social matter which weighs significantly against the proposal. In addition, I am satisfied that the proposal could viably support the full financial contributions for POS, highway bridge works and education. The appellant does not agree with this view and hence I do not have a completed planning obligation which secures these necessary and full mitigation payments and the provision of affordable housing. Finally, significant harm would be caused to the character and appearance of the area and to matters of highway safety as a result of the proposed driveway surface. Collectively, these adverse environmental and social matters significantly and demonstrably outweigh the aforementioned benefits of the proposal. On balance, I therefore conclude that the proposal would not deliver a sustainable form of development.



## Other Matters

61. I have taken into account comments made by other interested parties. Some of the comments made have already been addressed in the reasoning above.
62. I note concerns raised about the highway width (including pavements) of Lowfield Road, but planning permission has already been approved for phases 1 and 2 of the Lowfield Park site. I have no objective evidence before me to indicate that further use of Lowfield Road, and other roads in the locality, would be significantly adverse taking into account highway widths, volumes of traffic, queuing or conflict with parked cars. That said, had the proposal been acceptable in all respects, I would have sought further information from the Council's Highway Authority in terms of whether or not it was proposed to include double yellow lines on part of Lowfield Road as a parked car close to the bridge was impairing vehicular sightlines and making it difficult for vehicles to pass on what is a relatively narrow road.
63. I note the concerns raised by other interested parties, including Ms Bilton and Mr Rawlinson, about the possible use of the access track which leads to the fisheries business. However, both the Council and the appellant confirmed at the hearing that there was no access proposed from either Lowfield Meadows or along the track located on the far eastern edge of the site.
64. Comments have been made that the site is at risk of flooding and that there has been some flooding in the past. However, the site is not in an area of high flood risk and surface water and foul drainage are matters that could be addressed by way of the imposition of a planning condition.
65. Whilst the proposal would result in a change to the otherwise open and undeveloped site, I do not have any objective evidence that the proposal would cause direct harm to the nearby fisheries business. Development of the site for housing would change the open character and appearance of the area, but this has to be considered in the context that the Council cannot demonstrate a deliverable five year supply of housing sites and has allocated the site for housing in its emerging LP. Furthermore, Policy LG2 of the LP states that priority will be given to development in "*Goldthorpe (Dearne Towns)*".
66. I have not been provided with any specific/objective evidence that the proposal would adversely affect nearby septic tanks, that water pressure is particularly low or that broadband speeds would reduce if the proposal were to be allowed. I do note that a number of local residents have raised these issues. However, these are not in themselves reasonable grounds to justify refusing planning permission. Low water pressure and broadband infrastructure are matters to be addressed separately by the relevant utilities companies. Furthermore, potential harm to private land/infrastructure would be a civil matter.
67. I acknowledge that the site is currently used for equestrian purposes and that the proposal would result in the loss of such a recreational activity. However, I have not been made aware of any policies which would specifically protect the site for equestrian use and, in any event, I have found that the proposal is unacceptable for other reasons.
68. I have considered the appellant's habitat survey and have no detailed evidence to support the claim that the proposal would give rise to any significant impacts upon matters of bio-diversity. I have not been provided with any evidence to

indicate that the proposal would lead to the loss of the best and most versatile agricultural land and, in any event, I have afforded weight to the fact that (i) the emerging development plan is proposing that this site is allocated for housing and (ii) the local planning authority cannot demonstrate a deliverable five year supply of housing sites.

69. I have considered the position and separation distance from the site to the WW2 scheduled ancient monument to the east of the site. I am satisfied that the proposal would not have an adverse impact upon its setting.
70. Comments have been made that the proposal would lead to a loss of views. The Courts have held that the loss of a view is not a material planning consideration. I have considered the scale and position of the proposed properties and do not consider that the development would lead to any material loss of privacy, light or outlook for the occupiers of existing surrounding dwellings.
71. None of the other matters raised outweigh or alter my overall conclusion on the main issues.

### **Conclusion**

72. For the reasons outlined above, and taking into account all other matters raised, I conclude that the appeal would not deliver a sustainable form of development. Therefore, it should be dismissed.

*Daniel Hartley*

INSPECTOR

## **APPEARANCES**

### FOR THE APPELLANT:

Mark Eagland – Peacock and Smith

Jolyon Harrison – Chief Executive, Gleeson Homes

Steve Gamble – Group Land Director, Gleeson Homes

Matt Smith – Group Planning Manager, Gleeson Homes

David Pearson – Westgate Consulting

Graeme Blacklock – SLR Consulting

Anthony Lee – Group Technical Director, Gleeson Homes

### FOR THE COUNCIL:

Andrew Burton BA Hons, Dip TP MRTPI – Group Leader, Development Management, Barnsley Metropolitan Borough Council

Caroline Petty – Regulatory Services, Barnsley Metropolitan Borough Council

Barbara Wilson – Highways, Engineering and Transportation, Barnsley Metropolitan Borough Council.

Jason Field – Legal Services, Barnsley Metropolitan Borough Council

Cecilia Reed – DVS / Valuation Office Agency

Stephanie Walden – Yorkshire Water

### INTERESTED PERSONS:

Carol Bilton – 4 Lowfield Grove, Bolton upon Dearne

Philip Rawlinson – 4 Lowfield Meadows, Bolton upon Dearne

## **DOCUMENTS SUBMITTED AT THE HEARING**

Doc 1: Refusal notice 2015/0005/02/RVC – Saint Anthonys CE Primary School House, Pottery Bank, Newcastle upon Tyne, NE6 3SU.

Doc 2: Policies H8, H9 and LG2 of the Barnsley Local Plan Consultation Draft 2014.

Doc 3: Barnsley Local Plan Regulation 19 Statement of Representations - Publication 2016.

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- i Planning permission Ref No 2011/0963.
  - ii Planning permission Ref No 2013/0960.
  - iii Appeal Ref App/R4408/Q/14/2216971
  - iv Appeals Ref Nos APP/R4408/W/17/3170205; APP/R4408/W/17/3170210; APP/R4408/W/17/3170209 and APP/R4408/W/17/3170208.



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## Appeal Decision

Inquiry Held on 19-23 October, 2-6 November, 9-13 November 2020

Site visits made on 17 and 31 October 2020

**by Christina Downes BSc DipTP MRTPI**

**an Inspector appointed by the Secretary of State for Communities and Local Government**

**Decision date: 25<sup>th</sup> January 2021**

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**Appeal Ref: APP/Q4245/W/19/3243720**

**Land at Warburton Lane, Trafford**

- The appeal is made under section 78 of the Town and Country Planning Act 1990 against a failure to give notice within the prescribed period of a decision on an application for outline planning permission.
  - The appeal is made by Redrow Homes Limited against Trafford Borough Council.
  - The application, Ref 98031/OUT/19, is dated 31 May 2019.
  - The proposals are for a residential development of up to 400 dwellings, including the creation of new points of access, provision of formal and informal open space, ancillary landscaping, car parking and highway and drainage works.
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### **DECISION**

1. For the reasons given below, the appeal is dismissed.

### **APPLICATION FOR COSTS**

2. At the inquiry an application for costs was made by Trafford Borough Council against Redrow Homes Limited. This application is the subject of a separate Decision.

### **PROCEDURAL MATTERS**

3. Due to time constraints, it was agreed that the costs application could be made in writing. A timetable was drawn up accordingly. Furthermore, there were a number of points relating to the Planning Obligation by Unilateral Undertaking (the UU) that required further consideration by the main parties. I therefore agreed to an extension of 21 days for the Deed to be completed and I allowed each main party to submit any final comments within that timescale. The inquiry was closed in writing on 10 December 2020.
4. The proposals are for "up to" 400 dwellings and thus give the potential for a lesser number. However, that cannot be assumed at this stage and no evidence was provided by the Appellant to support any specific reduction in quantum. In the circumstances, my consideration will be on the basis of a development of 400 houses.
5. There were 10 putative reasons for refusal. It was agreed that the provision of primary school places could be addressed in the UU and that the mitigation of adverse highway impacts could be controlled through planning conditions. Remaining objections include the adverse effect on heritage assets and archaeology; the failure to integrate with the adjoining settlement and provide for sustainable growth; the inaccessibility of the site and dependency on the

private car; the failure to provide affordable housing; and the harm to landscape character.

## **PRELIMINARY POINTS**

6. The appeal site comprises about 25 hectares of land that lies immediately to the north of the Green Belt and to the south of the Red Brook and settlement of Partington. It is crossed by Warburton Lane, with site 1 on the eastern side and site 2 on the western side. The sites are roughly equal in area and site 1 is bordered on its southern side by Moss Lane.

## **THE PARAMETERS PLAN**

7. The application was submitted in outline form with all matters reserved, save for access. Drawings were submitted to show the details of two new accesses onto Warburton Lane. The application was also accompanied by a Parameters Plan (drawing no: A16942.010). Amongst other things this shows other access points, termed "emergency/ localised access" denoted by arrows and the main vehicular routes through sites 1 and 2, which are stated to be indicative. *The Town and Country Planning (Development Management Procedure) (England) Order 2015* makes clear that access for the purpose of reserved matters means the accessibility to and within the site in terms of the positioning and treatment of access and circulation routes and how these fit into the surrounding access network. Warburton Parish Council (WPC), who was granted Rule 6 status, considered that the Parameters Plan did not provide the necessary detail to allow the matter of access to be determined.
8. It would not be reasonable to expect a Parameters Plan to include all internal roads and footways where layout remains a reserved matter. The Order defines this as how "buildings, routes and open spaces are provided, situated and orientated to each other and to buildings and spaces outside the development". It seems to me that there is some degree of overlap between the two and that it is a matter of judgement as to whether what is shown is sufficient to make an informed decision. There is no requirement for a detailed design or specification at this stage as that will be firmed up when layout is determined. The matter is further complicated by the desire of the Council not to prejudice the provision of the Southern Relief Road (SRR), which would provide a potential link road through site 1 in the policy GM Allocation 41 of Greater Manchester's emerging *Plan for Homes, Jobs and the Environment* (the GMSF). Purely in terms of serving the site itself, I consider that the detail shown on the Parameters Plan is sufficient.
9. There are 3 emergency/ localised access points into site 1 from Moss Lane. These do not appear to link up to the main internal circulation routes. However, it would seem from other information that the intention would be to serve small courtyards of houses close to that road frontage. This would obviously be a matter closely linked to the layout. To allay any remaining concerns, a condition could be imposed that these access points have not been approved at this stage. I do not consider that this would be prejudicial or alter the nature of the application.
10. The Council's putative reasons for refusal include the contention that the supporting information is not sufficient to assess the acceptability of the outline proposals. In particular the Parameters Plan is considered too flexible and unspecific. This is a different point to the one raised by WPC and relates

to whether sufficient supporting information has been provided to be able to decide whether 400 dwellings could be accommodated on the site along with all necessary mitigation. In particular, this relates to the Council's concerns about the effects on Green Belt boundaries, the landscape, heritage assets and archaeology as well as the SRR referred to above. I consider these matters under the relevant main issues below. However, the Council did have the power to request further details that it considered necessary to enable it to determine the application<sup>1</sup>. It declined to make such a request, which may have been because at this time there were also 2 full planning applications under consideration, but these were subsequently withdrawn.

## **REVISIONS TO THE PROPOSALS**

11. WPC was concerned about whether various amendments made to the proposals were lawful applying the *Wheatcroft*<sup>2</sup> principles. An updated Parameters Plan was provided to the Council prior to lodging the appeal. The changes included pulling back the development area from adjacent listed buildings and the public right of way crossing site 1; provision of a vista towards Warburton Toll Bridge from site 2; extension of the development area in site 1 towards Moss Lane; introduction of an additional green corridor on site 2; introduction of a pedestrian/ cycle crossing point to Red Brook on each site<sup>3</sup>; and a controlled crossing to Warburton Lane.
12. I have considered all of the proposed changes and do not consider that they materially alter the nature of this outline application. Furthermore, they are addressed in the Environmental Statement Addendum (March 2020), which has been subject to full public consultation. In such circumstances I am satisfied that the Wheatcroft principles would not be offended and that no-one would be prejudiced by taking the proposed amendments into account. Furthermore, it was the revised Parameters Plan that was the focus of consideration at the public inquiry.

## **ENVIRONMENTAL IMPACT ASSESSMENT (EIA)**

13. There is no dispute that this would be EIA development. An Environmental Statement was submitted with the planning application. As a result of the aforementioned revisions the Addendum was produced to address impacts arising from the proposed changes. In addition, a number of additional updated technical reports were produced to address issues arising from consultation responses, including revised mitigation proposals to the Flixton crossroads and a Geophysical Survey as part of the archaeological assessment. The Environmental Statement and its Addendum are in accordance with the relevant Regulations. No concerns have been expressed that the EIA is other than procedurally or legally correct, and I have no reason to determine otherwise.

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<sup>1</sup> See Part 3 of the *Town and Country Planning (Development Management Procedure) (England) Order 2015*

<sup>2</sup> *Bernard Wheatcroft Ltd. v Secretary of State for the Environment and Another* (1982) 43 P. & C.R. 233

<sup>3</sup> The pedestrian bridges are not being pursued although the Parameters Plan still indicates a potential connection point from each site.

## **INSPECTOR'S REASONS**

### **PLANNING POLICY CONTEXT AND APPROACH TO DECISION MAKING**

14. The development plan includes the saved policies in the *Revised Trafford Unitary Development Plan (UDP)*, adopted in 2006 and the *Trafford Local Plan Core Strategy (CS)*, adopted in 2012.
15. The National Planning Policy Framework (the Framework) states that where strategic housing policies are more than 5 years old and have not been reviewed, as is the case here, the local housing need should be determined through the Government's standard methodology. This has given rise to a requirement for 1,369 homes a year, which is a considerable increase over the figures in policy L1 of the CS. On this basis it is agreed that there is a supply of just 2.4 years. The Housing Delivery Test results for 2019 show that just 58% of this requirement was achieved, which is significantly below the expectation in the Framework<sup>4</sup>. The presumption in favour of sustainable development in paragraph 11d of the Framework is thus engaged. Whether subsection i) or ii) applies will depend on my conclusions with regards to the effect on heritage assets.
16. The appeal site is within open countryside to the south of the settlement of Partington and immediately to the north of the Green Belt. Under saved policy C8 it is included in a wider area that is designated as Protected Open Land. The purpose of this is to avoid the need to review Green Belt boundaries in the event that more land is needed for housing in the longer term, following a review of the UDP. This designation was carried forward in policy R4 of the CS where it is termed Other Protected Open Land. The policy itself only permits future use for limited purposes, which do not include a residential development such as is being proposed here. The supporting text explains that the land is not identified for development within the plan period but may be required to meet future housing needs following a strategic review of the Green Belt. No such review has been undertaken.
17. The Proposals Map also shows the appeal sites and land to the east and west as falling within the Priority Regeneration Area of Partington. This is clearly a drafting error as the UDP Inspector indicated that this designation was inconsistent with that of Protected Open Land and therefore the swathe of countryside between the Green Belt and Partington should be excluded. The accompanying proposed modification was accepted by the Council on adoption of the UDP but for some reason has not been removed from the map. Policy L3 in the CS relating to Priority Regeneration Areas is not relevant to the appeal sites.
18. The appeal proposals would conflict with saved policy C8 and policy R4. On the other hand, at the present time the Council is unable to provide sufficient deliverable sites to meet its housing requirement. I heard a great deal of evidence as to why this might be, and the Council emphasised that it was not because insufficient planning permissions were being granted. The evidence indicates that the Council is being pro-active in this regard. Nonetheless it remains the case that the Borough has a serious deficit and in such

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<sup>4</sup> The 2020 Housing Delivery Test results were published on 19 January 2021. They show a result for Trafford of 61%, which remains significantly below Framework expectations.



circumstances the conflict of the appeal development with the two policies mentioned above, which restrict housing supply, is a matter to which I afford limited weight.

19. The GMSF is a spatial framework covering the city region's 10 local planning authorities over the period 2020 to 2037. It is currently at Regulation 19 consultation stage with the examination anticipated mid-2021. Draft policy GM Allocation 41 is a large allocation to the north, east and south of Partington for a mixed use regeneration known as New Carrington. It includes the appeal site and land to the east and west, which is shown as an area for residential use for approximately 420 units at an average density of 25 dwellings per hectare.
20. The associated New Carrington Masterplan also shows a SRR running around Partington and through site 1 to connect to Warburton Lane. At the inquiry there was a great deal of discussion about this draft allocation and the way that the proposed development would respond to it, especially in terms of the SRR. However, the fact remains that this is part of an emerging plan that is not by any definition at an "advanced stage". Furthermore, as I understand it there are a large number of unresolved representations. I therefore afford the GMSF and its Masterplan limited weight and conclude that prematurity is not an issue in this case. Furthermore, for similar reasons, how the potential route of the SRR would engage with the appeal site is not a determinative matter in this case.
21. For completeness, I note that the Council is preparing a new Local Plan, which will eventually replace the saved UDP policies and the CS. This is intended to sit below the strategic level GMSF. It is at present at a very early stage and is not relied on by any party as a material consideration in this appeal.

**WHETHER THIS WOULD BE AN ACCEPTABLE LOCATION FOR HOUSING DEVELOPMENT, HAVING REGARDS TO THE SPATIAL STRATEGY IN THE DEVELOPMENT PLAN AND THE LOCATION OF THE SITE RELATIVE TO NEARBY SETTLEMENTS.**

22. The CS sets out a number of strategic objectives. These include meeting housing needs within the most sustainable locations; reducing the need to travel by improving accessibility in less sustainable locations; and regeneration to reduce inequalities and improve prosperity in the Borough's most disadvantaged communities.
23. Warburton is a small rural community to the south of the appeal sites, which dates back to Medieval times. To its north is a large tract of agricultural land forming Warburton Park. As was noted by WPC and other local residents who spoke at the inquiry, a development of 400 houses would be substantially larger than the existing village. Whilst the future design of the new dwellings may reflect the style of houses within this historic settlement, I do not consider that the two would be affiliated either visually, physically or functionally.
24. Partington is a settlement that expanded significantly to provide overspill council housing following the slum clearances in Manchester after the second World War. It has relatively poor transport links and connections to surrounding town centres, resulting in isolated and poorly integrated communities. There is a single main road (the A6144) in and out of

Partington, which becomes very congested at peak times. There is a relatively narrow range of housing types and tenures with a high proportion of social rented housing. Parts of the settlement have high levels of social and economic deprivation and it is designated as one of three Priority Regeneration Areas.

25. Policy L1 in the CS sets out how and when land will be released for housing to meet identified needs. A sequential approach is favoured, giving priority to the development of previously developed land. Indeed, the plan indicates that 80% of its housing provision will be on brownfield sites. Five strategic sites have been identified, which account for about 40% of the overall supply. Policy SL5 identifies Carrington as one of the strategic sites. This is to the north of Partington and the CS envisages an opportunity to reduce the isolation of both Carrington and Partington and integrate them into a sustainable mixed-use community.
26. Policy L1 envisages the release of greenfield land to accommodate supply shortfalls provided the development will be capable of creating sustainable communities and contribute to CS objectives. Whilst the appeal sites are relatively close to Partington in terms of distance, the presence of the Red Brook and its wooded corridor provide a clear physical and perceptual barrier between the settlement and the countryside to the south. Unlike the western boundary of site 2 where there is no physical delineation, the Red Brook provides a strong defensible boundary to the settlement. This sense of separation is increased by the presence of the flood plain and the new development area would stand well back from the northern site boundary on higher ground.
27. Notwithstanding the safeguarding of land to the south of Partington for potential future development needs, the UDP Inspector in his 2003 Report had serious concerns with regards to its suitability for housing. He opined that this land was poorly integrated with existing housing and community facilities in Partington. He saw the Red Brook, its wildlife corridor and its floodplain as severely inhibiting such integration. It is the case that he was considering a much more extensive tract of land and many more houses. It is also to be noted that since 2003 there has been a new local shopping centre in Partington and improvements to its school and community provision. Nevertheless, insofar as the Inspector's comments related to the locational relationship of this land with the adjoining settlement, his comments still resonate.
28. Policy L1 is out of date in terms of housing numbers. However, it does not preclude greenfield development if there are supply shortfalls. Indeed, the objective of creating sustainable communities is a strategic objective that is entirely consistent with national policy and not a principle that is rendered out-of-date in the face of the issue of housing land supply.
29. The proposals would not guarantee any new crossing points of the Red Brook. The likelihood of Partington residents using the new open spaces and riverside walks therefore seems relatively small. In the circumstances, the creation of sustainable communities through the integration of the appeal development and the existing settlement would be limited in this case. That situation may change if the site is developed as envisaged in the emerging GMSF but that is not a matter for this appeal. For all of the above reasons I do not consider

that the appeal proposals would accord with the spatial strategy in the development plan and the conflict with policy L1 is a matter to which I afford moderate weight in this case.

**WHETHER AN APPROPRIATE DESIGN COULD BE ACHIEVED WITHIN THE CONTEXT OF THE SUBMITTED PARAMETERS PLAN WITHOUT UNACCEPTABLE HARM TO THE LANDSCAPE CHARACTER OF THE AREA.**

30. A preliminary point relates to the long-term future of this land and the landscape implications. As I have already mentioned it has been designated as Other Protected Open Land in the CS and it is allocated for development in the emerging GMSF. However, these policy provisions are matters to be considered through the future plan making process. At the present time the development plan provides no certainty about when, how or even if the land to the south of Partington will be developed. Although the sites adjoin the boundary of the Green Belt, this is a spatial rather than a landscape designation and no adverse effects were identified by the Council in this respect.
31. The Council's *Landscape Strategy* (2004) has been adopted as supplementary planning guidance. This provides an assessment to support saved policy ENV17 in the UDP, which seeks to protect, promote and enhance all of the open land on the Proposals Map. This includes the area south of Partington, which is placed in the the Settled Sandlands landscape type. The gently rolling topography allows extensive views of medium to large sized fields defined by hedgerows and prominent hedgerow trees. There are small isolated blocks of woodland, watercourses and ponds. Farm buildings of traditional materials are identified as a distinguishing visual feature. The site is within the subdivision of Warburton Park Farm/ Mossland Fringe. Here particular mention is made of the linear woodland along Red Brook, which is said to provide a visual boundary between the built-up and rural areas. Historic and cultural influences include the former manorial estate and its deer park and the subsequent changes in the 18<sup>th</sup> and 19<sup>th</sup> century with the enclosure of the moss and farmland to satisfy demand for food by the expanding urban areas.
32. The *Greater Manchester Landscape Character and Sensitivity Assessment* (2018) was produced on behalf of the 10 Greater Manchester Authorities as part of the evidence base to the emerging GMSF. The Mosslands and Lowland Farmland landscape character type includes several different character areas and the land to the south of Partington is classified as being within the Warburton and Carrington Mosses. The assessment itself identifies key attributes of the landscape character type overall. Whilst it includes similar characteristics to those identified above it is a higher-level assessment and it seems to me that the 2004 Borough-wide document is more useful for present purposes.
33. The appeal sites are currently open arable farmland on the southern side of the Red Brook valley. The southern boundary of site 1 adjoins Moss Lane with an intermittent hedge running along the roadside edge. Its eastern boundary has no physical delineation at present. Site 2 adjoins open countryside to the south and this boundary is delineated by a hedge and a small woodland adjacent to the south-west corner. The western boundary runs along an arbitrary line that crosses the field. I consider that these sites share many of the key characteristics pertaining to the Settled Sandlands landscape type.

### **Whether the site is within a valued landscape**

34. Paragraph 170 of the Framework indicates that valued landscapes should be protected and enhanced in a manner commensurate with their statutory status or identified quality in the development plan. In this case the landscape in question includes the village of Warburton and its former deer park. This is within an Area of Landscape Protection under saved policy ENV17. However, this designation applies to all of the landscape types that make up the open areas of the Borough. It does not indicate that the landscape around Warburton has a special quality or is anything other than of local value.
35. There is no specific definition of what a valued landscape is, but case law and past appeal decisions have indicated that to qualify it should be more than ordinary countryside with physical attributes beyond popularity. The site itself need not possess such qualities, what is important is that they should be present in the landscape of which it forms a part. WPC considers that the former medieval landscape around Warburton, including site 2, is of regional value.
36. There is no doubt that Warburton and its surrounding landscape are highly valued by the local community. There has been much research over a long period of time about this ancient village and its environs. Dr Nevell, who is acknowledged as the foremost expert in its archaeology and history, gave evidence to the inquiry. The deer park was considered to be of central importance to this landscape in medieval times and it is referred to by WPC as a "designed" landscape.
37. The 2004 Landscape Strategy mentions the historic background of the former Warburton deer park and the later change to dispersed and centralised farm holdings. The 2018 Landscape Character and Sensitivity Assessment refers to Warburton Park as an example of a post medieval field pattern. Box 5.1 of the Landscape Institute's *Guidelines for Landscape and Visual Impact Assessment* (2013) (GLVIA) provides 8 factors that are helpful when considering value. These were considered in the Landscape and Visual Impact Assessment undertaken as part of the Environmental Statement and WPC carried out its own Box 5.1 assessment.
38. I have considered carefully all of the evidence on this matter and I also rely on my own observations from an extensive site visit. In my opinion, the landscape has substantially evolved over the last 300 years and there are relatively few visual clues that link it to its earlier history. As recorded in both the 2004 and 2018 landscape documents, it is largely the product of post medieval changes that occurred during the time of the enclosures. That is not to say that there are not some vestiges of the past that can still be seen. These include the mound that is now believed to have been constructed as a rabbit warren; the scattered woodland copses and small ponds; and the curved hedgelines indicating the possible line of the former deer park boundary. However, these features would not indicate to the observer without local knowledge that what is being seen or experienced is a medieval parkland landscape.
39. Undoubtedly this is an attractive area of countryside that it is generally representative of the Settled Sandlands landscape type. Local people clearly hold it in high regard. However, I cannot agree that it is sufficiently intact or

visually apparent to be of regional importance. I do not consider that it is a valued landscape within the terms of paragraph 170 of the Framework.

### **Effect on the landscape**

40. When observed from the countryside to the south, the existing settlement edge is relatively well screened by the intervening wooded corridor of the Red Brook, especially when the trees are in leaf. The terraced housing on the southern side of Oak Road is elevated above the valley floor, and towards the eastern end of site 2 it is more visible due to breaks in the vegetation. From Moss Lane, the upper parts of houses in Brook Farm Close and the buildings associated with Broadoak School, The Fuse community centre and Partington Sports Village are also seen in places, especially through gaps in the trees. Top Park Close is a small outlier of houses, built on a site previously occupied by farm buildings. However, it is, in my opinion, a visual anomaly in that it is perceived neither as part of the settlement nor part of the countryside. Notwithstanding this, I consider that the settlement is relatively well contained behind a defensible boundary and is not unduly assertive on the adjoining landscape. In this case there is no urban fringe transition, which so often occurs close to the settlement edge.
41. I have no doubt that the appeal development would be built to a high quality and that the large areas of green infrastructure would result in an attractive place in which to live. Nevertheless, this would essentially be a relatively large suburban housing estate, which is not a feature associated with the landscape of the Settled Sandlands. One of the issues is that the Red Brook floodplain and the position of the high-pressure gas main has meant that much of the greenspace would be located on the northern side of the sites. Whilst this would be an asset in terms of amenity and wildlife, it would be a disadvantage by pushing new built development onto the higher land and further into the rural area. For these reasons it is difficult to envisage how a development of this size and in this location could be accommodated without harm to the receiving landscape. The degree of harm would largely depend on the quality of the new settlement edge and the strength of the embedded mitigation.
42. Whilst there is a Design and Access Statement and illustrative Masterplan these provide an indication of how the site could be developed. The only reliable indication of what would materialise if permission were to be granted is the Parameters Plan. This shows landscaped buffers of between 10-15m wide along Moss Lane and 10-12m wide along the southern and western boundaries of site 2. On the eastern side of site 1, the northern section would have a set-back of only about 5m. Whilst I would support an outward facing development with boundary planting that would soften but not hide the new houses, my concern is with the adequacy of the proposed set-backs.
43. I appreciate that there would be greater width in places, most notably in the south east corners of both sites. However, the purpose is mainly to provide a better relationship with the adjacent listed buildings rather than to improve the juxtaposition with the countryside. Overall, bearing in mind the landscape characteristics of the Settled Sandlands and the elevated topography, especially on the southern side of site 2, I do not consider that the proposed buffers would be sufficient.
44. Site 1 in particular has a relatively narrow development area with a long boundary with Moss Lane, which runs along the northern edge of the former



mossland. This road is narrow and rural in character with no footways or street lighting. It is fronted by occasional dwellings and farms, including Pear Tree Cottage and Birch Cottage. The illustrative Masterplan suggests small housing clusters and detached houses with front gardens within this part of the site. Whilst there may be potential for such an arrangement to provide more informality and visual interest it remains the case that there would be an insufficient buffer beyond which built development would stand. The development would result in a suburbanisation that would have a marked and harmful effect on the character of this country lane and the countryside to the south.

45. It is appreciated that layout and landscaping are reserved matters. However, that to some extent is the problem because the only definitive plan, the Parameters Plan, does not give me confidence that there could be a successful transition between the new built-up area and the countryside. It indicates a likelihood that the development would fail to successfully integrate with its rural surroundings. Overall, I agree with the Council and Appellant that this landscape has medium sensitivity and medium susceptibility to change. The landscape type is not particularly extensive, and there would be a medium magnitude of effect. Overall, the landscape effect would be of moderate adverse significance. Over time, landscaping would mature but I do not consider that the effect of built form and the harm to the countryside would be reduced to any significant degree.

### **Visual effect**

46. The appeal sites can be seen relatively extensively from many public viewpoints. During my site visit I visited most of these and walked the nearby footpaths and along the trails beside the Red Brook river corridor. The Statement of Common Ground on landscape matters was agreed by all 3 main parties and there was no dispute that from a number of viewpoints the visual effect would be of minor or negligible significance. My consideration therefore concentrates on the disputed viewpoints, which mainly relate to the magnitude of effect and the effectiveness of mitigation in the longer term.
47. WPC considered that the sensitivity of people using the public rights of way should be high rather than medium. GLVIA advises that people engaged in outdoor recreation are amongst the groups most susceptible to change. It is also important though to consider the value attached to the views. In this case I have concluded that the surrounding landscape, including Warburton Park, is of local and not regional value. This is not to diminish its attractive qualities but I consider the medium sensitivity attributed to footpath users by both the Council and the Appellant is in this case correct. People using the footpaths will be enjoying a kinetic experience, which will continually change as they move through the countryside.
48. On the whole the Appellant seems to me to have understated the magnitude of effect and been overly optimistic about the effectiveness of the embedded mitigation. I have not specifically considered the effects during construction but have concentrated on the permanent effects following completion at year 1 and the residual effects at year 15.
49. The Parameters Plan shows that the footpath crossing site 1 would run through a green corridor. Nevertheless, bearing in mind the slope of the land, it is difficult to see how the embedded mitigation or tree planting within front

gardens or along roads would provide screening that would be sufficient for the adverse effects from viewpoint 1 to be other than major adverse even in the long term. From the short footpath that crosses the corner of site 1 between Moss Lane and Warburton Lane, Top Park Close is on one side and a large swathe of open space crossed by the new spine road on the other. Walking east the new development would be seen at a distance and in the other direction the view would be mainly of the open space along the Red Brook corridor with an oblique view of the houses fronting Warburton Lane. In year 15 the landscaping in the open spaces would have matured to filter views. For this reason, I consider that the significance of effect from viewpoint 2 would be minor/ moderate<sup>5</sup> adverse.

50. From the eastern end of the public right of way to the south of site 2 the new development would be seen in an elevated position behind the boundary hedge and buffer. For all of the reasons I have given previously, the visual effect of the new development from this part of Warburton Park would not diminish significantly as a result of the proposed landscaping over time. There would be the benefit of distance and the effects would be experienced over a relatively short section of the footpath. From viewpoint 3 there would be a moderate adverse significance of effect.
51. From Moss Lane the view into site 1 would substantially change from open countryside to a suburban estate. From viewpoint 6 all parties agree that the significance of effect would be major adverse. Whilst the green buffer planting has the potential to provide some mitigation, I am not as confident as the Appellant as to its long term effectiveness. In my judgement at year 15 this would only reduce slightly to a major/ moderate significance of effect.
52. Approaching site 2 from Warburton Lane, the new development would be seen above the roadside hedgerows. Top Park Close is a fairly prominent existing feature in the view and the built area would be extended westwards. The Parameters Plan shows the new houses close to the road but built form would be seen at depth, especially through the access and its associated bellmouth. Sections of the existing hedge along the site frontage would be removed. Bearing all of this in mind I consider that the significance of effect from viewpoint 5 would be moderate adverse both in the long and short term.
53. From Broadoak Meadow Walk, which runs along the Red Brook corridor on the northern side of the river, viewpoint 10 is through a large gap in the trees. It seems to me a significant point in the walk as a bench allows the walker to stop and admire the rural view across the central part of site 1. In the foreground the Parameters Plan shows a considerable depth of open space occupying the floodplain, although there would be new housing behind it. It should be borne in mind that this would be a short part of a walk that is very well screened by trees and greenery. I therefore consider that the significance of effect would be moderate adverse in year 1 but would reduce to minor adverse in year 15 when landscaping has matured.
54. On the western side of Warburton Lane the Red Brook Wildlife Trail follows the northern side of the river close to the valley floor. Views into site 2 vary depending on the strength of the intervening tree cover. This is more patchy

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<sup>5</sup> The scale I have used puts the main value first. So in this case minor/ moderate would be higher than minor but lower than moderate.

at the eastern end of site 2 where there is an area of gently rising land outside the site boundary. The development area would be well set back at this point. Further to the west the trees provide a thicker screen. Overall, I consider that the significance of effect from this trail would be minor adverse both in the short and long term.

## **Conclusions**

55. For the reasons I have given, I do not consider that the appeal site sits within a valued landscape in terms of paragraph 170 of the Framework. To my mind it is an area of countryside that is of local value. Nevertheless, I do not consider that it has been satisfactorily demonstrated that an appropriate design could be achieved within the context of the submitted Parameters Plan without significant harm to the landscape character and visual amenity of the area. There would thus be conflict with policy R2 in the CS.

## **THE EFFECT OF THE PROPOSED DEVELOPMENT ON HERITAGE ASSETS.**

56. The parties agree that the relevant designated heritage assets are 4 Grade II listed buildings, that the effect on significance would derive from changes to their setting and that any harm would be less than substantial in nature. Paragraph 196 of the Framework would be engaged whereby harm is to be weighed against public benefits. There are also non-designated heritage assets in the vicinity but the number that would be affected is not agreed. In the case of non-designated heritage assets, paragraph 197 of the Framework makes clear that a balanced judgement should be made, having regard to the scale of any harm and the significance of the asset. With regards to archaeological assets, the dispute concerns whether the matter should be addressed pre-determination or through a planning condition. This depends on the value of the buried assets, which is not agreed.
57. The Framework defines “*significance*” as the value of the asset because of its heritage interest. This interest may be archaeological, architectural, artistic or historic. The setting is defined as the surroundings in which the asset is experienced, which may change as the asset and its surroundings evolve. In this case most of the affected built heritage assets are associated with the area’s agricultural past. The farmland of the appeal sites has different degrees of importance in terms of how the buildings are experienced and their history is understood.
58. It is the Council’s role to identify non-designated assets but for the decision-maker to determine the effect of proposals on their significance. WPC asserted that similar reasoning can be applied to paragraph 189 of the Framework and that the Council is the only arbiter of what information must be submitted to understand the significance of a heritage asset. WPC relate this particularly to the archaeological trial trenching, which the Council said was necessary pre-determination. I do not agree with WPC on this point. The Framework does not make such a specification and I am entitled, as decision maker, to make up my own mind on the matter based on the evidence.

## **The listed buildings**

### *Heathlands Farmhouse and Heathlands Barn*

59. These are separately listed. The farmhouse dates to the late 18<sup>th</sup> century but the adjacent barn has late medieval origins and may have formed the original



farmhouse. It includes significant elements from that period and the listing description notes that it is a rare example of a multifunctional cowhouse and hayloft in the north Cheshire plain. It was restructured in the 18<sup>th</sup> century in association with Heathlands Farmhouse which was built on the edge of the mossland at the time of agricultural reclamation. This is an attractive two-storey house with a symmetrical front façade. The buildings have individual significance and group value as a good example of an 18<sup>th</sup> century farmstead.

60. The Heathlands group were built facing onto Warburton Lane within a rural setting of open agricultural fields. Site 1 forms part of this overall setting although the agricultural fields to the east and south would remain unaffected. There is also agricultural land to the north but its value in providing a setting has been diminished by Top Park Close, which is a small but prominent development of modern houses.
61. The Parameters Plan includes a green space in the south eastern corner of the site, which it was confirmed at the inquiry would not contain built development. This would help provide an open aspect in the immediate foreground, but the new houses would be apparent behind. Overall, I consider that there would be a moderate degree of harm to the significance of these assets both individually and as a group.

*Barn to south-east of Birch Farmhouse and curtilage listed farmhouse and barns*

62. The listed barn is dated as 18<sup>th</sup> century although it incorporates cruck frames that have earlier origins similar to Heathlands Barn. These would have been associated with a late medieval landscape. The open bay at ground level was probably a hay barn and there is a two-storey front wing which included a hayloft. The barn is now a dwelling in separate ownership but it can still be appreciated as part of the group of buildings that include two other barns and a farmhouse. The farmhouse and one of the barns also incorporate cruck frames and probably date from the 18<sup>th</sup> century. Due to their association they are curtilage listed. As a group they provide a good example of a large farmstead that was built on the edge of the mossland during the period when this was being reclaimed for agricultural use. Their value is though compromised to some extent by the large modern agricultural buildings sited in close proximity to the north and east.
63. The barn and the farmstead face towards Moss Lane within a setting of open agricultural land, which undoubtedly contributes to its historical context. Site 1 is shown on the 1757 Warburton Estate Plan to have formed part of its landholding. It thus provides the agricultural setting to the west. The Parameters Plan includes a green space in the south eastern corner of site, which it was confirmed at the inquiry would not contain built development. This would help maintain an open aspect in the immediate foreground, but the new houses would be apparent behind. Overall, I consider that there would be a moderate degree of harm to the significance of these assets.

*Farm building at Warburton Park Farmyard and curtilage listed farmhouse and farm buildings*

64. The 17<sup>th</sup> century listed timber box framed farm building stands at the southern end of the Park Farm farmyard. There are a number of 18<sup>th</sup> and 19<sup>th</sup> century brick-built farm buildings around the edge of the large open farmyard. The farmhouse stands to one side at the end of Park Road. It is believed to

occupy the site of a former moated medieval manor. These buildings are all curtilage listed and contribute to the group value of this historic farmstead. There are several modern farm buildings to the immediate north and west, which detract from the integrity of the group.

65. The wider setting comprises an extensive tract of land that originally formed the medieval deer park associated with the manorial estate. This was subsequently abandoned, and the land was enclosed for agriculture. Site 2 is within the land associated with Park Farm and the former manorial estate, which provide an extensive setting through which the heritage assets are experienced. The development would permanently remove a relatively small section of land at the north-eastern corner. This would result in a minor effect on the significance of the listed building and the farmyard group.

### **The non-designated heritage assets**

#### *Brook House*

66. This building dates back to the late 18th/ early 19th century and may have had origins as part of an earlier farmstead. It fronts onto Warburton Lane and stands within a treed environment behind a front boundary hedge. This is an attractive well proportioned small house that was built in an isolated rural location. However, its sense of isolation has been considerably diminished by the large houses at Top Park Close, immediately to the south. Its cream coloured elevations enhance its visibility and it is therefore quite prominent in short and long distance views. However, this seem unlikely to have been an intentional consequence of its location.
67. The development of site 2 would remove the open outlook that currently pertains to the west and provides part of the countryside setting. The Parameters Plan shows development close to the Warburton Lane boundary. Furthermore, it seems likely that parts of the hedge along the eastern edge of the appeal site would be removed to provide sight lines to the new access. To the north the land on site 1 would remain undeveloped, other than the new access. In the circumstances there would be a further erosion of the rural setting of Brook House. However, bearing in mind the existing situation, the effect on significance would be minor adverse.

#### *Birch Cottage (originally part of Mosslane Cottages)*

68. This 18<sup>th</sup> century cottage was originally one of three, probably built to house farm workers from Birch Farm. It is a modest sized dwelling in a relatively isolated rural location on the northern side of Moss Lane. It stands on the southern side of its hedged garden plot and the surrounding farmland provides a wider setting. Even though the rural area to the south would remain unchanged, the cottage is orientated east-west with its main elevations facing away from the road. The development of site 1 would result in the loss of farmland to the north, west and east. Mitigation would include a 5 metre buffer around the north, east and west site boundaries. These would go some way to protect the immediate setting and the effect on significance would be minor adverse.

#### *Pear Tree Cottage*

69. This cottage was probably built in the late 18<sup>th</sup> or early 19<sup>th</sup> century as an agricultural worker's dwelling. It has a similar orientation and relationship to

Moss Lane as Birch Cottage. The surrounding agricultural land contributes to the significance of the dwelling in a similar way and similar mitigation is proposed. The effect on significance would be minor adverse.

#### *Moss Lane Farm*

70. As with the other buildings along this stretch of Moss Lane, this 17<sup>th</sup> century farmhouse is orientated at right angles to the road. However, unlike the above 2 cottages, it is on the southern side and stands well back behind gardens and a tall holly hedge along the road frontage. The evidence suggests that this farmstead originated from the early post-medieval enclosure of the mosslands. The farmland to the south, east and west provides its wider setting and this would remain unaffected by the appeal proposals. The development of site 1 would be seen in the background in northward facing views, but overall I consider that the effect on significance would be negligible.

#### *Old Warburton Lane and Bridge*

71. The present alignment of Warburton Lane and the bridge date to the 1960's. This has left a short section of the original lane adjacent to the western boundary of site 1. This remnant section is at a lower level to the existing road and can be used by pedestrians and cyclists although it is in poor condition and partly overgrown with vegetation. The date of the old stone bridge is unknown.
72. The appeal development would not impact on the bridge but the new access to site 1 would cut across the lane requiring regrading in order to meet the higher level of the existing road. The intention is to maintain it for use by pedestrians and cyclists. The bridge and lane are not recorded in the Historic Environment Record but it is agreed that they are heritage assets. I consider them to be of relatively low historic value. The changes in levels would cause some detriment of a minor nature.

#### *Warburton Toll Bridge*

73. This is a striking high-level late 19<sup>th</sup> century cantilever bridge that crosses the Manchester Ship Canal. Due to its height it can be seen from a considerable distance and in this respect it is something of a local landmark. However, the significance of the bridge relates to its value in terms of its industrial history and architecture. To my mind the appeal development would have no effect on this whatsoever, notwithstanding that it would be visible from the bridge in the far distance. Conversely, it is proposed to retain a view of the bridge from across the south eastern part of site 2, and this is to be welcomed.

#### *Warburton Park*

74. I have already concluded that there is little now to indicate the former medieval deer park or designed parkland in terms of the physical landscape due to the considerable degree of agricultural change that has taken place from the mid-17<sup>th</sup> century when it was presumed to have been disimparked. During this later period it provided the farmland associated with Park Farm and its farmstead and I have considered the part it played in that respect already. With regards to its earlier history, there is no dispute that a medieval deer park formerly existed in this vicinity, probably associated with a moated manor on a similar site to Park Farm. Site 2 is likely to have been within its

boundaries. Its significance as a non designated heritage asset relates principally to its historic interest.

75. The *Greater Manchester Historic Environment Record* maps a number of visible features, including earthworks associated with the park pale<sup>6</sup>. This can be seen most clearly along a section of the south-eastern boundary. The curving nature of Warburton Lane is also indicative of the former perimeter. More contentious is the boundary along the edge of the Red Brook, where an earthen bank can be seen. The evidence indicates that along the northern site boundary the hedgerow has been removed and the area ploughed. In addition, a high pressure gas pipeline was installed across the northern part of the site, which would have caused substantial ground disturbance. Another feature is what is now thought to be a pillow mound<sup>7</sup> within the adjoining fields. There are also several pools in the copse adjacent to the south-eastern site boundary, which are considered by the Greater Manchester Advisory Service to be remnant medieval fish ponds.
76. On the basis of what I have seen and the evidence I have heard, it seems to me that Warburton Park is a non designated asset of local value. The proposed development would result in the permanent loss of a relatively small section of the former deer park and manorial estate and would isolate part of the park pale from other features such as the fish ponds and pillow mound. On the other hand, the development would not result in the destruction of any visible physical feature. Overall, I consider that the adverse effect on significance would be of a minor nature. However, WPC and the Council believe that there is much greater archaeological potential that is as yet unknown but could increase the significance of this asset considerably. I consider this next.

### **Archaeology**

77. On sites where there is potential for archaeological interest, paragraph 189 of the Framework requires the submission of a desk based assessment and field evaluation where necessary. In this case a desk based assessment has been submitted, although it was agreed that this has shortcomings. Field evaluation can include a geophysical survey, which has been undertaken.
78. The Council and WPC consider that footnote 63 of the Framework is engaged because the archaeological resources in question have the potential to be of national importance and equivalent significance to a scheduled monument. The Appellant disagrees and considers that the evidence indicates assets with the potential for no more than local importance. Whilst it is not disputed that trial trenching is necessary, the Council and WPC say it should be carried out pre-determination to reflect the significance of the asset. Their concern is that if archaeology of national importance is discovered as a result of the trial trenching and in situ preservation is proven necessary, this could mean that the development would not be capable of being built out in accordance with the Parameters Plan without harm to irreplaceable buried assets.

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<sup>6</sup> This was the boundary of the deer park and usually comprised a fenced or hedged bank often several metres in height sometimes with an internal ditch. It often had a curved alignment so that animals did not get trapped in the corners.

<sup>7</sup> This was an artificial mound with burrows for rabbit breeding.

79. The importance of what lies below the ground cannot at this stage be known with certainty from the investigation that has been carried out so far. However, the geophysical survey provides important information in the assessment of potential even though a lack of magnetic abnormality in itself does not guarantee an absence of significant archaeology. There was no dispute about the methodology employed, the issue is with the interpretation of the results. There is insufficient evidence to substantiate the Council's assertion that geophysical investigations are particularly problematic in the North Western region. The reliability of the outcome is more likely to depend on the soil conditions and subsurface environment of the site. The appeal sites do not seem to present particular difficulties in this regard. I turn next to consider the archaeological potential of the appeal sites.

#### Site 1: Romano-British settlement

80. An assessment was undertaken by Salford University in connection with the draft policy GM Allocation 41 in the emerging GMSF. The higher land of the southern part of site 1 is considered to have high potential for early settlement. There are cottages and farmsteads adjacent to Moss Lane, which was clearly a historic route around the mosslands. The geophysical survey shows various features, including the probable line of an old lane, field boundaries, possible evidence of ridge and furrow and drainage features. There is also an area of burnt material suggesting the site of a post-medieval clamp kiln. The Council agreed at the inquiry that these were features at most of regional significance. The survey also showed various anomalies. Whilst these could be indicative of past settlement activity, the Appellant's expert interpretation<sup>8</sup> was that they were ephemeral features most likely to have arisen from naturally occurring soil variation.
81. It is acknowledged that there have been other finds within locations between the moss areas and the rivers. The Romano-British defended farmstead site at Great Woollen Hall is about 3.5 km away, between the River Glazebrook and Chat Moss. Port Salford is about 7 km away on dry ground also adjoining Chat Moss. Here, Iron Age and Roman artefacts have been found and Romano-British period ditches and enclosures. These have proved to be of great significance but it does not mean that similar finds are present on site 1. Indeed, the differential in height between the southern part of site 1 and the adjoining former mossland is relatively small. Whether or not this area flooded before the Manchester Ship Canal was constructed is unclear. However, there have been finds on the ridge of higher land at Moss Brow about 1 km to the south and this seems a more likely location for early settlement.

#### Site 2; Warburton medieval deer park

82. Salford University also assessed the area to the west of Warburton Lane, which was part of the medieval deer park. It considered that there is good potential for the survival of buried archaeological remains, including a former watermill, salters<sup>9</sup> and the moated manor site, although their extent and condition is at present unknown. It considers the greatest potential for surviving remains on the draft policy GM Allocation 41 site, which includes site 2 but extends

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<sup>8</sup> By Dr Kayt Armstrong who undertook the geophysical survey and is also an archaeologist.

<sup>9</sup> These were used to encourage deer to enter but not leave the park. They involved modifying the park pale and so were sited around the boundary.

further to the west, is likely to relate to the park pale bank and ditch. Salford University conclude that the best preserved elements of the deer park could achieve Scheduled Monument status following further detailed assessment.

83. The Historic England *Scheduling Selection Guide: Agriculture* indicates that good examples of features such as medieval mill sites, pillow mounds, fishponds and park pales may be schedulable. *The Scheduling Selection Guide: Settlement Sites to 1500* mentions moated sites in this regard. The *Scheduling Selection Guide: Gardens* indicates that deer parks are generally too extensive for scheduling. Specific features such as the park pale may be eligible, but short lengths divorced from other associated features are unlikely to qualify.
84. The appeal land has been subject to at least 300 years of agricultural use. Deep ploughing over the last 70 years is likely to have had an adverse effect on below ground remains. The geophysical survey shows two parallel lines on the eastern side of site 2. The expert interpretation<sup>7</sup> is that these are most likely to have been created by modern tractor movements at the edge of the field. However, it is agreed that they could represent a previous field boundary, a former road or a boundary to the former deer park. The Council pointed out that this could be clarified by trenching and that its significance would depend on how well preserved it was and how it related to other features in the former deer park. The Council also refers to a curved feature on the northern side of site 2. The expert interpretation<sup>7</sup> is that it is likely to derive from variations in the soil resulting from fluvial action. However, Salford University considers it could be a potential Bronze Age ditch.

### Conclusion

85. There is no dispute that there is the potential for archaeological assets to be found below ground, but the experts did not agree on what their significance was likely to be. The uncertainty of what lies below the ground would have been greatly reduced if trial trenching had been undertaken in advance of the inquiry. Indeed, the indications are that this was the intention but for some reason the Appellant decided not to proceed. However, it is necessary for me to consider what is reasonable and proportionate, based on the available evidence. In this case I find the Appellant's expert evidence<sup>10</sup> more persuasive and give it considerable weight. I have no doubt that the witnesses for the Council and WPC have considerable expertise and experience. Nevertheless, I did not find their belief that the archaeology is likely to be of national importance supported by their evidence. On the balance of probabilities and even taking a precautionary standpoint, I consider that in this case the archaeology is likely to be of local and at most regional significance.
86. The Parameters Plan indicates that the areas shown for development and access overlay some of the features and anomalies shown by the geophysical survey although others would be in the open spaces. Further investigation would be necessary, including trial trenching. However, I consider that it could be post-determination and satisfactorily controlled through a planning condition in this case.
87. I have considered the appeal decisions submitted by the Council but in each

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<sup>10</sup> By Dr Armstrong and Ms Kelly.



case there were different circumstances that led the Inspector to conclude that pre-determination evaluation was required. This will largely relate to individual site circumstances and so general comparisons are not particularly helpful.

### **Conclusions**

88. For all the reasons I have given there would be harm to the significance of both designated and non designated heritage assets on account of development within their setting. This would be less than substantial harm on the scale of moderate to minor depending on the asset. The proposals would therefore be contrary to policy R1 in the CS. I return to consider the proposals in respect of paragraphs 196 and 197 of the Framework later in my decision.
89. The significance of the archaeological assets cannot be known at the present time. However, for the reasons I have given, I consider that the probability is that these are of local or at most regional value. Footnote 63 of the Framework would not apply in this case. A planning condition could be applied to require a scheme of written investigation, analysis, recording, deposition and commemoration and this would, in my opinion, mitigate the potential harm that could arise from the appeal development in this respect.

### **THE EFFECT OF THE PROPOSED DEVELOPMENT ON CONGESTION AND HIGHWAY SAFETY.**

90. Amongst other things, policy L4 in the CS includes a provision that permission will not be granted for new development likely to have a significant adverse impact on the safe operation of the highway network unless appropriate infrastructure improvements and/ or traffic mitigation measures are secured. The Framework indicates that development should only be refused on highway grounds if the residual cumulative impacts on the road network would be severe, which is a more stringent requirement. The traffic generated by the proposed development and its likely distribution is not disputed. The A6144 provides the main route through Partington and Carrington and becomes extremely congested at peak times.
91. It is agreed that to accommodate the additional flows, improvements would be necessary to 3 junctions along the A6144 and that these could be addressed through planning conditions. In terms of when these works would be carried out, there is no dispute that the improvements to the Warburton Road/ Central Road roundabout and the Moss Lane/ Manchester Road roundabout should be carried out before occupation of 101 dwellings. Furthermore, that the latter improvement would only be necessary if it had not already been undertaken in conjunction with development at Lock Lane, Partington. The capacity provided by the junction improvement would be sufficient to accommodate the traffic generated by both developments and this is reflected in the suggested condition.
92. Flixton Crossroads is some 5km to the north of the site but is a particularly congested junction during peak periods. There have been incremental improvements to create the capacity for various developments that would impact the junction and the appeal scheme proposes a further improvement that would do likewise. The Council agrees that such works would be necessary to mitigate the impact but it considers that congestion is so bad that no new dwelling should be occupied until the capacity improvement is in

place. The Appellant pointed out that even with 100 dwellings there would be less than one vehicle through the junction per minute in the critical morning peak. It seems to me that this is likely to result in an imperceptible change. I therefore concur with the Appellant that the works would not be necessary until this trigger point had been reached.

93. In the circumstances I conclude that the proposed development would not have an adverse effect on congestion and highway safety. In this respect it would comply with policy L4 in the CS and the provisions of the Framework.

**WHETHER THE LOCATION IS SUFFICIENTLY ACCESSIBLE TO ALLOW OCCUPIERS OF THE PROPOSED DEVELOPMENT REAL CHOICES TO TRAVEL BY MODES OTHER THAN THE PRIVATE CAR.**

94. The CS specifies that improving accessibility is essential to building sustainable communities and that it is influenced by where development is located and the quality and choice of available transport links. Policy L7 includes a provision that development should be fully accessible to all sections of the community, Policy L4, amongst other things, indicates that the location of development in those areas most accessible to a choice of transport modes is a priority. It includes provisions to secure improvements to the pedestrian, cycling and bus network and elicit developer contributions towards the provision of highway schemes in accordance with the CS Strategic and Place Objectives.
95. Section 9 of the Framework promotes sustainable transport and opportunities to improve walking, cycling and public transport. It also points out that sustainable travel solutions will vary between urban and rural areas. In this case the appeal site is within the countryside for planning policy purposes. However, it is not within an isolated rural area and it is reasonable to bear this in mind when considering what opportunities are available to maximise sustainable travel solutions.

**Walking**

96. *Manual for Streets* indicates that walking offers the greatest potential to replace short car journeys, particularly those under 2 km. Whilst not an upper limit, walkable neighbourhoods are typically those where there are a range of facilities within a 10 minute (800m) walk from home. The main route in and out of Partington is along Warburton Lane. There are footways along each side of the road, although on the western side it stops at the Red Brook bridge. The proposal therefore includes a footway along the frontage of site 2, which connects to a signal controlled crossing so that pedestrians can safely cross onto the eastern footway. Whilst the existing footway does have some narrower points, on the whole I consider that it provides an acceptable walking environment for most people.
97. Those living on site 1 would have the option of walking into Partington via Chapel Lane over the footbridge that crosses the Red Brook. However the section of footpath that links to Chapel Lane crosses the western side of a field and is neither surfaced nor lit. It would therefore not be a safe option after dark, practical in inclement weather or suitable for those with pushchairs or mobility impairments. Whilst this field is also part of the draft policy GM Allocation 41, at the present time there is no proposal that it would be other than a recreational footpath. In addition, the section of Chapel Lane south of



the entrance to Partington Sports Village has no footways or street lights. Whilst some may use this route it should not be relied on as a satisfactory walking route into Partington, the school or the sports centre.

98. Broadoak secondary school, Little Oaks nursery school, The Fuse community facility and Partington Sports Village are all within 1 km of the centre of each site using the main access points and Warburton Lane. The primary schools are between 1.4 km and 1.6 km away. It seems to me that these facilities, whilst beyond the ideal 800m walking distance could reasonably be considered accessible on foot. Partington local centre has shops and facilities to meet day to day needs and includes a post office, pharmacy, supermarket and convenience stores. It is 1.5 km from the centre of site 2 and 1.7 km from the centre of site 1. Again, walking would be an option although the relatively short car journey would be an attractive alternative, especially outside peak times and bearing in mind that there is a large car park adjacent to the shops.

### **Cycling**

99. All of the above facilities would be easily reached by cycle. There are on-street cycle lanes on both sides of Warburton Lane, north of the Red Brook bridge, into the centre of Partington. The proposal also includes a new on-street section of cycleway along the frontage of site 2. It is proposed that the old lane adjacent to the frontage of site 1 would be a dedicated cycle and pedestrian route. With the Pelican crossing in place there would therefore be a link from each site to the on-street cycleways. Chapel Lane is also relatively quiet and would provide a pleasant route for cycling although the link between the site and the road would have to be negotiated and would be an impediment for the reasons given above.

### **Buses**

100. The 247 bus service runs at 30 minute intervals (60 minute intervals in the evenings and on Sundays) between the Trafford Centre and Altringham via Partington. The Cat 5A service runs between Warrington and Altringham via Lymm and Partington. The nearest existing bus stop northbound is on Warburton Lane just north of the Oak Road junction and southbound north of the junction with Moss Lane. The proposals include improvements to these two stops as well as providing new bus stops on either side of Moss Lane. The existing and new bus stops would be provided with raised kerbs to provide easy access and good waiting facilities. With the improvements there would be a bus stop within 100m of the centre of site 1 and within 400m of the centre of site 2 so they would be easily accessible on foot.
101. I was told that the future of the subsidised CAT 5A service is uncertain. The proposals would provide a financial contribution for an additional half hour service. This would be for a 5 year period by which time it should be self-supporting. This would mean that there would either be 2 buses an hour or that the Appellant would be funding the only one, depending on whether the subsidised service continues. These various improvements would benefit those living on the new development but also existing residents living along this section of the route. A bus journey to reach the Borough's main town centre of Altringham, for example, would typically take under half an hour and a visit to the picturesque village of Lymm with its local shops, food and drink establishments and various amenities would take about 10 minutes.

102. There are also additional bus services that terminate at Oak Road. A new resident wishing to travel to central Manchester for example, could do so by catching the 253/ 255 service from Oak Road or taking a bus to the Trafford Centre and then catching the tram. However, a journey in this direction would result in additional journey times during peak periods due to network congestion along the A6144.

### **The Carrington Relief Road (CRR)**

103. The CRR is a longstanding infrastructure project required as part of the delivery of the Carrington strategic site under policy SL5 of the CS. The evidence indicates that the cost of the CRR has escalated and that there is currently a large funding gap. Whilst this could potentially be addressed through the Community Infrastructure Levy, a significant shortfall would remain to be met through developer contributions. The Council has therefore devised a formula based on the vehicle trips what would be generated by the various commercial and residential developments within the allocated area.
104. Whilst the Council is satisfied that the improvements to the Flixton junction would provide satisfactory mitigation in terms of highway safety and congestion, it would prefer a contribution to the CRR. The Appellant does not object to this and the UU includes a contribution similar to the cost of the Flixton junction improvement, which would not be needed if the CRR goes ahead. However, the Council require a larger contribution based on applying the aforementioned formula. The rationale for including the appeal sites, notwithstanding that they are outside the policy SL5 allocation, relates to sustainability and integration. Nevertheless, in view of the uncertainties surrounding delivery, the Council would accept the Flixton improvements in the event that it cannot confirm that the CRR is going ahead. As I understand it the Council, by means of a suitably worded planning condition, is proposing to take the delivery risk on itself in order to avoid what it considers to be unsustainable development at the appeal sites.
105. Policy L4 in the CS includes a provision that appropriate developer contributions may be sought towards highway schemes in order to make less sustainable locations accessible by improving transport links. In terms of sustainability, I am not satisfied that there is sufficient evidence to demonstrate that the accessibility or integration of the appeal site with Partington as envisaged in the CS would be significantly improved by the CRR. The situation could be very different if the wider policy GM Allocation 41 is realised. However, that relates to a different and emerging plan with a high degree of uncertainty at the present time. In such circumstances I am doubtful that the contribution could be deemed necessary.
106. Furthermore, assuming that the formula may be legitimately applied to the appeal sites, the contribution sought by the Council is based on the 182 dwellings envisaged for the appeal site in the draft Masterplan for the policy GM 41 Allocation. It bears no relationship to the trips generated by the appeal development. It may result in a lower payment, but nonetheless this would not be related in scale and kind to the 400 dwellings being proposed.

## Conclusion

107. The appeal site has relatively good connectivity to the pedestrian, cycling and public transport network. The proposals offer various improvements to widen modal choice. I consider that new residents would have the opportunity to make a reasonable number of their daily journeys by travel modes other than the private car. A Travel Plan would provide further incentive through the introduction of measures to reduce car journeys over a 10 year period.
108. Accessibility is hampered by the sites' location at the southern end of the existing road network. With an absence of dedicated lanes, northbound buses would be caught in the same traffic queues in peak periods as happens at the present time. On the other hand, people would be likely to adjust their travel behaviour to make their journeys outside of the most congested periods. Whilst I can understand that the delivery of the CRR is a priority for the Council, this is mainly to deliver the Carrington strategic site and there is little evidence that a contribution over and above the cost of the Flixton junction improvements would be justified in terms of highway safety or improvement to the sustainability of the appeal site. Overall, I am satisfied that in this regard the proposals would not conflict with policies L4 and L7 in the CS.

## **WHETHER THE PROPOSED DEVELOPMENT WOULD MEET LOCAL HOUSING NEEDS AND WHETHER THE LACK OF AFFORDABLE HOUSING PROVISION WOULD BE ACCEPTABLE.**

### **Affordable housing need**

109. There is no dispute that the appeal site is within a "hot" market location where in normal market conditions policy L2 in the CS expects 40% affordable housing, subject to viability. This is in contrast to Partington, which is a "cold" market location where 5% is required, subject to viability. Whether the boundary between different market locations is justified should be considered through the local plan process and is not a matter for this inquiry. The Council has indicated that market conditions changed from "normal" to "good" in November 2018. In such circumstances the Supplementary Planning Document: *Planning Obligations* indicates that the affordable housing requirement will rise to 45% and 10% in the respective market locations.
110. There is a considerable need for affordable housing within the Borough as a whole. The 2019 *Housing Needs Assessment* identifies a Borough-wide annual net affordable housing need of 545 homes. It is appreciated that this recorded a net annual need of only 22 homes in Partington and Carrington but the Rural Communities, within which the site falls, recorded a higher figure of 39 homes. Partington has a relatively high proportion of social housing due to its growth as an overspill settlement. There is no dispute that more market homes and family sized houses would help improve the housing mix and contribute to a more balanced community. However, this does not mean that there is no need for affordable housing in the mix. There is no evidence to satisfy me that it should not be provided, if it is viable to do so.
111. The Appellant does not consider that the appeal proposals could viably support any affordable housing at all. The Council believes that it could viably support the full policy provision, along with all other contributions and infrastructure improvements.

## **Accountability**

112. Both the Council and the Appellant had points to make about the credibility and integrity of the expert witnesses. This seemed to me to be part of a wider agenda relating to land transactions, viability assessment and affordable housing provision more generally across the Borough. I do not consider that it is necessary for me to look at the wider picture in order to reach a reasoned conclusion on this appeal. As far as I could tell the viability and costs witnesses drew from their experience and expertise as practitioners. I am satisfied that they conducted themselves in a suitably professional manner and gave their considered and honest evidence. I find nothing to support the assertion that any of the 3 members of RICS failed to meet the requirements of their professional body.
113. The Planning Practice Guidance indicates that a viability assessment should be prepared by a suitably qualified practitioner. It does not stipulate that being a RICS member is mandatory in this respect but in any event in this case the viability assessments were prepared by such a person. The disagreements on costs and values resulted mainly from differences in professional judgement and, in such circumstances, there are no right or wrong answers. The judgements of the non RICS expert witness in this case seemed to me to be credible and based on an acceptable level of experience.

## **Benchmark Land Value (BLV)**

114. This comprises the Existing Use Value (EUV) enhanced by a premium (EUV+). In this case the existing use is agricultural and there are no policy compliant alternatives. The Appellant considers that agricultural land value is £10,000 per acre and the Council £8,000 per acre. In this respect I prefer the Council's approach, which uses farmland indices devoid of the effects of buildings and any anticipated future higher value use (hope value). On this basis the EUV would be £493,600.
115. The Planning Practice Guidance makes clear that the premium should provide a reasonable incentive for a landowner to bring forward land for development whilst allowing a sufficient contribution to fully comply with policy requirements. However, it also indicates that this should reflect a minimum return to a reasonable landowner. The price paid for the land is not relevant justification for failing to meet policy commitments. Previously BLV was guided by market comparables but these were driven by historic land values inflated by non policy compliant developments. The Planning Practice Guidance extolls an approach whereby policy commitments are central to establishing a reasonable price.
116. The Planning Practice Guidance also indicates that BLV should reflect the costs of development, including those specific to the site. In other words, a landowner should not expect to receive the same price for a site where the development costs are high to one where they are much lower. That is not to say that all site-specific costs should necessarily be deducted. It may be that a negative value would ensue, in which case there would be no incentive at all for the landowner to sell the land.
117. The Appellant originally considered that a premium of 20 times EUV was

appropriate but reduced it to 15 times EUV to reflect an appeal decision for a residential development at Poulton-le-Fylde<sup>11</sup>. The Inspector said that she considered the Council's viability assessment to be consistent with the Planning Practice Guidance. However, in this case there does not appear to have been any suggestion otherwise, and therefore no dispute on the matter. My colleague indicated that typically 15-25 times EUV is applied to greenfield sites, but where this conclusion comes from is not made clear. It is noted in passing, that the agricultural land value in this case was £8,000 per acre.

118. The Planning Practice Guidance gives no indication as to what the uplift should be and the reason for that is because it will vary according to site specific and policy circumstances. There is no evidence that I have seen that says the premium should be any particular value. The important point is that it should be sufficient to incentivise the landowner to sell the land and should also be the minimum incentive for such a sale to take place.
119. The Appellant's assessment is on the basis of an uplift of 15 whereas the Council prefers an uplift of 10<sup>12</sup>. It is relevant to note in this case that one of the two landowners has agreed in the option agreement to sell the land for whatever is left after a standard residual assessment. On the basis of the Appellant's assessment with no affordable housing the RLV is £2.8m. However, if costs or values change this would of course be a different figure. For example, on the Appellant's assessment with 45% affordable housing the residual becomes negative. In such circumstances the landowner obviously would not sell. I consider that an uplift of 10 would not be unreasonable here and this would result in a BLV of about £2.9m<sup>13</sup>. Whilst this is below the sum advocated by the Appellant of some £5.3m it reflects the development costs as well as the fact that the developable area comprises only about half of the site. It was not satisfactorily explained why, in this case, it would not offer a reasonable premium or reflect the approach advocated by the Planning Practice Guidance.
120. The Appellant's case is that the residual land value (RLV) with no affordable housing would be some £2.8m, falling to about £-1.5m if 45% affordable housing were to be provided. It seems to me that on the Appellant's evidence £2.8m, which is marginally below BLV, would be all that the scheme could afford to pay for the land.

## **The financial viability assessment (FVA)**

### *Preliminary Comments*

121. There was little agreement on most of the inputs in the FVA, but on the Appellant's case, if costs were reduced or values were increased by approximately £4.4m, there would be sufficient to fund 45% affordable housing. Even if there was a lower differential, it would be possible to provide some affordable housing. Whilst I have carefully considered all of the evidence

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<sup>11</sup> This appeal sought the removal of a planning condition for affordable housing in respect of a proposal for up to 130 dwellings on land off Hoult's Lane, Poulton-le-Fylde. The appeal was allowed (ref: APP/U2370/W/19/3241233).

<sup>12</sup> It should be noted though that this was only on the basis of net developable area.

<sup>13</sup> Net developable site area of 33.75 acres x £80,000 = £2.7m. Remainder of 27.95 acres x £8,000 = 223,600. Total BLV = £2.9m (approx.).

it therefore seems to me unnecessary to reach a conclusion on all of the disputed inputs.

122. The FVA is a snapshot in time with costs and values corrected accordingly. The relevant time period in this case is the fourth quarter of 2020 to accord with the time of the inquiry.

### *Costs*

123. The Viability Statement of Common Ground agrees a housing mix and floorspace figure for the purposes of the assessment. Overall, the evidence suggests to me that the Appellant has taken a rather conservative approach to costs. This is mainly due to the fact that there is relatively little information as to how this outline scheme would eventually be built out. The FVA appears to have placed considerable reliance on the illustrative Masterplan. However, it was made clear in answer to my specific question at the second Case Management Conference that this was illustrative. It is not to be treated as an application plan and therefore cannot be relied upon to show details of the layout. The Appellant's costs expert did his best but, in my opinion, he has been overly cautious in his assessment. Little consideration has been given to the not unreasonable assumption that the volume housebuilder who would be constructing this development would seek to reduce costs through value engineering wherever possible. I give two examples where I consider that significant cost savings could be made.

### The garages

124. The FVA has assumed that all 3 and 4 bedroom houses would have a single detached garage at a cost of about £11,300 each. On the basis of the agreed mix this would apply to about 67% of the dwellings and result in an additional cost of over £3m. However, there is no evidence that the developer would recoup that cost in the sales value. It is therefore difficult to understand why such a significant additional expense would be incurred by a prudent housebuilder when an integral garage would be significantly cheaper. The only indication of the cost of an integral garage is found in the May 2019 FVA where it is indicated to be £4,725. Whilst cost inflation means that exact comparisons cannot therefore be made, it is reasonable to conclude that there would be significant cost savings to be made.
125. In reality the situation is likely to be more nuanced and it is not unreasonable to surmise that a developer would wish to offer a range of options with some detached garages, some integral garages and some driveway or on-street parking. The Council has suggested a blended allowance of £7,000 per dwelling for the units in question, which would allow roughly one third to have detached garages. This would obviate the Council's concern about a development dominated by houses with integral garages. Such an alternative option would result in a cost saving of around £1.13m.

### The abnormal costs

126. These costs amount to about £16.4m or about £486,500 per net developable acre. This seems to me a very large sum for a greenfield site with no obvious impediments and I remain unconvinced about the complexities that the Appellant asserts present such a challenge. Indeed, the Appellant's own evidence cites 9 housing developments of 251-550 units on greenfield sites in



the North West of England, where in all but 2 the abnormal costs were under £350,000 per acre, with an overall average of about £338,000. Whilst it is acknowledged that abnormal costs are, by their very nature site specific, this information does not allay my concern that a conservative position has been adopted.

127. The Ground Investigation Report indicates that based on existing ground levels, strip/ trench foundations may be suitable across most of the site. Whilst it indicates that special foundations could be required where groundwater is very shallow, the built development would be on higher ground away from the Red Brook and its floodplain. Ground levels may need raising in places, but there is insufficient evidence to support the assertion that 50% of the houses and 25% of the garages would need to have non-standard foundations. Whilst some special foundations may be required, it is highly probable that the developer would seek to keep these to a minimum to reduce the cost. This has been estimated at approximately £1.4m.
128. Enabling works are required to get the sites ready for development. Two items that stand out are the £2.2m required for topsoil and subsoil removal. The Ground Investigation Report indicates a variation in topsoil depth, which averages 391mm across the site. It has been assumed that on the area to be developed there would be 150mm thickness of topsoil on the gardens, which are assumed to comprise 25% of the development area. The remainder would be carried away off site and either sold or taken to landfill at a cost of £25 per m<sup>3</sup> or approximately £1.2m. With regards to subsoil, it is assumed that 300mm would be cut from both sites within the development areas and that this would be removed from the site at a cost of around £1m.
129. Unless the soil can be sold for more than the cost of disposing of it, I consider it reasonable to expect the developer to use as much as possible on-site. An obvious location would be increased depth on the gardens, which would benefit plant growth. It could also be directed to the open spaces, green corridors and buffers outside the floodplain. Whilst some removal may be necessary, the assumption as to the extent seems to me excessive.
130. Although it is important to bear in mind that any planning permission runs with the land, Redrow has stated in terms that it will be developing the site. No approach was made for information about its approach to value engineering or economies of scale. In the absence of information to the contrary it is a reasonable assumption that it would behave in a similar way to any other volume housebuilder. Even if only half of the above costs were saved, there would be a potential costs saving of over £2m.

### *Values*

131. The Planning Practice Guidance indicates that for site-specific assessments, market evidence should be used and that this should be adjusted to take account of variations such as form, scale and location. The difference in overall sales values between the Appellant and the Council is about £5.8m. Within a "hot" market location values are assumed to be high and this is reflected in the amount of Community Infrastructure Levy that has to be paid. The Appellant's argument is that in this case the values are not high but the Levy payment cannot be avoided as a significant cost.

132. It seems to me that one of the main differences between the parties relates to the likely influence of Partington. I have no doubt that a prospective purchaser would be fully aware that immediately north of the Red Brook is a large estate of social housing and that this includes areas with high levels of social and economic deprivation. However, for the reasons I have already given, I consider that the Red Brook and its wooded corridor provide a substantial physical and perceptual barrier. Furthermore, this sense of separation would be enhanced by the swathe of landscaped open space on the northern side of each site.
133. From site 1 the estates of social housing are not readily apparent. The main view northwards is of playing fields, although the upper parts of the school, sports and community buildings and the two cul-de-sacs of private detached homes are evident, especially in the winter months. From the eastern end of site 2, there is a more open view of the terraced social housing on the southern side of Oak Road but from the centre and western end this is largely screened by vegetation. The proposals include a large amount of open space with several green corridors running through each site. About half of the total land area would remain undeveloped. Bearing all of this in mind, I have no doubt that the marketing of these houses would emphasise the proximity to the countryside, the green credentials of the site and the closeness to the historic village of Warburton as well as other attractive settlements such as Lymm and Altringham. Of course, prospective purchasers would be well aware of the presence of Partington but I would expect any competent marketing exercise to emphasise its positive attributes such as the relative proximity of schools, shops, sports and leisure facilities.
134. The most relevant new build comparator is agreed to be Glazebrook Meadows. This is a relatively small development of 27 houses and 9 apartments on the western side of the Manchester Ship Canal. From my visit I observed that this is in a countryside location just outside the village of Glazebrook. One of its great advantages is its proximity to the railway station with services between Liverpool and Manchester. I also noted that there did not appear to be any social housing in the vicinity, including at Glazebrook Meadows itself<sup>14</sup>. On the other hand the northern site boundary adjoins the railway line and there are few convenient shops, schools or other facilities nearby.
135. The proposed 2 bedroom dwellings are quite similar in size to the 3 bedroom houses at Glazebrook Meadows. The average 2019 sales price was £250 per ft<sup>2</sup>, which would result in a unit price of £187,500<sup>15</sup> if applied to the 2 bedroom houses at the appeal sites. I am not convinced that Glazebrook is a superior location or that there are grounds to apply a consequent discount to the price of the 2 bedroom appeal dwellings. On the other hand, there is evidence that the housing market is performing strongly in the North West and in the Greater Manchester area in particular resulting in house price increases. In the circumstances, I prefer the Council's assessment to that of the Appellant.

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<sup>14</sup> It is understood that a commuted sum was paid to provide affordable housing off-site.

<sup>15</sup> This is derived from multiplying the square footage of the proposed 2 bed dwellings (750 ft<sup>2</sup>) by £250.



136. The 3 and 4 bedroom houses in the appeal scheme are significantly larger than the houses in Glazebrook Meadows and there is very little other nearby new build comparative evidence to assist. The Appellant has referenced the second-hand market and applied an uplift to reflect that new-build homes generally command a premium price. However, the uplift to be applied will be a matter of judgement. For the reasons I have given Partington, although it is the closest market area, is of a very different nature and character. The two marketing reports<sup>16</sup> commissioned by Redrow placed too much emphasis on the negative influence of Partington, in my opinion. I note that the more recent report by Property Perspective, which concludes similar values for the new houses as the Appellant, was a desk top analysis without the benefit of a site visit. Furthermore, these reports relied on second-hand sales data mainly from 2018 and 2019 and it is unclear whether any allowance was made for house price inflation.
137. Between July 2019 and April 2020 the average sale price for houses in Partington overall was £155,630 (£178 per ft<sup>2</sup>) and £137,000 (£143 per ft<sup>2</sup>) for the southern part of the settlement closest to the site. On the Appellant's assessment the average sales price across the appeal sites would be £236 per ft<sup>2</sup>. (32% above Partington overall). The Council's equivalent figure would be about £249 per ft<sup>2</sup> (39% above Partington overall). For all the reasons I have given I prefer the Council's figure in this case. However, even if it is overly optimistic as the Appellant claims, on the available evidence I consider that the appeal development has been significantly undervalued in the FVA.

#### *The Unilateral Undertaking*

138. There is a covenant in the UU that requires a revised FVA to be submitted along with the reserved matters. This was inserted into the draft Deed at the very end of the inquiry. However, I have serious doubts about the suggested covenant in the UU for various reasons.
139. Whilst I am sure the intention is that the revised FVA would be based on the reserved matters there is no requirement that it should do so. Even on the assumption that this were to be the case, any form of dispute resolution requires both parties to have an input into the proceedings. This would not be the case here as the Council would not be permitted to question the inputs or judgements on which the revised FVA was based. It was clear from the length and detail of the evidence on viability to the inquiry that there is considerable scope for expert disagreement. I have no reason to believe that the professional costs witnesses<sup>17</sup> did not act other than in full accordance with their professional code of conduct. Yet there was so little agreement between them that they were not even able to sign a statement of common ground.
140. In addition, the dwelling mix was agreed by the viability experts. I do not therefore consider that there is any justification for a review on values. As far as I can see, the covenant would effectively transfer the decision on affordable housing provision to a third party who has no legitimacy as a decision maker in the public interest. The Council would be by-passed in this respect and bound by the terms of a covenant to which it is not a signatory and does not agree. In the circumstances, I do not consider that the

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<sup>16</sup> By Property Perspective (September 2020) and Bellhouse Surveyors (March 2020).

<sup>17</sup> Ms K Sandford BA(Hons) MRICS and Mr G Bushell FRICS MAE QDR APAEWE.

suggested planning obligation would be an acceptable means by which to address the affordable housing issue in this case.

### **Overall conclusions**

141. For all of the above reasons, I consider that the costs in the Appellant's FVA are likely to be too high and the values too low. This means that effectively the risk to the developer is reduced at the expense of the public purse. I have not assessed all of the inputs but have done sufficient to conclude that there is the reasonable probability that significant costs savings and value increases could be made. Of course this would have an implication for various contingencies and fees. However, any adjustment would not alter my headline conclusion that, on the available evidence, there would appear to be sufficient residual value to fund 45% affordable housing or at the very least a significant proportion to help address local and Borough-wide affordable housing needs.

### **OVERALL CONCLUSIONS AND PLANNING BALANCE**

142. The proposed development would be contrary to the spatial strategy in the development plan, including saved policy C8 in the UDP and policies R4 and L1 in the CS. It would also cause harm to landscape character in conflict with saved policy ENV17 in the UDP and policy R2 in the CS. There would be harm to heritage assets, contrary to policy R1 in the CS. The failure to provide affordable housing would conflict with policy L2 in the CS. Whilst it would not offend policies relating to accessibility and highway safety, overall I consider that the appeal scheme would be contrary to the development plan when taken as a whole. I now turn to consider whether there are material considerations that would determine that my decision should be made otherwise than in accordance with the development plan.
143. The Council can only demonstrate a deliverable supply of land to meet about 2.4 years of the Borough's housing requirement. This is a very serious shortfall and does not comply with the Government's objective of boosting the the supply of homes to meet peoples' housing needs. Furthermore, the Housing Delivery Test indicates delivery is well below the Framework requirement over the last 3 years. Whatever the reason for these failures, they are a matter of considerable concern.
144. Paragraph 11 of the Framework indicates that in such circumstances the presumption in favour of sustainable development is engaged. In this case however I have found there is applicable policy in the Framework that protects assets of particular importance and provides a clear reason for refusing development. The assets in question here are several Grade II listed buildings and the applicable policy is paragraph 196. Before I consider this matter I turn to the benefits of the scheme.

### **Benefits**

145. The evidence indicates that the site could yield 150 dwellings within the next 5 years and this would make a significant contribution to reducing the deficit. There would also be provision over the longer term. In addition, the provision of market homes and family housing would help improve the housing mix and balance within a part of the Borough with a relatively high proportion of social housing. These are matters to which I attribute substantial weight as a

planning benefit, especially at a time when the construction of housing will be an important driver in economic recovery after the COVID-19 pandemic.

146. The development would generate employment during the construction period over several years. Furthermore, there would be a reliance on associated goods and services that would help support local businesses and tradespeople. The new population would generate additional income that would increase spending in the local economy and support local shops and services. These are economic advantages of moderate weight.
147. The scheme would deliver a number of accessibility benefits. The new bus stops in Moss Lane, the improvements to the two bus stops in Warburton Lane and the additional CAT 5A bus service would provide additional facilities to encourage the use of public transport by existing as well as new residents. Indeed the CAT 5A contribution may provide the only service to Warrington in the future, if the current subsidy is withdrawn. These are benefits of moderate weight.
148. The site would include a large amount of open space and green infrastructure in excess of the policy requirement. As I have indicated this would be available for Partington residents if they wished to use it. It would add to the recreational facilities provided by the walking trails beside the Red Brook, although outsiders would have to reach it via the main accesses in the absence of additional pedestrian bridges. There is also scope to enhance biodiversity, although this would be expected in accordance with Framework objectives. The green corridors through the site could provide scope for links to the surrounding countryside, although much of the surrounding land is in private ownership. These are benefits of limited weight.
149. The improvements to the Manchester Road/ Moss Lane roundabout junction would provide capacity over and above what is required to accommodate the development traffic. On the other hand, it may be provided by the Lock Lane developer rather than the Appellant. In the circumstances this is attributed minimal weight as a benefit.
150. The Appellant mentions a number of other things that are considered as benefits. However, these are generally required to address development specific impacts. The Cross Lane Playing Fields improvement is a case in point. Reference has been made to various generic payments. The New Homes Bonus is intended to incentivise housing growth but as far as I am aware this would not be ring fenced by the Council for projects that might benefit the local area. Council Tax and the Community Infrastructure Levy may generate significant revenue but they are necessary to deliver local services and infrastructure to support the new development. I therefore attribute negligible weight to these factors as benefits of the scheme.

### **The heritage balance**

151. The harm to the significance of designated assets would be less than substantial in nature. In the case of Heathlands Farmhouse, Heathlands Barn, the barn to the south-east of Birch Farmhouse and the curtilage listed buildings, the harm would be at a moderate level within that spectrum. In the case of the farm building at Warburton Park Farmyard and the curtilage listed buildings it would be at a minor level within that spectrum.

152. Nevertheless, in my judgement the benefits that I have outlined above would be of sufficient importance to outweigh the harm that would arise to the significance of the designated heritage assets, both individually and in terms of group value where relevant. In reaching this conclusion I have applied the balancing exercise so as to give great weight and importance to the conservation of the heritage assets, understanding that they are an irreplaceable resource.

### **The “tilted” balance**

153. In view of my conclusions on heritage matters, the relevant approach in the Framework is to consider the balance in accordance with paragraph 11d)ii).

154. The proposal would be on greenfield land outside the settlement of Partington and in this respect it would not accord with the spatial strategy in the development plan. However, bearing in mind the housing land supply position, the policy conflict in this respect would be a matter to which I give limited weight. Nevertheless and notwithstanding its relatively good accessibility credentials, the development would not be well integrated with Partington or contribute to improving the sustainability of that settlement. This is an important strategic objective of the development plan and the conflict with it is of a matter of very significant weight.

155. The failure to provide affordable housing is a matter to which I give very substantial weight in this case. The policy context is up to date and the need is clear. The viability evidence indicates that even if 45% could not be achieved, a significant amount of affordable housing could be provided.

156. Although the landscape is of local value there would be significant harm arising both to the countryside and to visual amenity. The relevant development plan policies are consistent with the Framework and are not otherwise out-of-date. I have addressed the harm to the significance of designated heritage assets above. There would also be harm to the significance of non designated assets, although the scale of harm would be relatively small in this case.

157. There is no doubt that the appeal scheme would offer substantial benefits as I have outlined above. However, there would also be very substantial harm. My judgement is that the adverse impacts would significantly and demonstrably outweigh the benefits, when assessed against Framework policy as a whole. In the circumstances of this case there are no material considerations to indicate that this decision should be made otherwise than in accordance with the development plan.

158. I have taken account of all other matters that have been raised, but have found nothing to alter my conclusion that the appeal should not succeed.

*Christina Downes*

INSPECTOR

## APPEARANCES

### FOR THE LOCAL PLANNING AUTHORITY:

Mr David Forsdick	Of Queen's Counsel, instructed by the Borough Solicitor, Trafford Borough Council
<i>He called:</i>	
Mr J Morley BSc(Hons) MSc CMILT MIHT	Principal Engineer with Amey Consulting
Mr N Redhead BA(Hons) MCIFA FSA	Heritage Management Director (Archaeology) of the Greater Manchester Archaeological Advisory Service
Ms E Lewis BA(Hons) DipTp(Conservation) MRTPI	Heritage Development Officer at Trafford Borough Council
Mr N Folland BA(Hons) DipLA CMLI	Director of Barnes Walker Limited
Mr M Lloyd	Director of Trebbi Continuum
Ms K Sandford BSc(Hons) MRICS	Divisional Director of AA Projects Ltd
Ms R Coley BA(Hons) MA MRTPI	Head of Planning and Development at Trafford Borough Council
Ms S Todd BA(Hons) MCD MRTPI	Principal Transport Policy Officer at Trafford Borough Council
Mrs B Brown BA(Hons) DipTP MRTPI	Major Planning Projects Officer at Trafford Borough Council
*Mrs S Lowes BA(Hons) MRTPI	Major Planning Projects Manager

\*Participated in the Planning Obligation and Planning Conditions session only

### FOR THE APPELLANT:

Mr David Manley	Of Queen's Counsel, instructed by WSP
<i>He called:</i>	
Mr D Roberts IEng FIHE FCIHT	Director of SCP
Mr I Grimshaw BA(Hons) MA(LM) MSc CMLI MRTPI	Director of The Environment Partnership
Ms H Kelly BSc CifA	Director of Heritage Archaeology Ltd
Dr K Armstrong MCifA	Director of Magnitude Surveys Ltd
Mr D Nesbitt MRICS APAEWE	Partner of Cushman and Wakefield
Mr G Bushell FRICS MAE QDR APAEWE	Director of Expertqs
Mr D Hann BA(Hons) MTpl MSc MRTPI	Director of WSP
*Mrs S Wozencroft	Planning Director of WSP
MPlan(Hons) MRTPI	
**Ms C Cockrell	Solicitor for Redrow Homes Limited

\*Participated in the Planning Obligation and Planning Conditions session only

\*\*Participated in the Planning Obligation session only

**FOR THE RULE 6 PARTY:**

Mr Killian Garvey	Of Counsel, instructed by Warburton Parish Council
<i>He called:</i>	
Dr M Nevell CIfA FSA	Archaeological Advisor to Warburton Parish Council
Mr P Beckmann CMLI	Environmental Advisor to Warburton Parish Council and Member of the Parish Council
Mr Priestner	Member of Warburton Parish Council

**INTERESTED PERSONS:**

Mrs C Grace	Local resident and member of Warburton Parish Council
Dr T Fairbairn	Local resident
Mr B Jones	Local resident and member of Warburton Parish Council
Mr R Nicholls	Local resident and Chair of Warburton Parish Council
Dr J Chillala	Local resident and Senior Consultant at Trafford Hospital

## **DOCUMENTS SUBMITTED DURING THE INQUIRY**

- 1 *CEG Land Promotions Limited v Secretary of State for housing, Communities and Local Government v Aylesbury Vale District Council* [2018] EWHC 1799 (Admin), 2018 WL 03440406, submitted by Mr Garvey
- 2 Inspector's question on prematurity: Council's response
- 3 Written representation of the Jukanti family (21 October 2020)
- 4 Email from Mr Gary Hall, Chief Executive Officer of Chorley Council and Interim CEO of South Ribble Council regarding Mr Lloyd's involvement on the Leyland Test Track viability case (22 October 2020)
- 5 Viability Supplementary Note prepared by Mr Nesbitt regarding evidence of Mr Lloyd relating to the Leyland Rest Track viability case
- 6 Additional information provided by the Council relating to the viability evidence
- 7 Plan showing the 3 main junction locations, submitted by Mr Forsdick
- 8 Outstanding points arising from Ms Sandford's cross-examination, submitted by Mr Forsdick
- 9 Information on Mouseprice, submitted by Mr Forsdick
- 10 Comparison between Council and Appellant's abnormal costs and base build costs, submitted by Mr Forsdick
- 11/A Note on drainage to the existing ponds to the south-west of the appeal site by Betts Hydro, submitted by Mr Manley
- 11/B Response from Mr Beckmann on behalf of Warburton Parish Council
- 12/A Letter from Ms S Todd, Chief Executive of Trafford Council to Peel Land and Property Group concerning Ms R Coley's evidence to the inquiry, submitted by Mr Forsdick
- 12/B Letter to Ms Todd from Mr J Whittaker, Peel L&P in response, submitted by Mr Forsdick
- 12/C Trafford City – Economic Impact
- 12/D Note by the Council regarding Documents 12/B and 12/C
- 13 Inspector's question on prematurity: Appellant's response
- 14 Court of appeal documents in relation to an application to appeal against the refusal of the High Court to grant Peel Investments (North) Limited permission to apply for judicial review (11 January 2018), submitted by Mr Forsdick
- 15 Housing Delivery Test Action Plan (August 2020), submitted by Mr Forsdick
- 16 The Council's written response to the design evidence of Mr Haralambous
- 17 New Carrington GMSF Masterplan (September 2020)
- 18 Extracts from Regulation 19 draft Greater Manchester Spatial Framework, including Policy GM-STRAT 11 and Policy GM Allocation 41
- 19 Technical Note on Old Warburton Lane by SCP (29 October 2020), submitted by Mr Manley
- 20/A Note from Keppie Massie on its experience of viability assessment, submitted by Mr Manley
- 20/B Addendum Advice Note by Keppie Massie for South Ribble



- 20/C Borough Council (September 2019), submitted by Mr Manley  
Email from Mr Ged Massie regarding a request from the Council that a representative from Keppie Massie attend the inquiry (4 November 2020), submitted by Mr Manley
- 20/D Letter from South Ribble Borough Council regarding Document 20/B, submitted by Mr Forsdick
- 21 Additional information from the Council on appeals in Trafford over recent years
- 22 Letter from Redrow in answer to Inspector's questions regarding build out periods and implementation of development (3 November 2020), submitted by Mr Manley
- 23 Additional information from the Council on various points raised by the Inspector with Mrs Brown
- 24 Warburton Parish Council's written response to the design evidence of Mr Haralambous
- 25 Carrington Relief Road: Outline Business Case – Executive Summary (December 2019), submitted by Mr Forsdick
- 26/A Extract from WYAS Archaeological Services Report: Plots E1 and E2 at Carrington – Archaeological trial trenching and excavation (September 2019), submitted by Mr Forsdick
- 26/B Emails from Mr P Owen (RPS) to Mr N Redhead regarding the geophysical survey and trial trenching at the appeal site, submitted by Mr Forsdick
- 26/C Historic England: Agriculture – Scheduling selection guide, submitted by Mr Forsdick
- 26/D Historic England: Settlement sites to 1500 – Scheduling selection guide
- 27/A Report to the Planning and Development Management Committee on developer contributions towards the Carrington Relief Road (15 October 2020), submitted by Mr Forsdick
- 27/B Addendum to the above document
- 27/C The Council's note regarding the application of contributions to the Carrington Relief Road from sites outside of the policy SL5 area, submitted by Mr Forsdick
- 27/D List of schemes making up the anticipated developments in Table 2 of the Committee Report, submitted by Mr Forsdick
- 28 Leyland Test Track: Response by Cushman & Wakefield to the Trebbi viability synopsis (July 2019), submitted by Mr Forsdick
- 29 Council's response to the Document 19 Technical Note relating to Old Warburton Lane
- 30 Outline Business Case for the Carrington Relief Road (1 May 2018), submitted by Mr Forsdick
- 31 Addendum to the above Outline Business Case, including Appendices A-G, submitted by Mr Forsdick
- 32 Carrington Relief Road – Forecast cost profile, submitted by Mr Forsdick
- 33 The Appellant's response to the written representations by the Council and Warburton Parish Council on Mr Haralambous's evidence on design matters (Documents 16 and 24)
- 34/A Letter from the Appellant regarding an updated viability appraisal and identification of the potential for affordable housing provision following the submission of reserved matters (6 November 2020)
- 34/B The Council's response to Document 34/A (7 November 2020)



- 35 Supplementary Note by Mr Bushell concerning the expenditure profile of the abnormal drainage infrastructure
- 36/A Appellant's Supplementary Planning Note on the Council's approach to viability and benefit weight on other schemes
- 36/B Planning Committee Report on Land at Heath Farm Lane, Partington (12 November 2020), submitted by Mr Manley
- 36/C Planning Committee Report on the former Kellogg's site, Talbot Road, Stretford, submitted by Mr Manley
- 37 Appellant's CIL compliance rebuttal note
- 38 Carrington Relief Road contributions calculation, submitted by Mr Manley
- 39 Technical Note on the Carrington Relief Road and public transport contributions by Mr Roberts
- 40 Appeal decision relating to land east of the former shellfish packing station, South Fambridge (APP/B1550/W/15/3130774), submitted by Mr Garvey
- 41 Junction capacity at the Flixton Crossroads in the AM peak for scenarios including the development with and without mitigation, submitted by Mr Forsdick
- 42 Appellant's further response to the Council's response to Document 19 relating to Old Warburton Lane
- 43/A Covering email regarding instruction of The Property Perspective and Bellhouse Surveyors, submitted by Mr Manley
- 43/B CV and Terms of Engagement for the author of the Report by The Property Perspective referred to in Mr Nesbitt's evidence, submitted by Mr Manley
- 43/C CV and Terms of Engagement for the author of the Report by Bellhouse Surveyors referred to in Mr Nesbitt's evidence, submitted by Mr Manley
- 44 The Council's response to the WSP note on other planning applications, particularly Heath Farm Lane (Document 36A)
- 45/A Schedule of draft conditions agreed between the Council and Appellant
- 45/B Schedule of draft conditions not agreed by the Council and Appellant
- 45/C Council's suggested amended noise condition
- 46 Written representation by Altrincham and Bowdon Civic Society (11 November 2020)
- 47 Chronology of events regarding RPS involvement in the archaeology evidence to the appeal and related emails (see Document 26B), submitted by Mr Manley
- 48/A Planning Obligation by Unilateral Undertaking dated 2 December 2020, submitted by Mr Manley
- 48/B Appellant's covering letter to the Planning Obligation
- 48/B Council's final comments on the Planning Obligation
- 49/A Costs application by the Council
- 49/B Costs reply by the Appellant
- 49/C Final costs response by the Council
- 50 Inspector's letter closing the inquiry in writing (10 December 2020)



Ministry of Housing,  
Communities &  
Local Government

# Raising accessibility standards for new homes

A consultation paper



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September 2020

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# Scope of the consultation

Topic of this consultation:	This consultation seeks views on options to raise accessibility standards for new homes
Scope of this consultation:	Building Regulations
Geographical scope:	These proposals relate to England only
Impact assessment:	Yes

## Basic Information

Body/bodies responsible for the consultation:	Ministry of Housing, Communities and Local Government (MHCLG)
Duration:	This consultation will last for 12 weeks from 8 September 2020 to 1 December 2020.
Enquiries:	For any enquiries about the consultation please email: <a href="mailto:accessiblehomes@communities.gov.uk">accessiblehomes@communities.gov.uk</a>
How to respond:	<p>You may respond by completing this <a href="#">online survey</a>.</p> <p>Alternatively, you can email your response to the questions in this consultation to: <a href="mailto:accessiblehomes@communities.gov.uk">accessiblehomes@communities.gov.uk</a></p> <p>If you are responding in writing, please make it clear which questions you are responding to.</p> <p>Written responses should be sent to:</p> <p>Accessible Homes Consultation, 2 SW, Fry Building, 2 Marsham Street, London, SW1P 4DF</p> <p>When you reply, it would be useful if you confirm whether you are replying as an individual or submitting an official response on behalf of an organisation and include:</p> <ul style="list-style-type: none"><li>- your name;</li><li>- your position (if applicable);</li><li>- the name of your organisation (if applicable);</li><li>- an address (including post code);</li><li>- an email address; and</li><li>- a contact telephone number</li></ul> <p>We strongly encourage responses via the online survey, particularly from organisations with access to online facilities</p>

	<p>such as local authorities, representative bodies and businesses. Consultations receive a high-level of interest across many sectors. Using the online survey greatly assists our analysis of the responses, enabling more efficient and effective consideration of the issues raised.</p>
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# Foreword from the Secretary of State

The quality of our homes and the places we live make an important contribution to our lives and happiness. This has become increasingly evident following the outbreak of COVID-19, where people have spent more time at home than ever before. Well-designed and well-built homes have made life easier for many. Providing somewhere to continue to work comfortably, a space to spend time with their families and even a base to pick up new skills and hobbies. Put simply, they have made peoples' lives easier through a difficult period.

I believe that all new homes should meet this test. They should be considerate of people's needs and enable them to do the things they enjoy, from young people looking for their first home to older people looking to live independently and comfortably.

However, accommodation is still being built that doesn't meet these standards. Where it is clear that accessibility has not been at the heart of the design process. Where the features and layouts make life more difficult, from steps that prevent level access making it harder for some to get into their homes to unsuitably sized corridors which are too narrow for use.

This consultation addresses these issues head on. It considers bold options to ensure more new homes are built to higher accessibility standards and with the features needed to give people the dignity and security they deserve in their homes.

It's vital that we start building more accessible housing for older and disabled people now. People are living longer lives and the proportion of older people in the population is increasing. In mid-2018, there were 1.6 million people aged 85 years and over; by mid-2043, this is projected to nearly double to 3.0 million<sup>1</sup>. As our population ages, the numbers of disabled people will also continue to increase.

The Prime Minister has set out the government's plans to develop a National Strategy for Disabled People. This will put fairness at the heart of the government's work and involve making practical changes to policies which strengthen disabled people's ability to participate fully in society.

This consultation forms a part of this work. Through considering the best route to raising accessibility standards of new homes, we will help create a society where people can live more independently and safely, with greater choice and control over their lives.

We are taking decisive action to build the homes this country needs, including accessible homes. Alongside this consultation, we are also significantly reforming the planning system to put a much greater emphasis on design and quality. Creating a system which gives local people more of a voice to make clear what new development their areas need and where.

I hope that this consultation gives as many people as possible the chance to raise the challenges they have faced trying to find or trying to build accessible homes. Your contributions will be vital to ensuring the homes that are built under our new planning system truly meet the needs of people across the country.

**Rt Hon Robert Jenrick MP**

Secretary of State for Housing, Communities and Local Government

<sup>1</sup> [National population projections: 2018-based](#)



# Introduction

1. In June 2019, the Government announced its intention to consult on accessibility of new homes. This consultation considers how to raise accessibility standards, recognising the importance of suitable homes for older and disabled people.
2. The Government's manifesto sets a strategy on Homes for the Future, encouraging innovative design and technology to make housing more affordable, accessible, and suitable for disabled people and an ageing population.
3. This consultation seeks views on various options to raise the accessibility of new homes. In particular, it considers how the accessible and adaptable standard for homes (known as M4(2) in Part M of the Building Regulations) and the wheelchair user standard (known as M4(3)) are currently used as optional technical standards.

## Background

### Accessible homes

4. We want to build more accessible homes that meet the needs of older and disabled people. The provision of appropriate housing for older and disabled people is crucial in helping them to live safe and independent lives. An ageing population will see the numbers of disabled people continuing to increase and it is important we plan early to meet their needs.
5. Local authorities have used various independent standards for accessible housing, including the Lifetime Homes standard and the wheelchair accessible housing standards, with some areas still using these standards while others created bespoke standards with similar, additional or different detail.
6. The concept of Lifetime Homes was developed to ensure that homes are accessible and inclusive. It was developed in the early 1990s by the Helen Hamlyn Foundation, Habinteg Housing Association and the Joseph Rowntree Foundation. The Lifetime Homes standard incorporates 16 design criteria that can be universally applied to new homes and had the flexibility to be adapted to meet the changing needs of individuals and families at different stages of life.
7. The Wheelchair Housing Design guide provides guidance and good practice standards helping to deliver good quality wheelchair accessible housing. This guidance, currently on its third edition, has been used in local supplementary guidance documents as a source of specialist housing guidance for local development.
8. In 2015, government introduced a new approach to the setting of technical housing standards in England and published a new set of optional national technical standards under planning processes. These rationalised the many differing standards used at that time, including the Lifetime Homes standard and the Wheelchair Housing Design guide, into a simpler, streamlined system.

9. The 2013-14 Housing Standards Review<sup>2</sup> found an array of different codes, standards, rules, regulations and guidance applied in different parts the country. The overlapping standards were complex, counter-productive and sometimes contradictory: confusing local residents, councillors and developers. They were rarely subject to cost benefit analysis when introduced, and were produced in isolation without consideration of their cumulative impacts<sup>3</sup>.

## Building Regulations

10. The Building Regulations apply to building work, typically erection or extension of a building; and material alteration or change of use of a building.
11. Building Regulations only apply at the time that building work takes place or when a material change of use occurs. They do not apply retrospectively for existing buildings.
12. The Regulations set technical requirements covering a wide range of health, safety access, security and sustainability issues. The Regulations are supported by statutory guidance in “Approved Documents” which provide practical guidance on how to comply with the requirements in the Regulations. As part of the response to the recommendations made by Dame Judith Hackitt in her independent review of Building Regulations and fire safety, the Government is drawing up a wide-ranging programme to review, update and streamline the Approved Documents.
13. Part M (Access to and Use of Buildings) of the Building Regulations sets minimum access standards for all new buildings. These requirements are supported by statutory guidance in Approved Document M. The Approved Document sets out one way in which new building work, material change of use or material alterations to buildings, dwellings and workplaces in most common situations should make reasonable provision for accessibility. Part M is in two parts; volume 1 relates to dwellings and volume 2 relates to buildings other than dwellings. This consultation is about dwellings.
14. Part M includes optional technical standards for accessible and adaptable homes and wheelchair accessible homes, and these broadly incorporate the Lifetime Homes criteria and the Wheelchair Housing Design guide into the Building Regulations.

## Approved Document M Requirements

15. The requirements in the Building Regulations for dwellings are supported by statutory guidance in Approved Document M Volume 4.
16. The requirements used in the Approved Document are:
- M4(1) Category 1: Visitable dwellings
  - M4(2) Category 2: Accessible and adaptable dwellings
  - M4(3) Category 3: Wheelchair user dwellings

<sup>2</sup> [Housing Standards Review](#)

<sup>3</sup> [Parliamentary question and answer on Housing Standards](#)

<sup>4</sup> [Approved Document M: access to and use of buildings, volume 1: dwellings](#)

17. These can be referred to as Category 1, Category 2 or Category 3 or as requirements M4(1), M4(2) and M4(3). In this document we will use the latter. M4(1) is a mandatory standard and M4(2) and M4(3) are optional (this is explained further below).
18. M4(1): Visitable Dwellings - sets basic standards for all new homes. This section of the Approved Document sets out guidance on minimum standards of accessibility and is applicable to all newly erected dwellings, unless an optional requirement applies. Guidance is provided on level access, level thresholds, door and corridor widths, entrance level WCs and accessible heights for controls.
19. M4(2): Accessible and Adaptable Dwellings - sets a higher standard for accessible homes. This section of the Approved Document sets out guidance which needs to be followed where a planning authority sets a requirement for optional requirement M4(2). This optional requirement is broadly equivalent to the Lifetime Homes Standard, which provides enhanced accessibility in circulation spaces and sanitary provision (bathrooms) to make new homes more accessible. It also includes features to make homes more easily adaptable over time to a wide range of occupants, including older people, those with reduced mobility and some wheelchair users.
20. M4(3): Wheelchair User Dwellings - sets a standard for wheelchair accessible homes. This section sets out guidance which needs to be followed where a planning authority sets a requirement for optional requirement M4(3). This requirement can be for either a wheelchair adaptable home (which includes design features to make a home easy to convert to be fully wheelchair accessible) or a wheelchair accessible home (which includes the most common features required by wheelchair users). It also includes use of any private outdoor spaces, parking and communal facilities that may be provided for the use of the occupants.
21. M4(2) and M4(3) are optional requirements for dwellings which local authorities can apply through planning policies where they have identified a local need and where the viability of development is not compromised. This is done through local planning policies, which can set out the proportion of new dwellings in the area that are required to meet each of these higher standards. This is then applied to individual developments through planning applications.
22. Once triggered, the optional standards then have the same legal weight as the mandatory provisions in the Building Regulations.
23. At present requirement M4(1) is the default standard and applies as a mandatory requirement when no higher standard is applied locally.

## Current good practice guidance

24. The revised National Planning Policy Framework, published in February 2019, sets out that local authority plans should meet the current and future housing needs of a wide range of people, including older and disabled people.
25. The Framework also sets out an expectation that planning policies for housing should make use of the optional technical standards contained in the Building Regulations for accessible and adaptable housing where a need is identified.

26. In June 2019, planning guidance on housing for older and disabled people was published to help councils meet current standards for accessible housing in England. A series of workshops were held which fed into and helped shape the guidance. Local authorities are guided to plan for a range and number of accessible homes to meet the needs for accessible housing in their area whilst considering accessibility.

## Existing research and evidence

27. There have been calls to raise the minimum access standard to M4(2). The Women and Equalities Committee recommended this in its report 'Building for Equality: Disability and the Built Environment' in 2017.

28. Some local authorities already apply the M4(2) standard as a minimum (e.g. the London Plan). However, in its 2018 survey of local authorities, the Equality and Human Rights Commission found that viability appraisals of new developments by local planning authorities had been highlighted as a barrier to increasing accessible housing. Local authorities reported that the emphasis was on the delivery of housing per se rather than the delivery of the right kind of housing with targets for accessible housing in their areas were watered down or waived entirely at the viability appraisal stage. Planners need to strike an appropriate balance between requiring high standards in new housing on one hand, and the potential effect on the viability of developments on the other which may reduce the amount of new housing.

29. The Royal Institute of British Architects (RIBA) published the report 'A Home for the Ages: Planning for the Future with Age-Friendly Design' in July 2019 which makes the case for how policymakers focusing on increasingly age-friendly housing provision could play an important role in tackling the extensive issues in both housing and social care. One of RIBA's recommendations is that Government should make M4(2) the basic requirement for all new housing, subject to specific exemptions where step-free access is not feasible.

30. Campaigner and housing provider Habinteg published 'The Insight Report' (June 2019) after assessing all 322 local plans from local planning authorities across England. Findings showed that most local plans have no specified requirement for a proportion of new homes to meet any accessible or adaptable housing standard.

31. Research commissioned by the Centre for Ageing Better in February 2019, polled approximately 4,000 UK adults and shows that most people want every new home to be built in a way that is suitable for all people of all ages and abilities. 72% of people polled agreed that homes should as standard be built to be suitable for people of all ages and abilities, while 48% disagreed that UK society does enough to support people to live at home safely and independently as we age.

32. Government's forecasts in 2014/2015, supporting the introduction of optional technical standards, set out that with the use of M4(2) the proportion of homes built to the Lifetime Homes Standard would increase from 31% in 2015 up to 45% by 2024. The increase in homes built to wheelchair standards over time, was projected to be 2.3% of homes in 2014 to 3% in 2024. And that 10% of these homes will be built to M4(3) in 2015 rising to 20% by 2024.

33. Government is undertaking research to ascertain current use of the optional technical standards by local planning authorities. Previous forecasts will also be reviewed to understand how the use of the optional technical standards may change over time.

# Raising accessibility standards of new homes

34. In order to develop options to raise accessibility of new homes, we have considered at what points and how requirements can be set.
35. We have also taken into consideration the two systems that the optional technical standards connect, i.e. Planning and Building Regulations, and how to raise accessibility of new homes through these two systems in a simple and pragmatic way.

## Policy options

36. Through this consultation we are seeking views on how to raise accessibility of new homes. Government's objective is that there should be enough suitable housing where it is needed.
37. On the basis of existing evidence, we have developed five broad options. These consider whether to wait to see the full impact of recent planning policy changes on the use of the optional technical standards; or whether changes can be made by either mandating a higher standard or reconsidering the way existing optional standards are used. Any changes to standards would only apply to *new* homes, not to the refurbishment of existing homes.
38. Option 1: Consider how recently **revised planning policy** on the use of optional technical standards **impacts on delivery of accessible housing**.
39. Option 2: **To mandate the current M4(2) requirement in Building Regulations as a minimum standard for all new homes**, with M4(1) applying by exception only where M4(2) is impractical and unachievable (e.g a new build flat above a garage). M4(3) would apply where there is a local planning policy in place in which a need has been identified and evidenced.
40. Option 3: **Remove M4(1) altogether, so that all new homes will have to at least have the accessible and adaptable features of an M4(2) home**. M4(3) would apply where there is a local planning policy in place in which a need has been identified and evidenced. This would mean that no new homes could be built as M4(1).
41. Option 4: **To mandate the current M4(2) requirement in Building Regulations as a minimum standard for all new homes** with M4(1) applying by exception only, **a set percentage of M4(3) homes would also need to be applied in all areas**. So rather than local authorities setting a local planning policy for the provision of M4(3), a defined and constant percentage would apply to all new housing.
42. Option 5: **Change the content of the mandatory technical standard**. This could be done by upgrading the statutory guidance to create a revised M4(1) minimum standard. This revised standard could be pitched between the existing requirements of M4(1) and M4(2), adding more accessible features into the minimum standard.

43. We would welcome your views on these **five options**. We have asked questions below, as well as having them as a consolidated list in Annex A of this consultation paper. Questions 1 and 2 are in Annex A and ask for respondent's details.

**Question 3**

Do you support the Government's intention to raise accessibility standards for new homes?

Please explain your reasons

**Question 4**

Which of the 5 options do you support? You can choose more than one option or none.

Please explain your reasons, including the advantages and disadvantages of your preferred option(s).

**Question 5**

If you answered 'None' to Q4, do you think the Government should take a different approach?

If yes, please explain what approach you consider favourable and why?



# Assessment of impacts

## Costs

44. At this stage, high level analysis has been undertaken to consider the impact of mandating a higher accessibility standard. Each option has not been costed at this stage, but the analysis below intends to illustrate the potential impact.

45. If Government mandates M4(2) as the baseline standard across all housing in England, the estimated cost is £311m per annum across a 10-year appraisal period. This is the additional cost of building new homes as a result of the policy, the majority of which would likely fall on developers in the first instance. The estimated additional cost per new dwelling is approximately £1,400 for units which would not already meet M4(2). We estimate that 10% of new dwellings already meet or exceed M4(2), and that this percentage would grow over time even without Government intervention, to 30% in 10 years' time.

## Benefits

46. In terms of benefits, the mandating M4(2) may potentially reduce the need for social care. There may be other benefits of mandating M4(2) such as lower familiarisation costs and shorter familiarisation time amongst local planners if this policy is mandated nationally. However, these benefits have not been monetised yet.

### Question 6

Do you agree with the estimated additional cost per dwelling of meeting M4(2), compared to current industry standards, in paragraph 45?

If no, please comment on what you estimate these costs to be and how you would expect these costs to vary between types of housing e.g. detached, semi-detached or flats?

Please provide any evidence to support your answers.

### Question 7

Do you agree with the proportion of new dwellings already meeting or exceeding M4(2) over the next ten years in paragraph 45?

If no, please comment on your alternative view and how you would expect this to vary between types of housing e.g. detached, semi-detached or flats?

Please provide any evidence to support your answers.

**Question 8**

Do you have any comments on the costs and benefits of the other options set out above.

If yes, please provide your comments including any evidence to support your response.

## Equality impact assessment

47. An initial equality analysis has been undertaken. This consultation will help understand the potential impacts and give consultees an opportunity to influence the policy and further determine the positive and any negative impacts.

48. The Equality Act 2010 requires the Government to pay due regard to the need to:

- eliminate unlawful discrimination, harassment and victimisation and other conduct prohibited by the Act
- advance equality of opportunity between people who share a protected characteristic and those who do not
- foster good relations between people who share a protected characteristic and those who do not.

49. Based on an initial analysis, our view is that improving accessibility standards for new homes will not have a negative impact on the above aims regarding the protected characteristics of:

- age
- disability
- sex
- gender reassignment
- marriage or civil partnership
- pregnancy and maternity
- race
- religion or belief
- sexual orientation.

50. It is likely that all the proposed options will have different impacts but overall, we consider any of the options, including the 'Do Nothing' option will have a positive impact on the protected characteristics of age and disability.

51. In conclusion, the proposed options will have a positive equalities impact. No negative impacts have been identified.

**Question 9**

Do you have any comments on the initial equality impact assessment?

If yes, please provide your comments including any evidence to further determine the positive and any negative impacts.

# Next steps

52. The consultation will close on 1 December 2020. Responses to this consultation will be analysed and a Government response will follow.

# Annex A - Consultation questions

## Respondent details

Question 1	Respondent details
Name	
Position (if applicable)	
Organisation (if applicable)	
Address (including postcode)	
Email address	
Telephone number	
Please state whether you are responding as an individual or the organisation stated above	

Question 2	Select one
Please indicate whether you are applying to this consultation as a:	
• Builder / Developer	
• Designer / Engineer /Surveyor	
• Local Authority	
• Building Control Approved Inspector	
• Architect	
• Access Consultant	
• Occupational Therapist	
• Construction professional	
• Property Manager / Landlord	
• Landlord representative organisation	
• Charity	
• Campaigner or Lobby Group	
• Other interested party (please specify)	

## Questions on options for raising accessibility standards for new homes

<b>Question 3</b>	
<b>Do you support the Government's intention to raise accessibility standards of new homes?</b>	YES/NO
Please explain your reasons	[Free text]

<b>Question 4</b>	
<b>Which of the 5 options do you support? You can choose more than one option or none.</b>	Option 1/2/3/4/5/None
Please explain your reasons, including the advantages and disadvantages of your preferred option(s).	[Free text]

<b>Question 5</b>	
<b>If you answered 'None' to Q4, do you think the Government should take a different approach?</b>	YES/NO
If yes, please explain what approach you consider favourable and why?	[Free text]

<b>Question 6</b>	
<b>Do you agree with the estimated additional cost per dwelling of meeting M4(2), compared to current industry standards, in paragraph 45?</b>	YES/NO/DON'T KNOW
If no, please comment on what you estimate these costs to be and how you would expect these costs to vary between types of housing e.g. detached, semi-detached or flats?	[Free text]
Please provide any evidence to support your answers.	

<b>Question 7</b>	
<b>Do you agree with the proportion of new dwellings already meeting or exceeding M4(2) over the next ten years in paragraph 45?</b>	YES/NO/DON'T KNOW
If no, please comment on your alternative view and how you would expect this to	[Free text]

<p>vary between types of housing e.g. detached, semi-detached or flats?</p> <p>Please provide any evidence to support your answers</p>	
--	--

<b>Question 8</b>	
<p><b>Do you have any comments on the costs and benefits of the other options set out above.</b></p> <p>If yes, please provide your comments including any evidence to support your response.</p>	<p>YES/NO</p> <p>[Free text]</p>

<b>Question 9</b>	
<p><b>Do you have any comments on the initial equality impact assessment?</b></p> <p>If yes, please provide your comments including any evidence to further determine the positive and any negative impacts.</p>	<p>YES/NO</p> <p>[Free text]</p>

# Annex B - About this consultation

This consultation document and consultation process have been planned to adhere to the Consultation Principles issued by the Cabinet Office.

Representative groups are asked to give a summary of the people and organisations they represent, and where relevant who else they have consulted in reaching their conclusions when they respond.

Information provided in response to this consultation, including personal information, may be published or disclosed in accordance with the access to information regimes (these are primarily the Freedom of Information Act 2000 (FOIA), the Data Protection Act 2018 (DPA) and the Environmental Information Regulations 2004.

If you want the information that you provide to be treated as confidential, please be aware that, under the FOIA, there is a statutory Code of Practice with which public authorities must comply and which deals, amongst other things, with obligations of confidence. In view of this it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the Ministry.

The Ministry of Housing, Communities and Local Government will process your personal data in accordance with DPA and in the majority of circumstances this will mean that your personal data will not be disclosed to third parties.

Individual responses will not be acknowledged unless specifically requested.

Your opinions are valuable to us. Thank you for taking the time to read this document and respond.

Are you satisfied that this consultation has followed the Consultation Principles? If not or you have any other observations about how we can improve the process please contact us via the [complaints procedure](#).



# Annex C - Personal data

The following is to explain your rights and give you the information you are be entitled to under the Data Protection Act 2018.

Note that this section only refers to your personal data (your name address and anything that could be used to identify you personally) not the content of your response to the consultation.

## **1. The identity of the data controller and contact details of our Data Protection Officer**

The Ministry of Housing, Communities and Local Government (MHCLG) is the data controller. The Data Protection Officer can be contacted at [dataprotection@communities.gov.uk](mailto:dataprotection@communities.gov.uk)

## **2. Why we are collecting your personal data**

Your personal data is being collected as an essential part of the consultation process, so that we can contact you regarding your response and for statistical purposes. We may also use it to contact you about related matters.

## **3. Our legal basis for processing your personal data**

The Data Protection Act 2018 states that, as a government department, MHCLG may process personal data as necessary for the effective performance of a task carried out in the public interest. i.e. a consultation. There is a statutory requirement in the Building Act to consult on substantive changes to the building regulations.

## **4. For how long we will keep your personal data, or criteria used to determine the retention period.**

Your personal data will be held for two years from the closure of the consultation.

## **5. Your rights, e.g. access, rectification, erasure**

The data we are collecting is your personal data, and you have considerable say over what happens to it. You have the right:

- a. to see what data we have about you
- b. to ask us to stop using your data, but keep it on record
- c. to ask to have all or some of your data deleted or corrected
- d. to lodge a complaint with the independent Information Commissioner (ICO) if you think we are not handling your data fairly or in accordance with the law. You can contact the ICO at <https://ico.org.uk/>, or telephone 0303 123 1113.

## **6. Your personal data will not be sent overseas.**

## **7. Your personal data will not be used for any automated decision making.**

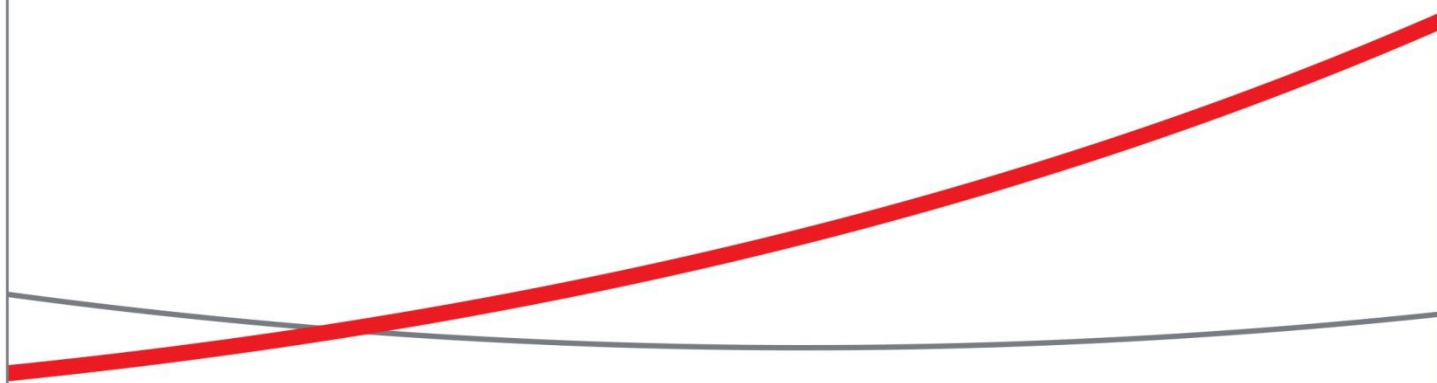
## **8. Your personal data will be stored in a secure government IT system.**

Department for Communities and Local Government

# Housing Standards Review

## Cost Impacts

September 2014



**EC HARRIS**  
BUILT ASSET  
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AN  ARCADIS COMPANY

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## Version control

Issue	Revision No.	Date Issued	Description of Revision: Page No.	Description of Revision: Comment	Reviewed by:
1 – DRAFT	-	-	-	-	BS
2 - DRAFT	-	4 <sup>th</sup> July 2014	-	-	RW
3 – DRAFT	-	25 <sup>th</sup> July 2014	-	-	RW
4 – DRAFT	-	6 <sup>th</sup> August 2014	-	-	RW
5 – FINAL	-	9 <sup>th</sup> September 2014	-	-	RW

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- Appendix A4 – Counterfactual, Access
- Appendix A5 – Counterfactual, Water
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- Appendix B4 – Proposed, Access
- Appendix B5 – Proposed, Water
- Appendix C1 – Process and Transition

## 1 Executive Summary

- 1.1.1 In June 2013 EC Harris prepared a report on the costs of a number of current and proposed housing standards. The Department for Communities and Local Government (DCLG) issued a consultation document in August 2013 and received feedback responses, including points relating to the cost work.
- 1.1.2 Revised costs for the current and proposed housing standards have been prepared incorporating input from the consultation responses and adding more detail in various areas. The costs for the proposed standards also incorporate revisions to the standards, which have now been worked up into draft approved documents, or in the case of space standards a nationally described standard.
- 1.1.3 Table 1 below summarises the revised costs for the current and proposed standards along with the process costs (for example design time or commissioning of specialist reports) associated with the standards. The figures are for a medium size scheme of 50 dwellings. Other scheme sizes are included within Sections 3 and 4 of this report.

Table 1 – Summary Costs

	Current Standards		Proposed Standards	
	Standard	Range of cost / dwelling	Standard	Range of cost / dwelling
Security	Secured by Design	£299 to £352	Security	£40 to £107
Energy	Code for sustainable homes	£0 to £31,435	Building regulations	£0
	Renewable energy	£1,027 to £4,726		
Access	Lifetime homes*	£1,082 to £1,100*	Category 2 access*	£520 to £940*
	Wheelchair housing standards*	£10,552 to £25,282	Category 3 access	£7,764 to £23,052
Water	Water efficiency	£0 - £2,697	Single standard (110 ltrs / day)	£0 - £9
Process costs**	£16 - £159		£0.4 - £57	

\* figures exclude costs of additional space associated with requirements of the access standards – see later sections of this report for costs in this respect.

\*\* process costs relate to general needs dwellings, additional costs are incurred for homes for wheelchair users

- 1.1.4 In addition to the above standards a new space standard was considered which local authorities could choose to implement dependent on suitability for their local housing market. This standard would replace a range of different current standards and as such would reduce process costs. The standard would also permit “type approval” allowing house builders to gain approval of standard house types, avoiding scheme by scheme assessment.
- 1.1.5 For the space standard to be adopted within an area an assessment of viability impacts would need to be made in line with national planning policy, so avoiding implementation where this would impact on housing delivery. Given this point, any negative impacts of the new standard would be limited – the calculations undertaken in relation to this point are further explained within this report and the separate DCLG Housing Standards Review Evidence Report by Adroit Economics.
- 1.1.6 The following sections of this report explain the basis of the above costs, movements since the last cost report, and append full details of the calculations.

## 2 Approach

### 2.1 Purpose of Report

2.1.1 In June 2013 EC Harris prepared a report on the costs of a number of current and considered housing standards. The Department for Communities and Local Government (DCLG) issued a consultation document in August 2013 and received feedback responses, including points relating to the cost work. This report seeks to:

- Increase the level of detail of the cost work, reflecting that required for a final stage Impact Assessment.
- Consider feedback received in relation to the earlier work and amend costs as necessary.

### 2.2 Relation to Other Work

2.2.1 In addition to this cost report, two further elements of work have been undertaken:

- Local Authority Policy Survey – A survey by EC Harris to establish the current extent of application of the various housing standards.
- DCLG Housing Standards Review, Evidence Report – A report and model by Adroit Economics to identify the impact of the change from current to proposed standards.

2.2.2 This report does not therefore include issues relating to the extent of application of standards or scale up (i.e. the objective is to establish the cost data per dwelling type which will form an input to the scale up / impact assessment model).

### 2.3 Basis of Report

2.3.1 All costs within this report are identified at:

- Quarter 2 2014 prices.
- UK mean location.

2.3.2 The impact assessment model makes adjustments to the costs to reflect the timing and location of estimated housing delivery.

2.3.3 This report should be read in conjunction with the earlier June 2013 EC Harris report. The report can be found on the following link: <https://www.gov.uk/government/consultations/housing-standards-review-consultation>

### 2.4 Structure of Report

2.4.1 The main bulk of the report has been spilt into two sections:

- Counterfactual – Section 3 of the report details all of the costs associated with the ‘current’ housing standards. The section is separated out into the five housing standards under review and details the current policies and costs that fall within those standards.
  - Security – Secured by Design
  - Energy – Code for Sustainable Homes
  - Space – HCA, London Housing SPG and English Housing Survey
  - Access – Lifetime Homes, Wheelchair Design Guide, Bespoke Higher Wheelchair Housing Standards
  - Water – Code related and Greywater / Rainwater Harvesting
- Proposed – Details all of the costs associated with the ‘proposed’ housing standards review policies. The section follows the same order as the counterfactual section i.e. Section 3.1 Counterfactual Security - Section 4.1 Proposed Security.
  - Security – Single proposed level
  - Energy – No proposed standard
  - Space – Single proposed level



- Access – Category 1, Category 2 and Category 3
- Water – Single proposed level

## 2.5 Key Changes

- 2.5.1 The key general areas in which this report amends / develops costs from the June 2013 work are:
- Dwelling types – A further typology has been added for a 1 bed apartment. The dwelling typologies considered are therefore now 1 bed apartment, 2 bed apartment, 2 bed terraced house, 3 bed semi-detached house and 4 bed detached house.
  - Methods of compliance – A number of areas include alternative methods of compliance with a standard, for example differing approaches to achieving code credits.
- 2.5.2 Further points specific to each housing standard are identified within the relevant sections of this report.

## 2.6 Proposed Standards

- 2.6.1 For the avoidance of doubt, the versions / references for the proposed standards are listed below.
- Security – Approved Document Q May 2014 DRAFT
  - Water – Approved Document G2 Regulation 36
  - Energy – No Approved Document
  - Space – Space Standard C4
  - Access – Approved Document M June 2014 DRAFT

## 2.7 Quality Assurance

- 2.7.1 EC Harris is a leading international built asset consultancy with over 100 years of experience across all sectors of the construction and property industry. EC Harris is seen as a leading cost consultant within the UK, working on circa £750m of recently tendered schemes and over half of all residential projects within London.
- 2.7.2 Internal peer reviews and quality checks were carried out throughout the costing and report writing process. Reviews were carried out at each key stage of the project and upon the receipt of updated information.
- 2.7.3 All costing work was carried out and reviewed by a team of chartered surveyors and other accredited professionals working within the industry. Internal and external sources of data, (examples listed below), were used to acquire accurate and up to date costs.
- Recent tenders which reflects tendered prices across circa £750m of recent residential projects.
  - Consultation of industry professionals e.g. house builders, consultants and suppliers.
  - Internal EC Harris cost databases
  - Current industry practice based on experience of relevant schemes
- 2.7.4 Full detailed workings and assumptions of all costing's can be found within the appendices.

## 2.8 Time costs

2.8.1 Most of the standards considered within this report incur a “process” cost related to professionals’ time spent dealing with the standard, for example architects time working on designs to comply with Lifetime Homes. The DCLG Housing Standards Review Evidence Report by Adroit, further explains the basis of the cost applied to such professionals’ time. Briefly the approach has been to use a blended average between market rates (i.e. what a client could expect to pay for a professional’s time) and the Annual Survey of Hours and Earnings (ASHE) reflecting wages with 30% added for overheads. The two sets of rates and resultant average adopted are indicated below. Market rates are derived from EC Harris’ cost database.

Table 2 – Process Costs Rates

Profession	Market Hourly Rate	ASHE + 30% (2014)	Blended Hourly Rate Adopted
Architect	£80	£24	£52
Building Control Surveyor	£70	£23	£46
Building Surveyor	£70	£23	£46
Quantity Surveyor	£90	£25	£57
Construction Energy Assessors	£70	£26	£48
Building Service Engineer	£70	£23	£46
Civil Engineer	£70	£24	£47
Mechanical Engineer	£70	£28	£49
Construction Manager	£90	£25	£57
Project Manager	£90	£23	£57
Town Country Planner	£100	£23	£61
Skilled Trades	£20	£15	£18

## 2.9 Scheme Typologies

2.9.1 It is recognised that costs, and in particular process costs, differ dependent on the scale of development. This is particularly true where largely fixed cost items exist such as a report required under Code for Sustainable Homes which may cost the same for a 5 dwelling scheme as a 50 dwelling scheme and as such is a much greater cost per dwelling for the smaller scheme. For this reason all process costs are indicated for a 5, 50 and 100 dwelling scheme.

## 2.10 Process costs

2.10.1 Process costs are costs not directly associated with the building works to comply with a standard but arising from the process of compliance. These include additional design time incorporating requirements and commissioning of specialist reports. Process costs have been split into three key categories:

- Direct project costs to house builders – These are costs which the house builder would incur in complying with the standard, for example paying for additional design work to incorporate requirements of Lifetime Homes or spending time sourcing components to comply with Secured by Design. These costs are indicated for each current and proposed standard under sections 3 and 4 of this report.
- Recipient costs - In addition to the above there is a further current process cost, typically to planning authorities, in receiving and reviewing evidence of compliance. These costs are indicated for each current and proposed standard under sections 3 and 4 of this report.
- Overhead costs - Following consultation it has been identified that for many firms, there is a further process cost where in-house experts or consultants are retained on a more general basis. An example is a developer employing a “compliance” expert with a remit to ensure each site team comply with the various code for sustainable homes obligations to ensure there are no costly problems at completion. These costs are indicated under section 5 of this report.

## 3 Counterfactual

### 3.1 Security

#### Introduction

3.1.1 By far the most common current security standard is Secured by Design (SBD). This standard can be required under planning consents or adopted to achieve credits under the Code for Sustainable Homes. Section 2 of the SBD standard relates to physical security and is more commonly specified as well as being required via Code for Sustainable Homes and Homes & Communities Agency standards. Section 1 of the SBD standard relates to site layout and design and has been confirmed as being outside the scope of the Housing Standards Review.

#### Key Changes

3.1.2 Aside from general updates and the additional dwelling typology, the following key changes have been made since the June 2013 EC Harris report:

- Upper floor apartments – costs have been differentiated for ground and upper floor apartments reflecting the difference in requirements where windows are not accessible. The typical costs below relate to an apartment block of 12 dwellings over 3 floors with only ground floor apartments including the enhanced window specification.
- Garages – a separate cost has been identified for security arrangements in relation to garages where these are present.
- PAS 23/24 costs – further market testing and cost data analysis has been undertaken in relation to the cost of PAS23/24 doors and windows in comparison to those specified in usual industry practice.
- Updated figures – since consultation the requirements of Building Regulations Part L were updated, therefore our base case cost has been updated to reflect this. There has also been a reduction in the cost of renewable technology and Secured by Design following market testing and industry data received.

#### Updated Costs

3.1.3 The following tables indicate the cost of complying with SBD as an extra over usual industry practice.

Table 3 – Secured by Design flat cost summary

	Typical (3 story block)	Ground Floor Flats	Upper Floor Flats
1B Flat	£336	£410	£299
2B Flat	£342	£416	£305

Table 4 – Secured by Design house cost summary

	Small Developer	Large Developer
2B Terrace	£315	£299
3B Semi Detached	£315	£299
4B Detached	£352	£337
Additional Garage Cost		
All Typologies	£203	£203

- 3.1.4 The following points are noted in relation to the above costs. A full breakdown of the costs and supporting notes is included at appendix A1.
- Costs for apartments include an apportionment of communal door costs
  - EC Harris have obtained market quotations for the door and window assumptions included within the schedule for both the Base Case and PAS 24 compliant doors/windows based on a recent specification.
  - The range of costs received indicated the variety of products on the market. Following discussion with various stakeholders it was agreed that the lowest cost scenario for the ‘small developer’ option was agreed as the most competitive quotation received. The ‘large developer’ option cost is based on aggregated figures supplied by leaders in the market, and represents a discounted rate though bulk buying scenarios.
  - Window costs are based on basic UPVC double glazed units, excluding any additional specification options i.e acoustic requirements etc.
  - Cost included with the EO figures are based on additional security requirements for ground floor windows only. No allowance has been made for windows at first floor level which may be required to have additional security i.e where accessible from a flat roof.

**Process Costs**

- 3.1.5 As noted within the previous report, SBD Section 2 was generally agreed to be one of the more straightforward standards. Common issues contributing to process costs were identified as:
- Sourcing appropriate components and managing certification / evidence of compliance.
  - An element of non-linear process due to some subjectivity in judging compliance (i.e. the design team would make a proposal, receive comment, make a revised proposal and possibly repeat these steps).
  - Some checks / calculations / measurements which would not be required within the normal design process.
  - Typically several written / telephone exchanges plus one meeting.
- 3.1.6 The process costs per dwelling for security standards are summarised below in tables 5-7 for each scheme size typology. Table 8 indicates the process cost for the recipient.

*Table 5 – Secured by Design process costs (Small Development)*

Professional	Total hours	Hourly Rate	Total
Design Team	12.5	£52	£650
<b>Total</b>	12.5		<b>£650</b>
	Nr dwelling types		2
	Nr dwellings		5
	£/type		£325
	£/dwelling		£130

Table 6 – Secured by Design process costs (Medium Development)

Professional	Total hours	Hourly Rate	Total
Design Team	15	£52	£780
<b>Total</b>	15		<b>£780</b>
	Nr dwelling types		5
	Nr dwellings		50
	£/type		£156
	£/dwelling		£16

Table 7 – Secured by Design process costs (Large Development)

Professional	Total hours	Hourly Rate	Total
Design Team	20	£52	£1,040
<b>Total</b>	20		<b>£1,040</b>
	Nr dwelling types		10
	Nr dwellings		100
	£/type		£104
	£/dwelling		£10

Table 8 – Secured by Design recipient process costs

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	4	£184	£37
Medium	50	£46	6	£276	£6
Large	100	£46	12	£552	£6

## 3.2 Energy

### Introduction

- 3.2.1 Under the Energy work stream the Code for Sustainable Homes was considered. Requirements associated with the Planning and Energy Act (2008) were not part of the scope of the report.
- 3.2.2 The Code for Sustainable Homes is commonly required via planning consents at varying levels, most typically level 3 or 4. Level 4 must be achieved for all schemes in London under the Housing SPG.

### Key Changes

- 3.2.3 Aside from general updates and the additional dwelling typology the following key changes have been made since the June 2013 EC Harris report:
- Photovoltaic (PV) panel costs – Further market testing and cost data analysis has been undertaken in relation to the cost of PV panel installations. In particular the fixed and variable costs of the installation have been considered (i.e. those which are diluted, driving down the cost for larger schemes). Costs have reduced reflecting an ongoing trend of falling prices for PV panels.
  - Photovoltaic (PV) panel costs – The costs for PV panels compare with the work carried out by Parsons Brinkerhoff. The figures shown in the tables below are within the range of costs produced by the Parsons Brinkerhoff report, however are below the central estimate figure.
  - Code for Sustainable Homes – Two methods of achieving code levels have been included. This reflects the fact that, whilst the central assumption will still be most commonly encountered, certain schemes will have characteristics which drive a lower or higher cost.
  - Building Regulations – The June 2013 work adopted the then current Part L as the base case for calculating extra over costs. The base case has now been revised to the new Part L which came into effect from 6th April 2014.
  - Greywater and rainwater harvesting – Further market testing and cost data analysis has been undertaken in relation to the costs of greywater and rainwater harvesting systems and the need to include these systems at Code for Sustainable Homes levels 5 and 6. This has resulted in a reduction to the earlier costs. Section 3.5.2 of this report states how potential double counting has been considered.

### Updated Costs

- 3.2.4 The following tables indicate the costs of compliance with the standards in excess of the Building Regulations. For the avoidance of doubt the base position in respect of Part L is 2013 (i.e. the new Part L which came into effect from 6<sup>th</sup> April 2014).
- 3.2.5 Table 9 indicates the total costs to comply with the Code for Sustainable Homes. Tables 10 and 10a apportion this total cost between the energy part of the code and other areas.
- 3.2.6 The costs for Lifetime Homes, Secured by Design and Water have been included within the tables below. These figures however have not been double counted within the Impact Assessment Model.

Table 9 – Total Code for Sustainable Homes costs summary

	1B Apartment	2B Apartment	2B Terrace	3B Semi- detached	4B Detached
<b>Cost central compliance method (extra over usual industry practice, medium scheme size)</b>					
Code for Sustainable Homes Level 1	£0	£0	£0	£0	£0
Code for Sustainable Homes Level 2	£40	£40	£40	£40	£40
Code for Sustainable Homes Level 3	£46	£46	£46	£49	£49
Code for Sustainable Homes Level 4 (renewable primary heating source)	£287	£662	£631	£790	£1,103
Code for Sustainable Homes Level 5 (renewable primary heating source)	£5,303	£6,297	£15,025	£17,688	£22,713
Code for Sustainable Homes Level 6 (renewable primary heating source)	£10,103	£15,247	£21,566	£25,939	£31,435
<b>Alternative method of compliance</b>					
Code for Sustainable Homes Level 4 (fabric first + PVs)	£441	£574	£865	£978	£1,315
Code for Sustainable Homes Level 5 (fabric first + PVs)	£6,103	£9,247	£15,566	£19,939	£25,435
Code for Sustainable Homes Level 6 (fabric first + PVs)	£10,103	£15,247	£21,566	£25,939	£31,435



Table 10 – Code for Sustainable Homes costs summary (Energy credits only)

	1B Apartment	2B Apartment	2B Terrace	3B Semi- detached	4B Detached
<b>Cost central compliance method (extra over usual industry practice, medium scheme size)</b>					
Code for Sustainable Homes Level 1	£0	£0	£0	£0	£0
Code for Sustainable Homes Level 2	£0	£0	£0	£0	£0
Code for Sustainable Homes Level 3	£0	£0	£0	£0	£0
Code for Sustainable Homes Level 4 (renewable primary heating source)	£241	£616	£585	£741	£10,054
Code for Sustainable Homes Level 5 (renewable primary heating source)	£2,495	£3,441	£10,760	£12,855	£17,764
Code for Sustainable Homes Level 6 (renewable primary heating source)	£2,495	£12,391	£17,301	£21,106	£26,486
Renewable energy, 10% (via PVs)	£1,027	£1,253	£1,499	£1,950	£2,523
Renewable energy, 20% (via PVs)	£1,643	£2,005	£2,399	£3,120	£4,037
<b>Alternative method of compliance</b>					
Code for Sustainable Homes Level 4 (fabric first + PVs)	£395	£528	£819	£929	£1,266
Code for Sustainable Homes Level 5 (fabric first + PVs)	£3,295	£6,391	£11,301	£15,106	£20,486
Code for Sustainable Homes Level 6 (fabric first + PVs)	£7,295	£12,391	£17,301	£21,106	£26,486

Table 10a - Code for Sustainable Homes costs summary (Non Energy credits)

	1B Apartment	2B Apartment	2B Terrace	3B Semi- detached	4B Detached
<b>Cost central compliance method (extra over usual industry practice, medium scheme size)</b>					
Code for Sustainable Homes Level 1	£0	£0	£0	£0	£0
Code for Sustainable Homes Level 2	£40	£40	£40	£40	£40
Code for Sustainable Homes Level 3	£46	£46	£46	£49	£49
Code for Sustainable Homes Level 4	£46	£46	£46	£49	£46
Code for Sustainable Homes Level 5	£2,809	£2,857	£4,265	£4,833	£4,949
Code for Sustainable Homes Level 6	£2,809	£2,857	£4,265	£4,833	£4,949

3.2.7 The following points are noted in relation to the Code for Sustainable Homes costs:

- In line with feedback received 2 alternative methods of achieving the standards for ENE1 and ENE2 have been assessed. Alternative 1 is a renewables approach, using a combination of fabric enhancement and PV panels to achieve the Dwelling Emission Rate and Dwelling Fabric rate required under the standard. Alternative 2 looks to use the Dwelling fabric to achieve the DER/TER improvement required under ENE1, and equally to meet the fabric efficiency targets under ENE2.
- Additional work was carried out to ascertain whether code 5 was achievable through a renewable first approach. It was concluded that circa 50m<sup>2</sup> of roof space would be required for a 4 bed dwelling, over 80% of the total roof space, which although technically possible would not be a realistic approach across an entire scheme as other factors such as orientation and location would come into play. This aligns with the work carried out by the Zero Carbon Hub report which concluded a maximum installed panel area is 40% of the roof area.
- As part of the exercise EC Harris has reviewed alternative wall, floor and roof construction methodologies and materials to achieve the fabric efficiencies required, and from this exercise taken the most cost effective solution to achieve the required U Values.
- Code 5/6 costs assume the incorporation of additional costs associated with the inclusion of renewable technologies. For the purpose of the costing exercise an air source heat pump has been assumed to all houses.
- Where fabric enhancements are included to achieve both ENE1 and ENE2 all costs are included within ENE1.
- Costs are based on achieving the points detailed within the 'Point Allocation' table included within the appendix, which assumes (with the exception of mandatory elements) the lowest cost solution to achieve the points required will be incorporated.
- Fixed and variable costs have been taken into account with regards to renewable costs. Parsons Brinkerhoff report concluded 20% of costs were fixed which aligned with industry data received.

3.2.8 A full breakdown of the costs and supporting notes is included at appendix A2.

3.2.9 The saving in energy arising from enhanced fabric performance and / or renewable energy technologies is included within the Impact Assessment Model

## Process Costs

3.2.10 As previously identified process costs associated with Code for Sustainable Homes can be extensive and can include:

- Undertaking technical calculations, for example related to energy or water use.
- Collating and reviewing compliance evidence, for example light fitting specifications, materials traceability.
- Specialist consultant reports, for example relating to daylighting and ecology.
- The cost to achieve certification for each dwelling charged by the Building Research Establishment.

3.2.11 The process costs per dwelling for energy standards are summarised in table 11 for each scheme size. The table below indicates the costs for the 3 bed house typology, other types are included within Appendix A2.

3.2.12 It is noted that, in addition to the general costs incurred by the house builder, a fee of £37 per dwelling (minimum charge £370), needs to be paid to the Building Research Establishment for Code for Sustainable Homes certification. This fee is indicated within table 11.

Table 11 – Code for Sustainable Homes and planning and energy act process costs summary

	Small scheme	Medium Scheme	Large Scheme
Code for Sustainable Homes Level 1	£593	£117	£92
Code for Sustainable Homes Level 2	£593	£117	£92
Code for Sustainable Homes Level 3	£645	£125	£96
Code for Sustainable Homes Level 4	£686	£136	£107
Code for Sustainable Homes Level 5	£1,118	£228	£193
Code for Sustainable Homes Level 6	£1,118	£228	£193
Code BRE Fees	£74	£37	£37

### 3.3 Space

#### Introduction

3.3.1 A single, cross-tenure, nationally applied space standard does not currently exist. The counterfactual position in respect of space is therefore as follows:

- Affordable housing – The Homes & Communities Agency Housing Quality Indicators (HQI) minimum space standards. It is noted that historically many Registered Providers adopt the middle of the range set within the HQI system (rather than the minimum) and the impact assessment allows for this variation. The counterfactual represents the position prior to commencement of the Housing Standards Review – HCA policy for the 2015-18 Affordable housing Programme has already been aligned with the proposed review outcomes.
- Private housing outside of London – Dwellings sizes remain primarily market driven. However the survey evidence indicates an increasing number of local authorities adopting space standards, including cross tenure standards, which typically have similar requirements to the London plan.
- Data from the English Housing Survey has been used to estimate the distribution of current space standards. The data from the EHS was cross referenced against the EC Harris in-house database used at consultation to ensure consistency within the analysis. Further details on the process for analysing the English Housing Survey data are included within the DCLG Housing Standards Review Evidence Report by Adroit Economics.
- Housing within London – The Housing SPG states minimum space standards for dwellings of all tenures.
- Accessible Housing – An estimate has been made of the typical minimum space required to comply with Lifetime Homes, the Wheelchair Housing Design Guide and Wheelchair Housing Design Guides used in London.

#### Key Changes

3.3.2 Aside from general updates and the additional dwelling typology the following key changes have been made since the June 2013 EC Harris report:

- Private housing outside of London – Within the previous report the average areas for this type of housing were estimated based on a survey by EC Harris. This data has now been supplemented by the larger sample offered by analysis of the English Housing Survey. This approach also offers a greater level of granularity as rather than average sizes a distribution of delivery across a range of size bands is identified. Further detail on this point is included in the DCLG Housing Standards Review Evidence Report by Adroit Economics.

### Updated Costs

3.3.3 Table 12 indicates the base costs for dwellings constructed to the various current standards. It is noted that costs for Lifetime Homes and WHDG exclude the additional fittings / works for which costs are indicated in section 3.4 of this report. Further details including a selection of the cost models are included at Appendix A3.

Table 12 – Space area comparison

	1B Apartment	2B Apartment	2B Terrace	3B Semi- detached	4B Detached
Typical Private Sale	50m2	67m2	72m2	96m2	117m2
English Housing Survey	46m2	65m2	74m2	94m2	-
London Housing SPG	50m2	61m2	83m2	96m2	107m2

Table 12a – Space cost comparison

	1B Apartment	2B Apartment	2B Terrace	3B Semi- detached	4B Detached
Typical Space Standard (Basecase)	£81,966	£94,520	£78,044	£95,741	£121,045
English Housing Survey	£2,888	-£2,888	£1,264	-£1,264	-
London Housing SPG	-	-£4,332	£6,952	-	-£5,400

### Process Costs

3.3.4 Process costs for compliance with the Wheelchair Housing standards and Lifetime Homes are included within the Access part of this report. The English Housing Survey areas do not incur an additional process cost as they are market led (i.e. voluntarily adopted). Process costs associated with the London Housing SPG are indicated in tables 13-16

Table 13 – Space process costs (Small Development)

Professional	Total hours	Hourly Rate	Total
Architect	15	£52.00	£780
<b>Total</b>	<b>15</b>		<b>£780</b>
	Nr dwelling types		2
	Nr dwellings		5
	£/type		£390
	£/dwelling		£156

Table 14 – Space process costs (Medium Development)

Professional	Total hours	Hourly Rate	Total
Architect	30	£52.00	£1,560
<b>Total</b>	<b>30</b>		<b>£1,560</b>

Nr dwelling types	5
Nr dwellings	50
£/type	£312
£/dwelling	£31

Table 15 – Space process costs (Large Development)

Professional	Total hours	Hourly Rate	Total
Architect	50	£52.00	£2,600
<b>Total</b>	<b>50</b>		<b>£2,600</b>

Nr dwelling types	10
Nr dwellings	100
£/type	£260
£/dwelling	£26

Table 16 – Space recipient process costs

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	5	£230	£46
Medium	50	£46	7.5	£345	£7
Large	100	£46	14	£644	£6

## 3.4 Access

### Introduction

- 3.4.1 Access standards include Lifetime Homes and wheelchair housing standards. Lifetime Homes is an accessible housing standard incorporating features to enable adaptability of homes to meet users' changing needs. It can be required under a planning condition or adopted to secure credits under the Code for Sustainable Homes. Compliance is required for all dwellings within London under the Housing SPG.
- 3.4.2 Wheelchair housing standards allow full accessibility and use by wheelchair users and are commonly required under planning consents. The most common standard is the Wheelchair Housing Design Guide, however other bespoke standards have been developed and adopted by local authorities with different and often more demanding requirements than the original Wheelchair Housing Design Guide.
- 3.4.3 In certain cases the full wheelchair standard is not applied and instead a “future adaptability” approach is taken where key structural / mechanical & electrical elements are installed but features such as fully accessible kitchens are not. The dwelling can then be relatively easily converted to full accessibility and use at a later date if required.

### Key Changes

- 3.4.4 Aside from general updates and the additional dwelling typology the following key changes have been made since the June 2013 EC Harris report:
- Additional wheelchair housing standard – The earlier work considered only the Wheelchair Housing Design Guide. Costs for the bespoke Wheelchair Housing standards which have been adopted by a number of Councils, have now been included.
  - “Future adaptability” – Recognising that a proportion of dwellings are often permitted to be adaptable rather than fully fitted out, a differential cost for this element of the full works has been identified.
  - Car ports – The cost for car port / covered parking has been identified separately to allow application to a proportion of schemes as this will not necessarily be required for every development.

### Updated Costs

- 3.4.5 Table 17 indicates the construction related cost of complying with each standard as an extra over usual industry practice.

Table 17 – Access standards costs summary

	1B Apartment	2B Apartment	2B Terrace	3B Semi-detached	4B Detached
<b>Cost all dwellings (extra over usual industry practice)</b>					
Lifetime Homes	£1,082	£1,083	£1,092	£1,097	£1,100
BS9266	£4,024	£4,312	£3,873	£3,148	£2,458
Wheelchair Housing Design Guide	£10,553	£10,788	£24,568	£25,136	£25,282
Bespoke Higher Wheelchair Housing standards	£15,853	£15,992	£29,599	£30,428	£30,731
Wheelchair Housing Design Guide - Future Adaptable Dwelling	£8,095	£8,278	£9,594	£10,111	£10,204
<b>Additional costs applied to a proportion of dwellings</b>					
Carport (applied to a proportion of houses)	£2,500 per unit applied to BHWHDG	£2,500 per unit applied to BHWHDG	£2,500 per unit applied to BHWHDG	£2,500 per unit applied to BHWHDG	£2,500 per unit applied to BHWHDG

3.4.6 The following points are noted in relation to the above costs. A full breakdown of the costs and supporting notes is included at appendix A4.

- Aside from enlarged stairs, all costs exclude any additional space required to achieve the standard. This is included elsewhere within this report – table 17a summarises the additional cost arising from additional space needed to meet the most common access standards ( also see section on cost recovery which has not been applied to these figures)

Table 17a – Access related space cost summary

	1B Apartment		2B Apartment		2B Terrace		3B Semi-detached		4B Detached	
<b>Cost increase for additional m2</b>										
Lifetime Homes	+ 1 sq.m	£722	+ 1 sq.m	£722	+ 2 sq.m	£1,444	+ 3 sq.m	£2,166	+ 3 sq.m	£2,166
WHDG	+ 6 sq.m	£4,332	+ 12 sq.m	£8,664	+ 20 sq.m	£14,440	+ 22 sq.m	£15,884	+ 22 sq.m	£15,884

### Process Costs

3.4.7 As previously identified Lifetime Homes is considered to be a complex issue with process costs throughout the design and delivery phases. Issues driving the process cost included:

- Challenging to get a compliant design right first time, even for experienced architects within large practices. Often therefore a level of re-design required.
- Many aspects of the standard are outside of usual industry practice, therefore all “extra over” time.
- The same amount of time required for each house type (rather than scheme) which adds up to a significant cost where there are many house types.
- Requirement for careful management during the delivery phase ensuring attention paid to details which would not otherwise be material.
- Differing local authority requirements for evidencing of compliance and differing views on what is compliant.



- Time consuming to deal with external elements, particularly for sloping sites (note – costs below assume relatively level site).

3.4.8 Similarly the Wheelchair Housing Design Guide is considered to incur a high process cost, largely due to the complexity of the document. Key issues raised as causing the cost included:

- Extensive time to navigate, review and interpret the document.
- Generally a bespoke review needed for each dwelling typology – little opportunity for learning / scale benefits.
- Often a negotiation / review process with external stakeholders causing re-design as differing views incorporated.

3.4.9 The process costs per dwelling for access standards are summarised in tables 18 – 25 below.

**Lifetime Homes**

Table 18 – Lifetime Homes process costs (Small Development)

Professional	Total hours	Hourly Rate	Total
Architect (internal items)	15	£52.00	£780
Architect (external items)	12	£52.00	£624
Buyer	4	£57.00	£228
Construction Manager	4	£57.00	£228
<b>Total</b>	<b>35</b>		<b>£1,860</b>
	Nr dwelling types	2	
	Nr dwellings	5	
	£/type	£930	
	£/dwelling	£372	

Table 19 – Lifetime Homes process costs (Medium Development)

Professional	Total hours	Hourly Rate	Total
Architect (internal items)	37.5	£52.00	£1,950
Architect (external items)	15	£52.00	£780
Buyer	10	£57.00	£570
Construction Manager	10	£57.00	£570
<b>Total</b>	<b>72.5</b>		<b>£3,870</b>
	Nr dwelling types	5	
	Nr dwellings	50	
	£/type	£774	
	£/dwelling	£77	

Table 20 – Lifetime Homes process costs (Large Development)

Professional	Total hours	Hourly Rate	Total
Architect (internal items)	75	£52.00	£3,900
Architect (external items)	20	£52.00	£1,040
Buyer	20	£57.00	£1,140
Construction Manager	20	£57.00	£1,140
<b>Total</b>	<b>135</b>		<b>£7,220</b>
	Nr dwelling types	10	
	Nr dwellings	100	
	£/type	£722	
	£/dwelling	£72	

Table 21 – Lifetime Homes Recipient process costs

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	5	£230	£46
Medium	50	£46	7.5	£345	£7
Large	100	£46	14	£644	£6

### Wheelchair Housing Design Guide

Table 22 – Wheelchair Housing Design Guide process costs (Small Development)

Professional	Total hours	Hourly Rate	Total
Architect	45	£52.00	£2,340
Buyer	7.5	£57.00	£428
Construction Manager	15	£57.00	£855
<b>Total</b>	<b>67.5</b>		<b>£3,623</b>

Nr dwelling types	1
Nr of wheelchair dwellings	1
£/type	£3,623
£/dwelling	£3,623

Table 23 – Wheelchair Housing Design Guide process costs (Medium Development)

Professional	Total hours	Hourly Rate	Total
Architect	45	£52.00	£2,340
Buyer	11.5	£57.00	£656
Construction Manager	11	£57.00	£627
<b>Total</b>	<b>67.5</b>		<b>£3,623</b>

Nr dwelling types	3
Nr of wheelchair dwellings	5
£/type	£1,208
£/dwelling	£725

Table 24 – Wheelchair Housing Design Guide process costs (Large Development)

Professional	Total hours	Hourly Rate	Total
Architect	45	£52.00	£2,340
Buyer	7.5	£57.00	£428
Construction Manager	15	£57.00	£855
<b>Total</b>	<b>67.5</b>		<b>£3,623</b>

Nr dwelling types	6
Nr of wheelchair dwellings	10
£/type	£604
£/dwelling	£362

Table 25 – Wheelchair Housing Design Guide recipient process costs

	Wheelchair Dwellings	Rate	Hrs	Total	£/dwelling
Small	1	£46	2	£92	£92
Medium	5	£46	4	£184	£37
Large	10	£46	8	£368	£37

## 3.5 Water

### Introduction

3.5.1 Specific water standards outside of those driven by Code for Sustainable Homes requirements are relatively uncommon. Policies encountered largely fall into the categories of:

- Requirements to achieve a certain level of Code credits within the water element.
- Requirements for greywater or rainwater harvesting systems.

3.5.2 This section of the report highlights costs of the above separately. The Impact Assessment Model avoids any double counting of costs where, for example, a scenario has a requirement for rainwater harvesting but also a high Code level which may also include this.

### Key Changes

3.5.3 Aside from general updates and the additional dwelling typology the following key changes have been made since the June 2013 EC Harris report:

- Methods of compliance – Further analysis has been undertaken on alternative methods of achieving compliance with water requirements at Code for Sustainable Homes levels 5 and 6.
- Rainwater and greywater harvesting – Further market testing and cost data analysis has been undertaken to refine the costs of these systems.
- Part G – Costs have been updated to reflect the extra over the latest requirements of Part G of the Building Regulations.

### Updated Costs

3.5.4 The following table indicates the cost of complying with each standard as an extra over usual industry practice.

Table 26 – Water standards costs summary

	1B Apartment	2B Apartment	2B Terrace	3B Semi- detached	4B Detached
<b>Cost all dwellings (extra over usual industry practice)</b>					
Water, Code Level 1	-	-	-	-	-
Water, Code Level 2	-	-	-	-	-
Water, Code Level 3	£6	£6	£6	£9	£9
Water, Code Level 4	£6	£6	£6	£9	£9
Water, Code Level 5	£900	£900	£2,201	£2,697	£2,697
Water, Code Level 6	£900	£900	£2,201	£2,697	£2,697
<b>Alternative standards</b>					
Rainwater only	£887	£887	£2,181	£2,674	£2,674

3.5.5 The following points are noted in relation to the above costs:

- The Water Calculator for new dwellings has been used to ascertain the required additional measures to achieve the 'Proposed Standard' and Code 5/6 Costs.
- Following research and liaison with industry experts, it is clear that typically rainwater harvesting has been incorporated as the means to achieve the 80l/p/d required under CfSH 5 and 6. An alternative solution would be to have 'shower only' dwellings. However, experience is that dwellings without a bath are not preferred by house builders or registered providers.

- The extra over cost associated with the incorporation of a 4/2.4l toilet is based on quotations received. Costs are based on base range pan/cistern. Plumbing for both scenarios has been assumed to be unchanged between the two options.
- Costs for rainwater harvesting have been obtained. Rates include for all necessary installation costs. For the purposes of comparison craneage has been assumed as being available on site.

3.5.6 A full breakdown of the costs and supporting notes is included at appendix A5.

### Process Costs

3.5.7 The process costs per dwelling for water standards are summarised in tables 27 - 30 below.

Table 27 – Water standards process costs (Small Development)

Professional	Total hours	Hourly Rate	Total
Mechanical & Electrical Engineer / Sustainability specialist (100%)	3	£49.00	£147
<b>Total</b>	<b>3</b>		<b>£147</b>

Nr dwelling types	2
Nr dwellings	5
£/type	£74
£/dwelling	£29

Table 28 – Water standards process costs (Medium Development)

Professional	Total hours	Hourly Rate	Total
Mechanical & Electrical Engineer / Sustainability specialist (100%)	3	£49.00	£147
<b>Total</b>	<b>3</b>		<b>£147</b>

Nr dwelling types	5
Nr dwellings	50
£/type	£29
£/dwelling	£3

Table 29 – Water standards process costs (Large Development)

Professional	Total hours	Hourly Rate	Total
Mechanical & Electrical Engineer / Sustainability specialist (100%)	7.5	£49.00	£368
<b>Total</b>	7.5		<b>£368</b>

Nr dwelling types      10  
 Nr dwellings            100  
                                   £/type            £37  
                                   £/dwelling       £4

Table 30 – Water standards recipient process costs

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	4	£184	£37
Medium	50	£46	6	£276	£6
Large	100	£46	12	£552	£6

## 4 Proposed Standards

### 4.1 Security

#### Introduction

4.1.1 The proposed security standard is indicated within the draft Approved Document Q included at Appendix B1. The key features of the proposed standard are:

- All external doors to houses, common entrance doors to apartments and apartment entrance doors to meet PAS 24:2012 or the alternative requirements set out within the Approved Document and be fixed appropriately.
- Garage doors are not required to comply if access to the dwelling is not possible.
- All basement, ground floor and easily accessible windows to meet PAS 24:2012 and be fixed appropriately.
- Laminated glazing has been excluded to all windows under the proposed standard

#### Key Changes

4.1.2 Aside from general updates and the additional dwelling typology the following key changes have been made since the June 2013 EC Harris report:

- Definition of the standard – This has now been refined, costs have therefore been amended accordingly.
- Further engagements with Industry and testing of market prices to improve evidence, providing a more detailed and accurate build-up of industry costs.

#### Updated Costs

4.1.3 Tables 31 and 32 indicate the cost of complying with each standard as an extra over usual industry practice. As for the Secured by Design standard in the counterfactual section of this report a separate cost is included for smaller and larger developers reflecting achievable external door costs given their respective purchasing power.

Table 31 – Proposed security standard costs summary flats

	Ground Floor Flats	Upper Floor Flats
1B Flat	£58	£40
2B Flat	£64	£46

Table 32 – Proposed security standard costs summary houses

	Small Developer	Large Developer
2B Terrace	£95	£79
3B Semi Detached	£95	£79
4B Detached	£107	£91

4.1.4 A full breakdown of the costs and supporting notes is included at appendix B1.



## Process Costs

4.1.5 The proposed security standard covers relatively few building elements (doors and windows) and would be applied to all dwellings. It is therefore anticipated that the process associated with the standard would be limited and it is estimated that 5 minutes would be spent for each dwelling checking compliance of components. The tables below indicate the anticipated cost for small, medium and large schemes:

Table 33 - Security process cost (Small Development)

Professional	Total hours	Hourly Rate	Total
Design Team	0.2	£52	£10
<b>Total</b>	0.2		<b>£10</b>
	Nr dwelling types	2	
	Nr dwellings	5	
	£/type	£5	
	£/dwelling	£2	

Table 34 - Security process cost – (Medium Development)

Professional	Total hours	Hourly Rate	Total
Design Team	0.4	£52	£21
<b>Total</b>	0.4		<b>£21</b>
	Nr dwelling types	5	
	Nr dwellings	50	
	£/type	£4	
	£/dwelling	£0.4	

Table 35 - Security process cost – (Large Development)

Professional	Total hours	Hourly Rate	Total
Design Team	0.8	£52	£42
<b>Total</b>	0.8		<b>£42</b>
	Nr dwelling types	10	
	Nr dwellings	100	
	£/type	£4	
	£/dwelling	£0.4	

Table 36 – Security recipient costs

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	0.1	£5	£0.9
Medium	50	£46	0.2	£9	£0.2
Large	100	£46	0.4	£18	£0.2

## 4.2 Energy

### Introduction

4.2.1 It is not proposed that a new energy standard be introduced as part of the Housing Standards Review. Schemes would therefore need to comply with the Building Regulations and as such no additional cost would be incurred in the proposed scenario.

### Key Changes

4.2.2 The costs in the proposed scenario remain as zero. As noted within the earlier section of this report the counterfactual cost has been reduced to reflect the new Part L of the Building Regulations (i.e. the extra over cost to achieve Code for Sustainable Homes is reduced).

### Updated Costs

4.2.3 As above there is no additional cost in the proposed scenario.

### Process Costs

4.2.4 As above there is no process cost in the proposed scenario.

## 4.3 Space

### Introduction

4.3.1 It is proposed that a single space standard be available which local authorities could choose to make applicable to dwellings of any tenure in all locations. The standard would be suitable for general needs users and also be sufficient to allow enhanced accessibility but not full wheelchair use.

4.3.2 The space standard would be available for local authorities to select if appropriate, particularly having regard to local housing market characteristics and viability issues.

### Key Changes

4.3.3 Aside from general updates and the additional dwelling typology the following key changes have been made since the June 2013 EC Harris report:

- Definitions of the standard – The proposed areas have been amended since the June 2013 report and as such the costs have been changed accordingly. The principle of adopting a full cost model to estimate changes in costs does however remain, this ensures that fixed cost items such as bathroom costs remain unchanged and the cost amendment relates only to the enlarged area.
- Ceiling Height – An assumed ceiling height of 2.6m was used within the proposed elemental costings. This is an assumption by EC Harris based on a conservative approach to typical industry practice in areas where space standards are currently applied, and where requirements range from 2.4 – 2.6m. The proposed ceiling height of 2.5m is considered cost neutral compared to the counterfactual where space standards currently apply, but does have a material cost which is relevant for viability purposes. Details on different storey height costings can be found in Appendix B3 with reference to the industry minimum ceiling height of 2.35m.

### Updated Costs

4.3.4 The central assumption within the Impact Assessment is that the new space standards would be adopted within areas currently applying a space standard. The new standard is broadly quite similar to existing standards:

- The variance is between 1 and 3m<sup>2</sup> across the private dwelling typologies under consideration in comparison to the most common current standard.
- The variance is between 3 and 9m<sup>2</sup> across the affordable dwelling typologies under consideration in comparison to the most common current standard, the Homes & Communities Agency HQI standard.

4.3.5 The DCLG Housing Standards Review Evidence Report by Adroit Economics provides details of the methodology for assessing the impacts of the proposed standard. However, Table 37 below gives an

overview of the construction costs of increasing or decreasing each dwelling typology by various areas and has been calculated based on the cost models at Appendix B3.

Table 37 – Additional space costs summary

	1B Apartment	2B Apartment	2B Terrace	3B Semi- detached	4B Detached
<b>Total Cost increase per m2</b>					
+ 1 sq.m	+ £722	+ £722	+ £632	+ £632	+ £540
+ 2 sq.m	+ £1,444	+ £1,444	+ £1,264	+ £1,264	+ £1,080
+ 3 sq.m	+ £2,166	+ £2,166	+ £1,896	+ £1,896	+ £1,620
+ 5 sq.m	+ £3,610	+ £3,610	+ £3,175	+ £3,175	+ £2,700
+ 10 sq.m	+ £7,220	+ £7,220	+ £6,320	+ £6,320	+ £5,400

Table 37a – Additional space costs after Space cost recovery

	1B Apartment	2B Apartment	2B Terrace	3B Semi- detached	4B Detached
+ 1 sq.m	+ £73	£73	£64	£64	£55
+ 2 sq.m	+ £146	£146	£128	£128	£109
+ 3 sq.m	+ £435	£435	£381	£381	£164
+ 5 sq.m	+ £1,014	£1,014	£891	£891	£758
+ 10 sq.m	+ £2,893	£2,893	£2,532	£2,532	£2,164

*Note – The above figures are based on 80% of costs being recovered via increased revenues as described under 4.3.9 to 4.3.16. This approach is based on areas where space standards are implemented after viability testing – in areas where space standards would not be found to be viable a reduced cost recovery may occur.*

Table 37b – Space standard cost comparison

	1B Apartment	2B Apartment	2B Terrace	3B Semi- detached	4B Detached
Typical Current Space Standard	50m <sup>2</sup>	67m <sup>2</sup>	72m <sup>2</sup>	96m <sup>2</sup>	117m <sup>2</sup>
English Housing Survey	46m <sup>2</sup>	65m <sup>2</sup>	74m <sup>2</sup>	94m <sup>2</sup>	N/A
Proposed	50m <sup>2</sup>	61m <sup>2</sup>	79m <sup>2</sup>	93m <sup>2</sup>	106m <sup>2</sup>
Area Difference (Typical - Proposed)	-	6m <sup>2</sup>	7m <sup>2</sup>	3m <sup>2</sup>	11m <sup>2</sup>
Cost Difference (Typical - Proposed)	-	£4,332	-£4,424	£1,896	£5,940
Area Difference (EHS - Proposed)	4m <sup>2</sup>	4m <sup>2</sup>	5m <sup>2</sup>	1m <sup>2</sup>	N/A
Cost Difference (EHS - Proposed)	-£2,888	£2,888	-£3,160	£632	N/A

- 4.3.6 Table 37b shows both a comparison and of area and cost between the proposed standard, 'typical' current standard and the average size taken from the English Housing Survey.
- 4.3.7 The figures shown for the EHS are the median figure taken from the survey for each typology. The IA uses a distribution of the EHS figures. There was not enough sufficient data collected for 4B Houses.
- 4.3.8 The 'typical' figures are taken from EC Harris's internal benchmark data which were used within the June 2013 consultation report. These figures are similar to those of the English Housing Survey.

### Space Cost Recovery

- 4.3.9 The preceding section explains the build cost impact of changing space standards. For affordable rented housing there will not be a material change in value associated with changes in space (the value of affordable rented housing is based on rent levels which are linked to the number of bedspaces rather than the dwelling size). However, for private and intermediate housing, changes in space standard can have an impact on sales value which may offset some or all of the additional build cost.
- 4.3.10 The extent to which sales values change in line with space standards varies greatly dependent on local market characteristics. Key issues include:
- The extent to which buyers are prepared and / or able to pay an additional purchase price.
  - Proximity of current sales values to capped values driven by perceptions (e.g. an unwillingness to pay over £200,000 for a 2 bed home) or stamp duty thresholds (e.g. where a 4 bed home currently sells for £250,000 there will be a significant stamp duty cost even where the value is increased by only £1 and as such buyers will not be prepared to pay a premium for a small increase in space standards).
  - The type and quantity of dwellings available in the existing stock market.
- 4.3.11 A further important issue is the density of development. Where low to medium density houses are constructed it is unlikely that small changes in space standards will lead to an overall reduction in site density (i.e. increased dwelling footprints meaning that less dwellings can fit within the site).

However for higher density schemes, particularly apartments, it is possible that small changes will lead to a reduction in dwelling numbers and therefore potentially impact on developer returns.

- 4.3.12 The issues described in the paragraphs above can have impacts on viability. The Housing Forum report of 2010 “Viability Impacts of Core Standards” examined a space standard proposed at the time and found that in a number of case study location / scheme typologies development would have been unlikely to have been brought forward under the proposed standard.
- 4.3.13 The currently proposed standards are to be optional, with local authorities able to implement them dependent on local circumstances. An authority considering implementing the standard would need to consider viability and ensure that any negative impacts were of a limited nature and as such would not limit developers’ or landowners’ ability to bring forward land for development. The Impact Assessment Model makes assumptions as to the proportion of areas which would be likely to implement the space standards on this basis.
- 4.3.14 On the basis of the above an assessment has been made as to the likely extent to which additional build costs could be recovered via sales values (or the reverse case where the proposed space standard is less than a current space standard). It is noted that this assessment is made on the basis that the standard is implemented in areas where it is supported by viability – areas where this is not the case are likely to have differing results.
- 4.3.15 Table 38 below summarises the impact on a typical dwelling of a variety of space standard changes. The following points are noted in relation to the table:
- The first three columns indicate the area change (1, 2, 3, 5 and 10m<sup>2</sup> for consistency with other sections of this report), base area (for this example based on the average of all new dwellings from the English Housing Survey) and standards area (base plus change).
  - The columns under the “Values” heading indicate the base value of the theoretical dwelling (the Halifax House Price Index average for new build dwellings has been adopted for this example) in £ and £/m<sup>2</sup> and the value for the increased size dwelling.
  - The columns under the “Costs” heading indicate the build cost increase (as described earlier within this report and indicated in Table 37), and also an all-in cost change which adds professional fees, contingencies, development management costs, planning costs and sales and marketing costs (a total addition of 32%).
  - It is usual that, when dwellings are amended to a size different to the market optimum, the value will increase but the value per m<sup>2</sup> will decrease (i.e. the price paid for additional space will decline). This can be seen under the “Standards value £/m<sup>2</sup>” column.

Table 38 – Space cost recovery

Area change			Values					Costs		Recovery
Area change (m <sup>2</sup> )	Base area (m <sup>2</sup> )	Standards Area (m <sup>2</sup> )	Base value (£)	Base value (£/m <sup>2</sup> )	Standards Value (£)	Standards Value (£/m <sup>2</sup> )	Value Increase (£)	Cost increase - build (£)	Cost increase - all in (£)	Percent cost recovered
1	91	92	£ 255,000	£ 2,802	£ 255,750	£ 2,780	£ 750	£ 632	£ 834	90%
2	91	93	£ 255,000	£ 2,802	£ 256,500	£ 2,758	£ 1,500	£ 1,264	£ 1,668	90%
3	91	94	£ 255,000	£ 2,802	£ 257,000	£ 2,734	£ 2,000	£ 1,896	£ 2,503	80%
5	91	96	£ 255,000	£ 2,802	£ 258,000	£ 2,688	£ 3,000	£ 3,160	£ 4,171	72%
10	91	101	£ 255,000	£ 2,802	£ 260,000	£ 2,574	£ 5,000	£ 6,320	£ 8,342	60%

- 4.3.16 Table 38 above indicates that the percentage of cost recovered via additional value declines as the amount of space added grows. For relatively small areas (1-2m<sup>2</sup>) 90% of the cost is recovered via sales values, however this figure declines to 60% for the 10m<sup>2</sup> addition. The Impact Assessment Model identifies the difference between proposed space standards and the range of current areas. Given that most changes in area are within the 1-5m<sup>2</sup> range, an assumption of 80% cost recovery is made.

## Process Costs

- 4.3.17 Where space standards are adopted by a local authority it is anticipated that house builders would incur a process cost developing designs and checking compliance with the standard. A process of “type approval” would be possible such that house builders who utilise standard house types would avoid the need to test and have these approved for each scheme. Even where type approval is not adopted, costs will be considerably lower within the framework of a national space standard because assessing compliance will be consistent, and standard compliant designs will emerge which can be easily revised to meet bespoke needs, avoiding the need to re-design portfolios from scratch.
- 4.3.18 Tables 39-44 indicate the anticipated costs for those not adopting type approval for small, medium and large schemes and the one-off cost per house type for those adopting type approval. The Impact Assessment model assumes that house builders would adopt type approval for a proportion of schemes with larger firms being more likely to adopt this route. The model also assumes that type approval would be more relevant to houses rather than apartments which are often more site specific designs. The time allowed for type approval includes review of the design, check for compliance, amendment and response to any clarification raised following submission.
- 4.3.19 There has been a significant reduction from the counterfactual space process cost for all development sizes due to the removal of the requirement for both furniture layouts and minimum sized non-habitable room areas.

Table 39 - Space process cost (Small Development)

Professional	Total hours	Hourly Rate	Total
Design Team	3.5	£52	£182
<b>Total</b>	3.5		<b>£182</b>
	Nr dwelling types		2
	Nr dwellings		5
	£/type		£91
	£/dwelling		£36

Table 40 - Space process cost (Medium Development)

Professional	Total hours	Hourly Rate	Total
Design Team	8	£52	£416
<b>Total</b>	8		<b>£416</b>
	Nr dwelling types		5
	Nr dwellings		50
	£/type		£83
	£/dwelling		£8

Table 41 - Space process cost (Large Development)

Professional	Total hours	Hourly Rate	Total
Design Team	16	£52	£832
<b>Total</b>	16		<b>£832</b>
	Nr dwelling types		10
	Nr dwellings		100
	£/type		£83
	£/dwelling		£8

Table 42 - Space recipient costs

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	0.5	£23	£5
Medium	50	£46	2	£92	£2
Large	100	£46	4	£184	£2

Table 43 - Space process cost – Type approval (per dwelling type)

Professional	Total hours	Hourly Rate	Total
Design Team	8	£52	£416
<b>Total</b>	8		<b>£416</b>

Table 44 – Space recipient costs – Type approval (per dwelling type)

Dwelling Type	Rate	Hrs	Total	£/dwelling
1	£46	2	£92	£92

## 4.4 Access

### Introduction

4.4.1 The proposed security standard is indicated within the draft Approved Document M amendments included at Appendix B4. The key features of the proposed standard are:

- A 3 level standard, reflecting accessibility as follows:
  - Category 1 – Dwellings which provide reasonable accessibility
  - Category 2 – Dwellings which provide enhanced accessibility and adaptability
  - Category 3 – Dwellings which are accessible and adaptable for occupants who use a wheelchair

### Key Changes

4.4.2 Aside from general updates and the additional dwelling typology the following key changes have been made since the June 2013 EC Harris report:

- Definition of the standard – this has now been refined, costs have therefore been amended accordingly.

### Updated Costs

4.4.3 The following table indicates the cost of complying with each standard as an extra over cost above a standard for an equivalent dwelling type excluding additional space costs; these are shown in table 45a.

Table 45 – Access costs summary

	1B Apartment	2B Apartment	2B Terrace	3B Semi-detached	4B Detached
<b>Cost all dwellings (extra over current industry practice)</b>					
Category 1	-	-	-	-	-
Category 2	£940	£907	£523	£521	£520
Category 3 Adaptable	£7,607	£7,891	£9,754	£10,307	£10,568
Category 3 Accessible	£7,764	£8,048	£22,238	£22,791	£23,052

Table 45a – Access related space cost summary

	1B Apartment		2B Apartment		2B Terrace		3B Semi-detached		4B Detached	
<b>Cost increase for additional m2</b>										
Category 2	+ 1 sq.m	£722	+ 1 sq.m	£722	+ 2 sq.m	£1,444	+ 3 sq.m	£2,166	+ 3 sq.m	£2,166
Category 3	+ 8 sq.m	£5,776	+ 14 sq.m	£10,108	+ 21 sq.m	£15,162	+ 24 sq.m	£17,328	+ 24 sq.m	£17,328

Table 45b – Access related space cost after Space cost recovery

	1B Apartment		2B Apartment		2B Terrace		3B Semi-detached		4B Detached	
Category 2	+ 1 sq.m	£289	+ 1 sq.m	£289	+ 2 sq.m	£578	+ 3 sq.m	£866	+ 3 sq.m	£866
Category 3	+ 8 sq.m	£2,310	+ 14 sq.m	£4,043	+ 21 sq.m	£6,065	+ 24 sq.m	£6,931	+ 24 sq.m	£6,931



- 4.4.4 Table 45b shows the extra costs of access related space allowing for the fact that some of the cost will be recovered via additional sales revenues. The approach to calculating recovery of costs is described in sections 4.3.7 to 4.3.14 of this report. Given that some space associated with access standards may be in different locations to that preferred by the market (e.g. enlargement of a WC rather than a habitable room) the lower end of the recovery range has been adopted (60% of costs are recovered).
- 4.4.5 The costs for enlarged stairs have been costed within the ‘construction’ costs as stated in section 3.4.6 and are excluded from the additional access related space costs.
- 4.4.6 A full breakdown of the costs and supporting notes is included at appendix B4.

### Process Costs

- 4.4.7 Process costs for the proposed access levels are indicated in tables 46-57 below. It is noted that the new standards are presented in the same format as Approved Document M of the Building Regulations which has been assessed to reduce process time (i.e. it allows more streamlined review as part of the general design process). As described within the Space section of this report an option for type approval is also included.

#### Category 1

- 4.4.8 No process cost is incurred. The standard is no different to apply than the current Part M of the Building Regulations.

#### Category 2

Table 46 – Access process costs (Small Development)

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	8	£52.00	£416
Architect (External Design Work)	8	£52.00	£416
Buyer	3	£57.00	£171
Construction Manager	3	£57.00	£171
<b>Total</b>	<b>22</b>		<b>£1,174</b>

Nr dwelling types	2
Nr dwellings	5
£/type	£587
£/dwelling	£235

Table 47 – Access process costs (Medium Development)

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	20	£52.00	£1,040
Architect (External Design Work)	10	£52.00	£520
Buyer	7.5	£57.00	£428
Construction Manager	7.5	£57.00	£428
<b>Total</b>	<b>45</b>		<b>£2,415</b>
	Nr dwelling types		5
	Nr dwellings		50
	£/type		£483
	£/dwelling		£48

Table 48 – Access process costs (Large Development)

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	40	£52.00	£2,080
Architect (External Design Work)	15	£52.00	£780
Buyer	15	£57.00	£855
Construction Manager	15	£57.00	£855
<b>Total</b>	<b>85</b>		<b>£4,570</b>
	Nr dwelling types		10
	Nr dwellings		100
	£/type		£457
	£/dwelling		£46

Table 49 – Access recipient costs

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	0.5	£23	£5
Medium	50	£46	4	£184	£4
Large	100	£46	8	£368	£4

Table 50 – Access type approval costs (per dwelling type)

Professional	Total hours	Hourly Rate	Total
Design Team	8	£52	£416
<b>Total</b>	<b>8</b>		<b>£416</b>

Table 51 – Access type approval recipient costs

Dwelling Type	Rate	Hrs	Total	£/dwelling
1	£46	2	£92	£92

### Category 3

Table 52 – Access process costs (Small Development)

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	7.5	£52.00	£390
Construction Manager	4	£57.00	£228
<b>Total</b>	<b>11.5</b>		<b>£618</b>

Nr dwelling types	1
Nr Wheelchair dwellings	1
£/type	£618
£/dwelling	£618

Table 53 – Access process costs (Medium Development)

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	22.5	£52.00	£1,170
Construction Manager	12	£57.00	£684
<b>Total</b>	<b>34.5</b>		<b>£1,854</b>

Nr dwelling types	3
Nr Wheelchair dwellings	5
£/type	£618
£/dwelling	£371

Table 54 – Access process costs (Large Development)

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	45	£52.00	£2,340
Construction Manager	24	£57.00	£1,368
<b>Total</b>	69		<b>£3,708</b>
	Nr dwelling types		6
	Nr Wheelchair dwellings		10
	£/type		£618
	£/dwelling		£371

Table 55 – Access recipient costs

	Wheelchair Dwellings	Rate	Hrs	Total	£/dwelling
Small	1	£46	0.5	£23	£23
Medium	5	£46	3.5	£161	£32
Large	10	£46	7	£322	£32

Table 56 – Access type approval costs (per dwelling type)

Professional	Total hours	Hourly Rate	Total
Design Team	10	£52	£520
<b>Total</b>	10		<b>£520</b>

Table 57 – Access type approval recipient costs

Dwelling Type	Rate	Hrs	Total	£/dwelling
1	£46	2.5	£115	£115

## 4.5 Water

### Introduction

4.5.1 The proposed water standard is indicated within the draft Approved Document included at Appendix B5. The key features of the proposed standard are:

- A single standard set at 110 litres per day water use.

### Key Changes

4.5.2 Aside from general updates and the additional dwelling typology the following key changes have been made since the June 2013 EC Harris report:

- Definition of the standard – this has now been refined, costs have therefore been amended accordingly.
- Method of compliance - enquires have been made with a number of developers to ascertain the current methodology for achieving current Building Regulations requirements. Although responses were mixed, the general consensus was that restrictors are currently used on bathroom taps, however showers and kitchen taps are typically not fitted with restrictors. Similarly dual flush toilets are incorporated however these were typically 6/4l flush toilets. Based on this assumption no additional costs have been incorporated within the basin tap costs but additional costs for restrictors have been allowed to the shower / kitchen taps.

### Updated Costs

4.5.3 The following table indicates the cost of complying with each standard as an extra over usual industry practice. The costs within the table reflect the most common current practice which is to use flow restricting devices to reduce water use by taps and showers. Past experience is that as manufacturers replace ranges over time the fitting is designed to meet the current standard and as such additional restricting devices are not required. It is therefore assumed within the Impact Assessment model that this replacement affects approximately 10% of fittings on the market each year, resulting in a declining cost over time.

Table 58 – Water standards costs summary

	1B Apartment	2B Apartment	2B Terrace	3B Semi- detached	4B Detached
<b>Cost all dwellings (extra over usual industry practice)</b>					
Proposed standard	£6	£6	£6	£9	£9

4.5.4 A full breakdown of the costs and supporting notes is included at appendix B5.

### Process Costs

4.5.5 The process for checking compliance with the proposed standard would be the same as that currently undertaken in relation to the current Building Regulations (the only difference being a slight reduction in the water use). Given this point there would be no process costs in addition to the current Building Regulations.

## 5 Process and Transition

### 5.1 Transition Costs

5.1.1 Should the proposed standards be adopted a transition cost will occur comprised of items such as:

- Time taken for industry professionals to familiarise themselves with the new standard.
- Costs of training events in relation to the new standards.
- Obtaining revised guidance.
- Updating of internal processes and procedures.

5.1.2 Table 59 indicates the estimated time for industry professionals to familiarise themselves with the new standards and review guidance etc. It is noted that, even in the absence of the new standards, a relatively regular updating of the current standards has historically occurred along with ongoing new / variations of standards. The time indicated below is therefore the extra over associated with the new standards. Within the Impact Assessment model the time allowances below are applied to the estimated number of professionals within the housing sector.

Table 59 – Professionals' familiarisation time

Profession	Hours	Rate	Total
Architect	8	£52	£416
Building Control Surveyor	8	£46	£368
Building Surveyor	4	£46	£184
Quantity Surveyor	4	£57	£228
Construction Energy Assessors	5	£48	£240
Building Services Engineer	4	£46	£184
Civil Engineer	2	£47	£94
Mechanical Engineer	4	£49	£196
Construction Manager	4	£57	£228
Project Manager	4	£57	£228
Town and Country Planner	5	£61	£305
Skilled Trades	1.5	£18	£27

5.1.3 It is anticipated that almost all professionals would utilise the freely available electronic Approved Documents rather than purchase hard copies. There is therefore no cost to obtain the revised guidance. It is noted that this is a change from the previous 2013 report in which it was assumed that a proportion of professionals would purchase hard copy documents.

5.1.4 In addition to the cost per professional there will be a cost per firm to update internal processes and procedures. Table 60 below indicates the estimated cost for each type of professional consultancy firm.

Table 60 – Professional firms' updating time

Profession Type	Resource	Rate	Total
Architects	30	£52	£1,560
Planners	30	£61	£1,830
Surveyors	15	£57	£855
Engineers	15	£47	£705
Management	15	£57	£855

5.1.5 Table 61 below indicates the same costs for housebuilders. Very small firms do not incur a cost here as it is assumed that consultant architects, engineers etc would be employed, the costs of which are included under Table 58.

Table 61 – House builders' updating time

Size of Firm (by number employed)	Number of House Builders	Hours	Rate	Total per Firm
1	10,301	0	£52	£0
2 to 3	6,456	0	£52	£0
4 to 7	2,988	0	£52	£0
8 to 13	1,101	0	£52	£0
14-24	607	0	£52	£0
25-34	202	7.5	£52	£390
35-59	238	7.5	£52	£390
60-79	81	15	£52	£780
80-114	76	15	£52	£780
115-299	99	15	£52	£780
300-599	29	22.5	£52	£1,170
600-1,199	8	37.5	£52	£1,950
1,200+	14	37.5	£52	£1,950
	22,200			

## 5.2 Process Costs

5.2.1 Process costs identified fall into three key categories:

- Costs directly attributed to an individual standard and incurred by the developer / contractor and their professional team (for example surveys required under the Code for Sustainable Homes or design time taken dealing with Lifetime Homes).
- Wider costs incurred by industry in dealing with the range and complexity of current housing standards (for example housebuilders' time amending standard house types for different wheelchair housing standards or manufacturers' time producing differing product ranges).
- Costs incurred by those required to approve or check compliance with standards (for example Architectural Liaison Officers in relation to Secured by Design).

5.2.2 The sections below identify the costs in relation to each of the above scenarios in the current / counterfactual and proposed scenarios.

### Individual Standards Process Costs

5.2.3 Sections 3 and 4 of this report identify the costs attributed to each current and proposed standard.

### Wider costs Incurred by Industry

5.2.4 The tables below identify the estimated costs incurred by housebuilders in dealing with the standards under the current and proposed scenarios. Following consultation a cost has been included for micro size firms who were assumed within the previous 2013 cost report not to include such staff.

Table 62 - Industry costs – current situation

Firm size	Current resource dedicated	Cost per year per firm
Micro (1-4 employees)	0.015 Full time equivalent design manager	£1,287 (0.015 x £52/hr x 7.5hr day x 220)
Micro (4-7 employees)	0.05 Full time equivalent design manager	£4,290 (0.05 x £52/hr x 7.5hr day x 220)
Small (e.g. local home builder)	0.15 Full time equivalent design manager	£12,870 (0.15 x £52/hr x 7.5hr day x 220)
Medium (e.g. regional home builder)	0.75 Full time equivalent design manager	£64,350 (0.75 x £52/hr x 7.5hr day x 220)
Large (e.g. national home builder with multiple regions)	4 Full time equivalent design managers	£343,200 (4 x £52/hr x 7.5hr day x 220)



Table 63 - Industry costs – proposed situation

Firm size	Proposed resource dedicated	Cost per year per firm
Micro (1-4 employees)	0.01 Full time equivalent design manager	£858 (0.01 x £52/hr x 7.5hr day x 220)
Micro (4-7 employees)	0.03 Full time equivalent design manager	£2,574 (0.03 x £52/hr x 7.5hr day x 220)
Small (e.g. local home builder)	0.10 Full time equivalent design manager	£8,580 (0.10 x £52/hr x 7.5hr day x 220)
Medium (e.g. regional home builder)	0.40 Full time equivalent design manager	£34,320 (0.40 x £52/hr x 7.5hr day x 220)
Large (e.g. national home builder with multiple regions)	2 Full time equivalent design managers	£171,600 (2 x £52/hr x 7.5hr day x 220)

### Recipient Process Costs

5.2.5 Sections 3 and 4 of this report identify the costs attributed to each current and proposed standard.

## Appendices

## Appendix A1 – Counterfactual, Security

## Housing Standards Review

### Domestic Security Standards - 2 Bed Flat (12 flats in block, 4 flats per floor)

June 14 - Assessment based on Secured by Design 'New Homes 2014' Guide

Element	Current Industry Practice				Secured by Design									
	Item Description	Quant	Unit	Rate	Total	Item Description	Quant	Unit	Rate	Total	Extra Over Baseline			
<b>Doors</b>														
Communal entrance door	Hardwood door and frame to communal door, automatic lock linked to access control	1	Item	£921.00	£921.00	PAS 24 or LPS1175 and PAS 23, with electronic release linked to access control	1	Item	£1,092.00	£1,092.00	£171.00			
Glass panel / side panel to communal entrance door	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00			
Front entrance door	Fire rated flat entrance door inclusive of frame and ironmongery	12	Item	£433.00	£5,196.00	PAS 24 fire rated door set inclusive of frame and ironmongery	12	Item	£465.00	£5,580.00	£384.00			
Door restrictor to front entrance door	Included				£0.00	Included				£0.00	£0.00			
<b>Access Control / Mail Delivery</b>														
Letter box bank	Standard letter box bank	12	Nr	£35.04	£420.48	Security letter box bank with reasonable resistance to forced entry and unauthorised removal of contents	12	Nr	£63.60	£763.20	£342.72			
Audio visual access control system (Flats)	Audio door entry system	1	Item	£3,853.00	£3,853.00	Video door entry system	1	Item	£5,681.00	£5,681.00	£1,828.00			
<b>Windows</b>														
External windows	Ground floor apartments 4nr: 4nr PVCU windows per apartment	1	Item	£5,172.00	£5,172.00	Ground floor apartments 4nr: 4nr PVCU windows per apartment to BS 7950; inclusive of laminated glazing	1	Item	£5,615.60	£5,615.60	£443.60			
PVCU: BS 7412:2007	Included				£0.00	Included				£0.00	£0.00			
<b>Lighting</b>														
Photo electric cell switched lighting	Photo electric cell lighting provided to front entrance	1	Nr	£45.00	£45.00	Photo electric switched lighting to front entrance and rear entrance	2	Nr	£45.00	£90.00	£45.00			
<b>Alarms</b>														
13 amp non switched fused spur to take intruder alarm	None	0	Nr	£0.00	£0.00	13 amp non switched fused spur to take intruder alarm	1	Nr	£34.00	£34.00	£34.00			
<b>Bicycle Parking Internal</b>														
Secure doorset	Hardwood door and frame	1	Nr	£433.00	£433.00	Secure doorset PAS 23/24	1	Nr	£465.00	£465.00	£32.00			
Ground Anchor	None				£0.00	Ground Anchor - 'Sold Secure' Silver Standard	16	Nr	£15.19	£243.07	£243.07			
<b>Home Office</b>														
Internal door of robust construction	Hollow core flush door	12	Nr	£67.00	£804.00	Fire resistant robust door FD30	12	Nr	£99.00	£1,188.00	£384.00			
BS 3621 lock	Latch only (incl)					BS Mortice Deadlock	12	Nr	£14.40	£172.80	£172.80			
<b>Party Wall, Sound Insulation and Communal Lofts</b>														
Party walls of robust construction	Included	0	Item	£0.00	£0.00	Included	0	Item	£0.00	£0.00	£0.00			
Hatch locks	None	0	Nr	£0.00	£0.00	Sold Secure Lock to communal lofts	1	nr	£25.59	£25.59	£25.59			
					<b>Total</b>	<b>£16,939.00</b>						<b>Total</b>	<b>£21,045.00</b>	<b>£4,106.00</b>
					<b>Total / flat</b>	<b>£1,412.00</b>						<b>Total / flat</b>	<b>£1,754.00</b>	<b>£342.00</b>
					<b>Total / Ground Floor Flat</b>	<b>£2,274.00</b>						<b>Total / Ground Floor Flat</b>	<b>£2,690.00</b>	<b>£416.00</b>
					<b>Total / Upper Floor Flat</b>	<b>£981.00</b>						<b>Total / Upper Floor Flat</b>	<b>£1,286.00</b>	<b>£305.00</b>

#### Notes

The current industry practice represents the security features that are typically installed for new dwellings this view is based on EC Harris's experience in working on residential projects. This includes basic home office provision (latch to bedroom door) . Although not NHBC standards these items are commonly installed by developers and house builders.

Costs have been sourced from EC Harris' internal benchmarking database which draws costs from past and present projects, together with price quotation from manufacturers and suppliers

Laminated glass has been included to all ground floor windows

Bicycle Storage area has been assumed to be included as part of the building design. No additional cost for providing the space has been included, cost relate to the provision of SbD compliant bike racks as standard.

Cost associated with Photoelectric Light cells is based on a mid range fitting provided on recent schemes.

'Total Flat' costs are an average cost of ground and upper floor apartments, including the additional security costs associated with ground floor windows. 'Upper floor flat' costs exclude window costs; 'Ground Floor Flat' costs include the full ground floor window costs.

#### Assumptions

A glazed door or a door with side panel is assumed in all cases to allow natural light - the cost allows for either.

#### Exclusions

Underground car parking for blocks of flats - we are aware there is a cost for this which will be quantified separately for the proportion of blocks affected.

Element	Current Industry Practice - Small Developments					Current Industry Practice - Large Developments					Secured by Design - Small Developments					Secured by Design - Large Developments						
	Item Description	Quant	Unit	Rate	Total	Item Description	Quant	Unit	Rate	Total	Item Description	Quant	Unit	Rate	Total	Extra Over Baseline (Small Development)	Item Description	Quant	Unit	Rate	Total	Extra Over Baseline (Large Development)
<b>Doors</b>																						
Front entrance door	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Nr	£312.00	£312.00	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Nr	£202.50	£202.50	PAS 24 Door Set inclusive of ironmongery	1	Nr	£339.00	£339.00	£27.00	PAS 24 Door Set inclusive of ironmongery	1	Nr	£228.00	£228.00	£25.50
Door restrictor to front entrance door	Included			£0.00	£0.00	Included			£0.00	£0.00	Included			£0.00	£0.00		Included			£0.00	£0.00	£0.00
Glass panel / side panel	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00
Rear Door Sets	Composite rear door set - assumed half glazed (2N glazed panels), inclusive of frame and ironmongery	1	Nr	£392.00	£392.00	Composite rear door set - assumed half glazed (2N glazed panels), inclusive of frame and ironmongery	1	Nr	£237.00	£237.00	Rear Doors Sets to PAS 24 Standard	1	Nr	£441.00	£441.00	£43.00	Rear Doors Sets to PAS 24 Standard	1	Nr	£272.16	£272.16	£35.16
<b>Mail Delivery</b>																						
Letter Plate	External Letter Plate	1	Nr	£7.00	£7.00	External Letter Plate	1	Nr	£7.00	£7.00	Letter plate size and location to avoid possibility of release of locking device. Letter plate to resist unauthorised removal of items within 1000mm of the door.	1	Nr	£14.00	£14.00	£7.00	Letter plate size and location to avoid possibility of release of locking device. Letter plate to resist unauthorised removal of items within 1000mm of the door.	1	Nr	£14.00	£14.00	£7.00
<b>Windows</b>																						
External windows	3nr PVCU windows (circa 1200x630, 1200x1200-2nr) - GF ONLY	1	Item	£763.00	£763.00	3nr PVCU windows (circa 1200x630, 1200x1200-2nr) - GF ONLY	1	Item	£763.00	£763.00	3nr PVCU windows (circa 1200x630, 1200x1200-2nr), laminated glass & BS 7950-GF ONLY	1	Item	£825.17	£825.17	£62.17	3nr PVCU windows (circa 1200x630, 1200x1200-2nr), laminated glass & BS 7950-GF ONLY	1	Item	£825.17	£825.17	£62.17
PVCU BS 7412:2007	Included			£0.00	£0.00	Included			£0.00	£0.00	Included			£0.00	£0.00		Included			£0.00	£0.00	£0.00
<b>Lighting</b>																						
Photo electric cell switched lighting	Photo electric cell lighting provided to front entrance	1	Nr	£46.00	£46.00	Photo electric cell lighting provided to front entrance	1	Nr	£46.00	£46.00	Photo electric switched lighting to front entrance and rear entrance	2	Nr	£46.00	£92.00	£46.00	Photo electric switched lighting to front entrance and rear entrance	2	Nr	£46.00	£92.00	£46.00
<b>Alarms</b>																						
13 amp non switched fused spur to take intruder alarm	None	0	Nr	£0.00	£0.00	None	0	Nr	£0.00	£0.00	13 amp non switched fused spur to take intruder alarm	1	Nr	£34.00	£34.00	£34.00	13 amp non switched fused spur to take intruder alarm	1	Nr	£34.00	£34.00	£34.00
<b>Bicycle Parking External</b>																						
Timber shed and concrete base	Timber shed on concrete base	1	Item	£295.00	£295.00	Timber shed on concrete base	1	Item	£295.00	£295.00	Timber shed on concrete base	1	Item	£295.00	£295.00	£0.00	Timber shed on concrete base	1	Item	£295.00	£295.00	£0.00
Shed door - 'Sold Secure' Silver Standard Padlock, Hasp and Staple	None			£0.00	£0.00	None			£0.00	£0.00	Shed door - 'Sold Secure' Silver Standard Padlock, Hasp and Staple	1	Nr	£39.19	£39.19	£39.19	Shed door - 'Sold Secure' Silver Standard Padlock, Hasp and Staple	1	Nr	£39.19	£39.19	£39.19
Ground Anchor	None			£0.00	£0.00	None			£0.00	£0.00	Ground Anchor - 'Sold Secure' Silver Standard	1	Nr	£15.19	£15.19	£15.19	Ground Anchor - 'Sold Secure' Silver Standard	1	Nr	£15.19	£15.19	£15.19
<b>Home Office</b>																						
Door	Hollow core flush door	1	Nr	£78.00	£78.00	Hollow core flush door	1	Nr	£78.00	£78.00	Fire resistant robust door FD30	1	Nr	£99.00	£99.00	£21.00	Fire resistant robust door FD30	1	Nr	£99.00	£99.00	£21.00
BS 3621 lock	Latch only (incl)	0	Nr	£0.00	£0.00	Latch only (incl)			£0.00	£0.00	BS Mortice Deadlock	1	Nr	£14.40	£14.40	£14.40	BS Mortice Deadlock	1	Nr	£14.40	£14.40	£14.40
<b>Party Wall, Sound Insulation and Communal Lifts</b>																						
Party walls of robust construction	Included	0	Item	£0.00	£0.00	Included	0	Item	£0.00	£0.00	Included	0	Item	£0.00	£0.00	£0.00	Included	0	Item	£0.00	£0.00	£0.00
Hatch locks	None	0	Nr	£0.00	£0.00	None	0	Nr	£0.00	£0.00	Solid Secure Lock	0	Nr	£31.99	£0.00	£0.00	Solid Secure Lock	0	Nr	£31.99	£0.00	£0.00
<b>Total</b>					<b>£1,988.00</b>					<b>£1,724.00</b>					<b>£2,303.00</b>	<b>£315.00</b>					<b>£2,023.00</b>	<b>£299.00</b>

**Notes**  
 The current industry practice represents the security features that are typically installed for new dwellings this view is based on EC Harris's considerable experience in working on residential projects. This includes basic home office provision (latch to bedroom door) and timber shed for bicycle storage (houses). Although not NHBC standards these items are commonly installed by developers and house builders.

Costs have been sourced from EC Harris' internal benchmarking database which draws costs from past and present projects, together with quotations from manufacturers and suppliers.

**Assumptions**

- Front entrance doors have been assumed as solid doors with side glazed panel.
- Rear doors are assumed to be half glazed doors (with no other glazed panel)
- All prices are for 'door sets' inclusive of ironmongery
- A glazed door or a door with side panel is assumed in all cases to allow natural light - the cost allows for either
- The cost of the letter plate deflector is based on an 'extra over' from the 'standard' letter fit

**Exclusions**

- Link door between garage and house at Level 1 - we are aware there is a cost for this which needs to be quantified separately for the proportion of houses with garages
- Vehicular garage entrance door and link door between garage and house at Level 2 - we are aware there is a cost for this which needs to be quantified separately for the proportion of houses with garages

Element	Current Industry Practice - Small Developments					Current Industry Practice - Large Developments					Secured by Design - Small Developments					Secured by Design - Large Developments							
	Item Description	Quant	Unit	Rate	Total	Item Description	Quant	Unit	Rate	Total	Item Description	Quant	Unit	Rate	Total	Extra Over Baseline (Small Development)	Item Description	Quant	Unit	Rate	Total	Extra Over Baseline (Large Development)	
<b>Doors</b>																							
Front and rear entrance door	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Item	£312.00	£312.00	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Item	£202.50	£202.50	PAS 24 Door Set inclusive of ironmongery	1	Item	£339.00	£339.00	£27.00	PAS 24 Door Set inclusive of ironmongery	1	Item	£228.00	£228.00	£25.50	
Door restrictor to front entrance door	Included			£0.00	£0.00	Included			£0.00	£0.00	Included			£0.00	£0.00		Included			£0.00	£0.00	£0.00	
Glass panel / side panel	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00	
Rear Door Sets	Composite rear door set; assumed halft glazed (2Nr glazed panels); inclusive of frame and ironmongery	1	Nr	£392.00	£392.00	Composite rear door set; assumed halft glazed (2Nr glazed panels); inclusive of frame and ironmongery	1	Nr	£237.00	£237.00	Rear Doors Sets to PAS 24 Standard	1	Nr	£441.00	£441.00	£49.00	Rear Doors Sets to PAS 24 Standard	1	Nr	£272.16	£272.16	£35.16	
<b>Mail Delivery</b>																							
External Letter Plate	External Letter Plate	1	Nr	£7.00	£7.00	External Letter Plate	1	Nr	£7.00	£7.00	Letter plate size and location to avoid possibility of release of locking device. Letter plate to resist unauthorised removal of items within 1000mm of the door.	1	Nr	£14.00	£14.00	£7.00	Letter plate size and location to avoid possibility of release of locking device. Letter plate to resist unauthorised removal of items within 1000mm of the door.	1	Nr	£14.00	£14.00	£7.00	
<b>Windows</b>																							
External windows	3nr PVCU windows (circa 1200x630, 1200x1200-2nr) - GF ONLY	1	Item	£763.00	£763.00	3nr PVCU windows (circa 1200x630, 1200x1200-2nr) - GF ONLY	1	Item	£763.00	£763.00	3nr PVCU windows (circa 1200x630, 1200x1200-2nr), laminated glass & BS 7950 - GF ONLY	1	Item	£825.17	£825.17	£62.17	3nr PVCU windows (circa 1200x630, 1200x1200-2nr), laminated glass & BS 7950 - GF ONLY	1	Item	£825.17	£825.17	£62.17	
PVCU: BS 7412:2007	Included			£0.00	£0.00	Included			£0.00	£0.00	Included			£0.00	£0.00		Included			£0.00	£0.00	£0.00	
<b>Lighting</b>																							
Photo electric cell switched lighting	Photo electric cell lighting provided to front entrance	1	Nr	£46.00	£46.00	Photo electric cell lighting provided to front entrance	1	Nr	£46.00	£46.00	Photo electric switched lighting to front entrance and rear entrance	2	Nr	£46.00	£92.00	£46.00	Photo electric switched lighting to front entrance and rear entrance	2	Nr	£46.00	£92.00	£46.00	
<b>Alarms</b>																							
13 amp non switched fused spur to take intruder alarm	None	0	Nr	£0.00	£0.00	None	0	Nr	£0.00	£0.00	13 amp non switched fused spur to take intruder alarm	1	Nr	£34.00	£34.00	£34.00	13 amp non switched fused spur to take intruder alarm	1	Nr	£34.00	£34.00	£34.00	
<b>Bicycle Parking External</b>																							
Timber shed and concrete base	Timber shed on concrete base	1	Item	£295.00	£295.00	Timber shed on concrete base	1	Item	£295.00	£295.00	Timber shed on concrete base	1	Item	£295.00	£295.00	£0.00	Timber shed on concrete base	1	Item	£295.00	£295.00	£0.00	
Shed door - 'Sold Secure' Silver Standard Padlock, Hasp and Staple	None			£0.00	£0.00	None			£0.00	£0.00	Shed door - 'Sold Secure' Silver Standard Padlock, Hasp and Staple	1	Nr	£39.19	£39.19	£39.19	Shed door - 'Sold Secure' Silver Standard Padlock, Hasp and Staple	1	Nr	£39.19	£39.19	£39.19	
Ground Anchor	None			£0.00	£0.00	None			£0.00	£0.00	Ground Anchor - 'Sold Secure' Silver Standard	1	Nr	£15.19	£15.19	£15.19	Ground Anchor - 'Sold Secure' Silver Standard	1	Nr	£15.19	£15.19	£15.19	
<b>Home Office</b>																							
Door	Hollow core flush door	1	Nr	£78.00	£78.00	Hollow core flush door	1	Nr	£78.00	£78.00	Fire resistant robust door FD30	1	Nr	£99.00	£99.00	£21.00	Fire resistant robust door FD30	1	Nr	£99.00	£99.00	£21.00	
BS 3621 lock	Latch only (incl)					Latch only (incl)					BS Mortice Deadlock	1	Nr	£14.40	£14.40	£14.40	BS Mortice Deadlock	1	Nr	£14.40	£14.40	£14.40	
<b>Party Wall, Sound Insulation and Communal Lofts</b>																							
Party walls of robust construction	Included	0	Item	£0.00	£0.00	Included	0	Item	£0.00	£0.00	Included	0	Item	£0.00	£0.00	£0.00	Included	0	Item	£0.00	£0.00	£0.00	
Hatch locks	None	0	Nr	£0.00	£0.00	None	0	Nr	£0.00	£0.00	Sold Secure Lock	0	Nr	£0.00	£0.00	£0.00	Sold Secure Lock	0	Nr	£0.00	£0.00	£0.00	
<b>Total</b>				<b>£1,988.00</b>					<b>£1,724.00</b>					<b>£2,303.00</b>	<b>£315.00</b>					<b>£2,023.12</b>	<b>£299.00</b>		

**Notes**  
 The current industry practice represents the security features that are typically installed for new dwellings this view is based on EC Harris's considerable experience in working on residential projects. This includes basic home office provision (latch to bedroom door) and timber shed for bicycle storage (houses). Although not NHBC standards these items are commonly installed by developers and house builders.  
 Costs have been sourced from EC Harris' internal benchmarking database which draws costs from past and present projects, together with quotations from manufacturers and suppliers.

**Assumptions**  
 Front entrance doors have been assumed as solid doors with side glazed panel.  
 Rear doors are assumed to be half glazed doors (with no other glazed panel)  
 All prices are for 'door sets' inclusive of ironmongery  
 A glazed door or a door with side panel is assumed in all cases to allow natural light - the cost allows for either  
 The cost of the letter plate deflector is based on an 'extra over' from the 'standard' letter flat

**Exclusions**  
 Link door between garage and house at Level 1 - we are aware there is a cost for this which needs to be quantified separately for the proportion of houses with garages  
 Vehicular garage entrance door and link door between garage and house at Level 2 - we are aware there is a cost for this which needs to be quantified separately for the proportion of houses with garages

Element	Current Industry Practice - Small Developments					Current Industry Practice - Large Developments					Secured By Design - Small Developments					Secured By Design - Large Developments						
	Item Description	Quant	Unit	Rate	Total	Item Description	Quant	Unit	Rate	Total	Item Description	Quant	Unit	Rate	Total	Extra Over Baseline (Small Development)	Item Description	Quant	Unit	Rate	Total	Extra Over Baseline (Large Development)
<b>Doors</b>																						
Front and rear entrance door	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Item	£312.00	£312.00	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Item	£202.50	£202.50	PAS 23/24 Door Set Front	1	Item	£339.00	£339.00	£27.00	PAS 23/24 Door Set Front	1	Item	£228.00	£228.00	£25.50
Door restrictor to front entrance door	Included			£0.00	£0.00	Included			£0.00	£0.00	Included			£0.00	£0.00		Included			£0.00	£0.00	£0.00
Glass panel / side panel	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00
Rear Door Sets	Composite rear door set : assumed halved glazed (2Nr glazed panels); inclusive of frame and ironmongery	1	Nr	£392.00	£392.00	Composite rear door set : assumed halved glazed (2Nr glazed panels); inclusive of frame and ironmongery	1	Nr	£237.00	£237.00	Rear Door Sets to PAS 24 Standard	1	Nr	£441.00	£441.00	£49.00	Rear Door Sets to PAS 24 Standard	1	Nr	£272.16	£272.16	£35.16
<b>Mail Delivery</b>																						
External Letter Plate	External Letter Plate	1	Nr	£7.00	£7.00	External Letter Plate	1	Nr	£7.00	£7.00	Letter plate size and location to avoid possibility of release of locking device. Letter plate to resist unauthorised removal of items within 1000mm of the door.	1	Nr	£14.00	£14.00	£7.00	Letter plate size and location to avoid possibility of release of locking device. Letter plate to resist unauthorised removal of items within 1000mm of the door.	1	Nr	£14.00	£14.00	£7.00
<b>Windows</b>																						
External windows	4nr PVCU windows (circa 1200x630, 1770x1200, 1200x1200-2nr) - GF ONLY	1	Item	£1,195.00	£1,195.00	4nr PVCU windows (circa 1200x630, 1770x1200, 1200x1200-2nr) - GF ONLY	1	Item	£1,195.00	£1,195.00	4nr PVCU windows (circa 1200x630, 1770x1200, 1200x1200-2nr), laminated glass & BS 7950 - GF ONLY	1	Item	£1,294.12	£1,294.12	£99.12	4nr PVCU windows (circa 1200x630, 1770x1200, 1200x1200-2nr), laminated glass & BS 7950 - GF ONLY	1	Item	£1,294.12	£1,294.12	£99.12
PVCU- BS 7412:2007	Included			£0.00	£0.00	Included			£0.00	£0.00	Included			£0.00	£0.00		Included			£0.00	£0.00	£0.00
<b>Lighting</b>																						
PRR or Photo electric cell switched lighting	PRR or photo electric cell lighting provided to front entrance	1	Nr	£46.00	£46.00	PRR or photo electric cell lighting provided to front entrance	1	Nr	£46.00	£46.00	PRR or Photo electric switched lighting to front entrance and rear entrance	2	Nr	£46.00	£92.00	£46.00	PRR or Photo electric switched lighting to front entrance and rear entrance	2	Nr	£46.00	£92.00	£46.00
<b>Alarms</b>																						
13 amp non switched fused spur to take intruder alarm	None	0	Nr	£0.00	£0.00	None	0	Nr	£0.00	£0.00	13 amp non switched fused spur to take intruder alarm	1	Nr	£34.00	£34.00	£34.00	13 amp non switched fused spur to take intruder alarm	1	Nr	£34.00	£34.00	£34.00
<b>Bicycle Parking External</b>																						
Timber shed and concrete base	Timber shed on concrete base	1	Item	£295.00	£295.00	Timber shed on concrete base	1	Item	£295.00	£295.00	Timber shed on concrete base	1	Item	£295.00	£295.00	£0.00	Timber shed on concrete base	1	Item	£295.00	£295.00	£0.00
Shed door - 'Sold Secure' Silver Standard Padlock, Hasp and Staple	None			£0.00	£0.00	None			£0.00	£0.00	Shed door - 'Sold Secure' Silver Standard Padlock, Hasp and Staple	1	Nr	£39.19	£39.19	£39.19	Shed door - 'Sold Secure' Silver Standard Padlock, Hasp and Staple	1	Nr	£39.19	£39.19	£39.19
Ground Anchor	None			£0.00	£0.00	None			£0.00	£0.00	Ground Anchor - 'Sold Secure' Silver Standard	1	Nr	£15.19	£15.19	£15.19	Ground Anchor - 'Sold Secure' Silver Standard	1	Nr	£15.19	£15.19	£15.19
<b>Home Office</b>																						
Door	Hollow core flush door	1	Nr	£78.00	£78.00	Hollow core flush door	1	Nr	£78.00	£78.00	Fire resistant robust door FD30	1	Nr	£99.00	£99.00	£21.00	Fire resistant robust door FD30	1	Nr	£99.00	£99.00	£21.00
BS 3621 lock	Latch only (incl)					Latch only (incl)					BS Mortice Deadlock	1	Nr	£14.40	£14.40	£14.40	BS Mortice Deadlock	1	Nr	£14.40	£14.40	£14.40
<b>Party Wall, Sound Insulation and Communal Lofts</b>																						
Party walls of robust construction	Included	0	Item	£0.00	£0.00	Included	0	Item	£0.00	£0.00	Included	0	Item	£0.00	£0.00	£0.00	Included	0	Item	£0.00	£0.00	£0.00
Hatch locks	None	0	Nr	£0.00	£0.00	None	0	Nr	£0.00	£0.00	Sold Secure Lock	0	Nr	£0.00	£0.00	£0.00	Sold Secure Lock	0	Nr	£31.99	£0.00	£0.00
				<b>Total</b>	<b>£2,428.00</b>				<b>Total</b>	<b>£2,156.00</b>				<b>Total</b>	<b>£2,771.90</b>	<b>£352.00</b>				<b>Total</b>	<b>£2,492.06</b>	<b>£337.00</b>

**Notes**  
 The current industry practice represents the security features that are typically installed for new dwellings this view is based on EC Harris's considerable experience in working on residential projects. This includes basic home office provision (latch to bedroom door) and timber shed for bicycle storage (houses). Although not NHBC standards these items are commonly installed by developers and house builders.

Costs have been sourced from EC Harris' internal benchmarking database which draws costs from past and present projects, together with quotations from manufacturers and suppliers.

**Assumptions**  
 Front entrance doors have been assumed as solid doors with side glazed panel.

Rear doors are assumed to be half glazed doors (with no other glazed panel)

All prices are for 'door sets' inclusive of ironmongery

A glazed door or a door with side panel is assumed in all cases to allow natural light - the cost allows for either

The cost of the letter plate deflector is based on an 'extra over' from the 'standard' letter flat

**Exclusions**

Link door between garage and house at Level 1 - we are aware there is a cost for this which needs to be quantified separately for the proportion of houses with garages

Vehicular garage entrance door and link door between garage and house at Level 2 - we are aware there is a cost for this which needs to be quantified separately for the proportion of houses with garages

Housing Standards Review  
 Domestic Security Standards - Cost for Garages

Element	Current Industry Practice				SbD						
	Item Description	Quant	Unit	Rate	Total	Item Description	Quant	Unit	Rate	Total	Extra Over
<b>Doors</b>											
Garage Door	Up and Over Garage Door	1	Item	£390.00	£390.00	Guarador Up and Over Garage Door	1	Item	£593.00	£593.00	£203.00



## Appendix A2 – Counterfactual, Energy





2 Bed Flat Type

				Ene 1	Ene 2	Ene 3	Ene 4	Ene 5	Ene 6	Ene 7	Ene 8	Ene 9	TOTAL ENE	Wat 1	Wat 2	TOTAL WAT	Mat 1	Mat 2	Mat 3	TOTAL MAT	Sur 1	Sur 2	TOTAL SUR		
				Dwelling Emission Rate	Fabric Energy Efficiency	Energy Display Devices	Drying Space	Energy Labelled White Goods	External Lighting	Low or Zero Carbon Technologies	Cycle Storage	Home Office		Internal Water Usage	External Water Usage		Environmental Impact of Materials	Responsible Sourcing of Materials - Building	Responsible Sourcing of Materials - Finishing		Management of Surface Water Run off	Flood risk			
CSH Level 1	Op 1	ENERGY	MATERIALS & LABOUR	Small (5 Units)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
				Medium (50 Units)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				Large (100 Units)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		PROCESS	Sml	94	-	-	-	-	-	-	-	-	-	-	94	-	-	-	62	42	42	146	109	36	146
			Med	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	11	4	15
			Large	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	5	2	7
	TOTAL	Small	94	-	-	-	-	-	-	-	-	-	-	94	-	-	-	62	42	42	146	109	36	146	
		Medium	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	11	4	15	
		Large	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	5	2	7	
	Op 2	ENERGY	MATERIALS & LABOUR	Small	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
				Medium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				Large	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROCESS		Sml	94	-	-	-	-	-	-	-	-	-	-	94	-	-	-	62	42	42	146	109	36	146	
		Med	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	11	4	15	
		Large	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	5	2	7	
TOTAL	Small	94	-	-	-	-	-	-	-	-	-	-	94	-	-	-	62	42	42	146	109	36	146		
	Medium	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	11	4	15		
	Large	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	5	2	7		
CSH Level 2	Op 1	ENERGY	MATERIALS & LABOUR	Small	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
				Medium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
				Large	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		PROCESS	Sml	94	-	-	-	-	-	-	-	-	-	-	94	-	-	-	62	42	42	146	109	36	146
			Med	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	11	4	15
			Large	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	5	2	7
	TOTAL	Small	94	-	-	-	-	-	-	-	-	-	-	94	-	-	-	62	42	42	146	109	36	146	
		Medium	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	11	4	15	
		Large	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	5	2	7	
	Op 2	ENERGY	MATERIALS & LABOUR	Small	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
				Medium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
				Large	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PROCESS		Sml	94	-	-	-	-	-	-	-	-	-	-	94	-	-	-	62	42	42	146	109	36	146	
		Med	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	11	4	15	
		Large	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	5	2	7	
TOTAL	Small	94	-	-	-	-	-	-	-	-	-	-	94	-	-	-	62	42	42	146	109	36	146		
	Medium	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	11	4	15		
	Large	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	5	2	7		
CSH Level 3	Op 1	ENERGY	MATERIALS & LABOUR	Small	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
				Medium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
				Large	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		PROCESS	Sml	94	-	-	-	-	-	-	-	-	-	-	94	-	-	-	62	42	42	146	109	36	146
			Med	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	11	4	15
			Large	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	5	2	7
	TOTAL	Small	94	-	-	-	-	-	-	-	-	-	-	94	-	-	-	62	42	42	146	109	36	146	
		Medium	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	11	4	15	
		Large	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	5	2	7	
	Op 2	ENERGY	MATERIALS & LABOUR	Small	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
				Medium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
				Large	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PROCESS		Sml	94	-	-	-	-	-	-	-	-	-	-	94	-	-	-	62	42	42	146	109	36	146	
		Med	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	11	4	15	
		Large	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	5	2	7	
TOTAL	Small	94	-	-	-	-	-	-	-	-	-	-	94	-	-	-	62	42	42	146	109	36	146		
	Medium	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	11	4	15		
	Large	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	16	10	10	36	5	2	7		
CSH Level 4	Op 1	ENERGY	MATERIALS & LABOUR	Small	500	-	-	18	46	-	-	17	35	616	6	-	6	-	-	-	-	-	-		
				Medium	500	-	-	18	46	-	-	17	35	6	6	616	6	-	-	-	-	-	-	-	
				Large	500	-	-	18	46	-	-	17	35	6	6	616	6	-	-	-	-	-	-	-	
		PROCESS	Sml	94	-	-	-	-	-	-	-	-	21	-	114	-	-	-	62	42	42	146	109	36	146
			Med	23	-	-	-	-	-	-	-	-	5	-	29	-	-	-	16	10	10	36	11	4	15
			Large	23	-	-	-	-	-	-	-	-	5	-	29	-	-	-	16	10	10	36	5	2	7
	TOTAL	Small	594	-	-	-	-	-	-	-	-	38	-	731	-	-	-	62	42	42	146	109	36	146	
		Medium	523	-	-	-	-	-	-	-	-	22	-	645	-	-	-	16	10	10	36	11	4	15	
		Large	523	-	-	-	-	-	-	-	-	22	-	645	-	-	-	16	10	10	36	5	2	7	
	Op 2	ENERGY	MATERIALS & LABOUR	Small	412	-	-	18	46	-	-	17	35	544	6	-	6	-	-	-	-	-	-		
				Medium	412	-	-	18	46	-	-	17	35	6	6	544	6	-	-	-	-	-	-		
				Large	412	-	-	18	46	-	-	17	35	6	6	544	6	-	-	-	-	-	-		
PROCESS		Sml	94	-	-	-	-	-	-	-	-	21	-	114	-	-	-	62	42	42	146	109	36	146	
		Med	23	-	-	-	-	-	-	-	-	5	-	29	-	-	-	16	10	10	36	11	4	15	
		Large	23	-	-	-	-	-	-	-	-	5	-	29	-	-	-	16	10	10	36	5	2	7	
TOTAL	Small	506	-	-	-	-	-	-	-	-	38	-	643	-	-	-	62	42	42	146	109	36	146		
	Medium	435	-	-	-	-	-	-	-	-	22	-	557	-	-	-	16	10	10	36	11	4	15		
	Large	435	-	-	-	-	-	-	-	-	22	-	557	-	-	-	16	10	10	36	5	2	7		
CSH Level 5	Op 1	ENERGY	MATERIALS & LABOUR	Small	3,224	-	-	100	46	-	-														



















Code Allocation Table

Section		Points Available	Weighting	Output	Points Achieved Code 1		Points Achieved Code 2		Points Achieved Code 3		Points Achieved Code 4		Points Achieved Code 5		Points Achieved Code 6	
					Score	Weighted Score	Score	Weighted Score	Score	Weighted Score	Score	Weighted Score	Score	Weighted Score	Score	Weighted Score
<b>ENERGY</b>																
Ene 1	Dwelling Emission Rate	10	36.4	11.74	3	3.52	6	7.05	7	8.22	7	8.22	9	10.57	10	11.74
Ene 2	Fabric Energy Efficiency	9	36.4	10.57	3	3.52	5	5.87	5	5.87	5	5.87	7	8.22	9	10.57
Ene 3	Energy Display Devices	2	36.4	2.35	x		x		x		x		2	2.35	2	2.35
Ene 4	Drying Space	1	36.4	1.17	x		x		x		2	2.35	1	1.17	1	1.17
Ene 5	Energy Labelled White Goods	2	36.4	2.35	2	2.35	2	2.35	2	2.35	2	2.35	2	2.35	2	2.35
Ene 6	External Lighting	2	36.4	2.35	x		x		x		2	2.35	2	2.35	2	2.35
Ene 7	Low or Zero Carbon Technologies	2	36.4	2.35	2	2.35	2	2.35	2	2.35	2	2.35	2	2.35	2	2.35
Ene 8	Cycle Storage	2	36.4	2.35	x		x		x		1	1.17	2	2.35	2	2.35
Ene 9	Home Office	1	36.4	1.17	x		x		x		1	1.17	1	1.17	1	1.17
<b>WATER</b>																
Wat 1	Internal Water Usage	5	9	7.50	1	1.50	2	3.00	3	4.50	3	4.50	5	7.50	5	7.50
Wat 2	External Water Usage	1	9	1.50	x		x		x		x		1	1.50	1	1.50
<b>MATERIALS</b>																
Mat 1	Environmental Impact of Materials	15	7.2	4.50	6	1.80	9	2.70	11	3.30	11	3.30	12	3.60	15	4.50
Mat 2	Responsible Sourcing of Materials - Basic Building Elements	6	7.2	1.80	3	0.90	3	0.90	3	0.90	4	1.20	6	1.80	6	1.80
Mat 3	Responsible Sourcing of Materials - Finishing Elements	3	7.2	0.90	2	0.60	2	0.60	2	0.60	2	0.60	3	0.90	3	0.90
<b>SURFACE</b>																
Sur 1	Management of Surface Water Run off	2	2.2	1.10	1	0.55	1	0.55	2	1.10	2	1.10	2	1.10	2	1.10
Sur 2	Flood risk	2	2.2	1.10	2	1.10	2	1.10	2	1.10	2	1.10	2	1.10	2	1.10
<b>WASTE</b>																
Was 1	Storage of non-recyclable waste	4	6.4	3.20	0	0.00	4	3.20	4	3.20	4	3.20	4	3.20	4	3.20
Was 2	Construction Site Waste Management	3	6.4	2.40	3	2.40	3	2.40	3	2.40	3	2.40	3	2.40	3	2.40
Was 3	Composting	1	6.4	0.80	x		x		x		x		1	0.80	1	0.80
<b>POLLUTION</b>																
Pol 1	Global Warming Potential of Insulants	1	2.8	0.70	1	0.70	1	0.70	1	0.70	1	0.70	1	2.80	1	0.70
Pol 2	Nox Emissions	3	2.8	2.10	1	0.70	1	0.70	2	1.40	2	1.40	3	2.10	3	2.10
<b>HEALTH</b>																
Hea 1	Daylighting	3	14	3.50	1	1.17	1	1.17	1	1.17	2	2.33	3	3.50	3	3.50
Hea 2	Sound Insulation	4	14	4.67	2	2.33	2	2.33	3	3.50	3	3.50	4	4.67	4	4.67
Hea 3	Private Space	1	14	1.17	1	1.17	1	1.17	1	1.17	1	1.17	1	1.17	1	1.17
Hea 4	Lifetime Homes	4	14	4.67	x		x		x		3	3.50	4	4.67	4	4.67
<b>MANAGEMENT</b>																
Man 1	Home User Guide	3	10	3.33	3	3.33	3	3.33	3	3.33	3	3.33	3	3.33	3	3.33
Man 2	Considerate Constructors	2	10	2.22	2	2.22	1	1.11	2	2.22	2	2.22	2	2.22	2	2.22
Man 3	Construction Site Impacts	2	10	2.22	2	2.22	2	2.22	2	2.22	2	2.22	2	2.22	2	2.22
Man 4	Security	2	10	2.22	x		x		x		x		2	2.22	2	2.22
<b>ECOLOGY</b>																
Eco 1	Ecological Value of Site	1	12	1.33	1	0.15	1	1.33	1	1.33	1	1.33	1	1.33	1	1.33
Eco 2	Ecological Enhancement	1	12	1.33	1	0.15	1	1.33	1	1.33	1	1.33	1	1.33	1	1.33
Eco 3	Protection of Ecological Feature	1	12	1.33	x		x		x		x		1	1.33	1	1.33
Eco 4	Change of Ecological value of site	4	12	5.33	x		x		1	1.33	1	1.33	3	4.00	4	5.33
Eco 5	Building Footprint	2	12	2.67	1	1.33	1	1.33	1	1.33	2	2.67	2	2.67	2	2.67
		<b>9</b>														
Score Required					36		48		56		68		84		90	
		<b>107</b>		<b>100.00</b>	<b>44</b>	<b>36.07</b>	<b>56</b>	<b>48.80</b>	<b>65</b>	<b>56.93</b>	<b>77</b>	<b>70.28</b>	<b>100</b>	<b>96.34</b>	<b>107</b>	<b>100.00</b>

**CFSH 4**

**Flat - 1 Bed (BASE CASE)**

Assuming a mid point unit size of 71m2

Element	Specification	Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	25	m2	250.00	6,250
Roof	0.13 W/m2K		16	m2	0	-
Grd Floor	0.20 W/m2k		0	m2	0	-
Window	1.2 W/m2k		6	m2	300	1,800
Doors	Insulated		1	Nr	750	750
Passive	Ventilation		1	Item	0	-
A rated boiler	Heating	1	Item	1750	1,750	
75%	Lighting		Item		-	
PV	Renewable	0	m2	0	-	

**Flat - 2 Bed (BASE CASE)**

Assuming a mid point unit size of 71m2

Element	Specification	Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	37	m2	250.00	9,250
Roof	0.13 W/m2K		22	m2	0	-
Grd Floor	0.20 W/m2k		0	m2	0	-
Window	1.2 W/m2k		9	m2	300	2,700
Doors	Insulated		1	Nr	750	750
Passive	Ventilation		1	Item	0	-
A rated boiler	Heating	1	Item	1750	1,750	
75%	Lighting		Item		-	
PV	Renewable	0	m2	0	-	

**House - 2 Bed Terrace - (BASE CASE)**

Assuming a mid point unit size of

Element	Specification	Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block (Improvement on 0.13 Part L 2010)	77	m2	222.00	17,094
Roof	0.13 W/m2k		36	m2	140	5,040
Grd Floor	0.20 W/m2k		36	m2	57.4	2,066
Window	1.2 W/m2k		15	m2	300	4,500
Doors	Insulated		2	Nr	750	1,500
Natural with Extract Fans	Ventilation		1	Item	0	0
Gas Boiler A Rated	Heating	1	Item	1750	1,750	
75%	Lighting	1	Item	0	0	
PV	Renewable	0	m2	250	0	

**House - 3 Bed Semi - (BASE CASE)**

Element	Specification	Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	89	m2	222.00	19,758
Roof	0.13 W/m2k		48	m2	140	6,720
Grd Floor	0.20 W/m2k		48	m2	57.4	2,755
Window	1.2 W/m2k		21	m2	300	6,300
Doors	Insulated		2	Nr	750	1,500
Passive	Ventilation		1	Item	0	0
Gas Boiler A Rated	Heating	1	Item	1750	1,750	
75%	Lighting	1	Item	0	0	
PV	Renewable	0	m2	250	0	

**House - 4 Bed Detached - (BASE CASE)**

Element	Specification	Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	126	m2	222.00	27,972
Roof	0.13 W/m2k		49	m2	140.00	6,860
Grd Floor	0.20 W/m2k		49	m2	57.40	2,813
Window	1.2 W/m2k		24	m2	300.00	7,200
Doors	Insulated		2	Nr	750.00	1,500
Passive	Ventilation		1	Item	0	0
Gas Boiler A Rated	Heating	1	Item	1750	1,750	
75%	Lighting	1	Item	0	0	
PV	Renewable	0	m2	250	0	

**Flat - 1 Bed (Option 1 - Renewables approach)**

Element	Specification	Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	25	m2	250.00	6,250
Roof	N/A		16	m2	0	-
Grd Floor	N/A		0	m2	0	-
Window	1.2 W/m2K		6	m2	300.00	1,800
Doors	Insulated		1	Nr	750	750
Natural	Ventilation		1	Item	0	0
A rated gas boiler	Heating	1	Prov	1750	1750	
75%	Lighting	0	Item	0	0	
PV	Renewable	0.5	m2	250	125	

**Flat - 2 Bed (Option 1 - Renewables approach)**

Element	Specification	Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	37	m2	250.00	9,250
Roof	N/A		22	m2	0	-
Grd Floor	N/A		0	m2	0	-
Window	1.2 W/m2K		9	m2	300.00	2,700
Doors	Insulated		1	Nr	750	750
Natural	Ventilation		1	Item	0	0
Gas Boiler	Heating	1	Prov	1,750	1,750	
75%	Lighting	0	Item	0	0	
PV	Renewable	2	m2	250	500	

**House - 2 Bed Terrace - (Option 1)**

Element	Specification	Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	77	m2	222.00	17,094
Roof	0.13 W/m2k		36	m2	140.00	5,040
Grd Floor	0.20 W/m2k		36	m2	57.40	2,066
Window	1.2 W/m2K		15	m2	300	4,500
Doors	Insulated		2	Nr	750	1,500
Natural Ventilation	Ventilation		1	Item	0	0
Gas Boiler	Heating	1	Item	1750	1,750	
75%	Lighting	1	Item	0	0	
PV	Renewable	1.9	m2	250	468.75	

**House - 3 Bed Semi - (Option 1)**

Element	Specification	Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	89	m2	222.00	19,758
Roof	0.13 W/m2k		48	m2	140.00	6,720
Grd Floor	0.20 W/m2k		48	m2	57.40	2,755
Window	1.2 W/m2k		21	m2	300.00	6,300
Doors	Insulated		2	Nr	750.00	1,500
Natural Ventilation	Ventilation		1	Item	0	0
Gas Boiler A Rated	Heating	1	Item	1750	1,750	
75%	Lighting	1	Item	0	0	
PV	Renewable	2.5	m2	250	625	

**House - 4 Bed Detached - (Option 1)**

Element	Specification	Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	126	m2	222.00	27,972
Roof	0.13 W/m2k		49	m2	140.00	6,860
Grd Floor	0.20 W/m2k		49	m2	57.40	2,813
Window	1.2 W/m2K		24	m2	300.00	7,200
Doors	Insulated		2	Nr	750.00	1,500
Natural	Ventilation		1	Item	0	0
Gas Boiler A Rated	Heating	1	Item	1750	1,750	
75%	Lighting	0	Item	0	0	
PV	Renewable	@215 watts peak; 1.25m2	3.75	m2	250	938

**Flat - 1 Bed (Option 2 - Fabric First approach)**

Element	Specification	Specification	Amount	Unit	£	Total
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	25	m2	261.13	6,528
Roof	N/A		16	m2	0	-
Grd Floor	N/A		0	m2	0	-
Window	1.2 W/m2K		6	m2	300.00	1,800
Doors	Insulated		1	Nr	750	750
MVHR	Ventilation		0	Item	2500	0
A rated gas	Heating	1	Item	1750	1750	
75%	Lighting	0	Item	0	0	
PV	Renewable	0	m2	250	0	

**Flat - 2 Bed (Option 2 - Fabric First approach)**

Element	Specification	Specification	Amount	Unit	£	Total
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	37	m2	261.13	9,662
Roof	N/A		22	m2	0	-
Grd Floor	N/A		0	m2	0	-
Window	1.2 W/m2K		9	m2	300.00	2,700
Doors	Insulated		1	Nr	750	750
MVHR	Ventilation		0	Item	2500	0
A rated gas	Heating	1	Item	1750	1750	
75%	Lighting	0	Item	0	0	
PV	Renewable	0	m2	250	0	

**House - 2 Bed Terrace - (Option 2)**

Element	Specification	Specification	Amount	Unit	£	Total
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	77	m2	231.13	17,797
Roof	0.13 W/m2k		36	m2	140.00	5,040
Grd Floor	0.20 W/m2k		36	m2	57.40	2,066
Window	1.2 W/m2K		15	m2	300	4,500
Doors	Insulated		2	Nr	750	1,500
Mech Vent	Ventilation		0	Item	2500	0
Gas Boiler	Heating	1	Item	1750	1,750	
75%	Lighting	1	Item	0	0	
PV	Renewable	0	m2	250	0	

**House - 3 Bed Semi - (Option 2)**

Element	Specification	Specification	Amount	Unit	£	Total
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	89	m2	231.13	20,570
Roof	0.13 W/m2k		48	m2	140.00	6,720
Grd Floor	0.20 W/m2k		48	m2	57.40	2,755
Window	1.2 W/m2K		21	m2	300.00	6,300
Doors	Insulated		2	Nr	750	1,500
Mech Vent	Ventilation		0	Item	3500	0
Gas Boiler	Heating	1	Item	1750	1,750	
75%	Lighting	1	Item	0	0	
PV	Renewable	0	m2	250	0	

**House - 4 Bed Detached - (Option 2)**

Element	Specification	Specification	Amount	Unit	£	Total
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	126	m2	231.13	29,122
Roof	0.13 W/m2k		49	m2	140.00	6,860
Grd Floor	0.20 W/m2k		49	m2	57.40	2,813
Window	1.2 W/m2K		24	m2	300.00	7,200
Doors	Insulated		2	Nr	750	1,500
Mech Vent	Ventilation		0	Item	3500	0
Gas Boiler	Heating	1	Item	1750	1,750	
75%	Lighting	0	Item	0	0	
PV	Renewable	0	m2	250	0	

**Flat - 1 Bed**

Element	Specification	Specification	Amount	Unit	£	Total
CFSH 4	E/O op 1	E/O op 2				
Walls	0	278				
Roof	0	0				
Grd Floor	0	0				
Window	0	0				
Doors	0	0				
Ventilation	0	-				
Natural	0	-				
Heating	0	-				
Lighting	0	-				
75%	0%	-				
Renewable	125	-				
PV	125	278				

**Flat - 2 Bed**

Element	Specification	Specification	Amount	Unit	£	Total
CFSH 4	E/O op 1	E/O op 2				
Walls	0	412				
Roof	0	0				
Grd Floor	0	0				
Window	0	0				
Doors	0	0				
Ventilation	0	-				
Natural	0	-				
Heating	0	-				
Lighting	0	-				
75%	0%	-				
Renewable	500	-				
PV	500	412				

**CFSH 5 & 6**

**Flat - 1 Bed (BASE CASE)**

Element	Specification	Specification	Amount	Unit	£	Total
<b>Fabric</b>						
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	25	m2	250.00	6,250
Roof	0.13 W/m2k		16	m2	0	-
Grd Floor	0.20 W/m2k		0	m2	0	-
Window	1.2 W/m2k		6	m2	300	1,800
Doors	Insulated		1	Nr	750	750
<b>Ventilation</b>						
Passive			1	Item	0	-
<b>Heating</b>						
A rated boiler			1	Item	1750	1,750
<b>Lighting</b>						
75%				Item		-
<b>Renewable</b>						
PV			0	m2	0	-

**Flat - 2 Bed (BASE CASE)**

Element	Specification	Specification	Amount	Unit	£	Total
<b>Fabric</b>						
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	37	m2	250.00	9,250
Roof	0.13 W/m2k		22	m2	0	-
Grd Floor	0.20 W/m2k		0	m2	0	-
Window	1.2 W/m2k		9	m2	300	2,700
Doors	Insulated		1	Nr	750	750
<b>Ventilation</b>						
Passive			1	Item	0	-
<b>Heating</b>						
A rated boiler			1	Item	1750	1,750
<b>Lighting</b>						
75%				Item		-
<b>Renewable</b>						
PV			0	m2	0	-

**House - 2 Bed Terrace - (BASE CASE)**

Element	Specification	Specification	Amount	Unit	£	Total
<b>Fabric</b>						
Walls	0.18 W/m2k	Partial fill, brick and aircrete block (Improvement on 0.13 Part L 2010)	77	m2	222.00	17,094
Roof	0.13 W/m2k		36	m2	140	5,040
Grd Floor	0.20 W/m2k		36	m2	57.4	2,066
Window	1.2 W/m2k		15	m2	300	4,500
Doors	Insulated		2	Nr	750	1,500
<b>Ventilation</b>						
Natural with Extract Fans			1	Item	0	0
<b>Heating</b>						
Gas Boiler A Rated			1	Item	1750	1750
<b>Lighting</b>						
75%			1	Item	0	0
<b>Renewable</b>						
PV			0	m2	250	0

**House - 3 Bed Semi - (BASE CASE)**

Element	Specification	Specification	Amount	Unit	£	Total
<b>Fabric</b>						
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	89	m2	222.00	19,758
Roof	0.13 W/m2k		48	m2	140	6,720
Grd Floor	0.20 W/m2k		48	m2	55	2,640
Window	1.2 W/m2k		21	m2	300	6,300
Doors	Insulated		2	Nr	750	1,500
<b>Ventilation</b>						
Passive			1	Item	0	0
<b>Heating</b>						
Gas Boiler A Rated			1	Item	1750	1750
<b>Lighting</b>						
75%			1	Item	0	0
<b>Renewable</b>						
PV			0	m2	250	0

**House - 4 Bed Detached - (BASE CASE)**

Element	Specification	Specification	Amount	Unit	£	Total
<b>Fabric</b>						
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	126	m2	222.00	27,972
Roof	0.13 W/m2k		49	m2	140.00	6,860
Grd Floor	0.20 W/m2k		49	m2	55.00	2,695
Window	1.2 W/m2k		24	m2	300.00	7,200
Doors	Insulated		2	Nr	750.00	1,500
<b>Ventilation</b>						
Passive			1	Item	0	0
<b>Heating</b>						
Gas Boiler A Rated			1	Item	1750	1750
<b>Lighting</b>						
75%			1	Item	0	0
<b>Renewable</b>						
PV			0	m2	250	0

**Flat - 1 Bed (Option 1 - Renewables approach)**

Element	Specification	Specification	Amount	Unit	£	Total
<b>Fabric</b>						
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	25	m2	261.13	6,528
Roof	N/A		16	m2	0	-
Grd Floor	N/A		0	m2	0	-
Window	1.2 W/m2k		6	m2	300.00	1,800
Doors	Insulated		1	Nr	750	750
<b>Ventilation</b>						
Natural			1	Item	0	0
<b>Heating</b>						
A rated gas boiler			1	Prov	1750	1750
<b>Lighting</b>						
75%			0	Item	0	0
<b>Renewable</b>						
PV			8	m2	250	2000

**Flat - 2 Bed (Option 1 - Renewables approach)**

Element	Specification	Specification	Amount	Unit	£	Total
<b>Fabric</b>						
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	37	m2	261.13	9,662
Roof	N/A		22	m2	0	-
Grd Floor	N/A		0	m2	0	-
Window	1.2 W/m2k		9	m2	300.00	2,700
Doors	Insulated		1	Nr	750	750
<b>Ventilation</b>						
Natural			1	Item	0	0
<b>Heating</b>						
Gas Boiler			1	Prov	1,750	1750
<b>Lighting</b>						
75%			0	Item	0	0
<b>Renewable</b>						
PV			11	m2	250	2813

**House - 2 Bed Terrace - (Option 1)**

Element	Specification	Specification	Amount	Unit	£	Total
<b>Fabric</b>						
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	77	m2	261.13	20,107
Roof	0.10 W/m2k		36	m2	150.83	5,430
Grd Floor	0.20 W/m2k		36	m2	68.26	2,457
Window	1.2 W/m2k		15	m2	300	4,500
Doors	Insulated		2	Nr	750	1,500
<b>Ventilation</b>						
Natural Ventilation			1	Item	0	0
<b>Heating</b>						
Air Source			1	Item	4750	4750
<b>Lighting</b>						
75%			1	Item	0	0
<b>Renewable</b>						
PV			15	m2	250	3750

**House - 3 Bed Semi - (Option 1)**

Element	Specification	Specification	Amount	Unit	£	Total
<b>Fabric</b>						
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	89	m2	261.13	23,240
Roof	0.10 W/m2k		48	m2	150.83	7,240
Grd Floor	0.20 W/m2k		48	m2	68.26	3,276
Window	1.2 W/m2k		21	m2	300	6,300
Doors	Insulated		2	Nr	750	1,500
<b>Ventilation</b>						
Natural			1	Item	0	0
<b>Heating</b>						
Air Source Heat Pump			1	Item	4750	4750
<b>Lighting</b>						
75%			1	Item	0	0
<b>Renewable</b>						
PV			20	m2	250	5000

**House - 4 Bed Detached - (Option 1)**

Element	Specification	Specification	Amount	Unit	£	Total
<b>Fabric</b>						
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	126	m2	261.13	32,902
Roof	0.10 W/m2k		49	m2	150.83	7,391
Grd Floor	0.20 W/m2k		49	m2	68.26	3,345
Window	1.2 W/m2k		24	m2	300.00	7,200
Doors	Insulated		2	Nr	750.00	1,500
<b>Ventilation</b>						
Natural			1	Item	0	0
<b>Heating</b>						
Air Source Heat Pump			1	Item	4750	4750
<b>Lighting</b>						
75%			0	Item	0	0
<b>Renewable</b>						
PV		@215 watts peak; 1.25m2	33.75	m2	250	8438

**Flat - 1 Bed (Option 2 - Fabric First approach)**

Element	Specification	Specification	Amount	Unit	£	Total
<b>Fabric</b>						
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	25	m2	261.13	6,528
Roof	N/A		16	m2	0	-
Grd Floor	N/A		0	m2	0	-
Window	0.8 W/m2k		6	m2	350	2,100
Doors	Insulated		1	Nr	750	750
<b>Ventilation</b>						
MVHR			1	Item	2500	2500
<b>Heating</b>						
A rated gas			1	Item	1750	1750
<b>Lighting</b>						
75%			0	Item	0	0
<b>Renewable</b>						
PV			0	m2	250	0

**Flat - 2 Bed (Option 2 - Fabric First approach)**

Element	Specification	Specification	Amount	Unit	£	Total
<b>Fabric</b>						
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	37	m2	261.13	9,662
Roof	N/A		22	m2	0	-
Grd Floor	N/A		0	m2	0	-
Window	0.8 W/m2k		9	m2	350	3,150
Doors	Insulated		1	Nr	750	750
<b>Ventilation</b>						
MVHR			1	Item	2500	2500
<b>Heating</b>						
A rated gas			1	Item	1750	1750
<b>Lighting</b>						
75%			0	Item	0	0
<b>Renewable</b>						
PV			11	m2	250	2812.5

**House - 2 Bed Terrace - (Option 2)**

Element	Specification	Specification	Amount	Unit	£	Total
<b>Fabric</b>						
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	77	m2	261.13	20,107
Roof	0.06 W/m2k		36	m2	159.79	5,752
Grd Floor	0.10 W/m2k		36	m2	67.40	2,426
Window	0.8 W/m2k		15	m2	350	5,250
Doors	Insulated		2	Nr	750	1,500
<b>Ventilation</b>						
Mech Vent		Heat Recovery	1	Item	2500	2500
<b>Heating</b>						
Gas Boiler			1	Item	1750	1750
<b>Lighting</b>						
75%			1	Item	0	0
<b>Renewable</b>						
PV			15	m2	250	3750

**House - 3 Bed Semi - (Option 2)**

Element	Specification	Specification	Amount	Unit	£	Total
<b>Fabric</b>						
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	89	m2	261.13	23,240
Roof	0.06 W/m2k		48	m2	159.79	7,670
Grd Floor	0.10 W/m2k		48	m2	67.40	3,235
Window	0.8 W/m2k		21	m2	350	7,350
Doors	Insulated		2	Nr	750	1,500
<b>Ventilation</b>						
Mech Vent		Heat Recovery	1	Item	3500	3500
<b>Heating</b>						
Gas Boiler			1	Item	1750	1750
<b>Lighting</b>						
75%			1	Item	0	0
<b>Renewable</b>						
PV			21.25	m2	250	5312.5

**House - 4 Bed Detached - (Option 2)**

Element	Specification	Specification	Amount	Unit	£	Total
<b>Fabric</b>						
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	126	m2	261.13	32,902
Roof	0.06 W/m2k		49	m2	159.79	7,830
Grd Floor	0.10 W/m2k		49	m2	67.40	3,303
Window	0.8 W/m2k		24	m2	350	8,400
Doors	Insulated		2	Nr	750	1,500
<b>Ventilation</b>						
Mech Vent		Heat recovery	1	Item	3500	3500
<b>Heating</b>						
Gas Boiler			1	Item	1750	1750
<b>Lighting</b>						
75%			0	Item	0	0
<b>Renewable</b>						
PV			36.25	m2		



Review of CfSH Standards - (Option 1 - Renewables Approach)

ENERGY												
Requirement		Available Credits	Weighting		CfSH 1	CfSH 2	CfSH 3	CfSH 4	CfSH 5	CfSH 6	Process Cost Associated	Comments
Ene 1	Dwelling Emission Rate  <i>(Min energy performance requirement i.e. mass of CO2; expressed in kg/m2 of floor area) Based on space heating &amp; hot water + internal lighting</i>	10	1.17%	1 Bed Flat 2 Bed Flat 2 Bed House 3 Bed House 4 Bed House	£0 £0 £0 £0 £0	£0 £0 £0 £0 £0	£0 £0 £0 £0 £0	£125 £500 £469 £625 £938	£2,278 £3,224 £10,544 £12,639 £17,548	£7,078 £12,174 £21,920 £20,890 £26,269	Requires SAP calcs by accredited energy assessor  % Improvement of DER over TER required based on SAP output	CfSH 4 - Assumes enhanced wall fabric  CfSH 5 - Assumes a 'fabric first' approach, enhancing wall, floor and roof insulation; a gas boiler system, Balanced whole house ventilation with heat recovery and PV panels.  CfSH 6 - Assumes a Ground Source Heat pump system; enhanced building fabric to walls, roof, floors and windows; balanced whole house ventilation with heat recovery and PV Panels
Ene 2	Dwelling Fabric  <i>(kWh/m2/yr)</i> <60 <55 <52 <49	9  3 4 5 6	0.00%		£0 £0 £0 £0	£0 £0 £0 £0	£0 £0 £0 £0	£0 £0 £0 £0	£0 £0 £0 £0	£0 £0 £0 £0	Requires SAP calcs by accredited energy assessor	Fabric enhancements incorporated within ENE 1 are assumed to satisfy the requirements of ENE 2
Ene 3	Energy Display Devices	2	0.00%		Not provided	Not provided	Not provided	Not provided	£100	£100		*Range between £100 and £450 however are becoming the norm
Ene 4	Drying Space	1	0.00%		Not provided	Not provided	Not provided	£18	£18	£18	NONE	
Ene 5	Energy Labelled White Good	2	0.00%		£0	£0	£0	£0	£0	£0	NONE	
Ene 6	External Lights	2	0.00%		Not provided	Not provided	Not provided	£46	£46	£46	NONE	Lights need to meet specific CfSH requirements
Ene 7	Low & Zero carbon technologies	2	0.00%		£0	£0	£0	£0	£0	£0		Assumed achieved through the PV panels included within the ENE 1 credit
Ene 8	Cycle Storage	2	0.00%		Not provided	Not provided	Not provided	£17	£17	£17		Cost for cycle hoop compliant with Code; space assumed required via planning
Ene 9	Home Office	1	0.00%		Not provided	Not provided	Not provided	£35	£35	£35		Requires additional BT and power sockets
WATER												
Requirement		Available Credits	Weighting		CfSH 1	CfSH 2	CfSH 3	CfSH 4	CfSH 5	CfSH 6	Process Cost Associated	Comments
Wat 1	Internal Water Use 2 bed flats 2, 3, & 4 bed house 3 & 4 bed house <120 l/p/day <110 l/p/day <105 l/p/day *CfSH 3/4 <90 l/p/day <80l/p/day	5  1 2 3 4 5	1.50%		£0 £0 £0	£0 £0 £0	£6 £6 £9	£6 £6 £9	£900 £2,201 £2,697	£900 £2,201 £2,697	*The Water Efficiency Calculator for New Dwellings is also required by AD G	CfSH 3 and 4 - cost based on water butt or similar connected to existing down pipe  CfSH 5 and 6 - Assumes a rainwater harvesting system; figure based on average of tenders received. Allowance of £100 made for craneage assuming facility already on site  NB: 80 /day assumes rainwater harvesting required.
Wat 2	External Water Use	1	1.50%		Not Provided	Not Provide	Not Provided	£19	£19	£19		
MATERIALS												
Requirement		Available Credits	Weighting		CfSH 1	CfSH 2	CfSH 3	CfSH 4	CfSH 5	CfSH 6	Process Cost Associated	Comments
Mat 1	Environmental Impact of Materials	15	0.30%		£0	£0	£0	£0	£0	£0		Assumes that standard materials incorporated within the Green Guide
Mat 2	Responsible Sourcing of Materials	6	0.30%		£0	£0	£0	£0	£0	£0		Ditto above
Mat 3	Responsible Sourcing of Materials - Finishing Elements	3	0.30%		£0	£0	£0	£0	£0	£0	*Process Cost associated with collation of documentation and completion of the Mat 3 Calculator Tool	Ditto above
SURFACE												
Requirement		Available Credits	Weighting		CfSH 1	CfSH 2	CfSH 3	CfSH 4	CfSH 5	CfSH 6	Process Cost Associated	Comments
Sur 1	Management of SW Run-off for developments	2	0.55%		£0	£0	£0	£0	£0	£0	Process cost with additional survey however unlikely to influence design as potentially a 'costly credit' if the design does not meet the current criteria	* Site specific, potentially lower cost on Brownfield sites where SW run off not changing, additional requirement over and above Flood Water and Management Act 2012 for Greenfield therefore additional process cost





Review of CfSH Standards - back up information (Option 2 - Fabric First Approach)

ENERGY												
Requirement		Available Credits	Weighting		CfSH 1	CfSH 2	CfSH 3	CfSH 4	CfSH 5	CfSH 6	Process Cost Associated	Comments
Ene 1	Dwelling Emission Rate  <i>(Min energy performance requirement i.e. mass of CO2; expressed in kg/m2 of floor area)</i>	10	1.17%	1 Bed Flat 2 Bed Flat 2 Bed House 3 Bed House 4 Bed House	£0 £0 £0 £0 £0	£0 £0 £0 £0 £0	£0 £0 £0 £0 £0	£278 £412 £703 £812 £1,150	£3,078 £6,174 £11,085 £14,890 £20,269	£7,078 £12,174 £21,920 £20,890 £26,269	Requires SAP calcs by accredited energy assessor  % Improvement of DER over TER required based on SAP output	CfSH 4 - Assumes enhanced wall fabric  CfSH 5 - Assumes a 'fabric first' approach, enhancing wall, floor and roof insulation; a gas boiler system, Balanced whole house ventilation with heat recovery and PV panels.  CfSH 6 - Assumes a Ground Source Heat pump system; enhanced building fabric to walls, roof, floors and windows; balanced whole house ventilation with heat recovery and PV Panels
Ene 2	Dwelling Fabric (kWh/m2/yr) <60 <55 <52 <49	9 3 4 5 6	0.00%		£0 £0 £0 £0	£0 £0 £0 £0	£0 £0 £0 £0	£0 £0 £0 £0	£0 £0 £0 £0	£0 £0 £0 £0	Requires SAP calcs by acc	Fabric enhancements incorporated within ENE 1 are assumed to satisfy the requirements of ENE 2
Ene 3	Energy Display Devices	2	0.00%		Not provided	Not provided	Not provided	£100	£100	£100		*Range between £100 and £450 however are becoming the norm; NB: CfSH requires very specific criteria to be met to be compliant
Ene 4	Drying Space	1	0.00%		Not provided	Not provided	Not provided	£18	£18	£18	NONE	Assumes over bath drying system
Ene 5	Energy Labelled White Good	2	0.00%		£0	£0	£0	£0	£0	£0	NONE	Not provided
Ene 6	External Lights	2	0.00%		Not provided	Not provided	Not provided	£46	£46	£46	NONE	Lights need to meet specific CfSH requirements
Ene 7	Low & Zero carbon technologies	2	0.00%		£0	£0	£0	£0	£0	£0		Assumed achieved through the PV panels included within the ENE 1 credit
Ene 8	Cycle Storage	2	0.00%		Not provided	Not provided	Not provided	£17	£17	£17		Cost for cycle hoop compliant with Code; space assumed required via planning
Ene 9	Home Office	1	0.00%		Not provided	Not provided	Not provided	£35	£35	£35		Requires additional BT and power sockets; requires daylighting however not incorporate in cost as a design criteria
WATER												
Requirement		Available Credits	Weighting		CfSH 1	CfSH 2	CfSH 3	CfSH 4	CfSH 5	CfSH 6	Process Cost Associated	Comments
Wat 1	Internal Water Use 2 bed flats 2, 3, & 4 bed house 3 & 4 Bed Houses <120 l/p/day <110 l/p/day <105 l/p/day *CfSH 3/4 <90 l/p/day <80l/p/day	5 1 2 3 4 5	1.50%		£0 £0 £0	£0 £0 £0	£6 £6 £9	£6 £6 £9	£900 £2,201 £2,697	£900 £2,201 £2,697	*The Water Efficiency Calculator for New Dwellings is also required by AD G	CfSH 3 and 4 - cost based on water butt or similar connected to existing down pipe  CfSH 5 and 6 - Assumes a rainwater harvesting system; figure based on average of tenders received. Allowance of £100 made for craneage assuming facility already on site  NB: 80 /day assumes rainwater harvesting required.
Wat 2	External Water Use	1	1.50%		Not Provided	Not Provide	Not Provided	£19	£19	£19		
MATERIALS												
Requirement		Available Credits	Weighting		CfSH 1	CfSH 2	CfSH 3	CfSH 4	CfSH 5	CfSH 6	Process Cost Associated	Comments
Mat 1	Environmental Impact of Materials	15	0.30%		£0	£0	£0	£0	£0	£0		
Mat 2	Responsible Sourcing of Materials	6	0.30%		£0	£0	£0	£0	£0	£0		
Mat 3	Responsible Sourcing of Materials - Finishing Elements	3	0.30%		£0	£0	£0	£0	£0	£0	*Process Cost associated with collation of documentation and completion of the Mat 3 Calculator Tool	
SURFACE												
Requirement		Available Credits	Weighting		CfSH 1	CfSH 2	CfSH 3	CfSH 4	CfSH 5	CfSH 6	Process Cost Associated	Comments
Sur 1	Management of SW Run-off for developments	2	0.55%		£0	£0	£0	£0	£0	£0	Process cost with additional survey however unlikely to influence design as potentially a 'costly credit' if the design does not meet the current criteria	* Site specific, potentially lower cost on Brownfield sites where SW run off not changing, additional requirement over and above Flood Water and Management Act 2012 for Greenfield therefore additional process cost

Sur 2	Flood Risk	2	0.55%		£0	£0	£0	£0	£0	£0	Process cost associated with having a code specific flood risk as a traditional survey for planning is unlikely to meet the criteria	*Project specific dependant on site location
<b>WASTE</b>												
Requirement		Available Credits			CfSH 1	CfSH 2	CfSH 3	CfSH 4	CfSH 5	CfSH 6	Process Cost Associated	Comments
Was 1	Storage of Non-recyclable Waste and Recyclable Household Waste	4	0.80%		£0	£40	£40	£40	£40	£40		*Cost associated with 'accessibility'
Was 2	Construction Site Waste Management	3	0.80%		£0	£0	£0	£0	£0	£0		
Was 3	Composting	1	0.80%		Not provided	Not provided	Not provided	£15	£15	£15		
<b>POLLUTION</b>												
Requirement		Available Credits			CfSH 1	CfSH 2	CfSH 3	CfSH 4	CfSH 5	CfSH 6	Process Cost Associated	Comments
Pol 1	Global Warming Potential of Insulants	1	0.70%		£0	£0	£0	£0	£0	£0	* Process costs associated with completing CfSH tables	
Pol 2	Nox Emissions	3	0.70%		£0	£0	£0	£0	£0	£0		* A rated boiler provided as 'norm' no additional cost
<b>HEALTH</b>												
Requirement		Available Credits			CfSH 1	CfSH 2	CfSH 3	CfSH 4	CfSH 5	CfSH 6	Process Cost Associated	Comments
Hea 1	Daylighting	3	1.17%		£0	£0	£0	£0	£0	£0	- External assessor (typically architect) Daylighting Calculation required (1hr per unit)	? More onerous than Planning requirement
Hea 2	Sound Insulation	4	1.17%	1 Bed Flat	£0	£0	£0	£0	£100	£100	- Nature of buildings may provide as standard however additional acoustic test or Robust details provided	*Achieving the dwelling fabric should improve noise transfer therefore cost may only allowed where 'fabric first approach not included'
				2 Bed Flat	£0	£0	£0	£0	£148	£148	- Similar to Building Regs	*Dependant on construction methodology whether 'natural' improvement
				2 Bed House	£0	£0	£0	£0	£298	£298	- Sound insulation	* Costs assume 4 points for level 5 and 6, i.e Robust Detail. Cost associated with the additional detailing required to achieve the separating wall and floor detail
				3 Bed House	£0	£0	£0	£0	£370	£370		* Cost based on £2/m2 for houses and £4/m2 for flats on floor area,
				4 Bed House	£0	£0	£0	£0	£448	£448		
				3db								
				5db								
				8db								
				Robust Details								
Hea 3	Private Space	1	1.17%		£0	£0	£0	£0	£0	£0	- Detailed on the drawing	* Sales driver to provide some outside space * Required in LHDG * Assessment criteria under HQI for Affordable Housing
Hea 4	Lifetime Homes	4	1.17%		Not provided	Not provided	Not provided	Not provided	£1,091	£1,091		* Affordable schemes typically comply as part of funding requirement; Cost is £1,091
<b>MANAGEMENT</b>												
Requirement		Available Credits			CfSH 1	CfSH 2	CfSH 3	CfSH 4	CfSH 5	CfSH 6	Process Cost Associated	Comments
Man 1	Home User Guide	3	1.11%		£0	£0	£0	£0	£0	£0		
Man 2	Considerate Constructors Scheme	2	1.11%		£0	£0	£0	£0	£0	£0		
Man 3	Construction Site Impacts	2	1.11%		£0	£0	£0	£0	£0	£0		* Monitored as part of site management * Commercial benefit in reducing site costs
Man 4	Security	2	1.11%		Not provided	Not provided	Not provided	Not provided	£244	£244	2 Bed Flat	Additional SbD compliance to achieve credit. Involvement required early on therefore audit process
									£217	£217	2 Bed House	
									£217	£217	3 Bed House	
									£254	£254	4 Bed House	
<b>ECOLOGY</b>												
Requirement		Available Credits			CfSH 1	CfSH 2	CfSH 3	CfSH 4	CfSH 5	CfSH 6	Process Cost Associated	Comments
Eco 1	Ecological Value of Site	1	1.33%		£0	£0	£0	£0	£0	£0		* Ecologist required to produce 'code compliant report'
Eco 2	Ecological Enhancement	1	1.33%		£0	£0	£0	£0	£0	£0		* Site specific
Eco 3	Protection of Ecological Features	1	1.33%		Not provided	Not provided	Not provided	£100	£100	£100		* Site specific because of 'default' case where site of low ecological value, therefore Greenfield sites potentially harder to achieve
Eco 4	Change in Ecological Value of the Site	4	1.33%		Not provided	Not provided	Not provided	Not provided	£300	£300		Additional planting - assumed figure of £300 * Assumed not provided at lower levels
Eco 5	Building Footprint	2	1.33%		£0	£0	£0	£0	£0	£0		
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Review of CfSH Standards - process cost breakdown version

£ 52 Labour rate £/hr

Large' assumes a 100 unit scheme with 10 standard house types; 'Medium' assumes 50 Unit Scheme has 5 House types and 'Small' assumes 5 Unit Scheme has 2 House types

ENERGY				PROCESS COST			NOTES		
Requirement	Available Credits			Small 5 Units	Medium 50 Units	Large 100 Units			
Ene 1	Dwelling Emission Rate	10	MANDATORY	Code Fee	£ 94	£ 23	£ 23	Assume 4.5 hour per house type for CfSH 10 house types in Large; 5 House Types in Medium; 2 House types in Small	- Code Energy Calculator Tool (based on SAP)
Ene 2	Dwelling Fabric	9	MANDATORY	Code Fee	£ -	£ -	£ -	Assumes cost dealt with under ENE 1 at Level 1 to 4;	- Code Energy Calculator Tool (based on SAP)
Ene 3	Energy Display Devices	2	NOT MANDATORY	Code Fee	£ 10	£ 2	£ 2	Small - 1 hour to compile information Medium - 2 hours to compile information Large - Assume 3 hours to compile information	- Documentary Evidence of light fitting - ASSUME 1hour of assessors time to collate information, divided by number of units - Documentary evidence of location - included within above costs
Ene 4	Drying Space	1	NOT MANDATORY		£ -	£ -	£ -	No	- Detailed on construction drawings - Drawings issued under ENE2 therefore no process cost
Ene 5	Energy Labelled White Good	2	NOT MANDATORY		£ -	£ -	£ -	No	- Copy of information provided under EU Labelling Scheme as standard
Ene 6	External Lights	2	NOT MANDATORY		£ -	£ -	£ -	No	- Detailed on construction drawings - Drawings issued under ENE2 therefore no process cost
Ene 7	Low & Zero carbon technologies	2	NOT MANDATORY		£ -	£ -	£ -	No	- Not typically required for CfSH 3/4 - SAP used as evidence therefore no additional process cost
Ene 8	Cycle Storage	2	NOT MANDATORY	Code Fee	£ 21	£ 5	£ 5	Assume 1 hour per house type for CfSH	- Documentary Evidence and specification to meet location and criteria
Ene 9	Home Office	1	NOT MANDATORY		£ -	£ -	£ -	No	- Information detailed on drawings provided under ENE3, and daylighting criteria
<b>TOTAL</b>					£ 437	£ 108	£ 108		
WATER									
Requirement	Available Credits								
Wat 1	Internal Water Use	5	MANDATORY	Surveyor	£ 78	£ 8	£ 5	Assume 7.5 hours technical support at Code Level 3 & above for small and medium scheme; assume 10 hours for large schemes	- Water Calculator to be completed. Duplicate across scheme where the same sanitaryware etc used.
Wat 2	External Water Use	1	NOT MANDATORY		£ -	£ -	£ -	No	- Water calculator dealt with under WAT1
<b>TOTAL</b>					£ 78	£ 8	£ 5		
MATERIALS									
Requirement	Available Credits								
Mat 1	Environmental Impact of Materials	15	MANDATORY	Code Fee	£ 62	£ 16	£ 16	Assume 3 hour per house type	- Information readily available as the industry has reacted to requirement for tracability of materials - Some process cost to collate the information.
Mat 2	Responsible Sourcing of Materials	6	NOT MANDATORY		£ -	£ -	£ -	CfSH 5 & 6 - 2 hours per house type	- Ditto Mat 1; information collated as part of MAT 1 therefore no additional info - Additional cost included at cFsh 5 and 6 to allow for more time required to source products information
Mat 3	Responsible Sourcing of Materials - Finishing Elements	3	NOT MANDATORY		£ -	£ -	£ -	CfSH 5 & 6 - 2 hours per house type	- Ditto Mat 1; Information collated as part of MAT 1 therefore no additional info - Ditto Mat 2
<b>TOTAL</b>					£ 146	£ 36	£ 36		
SURFACE									
Requirement	Available Credits								
Sur 1	Management of SW Run-off for developments	2	MANDATORY	Surveyor	£ 109	£ 11	£ 5	10.5 hours of time to complete the survey for the whole development. (4 hours to compile data and 6.5 hours to produce report in correct CfSH format). £52/hour	- Not typically dealt with under a 'typical' assesment criteria therefore process cost; Peak rate management and volume of run off - SUD's element - 1 in 100 year storm assume 5 hours
Sur 2	Flood Risk	2	NOT MANDATORY		£ 36	£ 4	£ 2	Assumed additional 3.5hours to produce the additional information required	- Additional info required over and above the 'standard' flood risk assesment typically required.
<b>TOTAL</b>					£ 146	£ 15	£ 7		

WASTE									
Requirement		Available Credits							
Was 1	Storage of Non-recyclable Waste and Recyclable Household Waste	4	MANDATORY		£ -	£ -	£ -	No	- No process cost - industry standard. Information readily available
Was 2	Construction Site Waste Management	3	NOT MANDATORY		£ -	£ -	£ -	No	- Required as standard therefore no additional cost
Was 3	Composting	1	NOT MANDATORY	Code Assesor	£ 10	£ 2	£ 1	1 hour for small scheme and 2 hours for medium and large scheme assumed to provide information and liason with architect to ensure complies with criteria	- Documentary evidence to be collated therefore negligible process cost
<b>TOTAL</b>					<b>£ 10</b>	<b>£ 2</b>	<b>£ 1</b>		
POLLUTION									
Requirement		Available Credits							
Pol 1	Global Warming Potential of Insulants	1	MANDATORY	Code Assesor + external	£ 42	£ 4	£ 0	Assume 4 hours to source and collate information; Assume information is repeated across house types	- Challenging credit to achieve because the information is not readily available
Pol 2	Nox Emissions	3	NOT MANDATORY	Code Assessor	£ 42	£ 10	£ 10	Assume 2 hour per house type	- Information collation; Information detailed on SAP assesment
<b>TOTAL</b>					<b>£ 84</b>	<b>£ 14</b>	<b>£ 10</b>		
HEALTH									
Requirement		Available Credits							
Hea 1	Daylighting	3	NOT MANDATORY	Architect	£ 21	£ 5	£ 3	Assumed 1 hour per unit type to complete assesment in CfSH standard format	- External assesor (typically architect) Daylighting Calculation required (1hr per unit)
Hea 2	Sound Insulation	4	NOT MANDATORY	External Assesor	£ 21	£ 5	£ 3	Assumed 1 hour per house type for small, medium and large schemes;	- Nature of buildings may provide as standard however additional acoustic test or Robust details provided - Similar to Building Regs - Sound insulation testing costs
Hea 3	Private Space	1	NOT MANDATORY		£ -	£ -	£ -	No	- Detailed on the drawings and via site inspection
Hea 4	Lifetime Homes	4	NOT MANDATORY (Except L6)	Architect	£ 21	£ 5	£ 5	Say 1 per house type to allow for design etc.	- Process cost to complete survey
<b>TOTAL</b>					<b>£ 63</b>	<b>£ 15</b>	<b>£ 11</b>		
MANAGEMENT									
Requirement		Available Credits							
Man 1	Home User Guide	3	NOT MANDATORY	Contractor	£ 21	£ 8	£ 4	Say 2 hours for small and 7.5 hours for medium and larger scheme	- Very bespoke for code therefore some process costs
Man 2	Considerate Constructors Scheme	2	NOT MANDATORY		£ -	£ -	£ -		- Achieved as standards
Man 3	Construction Site Impacts	2	NOT MANDATORY	Contractor	£ 21	£ 2	£ 1	Nominal process cost assumed to collate the information; Assume 2 hours regardless of scheme type	- Additional info above Build Regs standard however achieved by internal procedures that are likely to be in place ie . ISO;
Man 4	Security	2	NOT MANDATORY	Code and SbD	£ 52	£ 5	£ 3	Assume 5hours to complete - process the same regardless of scheme size	- Evidence onerous to achieve the standard; additional documentary evidence over and above the 'norm' ; - Requires Secured by Design to be completed.
<b>TOTAL</b>					<b>£ 94</b>	<b>£ 15</b>	<b>£ 8</b>		
ECOLOGY									
Requirement		Available Credits							
Eco 1	Ecological Value of Site	1	NOT MANDATORY	Ecologist report	£ 42	£ 8	£ 4	- Additional 7.5 hours survey and report time assumed to be CfSH compliant for medium and large; 4 hours with small	- Enhanced survey required to achieve the standard and suitably qualified ecologist
Eco 2	Ecological Enhancement	1	NOT MANDATORY		£ -	£ -	£ -	No	- Achieved under ECO1
Eco 3	Protection of Ecological Features	1	NOT MANDATORY		£ -	£ -	£ -	No	- Achieved under ECO1
Eco 4	Change in Ecological Value of the Site	1	NOT MANDATORY	Ecologist report	£ 21	£ 5	£ 3	- Assumed 2 hours to complete site visit for small; 5 hours for medium and large	- Additional site visit required to sign off items have been installed correctly
Eco 5	Building Footprint	2	NOT MANDATORY		£ -	£ -	£ -	No	- Achieved under ECO1
<b>TOTAL</b>					<b>£ 63</b>	<b>£ 13</b>	<b>£ 7</b>		
<b>OVERALL PROCESS COST</b>					<b>£ 1,120</b>	<b>£ 226</b>	<b>£ 193</b>	<b>PER DWELLING ASSUMING ALL CODE CREDITS ACHIEVED</b>	

## Appendix A3 – Counterfactual, Space

	Basecase		Proposed				Level 2 - 2013 Consultation				Proposed & Level 2 Consultation Comparison				Level 3 - 2013 Consultation			
	GIA	Build Cost	GIA	Variance m <sup>2</sup>	Build Cost Variance	%	GIA	Variance m <sup>2</sup>	Build Cost Variance	%	GIA	Variance m <sup>2</sup>	Build Cost Variance	%	GIA	Variance m <sup>2</sup>	Build Cost Variance	%
<b>1 bed flat</b>																		
Space standard (1b2p)			50 m <sup>2</sup>		£81,966													
Private (average from survey)	50.0 m <sup>2</sup>	£ 81,966		.0 m <sup>2</sup>	£0	0%	48 m <sup>2</sup>	-2 m <sup>2</sup>	-£ 1,776	-2%	2 m <sup>2</sup>	-£ 1,776		58 m <sup>2</sup>	8 m <sup>2</sup>	£ 81,966		
HCA Average	51.1 m <sup>2</sup>	£ 78,032		-1.1 m <sup>2</sup>	£3,934	5%		-3.1 m <sup>2</sup>	£ 2,158	3%								
Lifetime Homes	48.5 m <sup>2</sup>	£ 80,549		1.5 m <sup>2</sup>	£1,416	2%		-0.5 m <sup>2</sup>	-£ 360	0%								
WHDG	58.0 m <sup>2</sup>	£ 87,382												0 m <sup>2</sup>	-£ 5,416	-6%		
<b>2 bed flat</b>																		
Space standard (2b3p)			61 m <sup>2</sup>		£90,252													
Private (average from survey)	67.0 m <sup>2</sup>	£ 94,520		-6.0 m <sup>2</sup>	-£4,268	-5%	61 m <sup>2</sup>	-6 m <sup>2</sup>	-£ 4,268	-5%	0 m <sup>2</sup>	£ -		73 m <sup>2</sup>	12 m <sup>2</sup>	£ 99,987		
HCA Average	64.0 m <sup>2</sup>	£ 86,752		-3.0 m <sup>2</sup>	£3,500	4%		-3 m <sup>2</sup>	£ 3,500	4%								
Lifetime Homes	63.0 m <sup>2</sup>	£ 91,413		-2.0 m <sup>2</sup>	-£1,161	-1%		-2 m <sup>2</sup>	-£ 1,161	-1%								
WHDG	76.0 m <sup>2</sup>	£ 101,511												-3 m <sup>2</sup>	-£ 1,524	-2%		
Space standard (2b4p)			70 m <sup>2</sup>		£96,850													
Private (lower end of size range)	51.0 m <sup>2</sup>	£ 82,091		19.0 m <sup>2</sup>	£14,759	18%	70 m <sup>2</sup>	19 m <sup>2</sup>	£ 14,759	18%	0 m <sup>2</sup>	£ -		87 m <sup>2</sup>	17 m <sup>2</sup>	£ 110,056		
Private (average from survey)	67.0 m <sup>2</sup>	£ 94,520		3.0 m <sup>2</sup>	£2,330	2%		3 m <sup>2</sup>	£ 2,330	2%								
Private (upper end of size range)	79.0 m <sup>2</sup>	£ 103,842		-9.0 m <sup>2</sup>	-£6,991	-7%		-9 m <sup>2</sup>	-£ 6,991	-7%								
HCA Average	71.5 m <sup>2</sup>	£ 94,520		-1.5 m <sup>2</sup>	£ 2,330	2%		-1.5 m <sup>2</sup>	£ 2,330	2%								
Lifetime Homes	72.0 m <sup>2</sup>	£ 98,403		-2.0 m <sup>2</sup>	-£1,553	-2%		-2 m <sup>2</sup>	-£ 1,553	-2%								
WHDG	87.0 m <sup>2</sup>	£ 110,056												0 m <sup>2</sup>	£ -	0%		
<b>2 bed terraced house</b>																		
Space standard (2b3p)			70 m <sup>2</sup>		£78,156													
Private (average from survey)	72.0 m <sup>2</sup>	£ 78,044		-2.0 m <sup>2</sup>	£113	0%	74 m <sup>2</sup>	2 m <sup>2</sup>	£ 1,173	2%	-4 m <sup>2</sup>	£ 1,061		94 m <sup>2</sup>	22 m <sup>2</sup>	£ 90,041		
HCA Average	65.4 m <sup>2</sup>	£ 70,708		4.6 m <sup>2</sup>	£7,449	11%		8.6 m <sup>2</sup>	£ 8,509	12%								
Lifetime Homes	64.0 m <sup>2</sup>	£ 72,175		6.0 m <sup>2</sup>	£5,981	8%		10 m <sup>2</sup>	£ 7,042	10%								
WHDG	76.0 m <sup>2</sup>	£ 80,978												18 m <sup>2</sup>	£ 9,063	11%		
Space standard (2b4p)			79 m <sup>2</sup>		£80,544													
Private (lower end of size range)	55.0 m <sup>2</sup>	£ 65,573		24.0 m <sup>2</sup>	£14,971	23%	83 m <sup>2</sup>	28 m <sup>2</sup>	£ 16,033	24%	-4 m <sup>2</sup>	£ 1,062		104 m <sup>2</sup>	25 m <sup>2</sup>	£ 101,518		
Private (average from survey)	72.0 m <sup>2</sup>	£ 78,044		7.0 m <sup>2</sup>	£2,501	3%		11 m <sup>2</sup>	£ 3,562	5%								
Private (upper end of size range)	79.0 m <sup>2</sup>	£ 83,179		.0 m <sup>2</sup>	-£2,635	-3%		4 m <sup>2</sup>	-£ 1,573	-2%								
HCA Average	75.0 m <sup>2</sup>	£ 74,376		4.0 m <sup>2</sup>	£6,169	8%		8 m <sup>2</sup>	£ 7,230	10%								
Lifetime Homes	73.0 m <sup>2</sup>	£ 78,777		6.0 m <sup>2</sup>	£1,767	2%		10 m <sup>2</sup>	£ 2,828	4%								
WHDG	87.0 m <sup>2</sup>	£ 92,147												17 m <sup>2</sup>	£ 9,371	10%		
<b>3 bed semi detached house</b>																		
Space standard (3b4p)			84 m <sup>2</sup>		£95,330													
Private (average from survey)	92.0 m <sup>2</sup>	£ 95,741		-8.0 m <sup>2</sup>	-£410	0%	87 m <sup>2</sup>	-5 m <sup>2</sup>	£ 386	0%	-3 m <sup>2</sup>	£ 796		109 m <sup>2</sup>	25 m <sup>2</sup>	£ 112,708		
HCA Average	85.0 m <sup>2</sup>	£ 76,736		-1.0 m <sup>2</sup>	£18,594	24%		2 m <sup>2</sup>	£ 19,390	25%								
Lifetime Homes	74.0 m <sup>2</sup>	£ 82,058		10.0 m <sup>2</sup>	£13,273	16%		13 m <sup>2</sup>	£ 14,069	17%								
WHDG	87.0 m <sup>2</sup>	£ 91,939												22 m <sup>2</sup>	£ 20,768	23%		
Space standard (3b5p)			93 m <sup>2</sup>		£97,718													
Private (lower end of size range)	70.0 m <sup>2</sup>	£ 79,017		23.0 m <sup>2</sup>	£18,701	24%	96 m <sup>2</sup>	26 m <sup>2</sup>	£ 19,497	25%	-3 m <sup>2</sup>	£ 796		120 m <sup>2</sup>	27 m <sup>2</sup>	£ 117,025		
Private (average from survey)	92.0 m <sup>2</sup>	£ 95,741		1.0 m <sup>2</sup>	£1,978	2%		4 m <sup>2</sup>	£ 2,774	3%								
Private (upper end of size range)	121.0 m <sup>2</sup>	£ 117,786		-28.0 m <sup>2</sup>	-£20,068	-17%		-25 m <sup>2</sup>	-£ 19,272	-16%								
HCA Average	89.0 m <sup>2</sup>	£ 88,139		4.0 m <sup>2</sup>	£9,580	11%		7 m <sup>2</sup>	£ 10,376	12%								
Lifetime Homes	86.0 m <sup>2</sup>	£ 91,180		7.0 m <sup>2</sup>	£6,539	7%		10 m <sup>2</sup>	£ 7,335	8%								
WHDG	102.0 m <sup>2</sup>	£ 103,343												18 m <sup>2</sup>	£ 13,683	13%		
<b>4 bed detached house</b>																		
Space standard (4b5p)			97 m <sup>2</sup>		£117,051													
Private (average from survey)	117.0 m <sup>2</sup>	£ 121,045		-20.0 m <sup>2</sup>	-£3,995	-3%	100 m <sup>2</sup>	-17 m <sup>2</sup>	-£ 3,199	-3%	-3 m <sup>2</sup>	£ 796		125 m <sup>2</sup>	28 m <sup>2</sup>	£ 127,367		
HCA Average	96.5 m <sup>2</sup>	£ 94,571		.5 m <sup>2</sup>	£22,480	24%		3.5 m <sup>2</sup>	£ 23,276	25%								
Lifetime Homes	85.5 m <sup>2</sup>	£ 96,151		11.5 m <sup>2</sup>	£20,899	22%		14.5 m <sup>2</sup>	£ 21,695	23%								
WHDG	102.0 m <sup>2</sup>	£ 109,191												23 m <sup>2</sup>	£ 18,176	17%		
Space standard (4b6p)			106 m <sup>2</sup>		£119,439													
Private (lower end of size range)	93.0 m <sup>2</sup>	£ 102,078		13.0 m <sup>2</sup>	£17,360	17%	109 m <sup>2</sup>	16 m <sup>2</sup>	£ 18,156	18%	-3 m <sup>2</sup>	£ 796		135 m <sup>2</sup>	32 m <sup>2</sup>	£ 135,271		
Private (average from survey)	117.0 m <sup>2</sup>	£ 121,045		-11.0 m <sup>2</sup>	-£1,607	-1%		-8 m <sup>2</sup>	-£ 811	-1%								
Private (upper end of size range)	158.0 m <sup>2</sup>	£ 153,447		-52.0 m <sup>2</sup>	-£34,009	-22%		-49 m <sup>2</sup>	-£ 33,213	-22%								
HCA Average	-	£ 103,659		-	-	-		-	-	-								
Lifetime Homes	99.5 m <sup>2</sup>	£ 107,610		6.5 m <sup>2</sup>	£11,828	11%		9.5 m <sup>2</sup>	£ 12,624	12%								
WHDG	119.0 m <sup>2</sup>	£ 122,626												16 m <sup>2</sup>	£ 12,645	10%		
Space standard (4b7p)			115 m <sup>2</sup>		£121,827													
Private	117.0 m <sup>2</sup>	£ 121,045		-2.0 m <sup>2</sup>	£781	1%	118 m <sup>2</sup>	1 m <sup>2</sup>	£ 1,577	1%	-3 m <sup>2</sup>	£ 796		145 m <sup>2</sup>	30 m <sup>2</sup>	£ 143,173		
HCA Average	-	£ 117,094		-	-	-		-	-	-								
Lifetime Homes	113.0 m <sup>2</sup>	£ 117,884		2.0 m <sup>2</sup>	£3,942	3%		5 m <sup>2</sup>	£ 4,738	4%								
WHDG	137.0 m <sup>2</sup>	£ 136,851												8 m <sup>2</sup>	£ 6,322	5%		

**Notes:**  
 - Where proposed standards are less than existing a negative cost is included, this would not however be relevant to the impact assessment for private sale dwellings  
 - No information for the HCA average size of 4 bed detached house units was available.

## Appendix A4 – Counterfactual, Access

Lifetime Homes Design Criteria Cost

	1 Bed Flat	2 Bed Flat	2 Bed Terr	3 Bed Semi House	4 Bed Detached	
Standard	Costs	Costs	Costs	Costs	Costs	Comments
1 Parking Adaptation - potential to increase parking space (3.3 x 4.8) required	£141	£141	£0	£0	£0	- 'Standard' Car Park (2.4x4.8) = 11.52m2 - LTH (3.3x6) = 19.8m2 - Additional area = 8.28m2 - Say hard = £85/m2 = £703 Say only provided to every 5th unit (provided near each entrance or lift core) Terraces assumes on-street parking where the standard can be accommodated at no additional cost
2 Approach to dwelling	£0	£0	£0	£0	£0	Addressed under Part M
3 Approach to all entrances	£0	£0	£0	£0	£0	Addressed under Part M
4 Entrance	£83	£83	£133	£133	£133	- To be illuminated - Level Access over threshold - addressed under Part M - Entrance Porch NB: Flat costs divided between 40Nr flats
5 Communal Stairs & Lifts	£0	£0	£0	£0	£0	
6 Hallway Width and Doors	£0	£0	£25	£25	£25	Extra over cost of £62 to allow for 1050mm door. 2 doors allowed, total in 20% of dwellings
7 Circulation	£0	£0	£0	£0	£0	
8 Entrance Level Living	£0	£0	£0	£0	£0	
9 Potential for entrance bed space	£0	£0	£0	£0	£0	
10 Entrance Level WC and Shower Drainage	£275	£275	£275	£275	£275	Additional drainage point including falls to screed and filled in. Additional labour etc included. Same to all units
11 WC and Bathroom Walls	£384	£384	£384	£384	£384	8m x 2.4m = 19.2m2 ; Lining board £20 supply and fit
12 Stairs and Through floor Lift space	£0	£0	£0	£0	£0	Space Only.  No allowance made for concrete floors  No allowance made in flats as assumed single storey
13 Potential for fitting hoist	£18	£18	£91	£91	£91	Requirement is design related and 'requires capable of adaptation to support'  Cost in flats is an allowance based on additional support in some top floor flats (however subject to structural design and would not necessarily be required in concrete frame building). Flat allowance therefore based on 11m2 (bedroom size) x £10/m2. Cost divided by 12 plots per block, multiplied by 4 top floor flats. Total cost divided by 50% (assuming 50% units concrete not timber)  Cost allowed for double joist/strengthening. Bedroom length assumed 3.5m; double joist allowed therefore 7m @ £13/m
14 Bathroom	£116	£116	£116	£116	£116	Additional space required to comply therefore additional flooring, drainage point costed within item 9. Additional tiling and flooring. Cost Breakdown provided below
15 Glazing and window heights	£14	£14	£16	£18	£20	Nominal cost included as requirement means a top hung window, therefore limited supply chain
16 Service Controls	£4	£5	£5	£8	£9	Radiator controls require between 450 and 1200mm. Additional pipework required accommodate.
<b>Total</b>	<b>£1,035</b>	<b>£1,035</b>	<b>£1,044</b>	<b>£1,049</b>	<b>£1,051</b>	

Current Base Date 2Q 14                      £1,082                      £1,083                      £1,092                      £1,097                      £1,100

Bathroom costing break down:-		Standard Bathroom	
		Wall Width	Wall Length
		Standard 1.7 m	1.8 m
		LTH 2.1 m	2.1 m
	<b>Difference 'Norm'/LTH</b>	<b>0.4 m</b>	<b>0.3 m</b>
		Floor to Ceiling 2.4 m	2.4 m
	<b>Additional Wall area</b>	<b>0.96 m2</b>	<b>0.72 m2</b>
	<b>Wall</b>		
	Plasterboard incl. sundries (@ £18.50/m2)	17.76 £/m2	13.32 £/m2
	<b>Extra Over Tiling (@£50/m2 Supply and Fit)</b>	<b>48.00</b>	<b>36.00</b>
		GIFA 3.06 m2	4.41 m2
	Flooring (@£50/m2)	153 £/m2	220.5 £/m2
	<b>Extra over cost</b>	<b>67.5 £/m2</b>	
	<b>TOTAL</b>	<b>115.50 £/m2</b>	

Entrance		House	Flat Block	*Assume 40Nr Flats
Canopy		500 £/Nr	950 £/Nr	
Light		50 £/Nr	50 £/Nr	
		<b>550 £/Nr</b>	<b>1000 £/Nr</b>	
			<b>83.33 £/Nr</b>	
Adjusted Canopy		125 £/Nr		* 75% already have canopy
Light		7.5 £/Nr		* 85% already have ext light
		<b>132.5 £/Nr</b>		

Radiator Pipes		Nr Radiators				
		Flat (1B)	Flat (2B)	2bed	3 Bed	4Bed
Per Radiator (flow and return)	700 mm	5	6	6	10	11
		3500	4200	4200	7000	7700
		3.5	4.2	4.2	7	7.7
Pipe	£28 for 25m	0				
		1.12				
		<b>3.92</b>	<b>4.704</b>	<b>4.704</b>	<b>7.84</b>	<b>8.624</b>



Wheelchair Housing Design Guide

Standard	REQUIREMENTS	Flat 1B £	Flat 2B £	Terraced £	Semi £	Det £	Comments
<b>External Environment and entrances</b>							
<b>Moving Around Outside</b>							
	1.2.1 1200mm path	£150	£150	£188	£375	£375	Path - Standard 900mm, say 5m per dwelling @ £75/m
	1.2.2 Protective kerb edging	£125	£125	£125	£250	£250	5m @ £25/m
	1.2.3 Gradient	£0	£0	£0	£0	£0	Building Reg
	1.2.4 Cross falls	£0	£0	£0	£0	£0	
	1.2.5 Crossings	£0	£0	£0	£0	£0	
<b>Using outdoor spaces</b>							
	2.2.1 Gardens - 850mm gate opening	£0	£0	£50	£50	£50	Extra over for wider gate and additional ironmongery
	2.2.2	£0	£0	£0	£0	£0	Design Item
	2.2.3 Accessible Paving	£0	£0	£375	£375	£375	Additional 4m2
	2.2.4 Refuse	£0	£0	£0	£0	£0	Design related
<b>Approaching the home</b>							
	3.2.1 Covered Car parking (5.4 x 3.6 x 2.2)	£0	£0	£0	£0	£0	Car port
	3.2.2 Min height covered area	£0	£0	£0	£0	£0	Addressed under 3.2.1
	3.2.3 Dwelling with communal external entrance	£0	£0	£0	£0	£0	
	3.2.4 Garages	£0	£0	£0	£0	£0	<i>Not ideal therefore costs not included</i>
	3.2.5 Route to entrance - smooth slip resistant	£0	£0	£0	£0	£0	Design and material specification issue - no required cost
	3.2.6 Entrance Landing - 1500 x 1500mm	£225	£225	£225	£225	£225	
	3.2.7 1200mm canopy	£950	£950	£950	£950	£950	
	3.2.8 Lighting of transfer area	£0	£0	£0	£0	£0	Provided as standard
	3.2.9 Additional Lift	£1,589	£1,589	£0	£0	£0	Assume 10Nr units per floor therefore over 4 floors would require additional lift; Lift cost = £47,666 divide by 30Nr dwellings (i.e 3 floors of 10Nr)
<b>Negotiating Entrance Doors</b>							
	4.2.1 Door - 800mm	£125	£125	£125	£125	£125	To accommodate larger door/frame etc
	4.2.2 Approaching space	£0	£0	£0	£0	£0	Space/ Design
	4.2.3 Threshold	£0	£0	£0	£0	£0	
	4.2.4 Lock - 800 -900mm high	£0	£0	£0	£0	£0	Height
	4.2.5 Remote controlled door opener	£800	£800	£800	£800	£800	£550 nett cost, electrical installation etc.
	4.2.7 Lever, Pull Handles	£0	£0	£0	£0	£0	Front door only Specification
	4.2.8 Entry Phone	£0	£0	£0	£0	£0	Height of install - no additional cost
	4.2.9 Bell	£0	£0	£0	£0	£0	Height of install - no additional cost
	4.2.10 External Light	£0	£0	£0	£0	£0	Supplied generally 'as standard'
	4.2.12 Pull - pull bar	£150	£200	£300	£350	£400	Say £50 supply and fit per door
<b>Entering and Leaving</b>							
	5.2.1 Transfer - 1100 x 1700 required	£0	£0	£0	£0	£0	Space
	5.2.2 Turning Space - 1500 x 1800mm clear turning	£0	£0	£0	£0	£0	Space
	5.2.3 Post - Fitting to collect post	£0	£0	£30	£30	£30	Flat assumed to have post boxes 'as standard'
	5.2.4 Entry Phone - future provision	£0	£0	£0	£0	£0	
	5.2.5 Lobby - Requirement for space if additional lobby	£0	£0	£0	£0	£0	Additional Space therefore not extra cost

Standard	REQUIREMENTS	£	£	£	£	£	Comments
Negotiating secondary door							
	6.2.1 Landing 1500 x 1500mm landing	£0	£0	£0	£0	£0	Space
	6.2.2 Door - clear width of 800mm	£75	£100	£150	£175	£200	£25/door
	6.2.3 Approach - Space to approach, manoeuvre and pass through door	£0	£0	£0	£0	£0	Space
	6.2.4 Threshold - weathertight	£0	£0	£0	£0	£0	
Internal Environment							
Moving around inside - storing things							
	7.2.1 Straight passages	£0	£0	£0	£0	£0	900mm min width - space
	7.2.2 Head on approach to doors in passage	£0	£0	£0	£0	£0	Space/Design
	7.2.3 Turning 90 degrees	£0	£0	£0	£0	£0	
	7.2.3 Turning 180 degrees	£0	£0	£0	£0	£0	Space/Design
	7.2.5 Right angles	£0	£0	£0	£0	£0	Design detail / space
	7.2.6 Effective clear width for doors	£0	£0	£0	£0	£0	
	7.2.7 Space to approach doors	£0	£0	£0	£0	£0	
	7.2.8 Doors at angles	£0	£0	£0	£0	£0	Design detail / space
	7.2.9 Sliding doors	£0	£0	£0	£0	£0	Not required/provided as standard therefore nil cost allowed
	7.2.10 Storage - depth and width	£0	£0	£0	£0	£0	
Moving between levels within the dwelling							
	8.2.1 Lift (supply and install excluding lift shaft)	£0	£0	£11,785	£11,785	£11,785	Provided 'as standard' in most flatted blocks. Allowance as Category 3.
	8.2.1 Lift (shaft and fit out for storage)	£0	£0	£2,215	£2,215	£2,215	Provided 'as standard' in most flatted blocks. Allowance as Category 3.
	8.2.2 Installation - incl above	£0	£0	£0	£0	£0	Safety and security features provided as standard
	8.2.3 Circulation	£0	£0	£0	£0	£0	Design / space
Using living spaces							
	9.2.1 Room Layout	£0	£0	£0	£0	£0	Space
	9.2.2 Radiators - does not inhibit reasonable layout	£0	£0	£0	£0	£0	Layout - not additional cost
	9.2.3 Sockets - not sited within 750mm of internal angle	£0	£0	£0	£0	£0	Layout - not additional cost
Using the kitchen							
	10.2.1 Layout - windows positioned for ease of control and cleaning	£0	£0	£0	£0	£0	Layout and space
	10.2.2 Worktops - 600mm deep worktop	£0	£150	£150	£150	£150	
	10.2.3 Sink - adjustable	£500	£500	£500	£500	£500	Cost of sink (E/O) - plumbing as standard
	10.2.4 Storage	£250	£250	£250	£250	£250	Additional base units in lieu of wall
	10.2.5 Controls and Lighting	£0	£0	£0	£0	£0	Height of lights
	10.2.6 Appliances - install hob and built in oven	£900	£900	£900	£900	£900	Supply and fit
	10.2.7 Refuse	£0	£0	£0	£0	£0	
Using the bathroom							
	11.2.1 Bathroom - fully accessible toilet, shower etc	£2,470	£2,470	£2,470	£2,470	£2,470	£800 shower; £750 toilet, £500 sink, £150 grab rails; Additional Tiling £270
	11.2.2 Direct Access from bed to bath	£0	£0	£0	£0	£0	Design/Layout
	11.2.3 Additional W/C in dwelling of 4 or more	£0	£0	£0	£0	£0	Not 'standard' requirement
	11.2.4 Layout - independent transfer	£0	£0	£0	£0	£0	Space standard
	11.2.5 W/C - position for range of diff transfer positions	£0	£0	£0	£0	£0	Space standard
	11.2.6 Shower - drained floor	£0	£0	£0	£0	£0	Dealt with under 11.2.1
	11.2.7 Bath - allow range of transfer	£0	£0	£0	£0	£0	
Standard	REQUIREMENTS	£	£	£	£	£	Comments
Using the bedrooms							
	11.2.8 Basin - clearance under bowl	£0	£0	£0	£0	£0	Dealt with under 11.2.1
	11.2.9 Finishes	£0	£0	£0	£0	£0	Dealt with under 11.2.1
	11.2.10 Support - wall	£22	£22	£22	£22	£22	8m x 2.7m = 2.2m <sup>2</sup> ; Lining board £10 supply and fit
	12.2.1 Layout	£0	£0	£0	£0	£0	Design/space
	12.2.2 Controls	£0	£0	£0	£0	£0	Location rather than additional
	12.2.3 Door - knock out panel	£300	£300	£300	£300	£300	Additional time/work
	12.2.4 Hoist - strengthening ceiling, provide conduit wiring in roof	£650	£650	£650	£650	£650	£50 for wiring; £600 for strengthening

Components and details									
Operating internal doors	13.2.1	Construction - door allows future grab handles	£0	£0	£0	£0	£0	Solid door - generally required for fire under building regs	
	13.2.2	Handle heights	£0	£0	£0	£0	£0		
	13.2.3	Locking - indicators openable in emergency	£0	£0	£0	£0	£0		
	13.2.4	Emergency opening - inward opening door open outwards in an emergency	£0	£0	£0	£0	£0		
Operating windows	14.2.1	Approach	£0	£0	£0	£0	£0	Generally requires a larger window; 5% larger - allowance of additional £100 per window and say 4 Nr (exclude kitchen and bath - winders costed under 14.2.3)	
	14.2.2	Lower height	£105	£105	£225	£375	£435		
	14.2.3	Window gear	£500	£500	£500	£500	£500		Assume £250 per winder, assume only required on Kitchen & Bathroom
	14.2.4	Safety - not over paths	£0	£0	£0	£0	£0		Design
	14.2.5	Glazing	£0	£0	£0	£0	£0		Dealt with under 14.2.1
	14.2.6	Transom	£0	£0	£0	£0	£0		Design
Controlling services	15.2.1	Mains services - location	£0	£0	£0	£0	£0	Design	
	15.2.2	Plumbing	£0	£0	£0	£0	£0		
	15.2.3	Flexible Plumbing	£0	£0	£0	£0	£0		
	15.2.4	Switches	£28	£28	£28	£34	£38	Assume 6Nr switches @ extra over £2)	
	15.2.5	Socket outlets - general	£0	£0	£0	£0	£0	Height	
	15.2.6	Socket outlets - appliance	£0	£0	£0	£0	£0	Height	
	15.2.7	Telephone	£75	£75	£75	£75	£75	Additional 5Nr BT socket @£15	
	15.2.8	Future Control	£100	£100	£100	£100	£100	2Nr additional	
<b>Total</b>			<b>£10,089</b>	<b>£10,314</b>	<b>£23,488</b>	<b>£24,031</b>	<b>£24,170</b>		
Current Base Date 2Q 14 Adaptable			£8,095	£8,278	£9,594	£10,111	£10,204		
Current Base Date 2Q 14			£10,553	£10,788	£24,568	£25,136	£25,282		

Bespoke London Wheelchair Design Guide

Standard	REQUIREMENTS	Flat 1B £	Flat 2B £	Terraced £	Semi £	Det £	Comments
<b>External Environment and entrances</b>							
<b>Moving Around Outside</b>							
	1.1 Pavement Crossovers	£0	£0	£0	£0	£0	No additional cost
	1.2 1200mm path	£150	£150	£188	£375	£375	Path - Standard 900mm, say 5m per dwelling @ £75/m
	1.3 Ramps - Gradient	£0	£0	£0	£0	£0	Building Reg
	1.4 Protective edges	£125	£125	£125	£250	£250	5m @ £25/m on flats & terrace, 10m @ £25/ m on semi and det
	1.5 Rails	£0	£0	£0	£0	£0	Assume that these will be rare and designed out whether possible
<b>Using outdoor spaces</b>							
	2.1 900mm gate opening	£0	£0	£50	£50	£50	Extra over for wider gate and additional ironmongery
	2.2 Accessible Paving	£0	£0	£225	£225	£225	Additional 3m2
	2.3 Clothes Drying	£0	£0	£0	£0	£0	
	2.4 Route for Refuse etc	£0	£0	£0	£0	£0	Design related
	2.5 Balcony area	£0	£0	£0	£0	£0	Design related
	2.6 Garden Access	£0	£0	£0	£0	£0	Design related
<b>Approaching the home</b>							
	3.1 Car parking (4.0 x 6.6 x 2.3) - covered where possible - follow the same principle as the WHDG costing	£3,000	£3,000	£3,000	£3,000	£3,000	Car parking and covered canopy - used the same principles as the Habinteg costing exercise
	3.2 Remove auto gates (where fitted)	£0	£0	£0	£0	£0	Assume standard build specification
	3.3 Route to entrance (covered where possible)	£0	£0	£0	£0	£0	Assume standard build specification
	3.4 Covered canopy to entrance (where possible)	£950	£950	£950	£950	£950	Say £950 assume to all of units - used the same principle as the Habinteg exercise
	3.5 Lighting to car parking space (PIR) and internal switch	£200	£200	£200	£200	£200	Uplift for PIR and internal switching say £200/ unit
	3.6 Ground Floor Flat Access (preference)	£0	£0	£0	£0	£0	Design related
	3.7 Communal Corridors	£0	£0	£0	£0	£0	Design related
	3.8 Communal internal corridor doors	£0	£0	£0	£0	£0	Design related - Assume designed out
	3.9 Additional Lift	£1,589	£1,589	£0	£0	£0	Assume 10Nr units per floor therefore over 4 floors would require additional lift; Lift cost = £47,666 divide by 30Nr dwellings (i.e 3 floors of 10Nr)
<b>Negotiating Communal Entrance Doors</b>							
	4.1 Door - 900mm and pull handle on flat communal entrance door	£250	£250	£200	£200	£200	To accommodate larger door/frame. Pull handle on flats only (£50) etc
	4.2 Approaching space	£0	£0	£0	£0	£0	Space/ Design
	4.3 Threshold	£0	£0	£0	£0	£0	Design/ specification
	4.4 Lock - 800 -900mm high	£0	£0	£0	£0	£0	Height
	4.5 Remote controlled door opener	£800	£800	£800	£800	£800	£550 nett cost, electrical installation etc. Front door only
	4.4 Lever, Pull Handles	£0	£0	£0	£0	£0	Specification
	4.6 Entry Phone	£0	£0	£0	£0	£0	Included in flats and not required in houses
<b>Entering and Leaving the Home, Dealing with Callers</b>							
	5.1 Door - 900mm	£200	£200	£200	£200	£200	To accommodate larger door/frame etc
	5.2 Transfer - 1800 x 1500 required	£0	£0	£0	£0	£0	Space
	5.3 Threshold - Flat front door	£100	£100	£0	£0	£0	To flats only
	5.4 Turning Space - 1500 x 1800mm clear turning . Additional power point	£50	£50	£50	£50	£50	Space and £50 for power point
	5.5 Spy Hole	£30	£30	£30	£30	£30	Assume extra to all units £30 supply and fix
	5.6 Bell	£0	£0	£0	£0	£0	Height of install - no additional cost
	5.7 Post - Fitting to collect post	£0	£0	£30	£30	£30	Flat assumed to have post boxes 'as standard'
	5.8 Specialist locking mechanism and power supply	£75	£75	£75	£75	£75	Extra for electric power supply and specialist ironmonger say £75
	5.9 Entry Phone - Additional to the main entrance door	£100	£100	£100	£100	£100	Required to flats and houses
<b>Negotiating a Secondary Door to Garden or Balcony</b>							
	6.1 Landing 1500 x 1500mm landing	£0	£0	£0	£0	£0	Space
	6.2 Door - clear width of 900mm	£200	£200	£200	£200	£200	To accommodate larger door/frame etc
	6.3 Secure Lock (and door stays)	£15	£15	£15	£15	£15	Additional cost for supply and fix stays
	6.4 External lighting	£0	£0	£0	£0	£0	Supplied generally as standard
	6.5 French Windows	£0	£0	£0	£0	£0	Standard specification
<b>Internal Environment</b>							
<b>Moving around inside/ storing things</b>							
	7.1 All passages min 1200 wide	£0	£0	£0	£0	£0	Space/Design
	7.2 Clear opening width min 840mm	£75	£100	£150	£175	£200	£25/ door
	7.3 Storage - depth and width	£0	£0	£0	£0	£0	Standard Specification
	7.4 Flooring	£0	£0	£0	£0	£0	Design/ specification related
<b>Moving between levels</b>							
	8.1 Lift to flats and houses	£0	£0	£14,000	£14,000	£14,000	Provided 'as standard' in most flatted blocks. Additional cost to houses - Access Lifts fitted one on Claude Rd Dec 2012 for £12,500k including bwic. Say £14k each adjusting for on costs.
	8.2 Min lift dimensions	£0	£0	£0	£0	£0	Included in 8.1 above
	8.3 Powered door lifts	£0	£0	£0	£0	£0	Included in 8.1 above
	8.4 Lift controls	£0	£0	£0	£0	£0	Included in 8.1 above
	8.5 Lift position	£0	£0	£0	£0	£0	Included in 8.1 above
<b>Using living spaces</b>							
	9.1 Turning circle	£0	£0	£0	£0	£0	Space
	9.2 Transfer spaces	£0	£0	£0	£0	£0	Layout - not additional cost
	9.3 Operable fittings	£0	£0	£0	£0	£0	Layout - not additional cost
	9.4 Radiators	£0	£0	£0	£0	£0	Layout - not additional cost
	9.5 Sockets - min 750mm from a corner	£0	£0	£0	£0	£0	Layout - not additional cost
	9.6 Full plate switches	£50	£60	£80	£90	£100	e/o material price £10 per room

	9.7	Ceiling Hoists	£132	£165	£920	£1,050	£1,180	Requirement is design related and 'requires ceilings throughout to have structural capacity for future possible hoist installation' Flats Cost in flats is an allowance based on additional support in some top floor flats (however subject to structural design and would not necessarily be required in concrete frame building). Flat allowance therefore based on flat GIFA x £10/m2 plus £100 for electrical conduit. Cost divided by 12 plots per block, multiplied by 4 top floor flats. Total cost divided by 50% (assuming 50% units concrete not timber) Houses Cost allowed for double joist/strengthening. House GIFA x £10/m2 plus £150 for electrical conduit
Using the kitchen								
	10.1	Space and Layout	£0	£0	£0	£0	£0	Layout - not additional cost
	10.2	Worktops	£150	£150	£150	£150	£150	800mm adjustable section with extended tiling
	10.3	Storage	£250	£250	£250	£250	£250	Additional base units in lieu of wall units - Say £250
	10.4	Adjustable Sink	£600	£600	£600	£600	£600	E/o Cost of sink, taps and adjustable pipework - plumbing as standard
	10.5 & 10.6	Oven and hob	£1,000	£1,000	£1,000	£1,000	£1,000	Supply and fit (including adjustable hob and side hung oven)
	10.7	Additional appliance space	£100	£100	£100	£200	£200	Additional appliance space and service. Assume 2 spaces and services provided as standard. For units with less than 5 persons then 1 additional space For units with 5 or more persons then 2 additional spaces Space and services @ say £100 ea
	10.8	Controls and Sockets	£0	£0	£0	£0	£0	Height of lights
	10.9	Internal Refuse	£0	£0	£0	£0	£0	Design/ specification related
	10.10	Fridge	£0	£0	£0	£0	£0	Design/ specification related
	10.11	Windows	£250	£250	£500	£500	£500	Window winders for windows above worktops - Say £250 supply and install. Say 1 nr per flat (above kitchen worktop) and say 2 nr required per house. Manual not electronic
Using the bathroom and shower room								
	11.1, 11.2 & 11.5	Space for bath and shower (1 & 2 bed)	£1,200	£1,200	£0	£0	£0	e/o for level access shower, shower seat, wall reinforcement, grab rails, floor gully and associated works - Say £500
	11.1, 11.3 & 11.5	Space for bath and shower (3 + bed)	£2,470	£2,470	£2,470	£2,470	£2,470	£800 shower; £750 toilet, £500 sink, £150 grab rails; Additional Tiling £270
	11.4	Bathroom and shower room	£0	£0	£0	£0	£0	
	11.6	Turning circle	£0	£0	£0	£0	£0	Design/Layout
	11.7 - 11.10	Transfer space	£0	£0	£0	£0	£0	Space standard
	11.11	Fixings	£0	£0	£0	£0	£0	included above
	11.12	WC Height	£0	£0	£0	£0	£0	Standard
	11.13	The Cistern	£10	£10	£20	£20	£20	Splayed lever handle - say £10 e/o (1 in flats 2 in houses)
	11.14	Showering Space	£0	£0	£0	£0	£0	included above
	11.15 - 11.18	Level Access Shower	£0	£0	£0	£0	£0	included above
	11.19	Rail and weighted shower curtain	£150	£150	£150	£150	£150	supply and install
	11.20	Bath	£0	£0	£0	£0	£0	Standard
	11.21	Bath taps	£0	£0	£0	£0	£0	included above
	11.22	Integral bath rails	£0	£0	£0	£0	£0	included above
	11.23 - 11.25	Over bath shower	£0	£0	£0	£0	£0	included above
	11.26	Wash hand basin	£50	£50	£100	£100	£100	e/o for upgraded basin - say £50 e/o (1 in flats 2 in houses)
	11.27	Rails	£150	£150	£300	£300	£300	2 x drop down WC rails per toilet @ say £150 per toilet (1 in flats and 2 in houses). Supply only. Not fitted
	11.28	Floor	£100	£100	£200	£200	£200	Floor upstand - say £100 per room (1 in flats 2 in houses)
	11.29	Pull switches - Large pull cord	£0	£0	£0	£0	£0	included above
	11.30	Shaving point - Height between 800mm-1000mm	£0	£0	£0	£0	£0	included above
	11.31	Over basin light - Long pull cord	£0	£0	£0	£0	£0	included above
Using bedrooms								
	12.1	Turning circle	£0	£0	£0	£0	£0	Design/space
	12.2	Transfer space	£0	£0	£0	£0	£0	Design/space
	12.3	Access past bed	£0	£0	£0	£0	£0	Design/space
	12.4	Access to furniture	£0	£0	£0	£0	£0	Design/space
	12.5	Controls	£0	£0	£0	£0	£0	included as standard
	12.6	Adjacent to bed head	£50	£50	£50	£50	£50	Socket outlet, 2 way light and TV point (design no extra cost). Entry phone point - included below
	12.7	Hoists	£0	£0	£0	£0	£0	included above
<b>Components and details</b>								
<b>Operating doors</b>								
	13.1	Door Construction - door allows future grab handles	£0	£0	£0	£0	£0	Solid door - generally required for fire under building regs
	13.2	Lever Handles - heights	£0	£0	£0	£0	£0	No additional cost
	13.3	Internal Locks - easily manipulated (inside and out) in emergency	£0	£0	£0	£0	£0	No additional cost
	13.4	Emergency opening - wetroom doors to open outwards	£0	£0	£0	£0	£0	No additional cost
	13.5	Self closing doors	£0	£0	£0	£0	£0	Door closer fitted to internal doors - say £75 ea
Operating windows								
	14.1	Handles - operating handle height 800mm-1000mm	£0	£0	£0	£0	£0	No additional cost
	14.2	Remote control	£200	£200	£200	£200	£200	Window winders - Say £200 supply and install. Assume required to 1 other window in each unit type (in addition to kitchen included above)
	14.3	Safety - not to create hazard externally	£0	£0	£0	£0	£0	Design

Controlling services	14.4	Glazing Line	£105	£105	£225	£375	£435	Generally requires a larger window; 5% larger - allowance of additional £100 per window and say 4 Nr (exclude kitchen and bath - winders costed under 14.2.3)
	15.1	Mains services - location	£0	£0	£0	£0	£0	Design
	15.2	Mains water - stopcock accessibility	£0	£0	£0	£0	£0	Design
	15.3	Plumbing - isolating stop taps	£0	£0	£0	£0	£0	No additional cost included above
	15.4	Flexible Plumbing	£0	£0	£0	£0	£0	Low surface temperature rads to bathrooms and shower rooms. Assume 1 in the flats and 2 in the houses @ e/o £100 ea
	15.5	Radiators - LST	£100	£100	£200	£200	£200	included above
	15.6 & 7	Light Switches	£0	£0	£0	£0	£0	Design
	15.8 & 9	Socket outlets - location	£0	£0	£0	£0	£0	Design
	15.10, 15.11 & 15.12	Radiator positions and controls - Location						Design
	15.13	Telephone	£30	£45	£45	£60	£75	Additional BT socket @£15 (1 + nr of bedrooms)
	15.14	Entry phone	£100	£150	£150	£200	£250	Additional intercom @£50 (1 + nr of bedrooms) Entry phone point - additional door entry phone set (1 nr) to master bedroom only - say £50
	<b>Total</b>			<b>£15,156</b>	<b>£15,289</b>	<b>£28,298</b>	<b>£29,090</b>	<b>£29,380</b>

BCIS TPI Uplift Original Base Date 2Q 13	£15,156	£15,289	£28,298	£29,090	£29,380
Current Base Date 2Q 14	£15,853	£15,992	£29,599	£30,428	£30,731

WCHG vs GWHHDG

	Flat 1B	Flat 2B	Terraced	Semi	Det	Comments
	£	£	£	£	£	
WCHG	£10,553	£10,788	£24,568	£25,136	£25,282	
BLWHDG	£15,853	£15,992	£29,599	£30,428	£30,731	

Additional for incorporating BLWHDG over WCHG

	Flat 1B	Flat 2B	Terraced	Semi	Det
	£5,300	£5,204	£5,031	£5,292	£5,450

Key Assumptions

- 1 Car parking space based on the same principles as the Habinteg model
- 2 Covered car parking is based on the same principles as the Habinteg model
- 3 Covered entrance canopy is based on the same principles as the Habinteg model
- 4 Lifts are an essential requirement in Bespoke London Wheelchair Housing Design Guide. Allowance of £14k for the houses only. IM rang Greenwich OT - 09.05.14 who confirmed that lifts would be required in houses - they buy these from Pollock (NI) for £10.5k
- 5 Ceiling hoists - Greenwich appears to require these throughout the dwelling (e/o £10/ m2 uplift) - OT at Greenwich explained that this was required as they want to limit distances that anyone is on a hoist and that the hoist may be required anywhere in the home. ie. to help someone get out of bed into a shower chair or a child from a smaller bedroom to the bathroom. This is a fair assumption.
- 6 Self closing doors not required throughout for Greenwich. OT explained that these are to be avoided and it appears that they are now obsolete for dwellings when you consider the revised Part B Dwellings.  
In 3 storey houses closers on all doors would make life very difficult for a wheelchair bound resident. Doors would need to be held open unless fire sensors triggered them to shut.
- 7 Assumed that the spacial implications for Greenwich are the same as for Habinteg - Not correct assumption. Greenwich compliance is circa 20% additional space above LTH.

## Appendix A5 – Counterfactual, Water



# Housing Standards Review

## Water Standards - 4 bed detached house

Jun-14

CfSH	Specification	Proposed Standard		Code Level 5 /6		Comments
		Specification	E/O Cost	Specification	E/O cost	
	120l/p/d	110 l/p/d		80l/p/d		
<i>Physical costs</i>						
Low flush WCs (2nr)	6/4 l dual	6/4 l dual	£ -	4/2.6 l dual	£ 14	
Low flow wash basin taps (2 nr)	6/min	4 l/min	£ -	2 l/min	£ -	
Low flow shower (2 nr)	10 l/min	8 l/min	£ 6	6 l/min	£ 6	Flow restrictor used to achieve reduced flow rates
Bath capacity	170 l	145 l	£ -	145 l	£ -	
Kitchen tap flow rate	8 l/min	6 l/min	£ 3	4 l/min	£ 3	Flow restrictor used to achieve reduced flow rates
Water efficient washing machine	No	No	£ -	No	£ -	
Water efficient dishwasher	No	No	£ -	No	£ -	
Greywater reuse	No	No	£ -	No	£ -	
Rainwater harvesting	No	No	£ -	Yes	£ 2,674	Including above / below ground storage tanks
Sub total			£ 9		£ 2,697	

For each Code level, the Water Calculator was used to determine an approximate specification of water saving features to deliver the respective water consumption levels given in the CfSH technical guide.

Costs are based on:

EC Harris' internal benchmarking database which draws on costs data from past and present CfSH projects

Enquiries made with suppliers

Discussions with a leading M&E consultancy specialising in sustainability

Base Level sanitaryware is assumed to be basic spec in which case there is a cost premium for water efficient fittings. Note, for instances where higher spec sanitaryware would be the norm, extra over costs for sanitaryware could be zero.

To achieve Code Level 5/6 rainwater harvesting has been incorporated within the costs. An alternative to the significant cost and complexity of greywater reuse/rainwater harvesting could be a 6 litres/minute shower (typical for an electric shower) and no bath. Although this would save on the cost of installing a bath and reduce the bathroom space this would not be a direct comparison with the other specifications. Similarly a unit without a bath is generally considered to be less desirable, particularly in family dwellings.

All typologies are assumed to have Baths with showers over

Yield co-efficient for rainwater harvesting assumption is based on BS8515 Calculations based on rainfall average of 650mm/yr (based on Met office South East Figures)

House roofs assumed to be pitched and tiled

Minimum flow rates on CfSH taps are inline with AECB Best Practice Guidelines

# Housing Standards Review

## Water Standards - 3 bed semi detached house

Jun-14

CfSH	Proposed Standard			Code Level 5 /6		Comments
	Base Specification	Specification		Specification	E/O cost	
CfSH water consumption (l/p/d)	125 l/p/d	110 l/p/d		80 l/p/d		
<i>Physical costs</i>						
Low flush WCs (2nr)	6/4 l dual	6/4 l dual	£ -	4/2.6 l dual	£ 14	
Low flow wash basin taps (2 nr)	6/min	4 l/min	£ -	2 l/min	£ -	
Low flow shower (2nr)	10 l/min	8 l/min	£ 6	6 l/min	£ 6	Flow restrictor used to achieve reduced flow rates
Bath capacity	170 l	145 l	£ -	145 l	£ -	
Kitchen tap flow rate	8 l/min	6 l/min	£ 3	4 l/min	£ 3	Flow restrictor used to achieve reduced flow rates
Water efficient washing machine	No	No	£ -	No	£ -	
Water efficient dishwasher	No	No	£ -	No	£ -	
Greywater reuse	No	No	£ -	No	£ -	
Rainwater harvesting	No	No	£ -	Yes	£ 2,674	Including above / below ground storage tanks
Sub total			£ 9		£ 2,697	

For each Code level, the Water Calculator was used to determine an approximate specification of water saving features to deliver the respective water consumption levels given in the CfSH technical guide.

Costs are based on:

EC Harris' internal benchmarking database which draws on costs data from past and present CfSH projects

Enquiries made with suppliers

Discussions with a leading M&E consultancy specialising in sustainability

Base Level sanitaryware is assumed to be basic spec in which case there is a cost premium for water efficient fittings. Note, for instances where higher spec sanitaryware would be the norm, extra over costs for sanitaryware could be zero.

To achieve Code Level 5/6 rainwater harvesting has been incorporated within the costs. An alternative to the significant cost and complexity of greywater reuse/rainwater harvesting could be a 6 litres/minute shower (typical for an electric shower) and no bath. Although this would save on the cost of installing a bath and reduce the bathroom space this would not be a direct comparison with the other specifications. Similarly a unit without a bath is generally considered to be less desirable, particularly in family dwellings.

All typologies are assumed to have Baths with showers over

Yield co-efficient for rainwater harvesting assumption is based on BS8515 Calculations based on rainfall average of 650mm/yr (based on Met office figures for the South East)

House roofs assumed to be tiled and pitched

Minimum flow rates on CfSH taps are inline with AECB Best Practice Guidelines

# Housing Standards Review

## Water Standards - 2 bed terraced house

Jun-14

CfSH	Building Regs	Proposed Standard		Code Level 5 /6		Comments
	Specification	Specification		Specification	E/O cost	
	125 l/p/d	110 l/p/d		80 l/p/d		
<i>Physical costs</i>						
Low flush WCs (2nr)	6/4 l dual	6/4 l dual	£ -	4/2.6 l dual	£ 14	
Low flow wash basin taps (2 nr)	6/min	4 l/min	£ -	2 l/min	£ -	
Low flow shower	10 l/min	8 l/min	£ 3	6 l/min	£ 3	Flow restrictor used to achieve reduced flow rates
Bath capacity	170 l	145 l	£ -	145 l	£ -	
Kitchen tap flow rate	8 l/min	6 l/min	£ 3	4 l/min	£ 3	Flow restrictor used to achieve reduced flow rates
Water efficient washing machine	No	No	£ -	No	£ -	
Water efficient dishwasher	No	No	£ -	No	£ -	
Greywater reuse	No	No	£ -	No	£ -	
Rainwater harvesting	No	No	£ -	Yes	£ 2,181	Including above / below ground storage tanks
Sub total	£ -		£ 6		£ 2,201	

For each Code level, the Water Calculator was used to determine an approximate specification of water saving features to deliver the respective water consumption levels given in the CfSH technical guide.

Costs are based on:

EC Harris' internal benchmarking database which draws on costs data from past and present CfSH projects

Enquiries made with suppliers

Discussions with a leading M&E consultancy specialising in sustainability

Base Level sanitaryware is assumed to be basic spec in which case there is a cost premium for water efficient fittings. Note, for instances where higher spec sanitaryware would be the norm, extra over costs for sanitaryware could be zero.

To achieve Code Level 5/6 rainwater harvesting has been incorporated within the costs. An alternative to the significant cost and complexity of greywater reuse/rainwater harvesting could be a 6 litres/minute shower (typical for an electric shower) and no bath. Although this would save on the cost of installing a bath and reduce the bathroom space this would not be a direct comparison with the other specifications. Similarly a unit without a bath is generally considered to be less desirable, particularly in family dwellings.

All typologies are assumed to have Baths with showers over

Yield co-efficient for rainwater harvesting assumption is based on BS8515 Calculations based on rainfall average of 650mm/yr (based on Met office figures for South East)

House roofs assumed to be pitched tiled roofs

Minimum flow rates on CfSH taps are inline with AECB Best Practice Guidelines

Housing Standards Review

Water Standard - 2 Bed Flat

Jun-14

The Water Efficiency Calculator		125 l/p/d (Current Building Regs)				110 l/p/d (Proposed)				80 l/p/d (CSH 5/6)					
Installation Type	Unit measure	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day		
		1	2	3	4	1	2	3	4	1	2	3	4		
W/C (Single Flush)	Flush Volume (litres)	N/A	4.42	0	N/A	N/A	4.42	0	N/A	N/A	4.42	0	N/A		
WC (Dual Flush)	Full flush volume (litres)	6	1.46	0	8.76	6	1.46	0	8.76	4	1.46	0	5.84		
	Part flush volume (litres)	4	2.96	0	11.84	4	2.96	0	11.84	2.6	2.96	0	7.70		
WCs (Multiple Fittings)	Average effective flushing volume (litres)	N/A	4.42	0	N/A	N/A	4.42	0	N/A	N/A	4.42	0	N/A		
Taps (excluding kitchen/utility room taps)	Flow rate (litres/minute)	6	1.58	1.58	11.06	4	1.58	1.58	7.9	2	1.58	1.58	4.74		
Bath (where shower also present)	Flow rate (litres/minute)	170	0.11	0	18.7	145	0.11	0	15.95	145	0.11	0	15.95		
Shower (where bath also present)	Capacity to overflow (litres)	10	4.37	0	43.7	8	4.37	0	34.96	6	4.37	0	26.22		
Bath only	Flow rate (litres/minute)	N/A	0.5	0	N/A	N/A	0.5	0	N/A	N/A	0.5	0	N/A		
Shower only	Flow rate (litres/minute)	N/A	5.6	0	N/A	N/A	5.6	0	N/A	N/A	5.6	0	N/A		
Kitchen / utility room sink taps	Flow rate (litres/minute)	8	0.44	10.36	13.88	6	0.44	10.36	13	4	0.44	10.36	12.12		
Washing machine	Litres/kg dry load	8.17	2.1	0	17.16	8.17	2.1	0	17.16	8.17	2.1	0	17.16		
Dishwasher	Litres/place setting	1.25	3.6	0	4.5	1.25	3.6	0	4.5	1.25	3.6	0	4.5		
Waste disposal unit	Litres/use	0	3.08	0	0	0	3.08	0	0	0	3.08	0	0		
Water softner	Litres/person/day	0	1.00	0	0	0	1.00	0	0	0	1.00	0	0		
<b>Total calculated use (litres/person/day)=(Sum column 4)</b>					<b>129.60</b>						<b>114.07</b>				<b>94.22</b>
Installation Type	Unit measure	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day		
	6	Contribution from greywater (litres/person/day) from Table 4.6			0	Contribution from greywater (litres/person/day) from Table 4.6			0	Contribution from greywater (litres/person/day) from Table 4.6			0		
	7	Contribution from rainwater (litres/person/day) from Table 5.5			0	Contribution from rainwater (litres/person/day) from Table 5.5			0	Contribution from rainwater (litres/person/day) from Table 5.5			12.73		
	8	Normilisation Factor			0.91	Normilisation Factor			0.91	Normilisation Factor			0.91		
	9	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			117.93	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			103.80	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			74.16		
	10	External water use			5	External water use			5	External water use			5		
	11	Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)			<b>122.93</b>	Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)			<b>108.80</b>	Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)			<b>79.16</b>		

Housing Standards Review

Water Standard - 2 Bed House

Jun-14

The Water Efficiency Calculator		125 l/p/d (Current Building Regs)				110 l/p/d (Proposed)				80 l/p/d (CFSH 5/6)					
Installation Type	Unit measure	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day		
		1	2	3	4	1	2	3	4	1	2	3	4		
W/C (Single Flush)	Flush Volume (litres)	N/A	4.42	0	N/A	N/A	4.42	0	N/A	N/A	4.42	0	N/A		
WC (Dual Flush)	Full flush volume (litres)	6	1.46	0	8.76	6	1.46	0	8.76	4	1.46	0	5.84		
	Part flush volume (litres)	4	2.96	0	11.84	4	2.96	0	11.84	2.6	2.96	0	7.70		
WCs (Multiple Fittings)	Average effective flushing volume (litres)	N/A	4.42	0	N/A	N/A	4.42	0	N/A	N/A	4.42	0	N/A		
Taps (excluding kitchen/utility room taps)	Flow rate (litres/minute)	6	1.58	1.58	11.06	4	1.58	1.58	7.9	2	1.58	1.58	4.74		
Bath (where shower also present)	Flow rate (litres/minute)	170	0.11	0	18.7	145	0.11	0	15.95	145	0.11	0	15.95		
Shower (where bath also present)	Capacity to overflow (litres)	10	4.37	0	43.7	8	4.37	0	34.96	6	4.37	0	26.22		
Bath only	Flow rate (litres/minute)	N/A	0.5	0	N/A	N/A	0.5	0	N/A	N/A	0.5	0	N/A		
Shower only	Flow rate (litres/minute)	N/A	5.6	0	N/A	N/A	5.6	0	N/A	N/A	5.6	0	N/A		
Kitchen / utility room sink taps	Flow rate (litres/minute)	8	0.44	10.36	13.88	6	0.44	10.36	13	4	0.44	10.36	12.12		
Washing machine	Litres/kg dry load	8.17	2.1	0	17.16	8.17	2.1	0	17.16	8.17	2.1	0	17.16		
Dishwasher	Litres/place setting	1.25	3.6	0	4.5	1.25	3.6	0	4.5	1.25	3.6	0	4.5		
Waste disposal unit	Litres/use	0	3.08	0	0	0	3.08	0	0	0	3.08	0	0		
Water softner	Litres/person/day	0	1.00	0	0	0	1.00	0	0	0	1.00	0	0		
<b>Total calculated use (litres/person/day)=(Sum column 4)</b>					<b>129.60</b>						<b>114.07</b>				<b>94.22</b>
Installation Type	Unit measure	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day		
	6	Contribution from greywater (litres/person/day) from Table 4.6			0	Contribution from greywater (litres/person/day) from Table 4.6			0	Contribution from greywater (litres/person/day) from Table 4.6			0		
	7	Contribution from rainwater (litres/person/day) from Table 5.5			0	Contribution from rainwater (litres/person/day) from Table 5.5			0	Contribution from rainwater (litres/person/day) from Table 5.5			14.42		
	8	Normilisation Factor			0.91	Normilisation Factor			0.91	Normilisation Factor			0.91		
	9	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			117.93	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			103.80	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			72.62		
	10	External water use			5	External water use			5	External water use			5		
	11	Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)			<b>122.93</b>	Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)			<b>108.80</b>	Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)			<b>77.62</b>		

Housing Standards Review

Water Standard - 3 Bed House

Jun-14

The Water Efficiency Calculator		125 l/p/d (Current Building Regs)				110 l/p/d (Proposed)				80 l/p/d (CFSH 5/6)							
Installation Type	Unit measure	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day				
		1	2	3	4	1	2	3	4	1	2	3	4				
W/C (Single Flush)	Flush Volume (litres)	N/A	4.42	0	N/A	N/A	4.42	0	N/A	N/A	4.42	0	N/A				
WC (Dual Flush)	Full flush volume (litres)	6	1.46	0	8.76	6	1.46	0	8.76	4	1.46	0	5.84				
	Part flush volume (litres)	4	2.96	0	11.84	4	2.96	0	11.84	2.6	2.96	0	7.70				
WCs (Multiple Fittings)	Average effective flushing volume (litres)	N/A	4.42	0	N/A	N/A	4.42	0	N/A	N/A	4.42	0	N/A				
Taps (excluding kitchen/utility room taps)	Flow rate (litres/minute)	6	1.58	1.58	11.06	4	1.58	1.58	7.9	2	1.58	1.58	4.74				
Bath (where shower also present)	Flow rate (litres/minute)	170	0.11	0	18.7	145	0.11	0	15.95	145	0.11	0	15.95				
Shower (where bath also present)	Capacity to overflow (litres)	10	4.37	0	43.7	8	4.37	0	34.96	6	4.37	0	26.22				
Bath only	Flow rate (litres/minute)	N/A	0.5	0	N/A	N/A	0.5	0	N/A	N/A	0.5	0	N/A				
Shower only	Flow rate (litres/minute)	N/A	5.6	0	N/A	N/A	5.6	0	N/A	N/A	5.6	0	N/A				
Kitchen / utility room sink taps	Flow rate (litres/minute)	8	0.44	10.36	13.88	6	0.44	10.36	13	4	0.44	10.36	12.12				
Washing machine	Litres/kg dry load	8.17	2.1	0	17.16	8.17	2.1	0	17.16	8.17	2.1	0	17.16				
Dishwasher	Litres/place setting	1.25	3.6	0	4.5	1.25	3.6	0	4.5	1.25	3.6	0	4.5				
Waste disposal unit	Litres/use	0	3.08	0	0	0	3.08	0	0	0	3.08	0	0				
Water softner	Litres/person/day	0	1.00	0	0	0	1.00	0	0	0	1.00	0	0				
<b>Total calculated use (litres/person/day)=(Sum column 4)</b>					<b>129.60</b>						<b>114.07</b>				<b>94.22</b>		
Installation Type	Unit measure	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day				
	6	Contribution from greywater (litres/person/day) from Table 4.6			0			Contribution from greywater (litres/person/day) from Table 4.6			0			Contribution from greywater (litres/person/day) from Table 4.6			0
	7	Contribution from rainwater (litres/person/day) from Table 5.5			0			Contribution from rainwater (litres/person/day) from Table 5.5			0			Contribution from rainwater (litres/person/day) from Table 5.5			14.75
	8	Normilisation Factor			0.91			Normilisation Factor			0.91			Normilisation Factor			0.91
	9	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			117.93			Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			103.80			Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			72.32
	10	External water use			5			External water use			5			External water use			5
	11	Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)			<b>122.93</b>			Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)			<b>108.80</b>			Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)			<b>77.32</b>

## Housing Standards Review

### Water Standard - 4 Bed House

Jun-14

The Water Efficiency Calculator		125 l/p/d (Current Building Regs)				110 l/p/d (Proposed)				80 l/p/d (CFSH 5/6)					
Installation Type	Unit measure	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day		
		1	2	3	4	1	2	3	4	1	2	3	4		
W/C (Single Flush)	Flush Volume (litres)	N/A	4.42	0	N/A	N/A	4.42	0	N/A	N/A	4.42	0	N/A		
WC (Dual Flush)	Full flush volume (litres)	6	1.46	0	8.76	6	1.46	0	8.76	4	1.46	0	5.84		
	Part flush volume (litres)	4	2.96	0	11.84	4	2.96	0	11.84	2.6	2.96	0	7.70		
WCs (Multiple Fittings)	Average effective flushing volume (litres)	N/A	4.42	0	N/A	N/A	4.42	0	N/A	N/A	4.42	0	N/A		
Taps (excluding kitchen/utility room taps)	Flow rate (litres/minute)	6	1.58	1.58	11.06	4	1.58	1.58	7.9	4	1.58	1.58	7.9		
Bath (where shower also present)	Flow rate (litres/minute)	170	0.11	0	18.7	145	0.11	0	15.95	145	0.11	0	15.95		
Shower (where bath also present)	Capacity to overflow (litres)	10	4.37	0	43.7	8	4.37	0	34.96	6	4.37	0	26.22		
Bath only	Flow rate (litres/minute)	N/A	0.5	0	N/A	N/A	0.5	0	N/A	N/A	0.5	0	N/A		
Shower only	Flow rate (litres/minute)	N/A	5.6	0	N/A	N/A	5.6	0	N/A	N/A	5.6	0	N/A		
Kitchen / utility room sink taps	Flow rate (litres/minute)	8	0.44	10.36	13.88	6	0.44	10.36	13	4	0.44	10.36	12.12		
Washing machine	Litres/kg dry load	8.17	2.1	0	17.16	8.17	2.1	0	17.16	8.17	2.1	0	17.16		
Dishwasher	Litres/place setting	1.25	3.6	0	4.5	1.25	3.6	0	4.5	1.25	3.6	0	4.5		
Waste disposal unit	Litres/use	0	3.08	0	0	0	3.08	0	0	0	3.08	0	0		
Water softner	Litres/person/day	0	1.00	0	0	0	1.00	0	0	0	1.00	0	0		
<b>Total calculated use (litres/person/day)=(Sum column 4)</b>					<b>129.60</b>						<b>114.07</b>				<b>97.38</b>
Installation Type	Unit measure	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day	Capacity / flow rate	Use factor	Fixed use (litres/person/day)	Litres/person/day		
	6	Contribution from greywater (litres/person/day) from Table 4.6			0	Contribution from greywater (litres/person/day) from Table 4.6			0	Contribution from greywater (litres/person/day) from Table 4.6			0		
	7	Contribution from rainwater (litres/person/day) from Table 5.5			0	Contribution from rainwater (litres/person/day) from Table 5.5			0	Contribution from rainwater (litres/person/day) from Table 5.5			15.63		
	8	Normilisation Factor			0.91	Normilisation Factor			0.91	Normilisation Factor			0.91		
	9	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			117.93	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			103.80	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			74.40		
	10	External water use			5	External water use			5	External water use			5		
	11	Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)			<b>122.93</b>	Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)			<b>108.80</b>	Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)			<b>79.40</b>		

## Appendix B1 – Proposed, Security



## Housing Standards Review

Domestic Security Standards - 2 Bed Flat (12 flats in block, 4 flats per floor)

Element	Current Industry Practice					Proposed Standard					Extra Over Baseline			
	Item Description	Quant	Unit	Rate	Total	Item Description	Quant	Unit	Rate	Total				
<b>Doors</b>														
Communal entrance door	Hardwood door and frame to communal door, automatic lock linked to access control	1	Item	£921.00	£921.00	PAS 24 with electronic release linked to access control	1	Item	£1,092.00	£1,092.00	£171.00			
Glass panel / side panel to communal entrance door	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00			
Flat Entrance Door	Fire rated flat entrance door inclusive of frame and ironmongery	12	Item	£433.00	£5,196.00	PAS 24 Fire Rated Door Set inclusive of frame and ironmongery	12	Item	£465.00	£5,580.00	£384.00			
Door restrictor to front entrance door	Included				£0.00	Included				£0.00	£0.00			
<b>Windows</b>														
External windows	Ground floor apartments 4nr: 4nr PVCU windows per apartment	1	Item	£3,444.00	£3,444.00	Ground floor apartments 4nr: 4nr PVCU windows per apartment to BS 7950	1	Item	£3,518.16	£3,518.16	£74.16			
PVCU: BS 7412:2007	Included				£0.00	Included				£0.00	£0.00			
					<b>Total</b>	<b>£9,656.00</b>						<b>Total</b>	<b>£10,285.00</b>	<b>£629.00</b>
					<b>Total / flat</b>	<b>£805.00</b>						<b>Total / Flat</b>	<b>£ 857.00</b>	<b>£ 52.00</b>
					<b>Total / Ground Floor Flat</b>	<b>£1,379.00</b>						<b>Total / Ground Floor Flat</b>	<b>£ 1,443.00</b>	<b>£ 64.00</b>
					<b>Total / Upper Floor Flat</b>	<b>£518.00</b>						<b>Total / Upper Floor Flat</b>	<b>£ 564.00</b>	<b>£ 46.00</b>

### Notes

The current industry practice represents the security features that are typically installed for new dwellings this view is based on EC Harris's experience in working on residential projects.

Costs have been sourced from priced quotations from manufacturers and suppliers together with EC Harris' internal benchmarking database which draws costs from past and present projects.

'Total Flat' costs are an average cost of ground and upper floor apartments, including the additional security costs associated with ground floor windows. 'Upper floor flat' costs exclude window costs; 'Ground Floor Flat' costs include the full ground floor window costs.

### Assumptions

A solid door with side panel is assumed in all cases to allow natural light - the cost allows for either.



Element	Current Industry Practice - Small Developments					Current Industry Practice - Large Developments					Proposed Standard - Small Development					Proposed Standard - Large Development								
	Item Description	Quant	Unit	Rate	Total	Item Description	Quant	Unit	Rate	Total	Item Description	Quant	Unit	Rate	Total	Extra Over Baseline (Small Development)	Item Description	Quant	Unit	Rate	Total	Extra Over Baseline (Large Development)		
<b>Doors</b>																								
Front and rear entrance door	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Item	£312.00	£312.00	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Item	£202.50	£202.50	Composite Front Entrance door set to PAS 24 standard; No glazing inclusive of all ironmongery	1	Item	£339.00	£339.00	£27.00	Composite Front Entrance door set to PAS 24 standard; No glazing inclusive of all ironmongery	1	Item	£228.38	£228.38	£25.88		
Door restrictor to front entrance door	Included				£0.00	Included				£0.00	Included				£0.00	Included						£0.00	£0.00	
Glass panel / side panel	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00	£0.00	
Rear Door Sets	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of frame and ironmongery	1	Nr	£392.00	£392.00	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of frame and ironmongery	1	Nr	£237.53	£237.53	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of hardwood frame and ironmongery to PAS 24 certification	1	Nr	£441.00	£441.00	£49.00	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of hardwood frame and ironmongery to PAS 24 certification	1	Nr	£272.16	£272.16	£34.63		
<b>Windows</b>																								
External windows	3nr PVCU windows (circa 1200x630, 1200x1200-2nr) - GF ONLY	1	Item	£763.00	£763.00	3nr PVCU windows (circa 1200x630, 1200x1200-2nr) - GF ONLY	1	Item	£763.00	£763.00	3nr PVCU windows (circa 1200x630, 1200x1200-2nr), laminated glass & BS 7950 - GF ONLY	1	Item	£781.54	£781.54	£18.54	3nr PVCU windows (circa 1200x630, 1200x1200-2nr), laminated glass & BS 7950 - GF ONLY	1	Item	£781.54	£781.54	£18.54		
PVCU: BS 7412:2007	Included				£0.00	Included				£0.00	Included				£0.00	Included							£0.00	£0.00
					<b>Total</b>					<b>Total</b>				<b>Total</b>	<b>£1,656.54</b>	<b>£94.54</b>				<b>Total</b>	<b>£1,377.08</b>	<b>£79.05</b>		

**Notes**

The current industry practice represents the security features that are typically installed for new dwellings this view is based on EC Harris's considerable experience in working on residential projects.

Costs have been sourced from with quotations from manufacturers and suppliers, together with cost from EC Harris internal benchmarking which draws on data from past and present projects.

Composite doors and frames have been included for both small and large development scenarios however we accept that timber doors and frames are still used in a number of cases, particularly on smaller development, however from priced quotations received the extra over cost over the baseline to achieve the additional security requirements appears to be generally inline with the above.

**Assumptions**

Front entrance doors have been assumed as solid doors with side glazed panel

Rear doors are assumed to be doors with 2 glazed panels

All prices are for 'door sets' inclusive of ironmongery

No laminated glazing is allowed to ground floor windows

PAS 24 requirement and criteria relate to the 'enhanced security performance of doorsets and windows, intended to resist attack normally associated with the casual or opportunistic burglar' therefore only ground floor windows have been incorporated within the costs above.

The 1200 x 630 window assumed to have 1Nr opening light; 1200 x 1200 assumed to have 2Nr opening lights and 1200

**Exclusions**

Vehicular garage entrance door and link door between garage and house at Level 2 - we are aware there is a cost for this which needs to be quantified separately for the proportion of houses with garages

Element	Current Industry Practice - Small Developments					Current Industry Practice - Large Developments					Proposed Standard - Small Development					Proposed Standard - Large Development							
	Item Description	Quant	Unit	Rate	Total	Item Description	Quant	Unit	Rate	Total	Item Description	Quant	Unit	Rate	Total	Extra Over Baseline (Small Development)	Item Description	Quant	Unit	Rate	Total	Extra Over Baseline (Large Development)	
<b>Doors</b>																							
Front and rear entrance door	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Item	£312.00	£312.00	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Item	£202.50	£202.50	Composite Front Entrance door set to PAS 24 standard; No glazing inclusive of all ironmongery	1	Item	£339.00	£339.00	£27.00	Composite Front Entrance door set to PAS 24 standard; No glazing inclusive of all ironmongery	1	Item	£228.38	£228.38	£25.88	
Door restrictor to front entrance door	Included				£0.00	Included				£0.00	Included				£0.00	£0.00	Included				£0.00	£0.00	
Glass panel / side panel	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00	
Rear Door Sets	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of frame and ironmongery	1	Nr	£392.00	£392.00	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of frame and ironmongery	1	Nr	£237.53	£237.53	Composite rear door set : assumed halfed glazed (2Nr glazed panels); inclusive of hardwood frame and ironmongery to PAS 24 certification	1	Nr	£441.00	£441.00	£49.00	Composite rear door set : assumed halfed glazed (2Nr glazed panels); inclusive of hardwood frame and ironmongery to PAS 24 certification	1	Nr	£272.16	£272.16	£34.63	
<b>Windows</b>																							
External windows	4nr PVCU windows (circa 1200x630, 1770x1200, 1200x1200-2nr) - GF ONLY	1	Item	£1,195.00	£1,195.00	4nr PVCU windows (circa 1200x630, 1770x1200, 1200x1200-2nr) - GF ONLY	1	Item	£1,195.00	£1,195.00	4nr PVCU windows (circa 1200x630, 1770x1200, 1200x1200-2nr), laminated glass & BS 7950 - GF ONLY	1	Item	£1,225.90	£1,225.90	£30.90	4nr PVCU windows (circa 1200x630, 1770x1200, 1200x1200-2nr), laminated glass & BS 7950 - GF ONLY	1	Item	£1,225.90	£1,225.90	£30.90	
PVCU: BS 7412:2007	Included				£0.00	Included				£0.00	Included				£0.00	£0.00	Included				£0.00	£0.00	
					<b>Total</b>					<b>Total</b>				<b>Total</b>	<b>£2,100.90</b>	<b>£106.90</b>				<b>Total</b>	<b>£1,821.44</b>	<b>£91.41</b>	

**Notes**

The current industry practice represents the security features that are typically installed for new dwellings this view is based on EC Harris's considerable experience in working on residential projects. This includes basic home office provision (latch to bedroom door) and timber shed for bicycle storage (houses). Although not NHBC standards these

Costs have been sourced from EC Harris' internal benchmarking database which draws costs from past and present projects, together with quotations from manufacturers and suppliers.

Composite doors and frames have been included for both small and large development scenarios however we accept that timber doors and frames are still used in a number of cases, particularly on smaller development, however from priced quotations recieved the extra over cost over the baseline to achieve the additional security requirements appears to be generally in line with the above.

**Assumptions**

Front entrance doors have been assumed as solid doors with side glazed panel.

Rear doors are assumed to be half glazed doors (with no other glazed panel)

All prices are for 'door sets' inclusive of ironmongery

A glazed door or a door with side panel is assumed in all cases to allow natural light - the cost allows for either

**Exclusions**

Vehicular garage entrance door and link door between garage and house at Level 2 - we are aware there is a cost for this which needs to be quantified seperately for the proportion of houses with garages

## Appendix B2 – Proposed, Energy

**Appendix Not Used**

## Appendix B3 – Proposed, Space

Housing Standards Review  
Space standards Build Cost Matrix

	Basecase		Proposed Level			
	GIA	Build Cost	GIA	Variance m <sup>2</sup>	Build Cost Variance	%
<b>1 bed flat</b>						
Space standard (1b2p)			50 m <sup>2</sup>		£81,966	
Private (average from survey)	50.0 m <sup>2</sup>	£ 81,966		.0 m <sup>2</sup>	£0	0%
HCA Average	51.1 m <sup>2</sup>	£ 78,032		-1.1 m <sup>2</sup>	£3,934	5%
Lifetime Homes	48.5 m <sup>2</sup>	£ 80,549		1.5 m <sup>2</sup>	£1,416	2%
WHDG	58.0 m <sup>2</sup>	£ 87,382				
<b>2 bed flat</b>						
Space standard (2b3p)			61 m <sup>2</sup>		£90,252	
Private (average from survey)	67.0 m <sup>2</sup>	£ 94,520		-6.0 m <sup>2</sup>	£-4,268	-5%
HCA Average	64.0 m <sup>2</sup>	£ 86,752		-3.0 m <sup>2</sup>	£3,500	4%
Lifetime Homes	63.0 m <sup>2</sup>	£ 91,413		-2.0 m <sup>2</sup>	£-1,161	-1%
WHDG	76.0 m <sup>2</sup>	£ 101,511				
Space standard (2b4p)			70 m <sup>2</sup>		£96,850	
Private (lower end of size range)	51.0 m <sup>2</sup>	£ 82,091		19.0 m <sup>2</sup>	£14,759	18%
Private (average from survey)	67.0 m <sup>2</sup>	£ 94,520		3.0 m <sup>2</sup>	£2,330	2%
Private (upper end of size range)	79.0 m <sup>2</sup>	£ 103,842		-9.0 m <sup>2</sup>	£-6,991	-7%
HCA Average	71.5 m <sup>2</sup>	£ 94,520		-1.5 m <sup>2</sup>	£2,330	2%
Lifetime Homes	72.0 m <sup>2</sup>	£ 98,403		-2.0 m <sup>2</sup>	£-1,553	-2%
WHDG	87.0 m <sup>2</sup>	£ 110,056				
<b>2 bed terraced house</b>						
Space standard (2b/3p)			70 m <sup>2</sup>		£78,156	
Private (average from survey)	72.0 m <sup>2</sup>	£ 78,044		-2.0 m <sup>2</sup>	£113	0%
HCA Average	65.4 m <sup>2</sup>	£ 70,708		4.6 m <sup>2</sup>	£7,449	11%
Lifetime Homes	64.0 m <sup>2</sup>	£ 72,175		6.0 m <sup>2</sup>	£5,981	8%
WHDG	76.0 m <sup>2</sup>	£ 80,978				
Space standard (2b4p)			79 m <sup>2</sup>		£80,544	
Private (lower end of size range)	55.0 m <sup>2</sup>	£ 65,573		24.0 m <sup>2</sup>	£14,971	23%
Private (average from survey)	72.0 m <sup>2</sup>	£ 78,044		7.0 m <sup>2</sup>	£2,501	3%
Private (upper end of size range)	79.0 m <sup>2</sup>	£ 83,179		.0 m <sup>2</sup>	£-2,635	-3%
HCA Average	75.0 m <sup>2</sup>	£ 74,376		4.0 m <sup>2</sup>	£6,169	8%
Lifetime Homes	73.0 m <sup>2</sup>	£ 78,777		6.0 m <sup>2</sup>	£1,767	2%
WHDG	87.0 m <sup>2</sup>	£ 92,147				
<b>3 bed semi detached house</b>						
Space standard (3b4p)			84 m <sup>2</sup>		£95,330	
Private (average from survey)	92.0 m <sup>2</sup>	£ 95,741		-8.0 m <sup>2</sup>	£-410	0%
HCA Average	85.0 m <sup>2</sup>	£ 76,736		-1.0 m <sup>2</sup>	£18,594	24%
Lifetime Homes	74.0 m <sup>2</sup>	£ 82,058		10.0 m <sup>2</sup>	£13,273	16%
WHDG	87.0 m <sup>2</sup>	£ 91,939				
Space standard (3b5p)			93 m <sup>2</sup>		£97,718	
Private (lower end of size range)	70.0 m <sup>2</sup>	£ 79,017		23.0 m <sup>2</sup>	£18,701	24%
Private (average from survey)	92.0 m <sup>2</sup>	£ 95,741		1.0 m <sup>2</sup>	£1,978	2%
Private (upper end of size range)	121.0 m <sup>2</sup>	£ 117,786		-28.0 m <sup>2</sup>	£-20,068	-17%
HCA Average	89.0 m <sup>2</sup>	£ 88,139		4.0 m <sup>2</sup>	£9,580	11%
Lifetime Homes	86.0 m <sup>2</sup>	£ 91,180		7.0 m <sup>2</sup>	£6,539	7%
WHDG	102.0 m <sup>2</sup>	£ 103,343				
<b>4 bed detached house</b>						
Space standard (4b5p)			97 m <sup>2</sup>		£117,051	
Private (average from survey)	117.0 m <sup>2</sup>	£ 121,045		-20.0 m <sup>2</sup>	£-3,995	-3%
HCA Average	96.5 m <sup>2</sup>	£ 94,571		.5 m <sup>2</sup>	£22,480	24%
Lifetime Homes	85.5 m <sup>2</sup>	£ 96,151		11.5 m <sup>2</sup>	£20,899	22%
WHDG	102.0 m <sup>2</sup>	£ 109,191				
Space standard (4b6p)			106 m <sup>2</sup>		£119,439	
Private (lower end of size range)	93.0 m <sup>2</sup>	£ 102,078		13.0 m <sup>2</sup>	£17,360	17%
Private (average from survey)	117.0 m <sup>2</sup>	£ 121,045		-11.0 m <sup>2</sup>	£-1,607	-1%
Private (upper end of size range)	158.0 m <sup>2</sup>	£ 153,447		-52.0 m <sup>2</sup>	£-34,009	-22%
HCA Average	-	£ 103,659		-	-	-
Lifetime Homes	99.5 m <sup>2</sup>	£ 107,610		6.5 m <sup>2</sup>	£11,828	11%
WHDG	119.0 m <sup>2</sup>	£ 122,626				
Space standard (4b7p)			115 m <sup>2</sup>		£121,827	
Private	117.0 m <sup>2</sup>	£ 121,045		-2.0 m <sup>2</sup>	£781	1%
HCA Average	-	£ 117,094		-	-	-
Lifetime Homes	113.0 m <sup>2</sup>	£ 117,884		2.0 m <sup>2</sup>	£3,942	3%
WHDG	137.0 m <sup>2</sup>	£ 136,851				

**Notes:**

- Where proposed standards are less than existing a negative cost is included, this would not however be relevant to the impact assessment for private sale dwellings
- No information for the HCA average size of 4 bed detached house units was available.

## Housing Standards Review

### Space standards - Indicative Cost per m2 by Typology

Typology	Current Build Cost	Total Build Cost				
	Basecase	+ 1 sq.m	+ 2 sq.m	+ 3 sq.m	+ 5 sq.m	+ 10 sq.m
1 bed 2 person (Flat)	£81,966	£82,688	£83,410	£84,132	£85,577	£89,188
2 bed 3 person (Flat)	£90,252	£90,974	£91,695	£92,417	£93,861	£97,469
2 bed 4 person (House)	£78,883	£79,515	£80,147	£80,778	£82,041	£85,200
3 bed 5 person (House)	£98,196	£98,827	£99,459	£100,091	£101,354	£104,512
4 bed 6 person (House)	£122,031	£122,571	£123,111	£123,651	£124,732	£127,433

	1B Apartment	2B Apartment	2B Terrace	3B Semi-detached	4B Detached
<b>Total Cost increase per m2</b>					
Current Cost	£81,966	£90,252	£78,883	£98,196	£122,031
+ 1 sq.m	+ £722	£722	£632	£632	£540
+ 2 sq.m	+ £1,444	£1,444	£1,264	£1,264	£1,080
+ 3 sq.m	+ £2,166	£2,166	£1,896	£1,896	£1,620
+ 5 sq.m	+ £3,610	£3,610	£3,175	£3,175	£2,700
+ 10 sq.m	+ £7,220	£7,220	£6,320	£6,320	£5,400

	Height	1 bed flat	2 bed flat	2 bed house	3 bed house	4 bed house
<b>Total Cost Increase</b>						
EC Harris Assumption	2.6m	£1,708	£1,856	£1,337	£2,079	£2,376
Proposed Standard	2.5m	£1,087	£1,181	£850	£1,324	£1,512
Industry standard (Baseline)	2.325m	-	-	-	-	-



## Appendix B4 – Proposed, Access

Access Standard															
ONE BED FLAT	Category 1			Category 2			Category 3 - Adaptable			Category 3 - Adaptable (London)			Category 3 - Accessible		
	Omit	Add	Cost Variance	Omit	Add	Cost Variance	Omit	Add	Cost Variance	Omit	Add	Cost Variance	Omit	Add	Cost Variance
Baseline	Part M			Lifetime Homes			WHDG			WHDG			WHDG		
	£0	£0	£0	£0	£0	£1,082	£0	£0	£10,533	£0	£0	£10,533	£0	£0	£10,533
Criteria A (Omissions)	£0	£0	£0	£0	£0	£0	£0	£0	£-1,449	£0	£-1,449	£-1,449	£0	£-1,449	£-1,449
Criteria B (Areas Relaxed)	£0	£0	£0	£-142	£0	£-142	£0	£0	£-1,923	£0	£-1,923	£-1,923	£0	£-1,923	£-1,923
Criteria C (Areas Tightened)	N/A	N/A	N/A	£0	£0	£0	£0	£0	£426	£0	£426	£433	£0	£433	£583
<b>TOTAL CHANGE</b>	£	-	£	-	£	142	£	-	2,946	£	-	2,939	£	-	2,789
Adjusted Cost	£	-	£	-	£	940	£	-	7,607	£	-	7,614	£	-	7,764
TWO BED FLAT	Category 1			Category 2			Category 3 - Adaptable			Category 3 - Adaptable (London)			Category 3 - Accessible		
	Omit	Add	Cost Variance	Omit	Add	Cost Variance	Omit	Add	Cost Variance	Omit	Add	Cost Variance	Omit	Add	Cost Variance
Baseline	Part M			Lifetime Homes			WHDG			WHDG			WHDG		
	£0	£0	£0	£0	£0	£1,083	£0	£0	£10,788	£0	£0	£10,788	£0	£0	£10,788
Criteria A (Omissions)	£0	£0	£0	£0	£0	£0	£0	£0	£-1,449	£0	£-1,449	£-1,449	£0	£-1,449	£-1,449
Criteria B (Areas Relaxed)	£0	£0	£0	£-176	£0	£-176	£0	£0	£-1,923	£0	£-1,923	£-1,923	£0	£-1,923	£-1,923
Criteria C (Areas Tightened)	N/A	N/A	N/A	£0	£0	£0	£0	£0	£474	£0	£474	£481	£0	£481	£631
<b>TOTAL CHANGE</b>	£	-	£	-	£	176	£	-	2,898	£	-	2,891	£	-	2,741
Adjusted Cost	£	-	£	-	£	907	£	-	7,891	£	-	7,898	£	-	8,048
TWO BED TERRACED HOUSE	Category 1			Category 2			Category 3 - Adaptable			Category 3 - Adaptable (London)			Category 3 - Accessible		
	Omit	Add	Cost Variance	Omit	Add	Cost Variance	Omit	Add	Cost Variance	Omit	Add	Cost Variance	Omit	Add	Cost Variance
Baseline	Part M			Lifetime Homes			WHDG			WHDG			WHDG		
	£0	£0	£0	£0	£0	£1,092	£0	£0	£24,568	£0	£0	£24,568	£0	£0	£24,568
Criteria A (Omissions)	£0	£0	£0	£-68	£0	£-68	£0	£0	£-4,489	£0	£-4,489	£-4,489	£0	£-4,489	£-4,489
Criteria B (Areas Relaxed)	£0	£0	£0	£-527	£0	£-527	£0	£0	£-262	£0	£-262	£-262	£0	£-262	£-262
Criteria C (Areas Tightened)	N/A	N/A	N/A	£0	£26	£26	£0	£0	£-10,063	£0	£-10,063	£0	£2,271	£2,271	£2,421
<b>TOTAL CHANGE</b>	£	-	£	-	£	568	£	-	14,813	£	-	2,479	£	-	2,329
Adjusted Cost	£	-	£	-	£	523	£	-	9,754	£	-	22,088	£	-	22,238
THREE BED SEMI DETACHED HOUSE	Category 1			Category 2			Category 3 - Adaptable			Category 3 - Adaptable (London)			Category 3 - Accessible		
	Omit	Add	Cost Variance	Omit	Add	Cost Variance	Omit	Add	Cost Variance	Omit	Add	Cost Variance	Omit	Add	Cost Variance
Baseline	Part M			Lifetime Homes			WHDG			WHDG			WHDG		
	£0	£0	£0	£0	£0	£1,097	£0	£0	£25,136	£0	£0	£25,136	£0	£0	£25,136
Criteria A (Omissions)	£0	£0	£0	£-68	£0	£-68	£0	£0	£-4,594	£0	£-4,594	£-4,594	£0	£-4,594	£-4,594
Criteria B (Areas Relaxed)	£0	£0	£0	£-534	£0	£-534	£0	£0	£-262	£0	£-262	£-262	£0	£-262	£-262
Criteria C (Areas Tightened)	N/A	N/A	N/A	£0	£26	£26	£0	£0	£-9,974	£0	£-9,974	£0	£2,360	£2,360	£2,510
<b>TOTAL CHANGE</b>	£	-	£	-	£	576	£	-	14,829	£	-	2,495	£	-	2,345
Adjusted Cost	£	-	£	-	£	521	£	-	10,307	£	-	22,641	£	-	22,791
FOUR BEDROOM DETACHED HOUSE	Category 1			Category 2			Category 3 - Adaptable			Category 3 - Adaptable (London)			Category 3 - Accessible		
	Omit	Add	Cost Variance	Omit	Add	Cost Variance	Omit	Add	Cost Variance	Omit	Add	Cost Variance	Omit	Add	Cost Variance
Baseline	Part M			Lifetime Homes			WHDG			WHDG			WHDG		
	£0	£0	£0	£0	£0	£1,100	£0	£0	£25,282	£0	£0	£25,282	£0	£0	£25,282
Criteria A (Omissions)	£0	£0	£0	£-68	£0	£-68	£0	£0	£-4,594	£0	£-4,594	£-4,594	£0	£-4,594	£-4,594
Criteria B (Areas Relaxed)	£0	£0	£0	£-538	£0	£-538	£0	£0	£-262	£0	£-262	£-262	£0	£-262	£-262
Criteria C (Areas Tightened)	N/A	N/A	N/A	£0	£26	£26	£0	£0	£-9,859	£0	£-9,859	£0	£2,475	£2,475	£2,625
<b>TOTAL CHANGE</b>	£	-	£	-	£	579	£	-	14,714	£	-	2,380	£	-	2,230
Adjusted Cost	£	-	£	-	£	520	£	-	10,568	£	-	22,902	£	-	23,052

**Notes/Assumptions:**  
 - No cost included for the additional build cost associated with larger area dwellings (see space standard review)  
 - All lift cost based on a 30Nr units over 3 floors (i.e. 10Nr Units per floor) to demonstrate the saving  
 - Item 3b 'Lift Shaft only required in Wheelchair Adaptable' excluded as all other items related to full wheelchair standard, not Wheelchair accessible  
 - Cost of garages excluded from Wheelchair Unit cost as this is not 'standard' practice  
 - Costs have been sourced from EC Harris' internal benchmarking database which draws costs from past and present projects.  
 - The criteria for the 3N category standards and the items to be either omitted, added or relaxed is based on the latest draft of the standards (June 2014)

Accessibility Standard

Ref	Category 1 - Comparison with Part M	1 Bed Flat		2 Bed Flat		2 Bed Terr		3 Bed Semi		4 Bed Det		
		Omit Cost	Add Cost	Omit Cost	Add Cost	Omit Cost	Add Cost	Omit Cost	Add Cost	Omit Cost	Add Cost	
	Approach to dwelling	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	No cost implication expected. Generally Part M and good practice
	Private spaces within dwelling	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	No cost implication expected. Generally Part M and good practice
	<b>Category 1 Total: Current Base Date 2Q14</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	
Ref	Category 2 - Comparison with Lifetime Homes	Cost		Cost		Cost		Cost		Cost		
	<b>Omissions</b>											
	Through floor lifts (LTH section 12)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Through floor lift. Typically provided in houses - additional joists/design and space (Just in case not lift fitting costs)
	<b>Category 2 Total: Current Base Date 2Q14</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	
	<b>Areas Relaxed</b>											
2.11a	Private parking (LTH section 1a)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	- 'Standard' Car Park (2.4x4.8) = 11.52m2 - LTH (3.3x6) = 19.8m2 - Additional area = 8.28m2 - Not 'provided therefore third of cost' - 'Standard' Car Park (2.4x4.8) = 11.52m2 - LTH (3.3x6) = 19.8m2 - Additional area = 8.28m2
2.11b	Communal parking (LTH section 1b)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	- Not 'provided therefore third of cost' - Allowance for narrower frame and door. Say £25 per internal door (as this allowance will affect internal doors). LTH asks for 900mm
2.20d	Internal Doors - Clear opening width 750mm	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Allowance for supply only timber staircase £800. Saving for width reduction say 2.5% - £20 for houses only.
2.21c	Reduced stair width 850mm (900mm for Lifetime Homes section 12)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	NC/RH meeting 12/06/14 RH advised that an area saving of 0.32m2 would be applicable to the houses as a result of the reduced stair width. Therefore this reduced area requirement will be calculated at 0.32m2 @ £632/m2 (2 & 3 bed houses) and £540/m2 (4 bed houses).
2.21c	Reduced stair width 850mm (900mm for Lifetime Homes section 12) - Area reduction	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Used the same principles and the IA. - Saving should be offered of £10/ m2 for the bathroom (say 6.25m2 and primary bedroom 13.5m2)
2.27	Lifetime homes asks for strengthened bathroom ceiling but not required under L2 therefore saving to all unit typologies (LTH section 13)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Lifetime homes requires all controls to be above a certain height. L2 relaxes this requirement on radiators, boilers and cooker hoods. Say £10 per item taken at 75% to take into account underfloor heating and remote facilities fitted on some units as standard.
2.28	Relax height of radiator, boiler and cooker hood (LTH section 16)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	
	<b>Category 2 Total: Current Base Date 2Q14</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	
	<b>Areas Tightened</b>											
2.8f	Gate clear opening width 850mm (LTH section 4 800mm)	£0	£0	£0	£0	£0	£0	£25	£0	£25	£0	Additional £25 for enlarged gate to houses only
2.22b	Wheelchair turning circles (LTH section 7)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Criteria does not require additional space over and above what is currently provided. (Living rooms/areas and dining rooms/areas should be capable of having either a clear turning circle of 1500mm diameter, or a turning ellipse of 1700mm x 1400mm. Where dwelling layout plans include furniture layouts, occasional items of furniture (typically coffee tables & side tables) can be within or overlap these boundaries.)
	Temporary Bed Space (LTH section 9)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Additional Space dealt with under Space standard
	<b>Category 2 Total: Current Base Date 2Q14</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£26</b>	<b>£0</b>	<b>£26</b>	<b>£0</b>	
Ref	Level 3 - Comparison with WHDG	Cost		Cost		Cost		Cost		Cost		
	<b>Omissions</b>											
	Gardens (WHDG 2.2)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Requirements concerned with layout and usability. No specific cost saving
	Garages (WHDG 3.2.4)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	5.4 X 4.2 Provided (optional) assume 5k standard garage (13m2)=£385m2 SAY £8,732. No cost impact as optional
	Canopy Height (WHDG 3.2.2)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Maximum height removed - cost neutral
	Letter boxes (WHDG 5.2.3)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Cost assumes letter cage requirement removed
	Future Provision for Entrance Phone (WHDG 5.2.4)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Only larger houses impacted. Dependant on route from kitchen to front entrance (length of cabling required)
	Turning through 180degrees in hall (WHDG 5.2.5)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Larger hall required - additional cost for larger unit dealt with under space
	400mm between doors at angles (WHDG 7.2.8)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Design standard. Additional costs associated with a larger area dealt with under space standard
	Storage to be shallow (WHDG 7.2.10)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Additional space standard
	Windows opening onto paths (WHDG 14.2.4)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Design item
	Full plate or large rocker switches (WHDG 15.2.4)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Assume 6Nr switches @ extra over £2
	Winding gear to window (WHDG 14.2.3)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Window winders for windows above worktops - Say £250 supply and install. Say 1 nr per flat (above kitchen worktop) and say 2 nr required per house. Manual not electronic
	Housing standards do not specify a private car parking space (ref 3.11). WHDG (3.2.1) specifies that a car parking space must be provided.	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Assume that 50% of these car parking spaces are provided with an independent canopy. Land take assumption for this say £2,500 per space (DCLG to confirm) covered canopy say £2,500 @ 50%
	Housing standards do not specify a communal car parking space (ref 3.11). WHDG (3.2.1) specifies that a car parking space must be provided.	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	- WHDG area 3.6 x 5.4 = 19.44. Cat 3 only 'where provided'. Cat 3 requires additional 19.44m2 @ £75/m2 - Required to 1 and 2 bed flats only - Assume this occurs to 75% of properties as not all units will have parking spaces.
	<b>Category 3 Total: Current Base Date 2Q14</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	
	<b>Areas Relaxed</b>											
	WHDG requires 2 lift only where over 30 dwellings (WHDG 3.2.9)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Assume 10Nr units per floor therefore over 4 floors would require additional lift; Lift cost = £47,666 divided by 30Nr dwellings (i.e 3 floors of 10Nr) - WHDG 3.2.9
	Lift Shaft only required for Wheelchair adaptable	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Assumed 3 storeys; cost of £22,833 divided by 30 Units (10Nr per floor)= £761; Shaft Only = £795
	RH email 21/05/14 - lift provision in wheelchair housing (adaptable) from 2 lifts to 1. The London plan requirement asks for 2 therefore saving?? - 2 lifts were not identified at IA stage.	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	
	Sockets 300mm from internal corner	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Dwelling layout no perceived cost impact
	Direct connection from bed to bath	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Dwelling layout no perceived cost impact
	WHDG 10.2.6 requires a hob and built in oven. 3.31d only asks for a space for a built in oven therefore a saving of £250 per unit has been allowed.	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Saving of say £250 per appliance (built in oven). Total saving £250 per unit.
	Radiator relaxed to normal height	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Cost Neutral
	Wheelchair adaptable saving for sanitary fittings (ref 3.41 and 3.45). Smaller basin material saving say £25 to main bathroom only	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Confirmation required of the sanitary fittings which could represent a saving. This appears to just be the basin therefore material saving of say £25 for smaller basin.
	<b>Category 3 Total: Current Base Date 2Q14</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	<b>£0</b>	
	<b>Areas Tightened</b>											
3.13e	Communal External Doors - Clear opening width 850mm	£0	£8	£0	£8	£0	£0	£0	£0	£0	£0	Allowance for wider frame and enlarged door and uprated ironmongery. Say £150 per unit for 1 door (as this allowance will affect external doors of a higher specification). WHDG states 800mm 4.2.1. Say additional £150 (x2) per flat block for additional door size and uprated ironmongery. This affects 1 and 2 bed flats and is divided by 40 for an assumed number of flats per block
3.21e	External Doors (primary) - Clear opening width 850mm	£0	£150	£0	£150	£0	£150	£0	£150	£0	£150	Allowance for wider frame and enlarged door and uprated ironmongery. Say £150 per unit for 1 door (as this allowance will affect external doors of a higher specification). WHDG asks for 800mm 4.2.1.
3.22	External Doors (secondary) - Clear opening width 850mm	£0	£150	£0	£150	£0	£150	£0	£150	£0	£150	Allowance for wider frame and enlarged door and uprated ironmongery. Say £150 per unit for 1 door (as this allowance will affect external doors of a higher specification). WHDG asks for 800mm 4.2.1.
3.23a	Clear width in communal hallway 1050mm (WHDG states 900mm). In practice 1050mm is normally adopted as standard.	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Space implication - Additional 150mm width on communal hallways. It is assumed that the space requirement for this is covered within the minimum GIFAs specified in 3.38. No additional space allowance has been included in the ECH calculations.
3.23d	Internal Doors - Clear opening width 850mm	£0	£25	£0	£50	£0	£75	£0	£75	£0	£100	Allowance for wider frame and enlarged door. Say £25 per door (as this allowance will affect internal doors). In line with WHDG allowance. WHDG 800mm 4.2.1.
3.26	Through floor lift space for wheelchair units with more than one floor - Allowance for provision of lift shaft - No additional cost as WHDG asks for the same.	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Space implication - It is assumed that the space requirement for this is covered within the minimum GIFAs specified in category 3 space section. No additional space allowance has been included in the ECH calculations. Lift shaft in 2 storey house 6m x 2m (x2 closed sides) = 24m2 @ £50/m2 = £1,200. Extra over for electrical connection say £750. Total say £1,450
3.27	Through floor lift space for wheelchair units with more than one floor - Allowance for floor cassette and doors for storage (refer to 3.26 for lift shaft allowance)	£0	£0	£0	£0	£0	£765	£0	£765	£0	£765	Adjustment to floor cassette to allow for future removal say £65. Allowance for supply and fix double doors say £350 each opening (£700 total). Total say £765.
3.28	Through floor lift space and lift for wheelchair units with more than one floor - Allowance for the provision of a lift (refer to 3.26 for lift shaft allowance) - No additional cost as WHDG asks for the same.	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Provided 'as standard' in most flatted blocks. Additional cost to houses only - Access lifts fitted on Claude Rd Dec 2012 for £12,500k including bwic. Say £13.2k each adjusting for on costs. Say shaft and BWIC £1.4k lift £11.6k.
3.29d	Provision of power socket for future stair lift	£0	£0	£0	£0	£0	£50	£0	£50	£0	£50	Allowance for the provision of a fused spur on the stairs. Say £50 to houses only.
3.32	Future provision for 2000mm/ 2200mm adjustable worktop. No cost implication. Design/ layout.	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Design/ Layout
3.33b	1.6m additional lowered worktop (sink + w/top + hob) - WHDG asks for 600mm. Level 3 asks for 2200mm therefore additional 1600mm of adjustable worktop.	£0	£150	£0	£150	£0	£150	£0	£150	£0	£150	Full wheelchair only (allowance just for worktop as hob/ oven is included in Habinteg)
3.34c	Ceiling structure to every bedroom suitable for a hoist. WHDG asks for hoist provision to main bedroom only, therefore: 1 bed - No additional cost 2 bed and above allowance for all additional no primary bedrooms.	£0	£0	£0	£21	£0	£125	£0	£210	£0	£295	Requirement is design related and 'requires ceilings throughout to have structural capacity for future possible hoist installation'
												Flats Cost in flats is an allowance based on additional support in some top floor flats (however subject to structural design and would not necessarily be required in concrete frame building). Flat allowance therefore based on flat bedroom areas (1 bed 13.5m2; 2 bed 26m2) x £10/m2. Cost divided by 12 plots per block, multiplied by 4 top floor flats. Total cost divided by 50% (assuming 50% units concrete not timber) Houses Cost allowed for double joist/strengthening. Bedroom area: (2 bed = 26m2 (13.5+12.5); 3 bed = 34.5m2 (13.5+12.5+8.5); 4 bed 43m2 (13.5+12.5+8.5+8.5) x £10/m2. All less 13.5m2 as WHDG (12.2.4) asks for hoist provision in the primary bedroom (taken as 13.5m2 Level 3 - 3.28b)
3.35d	Dwelling of more than 5 bed spaces to have fully installed bath and level access shower - affects 3 and 4 bed units only.	£0	£0	£0	£0	£0	£0	£0	£750	£0	£750	Allowance of £750 to supply and install the level access shower in the ground floor WC. This e/o excludes drainage etc which is a requirement of Habinteg.
3.35f	Omission of ceiling strengthening in bathroom and WC (specified WHDG and in 3.31 & 3.32) - Neutral cost impact	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	WHDG 11.2.10 asks for ceiling support therefore saving as Level 3 does not require this. Saving £10/m2 for the bathroom and WC areas. Assumed bathroom area 2.5 x 2.5 = 6.25m2 and WC 1.5 x 2 = 3m2. 3.31 & 3.32 ask for the ceiling strengthening therefore no cost impact
3.36a	Every dwelling to have a level access shower on the ground floor - linked into 3.35d above. Therefore the only unit affected by this is 2 bed house	£0	£0	£0	£0	£0	£750	£0	£0	£0	£0	Refer to 3.29d above. This requirement is met under 3.35d for 3 and 4 bed units but 2 bed requirement is picked up under 3.36a at the same allowance of £750 per unit.
3.47i	Door entry phone with remote release to bedrooms of all units	£0	£75	£0	£75	£0	£75	£0	£75	£0	£75	Allowance of £75 per unit for the handset only. Habinteg requires provision for future installation.
3.48e	External gate width 900mm	£0	£0	£0	£0	£0	£25	£0	£25	£0	£25	Extra over £25 for wider gate
	<b>Category 3 Total: Current Base Date 2Q14 (Accessible Items Included)</b>	<b>£0</b>	<b>£583</b>	<b>£0</b>	<b>£631</b>	<b>£0</b>	<b>£2,421</b>	<b>£0</b>	<b>£2,510</b>	<b>£0</b>	<b>£2,625</b>	
	<b>Current Base Date 2Q14 (Accessible Items removed) - LONDON</b>	<b>£0</b>	<b>£433</b>	<b>£0</b>	<b>£481</b>	<b>£0</b>	<b>£2,271</b>	<b>£0</b>	<b>£2,360</b>	<b>£0</b>	<b>£2,475</b>	
	<b>Current Base Date 2Q14 (Accessible Items removed)</b>	<b>£0</b>	<b>£426</b>	<b>£0</b>	<b>£474</b>	<b>£0</b>	<b>£-10,063</b>	<b>£0</b>	<b>£-9,974</b>	<b>£0</b>	<b>£-9,859</b>	

**Accessibility Standard**

**Category 3 - Additional Accessible cost over Adaptable**

		1 Bed Flat		2 Bed Flat		2 Bed Terr		3 Bed Semi		4 Bed Det		
		Omit Cost	Add Cost	Omit Cost	Add Cost	Omit Cost	Add Cost	Omit Cost	Add Cost	Omit Cost	Add Cost	
3.28	Through floor lift space and lift for wheelchair units with more than one floor - Allowance for the provision of a lift (refer to 3.26 for lift shaft allowance)	£0	£0	£0	£0	£0	£11,785	£0	£11,785	£0	£11,785	Provided 'as standard' in most flatted blocks. Additional cost to houses only - Access lifts fitted on Claude Rd Dec 2012 for £12,500k including bwic. Say £14k each adjusting for on costs. Sav shaft and BWIC £2.4k lift £11.6k. Full wheelchair only (allowance just for worktop as hob/ oven is included in Habinteg)
3.33b	1.6m additional lowered worktop (sink + w'top + hob) - WHDG asks for 600mm. Level 3 asks for 2200mm therefore additional 1600mm of adjustable worktop.	£0	£150	£0	£150	£0	£150	£0	£150	£0	£150	
<b>Category 3</b>	<b>Total: Current Base Date 2Q14</b>	<b>£0</b>	<b>£157</b>	<b>£0</b>	<b>£157</b>	<b>£0</b>	<b>£12,484</b>	<b>£0</b>	<b>£12,484</b>	<b>£0</b>	<b>£12,484</b>	

## Appendix B5 – Proposed, Water

# Housing Standards Review

## Water Standards - 4 bed detached house

Jun-14

CfSH	Specification	Proposed Standard		Code Level 5 /6		Comments
		Specification	E/O Cost	Specification	E/O cost	
	120l/p/d	110 l/p/d		80l/p/d		
<i>Physical costs</i>						
Low flush WCs (2nr)	6/4 l dual	6/4 l dual	£ -	4/2.6 l dual	£ 14	
Low flow wash basin taps (2 nr)	6/min	4 l/min	£ -	2 l/min	£ -	
Low flow shower (2 nr)	10 l/min	8 l/min	£ 6	6 l/min	£ 6	Flow restrictor used to achieve reduced flow rates
Bath capacity	170 l	145 l	£ -	145 l	£ -	
Kitchen tap flow rate	8 l/min	6 l/min	£ 3	4 l/min	£ 3	Flow restrictor used to achieve reduced flow rates
Water efficient washing machine	No	No	£ -	No	£ -	
Water efficient dishwasher	No	No	£ -	No	£ -	
Greywater reuse	No	No	£ -	No	£ -	
Rainwater harvesting	No	No	£ -	Yes	£ 2,674	Including above / below ground storage tanks
Sub total			£ 9		£ 2,697	

For each Code level, the Water Calculator was used to determine an approximate specification of water saving features to deliver the respective water consumption levels given in the CfSH technical guide.

Costs are based on:

EC Harris' internal benchmarking database which draws on costs data from past and present CfSH projects

Enquiries made with suppliers

Discussions with a leading M&E consultancy specialising in sustainability

Base Level sanitaryware is assumed to be basic spec in which case there is a cost premium for water efficient fittings. Note, for instances where higher spec sanitaryware would be the norm, extra over costs for sanitaryware could be zero.

To achieve Code Level 5/6 rainwater harvesting has been incorporated within the costs. An alternative to the significant cost and complexity of greywater reuse/rainwater harvesting could be a 6 litres/minute shower (typical for an electric shower) and no bath. Although this would save on the cost of installing a bath and reduce the bathroom space this would not be a direct comparison with the other specifications. Similarly a unit without a bath is generally considered to be less desirable, particularly in family dwellings.

All typologies are assumed to have Baths with showers over

Yield co-efficient for rainwater harvesting assumption is based on BS8515 Calculations based on rainfall average of 650mm/yr (based on Met office South East Figures)

House roofs assumed to be pitched and tiled

Minimum flow rates on CfSH taps are inline with AECB Best Practice Guidelines

# Housing Standards Review

## Water Standards - 3 bed semi detached house

Jun-14

CfSH	Proposed Standard			Code Level 5 /6		Comments
	Base Specification	Specification		Specification	E/O cost	
CfSH water consumption (l/p/d)	125 l/p/d	110 l/p/d		80 l/p/d		
<i>Physical costs</i>						
Low flush WCs (2nr)	6/4 l dual	6/4 l dual	£ -	4/2.6 l dual	£ 14	
Low flow wash basin taps (2 nr)	6/min	4 l/min	£ -	2 l/min	£ -	
Low flow shower (2nr)	10 l/min	8 l/min	£ 6	6 l/min	£ 6	Flow restrictor used to achieve reduced flow rates
Bath capacity	170 l	145 l	£ -	145 l	£ -	
Kitchen tap flow rate	8 l/min	6 l/min	£ 3	4 l/min	£ 3	Flow restrictor used to achieve reduced flow rates
Water efficient washing machine	No	No	£ -	No	£ -	
Water efficient dishwasher	No	No	£ -	No	£ -	
Greywater reuse	No	No	£ -	No	£ -	
Rainwater harvesting	No	No	£ -	Yes	£ 2,674	Including above / below ground storage tanks
Sub total			£ 9		£ 2,697	

For each Code level, the Water Calculator was used to determine an approximate specification of water saving features to deliver the respective water consumption levels given in the CfSH technical guide.

Costs are based on:

EC Harris' internal benchmarking database which draws on costs data from past and present CfSH projects

Enquiries made with suppliers

Discussions with a leading M&E consultancy specialising in sustainability

Base Level sanitaryware is assumed to be basic spec in which case there is a cost premium for water efficient fittings. Note, for instances where higher spec sanitaryware would be the norm, extra over costs for sanitaryware could be zero.

To achieve Code Level 5/6 rainwater harvesting has been incorporated within the costs. An alternative to the significant cost and complexity of greywater reuse/rainwater harvesting could be a 6 litres/minute shower (typical for an electric shower) and no bath. Although this would save on the cost of installing a bath and reduce the bathroom space this would not be a direct comparison with the other specifications. Similarly a unit without a bath is generally considered to be less desirable, particularly in family dwellings.

All typologies are assumed to have Baths with showers over

Yield co-efficient for rainwater harvesting assumption is based on BS8515 Calculations based on rainfall average of 650mm/yr (based on Met office figures for the South East)

House roofs assumed to be tiled and pitched

Minimum flow rates on CfSH taps are inline with AECB Best Practice Guidelines

## Housing Standards Review

### Water Standards - 2 bed terraced house

Jun-14

CfSH	Building Regs	Proposed Standard		Code Level 5 /6		Comments
	Specification	Specification		Specification	E/O cost	
	125 l/p/d	110 l/p/d		80 l/p/d		
<i>Physical costs</i>						
Low flush WCs (2nr)	6/4 l dual	6/4 l dual	£ -	4/2.6 l dual	£ 14	
Low flow wash basin taps (2 nr)	6/min	4 l/min	£ -	2 l/min	£ -	
Low flow shower	10 l/min	8 l/min	£ 3	6 l/min	£ 3	Flow restrictor used to achieve reduced flow rates
Bath capacity	170 l	145 l	£ -	145 l	£ -	
Kitchen tap flow rate	8 l/min	6 l/min	£ 3	4 l/min	£ 3	Flow restrictor used to achieve reduced flow rates
Water efficient washing machine	No	No	£ -	No	£ -	
Water efficient dishwasher	No	No	£ -	No	£ -	
Greywater reuse	No	No	£ -	No	£ -	
Rainwater harvesting	No	No	£ -	Yes	£ 2,181	Including above / below ground storage tanks
Sub total	£ -		£ 6		£ 2,201	

For each Code level, the Water Calculator was used to determine an approximate specification of water saving features to deliver the respective water consumption levels given in the CfSH technical guide.

Costs are based on:

EC Harris' internal benchmarking database which draws on costs data from past and present CfSH projects

Enquiries made with suppliers

Discussions with a leading M&E consultancy specialising in sustainability

Base Level sanitaryware is assumed to be basic spec in which case there is a cost premium for water efficient fittings. Note, for instances where higher spec sanitaryware would be the norm, extra over costs for sanitaryware could be zero.

To achieve Code Level 5/6 rainwater harvesting has been incorporated within the costs. An alternative to the significant cost and complexity of greywater reuse/rainwater harvesting could be a 6 litres/minute shower (typical for an electric shower) and no bath. Although this would save on the cost of installing a bath and reduce the bathroom space this would not be a direct comparison with the other specifications. Similarly a unit without a bath is generally considered to be less desirable, particularly in family dwellings.

All typologies are assumed to have Baths with showers over

Yield co-efficient for rainwater harvesting assumption is based on BS8515 Calculations based on rainfall average of 650mm/yr (based on Met office figures for South East)

House roofs assumed to be pitched tiled roofs

Minimum flow rates on CfSH taps are inline with AECB Best Practice Guidelines



## Appendix C1 – Process and Transition

**Housing Standards Review**  
Transition Costs

**Time to familiarise professionals with new standards in excess of ongoing changes to current standards**

Profession	Hours	Rate	Total	Approx Nr. Of Professionals	Source
Architect	8	£52	£416	20,000	RIBA
Building Control Surveyor	8	£46	£368	810	RICS
Building Surveyor	4	£46	£184	13,334	RICS
Quantity Surveyor	4	£57	£228	9,421	RICS
Construction Energy Assessors	5	£48	£240	981	-
Building Services Engineer	4	£46	£184	3,317	CIBSE
Civil Engineer	2	£47	£94	26,033	ICE
Mechanical Engineer	4	£49	£196	Incl	IME
Construction Manager	4	£57	£228	Incl	RICS / CIOB
Project Manager	4	£57	£228	Incl	RICS / CIOB
Town and Country Planner	5	£61	£305	19,966	RTPI
Skilled Trades	1.5	£18	£27	660,000	Business register

**Time for professionals firms to update processes etc**

Profession Type	Resource	Rate	Total	Approx Nr. Of Firms	Source
Architects	30	£52	£1,560	2,983	RIBA
Planners	30	£61	£1,830	810	RICS
Surveyors	15	£57	£855	12,000	RICS
Engineers	15	£47	£705	703	RICS
Management	15	£57	£855	Incl	RICS

**Overhead type process costs**

**Current:**

Firm size	Current resource dedicated	Cost per year per firm
Micro (1-4 employees)	0.015 Full time equivalent design manager	£1,287 (0.015 x £52/hr x 7.5hr day x 220)
Micro (4-7 employees)	0.05 Full time equivalent design manager	£4,290 (0.05 x £52/hr x 7.5hr day x 220)
Small (e.g. local home builder)	0.15 Full time equivalent design manager	£12,870 (0.15 x £52/hr x 7.5hr day x 220)
Medium (e.g. regional home builder)	0.75 Full time equivalent design manager	£64,350 (0.75 x £52/hr x 7.5hr day x 220)
Large (e.g. national home builder with multiple regions)	4 Full time equivalent design managers	£343,200 (4 x £52/hr x 7.5hr day x 220)

**Proposed:**

Firm size	Proposed resource dedicated	Cost per year per firm
Micro (1-4 employees)	0.01 Full time equivalent design manager	£858 (0.01 x £52/hr x 7.5hr day x 220)
Micro (4-7 employees)	0.03 Full time equivalent design manager	£2,574 (0.03 x £52/hr x 7.5hr day x 220)
Small (e.g. local home builder)	0.10 Full time equivalent design manager	£8,580 (0.10 x £52/hr x 7.5hr day x 220)
Medium (e.g. regional home builder)	0.40 Full time equivalent design manager	£34,320 (0.40 x £52/hr x 7.5hr day x 220)
Large (e.g. national home builder with multiple regions)	2 Full time equivalent design managers	£171,600 (2 x £52/hr x 7.5hr day x 220)

**Housebuilding firms transition cost**

Size of Firm (by number employed)	Number of House Builders	Hours	Rate	Total per Firm
1	10,301	0	£52	£0
2 to 3	6,456	0	£52	£0
4 to 7	2,988	0	£52	£0
8 to 13	1,101	0	£52	£0
14-24	607	0	£52	£0
25-34	202	7.5	£52	£390
35-59	238	7.5	£52	£390
60-79	81	15	£52	£780
80-114	76	15	£52	£780
115-299	99	15	£52	£780
300-599	29	22.5	£52	£1,170
600-1,199	8	37.5	£52	£1,950
1,200+	14	37.5	£52	£1,950
	22,200			

Small 5 units 2 unit types  
 Medium 50 units 5 unit types  
 Large 100 units 10 unit types

**Proposed Standards**

**Space**

Small

Professional	Total hours	Hourly Rate	Total
Design Team	3.5	£52	£182
<b>Total</b>	<b>3.5</b>		<b>£182</b>
	Nr dwelling types		
	Nr dwellings		5
	£/type		£91
	£/dwelling		£36

Medium

Professional	Total hours	Hourly Rate	Total
Design Team	8	£52	£416
<b>Total</b>	<b>8</b>		<b>£416</b>
	Nr dwelling types		
	Nr dwellings		50
	£/type		£83
	£/dwelling		£8

Large

Professional	Total hours	Hourly Rate	Total
Design Team	16	£52	£832
<b>Total</b>	<b>16</b>		<b>£832</b>
	Nr dwelling types		
	Nr dwellings		100
	£/type		£83
	£/dwelling		£8

Recipient Costs

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	0.5	£23	£5
Medium	50	£46	2	£92	£2
Large	100	£46	4	£184	£2

Type Approval (per dwelling type)

Professional	Total hours	Hourly Rate	Total
Design Team	8	£52	£416
<b>Total</b>	<b>8</b>		<b>£416</b>

Type Approval Recipient Costs

Dwelling Type	Rate	Hrs	Total	£/dwelling
1	£46	2	£92	£92

**Water**

None - substitution cost

**Security**

Small

Professional	Total hours	Hourly Rate	Total
Design Team	0.2	£52	£10
<b>Total</b>	<b>0.2</b>		<b>£10</b>
	Nr dwelling types		
	Nr dwellings		5
	£/type		£5
	£/dwelling		£2

Medium

Professional	Total hours	Hourly Rate	Total
Design Team	0.4	£52	£21
<b>Total</b>	<b>0.4</b>		<b>£21</b>
	Nr dwelling types		
	Nr dwellings		50
	£/type		£4
	£/dwelling		£0.4

Large

Professional	Total hours	Hourly Rate	Total
Design Team	0.8	£52	£42
<b>Total</b>	<b>0.8</b>		<b>£42</b>
	Nr dwelling types		
	Nr dwellings		100
	£/type		£4
	£/dwelling		£0.4

Recipient Costs

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	0.1	£5	£0.9
Medium	50	£46	0.2	£9	£0.2
Large	100	£46	0.4	£18	£0.2

**Access - level 1**

No cost - equivalent to Part M

**Access - level 2**

Small

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	8	£52.00	£416
Architect (External Design Work)	8	£52.00	£416
Buyer	3	£57.00	£171
Construction Manager	3	£57.00	£171
<b>Total</b>	<b>22</b>		<b>£1,174</b>
	Nr dwelling types		
	Nr dwellings		5
	£/type		£587
	£/dwelling		£235

Medium

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	20	£52.00	£1,040
Architect (External Design Work)	10	£52.00	£520
Buyer	7.5	£57.00	£428
Construction Manager	7.5	£57.00	£428
<b>Total</b>	<b>45</b>		<b>£2,415</b>
	Nr dwelling types		
	Nr dwellings		50
	£/type		£483
	£/dwelling		£48

Large

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	40	£52.00	£2,080
Architect (External Design Work)	15	£52.00	£780
Buyer	15	£57.00	£855
Construction Manager	15	£57.00	£855
<b>Total</b>	<b>85</b>		<b>£4,570</b>
	Nr dwelling types		
	Nr dwellings		100
	£/type		£457
	£/dwelling		£46

Recipient Costs

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	0.5	£23	£5
Medium	50	£46	4	£184	£4
Large	100	£46	8	£368	£4

Type Approval (per dwelling type)

Professional	Total hours	Hourly Rate	Total
Design Team	8	£52	£416
<b>Total</b>	<b>8</b>		<b>£416</b>

Type Approval Recipient Costs

Dwelling Type	Rate	Hrs	Total	£/dwelling
1	£46	2	£92	£92

**Access - level 3**

Small

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	7.5	£52.00	£390
Construction Manager	4	£57.00	£228
<b>Total</b>	<b>11.5</b>		<b>£618</b>
	Nr dwelling types		
	Nr Wheelchair dwellings		1
	£/type		£618
	£/dwelling		£618

Medium

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	22.5	£52.00	£1,170
Construction Manager	12	£57.00	£684
<b>Total</b>	<b>34.5</b>		<b>£1,854</b>
	Nr dwelling types		
	Nr Wheelchair dwellings		3
	£/type		£618
	£/dwelling		£371

Large

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	45	£52.00	£2,340
Construction Manager	24	£57.00	£1,368
<b>Total</b>	<b>69</b>		<b>£3,708</b>
	Nr dwelling types		
	Nr Wheelchair dwellings		6
	£/type		£618
	£/dwelling		£371

Recipient Costs

	Wheelchair Dwellings	Rate	Hrs	Total	£/dwelling
Small	1	£46	0.5	£23	£23
Medium	5	£46	3.5	£161	£32
Large	10	£46	7	£322	£32

Type Approval (per dwelling type)

Professional	Total hours	Hourly Rate	Total
Design Team	10	£52	£520
<b>Total</b>	<b>10</b>		<b>£520</b>

Type Approval Recipient Costs

Dwelling Type	Rate	Hrs	Total	£/dwelling
1	£46	2.5	£115	£115

### Small Scheme Process

#### Lifetime Homes

Professional	Total hours	Hourly Rate	Total
Architect (internal items)	15	£52.00	£780
Architect (external items)	12	£52.00	£624
Buyer	4	£57.00	£228
Construction Manager	4	£57.00	£228
<b>Total</b>	<b>35</b>		<b>£1,860</b>
	Nr dwelling types	2	
	Nr dwellings	5	
	£/type	£930	
	£/dwelling	£372	

#### Current Space Standard

Professional	Total hours	Hourly Rate	Total
Architect	15	£52.00	£780
<b>Total</b>	<b>15</b>		<b>£780</b>
	Nr dwelling types	2	
	Nr dwellings	5	
	£/type	£390	
	£/dwelling	£156	

#### The Planning and Energy Act

Professional	Total hours	Hourly Rate	Total
Mechanical & Electrical Engineer / Sustainability specialist (100%)	3	£49.00	£147
<b>Total</b>	<b>3</b>		<b>£147</b>
	Nr dwelling types	2	
	Nr dwellings	5	
	£/type	£74	
	£/dwelling	£29	

#### Wheelchair Housing Design Guide

Professional	Total hours	Hourly Rate	Total
Architect	45	£52.00	£2,340
Buyer	7.5	£57.00	£428
Construction Manager	15	£57.00	£855
<b>Total</b>	<b>67.5</b>		<b>£3,623</b>
	Nr dwelling types	1	
	Nr of wheelchair dwellings	1	
	£/type	£3,623	
	£/dwelling	£3,623	

#### Secured by Design

Professional	Total hours	Hourly Rate	Total
Design Team	12.5	£52	£650
<b>Total</b>	<b>12.5</b>		<b>£650</b>
	Nr dwelling types	2	
	Nr dwellings	5	
	£/type	£325	
	£/dwelling	£130	

#### Code for Sustainable Homes

- Refer to separate spreadsheet

### Medium Scheme Process

Professional	Total hours	Hourly Rate	Total
Architect (internal items)	37.5	£52.00	£1,950
Architect (external items)	15	£52.00	£780
Buyer	10	£57.00	£570
Construction Manager	10	£57.00	£570
<b>Total</b>	<b>72.5</b>		<b>£3,870</b>
	Nr dwelling types	5	
	Nr dwellings	50	
	£/type	£774	
	£/dwelling	£77	

Professional	Total hours	Hourly Rate	Total
Architect	30	£52.00	£1,560
<b>Total</b>	<b>30</b>		<b>£1,560</b>
	Nr dwelling types	5	
	Nr dwellings	50	
	£/type	£312	
	£/dwelling	£31	

Professional	Total hours	Hourly Rate	Total
Mechanical & Electrical Engineer / Sustainability specialist (100%)	3	£49.00	£147
<b>Total</b>	<b>3</b>		<b>£147</b>
	Nr dwelling types	5	
	Nr dwellings	50	
	£/type	£29	
	£/dwelling	£3	

Professional	Total hours	Hourly Rate	Total
Architect	45	£52.00	£2,340
Buyer	11.5	£57.00	£656
Construction Manager	11	£57.00	£627
<b>Total</b>	<b>67.5</b>		<b>£3,623</b>
	Nr dwelling types	3	
	Nr of wheelchair dwellings	5	
	£/type	£1,208	
	£/dwelling	£725	

Professional	Total hours	Hourly Rate	Total
Design Team	15	£52	£780
<b>Total</b>	<b>15</b>		<b>£780</b>
	Nr dwelling types	5	
	Nr dwellings	50	
	£/type	£156	
	£/dwelling	£16	

### Large Scheme Process

Professional	Total hours	Hourly Rate	Total
Architect (internal items)	75	£52.00	£3,900
Architect (external items)	20	£52.00	£1,040
Buyer	20	£57.00	£1,140
Construction Manager	20	£57.00	£1,140
<b>Total</b>	<b>135</b>		<b>£7,220</b>
	Nr dwelling types	10	
	Nr dwellings	100	
	£/type	£722	
	£/dwelling	£72	

Professional	Total hours	Hourly Rate	Total
Architect	50	£52.00	£2,600
<b>Total</b>	<b>50</b>		<b>£2,600</b>
	Nr dwelling types	10	
	Nr dwellings	100	
	£/type	£260	
	£/dwelling	£26	

Professional	Total hours	Hourly Rate	Total
Mechanical & Electrical Engineer / Sustainability specialist (100%)	7.5	£49.00	£368
<b>Total</b>	<b>7.5</b>		<b>£368</b>
	Nr dwelling types	10	
	Nr dwellings	100	
	£/type	£37	
	£/dwelling	£4	

Professional	Total hours	Hourly Rate	Total
Architect	45	£52.00	£2,340
Buyer	7.5	£57.00	£428
Construction Manager	15	£57.00	£855
<b>Total</b>	<b>67.5</b>		<b>£3,623</b>
	Nr dwelling types	6	
	Nr of wheelchair dwellings	10	
	£/type	£604	
	£/dwelling	£362	

Professional	Total hours	Hourly Rate	Total
Design Team	20	£52	£1,040
<b>Total</b>	<b>20</b>		<b>£1,040</b>
	Nr dwelling types	10	
	Nr dwellings	100	
	£/type	£104	
	£/dwelling	£10	

### Recipient Process

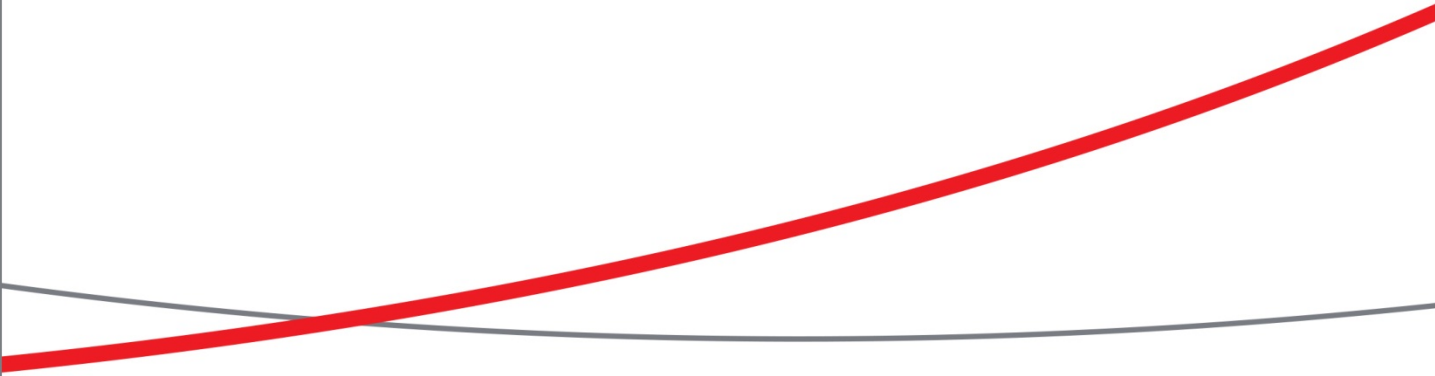
	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	5	£230	£46
Medium	50	£46	7.5	£345	£7
Large	100	£46	14	£644	£6

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	5	£230	£46
Medium	50	£46	7.5	£345	£7
Large	100	£46	14	£644	£6

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	4	£184	£37
Medium	50	£46	6	£276	£6
Large	100	£46	12	£552	£6

	Wheelchair Dwellings	Rate	Hrs	Total	£/dwelling
Small	1	£46	2	£92	£92
Medium	5	£46	4	£184	£37
Large	10	£46	8	£368	£37

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	4	£184	£37
Medium	50	£46	6	£276	£6
Large	100	£46	12	£552	£6





Ministry of Housing,  
Communities &  
Local Government

# The Future Homes Standard

2019 Consultation on changes to Part L (conservation of fuel and power) and Part F (ventilation) of the Building Regulations for new dwellings: Impact Assessment

<b>Title:</b> Future Homes Standard Consultation IA <b>IA No:</b> <b>RPC Reference No:</b> <b>Lead department or agency:</b> MHCLG	<b>Impact Assessment (IA)</b>			
	<b>Date:</b> 1/10/2019			
	<b>Stage:</b> Development/Options			
	<b>Source of intervention:</b> Domestic			
	<b>Type of measure:</b> Secondary Legislation			
	<b>Contact for enquiries:</b> <a href="mailto:FutureHomesStandardConsultation@communities.gov.uk">FutureHomesStandardConsultation@communities.gov.uk</a>			
<b>Summary: Intervention and Options</b>				<b>RPC Opinion:</b> N/A

**Cost of Preferred (or more likely) Option (in 2019 prices)**

Total Net Present Social Benefit	Business Net Present Cost	Net cost to business per year	Business Impact Target Status
£585m	£6,452m	£750m	Qualifying provision

**What is the problem under consideration? Why is government intervention necessary?**  
 Homes, both new and existing, account for 20% of greenhouse gas emissions in the UK.<sup>1</sup> Reducing carbon emissions from new homes is essential to meeting the Government's net zero emissions target. The performance-based targets set through the Building Regulations are an important means of reducing the carbon emissions of new buildings, where the market would not meet these of its own accord. Market failures include the cost of climate change not being fully reflected in energy prices, lack of information about energy efficiency opportunities and limited incentives to make improvements. Constructing energy efficient buildings now reduces the need to retrofit these in future to meet our climate change targets.

**What are the policy objectives and the intended effects?**  
 To reduce carbon emissions of new buildings through changes to Part L of the Building Regulations, and to instigate the changes in specifications, skills and supply chains needed to stimulate innovation and learning in the sector, as the basis for introducing a world-leading performance standard incorporating low-carbon heat in new homes by 2025. To provide adequate ventilation provisions through changes to Part F of the Building Regulations to align with more airtight construction encouraged by Part L.

**What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)**  
Policy Option 0: Do nothing. Keep existing Part L 2013 standards, and Part F 2010 standards. This is the baseline option and does not result in any costs and benefit impact.  
Policy Option 1: Central case. New homes target that delivers circa 20% improvement on 2013 standards, aggregated across the build-mix, based on overall performance based carbon and primary energy targets, with mandatory energy efficiency requirements. Improvements to the ventilation and airtightness standards.  
Policy Option 2: High case. New homes target that delivers circa 30% improvement on 2013 standards, aggregated across the build-mix, based on overall performance based carbon and primary energy targets, with mandatory energy efficiency requirements. Improvements to the ventilation and airtightness standards. Policy Option 2 is our preferred option.

Does implementation go beyond minimum EU requirements?	Yes			
Is this measure likely to impact on international trade and investment?				
Are any of these organisations in scope?	<b>Micro</b> Yes	<b>Small</b> Yes	<b>Medium</b> Yes	<b>Large</b> Yes
What is the CO <sub>2</sub> equivalent change in greenhouse gas emissions? (Million tonnes CO <sub>2</sub> equivalent)	<b>Traded:</b> -12		<b>Non-traded:</b> -24	

<sup>1</sup> UK housing: Fit for the future?, Committee on Climate Change (2019) <https://www.theccc.org.uk/publication/uk-housing-fit-for-the-future/>

# Summary: Analysis & Evidence

# Policy Option 1

Description: New homes target that delivers circa 20% improvement on 2013 standards

## FULL ECONOMIC ASSESSMENT

Price Base	PV Base	Time Period	Net Benefit (Present Value (PV)) (£m)		
2019	2020	70	Low: £1,440 million	High: £2,160 million	Best Estimate: £1,800 million

COSTS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	Optional		Optional	Optional
High	Optional		Optional	Optional
Best Estimate	£3.2 million			<b>£5,577 million</b>

### Description and scale of key monetised costs by 'main affected groups'

The increased costs (present value) for new homes are £5,574m plus transition costs of £3.2m. The initial capital costs will be borne by developers, but these costs may ultimately be passed to landowners. The costs would fall with moderate efficiency gain through learning over time. Maintenance and replacement costs will be borne by building owner/occupier.

### Other key non-monetised costs by 'main affected groups'

These changes are unlikely to have a substantial impact on the demand for new homes, so this has not been monetised.

BENEFITS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	Optional		Optional	Optional
High	Optional		Optional	Optional
Best Estimate	£0			<b>£3,778 million</b>

### Description and scale of key monetised benefits by 'main affected groups'

Energy savings: £1,414m. Non-financial benefits including carbon savings and air quality savings: £2,364m

### Other key non-monetised benefits by 'main affected groups'

The savings to consumers will be greater than shown because of reduced payments for VAT which will be a cost to the exchequer. No allowance is made for fuel security benefits, employment opportunities from developing energy saving or low carbon/primary energy products or spill-over benefits of innovation.

### Key assumptions/sensitivities/risks

### Discount rate

The analysis has taken a common set of assumptions on fuel prices, traded and non-traded carbon values, emissions factors and air quality damage costs from 2019 Green Book Supplementary guidance. The low and high estimates are +/- 20% of the best estimate.

## BUSINESS ASSESSMENT (Option 1)

<b>Direct impact on business (Equivalent Annual) £m:</b> Costs:                      Benefits:                      Net: £533m Cost	<b>Score for Business Impact Target (qualifying provisions only) £m:</b>
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# Summary: Analysis & Evidence

# Policy Option 2

Description: New homes target that delivers circa 30% improvement on 2013 standards

## FULL ECONOMIC ASSESSMENT

Price Base	PV Base	Time Period	Net Benefit (Present Value (PV)) (£m)		
2019	2020	70	Low: £468 million	High: £702 million	Best Estimate: £585 million

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	Optional	Optional	Optional
High	Optional	Optional	Optional
Best Estimate	£3.2 million		£10,457 million

### Description and scale of key monetised costs by 'main affected groups'

The increased costs (present value) for new homes are £10,454m plus transition costs of £3.2m. The initial capital costs will be borne by developers, but these costs may ultimately be passed to landowners. The costs would fall with moderate efficiency gain through learning over time. Maintenance and replacement costs will be borne by building owner/occupier.

### Other key non-monetised costs by 'main affected groups'

These changes are unlikely to have a substantial impact on the demand for new homes, so this has not been monetised.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	Optional	Optional	Optional
High	Optional	Optional	Optional
Best Estimate	£0		£11,042 million

### Description and scale of key monetised benefits by 'main affected groups'

Energy savings: £7,738m. Non-financial benefits including carbon savings and air quality savings: £3,304m

### Other key non-monetised benefits by 'main affected groups'

The savings to consumers will be greater than shown because of reduced payments for VAT which will be a cost to the exchequer. No allowance is made for fuel security benefits, employment opportunities from developing energy saving or low carbon/primary energy products or spill-over benefits of innovation.

Key assumptions/sensitivities/risks	Discount rate
The analysis has taken a common set of assumptions on fuel prices, traded and non-traded carbon values, emissions factors and air quality damage costs from 2019 Green Book Supplementary guidance. The low and high estimates are +/- 20% of the best estimate.	

## BUSINESS ASSESSMENT (Option 2)

Direct impact on business (Equivalent Annual) £m:	Score for Business Impact Target (qualifying provisions only) £m:			
<table border="1"> <tr> <td>Costs:</td> <td>Benefits:</td> <td>Net: £750m Cost</td> </tr> </table>	Costs:	Benefits:	Net: £750m Cost	
Costs:	Benefits:	Net: £750m Cost		

# Evidence Base (for summary sheets)

## Background and scope of the proposal

- 1.1. This impact assessment informs the consultation *The Future Homes Standard: 2019 Consultation on changes to Part L (conservation of fuel and power) and Part F (ventilation) of the Building Regulations for new dwellings*. It considers two options to uplift the current Part L energy efficiency standards in 2020 for new homes. It also considers the wider impacts of Part L for new homes, including changes to Part F (Ventilation), airtightness, improving as built performance and changes to transitional arrangements in 2020.

## Future work (outside scope of the impact assessment)

- 1.2. This impact assessment only details the impacts of changes to new dwellings. A further consultation and impact assessment will be published in the coming months which will include changes to Part L and Part F for existing homes, Part L and F for new and existing non-domestic buildings and overheating in new homes.
- 1.3. This impact assessment does not consider the costs and benefits of the Future Homes Standard. Before the Future Homes Standard is introduced in 2025, the Government will consult on the full technical details and produce an associated impact assessment.

## Rationale for intervention

- 1.4. Reducing carbon emissions from the building stock is essential for the UK to meet its Climate Change Act targets.<sup>2</sup> Building Regulations should be used to achieve this only where it can be shown that the market would not make these changes of its own accord, or that other measures (regulatory or otherwise) are not already driving this change.
- 1.5. A number of market failures exist:
  - Climate change creates a huge externality: polluters (builders and building occupiers) do not incur the true cost of their emissions. Even if an appropriately high and sustained carbon price were applied, the mix of other market failures can act as a barrier to action.
  - Building buyers/tenants/mortgage providers do not have information on long term energy price rises, and most do not value better performing buildings at point of construction, sale or rent. In particular for most businesses, as opposed to households, energy costs are at present too small a percentage of their operating costs to make energy efficiency a material consideration in the choice of building they occupy.
  - Even where consumers, householders in particular, do have the information to act to take advantage of energy efficiency savings many fail to do so for a variety of reasons.
  - High fabric standards for buildings reduce the influence of such behaviour, as the occupants' actions have little impact on building performance.
  - Conversely, a failure to set standards at point of build can lock a building into higher energy consumption, giving those consumers who do want to act limited scope to make savings.
  - Split incentives mean that developers have little reason to build better performing buildings, as they do not enjoy the benefits of lower energy bills or income from energy generated by renewable technologies installed in the building.
  - Occupants have limited incentive to refurbish their buildings to higher energy standards, as the payback periods through lower fuel bills alone can be unattractive,

and there is limited evidence that higher performance results in a price premium when they come to sell or rent the building on.

- Lack of capital, lack of information and fear of hassle can act as barriers to households and businesses acting to renovate and improve existing buildings even if these would be cost effective in the medium or long term.

1.6. Building regulations and standards are widely recognised as an appropriate point of intervention to overcome these market failures in construction. Action at the point of build has the advantage of 'locking in' low carbon technologies and energy efficient design, reducing overall energy demand of the building.

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<sup>2</sup> <http://www.legislation.gov.uk/ukdsi/2019/9780111187654/contents>

# POLICY OBJECTIVES

2.1. The consultation document provides full details of the policy objectives. A summary of these policy objectives is provided here.

## Uplift to the energy efficiency requirements for 2020

2.2. The key consideration of the consultation and this impact assessment is what level of uplift should be made to the energy efficiency requirements of Part L of the Building Regulations for new homes in 2020.

2.3. As set out in Chapter 3 of the consultation, there are two options to uplift the energy efficiency requirements for 2020 proposed:

- a. **Option 1 - 'Future Homes Fabric'**. This would be a 20% reduction<sup>3</sup> in CO<sub>2</sub> from new dwellings, compared to the current standards. This performance standard is based on the energy and carbon performance of a home with:
  - i. Very high fabric standards to minimise heat loss from windows, walls, floors and roofs (typically with triple glazing). This would be the same fabric requirement as we currently anticipate for the Future Homes Standard
  - ii. A gas boiler
  - iii. A waste water heat recovery system.

This would add £2560 to the build-cost of a new home and would save households £60 a year on energy bills.

- b. **Option 2 - 'Fabric plus technology'**. This would be a 31% reduction<sup>3</sup> in CO<sub>2</sub> from new dwellings, compared to the current standards. This option is likely to encourage the use of low-carbon heating and/or renewables. The performance standard is based on the energy and carbon performance of a home with:
  - i. An increase in fabric standards (but not as high an increase as in Option 1, likely to have double rather than triple glazing)
  - ii. A gas boiler
  - iii. A waste water heat recovery system
  - iv. Photovoltaic (solar) panels

This would add £4850 to the build-cost of a new home and would save households £260 a year on energy bills.

2.4. In practice, we expect that some developers would choose less costly ways of meeting the standard, such as putting in low-carbon heating now. This would cost less than the full specification at £3130. It would give a carbon saving of only 22% for flats due to the standard including solar panels and flats having a smaller roof area per home. The additional cost per flat is also less at £2260.

2.5. Our preferred option is option 2.

2.6. The specifications for Part L 2020 options 1 and 2 are provided in Table 4 of the next chapter. For further detail to create the notional buildings see the consultation version of the Standard Assessment Procedure 10.1, called cSAP. This will be available shortly here: <https://www.isap.org.uk/>.

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<sup>3</sup> Based on a semi-detached home. As an aggregate across the build-mix, over a 60-year lifespan, this would be an estimated 20% CO<sub>2</sub> saving for option 1, and 30% CO<sub>2</sub> saving for option 2.

2.7. We expect the majority of the benefits and costs will come from the changes to the minimum energy efficiency standards. This forms the main basis of the cost-benefit analysis.

### **Performance metrics to assess the energy performance of new homes**

2.8. The consultation proposes four performance metrics for new buildings to be assessed against, these are:

- Primary energy target
- CO<sub>2</sub> emission target
- Householder affordability rating
- Minimum standards for fabric and fixed building services

2.9. The rationale and policy intent for moving to the four performance metrics is set out in Chapter 3 of the consultation document.

### **Removing the fuel factors - phasing out high carbon fossil fuels**

2.10. As set out in Chapter 3 of the consultation, the intention is to remove fuel factors, so that any new building will need to meet primary energy and CO<sub>2</sub> emissions equivalent to that of option 1 or 2 above. This means that if oil, liquefied petroleum gas (LPG) or solid mineral fuel are to be used in new buildings, considerable mitigating measures would need to be installed to reach parity with a new gas-heated building.

2.11. Grid electricity now has a lower carbon emission factor than gas, as outlined in the tables in Appendix C. Therefore, grid electricity no longer needs a fuel factor to support its use.

2.12. Recognising heat networks as an important part of our energy future, we are proposing to introduce 'technology factors'. These would be applied to calculations for the target emission and primary energy rates for new dwellings where the design incorporates heat networks.

### **Future-proofing**

2.13. The full proposals for future-proofing policy are set out in Chapter 3 of the consultation document.

2.14. Our preferred approach to future-proofing is for developers to install larger emitters with lower flow temperatures. This has the benefits of increasing the efficiency of condensing boilers, giving an immediate energy saving to the consumer. It would also mean low cost and disruption to householders when low-carbon heat is installed in the future because they will not need to have new radiators installed.

2.15. We have provided two uplift options for the Part L primary energy and emission targets. Option 1, 'Future Homes Fabric', delivers the future-proofing element of improved fabric. Option 2, 'Fabric plus technology', will likely deliver some low-carbon heat now.

### **Statutory guidance**

2.16. Chapter 3 of the consultation document explains the rationale and policy intent for our proposed restructure the statutory guidance for Part L and Part F. Draft guidance is presented alongside this consultation and impact assessment.

## Energy Performance of Buildings Directive

- 2.17. The Building Regulations Part L is principally for domestic policy aims in reducing the energy impact of buildings. It is also used to transpose EU legislation, namely the Energy Performance of Buildings Directive (EU) 2018/844 (also known as EPBD).<sup>4</sup> The EPBD has recently been amended and member states are required to transpose these amendments by March 2020. Subject to the terms of the UK's exit from the EU, Part L may be used to transpose some of the requirements of the revised EPBD.
- 2.18. The EPBD affects new domestic buildings. We set out proposals in the consultation to align with the Directive requirements for new dwellings, in the following areas:
- Primary energy (see performance metrics section outlined earlier in this impact assessment).
  - Self-regulating devices
  - Information about building automation and control systems

### Part F

- 2.19. The full proposals for ventilation policy are set out in Chapter 4 of the consultation document. Changes to Part F are proposed principally to simplify and clarify the guidance. This will make it easier for installers to understand and comply with the requirements and for building control to check. Changes are also proposed to reflect the latest understanding of how ventilation systems operate. These changes are summarised as follows:
- We propose to provide guidance for different ventilation strategies to reflect how these strategies relate to the air tightness of the dwelling, and when specialist advice should be sought. For natural ventilation systems we propose to only provide guidance for less airtight homes. For continuous mechanical extract, we propose to only provide guidance for more airtight homes. We have also simplified the way that background ventilator sizes are determined in the Approved Document.
  - For balanced supply and extract systems, we propose to increase the minimum background ventilation rate to accommodate a likely occupancy level for bedrooms.
- 2.20. We propose that the minimum whole dwelling ventilation rates are amended. Further detail is provided in the draft Approved Document which accompanies this consultation package.
- 2.21. For continuous mechanical extract systems, we propose that the minimum level of background ventilators is increased from 2500 mm<sup>2</sup> to 5000 mm<sup>2</sup> per habitable room to make sure that air can be drawn through the background ventilators, accounting for the expected pressure differentials.

### Airtightness

- 2.22. The full proposals for airtightness testing policy are set out in Chapter 5 of the consultation document. We are proposing to:
- limit carbon savings associated with air-permeability levels below 3m<sup>3</sup>/m<sup>2</sup>h in naturally ventilated dwellings.
  - better account for the uncertainty of airtightness tests
  - require all new homes to be airtightness tested
  - introduce the Pulse test as an approved airtightness testing methodology
  - approve a new airtightness testing methodology

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<sup>4</sup> Directive (EU) 2018/844 amending Directive 2010/31/EU on the Energy Performance of Buildings. OJEU, 2018.

## **Performance gap**

2.23. The full proposals to reduce the performance gap are set out in Chapter 6 of the consultation document. We are proposing to:

- improve build quality by introducing guidance as part of the minimum standard of Part L
- improve the accuracy of as-built energy calculations by providing clearer information about the as-built specifications of new buildings to energy assessors
- improve information provided to Building Control Bodies and householders including a new style compliance report and photographic evidence
- improve information to householders by providing a Home User Guide

## **Transitional arrangements**

2.24. Transitional arrangements are used to smooth the transition to new standards in the implementation of building regulations; these arrangements allow some building works to be built to previous standards for a specified period.

2.25. We propose that transitional arrangements should only apply to individual buildings on which work has started within a reasonable period. Where work has not commenced on a specific building covered by the building notice, initial notice, or full plans within a reasonable period, that building should not benefit from the transitional provisions and so it would need to comply with the latest set of energy efficiency standards. The rationale and policy intent for this proposed change to transitional arrangements is set out in Chapter 7 of the consultation document.

# ESTIMATION OF COSTS AND BENEFITS

## Summary of impacts

- 3.1. A summary of the impacts considered under this Impact Assessment is provided below in Table 1, relative to the counterfactual (Option 0). All figures are Net Present Values (NPV) over 10 years of policy and a subsequent 60 year life of the buildings. The figures represent the aggregate impact across the building mix.
- 3.2. Overall, the additional costs and benefits are dominated by the uplift from the Part L 2013 performance targets – with the separate improvements to the ventilation and air tightness standards having a comparatively minor impact. Both the costs and benefits are greater for Option 2 which principally originates from the installation of on-site renewables and results in both greater upfront capital costs (and incurs replacement costs during the building life) as well as greater energy savings from the generated energy. Option 2 is estimated to result in an overall net benefit of £585 million compared to a net cost of £1,800 million for Option 1. The equivalent annual net cost to business of the preferred Option 2 is £750m in 2019 prices.

	<b>Option 1</b>	<b>Option 2</b>
Transition costs	(3.2)	(3.2)
Energy savings (£m)	1,414	7,738
Incremental costs (£m)	(5,574)	(10,454)
<b>Total financial benefit/(cost) (£m)</b>	<b>(4,164)</b>	<b>(2,719)</b>
Carbon savings - non-traded (£M)	2,186	1,686
Carbon savings - traded (£M)	(2)	736
Total carbon savings (£m)	2,185	2,422
Air quality savings (£m)	179	882
Total carbon and air quality savings	2,364	3,304
Net benefit/(cost) (£m)	(1,800)	585

Amount of gas saved (GWh)	168,447	93,932
Amount of electricity saved (GWh)	(476)	245,241
Amount of CO <sub>2</sub> saved - non-traded (MtCO <sub>2</sub> (e))	31	24
Amount of CO <sub>2</sub> saved - traded (MtCO <sub>2</sub> (e))	(0)	12
Cost effectiveness – non-traded (£/tCO <sub>2</sub> )	129	46
Cost effectiveness – traded (£/tCO <sub>2</sub> )	(74,016)	13

Present value net benefit/(cost) business (£m)	(4,592)	(6,452)
Equivalent annual net benefit/(cost) to business (£m) [Annualised over 10 years]	(533)	(750)

## Overview

- 3.3. The proposed policy changes will affect all new dwellings in England. The impact of the policy will be felt both at the point of new construction and over the life of the building during which energy savings will be achieved. As such, the policy will have an impact on manufacturers of construction products, the construction industry and the building owners and occupants. Given the long lives of the buildings affected there is considerable uncertainty about future values. So it is assumed that there is a ±20% uncertainty on the



central estimate and further sensitivity analysis of key assumptions is intended to be undertaken for the final Impact Assessment.

- 3.4. In order to estimate the overall costs and benefits of the proposed policy options we have modelled the changes in building costs, energy use and related CO<sub>2</sub> emissions using the building standards proposed for Part L and Part F compared with a baseline of costs and energy use implied by Part L 2013 and Part F 2010 standards which are now in place.
- 3.5. Not all of the policies above have been captured in the cost-benefit analysis.
- 3.6. The policies included in the cost-benefit analysis and the narrative below are:
  - The uplift to the energy performance requirements for 2020 - Costs and Benefits – Improved Part L standards for new homes
  - Performance gap - see Improved Compliance and Performance and Administrative burdens
  - Statutory guidance - see Improved Compliance and Performance
  - Calculation methods - Transition costs
  - Futureproofing - Costs and Benefits - Improved Part L standards for new homes
  - Airtightness - Modifications to Airtightness
  - Self-regulating devices - Mandating Self-Regulating Devices (SRDs)
  - Removing fuel factors - Rural impacts
  - Transitional arrangements - Transitional arrangements
- 3.7. The policies not included and why are:
  - Performance metrics to assess the energy performance of new homes, including primary energy, CO<sub>2</sub> and householder affordability – we expect there to be minimal familiarisation impacts of changing the performance metrics. Trained Energy Assessors calculate these metrics using a piece of software, the Standard Assessment Procedure (SAP). The new performance metrics are all already calculated by the Energy Assessors using SAP, they will simply have to report different metrics.
  - Uplift to minimum standards for fabric – these are backstop values to ensure good quality building fabric, the main standards are the performance metrics.
  - Uplift to minimum building services efficiencies – these are backstop values to ensure efficient building services, the main standards are the performance metrics.
  - Consideration of high efficiency alternative systems – this is a reduction in guidance, no assessment is required.
  - Approved construction details – costs have currently not been monetised and will be considered further in the final Impact Assessment.
  - Technology factors – this is to prevent the new uplift in standards and change in calculation methods from preventing the installation of heat networks. There is little change from the current standards.
  - Information about Building Automation and Control Systems (BACS) – would only affect homes with BACS, which would be very few new homes.
- 3.8. The figures in the following analysis are based on central estimates.

## **Assumptions applicable to all analysis**

- 3.9. This impact assessment is based on the Green Book and the accompanying supplementary guidance on the valuation of energy use.<sup>5</sup> This IA considers updated fuel prices, traded and non-traded carbon values and emission factors.
- 3.10. Energy savings are valued at the variable rate in macroeconomic calculations in accordance with the supplementary Green Book guidance. This is appropriate for social analysis and assumes that the retail energy savings enjoyed by the consumer occupying an energy efficient building does not fully reflect the social benefit.
- 3.11. A discount rate of 3.5 per cent has been used for the first 30 years of the building's life and 3 per cent for subsequent years. This is in line with guidance in HM Treasury's Green Book - Appraisal and Evaluation in Central Government.
- 3.12. Unless otherwise stated, prices and estimates shown below are in 2020 base year, 2019 prices.
- 3.13. The appraisal time period for estimating the impact of the policy is 10 years which is consistent with that used in the 2013 Part L Impact Assessment and in other Impact Assessments associated with the construction industry.
- 3.14. It is important to ensure there is a full appraisal of the 'lock in' impact of higher fabric standards. An example of this is the impact of higher wall standards, which will impact over a long period of time, potentially the entire lifetime of the building. For building fabric insulation (external walls, floors, roofs) we have assumed an asset life of 60 years, except for external windows which we have assigned an asset life of 30 years. This is comparable with indicative values provided in Annex E of BS EN 15459 Energy performance of buildings - Economic evaluation procedure for energy systems in buildings. For gas heating and ventilation equipment we have assumed asset lives of 15 and 20 years respectively, with hot water stores also having a lifespan of 20 years. This is comparable with indicative values provided in CIBSE Guide M – Maintenance engineering and management. The asset lives of waste water heat recovery systems were taken to be 20 years for horizontal systems and 60 years for vertical systems.
- 3.15. Only the elements of lifecycle cost that differentiated from the baseline cost were considered. For example, general repair and decoration costs were excluded from the analysis as these would be common to all homes irrespective of the energy performance options presented in this document.
- 3.16. Replacement costs were assigned to specific components within a specification and avoided replacements of components that would be expected to have a longer lifespan. For example, boiler replacements did not include replacement of a hot water tank or to the gas or water supplies. Replacement costs included an additional allowance for the costs of working in an existing property and for disposal of the end of life components; replacement is only costed if the boiler is more expensive than the counterfactual.
- 3.17. Consequently, we have estimated the ongoing costs associated with maintenance and replacement along with the benefits from energy, air quality and carbon savings over a 60 year period for each building, which provides a sufficiently long period to capture the benefits of fabric 'lock in'. For instance in the new homes' analysis, an external window is assumed to have a lifetime of 30 years. So a replacement after 30 years is assumed. This is important as Option 1 assumes more expensive triple glazing whereas Option 2 assumes double glazing, and this cost difference needs to be accounted for when the asset is replaced. Again, this is consistent with the 2013 Part L Impact Assessment. Given the

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<sup>5</sup> Valuation of energy use and greenhouse gas emissions for appraisal (April 2019)

10 year of policy being assumed, the total period for the IA is therefore 70 years so that the full 60 year impact of a building constructed in year 10 is assessed. Learning rates have been applied to account for reductions in costs for less mature technologies.

- 3.18. For the purposes of this analysis, we have used net completion projection as a proxy for annual rate of new buildings in our modelling. This has been broken down between detached, semi-detached/end-terraced, mid-terraced houses and four storey apartment blocks. For more details, please see Appendix A.
- 3.19. In addition, Table 2 shows the phasing assumptions that have been made about the numbers of new homes which will be built to the new 2020 standards in the first few years of the policy, to reflect the time lag between planning and building of new homes.

	2020	2021	2022	2023	2024 onwards
Phase in (% dwellings captured by Part L and F 2020)	20%	50%	75%	95%	100%

Source: MHCLG

- 3.20. The assessment of costs and benefits has been undertaken based on the 4 building types outlined in paragraph 3.18: detached, semi-detached, mid-terrace and a 4-storey block of flats (made up of 16 1-bed single aspect and 16 2-bed corner flats). To enable consistent target setting and comparison, we have used the same dwelling types employed in the Part L 2013 review, but with some updates to reflect the Nationally Described Space Standards – as implemented for MHCLG’s cost optimal analysis published in 2019.<sup>6</sup> The dwelling types are summarised in Table 3 below.

Dwelling type	Small 1 Bed Single Aspect Apartment	Large 2 Bed Corner Apartment	Mid Terrace House	End Terrace/ Semi-detached House	Detached House
Total Floor Area (m <sup>2</sup> )	50	70	84	84	117
	Total for apartment block: 1922				

- 3.21. The modelling assumes that all new domestic buildings are presently constructed to current Part L and F standards. Some local authorities require construction to a higher standard which will reduce the impact of the policy change. Moreover, some new domestic buildings, where development started before the last Part L uplift, are constructed to old standards. These considerations will be examined further in the final Impact Assessment.

### **Costs and Benefits: Improved Part L standards for new homes**

- 3.22. For the uplift of Part L standards for new homes, two options are being proposed: options 1 and 2. The costs and benefits of these proposals have been assessed across the four building types detailed previously.

<sup>6</sup> DCLG, *Technical housing standards – nationally described space standard*, 2015. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/524531/160519\\_Nationally\\_Described\\_Space\\_Standard\\_Final\\_Web\\_version.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/524531/160519_Nationally_Described_Space_Standard_Final_Web_version.pdf); and MHCLG, *Energy Performance of Buildings Directive: Second Cost Optimal Assessment for the United Kingdom (excluding Gibraltar)*, 2019. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/770783/2nd\\_UK\\_Cost\\_Optimal\\_Report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/770783/2nd_UK_Cost_Optimal_Report.pdf)

3.23. Table 4 shows the specifications assessed for each building type - current Part L 2013 and the two consultation options. These are based on the notional (reference) building which is used to set the standard.

<b>Table 4: Specification for each building type</b>			
	<b>Part L 2013</b>	<b>Part L 2020 Option 1</b>	<b>Part L 2020 Option 2</b>
External Wall U-value (W/m <sup>2</sup> K)	0.18	0.15	0.18
Corridor Wall U-value (W/m <sup>2</sup> K)	0.18	0.18	0.18
Party Wall U-value (W/m <sup>2</sup> K)	0	0	0
Roof U-value (W/m <sup>2</sup> K)	0.13	0.11	0.11
Floor U-value (W/m <sup>2</sup> K)	0.13	0.11	0.13
Window U-value (W/m <sup>2</sup> K)	1.4	0.8	1.2
Window g-value	0.63	0.57	0.63
Door U-value (W/m <sup>2</sup> K)	1.0	1.0	1.0
y-value (W/m <sup>2</sup> K)	Based on SAP Appendix R	Based on the 'Option 1' psi values in Table R2 of SAP 10.1.	Based on the 'Option 2' psi values in Table R2 of SAP 10.1.
Ventilation System Type	Intermittent extract fans with trickle vents		
Air permeability (m <sup>3</sup> /h·m <sup>2</sup> at 50 Pa)	5		
Space Heating Source	Condensing gas boiler (regular for detached, combi for others)		
Domestic Hot Water Source	As for space heating		
Boiler Efficiency	89.5% (SEDBUK)		
Heat Emitters	Standard radiators	Large (low temp) radiators	Large (low temp) radiators
Shower flow rate	8 l/min		
Waste Water Heat Recovery (WWHR)	No	Efficiency of 36% Utilisation of 0.98 Connected to 2 showers where present	
Fixed lighting capacity (lm)	185 x TFA		
Lighting efficacy (lm/W)	80		
PV installation area (percentage of building foundation area)	0%	0%	40%
PV assumptions			SE/SW facing, 45-degree pitch, no/little overshadowing, 6.5m <sup>2</sup> /kWp, connected directly to dwelling.

3.24. The increase in capital cost of achieving the consultation options, compared with the continuation of existing 2013 standards are shown in Table 5. Further breakdown of the costs of the different elements is provided in Appendix B. These results show a significantly higher capital cost for the option 2 which predominantly relates to the inclusion of photovoltaics (PV) in the notional building.

<b>Table 5: Additional Capital Costs</b>		
	<b>Part L 2020 Option 1 (20% uplift)</b>	<b>Part L 2020 Option 2 (30% uplift)</b>
Detached house	£4,200	£6,520
Semi-detached house	£2,560	£4,850
Mid-Terraced house	£2,200	£4,740
Flats	£2,070	£2,260
Average (based on build mix)	£2,870	£4,620

\* Option 1 includes heating distribution system cost savings (equivalent to 25% of heating distribution system costs) due to increased energy efficiency for the higher fabric specifications, at 2020 prices. However, it is expected that it will take time for designers to implement the changes to the heating system design to realise these savings, due to their experience in working on less energy efficient homes i.e. they will need time to adapt from current practice and/or overcome concerns of under-heating homes if a reduced heat distribution system is installed. These savings are assumed to be made from 2021 onwards with the following learning rates applied in the cost benefit assessment: 2021, 20% (of total cost saving realised); 2022, 40%; 2023, 60%; 2024, 80%; 2025 onwards, 100%.

- 3.25. The changes in energy use were assessed by using a consultation version of SAP (cSAP). Modified carbon emission and primary energy factors were used to rebase the Part L 2013 standard and used to calculate the proposed 2020 standards. These carbon emission and primary energy factors are in Appendix C.
- 3.26. The costs and benefits for options 1 and 2 compared with continuation of the existing 2013 standards are shown in Table 6. The results show that the Option 2 has a greater increase in costs but results in a net benefit. This principally arises from the additional costs of the PV and the significant energy savings arising from the electricity generation. Note that analysis suggests that it may well be possible to reduce the upfront capital costs in meeting the Option 2 target through the use of alternative low carbon/primary energy technologies such as the use of a heat pump or a mechanical ventilation system with heat recovery. As an example, further analysis has been undertaken by adopting the same design specification as for Option 2 but with the gas boiler and PV replaced by an air source heat pump (with efficiencies of around 250% for space heating and hot water as modelled in SAP). It shows, for example, the capital cost uplift as being £3130 for the semi-detached house and £2780 for flats which, in comparison with the results in Table 5, is a lower cost for the semi-detached house and is more expensive for flats. This solution is likely to over-comply (i.e. be better than the Part L targets) and there may be further upfront capital cost savings in reducing the building performance to just comply with the Part L targets.

<b>Table 6: Summary of results from cost benefit analysis (improved Part L standards only) – total over the appraisal period</b>		
	<b>Part L 2020 Option 1</b>	<b>Part L 2020 Option 2</b>
Transition costs	(3.2)	(3.2)
Energy savings (£M)	1,411	7,735
Incremental costs (£M)	(5,524)	(10,404)

Total financial benefit/(cost) (£M)	<b>(4,116)</b>	<b>(2,672)</b>
Carbon savings - non-traded (£M)	2,182	1,682
Carbon savings - traded (£M)	(2)	736
Total carbon savings (£m)	2,180	2,418
Air quality savings (£m)	179	881
Net benefit/(cost) (£m)	<b>(1,757)</b>	<b>627</b>
Amount of gas saved (GWh)	168,114	93,598
Amount of electricity saved (GWh)	(476)	245,241
Amount of CO <sub>2</sub> saved - non-traded (MtCO <sub>2</sub> (e))	31	24
Amount of CO <sub>2</sub> saved - traded (MtCO <sub>2</sub> (e))	(0)	12
Cost effectiveness – non-traded (£/tCO <sub>2</sub> )	127	44
Cost effectiveness – traded (£/tCO <sub>2</sub> )	(72,266)	9

Source: Currie and Brown

### Mandating Self-Regulating Devices (SRDs)

- 3.27. Approved Document L1A and the associated Domestic Building Services Compliance Guide currently recommend installing SRDs in new homes to meet Part L. The policy change is to make this mandatory.
- 3.28. It is assumed that all new homes currently install SRDs in practice to meet Part L. As such, it is assumed that there are no significant costs and benefits of this policy change to make such installation mandatory.

### Futureproofing

- 3.29. Included within the section above *Costs and Benefits - Improved Part L standards for new homes* are the costs and benefits of installing larger emitters with lower flow temperatures now. The benefits for the future have not been fully captured. The CBA uses gas boilers as the replacement for gas boilers. It is however likely in the future that heat pumps will be installed as a replacement for gas boilers. The larger emitters will have the benefit to consumers in the future of not requiring replacement, therefore saving consumers money, reducing waste, reducing disruption and therefore making it more likely low carbon heat will be installed.

### Cost and Benefits: Modifications to Airtightness

- 3.30. There are two proposals for change: 100% sample testing and carbon capping. These are included in both policy options 1 and 2.

### 100% sample testing

- 3.31. The counterfactual case is based on the current number of homes that have an airtightness test for Part L compliance purposes. This has been determined through the total number of airtightness tests undertaken on new homes,<sup>7</sup> corrected for (reduced by) additional testing based on unpublished data from BSRIA (e.g. due to testing during the construction process or additional testing when a home fails their initial test), divided by the number of new build dwellings.<sup>8</sup> This was analysed over the period from April 2016 to March 2018.

<sup>7</sup> DCLG, Airtightness testing Scheme Statistics: England and Wales, 2016. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/714057/180605\\_Air\\_Tightness\\_Testing\\_Master\\_Stats\\_April\\_2016\\_to\\_March\\_2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/714057/180605_Air_Tightness_Testing_Master_Stats_April_2016_to_March_2018.pdf)

<sup>8</sup> MHCLG, Table 213 and 214: permanent dwellings started and completed by tenure England and Wales (quarterly), 2019. Available at: <https://www.gov.uk/government/statistical-data-sets/live-tables-on-house-building>.

This results in an average percentage of new build dwellings tested each year of 86% of all new build.

- 3.32. The counterfactual case is based on the current number of homes that have an airtightness test for Part L compliance purposes. This has been determined through the total number of airtightness tests undertaken on new homes,<sup>9</sup> corrected for (reduced by) additional testing based on unpublished data from BSRIA (e.g. due to testing during the construction process or additional testing when a home fails their initial test), divided by the number of new build dwellings.<sup>10</sup> This was analysed over the period from April 2016 to March 2018. This results in an average percentage of new build dwellings tested each year of 86% of all new build.
- 3.33. With 100% sample testing, the number of average new build dwellings to be tested each year in addition to those currently tested is based on the proportion of new build dwellings that are not currently tested, which is 14%. In practice, due to failures and subsequent retesting etc, based on published BSRIA data this increases the number of additional tests undertaken to around 16.6%.
- 3.34. Based on data by BSRIA, the cost of each test is on average £64.13 for volume housebuilders. Hence, the cost of extending air-permeability testing to 100% of new build UK properties will be therefore the number of homes constructed x 16.6% x £64.13.
- 3.35. The benefit is expected to be gained by the improvement of the air-permeability of those dwellings that are not currently tested. It is assumed for the purpose of this analysis that 100% testing could improve the air-permeability of the currently un-tested dwellings that would fail the initial test and require additional works to pass. It is assumed that airtightness testing will not impact on those homes that are currently un-tested but would be expected to pass the test first time. The benefit will be the fuel savings and reduced fuel bills that result from that improvement.
- 3.36. The number of dwellings that will benefit from a reduced air-permeability is therefore the number of homes constructed x 14% (number of homes not currently tested) x 10.08% (unpublished BSRIA estimate of the percentage of homes that currently fail the airtightness test i.e. the airtightness test result is poorer than their design air permeability).
- 3.37. The energy saving per benefitted dwelling was determined using the consultation version of SAP for the semi-detached house used elsewhere in the new domestic ADL1A modelling (the results from the semi-detached home were assumed on average to be representative of the building stock). Unpublished data from BSRIA shows that the typical design air permeability target is 5m<sup>3</sup>/m<sup>2</sup>h and on average failed tests (i.e. their first airtightness test) had an air-permeability that was 1.4m<sup>3</sup>/m<sup>2</sup>h poorer than the design air-permeability. Hence, we assumed the benefit from testing is associated with a reduction in air permeability from 6.4m<sup>3</sup>/m<sup>2</sup>h to 5m<sup>3</sup>/m<sup>2</sup>h. The results from SAP show a reduced energy consumption of 172kWh/year.
- 3.38. The overall costs and benefits for 100% sample testing, compared with continuation of the existing Part L 2013 standards, are shown in Table 7. This would apply under both option 1 and 2. As can be seen there is a net cost of this policy proposal.

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<sup>9</sup> DCLG, Air tightness testing Scheme Statistics: England and Wales, 2016. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/714057/180605\\_Air\\_Tightness\\_Testing\\_Master\\_Stats\\_April\\_2016\\_to\\_March\\_2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/714057/180605_Air_Tightness_Testing_Master_Stats_April_2016_to_March_2018.pdf)

<sup>10</sup> MHCLG, Table 213 and 214: permanent dwellings started and completed by tenure England and Wales (quarterly), 2019. Available at: <https://www.gov.uk/government/statistical-data-sets/live-tables-on-house-building>.

<b>Table 7: Summary of results from cost benefit analysis (100% sample testing)</b>	
	100% sample testing
Energy savings (£M)	2.9
Incremental costs (£M)	(20.5)
<b>Total financial benefit/(cost) (£M)</b>	<b>(18)</b>
Carbon savings - non-traded (£M)	4.3
Carbon savings - traded (£M)	-
<b>Total carbon savings (£m)</b>	<b>4.3</b>
Air quality savings (£m)	0.4
<b>Net benefit/(cost) (£m)</b>	<b>(13)</b>
Amount of gas saved (GWh)	333.5
Amount of electricity saved (GWh)	-
Amount of CO <sub>2</sub> saved - non-traded (MtCO <sub>2</sub> (e))	0.1
Amount of CO <sub>2</sub> saved - traded (MtCO <sub>2</sub> (e))	-
Cost effectiveness – non-traded (£/tCO <sub>2</sub> )	282
Cost effectiveness – traded (£/tCO <sub>2</sub> )	-

### **Carbon capping**

- 3.39. This proposed change involves capping carbon savings associated with an air-permeability below 3m<sup>3</sup>/m<sup>2</sup>h on naturally ventilated dwellings. The purpose of this would be to discourage the construction of overly tight naturally ventilated dwellings that could lead to poor ventilation and indoor air quality.
- 3.40. Data received from BSRIA confirms that this policy change has an impact on around 2% of naturally ventilated dwellings that have a design air permeability of below 3m<sup>3</sup>/m<sup>2</sup>h. In reality, around 5% of all new build naturally ventilated dwellings have a measured actual air-permeability of below 3m<sup>3</sup>/m<sup>2</sup>h @ 50 Pa, and hence it may be that a larger number of dwellings would be impacted by this proposed change.
- 3.41. It is assumed that the developer would still need to be compliant with the overall performance standards. Hence, the cost associated with this change would be the difference between the cost saving of construction to a reduced standard of air permeability and the additional costs of improvement elsewhere in the dwelling (e.g. to the building fabric or services) now necessary to comply.
- 3.42. The principle benefit would be expected to be achieving improved levels of ventilation in overly tight, naturally ventilated homes and the reduction of problems related to condensation and mould growth and decreased levels of respiratory illnesses associated with improved indoor air quality.
- 3.43. The cost and benefit of this policy change will be assessed more fully in the final stage impact assessment.

### **Part F**

- 3.44. There are a number of proposed changes to Part F. Many of the changes are intended to simplify the guidance and the associated costs and benefits are discussed later in this section. The analysis here focusses on changes where additional ventilation provisions are required. The combined impacts are presented at the end.

### **Increased background ventilator sizing for naturally ventilated systems**



- 3.45. The proposed policy change is to simplify the guidance for naturally ventilated systems. As a consequence of this, it will result in an increase in the size of background ventilators for each naturally ventilated property with an air permeability leakier than 5 m<sup>3</sup>/hr/m<sup>2</sup>.
- 3.46. The percentage of new homes impacted per year is estimated based on the number of new homes that currently have a naturally ventilated system with an air permeability leakier than 5 m<sup>3</sup>/hr/m<sup>2</sup>. Data for new homes made available from EPCs lodged on the Energy Performance of Buildings Register suggests that 59% of new homes are naturally ventilated. Furthermore, unpublished BSRIA data estimates that 65% of these are leakier than 5 m<sup>3</sup>/hr/m<sup>2</sup>. Hence, it is assumed that this policy applies to 38% of new homes.
- 3.47. For simplicity, it is assumed the increased trickle ventilator area on average can be based on the semi-detached home. This results in the requirement of two additional background ventilators – one of 5000mm<sup>2</sup> and one of 10000mm<sup>2</sup> equivalent area. The total capital cost of these trickle ventilators per home is £17.
- 3.48. The benefit of this policy change is simplification and improved compliance. As previous Part F revisions assumed 100% compliance, no additional benefit has been accounted for here.

***Increased background ventilator sizing for MEV systems***

- 3.49. The proposed policy change is for the size of background ventilators to be increased from 2500mm<sup>2</sup> to 5000mm<sup>2</sup> equivalent area in habitable rooms for mechanical extract ventilation (MEV) systems.
- 3.50. The percentage of new homes impacted per year is estimated based on the number of new homes that currently have an MEV system. Data for new homes made available from EPCs lodged on the Energy Performance of Buildings Register suggests that this comprises 24% of new homes.
- 3.51. The total cost per home is estimated as £6. This is based on approximately 4 background ventilators per home on average.
- 3.52. The benefit of this policy change is improved air distribution in the home. This should lead to improved ventilation and indoor air quality, with associated health benefits. These benefits have not been monetised here and are intended to be included for the final Impact Assessment.

***Combined Part F impacts***

- 3.53. The overall costs and benefits for the proposed changes to Part F, compared with continuation of the existing Part F 2010 standards, are shown in Table 8. As discussed above, these only include net costs with around 80% arising from the amendments for naturally ventilated systems. As noted earlier, the currently non-monetised health benefit from the changes for MEV systems will be considered further for the final Impact Assessment.

<b>Table 8: Summary of results from cost benefit analysis (Part F changes)</b>	
	Part F

Energy savings (£M)	-
Incremental costs (£M)	(29.6)
<b>Total financial benefit/(cost) (£M)</b>	<b>(29.6)</b>
Carbon savings - non-traded (£M)	-
Carbon savings - traded (£M)	-
Total carbon savings (£m)	-
Air quality savings (£m)	-
<b>Net benefit/(cost) (£m)</b>	<b>(29.6)</b>

### Improved Compliance and Performance

- 3.54. In some new homes there is a gap between the designed and as-built performance of new buildings. The cause is poor build quality leading to non-compliance with the Part L and F standards.
- 3.55. The consultation is putting forward proposals for guidance for typical performance gap issues, a new-style compliance report, more information to building control, more information to householders to encourage housebuilders to improve the performance of new buildings. The consultation is also putting forward proposals for home user guides which will better inform new householders on how to use their home. Costs have currently not been monetised and will be considered further in the final Impact Assessment.
- 3.56. The consultation is also putting forward proposals to simplify the guidance in the Approved Documents. Whilst simplification, in principle, should lead to reduced time in understanding and following the guidance, it is assumed that there is no reduced time compared to continuing to follow the current standards with which the housebuilding industry is already familiar.

### Impact of Ban on Combustible Materials

- 3.57. The government banned the use of combustible materials in the external walls of on new residential buildings with a storey 18m or more in height. This impacts on the choice of external wall systems, including the type of insulation adopted. The costs and benefits of this ban under current Part L has been assessed in another Impact Assessment.<sup>11</sup>
- 3.58. This consultation is proposing to raise the target emission factor and introduce a target primary energy in the Part L standards which may result in additional costs for residential buildings with a storey 18m or more in height. In particular, the current notional building external wall U-value is 0.18 W/m<sup>2</sup>K. This consultation is proposing to keep this U-value for the option 2 (which adopts Fabric 1 specification) but is proposing to adopt a U-value of 0.15 W/m<sup>2</sup>K in the notional building for the option 1 (which adopts for Fabric 2 specification). There is also an uplift to the limiting fabric standards to 0.26 W/m<sup>2</sup>K.
- 3.59. Neither the target emission factor or the target primary energy requires a developer to adopt a higher standard of external wall insulation. Part L sets performance-based targets that can be achieved through a combination of fabric and building service efficiency measures as well as the adoption of low carbon/primary energy sources. Hence, there is significant flexibility in how the Part L targets are complied with. Furthermore, the cost-benefit of improving the standard of external wall insulation is less attractive for high rise apartments compared to most other dwelling types due to their relatively low external wall area to indoor volume ratio and thus relatively low space heating loads – hence making alternative means of complying with Part L more attractive. The uplift to limiting fabric standards could require a developer to adopt a higher standard of external wall insulation;

<sup>11</sup> <https://www.gov.uk/guidance/ban-on-combustible-materials>

however, it is expected that most developers are already building to this standard in order to meet the existing target emission rate and fabric energy efficiency in ADL1A 2013.

- 3.60. This Impact Assessment has monetised costs and benefits for dwellings not captured by the ban. In particular, it has only considered lower-rise apartment buildings. The additional costs for high-rise homes associated with the ban will be considered further in the final Impact Assessment.

## Training

- 3.61. There are transition costs incurred by businesses to familiarise their employees with the new technical requirements. We note that the overarching methodology has not changed (e.g. businesses will continue to use SAP to assess Part L compliance for new homes). Furthermore, the higher standards that will come into force are progressive i.e. should be able to be met in the main through straight forward amendments to current practices rather than radical changes in the way new buildings are constructed.
- 3.62. We assume that training is necessary for developers and associated professional services to design the buildings to the new Regulations and procure the appropriate building components, for the supply chain to be ready to meet this demand and for building control to assess the building applications and work.
- 3.63. Our estimated costs for training and dissemination is based on the previous change to Part L regulations (2013) when applied to new homes only, which assumes that there will be external training courses and that information from the external course would then be disseminated further internally. In addition, we assume that there will be indirect familiarisation costs associated with employees learning how the changes would affect their work; and also for small builders, we assume an initial cost associated with rejected building applications due to error in not updating to new standards.

	<b>Cost (£millions)</b> <i>2011 base year, 2012 prices year</i>
External Training Cost	0.32
Internal Training Cost	0.49
Total Training Cost	0.81
Familiarisation Cost	0.92
Application Cost to Small Builders	0.60
<b>Total</b>	<b>£3.14 million</b>

- 3.64. Using the HMT GDP deflator, this means that the estimated transitional costs in 2019 base year and 2020 price year is **£3.15 million**.
- 3.65. Please note however that this estimate needs to be treated with caution as the scale and process for training and dissemination may be different for this set of regulations; we will need to use information gathered during consultation to produce a more robust analysis, and this will inform the final IA.

## **Transitional arrangements**

- 3.66. The more stringent transitional arrangements will mean that the Part L standard that developers need to build to will no longer apply indefinitely across whole development sites. This should mean that more homes are built to the new Part L standards sooner; this will result in greater energy and carbon savings but may be more expensive to developers. Anecdotally, the transitional arrangements could also lead to faster build-out on sites as developers may prefer the certainty of building to the same standards for the whole site.
- 3.67. However, it has not been possible to monetise in detail this impact. This will be reviewed in more detail for the final stage impact assessment.

## **Comfort taking**

- 3.68. Comfort taking is when reduction in heating bills leads to some householders choosing to heat their homes to higher temperatures. Consideration was made as to whether comfort taking should be taken into account in the new homes model.
- 3.69. With reference to the approach taken in the Green Deal IA; the most appropriate approach to take for comfort taking in new homes was unclear. The Green Deal IA's calculation of 15 per cent comfort taking for existing dwellings was based mostly on existing social housing rather than owner-occupiers. A further and larger extrapolation would be required to take the same conclusions to new-build homes, which is most relevant in this case. Since people in different situations are unlikely to perceive the same value of comfort, it is not reasonable to assume the same level of comfort taking for existing and new homes. The counterfactual for the new homes analysis is a Part L 2010 standard which is already a much more energy efficient standard than for a typical existing home. It is much less likely that there would be substantial further comfort taking from this uplift because consumers are unlikely to perceive this relatively small difference in standards. Furthermore, given the lack of empirical data available, applying any other assumption other than no comfort taking would effectively involve the imposition of an arbitrary assumption. We have therefore applied no comfort taking to new dwellings.

# WIDER IMPACTS

## Economic and financial impacts

### *Competition*

- 4.1. The principal markets affected by the 2020 policy are the markets for the development of new domestic buildings along with the supply chains for the production of construction materials used in those developments.
- 4.2. As a result of higher standards for new buildings from 2020, building developers would have to comply with the more stringent targets and as a result would see costs rise. As the increase in costs will affect all developers equally, any competitive effects in the market for building development are likely to be negligible.
- 4.3. Both Part L uplift options for 2020 assume some improvement in fabric and services specifications. If fabric energy efficiency had been improved in isolation, this could have given manufacturers of products which impact on fabric performance (insulation, windows) an advantage over those involved in manufacturing and supplying building services (e.g. boilers, lighting); however, this is not the case. Furthermore, flexibility is provided in a way that developers can meet the higher performance standards, which should ensure that no one product or manufacturer can dominate any part of the market.

### *Innovation*

- 4.4. Particularly with respect to raising the Part L standards for new homes, there should be the potential for new firms to enter the market due to the setting of higher standards and the flexibility for developers to choose building technologies to meet these standards. This should encourage innovation among manufacturers.
- 4.5. The options for more ambitious improvements in standards would likely result in an increased use of low and zero carbon generation technologies. There is competition in the supply of such technologies with a mix of large and small suppliers. As the cumulative production of such technologies rises, learning effects coupled with competition should bring down the unit cost. This learning effect has been built into our modelling of costs.

### *Small businesses*

- 4.6. Small businesses in the housing sector principally comprise developers, constructors, architects, engineers and other technical specialists. The impacts of a change in building standards are likely to be most significant for developers as any change in costs will affect their cost of business. For other parties, impacts are most likely to comprise a short term need to understand and revise practices to reflect the new requirements, however this is unlikely to be above the level that would be typically expected as part of ongoing professional development.
- 4.7. Small developers typically operate in a different segment of the housing market to larger businesses and will undertake projects that are not well suited to a larger developer's business model such as smaller sites or those requiring a more bespoke design solution. Therefore, while the impact of new standards on absolute build costs for a smaller developer may be higher than those for a larger business, this does not necessarily mean they will be affected more significantly. This is because their starting cost base is likely to be higher and other elements of their business model will differ.

- 4.8. Further, smaller developers are less likely to hold land for extended periods prior to development. This means that the implications of new standards on small development companies may be more easily accommodated by altering their land offers whereas for larger businesses developing sites that they have owned for several years, any additional costs of new meeting standards are more difficult to pass back to the landowner.<sup>12</sup>
- 4.9. As discussed above in the section on transition costs, for Option 1 the increase in fabric specification may be more difficult to adjust to for smaller businesses who employ their own workforce and will therefore need to retrain. For option 2 both larger and smaller businesses will likely subcontract the installation of solar panels and alternative methods of complying with these standards such as installing heat pumps. Familiarisation will therefore not be an issue, but smaller and larger developers will receive varying quotes to account for the economy of scale. As discussed above the starting cost base is already different for smaller businesses.
- 4.10. We intend to use the consultation process to gather up-to-date information about differences in the effects of the regulations on small business; it is worth noting that in the responses to the consultation in Part L 2013, small and micro businesses preferred less significant changes to energy performance standards for each of new and existing, domestic and non-domestic buildings, which seems to indicate that these businesses will be disproportionately impacted by these types of changes involving increases in standards.

## **Social impacts**

### ***Housing supply***

- 4.11. MHCLG has conducted a study of the impacts of the policy on housing supply based on internal viability modelling. In this case, we assume that this policy would lead to increasing build cost, which could deter constructors from building as many houses as it may not be possible to pass this cost onto the price of land. This would then have a negative impact on net additional housing.
- 4.12. We are also aware that the sector will not have had a long lead in time before this change is introduced and so it is unlikely that these costs will be factored into land purchases in the short run (especially where developers have already purchased sites for future pipeline developments). As such, the short term impact on housing supply viability may be slightly more volatile, but we also believe that the system as a whole is sufficiently robust to be able to absorb unanticipated costs in other ways. For example, developers have options to renegotiate their Section 106 or make changes to planning permissions to absorb these costs.
- 4.13. There are a number of ways in which increased costs could manifest, of which a reduction in supply is just one possibility. More analysis would need to be carried out during consultation to understand this better.

### ***Health and well-being impacts***

- 4.14. There are improvements in indoor air quality, and consequently occupant's health and well-being, from the proposed changes to Part F. Improved indoor air quality arises as a result

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<sup>12</sup> This impact is at least partially offset by the current existence of transitional arrangements that allow construction to older building standards provided the development has commenced, however this will not be the case in every instance.

of better air distribution between rooms and simplification of the guidance which should deliver greater compliance and reduce the risk of under-ventilation.

- 4.15. There are also potentially beneficial improvements in health and quality of life from the effect of increased energy efficiency on thermal comfort. We do need to be mindful of the potential effects that tighter building envelopes could have upon indoor air quality and indoor temperatures in summer. Hence, the parallel review of Parts F and L, and a planned consultation on new requirements and guidance to reduce the risk of overheating in new homes.

### ***Rural impacts***

- 4.16. Assessing rural impacts means determining whether the impacts on rural areas will be different to those for urban areas, and whether there are specific local or regional effects.
- 4.17. Part L currently includes a fuel factor which differs by fuel type for heating. One purpose was to provide some relief in the target applicable to dwellings that are off the gas grid principally those in rural areas. The fuel factor means that if the chosen heating fuel is more carbon intensive than gas (such as oil or LPG), the carbon emissions target is increased making it less demanding. Without the fuel factor, builders would have to build to higher (and more expensive) fabric and/or services standards in order to meet the same emissions target as homes connected to a gas supply.
- 4.18. The consultation seeks views on the option to remove the fuel factor. Note that due to the changes in carbon emission factors described previously, electricity use is now less carbon intensive than gas and thus the fuel factor is automatically dis-applied for heat pumps or direct electric heating; thus this proposed change has no impact on rural homes adopting an electric heated solution. Note that in this assessment we have continued to apply the fuel factor to the carbon target, rather than the primary energy target, as the carbon target is the harder to achieve for higher-carbon fossil fuels.
- 4.19. Analysis suggests that there may not be any substantive cost difference between retaining or removing the fuel factor in practice if complying with the Part L 2020 option 2 target. It will be challenging in either case to comply with this target using LPG or oil as fuels e.g. the design specifications for Option 2 in Table 4 will not be sufficient as the amount of PV likely to comply would exceed the roof area available (although it may be possible to comply with more expensive and efficient PV panels than assumed in the option 2 specification). A lower cost option is likely to be to change to a low carbon heat source, such as an air source heat pump. As the analysis below Table 5 shows, the adoption of an air source heat pump can be a relatively low capital cost option to meet the Part L 2020 option 2 target. Moving to a low carbon heat source means that the need for a fuel factor becomes redundant.
- 4.20. From discussion with industry, we are aware that there are many homes off of the gas grid that are already being constructed with heat pumps instead of using oil or LPG.

### **Environmental impacts**

- 4.21. The environmental impacts are central to this policy and are therefore covered in the main body of this impact assessment.

### **Administrative burdens**

- 4.22. Administrative burdens are identified as the costs to businesses of legal requirements to provide information.
- 4.23. This consultation is proposing to introduce new mandatory requirements on the developer to provide information to both a Building Control Body and to the householder. The information being provided to each is a new style compliance report, the Building Regulations England Part L report (BREL) and photographic evidence. From discussions with industry we understand that many developers already have photographic evidence of the building work of interest. A compliance report is already produced from SAP software, the extra details required is believed to be little extra burden. There may be costs associated with collating, emailing and printing; but these are believed to be minimal, in the order of <£10 per dwelling. The benefits of improved compliance would likely outweigh the costs significantly.



## Appendix A – Net Completions Projection

Below is the independent analysis conducted by Adroit Economics of the number of net completions broken down by building type. This is used in our cost benefit modelling.

Building Type	Annual number of net completions									
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Detached* house	71,000	73,000	75,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000
Semi-detached house	57,000	58,000	60,000	61,000	61,000	61,000	61,000	61,000	61,000	61,000
Terraced house	38,000	40,000	41,000	42,000	42,000	42,000	42,000	42,000	42,000	42,000
Flats	65,000	67,000	69,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000

\*Bungalows have been included in the detached house category, and represents around 5% over its total

Source: Adroit Economics

These estimates of new build completions are produced by an independent consortium. They are indicative and should be used for appraisal purposes only and do not represent an official forecast of changes in housing supply.

Please note, these projections are not an estimate of 'net additions', which is the figure usually used to calculate changes in housing supply. They do not account for change of use or conversions, which are a significant element of net addition but is outside the remit of this impact assessment; nor does it capture the impact of policy interventions that could increase industry's capacity to build new houses.

## Appendix B – Cost Breakdown

The developed costs are based on the expert view of Currie & Brown's cost specialists, drawing on evidence from their internal cost datasets, recent published cost data and information provided by suppliers.

The cost analysis is intended to reflect typical national costs from Q2 2019 that might be incurred by a medium sized housebuilder using traditional (i.e. masonry) construction methods and with a reasonably efficient supply chain, design development and construction processes. However, costs incurred by individual organisations will vary according to their procurement strategies, the location of their activity (e.g. costs will be higher in London and the South East of England) and the detail of their housing product. These variations design, location and delivery method could result in a cost range of +/- c.30% or more. Notwithstanding these variations, the proportional uplifts associated with moving from one specification to another are likely to be similar across different market segments<sup>13</sup>.

To provide context to the cost variations assessed in the study an indicative overall build cost (£ per m<sup>2</sup>) for each building archetype was estimated using Currie & Brown internal data. This figure is indicative of the level of cost that might be expected for a home built in accordance with the requirements of Part 2013. The build cost should be taken as indicative only as it is sensitive to a wide range of design and specification variables in addition to the economies of scale and regional variations discussed previously.

Base costs for future years are those for the 2019 price year, and subject to adjustments for learning for technologies that have not yet reached a mature market position. It should be noted that construction costs can vary considerably and rapidly with market conditions, particularly where activity levels result in a change in the availability of skills and materials. In these situations, it is not unusual to see quite large (several percentage points) change in overall costs over a period of months.

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<sup>13</sup> Costs increases may be outside the described range for highly bespoke designs, however these homes are typically more expensive to build and so the relative impact on build costs may be similar or potentially smaller than for more typical homes built in higher volumes.

Table B.1 includes details of the cost information used for each specification option, including any variations between building type, costs are only shown for those specifications that vary between the considered specification options.

Element	Specification	Unit	New cost (£ per unit)
External Wall – plasterboard, blockwork, mineral wool brick, lintels, ties and cavity trays/closers	0.18 W/m <sup>2</sup> .K	m <sup>2</sup>	£221
	0.15 W/m <sup>2</sup> .K	m <sup>2</sup>	£224
Ground / Exposed Floor	0.13 W/m <sup>2</sup> .K	m <sup>2</sup>	£153
	0.11 W/m <sup>2</sup> .K	m <sup>2</sup>	£159
Roof – mineral wool insulation at joist level	0.13 W/m <sup>2</sup> .K	m <sup>2</sup>	£185
	0.11 W/m <sup>2</sup> .K	m <sup>2</sup>	£187
Windows uPVC	1.4 W/m <sup>2</sup> .K	m <sup>2</sup>	£240
	1.2	m <sup>2</sup>	£300
	0.8	m <sup>2</sup>	£360
Waste-Water Heat Recovery	Vertical pipe system (houses and upper floor flats)	Nr	£400
	Tray system (ground floor flats)	Nr	£1200
Radiators (installed but excluding heating pipework)	Standard	Nr	£60
	Sized for low temperature heating	Nr	£90
Roof mounted - photovoltaic panels	Fixed costs for systems <4kWp	Per installation	£1,100
	Variable costs for systems <4kWp	Per kWp installed	£800
	Variable costs for systems >4kWp	Per kWp installed	£1,100

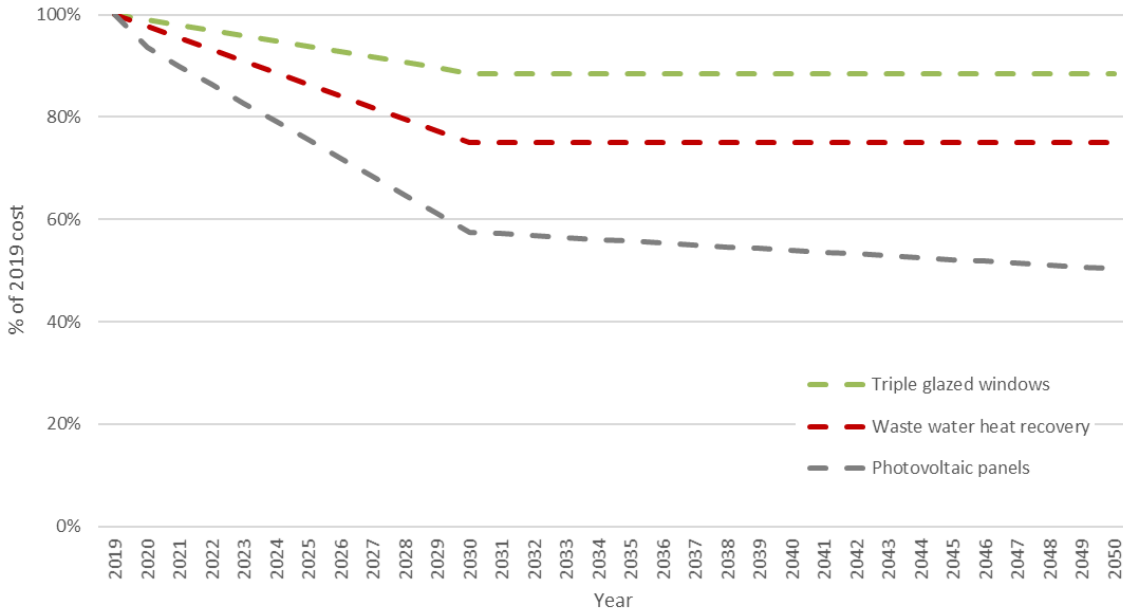
## Cost projections

Cost projections were assigned to each specification option to capture any expected change in the current cost over time. For many building elements no adjustment was applied to the current costs because the technology is deemed mature and unlikely to experience a significant reduction in cost per unit of performance. This does not mean that cost in the future will be unchanged, only that it is not projected to change in a manner that is disproportionate to the wider construction cost base.

For more immature specifications, the potential for future reductions in cost through learning was assessed based on existing published cost projections or by applying appropriate learning rates to global market projections.

Figure A.1 shows the future cost projections of technologies relevant to this consultation. These cost projections are relative to 2019 costs and do not account for other economic and market factors that will impact costs over this period (e.g. market conditions, interest and exchange rates, skills availability and commodity prices).

**Figure A.1 Projected variation in base costs as a result of learning**



The analysis does not include any medium to long term cost savings associated with productivity gains of the sort envisaged by the Construction Sector Deal and the Construction Strategy 2025. Should these savings be realised, then this would have the effect of reducing build costs and the additional costs of more energy efficient and lower-carbon buildings, making the achievement of tighter standards more cost-effective. Further analysis of the relationship between build standards and construction productivity is ongoing.

## Appendix C – Primary energy and carbon factors

The below tables contain the calculated primary energy and CO<sub>2</sub> emission factors used to develop the Part L 2020 options; these can also be found in cSAP.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Standard tariff	1.602	1.593	1.568	1.530	1.487	1.441	1.410	1.413	1.449	1.504	1.558	1.604
7-hour tariff (high rate)	1.635	1.626	1.600	1.562	1.518	1.471	1.440	1.443	1.479	1.535	1.591	1.637
7-hour tariff (low rate)	1.521	1.512	1.488	1.453	1.411	1.368	1.339	1.342	1.376	1.428	1.480	1.522
Electricity sold to or displaced from grid, PV	1.715	1.697	1.645	1.567	1.478	1.389	1.330	1.336	1.405	1.513	1.623	1.718

Source: BRE, CO<sub>2</sub> and Primary Energy Summary Tables for AECOM2019\_04\_26

	PEF
Mains gas	1.130
LPG	1.141
Heating oil	1.180

Source: BRE, CO<sub>2</sub> and Primary Energy Summary Tables for AECOM2019\_04\_26

	PEF	Description of Application in Analysis
Renewable heat on-site	0	Applied to heat pumps and solar thermal. Both technologies offset demand and therefore primary energy for other heating fuels.
Renewable electricity on-site	0	PV – applied to portion of electricity generated by PV and used on-site (as calculated in draft SAP 10). The total electricity generated by PV also offsets grid-supplied electricity at the 'electricity sold to or displaced from grid, PV' PEFs in Table C.1 above.
Renewable electricity off-site (as part of grid mix, or exported to grid)	1	Affects grid electricity factors in Table C.1 above. PV – applied to portion of electricity generated by PV and exported to grid (as calculated in draft SAP 10). The total electricity generated by PV also offsets grid-supplied electricity at the 'electricity sold to or displaced from grid, PV' PEFs in Table C.1 above.

Source: BEIS/MHCLG, 21/06/19

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Standard tariff	0.163	0.160	0.153	0.143	0.132	0.120	0.111	0.112	0.122	0.136	0.151	0.163
7-hour tariff (high rate)	0.171	0.168	0.161	0.150	0.138	0.125	0.117	0.118	0.128	0.143	0.158	0.171
7-hour tariff (low rate)	0.143	0.141	0.135	0.126	0.116	0.105	0.098	0.099	0.107	0.120	0.133	0.144
Electricity sold to or displaced from grid, PV	0.196	0.190	0.175	0.153	0.129	0.106	0.092	0.093	0.110	0.138	0.169	0.197

Source: BRE, CO<sub>2</sub> and Primary Energy Summary Tables for AECOM2019\_04\_26

	CEF
Mains gas	0.210
LPG	0.241
Heating oil	0.298

Source: BRE, CO<sub>2</sub> and Primary Energy Summary Tables for AECOM2019\_04\_26

THE SAVILLS BLOG

# Rising build costs to meet the Future Homes Standard may impact land values

17 FEBRUARY 2021

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The Government has set out plans for stricter energy requirements for new homes and from 2025 the Future Homes Standard will come into effect. An interim uplift to Part L standards will apply from June 2022.

The changes will create an opportunity for the sector to be at the forefront of the green agenda, but with only four years to 2025 it will need to innovate fast. Pressure to prepare supply chains, address the skills gap and develop new technologies to adhere to the stricter energy efficiency requirements for new homes will all need to be considered.

Additionally, the resulting higher build costs will need to be accounted for which may put pressure on land values.

## NO NEW HOMES BUILT WITH GAS BOILERS FROM 2025

The Future Homes Standard will require a 75-80 per cent reduction of carbon emissions in new homes from 2025 compared with current standards. As part of the standard, new homes are to be future-proofed so that they don't require subsequent retrofitting as the electricity grid decarbonises.

The Government has also committed to banning gas boilers in new homes from 2025. Heat pumps are predicted to become the main source of low carbon heating for new homes, tying in with the Government ambition of installing 600,000 heat pumps a year by 2028.

The promotion of a fabric first approach by the Government, targeting low-carbon heating and improvements in insulation provides the sector with greater confidence to invest in and develop new technology and supply chains.

## INTERIM UPLIFT FROM JUNE 2022

The Savills logo consists of a yellow square with the word "savills" in lowercase, bold, black sans-serif font.

51 per cent fewer carbon emissions, representing the upper end of the proposed range in the consultation.

However many housebuilders will be more focused on building to the 2025 standards and many believe that the Future Homes Standard could be introduced sooner than its proposed timeline. The changes to Part L standards are intended as an impetus to encourage the sector to prepare supply chains in advance of 2025.

## **RISING BUILD COSTS**

Estimates of additional costs required to implement the uplift to Part L standards range from £3,000 to £5,000 per unit, according to the major housebuilders and MHCLG. Build costs will differ for housebuilders as there are those who have been proactive and are already partly complying with new regulations while others are less advanced in their environmental strategies so will incur higher costs to adhere to standards.

The new regulations will apply to all housebuilders therefore these additional build costs will need to be accounted for which will result in a market adjustment. Higher build costs could create pressure around housebuilder margins as well as land values. Passing these costs on to the consumer isn't an option for housebuilders as it would depress sales rates.

## **IMPACT ON LAND VALUES**

Higher build costs to adhere to the Future Homes Standard are already being factored into land bids with vendors being asked to include these extra costs in their land appraisals. To mitigate pressure on margins these additional build costs may feed through into residual land values.

## **SUPPLY CHAIN CAPACITY**

To deliver government ambitions, this requires a huge step change in supply chain capacity, the development of technology and widespread training programmes. Despite a target of 600,000 heat pumps a year by 2028, there are currently a limited number of heat pump manufacturers and suppliers. The sector will need sufficient time to scale up supply chains to be able to implement the Future Homes Standard. There is a clear role for MMC to help ease pressure on supply chains and facilitate efficiencies of scale to help meet the standards.

There is also a lack of understanding of these new technologies and their ongoing maintenance requirements. Heat pumps are resource heavy and have aftercare cost implications. The contingency costs will need to be included in viability considerations and may factor into bids.



Energy efficient homes are becoming more of a key priority for buyers which could result in a boost to sales rates and values. There is increasingly a receptive audience that understand the benefits of greener homes including cost savings on fuel bills.

## FURTHER INFORMATION

Contact Lydia McLaren

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