Affordable Housing Viability Study

CITY OF YORK COUNCIL

City of York Council

Final Report

April 2010

fordham RESEARCH

Executive summary

Introduction

S1 Fordham Research was commissioned by York City Council to carry out a study of affordable housing viability in the City. The viability study is intended to inform ongoing work on the preparation of Local Development Frameworks (LDF).

S2 Government Guidance in Planning Policy Statement 3: Housing (PPS3) (2006 paragraph 29) requires councils to set a *'plan-wide'* affordable housing target, and to test this for *'deliverability'* by means of the '*economic viability of land for housing within the area'*.

S3 The Homes and Communities Agency (HCA) has issued the first official guidance to reflect the downturn (Good Practice Note: *Investment and Planning Obligations: responding to the downturn*, July 2009). This says that affordable housing targets should not be set for the plan period based on the present poor market conditions.

S4 As a result Fordham Research's Dynamic Viability approach is proposed, as that is designed to take account of a range of possible future housing market outcomes through the use of a matrix approach.

The valuation process

S5 The study involved preparing financial appraisals for a representative range of sites to give a picture of the City-wide ability of such sites to afford given targets for affordable housing. The approach was to *'model'* viability using a range of variables and our bespoke spreadsheet software. The key features were:

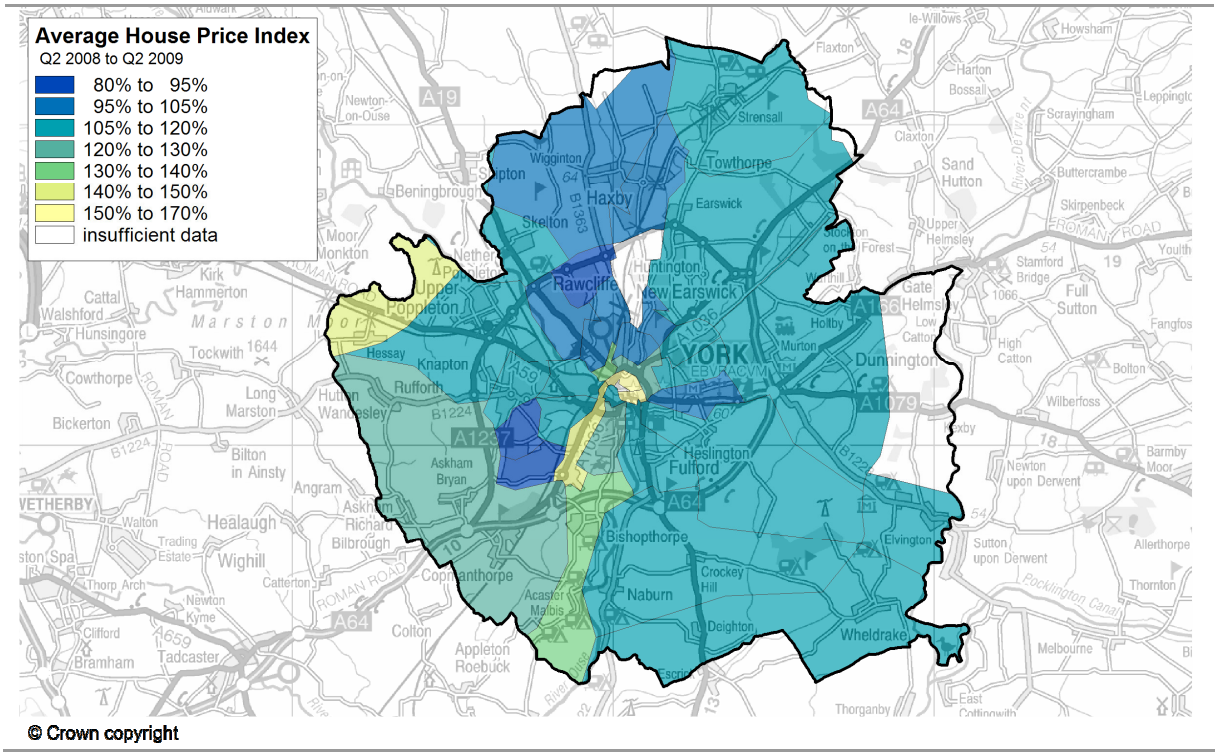
i) A set of 15 actual sites was selected, in discussion with the Council, from a longer list of possible sites. Taken together these were considered to be representative

ii) The sites covered a wide range of site size (ten dwellings to 235), at an average density of 46 dwellings per ha. All but four were 'brownfield'

iii) Whilst the majority of sites were SHLAA potential allocations, five were subject to planning permissions of which two had started construction

iv) A wide range of data was collected about housing in the City area; this included prices (second-hand, and newbuild, of which there is a reasonable supply locally), rents and values. The map below illustrates house price variations across the City area.

Figure S1 Postcode price indices



Indices compare prices to value for median postcode sector in England & Wales

Testing the sites

S6 In order to provide reliable evidence on deliverability, the sites were examined under a range of assumptions about the key factors affecting viability:

i) Affordable housing target levels of 20%, 30% and 40% (although a 50% target level would have been relevant at the market peak, it is not worth examining at present, though it is taken into account in the future Dynamic Viability context)

ii) Affordable housing split 60% social rented and 40% intermediate

iii) Land values for alternative uses for the sites: clearly the site viability cannot plausibly fall below the level of alternative use, and so this must be established

iv) Affordable housing income assumes no grant contribution is forthcoming

v) The calculations assume planning gain contributions at £8k per dwelling

vi) Level 3 of the Code for Sustainable Homes was assumed as well as the Regional Spatial Strategy (RSS) requirement for 10% renewable energy.

vii) Abnormal costs were taken into account where the sites indicated they were likely.

S7 Clearly this range of elements generated a large range of possible outcomes. These were assessed through our bespoke valuation methodology to indicate 'residual land values'. This is the standard approach, and assumes that all costs and returns are measured, except for the land value outcome. The latter is the key variable. It can then be compared with other scenarios, and with alternative use values. The latter are most commonly agricultural in rural areas, and industrial in urban ones.

Appraisal outcomes

S8 To assess viability, the value of the land for the particular residential scheme adopted needs to be compared to the alternative use value, to determine if there is another use which would derive more revenue for the landowner. If the assessed value does not exceed the alternative use value, then the development is not viable.

S9 For the purpose of a strategic study like the present one, it is necessary to take a comparatively simplistic approach to determining the alternative use value. In practice a wide range of considerations could influence the precise value that should apply in each case, and at the end of extensive analysis the outcome might still be contentious.

S10 An important step in valuations of this kind is 'alternative use value'. This is the 'next best use' to the existing or proposed one. For example if the site were not used for housing what would the best alternative be? It could be agriculture or some other urban use. Our 'model' approach to alternative use value is outlined below:

i) For sites previously in agricultural use, agricultural land represents the existing use value

ii) Where the development is on former industrial, warehousing or similar land, then the alternative use value is considered to be industrial

iii) Where an existing building remained, broadly capable of beneficial use, we took its estimated value

iv) Open space and unused garden land are taken to have a more substantial value than agricultural, though falling short of the industrial 'benchmark'.

S11 If the residual value produces a surplus over the alternative use value benchmark, it does not follow automatically that the site is viable. There needs to be a sufficiently large surplus ('cushion') to provide an incentive to the landowner to release the site. We decided that the cushion should be a minimum of £40k per acre (£100k per ha), except for agricultural land where it increased to £80k per acre (£200k per ha). The agricultural land cushion is larger due to the element of 'hope' value which attaches to such land when it is in locations likely to experience future housing development. They acquire a value that reflects the expectation that there will be a future jump in value when planning permission is achieved.

S12 Applying this approach, the results for the 15 sites are shown in the figure below:

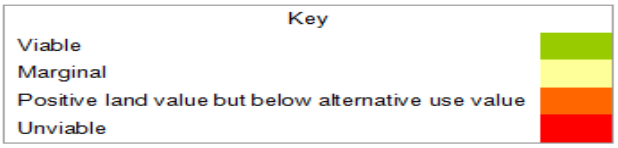
Table S1 Appraisal outcomes: zero grant

No	Site	Value £k per acre				
		Viability threshold*	No aff	20%	30%	40%
1	Germany Beck	10+80	744	483	350	218
		90	VIABLE	VIABLE	VIABLE	VIABLE
2	Lowfield Sec. School	115+40	437	215	102	-11
		155	VIABLE	VIABLE	NOT VIAB	NOT VIAB
3	Metcalfe Lane Osbaldwick	10+80	535	305	190	73
		90	VIABLE	VIABLE	VIABLE	MARGINAL
4	Hungate	165+40	2,694	832	-121	-1,110
		205	VIABLE	VIABLE	NOT VIAB	NOT VIAB
5	Manor School	115+40	579	324	195	67
		155	VIABLE	VIABLE	VIABLE	NOT VIAB
6	The Brecks, Strensall	10+80	537	325	219	111
		90	VIABLE	VIABLE	VIABLE	VIABLE
7	Askham Bar Park & Ride	165+40	781	491	342	195
		205	VIABLE	VIABLE	VIABLE	MARGINAL
8	Discus Bungalows	50+40	272	13	-123	-260
		90	VIABLE	NOT VIAB	NOT VIAB	NOT VIAB
10	Delivery Office, Birch Park	165+40	501	85	-136	-357
		205	VIABLE	NOT VIAB	NOT VIAB	NOT VIAB
12	Burdike Avenue	100+40	367	156	46	-67
		140	VIABLE	VIABLE	NOT VIAB	NOT VIAB
13	Burnholme WMC	100+40	503	255	125	-8
		140	VIABLE	VIABLE	MARGINAL	NOT VIAB
14	Water Lane, Clifton	165+40	-41	-345	-498	-654
		205	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
15	22 Princess Rd Strensall	293+40	581	333	208	-77
		333	VIABLE	MARGINAL	NOT VIAB	NOT VIAB
16	Reynards Garage	165+40	2,332	1,485	1,043	612
		205	VIABLE	VIABLE	VIABLE	VIABLE
17	62 Mill Lane	100+40	297	63	-58	-180
		140	VIABLE	NOT VIAB	NOT VIAB	NOT VIAB

Please note that sites numbered 9 and 11 do not appear in this assessment: the total number of sites is 15.

* Viability threshold is made up of the alternative use value plus 'cushion' to reflect the additional price required to induce sale

As Table 6.3 of main Report.



Implications for affordable targets

S13 PPS3 (paragraph 29) requires a 'plan-wide' target and also wants to see deliverability and grant expectations factored in. This poses some difficulty, as nobody has any idea what HCA grant levels may be over the decades to come. The best solution is to create two separate types of target:

Target 1: viability tested with zero grant and deliverable on market housing sites

Target 2: a plan-long aspiration including the expected yield of affordable housing from Target 1 and whatever grant expectations the City may consider reasonable

S14 PPS3 does not prohibit sub-targets within the plan-wide target. Given that York has a number of large greenfield sites which can support much higher targets than the broad-brush city-wide one, we suggest that there is a greenfield sub-target.

S15 The SHMA suggests, based on housing need, that a target of 50% is reasonable. We would suggest that this is both a ceiling for the Target 1 figure, and an appropriate level for Target 2. The latter, however, is very much a policy consideration for the Council.

S16 On sites with less than 15 dwellings we found that there is a reasonable basis for setting targets for sites of five dwellings and above (as shown in Table S2), but not for smaller sites below 5 dwellings. We have therefore proposed a cash in lieu (commuting off) figure for these based on the prices which are paid to developers for RSL purposes.

Table S2 Summary of target proposals

Nature of target	*Target*	*Comment*
Target 1: Broad-brush PPS3 target	25%	Used as the basis for Dynamic Viability in Chapter 9 and therefore variable as market circumstances change. Applies up to 50% on sites of 15 dwellings and above.
Greenfield target	40%	Linked by being 15% above the broad-brush one. Upper limit of 50% as with Target 1.
Sites 11-14 dwellings	25%	These targets would vary in step with the 25% broad-brush target, like the rural 40% one.
Sites 5-10 dwellings	20%	
Sites of 2-4 dwellings	n/a	No target, but cash in lieu as negotiated on the basis of site viability.
Target 2: Plan long and including grant expectations	50%	Target 2 is intended to include the proceeds of Target 1 plus the unknown future product of HCA grant over the plan period. This target is designed to inform policy but not to be applied in site negotiation. It is set at the limit of what the SHMA indicates as a target and could be set lower if the City feels that grant expectations would not permit it to be as high.

Source: Table 8.1

S17 As mentioned in Table S2, only the broad-brush 25% target goes forward into the Dynamic Viability process. The other targets are linked to it, and subject to the 50% ceiling derived from the SHMA.

Dynamic Viability

S18 This is designed to overcome a dilemma created by the Credit Crunch and subsequent market recession. During the history of affordable housing targets since their creation in 1991 there had been a broadly rising market. This meant that targets could rise also, and reach their current level of around 40-50%. The downturn following the Credit Crunch meant that targets needed to be lowered. It was always a condition of such targets that they should not remove viability from the market housing developments of which they were a part (such targets only apply to market housing developments, not to ones that are fully funded by public grants).

S19 Fordham Research has devised a system which permits deliverable targets to be set, regardless of future fluctuations in the market, using sets of price and cost indices. It means that the Core Strategy Inquiry can be presented with the full range of possible target outcomes, and once approved (in whatever form) no new policy change is required to alter the target. It is changed only by the movement of published indexes. The intervals at which it is changed must be infrequent enough to permit an orderly land market, thus perhaps annually.

S20 In order to generate the data below it is necessary to agree a Benchmark Site. This is necessary to permit a reasonably simple outcome. In the case of York that is site 5 (Manor School). It is judged to be typical of the City area, and will remain so for the plan period. This is immaterial of whether the site itself is built. Sites of this character will remain typical: this is the assumption.

S21 The mechanism for producing the target ranges is quite complex. It builds on the viability analysis for site 5 (Manor School) set out in the summary above. In terms of the target indications set out above, it would therefore attract a 25% target. The results of the analysis will therefore relate directly to brownfield sites, and by an automatic uplift of 15%, to greenfield sites. There is therefore only one Dynamic Viability analysis.

S22 It then examines the full range of possible cost and price changes and generates a *Coarse* and *Fine Matrix* of targets. The need for two levels of target arises from the major size of the matrix if the whole set were presented as one. At the same time target changes must not be too radical (e.g. from 20-35% would seem too great for a one step change). Hence *the Fine Matrix* is essentially a close-up of part of the *Coarse Matrix*, such that the steps between targets are reasonably small. The full set of tables for both matrices and all the alternative use values will be found in Appendix 4.

S23 The following are illustrations, using the actual data for the Manor School Benchmark site. It is a brownfield site attracting a 25% target in the sense of the above discussion, and the resultant target can be directly linked to greenfield targets by a 15% uplift. The *Coarse Matrix* is:

Figure S2 York City Coarse Matrix with base alternative use value

Cost Change BCIS Index	%		Price Change HPI -20%	-10%	0%	10%	20%	30%	40%	50%	60%
			434.1	488.3	542.6	596.9	651.1	705.4	759.6	813.9	868.2
	-20%	229.8	25%	40%	50%	55%	55%	55%	55%	55%	55%
	-10%	258.6	5%	25%	35%	45%	50%	55%	55%	55%	55%
	0%	287.3	0%	10%	25%	35%	40%	50%	55%	55%	55%
	10%	316.0	0%	0%	10%	25%	35%	40%	45%	50%	55%
	20%	344.8	0%	0%	0%	15%	25%	30%	40%	45%	50%
	30%	373.5	0%	0%	0%	5%	15%	25%	30%	35%	40%
	40%	402.2	0%	0%	0%	0%	5%	15%	25%	30%	35%
	50%	431.0	0%	0%	0%	0%	0%	5%	15%	25%	30%

Figure 9.1 of main Report

S24 There are in fact eight versions of both this and the *Fine Matrix* tables, because there is a third dimension in addition to cost and price which must be taken into account: alternative use value. It is possible that due to market changes the land use that is alternative to newbuild housing may become more profitable than housing with the stated affordable target. The figure above shows the base alternative use value, but in future it may be necessary to switch to others, depending on how the index moves.

S25 The figure shows the range of targets that are produced by the sets of price and cost. The figure below shows the close up of the *Fine Matrix*. As can be seen, 25% is again highlighted as the base target level, but the target intervals around it are much more closely spaced: providing more realistic changes of target level.

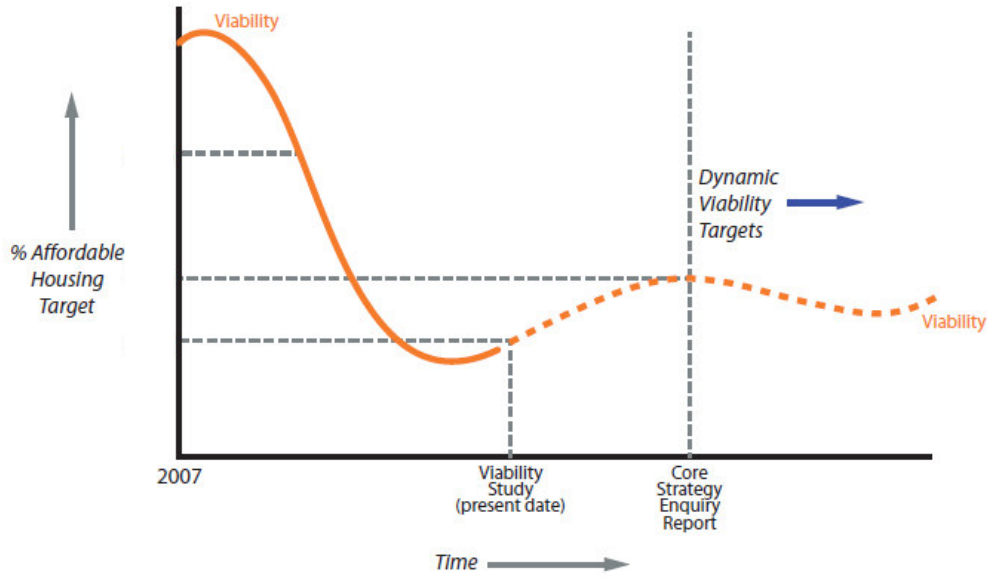
Figure S3 York City Fine Matrix with base alternative use value

Cost Change BCIS Index	%		Price Change HPI -8%	-4%	0%	4%	8%	12%	16%	20%	24%
			499.2	520.9	542.6	564.3	586.0	607.7	629.4	651.1	672.8
	-8%	264.3	25%	30%	35%	40%	40%	45%	45%	50%	50%
	-4%	275.8	20%	25%	30%	35%	35%	40%	45%	45%	50%
	0%	287.3	15%	20%	25%	30%	35%	35%	40%	40%	45%
	4%	298.8	10%	15%	20%	25%	30%	30%	35%	40%	40%
	8%	310.3	0%	10%	15%	20%	25%	30%	30%	35%	40%
	12%	321.8	0%	5%	10%	15%	20%	25%	30%	30%	35%
	16%	333.3	0%	0%	5%	10%	15%	20%	25%	30%	30%
	20%	344.8	0%	0%	0%	5%	10%	15%	20%	25%	25%

Figure 9.2 of main Report

S26 Since the automatic target varying procedure cannot begin until approved by the Inspector's Report, it is desirable to have it as up to date as possible. Figure S4 indicates this process schematically.

Figure S4 Implementing Dynamic Viability



Note: This diagram is schematic and does not apply to York

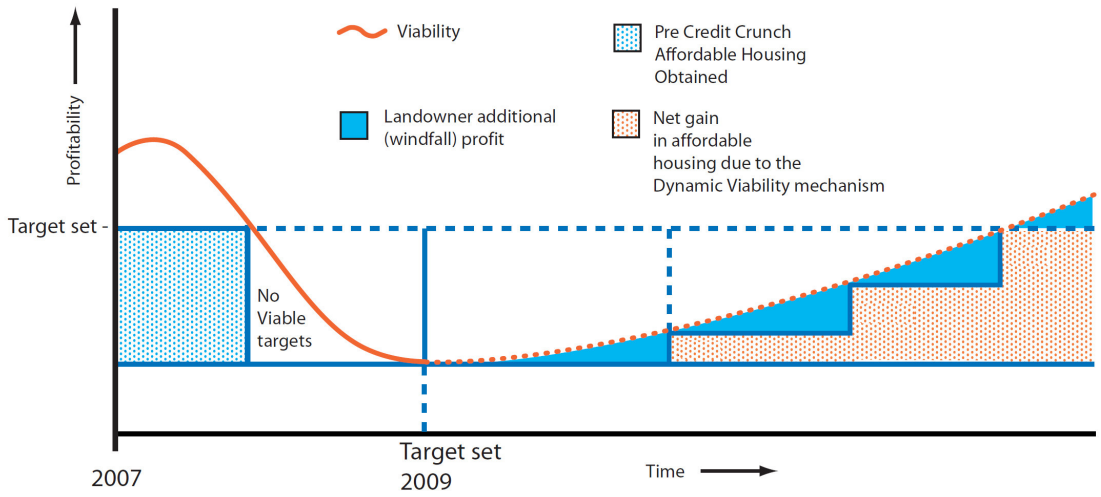
S27 The diagram illustrates the possible change in viability between completion of the viability study and Core Strategy Inquiry. After that, of course, the Dynamic Viability matrix will take account of future variations in viability. As the diagram suggests, these could be downward as well as upward. The future course of the market is uncertain.

S28 The base target at the date of this report's analysis is 25%. As pointed out this contains within it a 40% greenfield target. As the 25% target is updated and moves up or down, the greenfield target is simply 15% more than whatever the main target is.

Conclusion

S29 The main point is that the Dynamic Viability matrices will ensure that all future changes in the housing market are tracked by deliverable affordable housing targets.

Figure S5 Gain of Affordable Housing from Dynamic Viability



Note: This diagram is schematic and does not apply to York

S30 This figure also shows that the landowners and developers will gain from any uplift in the market. The basic viability assessment assures the landowner and the developer of a reasonable return. When the market goes up, the private sector will gain a windfall profit (shown by the blue areas under the viability curve) and the public interest will gain affordable housing as the targets are periodically altered.

S31 The Dynamic Viability procedure ensures that the maximum of deliverable affordable housing is achieved.

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List of abbreviations

£ k	thousand pounds
£ m	million pounds
dw	dwelling
dwgs	dwellings
ft	foot
ha	hectare
m	metre
sq	square
PPS3	Planning Policy Statement 3
Q1	Quarter 1
qtr	quarter
SHLAA	Strategic Housing Land Availability Assessment
SHMA	Strategic Housing Market Assessment

1. Introduction

Introduction

1.1 Fordham Research was commissioned by York City Council to produce guidance on the financial viability implications of alternative targets and size thresholds for affordable housing provision within the City area.

Context

1.2 The context for this study consists of the Guidance which the Government has provided for doing such work, and the broad principles of viability analysis which has of course existed in some form ever since settled civilisation meant that land was bought and sold.

Guidance

1.3 National guidance (Planning Policy Statement 3 (PPS3): Housing 2006) requires Councils to set a target for the proportion of affordable housing to be delivered through new developments. The recent SHMA was intended to provide guidance on the levels of affordable housing target that would be justified by the analysis of the area's housing requirements.

1.4 This SHMA advice was, essentially, based on an assessment of the balance between the need for market housing and the need for affordable housing. In doing so it did not take into account the commercial factor – i.e. what is viable and what it is realistic to ask developers to provide in this area at this time. Whilst a target of, say, 50% may be the appropriate figure to balance the overall housing market over time it may not be the appropriate target now.

1.5 The purpose of the present study is to address that issue, enabling the Council to set a robust target in the light of current commercial circumstances in York. That latter target is just that – a target. The actual amount of affordable housing required on any particular site must be assessed for that actual site, and take into account the peculiar factors of developing that site at that point of the economic cycle.

1.6 The Guidance position has been supplemented by the Homes and Communities Agency (HCA) in a recent Good Practice Note: *Investment and Planning Obligations: responding to the downturn* (July 2009). The range of guidance is reviewed below.

1.7 This study is designed to set the current target in an informed way. Given the pattern of housing market conditions since late 2007, and more particularly the evident fact that prices may fall as well as rise, it may be necessary for any proposed target to be reviewed regularly, so to reflect changes in the profitability of development.

The land market

1.8 The availability and cost of land are matters at the core of the viability for any development of new houses. The format of the typical valuation has been standard for centuries and looks like this:

Gross Development Value
(The combined value of the complete development)

LESS

Cost of creating the asset, including a profit margin
(Construction + fees + finance charges)

=

RESIDUAL VALUE

1.9 The result of the calculation indicates a land value, which acts as the top limit of what a bidder could offer for that site. In this study we use the procedure in reverse:

> *Given the likely land values, will a development including X% target for affordable housing be viable?*

1.10 The calculation involves the same basic information but is designed for a different purpose. The 'likely land value' is a difficult topic, since clearly a landowner will never be entirely frank about the price that would be acceptable: always seeking a higher one. This is one of the areas where an informed assumption has to be made about the 'cushion': the margin above the 'existing use value' which would make the landowner sell. Landowners and land buyers are surrounded by agents who argue in their clients' interest, so the process of selling and buying development land is not usually simple or quick.

1.11 This study does not attempt to assess the specific price that could or should be paid for each site (please see Figure 1.1 below). The appraisal works out what land on a site may be worth if a range of scenarios were to arise, and then compares that amount with its value in some other use to which it could be put. The study does not attempt to predict when a landowner may sell the land, or even if they will sell, since that is a distinctly site specific matter.

Reasons for this study

1.12 Government Guidance (PPS3: Housing (2006)) contains a paragraph which says that affordable targets should:

> *'Reflect an assessment of the **likely** economic viability of land for housing within the area, taking account of the risks to delivery and drawing on informed assessments of the likely levels of finance available for affordable housing, including public subsidy and the level of developer contribution that can reasonably be secured.' (S29) (our emphasis)*

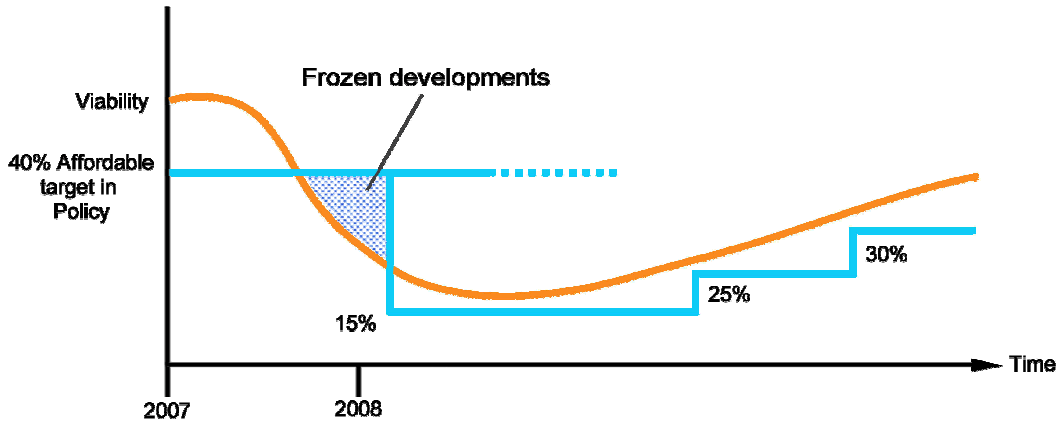
1.13 Until the Court of Appeal decision of August 2008 over the Blyth Valley Core Strategy Inspector's report nobody really understood that this statement in PPS3 conferred a new duty on local authorities. In summary:

> *'There is now a duty on every local authority to ensure that any affordable housing target is broadly deliverable within the area.'*

1.14 The word 'likely' in the above quotation from PPS3 is taken to mean that the duty is a 'broad-brush' one: the typical site in the local authority should be able to bear whatever target is set. Some sites within the area will not be able to do so, but of course they still have the original scope to make specific submissions at the planning applications stage.

1.15 The date at which this new duty was legally defined to exist coincided with the Credit Crunch downturn. This had the effect of reducing the profitability of new housing developments, and hence their viability. This situation is shown schematically in the figure below:

Figure 1.1 Fordham Research Dynamic Viability



Note this diagram is a general illustration of the situation and is not York specific

Source: Fordham Research 2009.

1.16 The diagram shows that where once a 40% target was easily viable, at the time shown in the diagram, only a 15% target is viable. Projected future improvements in viability mean that at various times in the future 25% and 30% targets may be viable.

1.17 The situation depicted in Figure 1.1 has caused difficulty in setting targets. The Homes and Communities Agency (HCA) issued Good Practice Guidance on affordable target setting in July 2009. This sets out (in paragraph 19) two alternative bases for target setting:

i) Set the target to the minimum (probably current) level of viability: 15% in the example. This would evidently under-provide affordable housing when taken over a plan period

ii) Set the target for a 'normal' market and treat it as flexible

1.18 The second approach is based on an unpublished note from the Planning Inspectorate and the Good Practice note advises its use. But the idea is questionable:

i) **Normal market** – The concept of the 'normal' market does not imply any specific set of prices and costs. Prices/cost have always varied, and it is not possible to state which of them is 'normal'. Prices rose unevenly for the whole period 1991 to 2007, as did costs, but at different rates. A target would have to be related to a particular price/cost combination. No such combination can be defined as 'normal'. As a result, while there may be a 'normal market' there is no price/cost combination which can be fixed upon as 'normal'. The 'normal market' idea is of no use in affordable housing target setting.

ii) **Future change** – In the present recession there is no agreement as to how long it will last, and what the curve of viability over time (as illustrated in Figure 1.1) will look like. It could be 'V' shaped, 'U' shaped or 'bath' shaped. Nobody knows. It is quite possible that things will get worse before they get better, and that there will be reverses along the way. In short any 'normal market' target is likely to be undeliverable for much of its life. Some attempts to set one have based themselves on the 2007 peak. This is unlikely ever to repeat, as the cost and price environment will be quite different in future. There is no safe basis for guessing a 'deliverable' target for a 'normal' market.

1.19 It is therefore not practical to set a 'normal market' target. It would not be robust.

What have Planning Inspectors been doing?

1.20 The Planning Inspectorate has not had the flood of Core Strategy Examination which was expected, presumably due to the Credit Crunch. However, of the half dozen or so decisions which have been made, it seems that the Inspectors are taking a 'pragmatic' approach and accepting a number of solutions based on vague scenario evidence which are not in fact consistent with either PPS3 or the Blyth Valley decision. This is not surprising: they have little alternative given the absence of clear guidance from CLG and the absence (until Dynamic Viability enters the Core Strategy process) of an alternative.

1.21 The problem with the typical scenario approach is that it shows how targets would fare in a series of optimistic to pessimistic market futures. That shows something about how targets would fare, but nothing about what actual target should be treated as deliverable, which is what the Guidance requires. The outcome from using 'aspirational' or essentially vague and non-robust targets is likely to be a lot more negotiation and inquiry work for local authorities and longer waits for planning permission.

What this means for the study

This means that the study is in two stages: the first being the standard viability analysis (in Chapters 2 to 8) and then the second stage containing the Dynamic Viability analysis in the final chapter, Chapter 9.

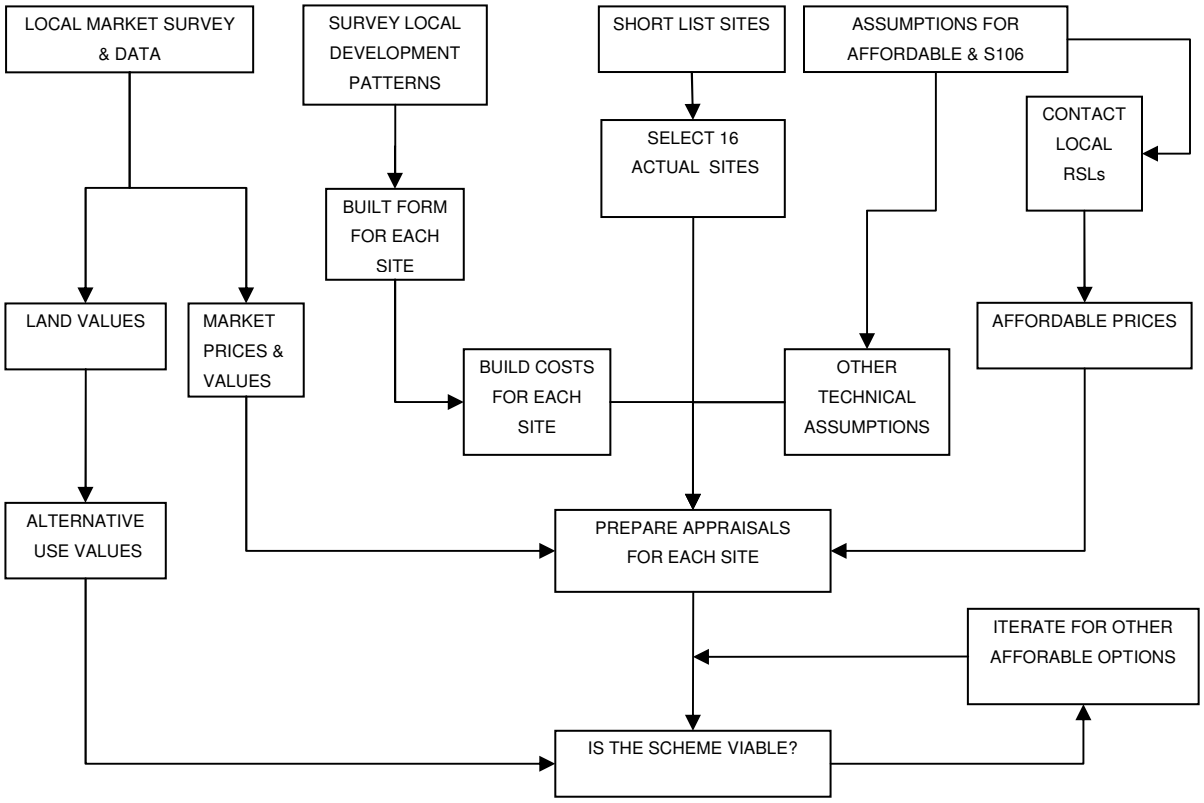
Stage 1 viability methodology

1.22 The study methodology is summarised in Figure 1.2 below. Fundamentally, it involves preparing financial appraisals for a representative range of sites across the study area. In this case a selection of sites was chosen from a shortlist.

1.23 The appraisals tested alternative levels of affordable housing provision, in each case a combination of social rented and intermediate housing. Assumptions were developed for the likely purchase prices RSLs would pay for units in each category. Assumptions were also required for the developer contributions that would be sought under other headings like education and open space.

1.24 We surveyed the local housing market in order to obtain a picture of sales values for the market housing, and also of land values - for residential development, to calibrate the appraisals; and for other uses, to assess alternative use values. Alongside this we considered local development patterns, in order to arrive at appropriate built form assumptions for those sites where information from a current planning permission or application was not available. These in turn informed the appropriate build cost figures.

Figure 1.2 Study methodology



Source: Fordham Research 2009

1.25 A number of other technical assumptions were required before appraisals could be produced. The appraisal results were in the form of £ per acre/ha 'residual' land values, showing the maximum value a developer could pay for the site and still return a target profit level.

1.26 Finally, the residual value was compared to the benchmark alternative use value for each site. Only if the residual value exceeded the benchmark figure, and by what is explained in due course to be a satisfactory margin, could the scheme be judged to be viable.

Fordham Research

1.27 Fordham Research has been providing advice to Councils in respect of planning gain and development viability since the late 1980s. The firm's approach throughout this time has involved the preparation of financial appraisals. Over the last few years in particular, Councils have increasingly commissioned the firm to evaluate financial appraisals which have been prepared by developers in order to support a case for a reduced affordable housing contribution, for enabling development, and so on.

1.28 Since 1993 Fordham Research has become a leading consultancy in carrying out Housing Needs Surveys (and more recently the more wide ranging Strategic Housing Market Assessments that have largely replaced them) and advising Councils on affordable housing policy issues.

1.29 Since that time the firm has assisted Councils on very many occasions by providing expert witness services at Local Plan and S78 Inquiries, successfully supporting housing need and affordable housing policies. Particularly in recent years, this has regularly included evidence in respect of viability issues.

Structure of this report

1.30 The remainder of the report covers the following topics:

Chapter 2 - The individual development sites
Chapter 3 - Affordable housing and developer contributions
Chapter 4 - Local market conditions
Chapter 5 - Assumptions for viability analysis
Chapter 6 - Results of viability analysis
Chapter 7 - Threshold modelling
Chapter 8 - Implications of viability results
Chapter 9 - Dynamic viability

2. Individual development sites

Introduction

2.1 This chapter deals with the sites identified for study, first outlining the key characteristics of each site, and then considering the assumptions made about proposed development upon each site for the purpose of producing a financial appraisal. The individual sites chosen were visited at an early stage in the work.

The City of York

2.2 The City of York local authority area comprises a compact urban area, surrounded by several small settlements.

2.3 A key aspect of York's character is its unique green infrastructure. However it is more likely to be known for its outstanding historical heritage. The City contains many outstanding examples of structures which exhibit developments in architecture, monumental arts and town planning over a long span of time.

2.4 The City of York currently has a population of around 195,400 people (ONS mid-year estimate 2008) with the majority of the population, around 73%, residing in the urban area. It is a modern, economically prosperous city attracting visitors because of its unique heritage as well as having economic strengths in the science, technology, creative industries and professional and financial services. There also remains significant employment in chocolate and railways and York is the base for two of the largest building companies in the UK.

2.5 Tourism is an important component of York's economy with visitors attracted by York's unique historic heritage, and the City's retail and leisure attractions.

2.6 Finally, like many other pressured urban centres the type of housing that has come forward in recent years is also an issue; between 2003 and 2006 almost two thirds of new homes in York were flats. The need for houses rather than flats was a key factor in the recent approvals of housing schemes at Germany Beck and Derwenthorpe.

Identifying a range of sites

2.7 It was decided that in order to provide the most useful guidance for York the study should consider actual sites, and that a total of 17 sites should be assessed in order to provide adequate guidance across the City area.

2.8 The final list of sites was chosen to give a range of typical development situations, an appropriate balance between previous uses, a range of site sizes, and crucially, coverage across geographical sub-areas of the City. An initial list of 17 was reduced to 15 after preliminary work indicated that two sites would not be suitable. However by this stage it was difficult to renumber them all, so the numbering now contains two gaps. One site was a high value old office which clearly could not contain affordable housing, and the other contained a listed building which made it very untypical. Both sites were dropped from the actual sites list, but the second one, with the listed building removed was retained to act as a base for a suite of model notional sites which were appraised separately to test the threshold issue.

The sites

2.9 Summary details of the final 15 sites are set out in the table below.

2.10 The sites ranged in size from ten to 235 dwellings. All but four of the sites were on previously developed land.

Table 2.1 Actual site details

No.	*Site Name*	*Area ha*	*No dwgs*	*Net (dwgs ha)*	*Planning Status*
1	Germany Beck	6.16	235	38.1	Permitted
2	Lowfield Sec. School, Dijon Ave	3.90	183	46.9	SHLAA proposed site
3	Metcalfe Lane / Osbaldwick	5.05	180	35.6	Permitted
4	Hungate	0.73	163	223.3	Under construction
5	Manor School	3.01	141	46.9	SHLAA proposed site
6	Adjacent The Brecks, Strensall	3.99	120	30.1	SHLAA proposed site
7	Askham Bar Park & Ride Car Park	1.28	60	46.9	SHLAA proposed site
8	Discus Bungalows, Regent Street	1.10	58	52.7	Permitted
10	R/O Del Off, Birch Park, Huntington Rd	0.42	37	88.1	Permitted, work ceased
12	Burdike Av, Sutton Way/Lilbourne Dr	0.38	22	57.9	SHLAA proposed site
13	Burnhole WMC, Burnhole Dr	0.34	20	58.8	SHLAA proposed site
14	Water Lane, Clifton	0.31	18	58.1	SHLAA proposed site
15	22 Princess Rd Strensall	0.40	12	30.0	SHLAA proposed site
16	Reynards Garage	0.13	12	92.3	SHLAA proposed site
17	Rear 62 Mill Ln Wigginton	0.22	10	45.5	SHLAA proposed site
	Total	**27.42**	**1,271**	**46.4**	

Source: Fordham Research 2009

2.11 Of the sites, twelve are within the York built up area, of which two are in the City Centre, and the remaining three are in the rural fringe.

2.12 The sites were at various stages in the planning process. The majority comprised Strategic Housing Land Availability Assessment (SHLAA) proposals, for which outline information was available. However, five of the 15 were subject to an approved planning application; on two of these construction had started, although in one case work had ceased, presumably due to the deterioration in market conditions.

2.13 Information available from the SHLAA study and from planning applications was taken into account in considering the appropriate development assumptions to use in our appraisals. Whilst the SHLAA study assumptions for net and gross site areas were followed in most cases, in a couple of cases these were varied in the light of more detailed consideration.

2.14 The sites total 1,271 dwellings on a net area of 27.42 ha, at an average density of 46.4 dwellings per ha net.

2.15 It should be mentioned that, for three of the sites, a sample area was selected for assessment, rather than the whole site. The three sites (1, 3 and 4) at Germany Beck, Metcalfe Lane and Hungate, were adjusted to take a third of the total development area and a third of the dwelling numbers. With reference to the site at Hungate a phase of 163 dwellings was assumed and an appropriate level of basement car parking was also assumed.

Development assumptions

2.16 In arriving at appropriate assumptions for residential development on each site, the development form in an approved planning application must always be an important consideration. Conceivably the application could now be so historic, that it represents something that would either not now be proposed, or not be permitted. After consideration we took the view that the built form in the current application remains the best basis for carrying out appraisals.

2.17 Most Council areas in which we have carried out studies like the present one display a range of development situations and corresponding variety of densities. We have developed a typology which responds to that variety, which is used to inform development assumptions for sites (actual, or potential allocations) where no guidance is available from a submitted or permitted application. That typology enables us to form a view about floorspace density – the amount of development, measured in net floorspace[1] per acre/hectare, to be accommodated upon the site, which will vary with the intensity of the built form. This is a key variable because the volume of floorspace which can be accommodated on a site has a crucial impact on its profitability, and is an amount which developers will normally seek to maximise (within the constraints set by the market).

[1] Net floorspace means the disposable area of individual dwellings (i.e. excluding common areas such as circulation or plant, in apartment blocks) measured as gross internal area. Gross floorspace includes those common areas.

2.18 The typology uses as a base or benchmark a typical post PPG3/PPS3 built form which would provide development at around 15,500 sq ft per acre (3,550 sq m per ha) on a substantial site, or sensibly shaped smaller site. A representative density might be 40-45 dwellings per ha. This has been a common development format for significant sized brownfield sites and some greenfield sites, in most urban centres, and increasingly also smaller centres. It provides for a majority of houses (with perhaps 15-20% flats) in a mixture of two storey and two and a half to three storey forms, with some rectangular emphasis to the layout.

2.19 Alongside this, there would of course be some schemes of appreciably higher density development providing largely or wholly apartments, in blocks of three storeys or higher, with development densities of 30,000 sq ft per acre (6,900 sq m per ha) and dwelling densities of 100 dw/ha upwards.

2.20 In contrast, there will be situations where a density lower than the base benchmark will be appropriate – sensitive rural or rural edge situations for instance. A typical density might be around 12,500 sq ft per acre (2,850 sq m per ha).

2.21 These observations suggest a built form typology as set out in the table below. We would stress that the short titles used to describe the categories have been adopted for convenience only and must not be taken to imply anything specific about where, or when, they might apply.

Table 2.2 Typology of development form

Category title	*Density*		*Built form characteristics*
	Floorspace net sq ft/acre (sq m/ha)	*Dwellings (typical dw/ha)*	
Lower density	12,500 (2,875)	20-33	Edge of settlement, less pressured location. Mostly 2 storey, largely 3 & 4 bed detached houses with garages.
Base	**15,500 (3,550)**	**40-45**	**Mixture of 2 & 2.5/3 storey houses, many terraced; some (15-25%) flats, limited garaging.**
Urban	19,500 (4,480)	50	30-35% flats, and/or fewer 2 storey units than base
High	30,000 (6,900)	100+	Flats in small blocks on 3 storeys, parking spaces
Very high	50,000 (11,500)	150+	Flats in larger blocks on 4-6 storeys, parking limited or underground

Source: Fordham Research 2009

2.22 The above typology was used to develop model development assumptions for the sites where actual information on planning proposals was not available. The resulting assumptions for residential development for each of the 15 sites are set out in the table below.

Table 2.3 Site development assumptions					
Site ref	*Site*	*Net floorspace density (rounded)*		*Ave dwelling net sq ft*	*(sq m)*
		Sq ft/acre	*Sq m/ha*		
1	Germany Beck	15,500	3,560	1,004	93
2	Lowfield Sec. School	15,500	3,560	816	76
3	Metcalfe Lane Osbaldwick	15,250	3,500	1,057	98
4	Hungate	75,450	17,350	835	78
5	Manor School	15,500	3,560	818	76
6	The Brecks, Strensall	14,000	3,210	1,150	107
7	Askham Bar Park & Ride	15,500	3,560	817	76
8	Discus Bungalows	17,750	4,070	831	77
10	Delivery Off, Birch Park	25,000	5,740	701	65
12	Burdike Avenue	15,500	3,560	662	62
13	Burnholme WMC	15,500	3,560	651	61
14	Water Lane, Clifton	19,000	4,370	809	75
15	22 Princess Rd Strensall	15,500	3,560	1,277	119
16	Reynards Garage	30,250	6,950	810	75
17	Rear 62 Mill Ln Wigginton	15,500	3,560	843	78

Source: Fordham Research 2009

2.23 Just over half of the sites come in with a development density at or around the benchmark level. One site is a little below. Two sites are around the 'Urban' level, and two at or close to 'High'. The development density on the Hungate site, site 4, is very much higher.

3. Affordable housing and other developer contributions

Introduction

3.1 This chapter considers the assumptions used to test a range of affordable housing scenarios for the individual sites, and similarly the developer contributions assumed for each site.

Affordable housing assumptions

3.2 We undertook appraisals for a number of development scenarios which involved varying proportions of affordable housing, and tenure split. The assumptions in respect of proportions, and the financial terms on which they are to be provided, are considered below.

(i) Affordable proportion

3.3 Following discussions with the Council the following options were tested

- ***NO*** affordable housing
- 20% affordable
- 30% affordable
- 40% affordable

3.4 Currently the Council operates a policy seeking a target proportion of 50%. This was supported by the 2007 SHMA, which acknowledged that it would not be possible to secure this proportion on every site. A revised target figure will of course be proposed in emerging Local Development Framework Documents, and would of course be informed by the present study.

(ii) Tenure split

3.5 The Council has in the past sought a mixture of social rented and intermediate housing, with the great majority (90%) provided as social rented. The recent SHMA document suggested a proportion of 60% social rented and we were asked to test this (60/40) option as the base case.

3.6 Currently the Council defines the intermediate product in quite specific terms. It is discounted sale housing, made available at maximum specified purchase prices for each dwelling size/type in order to meet the needs of those who fall appreciably short of being able to secure market housing.

(iii) Size mix profile

3.7 After discussion we assumed that the mix of affordable housing on each site should broadly follow the market housing, achieving an average dwelling size (i.e. net sq ft/sq m) in line with that of the market housing. As well as providing the maximum integration between market and affordable provision, this assumption is also a convenient one which ensures that as the affordable housing proportion varies between the options being tested the floorspace density remains constant. That is a desirable aim if the appraisals are to constitute a realistic development scenario, consistently, across the range of affordable options tested.

3.8 In working up development assumptions for the sites we made assumptions about the indicative mix of dwellings on each individual site. Collectively these deliver an overall mix profile as set out in the table below:

Table 3.1 Aggregate size mix profile

	No of dwgs	*%*
1 bed flat/house	123	9.2
2 bed flat	239	17.8
2 bed house	277	20.7
3 bed house/flat	349	26.0
4 bed house	331	24.7
5+ bed house	21	1.6
Total	1,340	100.0

Source: Fordham Research 2009

3.9 There is felt to be a reasonable spread of sizes.

(iv) Financial terms

3.10 To be consistent with national guidance the viability assessment must take into account the availability of public subsidy i.e. Social Housing Grant. The future availability of grant – both the total quantum of grant, and the amounts forthcoming for different sizes of dwelling and tenure – is typically subject to some uncertainty, as increasingly the available funding has been directed to achieving specific regional or strategic priorities.

3.11 An assumption based on a 'default position' of zero Social Housing Grant has become a common starting point in this situation. The zero grant assumption also has the incidental advantage of allowing the requirement for grant in individual cases to be calculated more simply than if a set level were already allowed for.

3.12 After consideration it was decided that appraisals should be produced with an assumption that no Social Housing Grant would be available. The impact of including grant would be assessed through sensitivity testing.

3.13 It was necessary to determine the financial terms on which RSLs should be able to purchase properties of various sizes from the developer under this grant scenario. We drew on recent experience from elsewhere to suggest indicative levels of purchase price.

Table 3.2 Selling prices: zero grant basis

	£ per sq ft (sq m)			
	Social rented		*Intermediate*	
	Flat	*House*	*Flat*	*House*
Purchase price without grant	80 (860)	75 (805)	104 (1,120)	97 (1,045)

Source: Fordham Research 2009

Other developer contributions

3.14 Aside from affordable housing, developer contributions could potentially be sought by the City Council under a number of headings. They might be either made in kind, or as financial payments. In either case, it is necessary to allow for the additional financial cost of such contributions in preparing appraisals for each site.

3.15 Guidance on the various individual contribution elements is provided in a Planning Advice Note to Developers. However, as is often the case in practice, this does not provide sufficient detail to form a view about a typical contribution level which could be applied to the appraisals in the present study. The individual total contribution figure will depend upon conditions specific to the individual site, the impacts arising from the specific development, and the existence of spare capacity in the existing local infrastructure. With the time and resources available it was not feasible to carry our a detailed assessment for each of the 15 sites, and it has therefore been necessary to make broad strategic assumptions in respect of the developer contribution – treating the study sites in effect as wider examples of development in the City area.

3.16 For the purpose of the present study, and bearing in mind that the threshold for education contributions is as low as four dwellings, we used a fixed per dwelling contribution assumption across all 15 sites, set at £8k per dwelling. Whilst we believe that this is a reasonable figure for the purposes of the present study, guidance on the impact of an increase or decrease in this amount could be provided through sensitivity testing.

3.17 Clearly in practice if each site came forward under the guidance, it would be subject to a more detailed assessment of both transport and other contributions taking into account the individual characteristics of the site, development proposals and local situation. However the approach and amount proposed are felt to be sufficient to provide reasonable guidance at this stage.

4. Local market conditions

Introduction

4.1 This chapter sets out an assessment of the local housing market in York providing a basis for the assumptions on house prices and costs to be used in financial appraisals for the 15 sites tested in the study.

4.2 As well as house prices, however, land values are also considered. They are required in order to form a view of likely alternative use values for all of the sites, and it is such values which will represent a minimum viability threshold when appraisals are prepared for the range of affordable housing scenarios.

4.3 Before looking at the results from the market assessments, there are some general points arising from the nature of the exercise.

Issues to consider

4.4 It is necessary to assess property market conditions in the study area in order to provide a reasonable guide as to likely values to use in evaluating different development proposals.

4.5 Although development schemes do have similarities, every scheme is unique to some degree, even schemes on neighbouring sites. While market conditions in general will broadly reflect a combination of national economic circumstances and local supply and demand factors, even within a town there will be particular localities, and ultimately site specific factors, that generate different values and costs. There are indeed quite significant value variations in different parts of the study area.

4.6 Property market forces are in a constant state of flux and assessments of viability can change over relatively short periods of time, in response to broader economic fluctuations such as the impact of changes in interest rates on the costs of borrowing, the actual availability of funding and the outlook in the employment market.

4.7 Equally significant, sub-area market conditions are often changed by local factors. For example, high value areas encourage demand in lower value neighbouring areas, where new developments encourage changes in value growth in what perhaps were previously less popular areas.

The residential market

4.8 The housing market in the City will, to some extent, reflect national trends but there are local factors that underpin the market including:

- Its attractive mediaeval City centre containing many cultural facilities, some of national significance
- Its mix of attractive urban and semi-rural residential areas, many in highly desirable locations
- Its sub-regional role as an employment, retail and entertainment centre
- Its proximity to the Leeds City region.

4.9 We analysed various sources of market information, but the most relevant are the prices of units on new developments. A list setting out details of relevant new developments in the area, as at September 2009, is provided in Appendix 1. As there are very few at present the Appendix also provides details of recently developed and completed schemes directly relevant to the sample sites and the second-hand market.

4.10 Analysis of these, and other schemes in the study area, shows that prices for newbuild and second-hand homes vary across the area, from around £180 per sq ft (£1,935 per sq m), up to figures approaching £350 per sq ft (£3,765 per sq m). The prices varying according to the mix, size, location and unit type.

4.11 Table 4.1 shows average prices for York for the latest quarter available from Land Registry, Q2 2009. Although the Land Registry data covers both second-hand and newbuild prices, the former will predominate. The average prices in Table 4.1 are compared to a corresponding England and Wales figure and expressed as indices.

Table 4.1 Average house prices Q1 2009: comparison with England & Wales average

Area		*Ave price (£k & % index)*			
		Detached	*Semi*	*Terrace*	*Flat*
Q1 09	ave £k	£253,756	£170,702	£158,955	£162,028
	no of sales	132	222	165	84
	index	86%	97%	96%	86%

Index compares LA's ave £k price figure to the median LA value across England & Wales for house type.

Source: Land Registry data.

4.12 Prices in York are slightly below the average (median LA area) for all types of sales. The average price for all types of properties within the City is around nine tenths (90%) of the national average. However, the prices of semi-detached and terraced properties are closer to the national average at 97% and 96% respectively.

4.13 As in the country generally, prices have fallen back over the last 18 months. Because Land Registry data reports sales after completion there is some lag and the figures for terraced properties and flats show the decline to only a limited extent. Between Q4 2007 and Q4 2008 sales declined quite dramatically, although Q2 2009 figures suggest that they have since slightly recovered (note that sales are seasonally low in the first quarter of the year).

Table 4.2 Average house prices in previous quarters

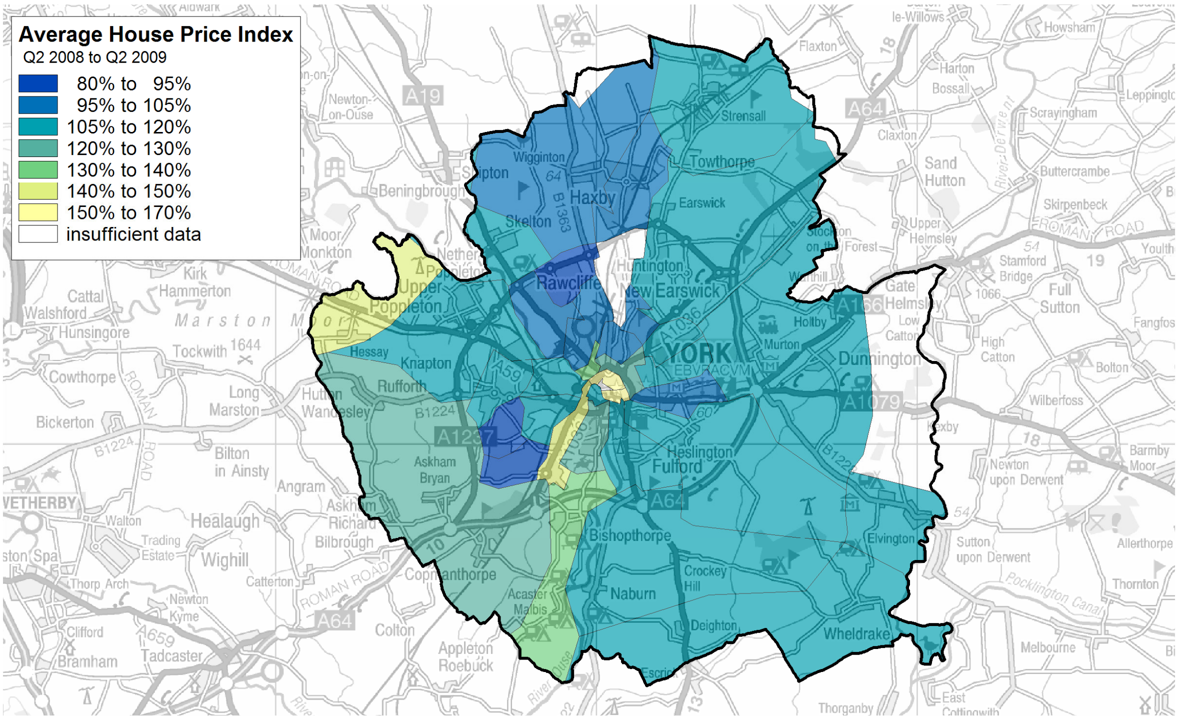
Area		*Ave price (£k)*			
		Detached	*Semi*	*Terrace*	*Flat*
Q4 07	ave £k	£321,615	£196,937	£194,944	£168,514
	no of sales	179	244	259	155
Q2 08	ave £k	£286,963	201,459	£183,975	£159,989
	no of sales	116	210	194	104
Q4 08	ave £k	£271,388	£170,875	£163,317	£138,373
	no of sales	100	163	148	59
Q1 09	ave £k	£253,756	£170,702	£158,955	£162,028
	no of sales	132	222	165	85

Source: Land Registry data.

4.14 Within a Council area there can be considerable variations in price, and Land Registry house price data at postcode sector level also helps to illuminate these variations. The number of sales in individual postcode areas in a single quarter can be quite small, we therefore looked at information for three separate quarters (Q2 2008, Q4 2008, and Q2 2009). The data has been expressed as an index – as a percentage of the nationwide average price level – and standardised, to allow for variations in type mix (Appendix 2 provides a worked example of the index calculation, and sets out the resulting price index figures for the three quarters examined).

4.15 The average figures for the three quarters are mapped in Figure 4.1 below.

Figure 4.1 Postcode price indices



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Indices compare prices to value for median postcode sector in England & Wales

Source: Land Registry

4.16 For comparison, average index figures for the Yorkshire and Humberside region as a whole are shown in the table below. Overall the Region has prices at 85% of the England and Wales level.

Table 4.3 Average house prices Q2 2009: Yorkshire & Humberside average					
	Ave price (£k & % index)				
	Detached	*Semi*	*Terrace*	*Flat*	*Average*
ave price £k	£237,996	£135,859	£112,028	£112,274	
weighted index	93%	86%	82%	79%	85%

Index compares ave £k price figure to the median LA value across England & Wales for house type

Source: Land Registry data.

Price assumptions for financial appraisals

4.17 It is necessary to form a view about the appropriate prices for the individual schemes to be appraised in the study. The preceding analysis suggests that prices are going to vary quite considerably across the area.

4.18 We considered what sale prices should be for dwellings on each of the 15 sites.

4.19 The evidence of sales prices across the area, as summarised in Appendix 1, indicates that there would be some variation in the prices that should apply to the individual sites.

4.20 Generally, the study of the market focused on the apartment market. As there are very few current newbuild schemes which could inform the market assessment, the study has focused on a range of second-hand properties. Where modern comparables were available, for example a property known as Warren House, which was developed approximately two years ago these usefully informed site 1. All other sites have used comparables within a quarter mile radius of the study sites. The exception to this is site 4, which is a recently completed scheme containing a number of properties remaining on the market.

4.21 The site figures resulting from our type-specific assumptions are set out in the table below.

Table 4.4 Price bands

	Site/location	*Price £ per*			*Site/location*	*Price £ per*	
		Sq ft	*Sq m*			*Sq ft*	*Sq m*
1	Germany Beck	225	2,418	10	Delivery Off, Birch Park	231	2,490
2	Lowfield Sec. School	216	2,328	12	Burdike Avenue	203	2,189
3	Metcalfe Lane Osbaldwick	214	2,298	13	Burnholme WMC	222	2,386
4	Hungate	314	3,379	14	Water Lane, Clifton	217	2,337
5	Manor School	229	2,459	15	22 Princess Rd Strensall	220	2,367
6	The Brecks, Strensall	217	2,337	16	Reynards Garage	322	3,461
7	Askham Bar Park & Ride	250	2,691	17	Rear 62 Mill Ln Wigginton	209	2,250
8	Discus Bungalows	211	2,265				

Source: Fordham Research 2009

4.22 It is necessary to consider whether the presence of affordable housing would have a discernible impact on sales prices. In fact affordable housing will be present on most of the newbuild sites whose selling prices have informed our analysis. Our view is that in any case any impact can and should be minimised through an appropriate quality design solution.

Land values

4.23 We have considered general figures from the Valuation Office Agency (VOA) relating to residential land values. Land values vary dramatically depending upon the development characteristics (size and nature of the site, density permitted etc.) and any affordable or other development contribution.

4.24 The VOA publishes figures for residential land in the Property Market Report. These cover areas which generate sufficient activity to discern a market pattern. That means locally we have figures for the Region as a whole, and for York, and for other major centres in the Region.

4.25 These values can, in any case, only provide broad guidance because it is likely that the figures will, to some degree, be net of allowances for developer contributions and/or affordable housing requirements. They can therefore be only indicative, and it may be that values for 'oven ready' land with no affordable provision or other contribution, or servicing requirement, would in fact be higher.

Table 4.5 Residential Land Values half year to Jan 2009

Area	*Land Value £m per acre (hectare)*		
	Small sites (< 5 dwgs)	*Bulk sites(> 2 ha)*	*Land for apartments*
York	£0.85m	£0.73m	£0.85m
	(£2.1m)	(£1.8m)	(£2.1m)
Harrogate	£0.93m	£0.81m	£0.93m
	(£2.30m)	(£2.00m)	(£2.30m)
Halifax	£0.36m	£0.28m	£0.30m
	(£0.9m)	(£0.7m)	(£0.75m
Leeds	£0.85m	£0.73m	£0.85m
	(£2.10m)	(£1.80m)	(£2.1m)
Doncaster	£0.61m	£0.61m	£0.61m
	(£1.5m)	(£1.5m)	(£1.5m)

Source: VOA Property Market Report Jan 2009

4.26 Residential land values tend to be similar in York, Harrogate and Leeds with all types of sites averaging between £0.85m per acre and £0.89m per acre (£2.10m to £2.20m per ha). In contrast, values in Halifax and Doncaster tend to be somewhat lower, averaging £0.32m and £ 0.61m per acre respectively (£0.79m and £1.51m per ha).

4.27 With the recent decline in the market and general economic conditions, such values might be rather historic. We therefore sought information about values from residential land currently on sale in the City. There are a small number of sites for residential development currently available with the City. The limited availability is potentially a reflection of the current economic state of the wider market. A summary of these is set out in Appendix 3.

4.28 These show prices for single plots of land varying between £1.2m and £2.0m per acre (£3.0m to £5.0m per ha), but with one rather more valuable site at Brecks Lane Strensall. These indicate much higher prices than those derived from residual valuation calculations such as are shown in Table 6.3. That is because the plot prices are for land available to buy, where there is a premium due to competing buyers in a market that is expected (at some future stage) to rise. They contain 'hope' value as well as use value.

Current and Alternative Use Values

4.29 In order to assess development viability it is necessary to analyse current and alternative use values. Current use values refer to the value of the land in its current use. For example, a greenfield site may well be used as agricultural land. Alternative use values refer to any potential use for the site. For example, a brownfield site may have an alternative use as industrial land.

4.30 To assess viability, the value of the land for the particular residential scheme adopted needs to be compared to the alternative use value, to determine if there is another use which would derive more revenue for the landowner. If the assessed value does not exceed the alternative use value, then the development is not viable.

4.31 For the purpose of a strategic study like the present one, it is necessary to take a comparatively simplistic approach to determining the alternative use value. In practice a wide range of considerations could influence the precise value that should apply in each case, and at the end of extensive analysis the outcome might still be contentious.

4.32 Our 'model' approach is outlined below.

i) For sites previously in agricultural use, then agricultural land represents the existing use value

ii) Where the development is on former industrial, warehousing or similar land, then the alternative use value is considered to be industrial, and an average value of industrial land for the area is adopted as the alternative use value

iii) Where an existing building remained, broadly capable of beneficial use, we took its estimated value

iv) Open space is felt to have a value which is more substantial than an agricultural value. However, it does not have previously developed status. The same applies to unused garden land (unless the site is capable of development with another commercial use).

v) One site, site 4 Hungate, is on former industrial land but in a location where a higher value alternative use such as office space might be realistic. However, quite substantial abnormal costs would be generated in redeveloping it for office use and we concluded this was unlikely to generate a significantly higher net value than industrial use.

4.33 The VOA's typical industrial land values for the region and major nearby towns for the first half of 2009 are set out in the table below.

Table 4.6 Industrial land values (£m)			
Area	*Land Value per acre (hectare)*		
	Low	*High*	*Typical*
York	£132k	£192k	£166k
	(£325k)	(£475k)	(£410k)
Harrogate	£132k	£192k	£166k
	(£325k)	(£475k)	(£400k)
Huddersfield	£190k	£233k	£219k
	(£475k)	(£575k)	(£550k)
Doncaster	£146k	£198k	£174k
	(£350)	(£500k)	(£425k)
South Leeds	£121k	£202k	£162k
	(£300k)	(£500k)	(£400k)

Source: VOA Property Market Report Jan 2010

4.34 The figures for individual locations within a reasonable distance of York are quite similar. Figures for York, Harrogate, Doncaster and South Leeds are broadly the same; the exception is Huddersfield where prices for industrial land tend to be higher compared with neighbouring areas.

4.35 We have found little current evidence for industrial/warehousing values, in part reflecting the current market situation. After consideration we concluded that a benchmark industrial value in York should be £165k per acre (£410k per ha), in line with the Property Market Report figure.

4.36 Agricultural values rose for a time recently after a long historic period of stability. They are around £5-10k per acre (£15-25k per ha) depending upon the specific use. A benchmark of £10k per acre (£25k per ha) is assumed to apply here.

4.37 Open space and garden land is assumed to be valued at £100k per acre (£245k per ha).

4.38 In York, these three benchmark values lead directly to an alternative use value for the bulk of the sites – 13 of the 15. The remaining two involve an assessment of the value of buildings, either with or without a component from the above.

4.39 Site 15 (22 Princess Rd) is a building in a very poor state. Despite its condition it was valued, as a building with a value of £325k, with a deduction of 10% for its condition. On a developable area of 1.0 acre this gives alternative use value at £293k per acre (£725k per ha). Although the site is likely to be developed for much more than one dwelling, its value as one dwelling on a large site gives a very high alternative use value despite the poor condition of the dwelling.

4.40 Discus Bungalows (site 8) is an estate of existing social rented units which, because of their build and condition, need to be demolished and replaced. The costs of demolition are substantial and produce a present value of effectively zero. We have assigned the site a nominal value of £50k per acre (£125k per ha).

4.41 The value basis for each individual site that results from the foregoing analysis is summarised in the table below.

Table 4.7 Alternative Use Value bases

	Site	*Basis*	*£k per acre*	*£k per ha*
1	Germany Beck	Agricultural	10	25
2	Lowfield Sec. School	Industrial/open space	115	285
3	Metcalfe Lane Osbaldwick	Agricultural	10	25
4	Hungate	Industrial	165	410
5	Manor School	Industrial/open space	115	285
6	The Brecks, Strensall	Agricultural	10	25
7	Askham Bar Park & Ride	Industrial	165	410
8	Discus Bungalows	Nominal value	50	125
10	Delivery Off, Birch Park	Industrial	165	410
12	Burdike Avenue	Open space	100	245
13	Burnholme WMC	Garden land	100	245
14	Water Lane, Clifton	Industrial	165	410
15	22 Princess Rd Strensall	Residential building	293	725
16	Reynards Garage	Industrial	165	410
17	Rear 62 Mill Ln Wigginton	Garden land	100	245

Source: Fordham Research 2009

4.42 It was noted earlier that brownfield sites might face 'abnormal costs' if they are to be redeveloped for residential use. Some of those costs, but not necessarily all, might also arise if the site were redeveloped for the alternative use. The alternative use value set out above would need to be reduced to allow for the costs that would still arise in that situation.

4.43 The costs arising from development or redevelopment of the 15 sites are considered in the next chapter, along with the other financial and technical assumptions required to prepare financial appraisals for each of the sites.

5. Assumptions for viability analysis

Introduction

5.1 This chapter considers the costs and other assumptions required to produce financial appraisals for the 15 sites.

Development costs

(i) Construction costs: baseline costs

5.2 Drawing upon our own experience, and taking into account published Building Cost Information Service (BCIS) data, we have developed a set of base £ per sq ft construction costs for different built forms of residential development. The costs are specific to different built forms (flats vs. houses; number of storeys). On the basis of these cost figures, it is possible to draw up appropriate cost levels for constructing newbuild market housing in York at a base date of October 2009.

5.3 The question arises as to what extent the Code for Sustainable Development should impact on build costs in the study. Whilst from April 2008 the Code's Level 3 has been a requirement for all homes commissioned by RSLs that would not necessarily be the case for affordable homes built by developers for disposal to an RSL, unless grant is made available from the Homes and Communities Agency. However, the Government indicates that Level 3 will apply to all newbuild housing (i.e. will be incorporated in Building Regulations) from 2010, with higher levels (4 then 6) intended to be triggered from 2013 onwards. For the present study it would therefore be necessary to apply at least Level 3 in preparing our assessment.

5.4 Guidance on the impact of Levels 3 and 4 is available from a Report commissioned by the Housing Corporation and English Partnerships (*A Code For Sustainable Development, 2007* and the subsequent report, *Cost Analysis of the Code for Sustainable Homes – Final Report 21 July 2008)* in respect of the impact of Level 3 on construction costs. That guide estimates (Table S2) the increase in costs arising from Level 3 for different house types, and under various scenarios; on average, current newbuild costs would need to increase by 4.2% to achieve Level 3.

5.5 The appraisals assume that all dwellings, market and affordable, will be built to the Code for Sustainable Homes (CSH) Level 3. Given that Level 3 is to be a national requirement from 2010, it is not an unreasonable assumption to be making at this point. Level 3 imposes additional build costs which we have assumed cannot be recovered from charging higher prices for the dwellings. Furthermore, it is the Government's intention that Level 4 would apply from 2013, and Level 6 from 2016, well within the LDF Plan period. We have not pursued this issue, as it is not certain whether these higher levels will in fact be imposed. Clearly they would have an impact on affordable housing delivery.

5.6 In addition to this national requirement, the Yorkshire and Humber Regional Spatial Strategy (RSS) Policy ENV5, also seeks a proportion of 10% of energy costs of new residential building to be to be from renewable sources. This requirement will add to baseline building costs, although it is possible that there would be some overlap with the Level 3 specification. For the purpose of the study we assumed a 3.5% increase in costs, representing a premium of about £2,850 on the build cost for the average home, across the 15 sites.

5.7 After allowing for the above 'Level 3' and '10% renewable' premiums, we drew up appropriate cost levels for constructing market housing for the various built forms in the study, taking into account the mix of house types on each. These are set out in the table below.

Table 5.1 Construction costs: market housing

Build cost £ per sq ft/sq m					
Site	*sq ft*	*(sq m)*	*Site*	*sq ft*	*(sq m)*
1	87.61	942.6	10	96.83	1,041.9
2	88.33	950.4	12	87.88	945.6
3	87.75	944.2	13	88.18	948.8
4	111.73	1,202.2	14	116.68	1,255.5
5	88.33	950.4	15	86.72	933.1
6	86.97	935.8	16	98.06	1,055.1
7	88.37	950.8	17	90.32	971.8
8	90.93	978.4			

Source: Fordham Research derived from analysis of BCIS cost data, 2009

5.8 The build costs exclude basement car parking, allowed for separately as an abnormal cost (see below). This has the incidental advantage of treating the cost upfront in the cash-flow, as it ought to be, rather than pro rata with the build programme.

(ii) Construction costs: site specific adjustments

5.9 It is necessary to consider whether any site specific factors would suggest adjustments to these baseline cost figures. Two factors need to be considered in particular; high specification and small sites.

5.10 We considered that in York one site (site 4) would, due to its central location, be built to a higher specification than allowed for in the base build costs, through higher standards of external or internal treatment. Base build costs were accordingly uplifted by 2.5%.

5.11 We now turn to the issues surrounding build costs on small sites. Since the mid-1990s, planning guidance on affordable housing has been based on a view that construction costs were appreciably higher for smaller sites, with the consequence that, as site size declined, an unchanging affordable percentage requirement would eventually render the development uneconomic. Hence the need for a 'site size threshold', below which the requirement would not be sought.

5.12 It is not clear to us that this view is justified. Whilst, other things held equal, build costs would increase for smaller sites, other things are not normally equal, and there are other factors which may offset the increase. The nature of the development may change. The nature of the developer will also change, as small local firms with lower central overheads replace the regional and national house builders. Furthermore, very small sites may be able to secure a 'non-estate' price premium, which we have not allowed for.

5.13 In the present study, the three smallest sites, site 15 onwards, are considered to fall into the 'small site' category – those with less than 15 dwellings. It is felt necessary to make some allowance for the economics of these sites in preparing financial appraisals. A range of cost premiums has been estimated for each specific site size, ranging from 3% for the 12 dwellings at Princess Rd and Reynards Garage to 5% for the smallest site Mill Lane with ten dwellings. Any such premium must be based on judgement; as explained above, it is difficult to see how hard data could ever be obtained to show the effect of scale alone.

(iii) Construction costs: affordable dwellings and final figures

5.14 The procurement route for affordable housing is assumed to be through construction by the developer, and disposal to an RSL on completion. In the past, when considering the build cost of affordable housing provided through this route, we took the view that it should be possible to make a small saving on the market housing cost figure, on the basis that one might expect the affordable housing to be built to a slightly different internal specification than market housing.

5.15 The pressures of increasingly demanding standards for RSL properties have however meant that for conventional schemes of houses at least, it is no longer appropriate to assume a reduced build cost.

5.16 Taking all of the above into account, we arrived at build costs for all (market and affordable) housing which after rounding were as in the table below.

Table 5.2 Construction costs adjusted and rounded: all housing					
Build cost £ per sq ft/sq m					
Site	*sq ft*	*(sq m)*	*Site*	*sq ft*	*(sq m)*
1	87.5	942	10	97.0	1,044
2	88.5	952	12	88.0	947
3	88.0	947	13	88.0	947
4	114.5	1,232	14	116.5	1,254
5	88.5	952	15	89.5	963
6	87.0	936	16	101.0	1,087
7	88.5	952	17	95.0	1,022
8	91.0	979			

Source: Fordham Research derived from analysis of BCIS cost data, 2009

(iv) Other normal development costs

5.17 In addition to the per sq ft/sq m build cost figures described above, allowance needs to be made for a range of infrastructure costs – roads, drainage and services within the site, parking, footpaths, landscaping and other external costs also off site costs for drainage and other services, and so on. Many of these items will depend on individual site circumstances and can only properly be estimated following a detailed assessment of each site. This is not practical within the present study.

5.18 Nevertheless, it is possible to generalise. Drawing on experience it is possible to determine an allowance related to total build costs. This will be lower for higher density than for lower density schemes, since there is a smaller area of external works, and services can be used more efficiently. They will be even lower for what is in effect a single building occupying the whole site area. Brownfield sites are in any case much less likely to require substantial expenditure on bringing mains services to the site than larger greenfield sites would.

5.19 In light of these considerations we have developed a scale of allowances ranging from 13% of build costs for the two larger greenfield sites 1 and 3, down to 9.0% for the Hungate site in the City Centre.

5.20 The table below sets out the individual site assumptions.

Table 5.3 Development cost allowances		
Ref	*Site/location*	*% of build costs*
1	Germany Beck	13.0%
2	Lowfield Sec. School, Dijon Ave	12.0%
3	Metcalfe Lane Osbaldwick	13.0%
4	Hungate	9.0%
5	Manor School	12.0%
6	Adjacent The Brecks, Strensall	13.5%
7	Askham Bar Park & Ride Car Park	12.0%
8	Discus Bungalows, Regent Street	11.5%
10	Delivery Office, Birch Park, Huntington Rd	10.5%
12	Burdike Av, Sutton Way/Lilbourne Dr	12.5%
13	Burnholme WMC, Burnholme Dr	12.0%
14	Water Lane, Clifton	11.0%
15	22 Princess Rd Strensall	12.0%
16	Reynards Garage	10.0%
17	62 Mill Lane Wigginton	12.0%

Source: Fordham Research 2009

(v) Additional/Abnormal development costs

5.21 In some cases where the site involves redevelopment of land which was previously developed, there is the potential for abnormal costs to be incurred. It should be noted that 'abnormal' is not a consistently defined term, and different organisations include different items as being 'abnormal' as distinct from 'normal'. The City of York Council Affordable Housing Advice Note, 2005, clarifies the City Council's position in terms of known costs which are considered foreseeable at the time of site acquisition. It makes no practical difference, so long as all relevant costs are included in valuations.

5.22 Therefore for the purposes of this study the term 'additional costs' is used for other relevant costs that need factoring in. These additional costs are set out in Table 5.4.

5.23 The majority of the sites are on previously developed land. On several sites, from the information made available to us and visits to the sites, it appears that additional costs would need to be taken into account in preparing appraisals for some of the sites. As pointed out in the previous chapter (paragraph 4.42) some additional costs could also arise in the event of the site's redevelopment with an alternative use.

Table 5.4 Additional development costs					
Ref	*Site*	*Item*	*Residential: cost*		*Alt use value cost*
			Total £k	*£k per acre/ha*	*£k per acre/ha*
1	Germany Beck	None	0	0	0
2	Lowfield Sec. School	Demolition	300	22/54	0
3	Metcalfe Lane Osbaldwick	Undergrounding power cables	500	28/69	0
4	Hungate	Basement CP, archaeology, ground contamination, flood	2,350	1,037/2,562	0
5	Manor School	Demolition	2,000	32/79	0
6	The Brecks, Strensall	Noise	40	3/7	0
7	Askham Bar Park & Ride	Noise	20	5/12	0
8	Discus Bungalows	Demolition/asbestos, archaeology	575	212/524	0
12	Burdike Avenue	None	0	0	0
13	Burnholme WMCr	Trees	15	14/35	0
14	Water Lane, Clifton	Site clearance	10	13/32	0
15	22 Princess Rd Strensall	Demolition/site clearance	25	20/49	0
16	Reynards Garage	Demolition, ground contamination	25	78/193	0
17	62 Mill Lane Wigginton	Demolition/site clearance	15	28/69	0

Source: Fordham Research 2009

5.24 The table also shows that in no case would an adjustment be needed to ensure that an alternative land value reflects the costs incurred in developing an alternative use.

(vi) Fees

5.25 We have assumed professional fees amount to 10% of build costs, in each case.

(vii) Contingency

5.26 For previously undeveloped and otherwise straightforward sites, we would normally allow a contingency of 2.5%, with a higher figure of 5% on more risky types of development, previously developed land and central locations. The 5% figure was used throughout except for sites 1, 3, 6 and 12

Financial and other appraisal assumptions

(i) VAT

5.27 For simplicity it has been assumed throughout, as with most financial appraisals, that either VAT does not arise, or its effect can be ignored.

(ii) Interest rate

5.28 Our appraisals assume 7.5% pa for both debits and credits. This may seem high given the very low current base rate figure (MLR 0.5% mid October 2009), but has to reflect banks' view of risk for housing developers in the present housing market situation. Credit would in practice only arise for a short period at the end of the scheme

(iii) Developer's profit

5.29 We would typically argue that on a development of fully market housing the developer requires a return of 20% on total costs (or 16.7% of the Net Development Value) to reflect the risk of undertaking the development. That assumes that the costs are estimates of costs, as they are indeed here intended to be, rather than contract prices which would include a contractor's profit element.

5.30 However, where a guaranteed sale applies, the developer's profit margin ought to be reduced in order to reflect the reduction in risk. The affordable units will be sold at an agreed price and programme. With a range of affordable provision being tested it was felt appropriate to reflect the resulting variations in risk with variations in the developer's profit. Consequently a sliding scale of profit margins was used, as shown below. This effectively applies a reduced rate (15%) to the affordable component.

Table 5.5 Profit margins

% affordable	*Profit % on costs*
0%	20%
20%	19%
30%	18.5%
40%	18%
50%	17.5

Source: Fordham Research 2009

5.31 It should be noted that residential developers commonly use a slightly more conservative profit margin of 15% on income, which equates to about 17.5% on costs. Bearing in mind the current financial climate, we see no justification for reducing the profit margins from the levels suggested.

(iv) Void

5.32 On a scheme comprising mainly individual houses, one would normally assume only a nominal void period, as the housing would not be progressed if there was no demand. In the case of apartments in blocks, this flexibility is reduced. Whilst these may provide scope for early marketing, the ability to tailor construction pace to market demand is more limited.

5.33 For the purpose of the present study a three month void period is assumed for all sites.

(v) Phasing and timetable

5.34 The appraisals are assumed to have been prepared using prices and costs at a base date of October 2009, with an immediate start on site.

5.35 A pre-construction period of six months is assumed for all of the sites except Germany Beck (nine months) and Hungate (12 months). Each dwelling is assumed to be built over a nine month period except at Hungate where the construction period is 15 months.

5.36 The phasing programme for an individual site will reflect market take-up, and would in practice be carefully estimated taking into account the site characteristics and, in particular, size and the expected level of market demand.

5.37 We have developed a suite of modelled assumptions to reflect site size and development type, as set out in Table 5.6 below.

Table 5.6 Market pace assumptions				
Site		*No of dwgs*	*no of qtrs pre construction*	*ceiling completions per qtr*
1	Germany Beck	235	3	15
2	Lowfield Sec. School	183	2	14
3	Metcalfe Lane Osbaldwick	180	2	13
4	Hungate	163	4	10
5	Manor School	141	2	11
6	The Brecks, Strensall	120	2	10
7	Askham Bar Park & Ride	60	2	7
8	Discus Bungalows	58	2	7
10	Delivery Office, Birch Park	37	2	5
12	Burdike Avenue	22	2	5
13	Burnholme WMCr	20	2	4
14	Water Lane, Clifton	18	2	4
15	22 Princess Rd Strensall	12	2	3
16	Reynards Garage	12	2	3
17	62 Mill Lane Wigginton	10	2	3

Source: Fordham Research 2009

Site acquisition and disposal costs

(i) Site holding costs and receipts

5.38 Each site is assumed to proceed immediately and so, other than interest on the site cost during construction, there is no allowance for holding costs, or indeed income, arising from ownership of the site.

(ii) Acquisition costs

5.39 Acquisition costs include stamp duty at 4% on site values of £0.5 million and above (reduced below this level), together with an allowance of 1.5% for acquisition agents' and legal fees.

(iii) Disposal costs

5.40 For the market housing, sales and promotion and legal fees are assumed to amount to some 3.5% of receipts. For disposals of affordable housing these figures can be reduced significantly depending on the category, we have assumed total allowances of 0.5% for social rented housing and 1.5% for shared ownership.

Alternative use value comparison

5.41 In the previous chapter we identified alternative use values to be used as benchmarks in determining viability for each site. As we saw above, these values would not need to be adjusted in any case to allow for abnormal costs that would arise if the alternative use were implemented. The values from Table 4.7 can therefore be used unchanged as a basis for assessing the appraisal results in the next chapter.

6. Results of viability analysis

Introduction

6.1 This chapter considers the results of financial appraisals carried out for the identified sites.

Financial appraisal approach and assumptions

6.2 On the basis of the assumptions set out in Chapter 5, we prepared financial appraisals for each of the identified sites, using a bespoke spreadsheet-based financial analysis package.

6.3 The appraisals use the residual valuation (RV) approach – that is, they are designed to assess the value of the site after taking into account the costs of development, the likely income from sales and/or rents and an appropriate amount of developer's profit. The resulting valuation is commonly expressed in £s per acre (or hectare). In order for the proposed development to be described as viable, it is necessary for this value to exceed the value from a valid alternative use. We have already seen that, for a greenfield site, where the only alternative use is likely to be agricultural, this figure may be very modest. However, most of the sites have been previously developed, and therefore may have a more substantial existing or competing alternative use value.

6.4 As outlined in Chapter 3, our appraisals considered three options for the amount of affordable housing provision, plus a zero affordable option.

Appraisal results

6.5 We produced financial appraisals based on the stated build, abnormal, and infrastructure costs, and financial assumptions for the four options (three affordable options, plus all-market).

6.6 Detailed appraisal printouts for all the sites are provided as Appendix 5 to this report. To keep to a manageable sized document, only one affordable option, 30%, has been provided.

6.7 The resulting residual land values for the four options are set out in Table 6.1.

Table 6.1 Appraisal results for five affordable options					
Zero grant					
No	*Site*	*Residual value £k per acre for affordable option:*			
		No aff	*20%*	*30%*	*40%*
1	Germany Beck	744	483	350	218
2	Lowfield Sec. School	437	215	102	-11
3	Metcalfe Lane Osbaldwick	535	305	190	73
4	Hungate	2,694	832	-121	-1,110
5	Manor School	579	324	195	67
6	The Brecks, Strensall	537	325	219	111
7	Askham Bar Park & Ride	781	491	342	195
8	Discus Bungalows	272	13	-123	-260
10	Delivery Off, Birch Park	501	85	-136	-357
12	Burdike Avenue	367	156	46	-67
13	Burnholme WMC	503	255	125	-8
14	Water Lane, Clifton	-41	-345	-498	-654
15	22 Princess Rd Strensall	581	333	208	-77
16	Reynards Garage	2,332	1,485	1,043	612
17	Rear 62 Mill Ln Wigginton	297	63	-58	-180

Source: Fordham Research 2009

6.8 Table 6.1 shows that with no requirement for affordable housing, all but one of the sites deliver a positive land value. Those values range from around £200k per acre (£500k per ha) to almost £2.7m per acre (£6.7m per ha). There is a wide spread of values, though nine of the sites are broadly between £400k and £700k per acre (£0.99m-£1.73m per ha).

6.9 Allowing for additional development costs and planning gain assumptions, these values do not seem out of line with the limited available information. Land prices in York are set out in Table 4.5 above, which showed figures at the upper end of the middle range just quoted (£400k-£700k per acre (£0.99m-£1.73m per ha). This supports the view that our appraisal assumptions are, taken as a whole, unlikely to be unduly optimistic.

6.10 Table 6.1 confirms that, as increasing amounts of affordable housing are introduced, the land value reduces. In each case the impact is progressive, but at a broadly linear rate. At the maximum affordable contribution shown, 40%, eight sites out of the 15 show negative land values, as compared with one at the base position of no affordable housing. This is the expected pattern.

6.11 However, it is clear that land value falls away more quickly for some schemes, than for others. It is the most expensive and most densely developed sites – those in the City Centre, and otherwise, Birch Park– where affordable housing has the greatest negative impact in absolute terms upon land value.

6.12 In order to draw out the implications of these results for the Council's proposed affordable housing policy, as has already been suggested, it will be necessary to consider values from alternative uses for each. This step follows below.

Alternative use benchmarks

6.13 The results from Table 6.1 would need to be compared with the alternative use values set out in Table 4.7 in order to form a view about the likely viability of the affordable options for each site. However it does not automatically follow that if the residual value produces a surplus over the alternative use value benchmark, the site is viable. The surplus needs to be sufficiently large to provide an incentive to the landowner to release the site, and any other incurred to bring the site forward for development. We therefore have to consider how large such a 'cushion' should be for our sites.

6.14 In practice the size of the element will vary from case to case, depending on how many landowners are involved, each landowner's attitude and his degree of involvement in the current property market, the location of the site and so on. It is quite possible that in some circumstances a landowner will be happy to sell at the alternative use value without any cushion uplift. As a general principle we assume a cushion uplift, but this is not automatically necessary, and land deals in the market may not include one.

6.15 After consideration we took the view that a broad average figure of £40k per acre (£100k per ha) should be used to provide an incentive to the landowner for most of the sites in the study. This figure would represent a mark-up of almost 25% on the base industrial benchmark land value of £165k per acre (£410k per ha). In the case of agricultural sites we doubled the allowance, to a figure of £80k per acre (£200k per ha). The figures are set out below and combined with the net alternative use values from Table 4.7 to show the resulting benchmark thresholds for viability.

Table 6.2 Viability cushion and threshold values				
Ref	*Site*	*£k per acre*		
		Alt use value	*Cushion*	*Viability threshold*
1	Germany Beck	10	80	90
2	Lowfield Sec. School	115	40	155
3	Metcalfe Lane Osbaldwick	10	80	90
4	Hungate	165	40	205
5	Manor School	115	40	155
6	The Brecks, Strensall	10	80	90
7	Askham Bar Park & Ride	165	40	205
8	Discus Bungalows	50	40	90
10	Delivery Office, Birch Park	165	40	205
12	Burdike Avenue	100	40	140
13	Burnholme WMC	100	40	140
14	Water Lane, Clifton	165	40	205
15	22 Princess Rd Strensall	293	40	333
16	Reynards Garage	165	40	205
17	Rear 62 Mill Ln Wigginton	100	40	140

Source: Fordham Research 2009

6.16 It must be emphasised that these figures are simply a view of what it is reasonable to assume, in a strategic study like the present one, should be the minimum residual value for the purposes of assessing viability. The figures do not represent what a landowner or promoter might actually receive. This will quite often be rather more, at any given affordable target some sites will generate a higher value and it is not unreasonable to expect at least some of the surplus to benefit the landowner/promoter, rather than passing to the developer.

6.17 The system of cushion values works in this way. Agricultural land -- the cheapest -- will, in the case that there is hope value for eventual housing development, be worth £10k per acre (the agricultural value) plus £80k (the hope value). Thus the 'floor' value of any land that is likely to be developed for hosing is £90k. There is a hierarchy of quasi-urban and urban land values above that as indicated in the zero grant residual land values in the first column of Table 6.1. Thus for example the 'open space and garden land' value assumption in paragraph 4.37 (£100k per acre/£245 per ha) when the cushion of £40k is added becomes £140 per acre. This is the first step up from the agricultural land-with-hope-value figure just mentioned. This report can only approximate such a hierarchy, but there is no doubt that it exists in the land markets.

Comparison results

6.18 The appraisal results from Table 6.1 are compared to these benchmark values in Table 6.3 below. In the comparison the threshold of viability is the combined total of Alternative Use Value plus Cushion. If the land value exceeds this amount the scheme is Viable. If it is more than the Alternative Use Value, but less than the full value of the Cushion, the scheme is regarded as Marginal; it cannot be said to provide the required incentive to the landowner to make the site available for development.

6.19 With zero affordable housing, 14 sites are viable. Residential development as 100% market housing is, of course, a relatively profitable development option and in stable market conditions the sites should not be proposed for development otherwise. However market conditions are not stable – house prices have fallen from the level of two years ago. In fact, there is one site which, it appears, could not proceed at present even as 100% market housing.

6.20 Turning to the various levels of affordable contribution, at 20% ten of the 14 feasible sites are viable. At 30% six sites remain viable. By 40%, only three sites are still viable, with two more marginal.

Table 6.3 Appraisal outcomes: zero grant						
No	*Site*	*Value £k per acre*				
		Alt use value	*No aff*	*20%*	*30%*	*40%*
1	Germany Beck	10+80	744	483	350	218
		90	VIABLE	VIABLE	VIABLE	VIABLE
2	Lowfield Sec. School	115+40	437	215	102	-11
		155	VIABLE	VIABLE	NOT VIAB	NOT VIAB
3	Metcalfe Lane Osbaldwick	10+80	535	305	190	73
		90	VIABLE	VIABLE	VIABLE	MARGINAL
4	Hungate	165+40	2,694	832	-121	-1,110
		205	VIABLE	VIABLE	NOT VIAB	NOT VIAB
5	Manor School	115+40	579	324	195	67
		155	VIABLE	VIABLE	VIABLE	NOT VIAB
6	The Brecks, Strensall	10+80	537	325	219	111
		90	VIABLE	VIABLE	VIABLE	VIABLE
7	Askham Bar Park & Ride	165+40	781	491	342	195
		205	VIABLE	VIABLE	VIABLE	MARGINAL
8	Discus Bungalows	50+40	272	13	-123	-260
		90	VIABLE	NOT VIAB	NOT VIAB	NOT VIAB
10	Delivery Office, Birch Park	165+40	501	85	-136	-357
		205	VIABLE	NOT VIAB	NOT VIAB	NOT VIAB
12	Burdike Avenue	100+40	367	156	46	-67
		140	VIABLE	VIABLE	NOT VIAB	NOT VIAB
13	Burnholme WMC	100+40	503	255	125	-8
		140	VIABLE	VIABLE	MARGINAL	NOT VIAB
14	Water Lane, Clifton	165+40	-41	-345	-498	-654
		205	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
15	22 Princess Rd Strensall	293+40	581	333	208	-77
		333	VIABLE	MARGINAL	NOT VIAB	NOT VIAB
16	Reynards Garage	165+40	2,332	1,485	1,043	612
		205	VIABLE	VIABLE	VIABLE	VIABLE
17	62 Mill Lane	100+40	297	63	-58	-180
		140	VIABLE	NOT VIAB	NOT VIAB	NOT VIAB

Source: Fordham Research 2009

Key	
Viable	
Marginal	
Positive land value but below alternative use value	
Unviable	

6.21 The summary site performance across various assumed grant levels is summarised in Table 6.9 below. We will consider the implications of these results in Chapter 8. However before we can do this we should consider how likely future movements in our appraisal assumptions might impact upon them.

6.22 The sharp decline in the housing market from the beginning of 2008 underlines that the results represent a 'snapshot' of viability as at October 2009. It is conceivable that viability will deteriorate in the coming months. On the other hand, there is a reasonable prospect that at some stage within the Plan period, viability will recover to the level of October/November 2007.

Sensitivity: price and cost levels

6.23 From around April/May 2009 house prices in most areas appear to have stabilised and indeed have risen to some extent. However there is not a consensus amongst the property industry that the decline in prices is over. A commonly expressed view is that a limited supply of properties onto the market, rather than an increase in demand, has been responsible for the upturn. A number of commentators still expect to see a period of time, from early 2010, in which prices slip back.

6.24 Given the continuing uncertainty, we considered two scenarios in order to illustrate how future price and cost changes would impact upon viability. These could in some sense be regarded as extremes. The first (which could be termed 'pessimistic short-term') took a moderately gloomy view, assuming that prices would fall another 10% relative to costs, before a permanent price recovery is clearly established.

6.25 The second ('market peak') considered a much more favourable position, assessing how viability might have looked around the market peak in autumn 2007, essentially reflecting newbuild market prices 15% higher than currently – a conservative view – and costs 5% lower. The results from this 'market peak' scenario are considered in the next section.

6.26 The 'pessimistic short-term fall' scenario results for the 30% affordable option are compared to the base appraisal results in Table 6.4 below:

Table 6.4 Appraisal outcomes: short-term price fall scenario

No	Site	Alt use value	Value £k per acre		
			Base 30%	20%	30%
1	Germany Beck	10+80	350	307	196
		90	VIABLE	VIABLE	VIABLE
2	Lowfield Sec. School	115+40	102	60	-34
		155	NOT VIAB	NOT VIAB	NOT VIAB
3	Metcalfe Lane Osbaldwick	10+80	190	144	48
		90	VIABLE	NOT VIAB	NOT VIAB
4	Hungate	165+40	-121	-276	-1,116
		205	NOT VIAB	NOT VIAB	NOT VIAB
5	Manor School	115+40	195	148	42
		155	VIABLE	MARGINAL	NOT VIAB
6	The Brecks, Strensall	10+80	219	173	86
		90	VIABLE	VIABLE	MARGINAL
7	Askham Bar Park & Ride	165+40	342	296	173
		205	VIABLE	VIABLE	MARGINAL
8	Discus Bungalows	50+40	-123	-180	-293
		90	NOT VIAB	NOT VIAB	NOT VIAB
10	Delivery Office, Birch ark	165+40	-136	-219	-401
		205	NOT VIAB	NOT VIAB	NOT VIAB
12	Burdike Avenue	100+40	46	-7	-99
		140	NOT VIAB	NOT VIAB	NOT VIAB
13	Burnholme WMC	100+40	125	75	-35
		140	MARGINAL	NOT VIAB	NOT VIAB
14	Water Lane, Clifton	165+40	-498	-568	-696
		205	NOT VIAB	NOT VIAB	NOT VIAB
15	22 Princess Rd Strensall	293+40	208	157	48
		333	NOT VIAB	NOT VIAB	NOT VIAB
16	Reynards Garage	165+40	1,043	974	609
		205	VIABLE	VIABLE	VIABLE
17	62 Mill Lane	100+40	-58	-113	-212
		140	NOT VIAB	NOT VIAB	NOT VIAB

Source: Fordham Research 2009

6.27 It can be seen that a fall of 10% in prices relative to costs would have an appreciable impact on viability. At 30%, only two of the sites are fully viable, with two marginal. At 20%, four sites are viable and one is marginal – a slightly worse outcome than 30% affordable at base (Oct 2009) prices.

6.28 Unfortunately, whilst this scenario is beginning to look a little less likely than it would have been six months ago, it cannot be entirely dismissed as a scenario for the situation in late 2010/early 2011.

Sensitivity: the market peak

6.29 The above approach, varying the price level, can also be applied in order to retrospectively assess viability at the peak viability level of October/November 2007. In this case we believe that prices would have been at least 15% higher and costs 5% lower than those assumed in the base appraisals (effectively equivalent to a 20% increase in prices).

6.30 The approach was applied with target proportions of 30% and 40%, and the results are compared with the 30% 'base' option below.

6.31 The results improve the appraisal results quite markedly. Only one site is now unviable at 30%; fourteen are viable. At 40% 11 sites are still viable, this suggests that it would have been feasible to suggest a target higher than 40% affordable at the market peak in November 2007.

6.32 There is every possibility that such a position will be regained within the emerging LDF's Plan period. However the route out of the Credit Crunch and subsequent recession is impossible to predict. That is why we have developed the Dynamic Viability approach set out in Chapter 9, which allows the LDF and Housing Strategy to take full account of the levels of affordable housing that it may be reasonable to seek in the future.

Table 6.5 Appraisal outcomes: market peak					
No	*Site*	*Alt use value*	*Value £k per acre*		
			Base 30%	*New 30%*	*New 40%*
1	Germany Beck	10+80	350	655	481
		90	VIABLE	VIABLE	VIABLE
2	Lowfield Sec. School	115+40	102	387	234
		155	NOT VIAB	VIABLE	VIABLE
3	Metcalfe Lane Osbaldwick	10+80	190	474	317
		90	VIABLE	VIABLE	VIABLE
4	Hungate	165+40	-121	1,830	601
		205	NOT VIAB	VIABLE	VIABLE
5	Manor School	115+40	195	497	324
		155	VIABLE	VIABLE	VIABLE
6	The Brecks, Strensall	10+80	219	486	340
		90	VIABLE	VIABLE	VIABLE
7	Askham Bar Park & Ride	165+40	342	679	482
		205	VIABLE	VIABLE	VIABLE
8	Discus Bungalows	50+40	-123	217	39
		90	NOT VIAB	VIABLE	NOT VIAB
10	Delivery Office, Birch Park	165+40	-136	398	111
		205	NOT VIAB	VIABLE	NOT VIAB
12	Burdike Avenue	100+40	46	331	186
		140	NOT VIAB	VIABLE	VIABLE
13	Burnholme WMC	100+40	125	433	266
		140	MARGINAL	VIABLE	VIABLE
14	Water Lane, Clifton	165+40	-498	-108	-316
		205	NOT VIAB	NOT VIAB	NOT VIAB
15	22 Princess Rd	293+40	208	515	345
		333	NOT VIAB	VIABLE	VIABLE
16	Reynards Garage	165+40	1,043	1,916	1,369
		205	VIABLE	VIABLE	VIABLE
17	62 Mill Lane	100+40	-58	253	90
		140	NOT VIAB	VIABLE	NOT VIAB

Source: Fordham Research 2009

Sensitivity: tenure split

6.33 Sensitivity testing was also undertaken to assess the impact of varying the tenure split, from 60/40 to 90/10. As intermediate housing produces a higher income to the developer this will have an adverse impact upon viability. The table below demonstrates the scale of this impact.

Table 6.6 Appraisal outcomes: revised tenure split						
No	*Site*	*Alt use value*	*Value £k per acre*			
			Base 20%	*Base 30%*	*New 20%*	*New 30%*
1	Germany Beck	10+80	483	350	470	331
		90	VIABLE	VIABLE	VIABLE	VIABLE
2	Lowfield Sec. School	115+40	215	102	203	84
		155	VIABLE	NOT VIAB	VIABLE	NOT VIAB
3	Metcalfe Lane Osbaldwick	10+80	305	190	294	172
		90	VIABLE	VIABLE	VIABLE	VIABLE
4	Hungate	165+40	832	-121	768	-207
		205	VIABLE	NOT VIAB	VIABLE	NOT VIAB
5	Manor School	115+40	324	195	311	176
		155	VIABLE	VIABLE	VIABLE	VIABLE
6	The Brecks, Strensall	10+80	325	219	315	202
		90	VIABLE	VIABLE	VIABLE	VIABLE
7	Askham Bar Park & Ride	165+40	491	342	478	323
		205	VIABLE	VIABLE	VIABLE	VIABLE
8	Discus Bungalows	50+40	13	-123	-3	-147
		90	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
10	Delivery Office, Birch Park	165+40	85	-136	62	169
		205	NOT VIAB	NOT VIAB	NOT VIAB	MARGINAL
12	Burdike Avenue	100+40	156	46	143	26
		140	VIABLE	NOT VIAB	VIABLE	NOT VIAB
13	Burnholme WMC	100+40	255	125	242	103
		140	VIABLE	MARGINAL	VIABLE	MARGINAL
14	Water Lane, Clifton	165+40	-345	-498	-361	-523
		205	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB
15	22 Princess Rd	293+40	333	208	318	187
		333	MARGINAL	NOT VIAB	MARGINAL	NOT VIAB
16	Reynards Garage	165+40	1,485	1,043	1,454	1,002
		205	VIABLE	VIABLE	VIABLE	VIABLE
17	62 Mill Lane	100+40	63	-58	48	-80
		140	NOT VIAB	NOT VIAB	NOT VIAB	NOT VIAB

Source: Fordham Research 2009

6.34 The impact of the variant tenure split is to reduce residual land value typically by around £15k per acre (£40k per ha) although the reduction is rather greater than this on the high density Hungate site. Even so, only site 10 marginally changes its viability status for the 30% option.

6.35 In broad terms, the effect of the higher social rented proportion is equivalent to around 1% of additional affordable housing.

The effects of grant in principle

6.36 As argued in Chapter 8 it is important to distinguish the viability of sites with zero grant, as that isolates the degree to which the land subsidy can provide affordable housing. Public sector grant should in principle then add to the amount of affordable housing that is produced. History does include cases where the public grant simply 'sweetens the deal' for the landowner, but the HCA is quite alert to this practice and will in future seek to avoid it since it is clearly not a proper use for public money.

6.37 What follows is an examination of the effect of grant, viewed on the extra housing paid for by grant over the amount negotiated on 'raw' viability. This is not the only way in which grant may arise, since it may be more generally provided.

6.38 We would suggest that the issue of grant, whose future levels are unknown and unknowable, is best treated in the following way from the affordable target setting point of view:

i) Set a deliverable target for market housing sites. This would be 25% now, but would be adjusted by Dynamic Viability as the market evolves

ii) Set a plan long target in the LDF Core Strategy which would express the Council's hopes for grant, plus the yield from the deliverable target over the whole plan period. Hence it could be 30-50% depending on what view is taken of future grant levels

6.39 The following subsection simply examines the effect of two particular grant levels on the net addition of affordable housing over the deliverable level.

Example of the effect of grant in practice

6.40 Hence while we examine here the effects of two levels of grant on the level of target that can be afforded, this must be seen in the context of the zero grant findings. The following two tables show the effect of two levels of grant on the 20% and 30% affordable target tests. The two levels, which arose from discussion with the Council, are:

£25k per dwelling

£55k per dwelling

6.41 The overall effects of grant on target are then summarised in the table which follows.

Table 6.7 Appraisal outcomes: £25k grant					
No	*Site*	*Value £k per acre*			
		Alt use value	*20% aff*	*30% aff*	*40% aff*
1	Germany Beck	10+80	514	398	280
		90	VIABLE	VIABLE	VIABLE
2	Lowfield Sec. School	115+40	246	149	53
		155	VIABLE	MARGINAL	NOT VIAB
3	Metcalfe Lane Osbaldwick	10+80	337	236	136
		90	VIABLE	VIABLE	VIABLE
4	Hungate	165+40	975	-109	-800
		205	VIABLE	NOT VIAB	NOT VIAB
5	Manor School	115+40	356	243	131
		155	VIABLE	VIABLE	MARGINAL
6	The Brecks, Strensall	10+80	356	263	170
		90	VIABLE	VIABLE	VIABLE
7	Askham Bar Park & Ride	165+40	523	392	260
		205	VIABLE	VIABLE	VIABLE
8	Discus Bungalows	50+40	52	-65	-183
		90	MARGINAL	NOT VIAB	NOT VIAB
10	Delivery Office, Birch Park	165+40	139	-51	-246
		205	NOT VIAB	NOT VIAB	NOT VIAB
12	Burdike Avenue	100+40	190	97	3
		140	VIABLE	NOT VIAB	NOT VIAB
13	Burnholme WMC	100+40	290	176	63
		140	VIABLE	VIABLE	NOT VIAB
14	Water Lane, Clifton	165+40	-302	-434	-569
		205	NOT VIAB	NOT VIAB	NOT VIAB
15	22 Princess Rd Strensall	293+40	367	256	146
		333	VIABLE	NOT VIAB	NOT VIAB
16	Reynards Garage	165+40	1,550	1,145	746
		205	VIABLE	VIABLE	VIABLE
17	62 Mill Lane	100+40	97	-6	-110
		140	NOT VIAB	NOT VIAB	NOT VIAB

Source: Fordham Research 2009

Table 6.8 Appraisal outcomes: £55k grant					
No	*Site*	*Value £k per acre*			
		Alt use value	*20% aff*	*30% aff*	*40% aff*
1	Germany Beck	10+80	551	454	357
		90	VIABLE	VIABLE	VIABLE
2	Lowfield Sec. School	115+40	284	206	128
		155	VIABLE	VIABLE	MARGINAL
3	Metcalfe Lane Osbaldwick	10+80	374	294	212
		90	VIABLE	VIABLE	VIABLE
4	Hungate	165+40	1,155	379	-422
		205	VIABLE	VIABLE	NOT VIAB
5	Manor School	115+40	395	302	210
		155	VIABLE	VIABLE	VIABLE
6	The Brecks, Strensall	10+80	390	316	242
		90	VIABLE	VIABLE	VIABLE
7	Askham Bar Park & Ride	165+40	563	452	321
		205	VIABLE	VIABLE	VIABLE
8	Discus Bungalows	50+40	97	6	-87
		90	VIABLE	NOT VIAB	NOT VIAB
10	Delivery Office, Birch Park	165+40	207	51	-108
		205	VIABLE	NOT VIAB	NOT VIAB
12	Burdike Avenue	100+40	232	161	87
		140	VIABLE	VIABLE	NOT VIAB
13	Burnholme WMC	100+40	326	240	138
		140	VIABLE	VIABLE	MARGINAL
14	Water Lane, Clifton	165+40	-250	-359	-473
		205	NOT VIAB	NOT VIAB	NOT VIAB
15	22 Princess Rd Strensall	293+40	409	319	224
		333	VIABLE	MARGINAL	NOT VIAB
16	Reynards Garage	165+40	1,617	1,267	884
		205	VIABLE	VIABLE	VIABLE
17	62 Mill Lane	100+40	138	58	-24
		140	MARGINAL	NOT VIAB	NOT VIAB

Source: Fordham Research 2009

6.42 The table below summarises the numbers of sites that are viable at zero grant and with the two assumed levels.

Table 6.9 Comparative performance of sites with grant levels									
Viability status of sites	*20% affordable housing target*			*30% affordable housing target*			*40% affordable housing target*		
	Zero grant	*Grant £25k per dw*	*Grant £55k per dw*	*Zero grant*	*Grant £25k per dw*	*Grant £55k per dw*	*Zero grant*	*Grant £25k per dw*	*Grant £55k per dw*
Viable	10	11	13	6	7	10	3	5	6
Marginal	1	1	1	1	1	1	2	1	2
Unviable	4	3	1	8	7	4	10	9	7
Site total	15 sites								

Source: Fordham Research 2009

6.43 There are some clear implications from this table:

i) At the 40% target neither grant level produces a convincing level of viability

ii) At the 20% target level grant improves things, but even with zero grant the 20% target is viable on more than 50% of sites and therefore is a reasonable broad-brush target.

iii) At 30% with zero grant the target is not viable: more than 50% of sites are not viable. With £25k per dwelling the position is evenly balanced, but with £55k grant the 30% target is obviously deliverable with two thirds of the sites viable outright.

6.44 However due to the considerations discussed in the previous sub-section: the uncertainty of future grant levels, it seems best to separate the whole issue of grant from the issue of deliverable targets. In other words to set a target based on zero grant, but to have a parallel aspirational plan long target that includes assumptions about grant.

7. Threshold modelling: results

Introduction

7.1 This chapter sets out how the viability assessment was applied to consider thresholds below 15 dwellings. PPS3 encourages local authorities to do this:

> *'Local Planning Authorities can set lower minimum thresholds, where viable and practicable, including in rural areas. This could include setting different proportions of affordable housing to be sought for a series of site-size thresholds over the plan area. Local Planning Authorities will need to make an informed assessment of the economic viability of [this]' (PPS3: Housing (2006) paragraph 29)*

7.2 This chapter contains such an assessment. It is based on a 'brownfield' rural site. This type of site was considered the most common type of sub-15 dwelling site. Such sites are technically 'brownfield' by the fact of being part of the curtilage of existing dwellings.

Modelling variations in scheme size.

7.3 For this threshold analysis we created a notional site based upon an actual site in Main Street Upper Poppleton. The base notional site was assumed to be 15 dwellings on 0.50 ha of garden land with no other significant development constraints.

7.4 In order to provide a full picture of how viability varied below the national size threshold of 15 dwellings, we created a suite of model sites on the basis of the Upper Poppleton one, ranging in size from two to 15 dwellings. It was felt that appraisal assumptions from the base (15 dwelling) site could reasonably be applied to smaller model sites.

7.5 However we adjusted the following dimensions of the evaluation to take account of the variation in cost as size diminished:

i) We recognised that as site size declines it may be increasingly difficult to achieve the same site utilisation efficiency. Therefore as site size varied we allowed the development density (sq ft floorspace per acre/sq m per ha) to decline, at an increasing rate. Since the average floor area of the dwellings remained constant this was achieved by varying the site area (i.e. so that it did not quite vary pro rata with dwelling numbers).

ii) We built in loadings for the build cost in line with those explained at paragraph 5.13.

iii) We considered whether the developer contribution assumption should vary. In fact there appears to be quite a low contributions threshold in York. The education threshold is four dwellings. For simplicity we decided to apply the standard contribution assumption all the way down to two dwellings. This should be recognised however as something of a 'worst case'.

7.6 Finally, we considered whether values might improve to reflect a 'non-estate' type of location. In practice they might, but to be conservative we did not make any adjustments to values.

7.7 The variant floorspace densities and build costs are set out in the table below.

Table 7.1 Variant assumptions for model threshold sites

Model sites		
No of dwgs	*sq ft per acre*	*build cost £ per sq ft*
15	14,957	85.50
14	14,940	86.50
13	14,921	87.00
12	14,900	88.00
11	14,878	89.00
10	14,855	89.50
9	14,830	90.50
8	14,800	91.50
7	14,766	92.50
6	14,730	94.00
5	14,690	95.50
4	14,640	97.50
3	14,580	99.00
2	14,500	102.50

Source: Fordham Research derived from analysis of BCIS cost data

Other assumptions

7.8 The sites were assumed to have sales values at £233.0 per sq ft. Development costs were assumed to be 12% of build costs. Sales rates were three dwellings per quarter down to four dwellings, and two dwellings per quarter for the two smallest sites.

7.9 Using the above assumptions, appraisals were prepared for the suite of model sites.

Viability results

7.10 Using the above assumptions, the following results were generated. These results are commented upon at the end of the chapter.

Table 7.2 Appraisal outcomes: zero grant notional threshold sites

No dwgs	Site	Value £k per acre				
		Alt use value	No Affordable	20%	30%	40%
15	Notional site	100+40	819	384	162	-69
		140	VIABLE	VIABLE	VIABLE	NOT VIAB
14	Notional site	100+40	799	365	145	-86
		140	VIABLE	VIABLE	VIABLE	NOT VIAB
13	Notional site	100+40	786	354	135	-95
		140	VIABLE	VIABLE	MARGINAL	NOT VIAB
12	Notional site	100+40	779	354	135	-95
		140	VIABLE	VIABLE	MARGINAL	NOT VIAB
11	Notional site	100+40	761	325	102	-128
		140	VIABLE	VIABLE	MARGINAL	NOT VIAB
10	Notional site	100+40	747	315	93	-137
		140	VIABLE	VIABLE	NOT VIAB	NOT VIAB
9	Notional site	100+40	741	308	78	-155
		140	VIABLE	VIABLE	NOT VIAB	NOT VIAB
8	Notional site	100+40	727	289	60	-172
		140	VIABLE	VIABLE	NOT VIAB	NOT VIAB
7	Notional site	100+40	724	287	59	-172
		140	VIABLE	VIABLE	NOT VIAB	NOT VIAB
6	Notional site	100+40	691	248	19	-216
		140	VIABLE	VIABLE	NOT VIAB	NOT VIAB
5	Notional site	100+40	660	221	-7	-240
		140	VIABLE	VIABLE	NOT VIAB	NOT VIAB
4	Notional site	100+40	637	188	-41	-273
		140	VIABLE	VIABLE	NOT VIAB	NOT VIAB
3	Notional site	100+40	609	164	-65	-295
		140	VIABLE	VIABLE	NOT VIAB	NOT VIAB
2	Notional site	100+40	553	108	-5,158	-349
		140	VIABLE	MARGINAL	NOT VIAB	NOT VIAB

Source: Fordham Research 2009

Conclusions

7.11 The context here is the 25% target proposed in this report as the broad-brush target for brownfield sites in York. Table 7.2 showed 10% intervals for the capacity of the notional site to carry affordable housing, and so shows that it cannot carry 30% of affordable housing, but can carry 20%, down to a threshold of five dwellings.

7.12 We did not consider lower target levels than 20%, as it would not make much sense on smaller sites (it would end up producing less than a dwelling). A 20% target would be practicable down to five dwellings, when it would mean one affordable dwelling as the result.

7.13 It is clear from these results that a target of 20% is viable on sites of five dwellings and upwards. It would also be reasonable, on this evidence, to set 25% on sites in the 11 to 15 dwelling range. Since the main target proposed is 25%, we would therefore suggest:

Sites of 5-10 dwellings: 20% affordable

Sites of 11 dwellings and above: 25% affordable

7.14 This result derives from testing on rural brownfield sites below 15 dwellings. Clearly it would also apply to rural greenfield ones, since they would have a similar cost profile in most cases. For urban sites we would suggest the same target pattern, but subject to viability on a site by site basis. That is because urban sites can vary from garden developments equivalent to the ones tested through to complex redevelopments of sites with substantial remediation costs.

8. Implications of results

Points to bear in mind

8.1 The purpose of the Affordable Housing Viability Study was to assess the impact of alternative affordable housing requirements upon development viability. In order to provide appropriate guidance, we have produced financial appraisals in respect of residential developments on a range of sites selected following discussion. Our approach has involved the use of the actual development proposals for the sites with recent planning permissions and 'model' developments for those sites for which applications have yet to be submitted. A bespoke financial appraisal package has been used to produce residual valuations for each site under a series of affordable housing options.

8.2 In order to prepare financial appraisals, whether for a general study like this or on behalf of a landowner or developer proposing a specific development, it is necessary to make a considerable number of assumptions. We believe that, in general, the assumptions we have made are fair and reasonable. They reflect considerable experience drawn from a variety of development situations and are designed to reflect the circumstances of each site which, even in a relatively compact area like the City, in practice display a certain amount of diversity. The appraisal results would produce open market land values which, compared to the limited information we have about recent values and prices currently sought for small sites in the area, are consistent and if anything somewhat lower. This suggests that the package of development assumptions is not unduly optimistic.

8.3 The relatively low land values emerging also reflect two other factors which we will need to take into account when reflecting on the appraisal results:

- The combined effect of a serious restriction on credit availability from the early autumn of 2007 and the consequential, more general, business downturn which became increasingly established from the last quarter of 2008
- The impact of relatively challenging requirements in respect of sustainability:
  - Level 3 of the Sustainability Code for both market and affordable homes, without any offsetting uplift in values
  - A 'Merton rule' requirement for renewable energy.

8.4 The financial appraisals produce a series of residual values showing the value generated for each site for all market housing, and further tested under a range of affordable housing scenarios. In an exercise of this nature, the figures have to be interpreted in order to draw conclusions for Plan policies We have suggested a basis for interpretation which draws on indicative alternative use values, and sets a standard 'cushion' over alternative use value to provide an incentive for the landowner to bring the site forward. Again, as a strategic approach, we believe this to be reasonable. Producing detailed assessments and valuations for each site would involve resources well beyond the scope of the current exercise and we suspect would probably still leave room for disputation.

8.5 There are substantial variations in house prices between different parts of the study area. We feel those areas where prices are likely to be lowest are reasonably well represented. The sites covered the 'worst case' by fully including locations in which viability is (other things equal) likely to be worst. The range of sites includes both smaller and larger sites, straightforward and complex development situations and a range of previous uses for previously developed land.

8.6 The appraisals tested various proportions of affordable housing – combined with a proposed tenure split of 60:40 social rented:intermediate housing, with intermediate housing represented by discount market housing at quite low specified values. It was assumed that grant would not routinely be available. In estimating the values which, under those terms, developers would be likely to achieve from affordable housing of the above types we have used information on estimated purchase prices drawn from our experience elsewhere.

8.7 We have taken a strategic approach ensuring in particular that the sites were treated consistently. This is because the analysis is designed to test and demonstrate City-wide deliverability in line with the requirements in national guidance. This work is a strategic study designed to inform the development of Plan policy, rather than per se, as an exercise to predict as accurately as possible the actual financial outcomes of development on specific sites. The actual sites used in the study should be regarded as indicating more general patterns of development across the study area.

Target 1: Deliverable without grant

8.8 These comments use the distinction made in the discussion of grant towards the end of Chapter 6. Target 1 is assumed to be based on zero-grant and to be designed for use in negotiations over the proportion of affordable housing on market sites. Target 2 includes assumptions about grant but would not be an operational one in the sense of entering into site negotiations. The Dynamic Viability analysis discussed in the next chapter applies solely to the first, zero grant, type of target.

8.9 The results from the appraisals (summarised in Table 6.3) indicate that at current market values and costs and zero grant, it would be possible to sustain a broad-brush target of 25%.

8.10 This target meets the PPS3 paragraph 29 requirement for being broadly deliverable, but ignores grant. It also ignores the fact that, in York, there are a number of large greenfield sites which can support targets of at least 40% (sites 1, 3, 6 and 7 in Table 6.3).

8.11 PPS3 says nothing against having a system of main target and sub-targets: it merely demands a plan-wide one. In the circumstances of York, and many other Council areas we have studied, it is efficient to have a two tier target system, namely:

Broad-brush district-wide target: 25%

Greenfield site target: 40%

8.12 Both targets are limited by site specific factors when it comes to the planning application stage, and so the applicants for planning permission can negotiate if there is a convincing viability case for doing so.

8.13 The first, 25%, target is the one used for Dynamic Viability in the next chapter. It is directly linked to the 40% greenfield target. In other words if the 25% one rises or falls by 10% due to changes in the indexes, so would the greenfield one. But there is a ceiling on the targets derived from the 2007 SHMA (paragraph 28.4) which concluded that 50% was the appropriate housing needs based target level for the City. Hence neither target can rise above that level.

8.14 Following the discussion in Chapter 7, and on site sizes of 15 dwellings and below, we would recommend:

On sites of 5-10 dwellings: a 20% target

On sites of 11-15 dwellings: a 25% target (the same as the over 15 dwelling target)

8.15 Clearly the higher of these targets would be raised or lowered by the Dynamic Viability process without any further consideration. The five to ten dwelling target would be 5% lower than the broad-brush one, whatever that might in future be as the indexes change.

Target 2: Plan-long target including grant

8.16 As discussed in Chapter 6, there is no means of predicting what target level might be deliverable when the yield of Target 1 affordable housing is added to the unknown future levels of grant over the plan period. But there is nothing to stop the City Council from stating an aspirational position for the plan period based upon its aspirations for grant. Again it would not be reasonable to go above 50%, since that is the ceiling set in the SHMA.

8.17 However there is no particular reason why it should be set any lower. It may be that grant will become more available over the next decades, and it is unlikely that the housing needs position will dramatically improve. As a result it would be quite reasonable to set 50% as the Target 2 gross of grant. Hence we would suggest:

A plan-long aspirational target of 50% including grant

8.18 This target would need to be clearly identified as not applicable to targets, and so it is not relevant to consider thresholds and site sizes in relation to it.

Commuting off the affordable housing obligation

8.19 Commuting off the affordable housing obligation means taking 'cash in lieu'. This has been rightly frowned upon in CLG Guidance from the inception of such Guidance in 1991 until the latest expression of it in PPS3 (2006).

8.20 However on small rural sites and some smaller urban ones, there may be no practical choice other than seeking a cash contribution rather than onsite provision. Assuming that the site is sufficiently viable to provide such a contribution the normal test is the equivalent cost of onsite provision which is given by Table 8.1 below. This would apply on sites of two to four dwellings.

8.21 Clearly in both rural and urban cases this would be subject to site specific negotiation and viability evidence.

Conclusions

8.22 The following table consolidates the results of the above discussion and provides summary logic:

Table 8.1 Summary of target proposals		
Nature of target	*Target*	*Comment*
Target 1: Broad-brush PPS3 target	25%	Used as the basis for Dynamic Viability in the next chapter and therefore variable as market circumstances change. Applies up to 50% on sites of 15 dwellings and above.
Greenfield target	40%	Linked by being 15% above the broad-brush one. Upper limit of 50% as with Target 1.
Sites 11-14 dwellings	25%	These targets would vary in step with the 25% broad-brush target, like the rural 40% one.
Sites 5-10 dwellings	20%	
Sites of 2-4 dwellings	N/a	No target, but cash in lieu as negotiated on the basis of site viability.
Target 2: Plan long and including grant expectations	50%	Target 2 is intended to include the proceeds of Target 1 plus the unknown future product of HCA grant over the plan period. This target is designed to inform policy but not to be applied in site negotiation. It is set at the limit of what the SHMA indicates as a target and could be set lower if the City feels that grant expectations would not permit it to be as high.

Source: Fordham Research 2009

8.23 For simplicity of use, the following table omits the summary logic. All targets are subject to site specific viability testing.

Table 8.2: Summary of affordable targets	
Nature of target	*Target*
Target 1: Broad-brush PPS3 target	25%
Greenfield target	40%
Sites 11-14 dwellings	25%
Sites 5-10 dwellings	20%
Sites of 2-4 dwellings	Cash in lieu
Target 2: Plan long and including grant expectations	50%

Source: Fordham Research 2009

9. Dynamic Viability results

9.1 This chapter takes the results of the viability analysis, the first stage, and provides a basis for policy by providing deliverable affordable housing targets through the Plan period.

What Dynamic Viability does

9.2 The Dynamic Viability model is designed to provide robust targets at all phases of the housing market during the Plan period. This is taken to mean that the full range of possibilities must be set out to the Core Strategy Inquiry, so that its Inspector can consider and decide on the level of target setting for the whole Plan period. The target cannot be left to supplementary guidance, and the alternative would be a costly re-opening of the Core Strategy Inquiry at each change in the housing market.

9.3 The model begins with the viability assessment, based on the residual valuations carried out as part of the main viability study (covering a dozen or so sites characteristic of the area). In some cases the data may refer to notional sites, agreed to represent the viability situation of the local authority area.

9.4 The Dynamic Viability approach requires that a single benchmark site, or synthetic site, is identified that currently reflects the affordable target level that is deliverable in that area. The benchmark site used for York is a brownfield one:

Site 5: Manor School

9.5 Its target proposals can be linked to greenfield sites through the suggested target differential (25% and 40% under present market conditions). This implies a 15% uplift of the target shown where the site is greenfield.

9.6 The model then takes the key factors affecting future viability and builds their future change into the model. Future change in target levels is purely dependent on published indexes. This means that the process of target setting through the Plan period is entirely transparent. The model is set up prior to the Core Strategy Inquiry, is assessed and approved in whatever form during that Inquiry, and afterwards is entirely dependent on three published indexes:

- **Price change**: We use the Halifax Price Index but others are available
- **Building costs change**: The RICS building cost index based on tenders (BCIS) provides a general index of building costs
- **Alternative use value**: The appropriate measure would depend on the specific alternative use applying to the benchmark site but usually it is the Valuation Office Agency's Industrial Land index.

9.7 The sources of the indexes are shown below, together with their current (at the date of analysis) values. The VOA figure is shown for January 2010 but represents the preceding period.

Table 9.1 Update indices		
Variable	Proposed index	Starting Value
House Price	Halifax House Price Index	Nov 2009 = 542.6
http://www.lloydsbankinggroup.com/media1/research/halifax_hpi.asp		
Build cost	BCIS General Building Cost Index	Dec 2009 = 287.3
http://www.bcis.co.uk/online		
Alternative use value	Property Market Report (VOA) Value of Industrial Land for Leeds cleared sites of 0.5 to 1.0 ha	Jan 2010 = figure is £600k per ha
http://www.voa.gov.uk/publications/property_market_report/pmr-jan-2010/index.htm		

This table is also shown as A4.1 in the appendixes

9.8 Each of the indexes is taken as a range, to produce a reasonably limited number of tabulations. The set of indices is based on the assumption that price and cost are the key changes that affect the viability of a benchmark site, and that alternative use value must be checked in case it has risen above newbuild housing value and thus limits the target in itself.

Details of the outputs

9.9 The model generates the full plausible range of target variations based on the above three indexes. The following illustration is one of a set of eight (one for each of the values for the alternative use values). In the example below it is the 'base' alternative use value. The full set of Dynamic Viability tables is presented in Appendix 4.

9.10 As will be noticed, the table below focuses upon the 25% target discussed as being deliverable in the previous chapter: the zero/zero point when looking at the percentage version of the indexes.

Figure 9.1 York City Coarse Matrix with base alternative use value

Cost Change BCIS Index	%		Price Change HPI -20%	-10%	0%	10%	20%	30%	40%	50%	60%
			434.1	488.3	542.6	596.9	651.1	705.4	759.6	813.9	868.2
	-20%	229.8	25%	40%	50%	55%	55%	55%	55%	55%	55%
	-10%	258.6	5%	25%	35%	45%	50%	55%	55%	55%	55%
	0%	287.3	0%	10%	25%	35%	40%	50%	55%	55%	55%
	10%	316.0	0%	0%	10%	25%	35%	40%	45%	50%	55%
	20%	344.8	0%	0%	0%	15%	25%	30%	40%	45%	50%
	30%	373.5	0%	0%	0%	5%	15%	25%	30%	35%	40%
	40%	402.2	0%	0%	0%	0%	5%	15%	25%	30%	35%
	50%	431.0	0%	0%	0%	0%	0%	5%	15%	25%	30%

Note that the figure shows proposed % target for each cost/price combination, with 0% change in alternative use value. The table also provides, inside the percentages, the actual values of the indexes, so that they can be read off in future

Source: Fordham Research 2009: York Viability Study.

9.11 In effect, once the Core Strategy Inquiry has approved whatever the starting target is, the rest follows automatically from the index changes. There is one further point, which is that since the array of possible index changes is extremely large, when viewed as possibilities over a decade or two, the work is done in two stages:

- *Coarse Matrix*: this is calculated in 10% intervals of the indexes (all three). The result provides broad coverage, but the change from one cell to another can produce large changes in targets: e.g. from 25% to 40%. But this stage provides wide coverage.
- *Fine Matrix*: This takes the area around the chosen target and uses 4% intervals in the indexes (the intervals can be varied). This produces results for the area around the chosen target that yield much smaller target changes: mostly 5% intervals and sometimes 10%.

9.12 Figure 9.2 shows the Fine Matrix outputs using that relate to the Figure 9.1 Coarse Matrix. Again the full set of tables will be found in Appendix 4. As will be seen from Figure 9.2, the intervals in the targets around the base case of 25% are smaller than in Figure 9.1. They permit more sensitive adjustments of the target as the index numbers change in future.

Figure 9.2 York City Fine Matrix with base alternative use value

Cost Change BCIS Index	%		Price Change HPI: -8%	-4%	0%	4%	8%	12%	16%	20%	24%
			499.2	520.9	542.6	564.3	586.0	607.7	629.4	651.1	672.8
	-8%	264.3	25%	30%	35%	40%	40%	45%	45%	50%	50%
	-4%	275.8	20%	25%	30%	35%	35%	40%	45%	45%	50%
	0%	287.3	15%	20%	25%	30%	35%	35%	40%	40%	45%
	4%	298.8	10%	15%	20%	25%	30%	30%	35%	40%	40%
	8%	310.3	0%	10%	15%	20%	25%	30%	30%	35%	40%
	12%	321.8	0%	5%	10%	15%	20%	25%	30%	30%	35%
	16%	333.3	0%	0%	5%	10%	15%	20%	25%	30%	30%
	20%	344.8	0%	0%	0%	5%	10%	15%	20%	25%	25%

Source: Fordham Research 2009: York Viability Study

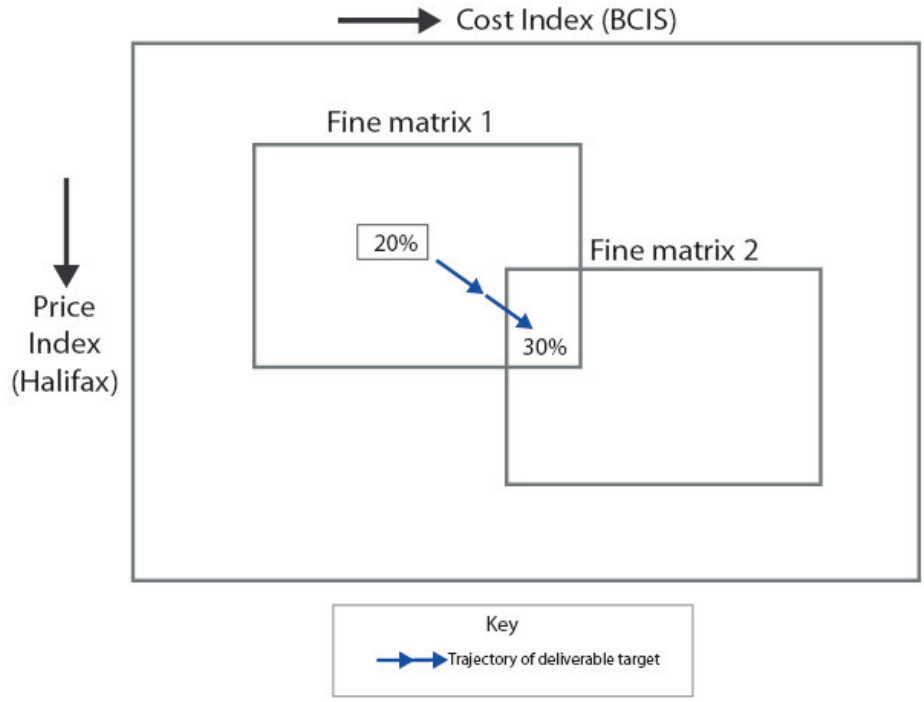
9.13 Figure 9.3 below shows how the close-up Fine Matrices relate to each other within the bigger Coarse Matrix. The trajectory shown in Fine Matrix 1 is from the initial deliverable target of 20%, through various changes in cost and price to a position of a 30% deliverable target in some years time. At that point the trajectory has reached the edge of Fine Matrix 1. It is relatively simple then to reset the index base to produce Fine Matrix 2 which includes the 30% and allows for further movement to the right. If the trajectory were in any direction that took it outside Fine Matrix 1, then Fine Matrix 2 could be adjusted to include it, and show the onward trajectory, whatever that might be.

9.14 In order to see how the Fine Matrix relates to the Coarse, it is easiest to examine the indexes as percentages: the outside rows and columns. It will be noticed that the Fine Matrix runs from -8% to +20/24% of the initial value of the matrices. The Coarse Matrix runs from -20% to +50/60% of the value of the indices. The Fine Matrix (outlined on Figure 9.2) covers around a fifth of the total area of the Coarse Matrix.

9.15 The practical point of the Fine Matrix can be seen in the much smaller intervals between the targets. In the Coarse Matrix outputs the intervals may be 10-15% between adjacent cells, but in the Fine Matrix the intervals are usually only 5%. Clearly the coverage and fineness of the Fine Matrix can be altered by varying the size of the steps, which is 4% of each index in the example. Hence the level of 'close-up' can be varied prior to the Core Strategy Inspector's decision.

9.16 It is important to emphasise that these Fine Matrices are like a 'close up' mechanism. The figures are all available from the initial Coarse Matrix and require no further policy or other judgements: they are automatically derived from the indexes. The only issue is the fineness of the intervals and the production of a manageable size of tabulation. The tabulation, of course, has to be accessible to a wide range of stakeholders and so must not be too daunting.

Figure 9.3 *Coarse* and *Fine* Matrices related



Note: This diagram is schematic and does not apply to York

Source: York Affordable Housing Viability Study, Fordham Research 2009

9.17 To provide further assistance in visualising how this system works, the following figure provides a mini-manual:

Figure 9.4 Updating the affordable target

Step 1

The starting point is the Alternative Use Value Fine Matrix Table F1. Does the current value of the Alternative use index mean that another page rather than the base page should be used? If so this is the reference for the further steps.

Step 2

Using the appropriate Fine matrix table, decided by Step 1, check the changes in the HPI and the BCIS. If either or both of these has changed by more than half the interval to the next step, then the target cell will change. This may or may not involve a target change, since some of the targets will the same in several cells.

Step 3

Publish the change in some suitable format such as the Annual Monitoring report.

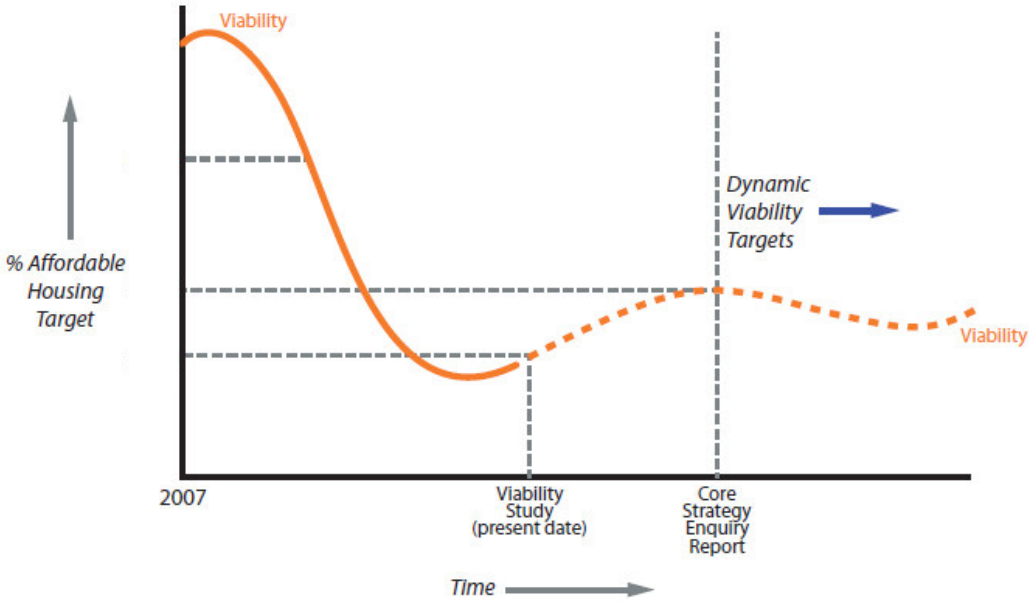
Source: Fordham Research 2009

Implementing Dynamic Viability

9.18 The Viability study which is the input into Dynamic Viability is likely to be done as part of the preparation of the Core Strategy Affordable Housing Policy. There will then be a delay of months or years until the actual Inquiry. During that period there may well be changes in the market. Thus it is likely to be necessary to redo the base viability analysis at the time of the Core Strategy Inquiry to ensure that the Dynamic Viability process starts from the period of the Inquiry.

9.19 Since the automatic target varying procedure cannot begin until approved by the Inspector's Report, it is desirable to have it as up to date as possible. Figure 9.5 indicates this process schematically.

Figure 9.5 Implementing Dynamic Viability



Note: This diagram is schematic and does not apply to York

Source: Fordham Research 2009

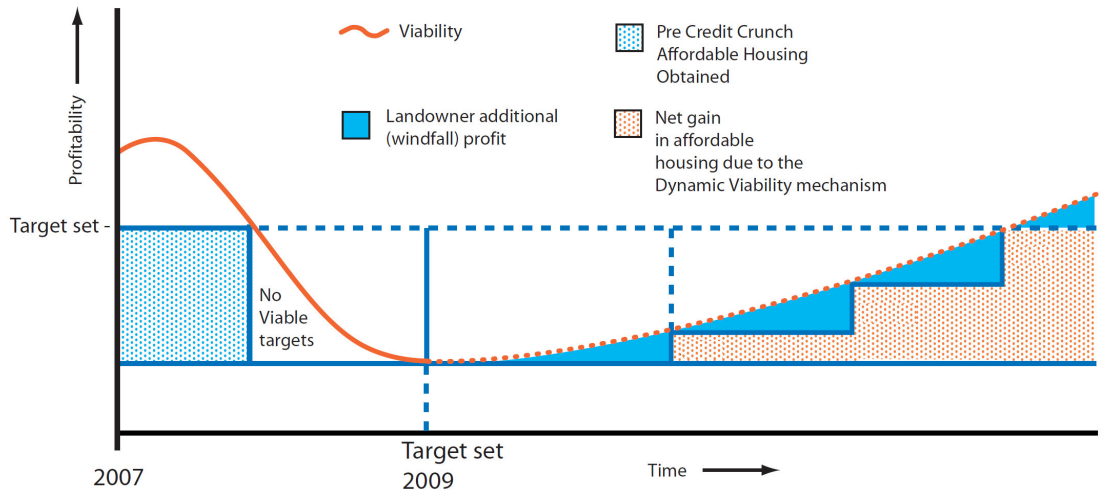
9.20 The diagram illustrates the possible change in viability between the Study and Core Strategy Inquiry. After that, of course, the Dynamic Viability matrix will take account of future variations in viability. As the diagram suggests, these could be downward as well as upward. The future course of the market is uncertain.

Conclusion

9.21 The printouts in Appendix 4 provide the detailed background to the two tables presented above. Together they allow for the Core Strategy Inquiry to set the basis for deliverable affordable housing targets over the plan period. They should achieve the practical maximum of affordable housing without prejudicing the delivery of market housing. As shown below, there will be points in the process where, if land is given planning permission, there will be a windfall land profit, and others where the enhancement of viability is largely or fully converted into an increased target.

9.22 For smaller developments the Dynamic Viability target current at the time of granting full permission or when reserved matters are determined rather than outline will be applicable through the development process. On larger developments, which contain more than one phase, an updating process will be inserted into the S106. This will provide an automatic updating of the affordable target (up or down). The mechanism already exists in the Planning Acts.

Figure 9.6 Gain of Affordable housing through Dynamic Viability



Note: This diagram is schematic and does not apply to York

Source: Fordham Research 2009:

9.23 The 'broad-brush' viability process is therefore enhanced by Dynamic Viability. It provides a process, established in the Plan, whereby deliverable targets are adjusted to the particular future housing market situation.

Appendices

Appendix 1 Comparable properties

A1.1 The schedules below provide details of a number of current newbuild developments and other comparable housing in the City area.

Table A1.1 Newbuild schemes and second-hand comparable details

Site / location	*Builder*	*No. of dwgs*	*Range of dwgs*	*Dwelling prices*
Newbuild				
The Square, York	Nixon Homes	61	2 bed apts & 3, 4 & 5 bed town houses	£175-£500k
Revival, York	Shepherd Homes	41	3, 4, 5 & 6 bed det	£295- £480k
Revival, York	Wimpey Homes	40	3, 4, 5 & 6 bed det	£299-£425k
Hungate, York	Hungate Regeneration Ltd	160	2 bed apts and 3, 4 & 5 bed mid ter	£150-£539k
Osbaldwick Lane, York	Harron Homes	32	3, 4 & 5 bed det	£230-£310k
The Croft, Heworth GreenYork	Bellway Homes	40	1 & 2 bed apts	£115-£157k
The Village, Strensall	Hogg	9	2, 3, 4 & 5 det	£235-£425k
Second-hand properties				
Wigginton			2 bed apts & 2, 3 & 4 bed houses	£208- £295k
Clifton			1 & 2 bed apts & 3 bed houses	£292- £389k

Source: Fordham Research 2009

Appendix 2 House price variations

A2.1 The indices in the table which follows compare prices in each postcode sector in the study area with an England and Wales 'average' figure – actually the median postcode value.

A2.2 The indices are standardised, to eliminate the effect of variations in type mix; separate indices for each house type are combined with weightings based on the mix of overall sales. The table shows the averages of individual indices for Q2 and Q4 2008, and Q2 2009.

Table A2.1

Postcode sector	*Areas covered in sector*	*Ave index*
YO26 9	Ouseburn	168%
YO1 9	Walmgate	153%
YO1 7	Minster Yard	153%
YO24 1	Tadcaster Road	148%
YO23 7	Appleton Roebuck	144%
YO26 8	Monkton	143%
YO30 7	St. Mary's	137%
YO23 2	Bishopthorpe	132%
YO23 1	Trafalgar Street	125%
YO31 7	Monkgate	125%
YO23 3	Askham	122%
YO30 1	Shipton	118%
YO10 4	Fulford	114%
YO41 4	Elvington	114%
YO32 5	Strensall	113%
YO26 6	Upper Poppleton	113%
YO19 6	Escrick	112%
YO19 4	Crockey Hill	110%
YO26 4	Aldborough Way	110%
YO10 5	Heslington	110%
YO31 1	Heworth	110%
YO19 5	Dunnington	108%
YO26 5	Rufforth	108%
YO1 6	Micklegate	108%
YO32 9	Earswick	107%
YO31 0	Bad Bargain Lane	106%
YO24 4	Holgate	106%
YO26 7	Tockwith	105%

Table A2.1		
Postcode sector	*Areas covered in sector*	*Ave index*
YO31 8	Haxby Road	105%
YO31 9	Huntington	103%
YO32 3	Haxby	102%
YO10 3	Osbaldwick	101%
YO32 2	Wigginton	99%
YO30 6	Clifton	99%
YO30 5	Rawcliffe	96%
YO24 2	Moor Lane	91%
YO30 4	Clifton Moor	87%
YO24 3	Comlands Road	84%

Source: Analysis of Land Registry data 2009

Notes

1. Data has been mix adjusted to remove differences in house type mix between postcode sectors; individual indices have been calculated for each house type, and combined using weights reflecting the nationwide type mix. A worked example is provided below.

Table A2.2 Worked example for YO24 1 at Q2 2009					
	Land Registry data Q2 2009				
	Detached	*Semi*	*Terraced*	*Flat*	*Total*
England & Wales – median price	£293,975	£176,472	£164,729	£188,750	
England & Wales – no. of sales	31,037	38,356	37,759	22,948	130,100
YO24 1– ave price	£312,499	£226,499	£305,666	£216,875	
YO24 1 price as % E & W median value	106.30%	128.35%	185.56%	114.90%	
Weighted average index for YO24 1=	[(31,037 x 106.30%)+(38,356 x 128.35%) +(37,759x185.56%)+(22,948 x 114.90%)] / 130,100 **= 137.3%**				

Source: Analysis of Land Registry data

Appendix 3 Small plots for sale

A3.1 The following table lists small building plots for sale. The first three sites are near to but not in the City. This is because due to the nature of York there are very few small sites on the market at any one time. In order to obtain some feeling for the prices of small plots it is therefore necessary to look a little wider.

Table A3.1 Asking prices for building sites/plots: values

Location	*No dwgs*	*site area acres*	*Asking price*	*Land value £m*	
				per acre	*per ha*
South Milford	1	0.170	£200,000	1.176	2.907
Wheldon	1	0.125	£150,000	1.200	2.965
North Newbald	1	0.220	£350,000	1.591	3.931
Holgate, York	1	0.101	£200,000	1.980	4.893
Strensall, York	1	0.064	£295,000	4.609	11.390

Source: Internet listings October 2009

Appendix 4 Proposed benchmark appraisal

A4.1 It is proposed that the benchmark site appraisal should be based upon an amended version of site 5, Manor School. The (minimal) amendment is necessary to ensure it is just viable at the proposed target level of 25%.

A4.2 The alternative use value for site 5 is industrial/warehousing land.

A4.3 The periodic review would be initiated by a specifically constituted forum including stakeholders. It would involve establishing current values of the indices in the table below. For information the table shows October 2009 'starting' values.

Table A4.1 Update indices

Variable	Proposed index	Starting Value
House Price	Halifax House Price Index	Nov 2009 = 542.6
http://www.lloydsbankinggroup.com/media1/research/halifax_hpi.asp		
Build cost	BCIS General Building Cost Index	Dec 2009 = 287.3
http://www.bcis.co.uk/online		
Alternative use value	Property Market Report (VOA) Value of Industrial Land for Leeds cleared sites of 0.5 to 1.0 ha	Jan 2010 = figure is £600k per ha
http://www.voa.gov.uk/publications/property_market_report/pmr-jan-2010/index.htm		

A4.4 The following are two sets of eight tabulations of the Coarse and Fine Matrices described in Chapter 9. They provide for the full range of possible targets and also the Alternative Use value check in eight bands of alternative use value indexes.

York Benchmark Site Appraisal

Coarse Matrix

Table C1 Base Alternative Use Value: 0% Change - £115,000 Per Acre

Cost Change BCIS Index	%		Price Change HPI -20%	-10%	0%	10%	20%	30%	40%	50%	60%
			434.1	488.3	542.6	596.9	651.1	705.4	759.6	813.9	868.2
	-20%	229.8	15%	40%	45%	55%	55%	55%	55%	55%	55%
	-10%	258.6	5%	25%	35%	45%	50%	55%	55%	55%	55%
	0%	287.3	0%	10%	25%	35%	40%	45%	50%	55%	55%
	10%	316.0	0%	0%	10%	20%	30%	40%	45%	50%	55%
	20%	344.8	0%	0%	0%	10%	20%	30%	35%	40%	45%
	30%	373.5	0%	0%	0%	0%	15%	20%	30%	35%	40%
	40%	402.2	0%	0%	0%	0%	5%	15%	20%	30%	35%
	50%	431.0	0%	0%	0%	0%	0%	5%	15%	20%	30%

Table C2 Base Alternative Use Value: -60% Change - £46,000 Per Acre

Cost Change BCIS Index	%		Price Change HPI -20%	-10%	0%	10%	20%	30%	40%	50%	60%
			434.1	488.3	542.6	596.9	651.1	705.4	759.6	813.9	868.2
	-20%	229.8	30%	45%	50%	55%	55%	55%	55%	55%	55%
	-10%	258.6	10%	30%	40%	45%	55%	55%	55%	55%	55%
	0%	287.3	0%	15%	25%	35%	45%	50%	55%	55%	55%
	10%	316.0	0%	0%	15%	25%	35%	40%	45%	50%	55%
	20%	344.8	0%	0%	0%	15%	25%	35%	40%	45%	50%
	30%	373.5	0%	0%	0%	5%	15%	25%	30%	40%	45%
	40%	402.2	0%	0%	0%	0%	5%	15%	25%	30%	35%
	50%	431.0	0%	0%	0%	0%	0%	10%	15%	25%	30%

Table C3 Base Alternative Use Value: -40% Change - £69,000 Per Acre

			Price Change HPI								
	%		*-20%*	*-10%*	*0%*	*10%*	*20%*	*30%*	*40%*	*50%*	*60%*
			434.1	488.3	542.6	596.9	651.1	705.4	759.6	813.9	868.2
Cost Change BCIS Index	*-20%*	229.8	25%	40%	50%	55%	55%	55%	55%	55%	55%
	-10%	258.6	10%	25%	40%	45%	50%	55%	55%	55%	55%
	0%	287.3	0%	10%	25%	35%	45%	50%	55%	55%	55%
	10%	316.0	0%	0%	15%	25%	35%	40%	45%	50%	55%
	20%	344.8	0%	0%	0%	15%	25%	30%	40%	45%	50%
	30%	373.5	0%	0%	0%	5%	15%	25%	30%	35%	40%
	40%	402.2	0%	0%	0%	0%	5%	15%	25%	30%	35%
	50%	431.0	0%	0%	0%	0%	0%	5%	15%	25%	30%

Table C4 Base Alternative Use Value: -20% Change - £92,000 Per Acre

			Price Change HPI								
	%		*-20%*	*-10%*	*0%*	*10%*	*20%*	*30%*	*40%*	*50%*	*60%*
			434.1	488.3	542.6	596.9	651.1	705.4	759.6	813.9	868.2
Cost Change BCIS Index	*-20%*	229.8	25%	40%	50%	55%	55%	55%	55%	55%	55%
	-10%	258.6	5%	25%	35%	45%	50%	55%	55%	55%	55%
	0%	287.3	0%	10%	25%	35%	40%	50%	55%	55%	55%
	10%	316.0	0%	0%	10%	25%	35%	40%	45%	50%	55%
	20%	344.8	0%	0%	0%	15%	25%	30%	40%	45%	45%
	30%	373.5	0%	0%	0%	0%	15%	25%	30%	35%	40%
	40%	402.2	0%	0%	0%	0%	5%	15%	25%	30%	35%
	50%	431.0	0%	0%	0%	0%	0%	5%	15%	25%	30%

Table C5 Base Alternative Use Value: +20% Change - £138,000 Per Acre

			Price Change HPI								
	%		*-20%*	*-10%*	*0%*	*10%*	*20%*	*30%*	*40%*	*50%*	*60%*
			434.1	488.3	542.6	596.9	651.1	705.4	759.6	813.9	868.2
Cost Change BCIS Index	*-20%*	229.8	20%	35%	45%	55%	55%	55%	55%	55%	55%
	-10%	258.6	0%	20%	35%	40%	50%	55%	55%	55%	55%
	0%	287.3	0%	5%	20%	30%	40%	45%	50%	55%	55%
	10%	316.0	0%	0%	10%	20%	30%	40%	45%	50%	50%
	20%	344.8	0%	0%	0%	10%	20%	30%	35%	40%	45%
	30%	373.5	0%	0%	0%	0%	10%	20%	30%	35%	40%
	40%	402.2	0%	0%	0%	0%	0%	15%	20%	30%	35%
	50%	431.0	0%	0%	0%	0%	0%	5%	15%	20%	25%

Table C6 Base Alternative Use Value: +40% Change - £161,000 Per Acre

Cost Change BCIS Index	%		Price Change HPI -20%	-10%	0%	10%	20%	30%	40%	50%	60%
			434.1	488.3	542.6	596.9	651.1	705.4	759.6	813.9	868.2
	-20%	229.8	20%	35%	45%	50%	55%	55%	55%	55%	55%
	-10%	258.6	0%	20%	30%	40%	50%	55%	55%	55%	55%
	0%	287.3	0%	5%	20%	30%	40%	45%	50%	55%	55%
	10%	316.0	0%	0%	5%	20%	30%	35%	45%	45%	50%
	20%	344.8	0%	0%	0%	10%	20%	30%	35%	40%	45%
	30%	373.5	0%	0%	0%	0%	10%	20%	30%	35%	40%
	40%	402.2	0%	0%	0%	0%	0%	10%	20%	25%	35%
	50%	431.0	0%	0%	0%	0%	0%	5%	15%	20%	25%

Table C7 Base Alternative Use Value: +60% Change - £184,000 Per Acre

Cost Change BCIS Index	%		Price Change HPI -20%	-10%	0%	10%	20%	30%	40%	50%	60%
			434.1	488.3	542.6	596.9	651.1	705.4	759.6	813.9	868.2
	-20%	229.8	15%	30%	45%	50%	55%	55%	55%	55%	55%
	-10%	258.6	0%	15%	30%	40%	45%	50%	55%	55%	55%
	0%	287.3	0%	0%	20%	30%	40%	45%	50%	55%	55%
	10%	316.0	0%	0%	5%	20%	30%	35%	40%	45%	50%
	20%	344.8	0%	0%	0%	10%	20%	30%	35%	40%	45%
	30%	373.5	0%	0%	0%	0%	10%	20%	25%	35%	40%
	40%	402.2	0%	0%	0%	0%	0%	10%	20%	25%	30%
	50%	431.0	0%	0%	0%	0%	0%	0%	10%	20%	25%

Table C8 Base Alternative Use Value: +80% Change - £207,000 Per Acre

Cost Change BCIS Index	%		Price Change HPI -20%	-10%	0%	10%	20%	30%	40%	50%	60%
			434.1	488.3	542.6	596.9	651.1	705.4	759.6	813.9	868.2
	-20%	229.8	15%	30%	40%	50%	55%	55%	55%	55%	55%
	-10%	258.6	0%	15%	30%	40%	45%	50%	55%	55%	55%
	0%	287.3	0%	0%	15%	30%	35%	45%	50%	55%	55%
	10%	316.0	0%	0%	5%	15%	25%	35%	40%	45%	50%
	20%	344.8	0%	0%	0%	5%	20%	25%	35%	40%	45%
	30%	373.5	0%	0%	0%	0%	10%	20%	25%	30%	40%
	40%	402.2	0%	0%	0%	0%	0%	10%	20%	25%	30%
	50%	431.0	0%	0%	0%	0%	0%	0%	10%	20%	25%

York Benchmark Site Appraisal

Fine Matrix

Table F1 Base Alternative Use Value: 0% Change - £115,000 Per Acre

Cost Change BCIS Index	%		Price Change HPI -8%	-4%	0%	4%	8%	12%	16%	20%	24%
			499.2	520.9	542.6	564.3	586.0	607.7	629.4	651.1	672.8
	-8%	264.3	25%	30%	30%	35%	40%	45%	45%	50%	50%
	-4%	275.8	15%	25%	25%	30%	35%	40%	40%	45%	45%
	0%	287.3	10%	15%	25%	25%	30%	35%	40%	40%	45%
	4%	298.8	5%	10%	15%	20%	25%	30%	35%	35%	40%
	8%	310.3	0%	5%	10%	20%	20%	25%	30%	35%	35%
	12%	321.8	0%	0%	5%	15%	20%	20%	25%	30%	35%
	16%	333.3	0%	0%	0%	10%	15%	20%	20%	25%	30%
	20%	344.8	0%	0%	0%	5%	10%	15%	20%	20%	25%

Table F2 Base Alternative Use Value: -30% Change - £81,000 Per Acre

Cost Change BCIS Index	%		Price Change HPI -8%	-4%	0%	4%	8%	12%	16%	20%	24%
			499.2	520.9	542.6	564.3	586.0	607.7	629.4	651.1	672.8
	-8%	264.3	25%	30%	35%	40%	40%	45%	45%	50%	50%
	-4%	275.8	20%	25%	30%	35%	35%	40%	45%	45%	50%
	0%	287.3	15%	20%	25%	30%	35%	35%	40%	40%	45%
	4%	298.8	10%	15%	20%	25%	30%	30%	35%	40%	40%
	8%	310.3	0%	10%	15%	20%	25%	30%	30%	35%	40%
	12%	321.8	0%	5%	10%	15%	20%	25%	30%	30%	35%
	16%	333.3	0%	0%	5%	10%	15%	20%	25%	30%	30%
	20%	344.8	0%	0%	0%	5%	10%	15%	20%	25%	25%

Table F3 Base Alternative Use Value: -20% Change - £92,000 Per Acre

Cost Change BCIS Index	%		Price Change HPI -8%	-4%	0%	4%	8%	12%	16%	20%	24%
			499.2	520.9	542.6	564.3	586.0	607.7	629.4	651.1	672.8
	-8%	264.3	25%	30%	35%	40%	40%	45%	45%	50%	50%
	-4%	275.8	20%	25%	30%	35%	35%	40%	45%	45%	50%
	0%	287.3	15%	20%	25%	30%	30%	35%	40%	40%	45%
	4%	298.8	5%	15%	20%	25%	30%	30%	35%	40%	40%
	8%	310.3	0%	10%	15%	20%	25%	30%	30%	35%	35%
	12%	321.8	0%	5%	10%	15%	20%	25%	25%	30%	35%
	16%	333.3	0%	0%	5%	10%	15%	20%	25%	25%	30%
	20%	344.8	0%	0%	0%	5%	10%	15%	20%	25%	25%

Table F4 Base Alternative Use Value: -10% Change - £104,000 Per Acre

Cost Change BCIS Index	%		Price Change HPI -8%	-4%	0%	4%	8%	12%	16%	20%	24%
			499.2	520.9	542.6	564.3	586.0	607.7	629.4	651.1	672.8
	-8%	264.3	25%	30%	35%	35%	40%	45%	45%	50%	50%
	-4%	275.8	20%	25%	30%	30%	35%	40%	40%	45%	45%
	0%	287.3	10%	20%	25%	30%	30%	35%	40%	40%	45%
	4%	298.8	5%	15%	20%	25%	25%	30%	35%	40%	40%
	8%	310.3	0%	5%	15%	20%	25%	25%	30%	35%	35%
	12%	321.8	0%	0%	10%	15%	20%	25%	25%	30%	35%
	16%	333.3	0%	0%	5%	10%	15%	20%	25%	25%	30%
	20%	344.8	0%	0%	0%	5%	10%	15%	20%	25%	25%

Table F5 Base Alternative Use Value: +10% Change - £127,000 Per Acre

Cost Change BCIS Index	%		Price Change HPI -8%	-4%	0%	4%	8%	12%	16%	20%	24%
			499.2	520.9	542.6	564.3	586.0	607.7	629.4	651.1	672.8
	-8%	264.3	20%	25%	30%	35%	40%	40%	45%	50%	50%
	-4%	275.8	15%	20%	25%	30%	35%	40%	40%	45%	45%
	0%	287.3	10%	15%	20%	25%	30%	35%	35%	40%	45%
	4%	298.8	5%	10%	15%	20%	25%	30%	35%	35%	40%
	8%	310.3	0%	5%	10%	15%	20%	25%	30%	35%	35%
	12%	321.8	0%	0%	5%	10%	15%	20%	25%	30%	30%
	16%	333.3	0%	0%	0%	10%	15%	20%	20%	25%	30%
	20%	344.8	0%	0%	0%	5%	10%	15%	20%	20%	25%

Table F6 Base Alternative Use Value: +20% Change - £138,000 Per Acre

Cost Change BCIS Index	%		Price Change HPI -8%	-4%	0%	4%	8%	12%	16%	20%	24%
			499.2	520.9	542.6	564.3	586.0	607.7	629.4	651.1	672.8
	-8%	264.3	20%	25%	30%	35%	40%	40%	45%	45%	50%
	-4%	275.8	15%	20%	25%	30%	35%	40%	40%	45%	45%
	0%	287.3	10%	15%	20%	25%	30%	35%	35%	40%	40%
	4%	298.8	5%	10%	15%	20%	25%	30%	35%	35%	40%
	8%	310.3	0%	5%	10%	15%	20%	25%	30%	30%	35%
	12%	321.8	0%	0%	5%	10%	15%	20%	25%	30%	30%
	16%	333.3	0%	0%	0%	5%	10%	15%	20%	25%	30%
	20%	344.8	0%	0%	0%	0%	10%	15%	15%	20%	25%

Table F7 Base Alternative Use Value: +30% Change - £150,000 Per Acre

Cost Change BCIS Index	%		Price Change HPI -8%	-4%	0%	4%	8%	12%	16%	20%	24%
			499.2	520.9	542.6	564.3	586.0	607.7	629.4	651.1	672.8
	-8%	264.3	20%	25%	30%	35%	40%	40%	45%	45%	50%
	-4%	275.8	15%	20%	25%	30%	35%	35%	40%	45%	45%
	0%	287.3	10%	15%	20%	25%	30%	35%	35%	40%	40%
	4%	298.8	5%	10%	15%	20%	25%	30%	30%	35%	40%
	8%	310.3	0%	5%	10%	15%	20%	25%	30%	30%	35%
	12%	321.8	0%	0%	5%	10%	15%	20%	25%	30%	30%
	16%	333.3	0%	0%	0%	5%	10%	15%	20%	25%	30%
	20%	344.8	0%	0%	0%	0%	5%	10%	15%	20%	25%

Table F8 Base Alternative Use Value: +40% Change - £161,000 Per Acre

Cost Change BCIS Index	%		Price Change HPI -8%	-4%	0%	4%	8%	12%	16%	20%	24%
			499.2	520.9	542.6	564.3	586.0	607.7	629.4	651.1	672.8
	-8%	264.3	20%	25%	30%	35%	35%	40%	45%	45%	50%
	-4%	275.8	15%	20%	25%	30%	35%	35%	40%	40%	45%
	0%	287.3	10%	15%	20%	25%	30%	30%	35%	40%	40%
	4%	298.8	0%	10%	15%	20%	25%	30%	30%	35%	40%
	8%	310.3	0%	5%	10%	15%	20%	25%	30%	30%	35%
	12%	321.8	0%	0%	5%	10%	15%	20%	25%	30%	30%
	16%	333.3	0%	0%	0%	5%	10%	15%	20%	25%	25%
	20%	344.8	0%	0%	0%	0%	5%	10%	15%	20%	25%

Appendix 5 Financial appraisal summaries

A5.1 The development viability **summaries** contained in the following pages set out the assumptions and outputs of the viability appraisals for a 30% affordable 'zero grant' scenario.

SITE 1: Germany Beck

Input assumptions | **Scenario & option** | Affordable 30% = 60% social rented 40% intermediate ZERO GRANT

York site viability study

Site details

Site		1 Germany Beck
Location		Fulford York
Area	ha	6.16
	acres	15.22
No dwgs		235
Density dw/ha		38.1

		£k
Contingency		
allowance	2.50%	522
Development costs		
standard % build	13.00%	2,781
plus abnormals	0.0%	0
Total	13%	
Design fees		
on build costs	10.0%	2,139
on dev costs	8%	
Planning gain & Grant contributions		
PG £ per dwg	8,000	1,880
Grant £ per dwg	0	0

PG ALL

Dwellings

Dwellings		% of dwgs	% of units	ave floor space gross sq ft	net sq ft	build cost per sq ft	build index = 1.000	sales value per sq ft
Market housing	164.5	70.00%	70.00%	1,015	1,004	87.50	87.50	237.00
						0.0%		
Affordable soc rent	42.3	18.00%	18.0%	1,015	1,004	87.50	87.50	75.00
						0.0%		
Affordable sh oship	28.2	12.00%	12.0%	1,015	1,004	87.50	87.50	98.00
Total dwgs	235.0	100.00%	100.0%					
			0.0%	0	0	0.00	0.00	0.00
			0.0%	0	0	0.00	0.00	0.00
Total units	235.0		100.0%	238,525	235,940		£20,870,938	£45,102,290

Floorspace density = 15,501 net sq ft per acre

Other costs

Planning	521.6	£ per dwelling
Survey	200	£ per dwelling
Marketing	0	£ per dwelling

Interest
% per annum 7.50%

Notes

SITE 1 LAND COST & PHASING

Land

Iterate to achieve 20.0% profit

		Affordable	No affordable	Hectare: Affordable	Hectare: No affordable
Land purchase price	£	5,333,730	11,320,841		
RV per acre	£	350,411	743,747	£865,865	£1,837,799
Dev profit	£	7,067,089	9,321,144		
Total costs	£	38,036,926	46,598,361		
profit as % of costs		18.58%	20.00%		

Programme		Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	Year 5 Q1	Q2	Q3	Q4	Year 6 Q1	Q2	Q3	Q4	TOTALS
Units started	*Market housing*			0.0	7.0	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	0.0	0.0	0.0	0.0	0.0	164.5
	Affordable soc rent			0.0	1.8	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	0.0	0.0	0.0	0.0	0.0	42.3
	Affordable sh oship			0.0	1.2	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	0.0	0.0	0.0	0.0	0.0	28.2
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL	0	0	0	10	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	0	0	0	0	0	235.0
Units 'built'	*Market housing*					0	7	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	0	0	0	165
+2Q	*Affordable soc rent*					0	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	42
	Affordable sh oship					0	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	28
	0					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Units completed	*Market housing*						0	7	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	0	0	165
+3Q	*Affordable soc rent*						0	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	42
	Affordable sh oship						0	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	28
	0						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Units purchased	*Market housing*							0	7	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	0	165
+4Q	*Affordable soc rent*							0	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	42
	Affordable sh oship							0	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	28
	0							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SITE 1 CASH FLOW AFFORDABLE

		rate	Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	Year 5 Q1	Q2	Q3	Q4	Year 6 Q1	Q2	Q3	Q4	TOTALS
INCOME																											
Housing sales	*Market housing*		0	0	0	0	0	0	0	1,666	2,498	2,498	2,498	2,498	2,498	2,498	2,498	2,498	2,498	2,498	2,498	2,498	2,498	2,498	2,498	0	39,142
	Affordable soc rent		0	0	0	0	0	0	0	136	203	203	203	203	203	203	203	203	203	203	203	203	203	203	203	0	3,185
	Affordable sh oship		0	0	0	0	0	0	0	118	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	0	2,775
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sales fees		0	0	0	0	0	0	0	-61	-91	-91	-91	-91	-91	-91	-91	-91	-91	-91	-91	-91	-91	-91	-91	0	-1,428
Total income			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,919**	**2,879**	**2,879**	**2,879**	**2,879**	**2,879**	**2,879**	**2,879**	**2,879**	**2,879**	**2,879**	**2,879**	**2,879**	**2,879**	**2,879**	**2,879**	**0**	**45,102**
COSTS																											
Land	*Land acquisition*		5,334																								5,334
	Stamp duty		213																								213
	Purchase fees		147																								147
	Total																										**5,694**
Build costs	*Market housing*		0	0	0	0	0	622	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	0	0	0	14,610
	Affordable soc rent		0	0	0	0	0	160	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	0	0	0	3,757
	Affordable sh oship		0	0	0	0	0	107	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	0	0	0	2,505
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Build contingency	*2.5%*	0	0	0	0	0	22	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	0	0	0	522
	Total																										**21,393**
Dev costs	*Upfront*	*6.5%*	348	348	348	348																					1,391
	Build related	*6.5%*	0	0	0	59	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	0	0	0	0	0	1,391
	Abnormals	*0%*	0	0																							0
	Total																										**2,781**
Fees	*Fees on build costs*	*10.0%*	0	0	0	0	0	91	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	0	0	0	2,139
	Fees on dev costs	*8.0%*	28	28	28	33	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	0	0	0	0	0	222
	Total																										**2,362**
PG	*Planning gain*				0	80	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	0	0	0	0	0	1,880
	Total																										**1,880**
Grant	*Grant*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																										**0**
Other	*Planning*	*£522*	41	41	41																						123
	Survey	*£200*	47																								47
	Marketing	*£0*			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																										**170**
Sales fees	*b/forward from above*		0	0	0	0	0	0	0	61	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	0	**1,428**
Total costs			**6,157**	**416**	**416**	**519**	**216**	**1,217**	**1,718**	**1,779**	**1,809**	**1,809**	**1,809**	**1,809**	**1,809**	**1,809**	**1,809**	**1,809**	**1,809**	**1,809**	**1,809**	**1,593**	**1,593**	**91**	**91**	**0**	**35,706**
Net profit/loss from quarter			**-6,157**	**-416**	**-416**	**-519**	**-216**	**-1,217**	**-1,718**	**141**	**1,070**	**1,070**	**1,070**	**1,070**	**1,070**	**1,070**	**1,070**	**1,070**	**1,070**	**1,070**	**1,070**	**1,286**	**1,286**	**2,788**	**2,788**	**0**	**9,396**
Profit/loss bf from last quarter			0	-6,272	-6,814	-7,366	-8,033	-8,403	-9,801	-11,735	-11,811	-10,943	-10,058	-9,157	-8,238	-7,303	-6,350	-5,379	-4,390	-3,382	-2,356	-1,310	-24	1,285	4,149	7,067	
Cumulative profit/loss			-6,157	-6,689	-7,230	-7,885	-8,249	-9,621	-11,519	-11,594	-10,742	-9,873	-8,988	-8,087	-7,169	-6,233	-5,280	-4,309	-3,320	-2,312	-1,286	-24	1,261	4,073	6,937	7,067	
Interest	*Charged at*	*7.50%*	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	0.00%	
	Total		-115	-125	-136	-148	-155	-180	-216	-217	-201	-185	-169	-152	-134	-117	-99	-81	-62	-43	-24	0	24	76	130	0	**-2,331**
Cumulative developer profit carried forward to RV calc			**-6,272**	**-6,814**	**-7,366**	**-8,033**	**-8,403**	**-9,801**	**-11,735**	**-11,811**	**-10,943**	**-10,058**	**-9,157**	**-8,238**	**-7,303**	**-6,350**	**-5,379**	**-4,390**	**-3,382**	**-2,356**	**-1,310**	**-24**	**1,285**	**4,149**	**7,067**	**7,067**	**7,065**
HAS DEVELOPMENT FINISHED?			**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**YES**	**STOP**	
Costs for calculating % profit																											**38,037**
																											19%

SITE 2: Lowfield Sec. School

Input assumptions | **Scenario & option** | Affordable 30% = 60% social rented 40% intermediate ZERO GRANT

York site viability study

Site details

Site		2 Lowfield Sec School
Location		Dijon Ave., York
Area	ha	3.90
	acres	9.64
No dwgs		183
Density dw/ha		46.9

		£k
Contingency		
allowance	5.00%	676
Development costs		
standard % build	12.00%	1,704
plus abnormals	2.1%	300
Total	14%	
Design fees		
on build costs	10.0%	1,420
on dev costs	8%	
Planning gain & Grant contributions		
PG £ per dwg	8,000	1,464
Grant £ per dwg	0	0
PG ALL		

Dwellings

Dwellings		% of dwgs	% of units	ave floor space gross sq ft	ave floor space net sq ft	build cost per sq ft	build index = 1.000	sales value per sq ft
Market housing	128.1	70.00%	70.00%	835	816	88.50	88.50	216.00
						0.0%		
Affordable soc rent	32.9	18.00%	18.0%	835	816	88.50	88.50	76.00
						0.0%		
Affordable sh oship	22.0	12.00%	12.0%	835	816	88.50	88.50	98.00
Total dwgs	183.0	100.00%	100.0%					
			0.0%	0	0	0.00	0.00	0.00
			0.0%	0	0	0.00	0.00	0.00
Total units	183.0		100.0%	152,805	149,328		£13,523,243	£26,377,298

Floorspace density = 15,495 net sq ft per acre

Other costs

Planning	500.7	£ per dwelling
Survey	500	£ per dwelling
Marketing	0	£ per dwelling

Interest

% per annum 7.50%

Notes

SITE 2 LAND COST & PHASING

Land

Iterate to achieve 20.0% profit

		Affordable	No affordable	Hectare: Affordable	Hectare: No affordable
Land purchase price	£	983,633	4,209,254		
RV per acre	£	102,069	436,785	£252,214	£1,079,296
Dev profit	£	4,131,892	5,382,283		
Total costs	£	22,247,056	26,874,215		
profit as % of costs		18.57%	20.03%		

Programme		Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	Year 5 Q1	Q2	Q3	Q4	Year 6 Q1	Q2	Q3	Q4	TOTALS
Units started	*Market housing*			0.0	0.7	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	0.0	0.0	0.0	0.0	0.0	0.0	128.1
	Affordable soc rent			0.0	0.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	0.0	0.0	0.0	0.0	0.0	0.0	32.9
	Affordable sh oship			0.0	0.1	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	22.0
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL	0	0	0	1	13	13	13	13	13	13	13	13	13	13	13	13	13	13	0	0	0	0	0	0	183.0
Units 'built'	*Market housing*					0	1	9	9	9	9	9	9	9	9	9	9	9	9	9	9	0	0	0	0	128
+2Q	*Affordable soc rent*					0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	33
	Affordable sh oship					0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	22
	0					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Units completed	*Market housing*						0	1	9	9	9	9	9	9	9	9	9	9	9	9	9	9	0	0	0	128
+3Q	*Affordable soc rent*						0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	33
	Affordable sh oship						0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	22
	0						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Units purchased	*Market housing*							0	1	9	9	9	9	9	9	9	9	9	9	9	9	9	9	0	0	128
+4Q	*Affordable soc rent*							0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	33
	Affordable sh oship							0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	22
	0							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SITE 2 CASH FLOW AFFORDABLE

		rate	Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	Year 5 Q1	Q2	Q3	Q4	Year 6 Q1	Q2	Q3	Q4	TOTALS
INCOME																											
Housing sales	*Market housing*		0	0	0	0	0	0	0	123	1,604	1,604	1,604	1,604	1,604	1,604	1,604	1,604	1,604	1,604	1,604	1,604	1,604	1,604	0	0	22,578
	Affordable soc rent		0	0	0	0	0	0	0	11	145	145	145	145	145	145	145	145	145	145	145	145	145	145	0	0	2,043
	Affordable sh oship		0	0	0	0	0	0	0	10	125	125	125	125	125	125	125	125	125	125	125	125	125	125	0	0	1,756
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sales fees		0	0	0	0	0	0	0	-5	-59	-59	-59	-59	-59	-59	-59	-59	-59	-59	-59	-59	-59	-59	0	0	-827
Total income			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**144**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**1,874**	**0**	**0**	**26,377**
COSTS																											
Land	*Land acquisition*		984																								984
	Stamp duty		39																								39
	Purchase fees		27																								27
	Total																										**1,050**
Build costs	*Market housing*		0	0	0	0	0	52	672	672	672	672	672	672	672	672	672	672	672	672	672	672	0	0	0	0	9,466
	Affordable soc rent		0	0	0	0	0	13	173	173	173	173	173	173	173	173	173	173	173	173	173	173	0	0	0	0	2,434
	Affordable sh oship		0	0	0	0	0	9	115	115	115	115	115	115	115	115	115	115	115	115	115	115	0	0	0	0	1,623
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Build contingency	*5.0%*	0	0	0	0	0	4	48	48	48	48	48	48	48	48	48	48	48	48	48	48	0	0	0	0	676
	Total																										**14,199**
Dev costs	*Upfront*	*6.0%*	213	213	213	213																					852
	Build related	*6.0%*	0	0	0	5	61	61	61	61	61	61	61	61	61	61	61	61	61	61	0	0	0	0	0	0	852
	Abnormals	*2%*	150	150																							300
	Total																										**2,004**
Fees	*Fees on build costs*	*10.0%*	0	0	0	0	0	8	101	101	101	101	101	101	101	101	101	101	101	101	101	101	0	0	0	0	1,420
	Fees on dev costs	*8.0%*	29	29	17	17	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0	0	0	0	0	0	160
	Total																										**1,580**
PG	*Planning gain*				0	8	104	104	104	104	104	104	104	104	104	104	104	104	104	104	0	0	0	0	0	0	1,464
	Total																										**1,464**
Grant	*Grant*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																										**0**
Other	*Planning*	*£501*	31	31	31																						92
	Survey	*£500*	92																								92
	Marketing	*£0*			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																										**183**
Sales fees	*b/forward from above*		0	0	0	0	0	0	0	5	59	59	59	59	59	59	59	59	59	59	59	59	59	59	0	0	**827**
Total costs			**1,564**	**422**	**261**	**243**	**169**	**255**	**1,279**	**1,283**	**1,338**	**1,338**	**1,338**	**1,338**	**1,338**	**1,338**	**1,338**	**1,338**	**1,338**	**1,338**	**1,168**	**1,168**	**59**	**59**	**0**	**0**	**21,307**
Net profit/loss from quarter			**-1,564**	**-422**	**-261**	**-243**	**-169**	**-255**	**-1,279**	**-1,139**	**536**	**536**	**536**	**536**	**536**	**536**	**536**	**536**	**536**	**536**	**705**	**705**	**1,815**	**1,815**	**0**	**0**	**5,070**
Profit/loss bf from last quarter			0	-1,593	-2,053	-2,357	-2,649	-2,871	-3,184	-4,547	-5,793	-5,355	-4,909	-4,455	-3,992	-3,521	-3,041	-2,551	-2,053	-1,545	-1,028	-328	384	2,241	4,132	4,132	
Cumulative profit/loss			-1,564	-2,016	-2,314	-2,600	-2,818	-3,126	-4,463	-5,686	-5,256	-4,819	-4,373	-3,919	-3,456	-2,985	-2,504	-2,015	-1,517	-1,009	-322	377	2,199	4,056	4,132	4,132	
Interest	*Charged at*	*7.50%*	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	0.00%	0.00%	
	Total		-29	-38	-43	-49	-53	-59	-84	-107	-99	-90	-82	-73	-65	-56	-47	-38	-28	-19	-6	7	41	76	0	0	**-940**
Cumulative developer profit carried forward to RV calc			**-1,593**	**-2,053**	**-2,357**	**-2,649**	**-2,871**	**-3,184**	**-4,547**	**-5,793**	**-5,355**	**-4,909**	**-4,455**	**-3,992**	**-3,521**	**-3,041**	**-2,551**	**-2,053**	**-1,545**	**-1,028**	**-328**	**384**	**2,241**	**4,132**	**4,132**	**4,132**	**4,130**
HAS DEVELOPMENT FINISHED?			**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**YES**	**STOP**	**STOP**	
Costs for calculating % profit																											**22,247**
																											19%

SITE 3: Metcalfe Lane Osbaldwick

Input assumptions | **Scenario & option** | Affordable30% = 60% social rented 40% intermediate ZERO GRANT

York site viability study

Site details

Site		Metcalf Lane
Location		Osbaldwick
Area	ha	5.05
	acres	12.48
No dwgs		180
Density dw/ha		35.6

		£k
Contingency		
allowance	2.50%	423
Development costs		
standard % build	13.00%	2,254
plus abnormals	2.9%	500
Total	16%	
Design fees		
on build costs	10.0%	1,734
on dev costs	8%	
Planning gain & Grant contributions		
PG £ per dwg	8,000	1,440
Grant £ per dwg	0	0
PG ALL		

Dwellings

Dwellings		% of dwgs	% of units	ave floor space gross sq ft	net sq ft	build cost per sq ft	build index = 1.000	sales value per sq ft
Market housing	126.0	70.00%	70.00%	1,068	1,057	88.00	88.00	219.00
						0.0%		
Affordable soc rent	32.4	18.00%	18.0%	1,068	1,057	88.00	88.00	75.00
						0.0%		
Affordable sh oship	21.6	12.00%	12.0%	1,068	1,057	88.00	88.00	97.00
Total dwgs	180.0	100.00%	100.0%					
			0.0%	0	0	0.00	0.00	0.00
			0.0%	0	0	0.00	0.00	0.00
Total units	180.0		100.0%	192,240	190,260		£16,917,120	£33,949,994

Floorspace density = 15,247 net sq ft per acre

Other costs

Planning	499.2	£ per dwelling
Survey	200	£ per dwelling
Marketing	0	£ per dwelling

Interest
% per annum 7.50%

Notes

SITE 3 LAND COST & PHASING

Land

Iterate to achieve 20.0% profit

		Affordable	No affordable	Hectare: Affordable	Hectare: No affordable
Land purchase price	£	**2,375,179**	**6,678,025**		
RV per acre	£	**190,341**	**535,160**	**£470,332**	**£1,322,381**
Dev profit	£	**5,303,358**	**6,950,971**		
Total costs	£	**28,648,211**	**34,717,544**		
profit as % of costs		**18.51%**	**20.02%**		

Programme		Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	Year 5 Q1	Q2	Q3	Q4	Year 6 Q1	Q2	Q3	Q4	TOTALS
Units started	*Market housing*			0.0	7.7	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	126.0
	Affordable soc rent			0.0	2.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.4
	Affordable sh oship			0.0	1.3	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.6
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL	0	0	0	11	13	13	13	13	13	13	13	13	13	13	13	13	13	0	0	0	0	0	0	0	180.0
Units 'built'	*Market housing*					0	8	9	9	9	9	9	9	9	9	9	9	9	9	9	0	0	0	0	0	126
+2Q	*Affordable soc rent*					0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	32
	Affordable sh oship					0	1	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	22
	0					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Units completed	*Market housing*						0	8	9	9	9	9	9	9	9	9	9	9	9	9	0	0	0	0	0	126
+3Q	*Affordable soc rent*						0	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	32
	Affordable sh oship						0	1	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	22
	0						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Units purchased	*Market housing*							0	8	9	9	9	9	9	9	9	9	9	9	9	9	0	0	0	0	126
+4Q	*Affordable soc rent*							0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	32
	Affordable sh oship							0	1	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	22
	0							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SITE 3 CASH FLOW AFFORDABLE

		rate	Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	Year 5 Q1	Q2	Q3	Q4	Year 6 Q1	Q2	Q3	Q4	TOTALS
INCOME																											
Housing sales	*Market housing*		0	0	0	0	0	0	0	1,782	2,106	2,106	2,106	2,106	2,106	2,106	2,106	2,106	2,106	2,106	2,106	2,106	2,106	0	0	0	29,167
	Affordable soc rent		0	0	0	0	0	0	0	157	186	186	186	186	186	186	186	186	186	186	186	186	186	0	0	0	2,569
	Affordable sh oship		0	0	0	0	0	0	0	135	160	160	160	160	160	160	160	160	160	160	160	160	160	0	0	0	2,215
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sales fees		0	0	0	0	0	0	0	-65	-77	-77	-77	-77	-77	-77	-77	-77	-77	-77	-77	-77	-77	0	0	0	-1,067
Total income			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2,075**	**2,452**	**2,452**	**2,452**	**2,452**	**2,452**	**2,452**	**2,452**	**2,452**	**2,452**	**2,452**	**2,452**	**2,452**	**2,452**	**0**	**0**	**0**	**33,950**
COSTS																											
Land	*Land acquisition*		2,368																								2,368
	Stamp duty		95																								95
	Purchase fees		65																								65
	Total																										**2,528**
Build costs	*Market housing*		0	0	0	0	0	724	855	855	855	855	855	855	855	855	855	855	855	855	855	0	0	0	0	0	11,842
	Affordable soc rent		0	0	0	0	0	186	220	220	220	220	220	220	220	220	220	220	220	220	220	0	0	0	0	0	3,045
	Affordable sh oship		0	0	0	0	0	124	147	147	147	147	147	147	147	147	147	147	147	147	147	0	0	0	0	0	2,030
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Build contingency	*2.5%*	0	0	0	0	0	26	31	31	31	31	31	31	31	31	31	31	31	31	31	0	0	0	0	0	423
	Total																										**17,340**
Dev costs	*Upfront*	*6.5%*	282	282	282	282																					1,127
	Build related	*6.5%*	0	0	0	69	81	81	81	81	81	81	81	81	81	81	81	81	81	0	0	0	0	0	0	0	1,127
	Abnormals	*3%*	250	250																							500
	Total																										**2,754**
Fees	*Fees on build costs*	*10.0%*	0	0	0	0	0	106	125	125	125	125	125	125	125	125	125	125	125	125	125	0	0	0	0	0	1,734
	Fees on dev costs	*8.0%*	43	43	23	28	7	7	7	7	7	7	7	7	7	7	7	7	7	0	0	0	0	0	0	0	220
	Total																										**1,954**
PG	*Planning gain*				0	88	104	104	104	104	104	104	104	104	104	104	104	104	104	0	0	0	0	0	0	0	1,440
	Total																										**1,440**
Grant	*Grant*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																										**0**
Other	*Planning*	*£499*	30	30	30																						90
	Survey	*£200*	36																								36
	Marketing	*£0*			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																										**126**
Sales fees	*b/forward from above*		0	0	0	0	0	0	0	65	77	77	77	77	77	77	77	77	77	77	77	77	77	0	0	0	**1,067**
Total costs			**3,168**	**604**	**334**	**467**	**192**	**1,358**	**1,569**	**1,635**	**1,647**	**1,647**	**1,647**	**1,647**	**1,647**	**1,647**	**1,647**	**1,647**	**1,647**	**1,455**	**1,455**	**77**	**77**	**0**	**0**	**0**	**27,210**
Net profit/loss from quarter			**-3,168**	**-604**	**-334**	**-467**	**-192**	**-1,358**	**-1,569**	**440**	**805**	**805**	**805**	**805**	**805**	**805**	**805**	**805**	**805**	**997**	**997**	**2,375**	**2,375**	**0**	**0**	**0**	**6,740**
Profit/loss bf from last quarter			0	-3,228	-3,904	-4,318	-4,874	-5,161	-6,640	-8,364	-8,072	-7,403	-6,721	-6,027	-5,319	-4,598	-3,864	-3,116	-2,353	-1,577	-591	415	2,842	5,315	5,315	5,315	
Cumulative profit/loss			-3,168	-3,832	-4,238	-4,784	-5,066	-6,518	-8,210	-7,924	-7,267	-6,598	-5,916	-5,221	-4,514	-3,793	-3,058	-2,310	-1,548	-580	407	2,789	5,217	5,315	5,315	5,315	
Interest	*Charged at*	*7.50%*	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	0.00%	0.00%	0.00%	
	Total		-59	-72	-79	-90	-95	-122	-154	-149	-136	-124	-111	-98	-85	-71	-57	-43	-29	-11	8	52	98	0	0	0	**-1,427**
Cumulative developer profit carried forward to RV calc			**-3,228**	**-3,904**	**-4,318**	**-4,874**	**-5,161**	**-6,640**	**-8,364**	**-8,072**	**-7,403**	**-6,721**	**-6,027**	**-5,319**	**-4,598**	**-3,864**	**-3,116**	**-2,353**	**-1,577**	**-591**	**415**	**2,842**	**5,315**	**5,315**	**5,315**	**5,315**	**5,313**
HAS DEVELOPMENT FINISHED?			**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**YES**	**STOP**	**STOP**	**STOP**	
Costs for calculating % profit																											**28,637**
																											19%

SITE 4: Hungate

Input assumptions | **Scenario & option** | Affordable 30% = 60% social rented 40% intermediate ZERO GRANT

York site viability study

Site details

Site		4 Hungate
Location		City Centre York
Area	ha	0.73
	acres	1.80
No dwgs		163
Density dw/ha		223.3

		£k
Contingency		
allowance	5.00%	858
Development costs		
standard % build	9.00%	1,621
plus abnormals	13.1%	2,350
Total	22%	
Design fees		
on build costs	10.0%	1,801
on dev costs	8%	
Planning gain & Grant contributions		
PG £ per dwg	8,000	1,304
Grant £ per dwg	0	0

FLAG PG ALL

Dwellings

Dwellings		% of dwgs	% of units	ave floor space gross sq ft	ave floor space net sq ft	build cost per sq ft	build index = 1.000	sales value per sq ft
Market housing	114.1	70.00%	70.00%	919	835	114.50	114.50	314.00
						0.0%		
Affordable soc rent	29.3	18.00%	18.0%	919	835	114.50	114.50	78.00
						0.0%		
Affordable sh oship	19.6	12.00%	12.0%	919	835	114.50	114.50	101.00
Total dwgs	163.0	100.00%	100.0%					
			0.0%	0	0	0.00	0.00	0.00
			0.0%	0	0	0.00	0.00	0.00
Total units	163.0		100.0%	149,797	136,105		£17,151,757	£33,476,386

Floorspace density = 75,453 net sq ft per acre

Other costs

Planning	489.2	£ per dwelling
Survey	500	£ per dwelling
Marketing	0	£ per dwelling

Interest
% per annum 7.50%

Notes

SITE 4 LAND COST & PHASING

Land

Iterate to achieve 20.0% profit

		Affordable	No affordable	Hectare: Affordable	Hectare: No affordable
Land purchase price	£	-217,890	5,050,158		
RV per acre	£	-120,793	2,799,686	-£298,479	£6,918,025
Dev profit	£	5,225,808	7,124,838		
Total costs	£	28,252,153	35,613,707		
profit as % of costs		18.50%	20.01%		

Programme		Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	Year 5 Q1	Q2	Q3	Q4	Year 6 Q1	Q2	Q3	Q4	TOTALS
Units started	*Market housing*			0.0	0.0	9.1	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	114.1
	Affordable soc rent			0.0	0.0	2.3	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.3
	Affordable sh oship			0.0	0.0	1.6	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.6
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL	0	0	0	0	13	15	15	15	15	15	15	15	15	15	15	0	0	0	0	0	0	0	0	0	163.0
Units 'built'	*Market housing*						0	0	9	11	11	11	11	11	11	11	11	11	11	0	0	0	0	0	0	114
+2Q	*Affordable soc rent*						0	0	2	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	29
	Affordable sh oship						0	0	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	20
	0						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Units completed	*Market housing*								0	0	9	11	11	11	11	11	11	11	11	0	0	0	0	0	0	114
+3Q	*Affordable soc rent*								0	0	2	3	3	3	3	3	3	3	3	0	0	0	0	0	0	29
	Affordable sh oship								0	0	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	20
	0								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Units purchased	*Market housing*									0	0	9	11	11	11	11	11	11	11	11	0	0	0	0	0	114
+4Q	*Affordable soc rent*									0	0	2	3	3	3	3	3	3	3	3	0	0	0	0	0	29
	Affordable sh oship									0	0	2	2	2	2	2	2	2	2	2	0	0	0	0	0	20
	0									0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0									0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SITE 4 CASH FLOW AFFORDABLE

		rate	Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	Year 5 Q1	Q2	Q3	Q4	Year 6 Q1	Q2	Q3	Q4	TOTALS
INCOME																											
Housing sales	*Market housing*		0	0	0	0	0	0	0	0	0	0	2,386	2,753	2,753	2,753	2,753	2,753	2,753	2,753	2,753	2,753	2,753	0	0	0	29,916
	Affordable soc rent		0	0	0	0	0	0	0	0	0	0	152	176	176	176	176	176	176	176	176	176	176	0	0	0	1,911
	Affordable sh oship		0	0	0	0	0	0	0	0	0	0	132	152	152	152	152	152	152	152	152	152	152	0	0	0	1,650
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sales fees		0	0	0	0	0	0	0	0	0	0	-86	-100	-100	-100	-100	-100	-100	-100	-100	-100	-100	0	0	0	-1,081
Total income			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2,670**	**3,081**	**3,081**	**3,081**	**3,081**	**3,081**	**3,081**	**3,081**	**3,081**	**3,081**	**3,081**	**0**	**0**	**0**	**33,476**
COSTS																											
Land	*Land acquisition*		-218																								-218
	Stamp duty		0																								0
	Purchase fees		-6																								-6
	Total																										**-224**
Build costs	*Market housing*		0	0	0	0	0	0	0	958	1,105	1,105	1,105	1,105	1,105	1,105	1,105	1,105	1,105	1,105	0	0	0	0	0	0	12,006
	Affordable soc rent		0	0	0	0	0	0	0	246	284	284	284	284	284	284	284	284	284	284	0	0	0	0	0	0	3,087
	Affordable sh oship		0	0	0	0	0	0	0	164	189	189	189	189	189	189	189	189	189	189	0	0	0	0	0	0	2,058
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Build contingency	*5.0%*	0	0	0	0	0	0	0	68	79	79	79	79	79	79	79	79	79	79	0	0	0	0	0	0	858
	Total																										**18,009**
Dev costs	*Upfront*	*4.5%*	203	203	203	203																					810
	Build related	*4.5%*	0	0	0	0	0	65	75	75	75	75	75	75	75	75	75	75	0	0	0	0	0	0	0	0	810
	Abnormals	*13%*	1,175	1,175																							2,350
	Total																										**3,971**
Fees	*Fees on build costs*	*10.0%*	0	0	0	0	0	0	0	144	166	166	166	166	166	166	166	166	166	166	0	0	0	0	0	0	1,801
	Fees on dev costs	*8.0%*	110	110	16	16	0	5	6	6	6	6	6	6	6	6	6	6	0	0	0	0	0	0	0	0	318
	Total																										**2,119**
PG	*Planning gain*				0	0	104	120	120	120	120	120	120	120	120	120	120	0	0	0	0	0	0	0	0	0	1,304
	Total																										**1,304**
Grant	*Grant*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																										**0**
Other	*Planning*	*£489*	27	27	27																						80
	Survey	*£500*	82																								82
	Marketing	*£0*			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																										**161**
Sales fees	*b/forward from above*		0	0	0	0	0	0	0	0	0	0	86	100	100	100	100	100	100	100	100	100	100	0	0	0	**1,081**
Total costs			**1,372**	**1,515**	**245**	**219**	**104**	**190**	**201**	**1,781**	**2,024**	**2,024**	**2,110**	**2,123**	**2,123**	**2,123**	**2,123**	**2,003**	**1,923**	**1,923**	**100**	**100**	**100**	**0**	**0**	**0**	**26,422**
Net profit/loss from quarter			**-1,372**	**-1,515**	**-245**	**-219**	**-104**	**-190**	**-201**	**-1,781**	**-2,024**	**-2,024**	**560**	**958**	**958**	**958**	**958**	**1,078**	**1,158**	**1,158**	**2,981**	**2,981**	**2,981**	**0**	**0**	**0**	**7,055**
Profit/loss bf from last quarter			0	-1,398	-2,967	-3,272	-3,557	-3,729	-3,992	-4,271	-6,165	-8,342	-10,560	-10,188	-9,403	-8,604	-7,789	-6,960	-5,993	-4,925	-3,837	-872	2,148	5,226	5,226	5,226	
Cumulative profit/loss			-1,372	-2,912	-3,212	-3,491	-3,661	-3,919	-4,193	-6,052	-8,189	-10,366	-10,000	-9,230	-8,445	-7,646	-6,832	-5,882	-4,834	-3,767	-856	2,109	5,130	5,226	5,226	5,226	
Interest	*Charged at*	*7.50%*	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	0.00%	0.00%	0.00%	
	Total		-26	-55	-60	-65	-69	-73	-79	-113	-154	-194	-188	-173	-158	-143	-128	-110	-91	-71	-16	40	96	0	0	0	**-1,830**
Cumulative developer profit carried forward to RV calc			**-1,398**	**-2,967**	**-3,272**	**-3,557**	**-3,729**	**-3,992**	**-4,271**	**-6,165**	**-8,342**	**-10,560**	**-10,188**	**-9,403**	**-8,604**	**-7,789**	**-6,960**	**-5,993**	**-4,925**	**-3,837**	**-872**	**2,148**	**5,226**	**5,226**	**5,226**	**5,226**	**5,224**
HAS DEVELOPMENT FINISHED?			**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**YES**	**STOP**	**STOP**	**STOP**	
Costs for calculating % profit																											**28,252**
																											18%

SITE 5: Manor School

Input assumptions | **Scenario & option** | Affordable 30% = 60% social rented 40% intermediate ZERO GRANT

York site viability study

Site details

Site		5 Manor School
Location		Osbaldwick, York
Area	ha	3.01
	acres	7.44
No dwgs		141
Density dw/ha		46.8

		£k
Contingency		
allowance	5.00%	522
Development costs		
standard % build	12.00%	1,314
plus abnormals	2.7%	300
Total	15%	
Design fees		
on build costs	10.0%	1,095
on dev costs	8%	
Planning gain & Grant contributions		
PG £ per dwg	8,000	1,128
Grant £ per dwg	0	0

PG ALL

Dwellings

Dwellings		% of dwgs	% of units	ave floor space gross sq ft	ave floor space net sq ft	build cost per sq ft	build index = 1.000	sales value per sq ft
Market housing	98.7	70.00%	70.00%	836	818	88.50	88.50	229.00
						0.0%		
Affordable soc rent	25.4	18.00%	18.0%	836	818	88.50	88.50	76.00
						0.0%		
Affordable sh oship	16.9	12.00%	12.0%	836	818	88.50	88.50	98.00
Total dwgs	141.0	100.00%	100.0%					
			0.0%	0	0	0.00	0.00	0.00
			0.0%	0	0	0.00	0.00	0.00
Total units	141.0		100.0%	117,876	115,338		£10,432,026	£21,422,880

Floorspace density = 15,507 net sq ft per acre

Other costs

Planning	472.7	£ per dwelling
Survey	500	£ per dwelling
Marketing	0	£ per dwelling

Interest

% per annum 7.50%

Notes

SITE 5 LAND COST & PHASING

Land

Iterate to achieve 20.0% profit

		Affordable	No affordable	Hectare: Affordable	Hectare: No affordable
Land purchase price	£	1,451,330	4,303,922		
RV per acre	£	195,131	578,662	£482,170	£1,429,875
Dev profit	£	3,351,157	4,403,299		
Total costs	£	18,073,299	22,010,678		
profit as % of costs		18.54%	20.01%		

Programme		Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	Year 5 Q1	Q2	Q3	Q4	Year 6 Q1	Q2	Q3	Q4	TOTALS
Units started	*Market housing*			0.0	6.3	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	98.7
	Affordable soc rent			0.0	1.6	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.4
	Affordable sh oship			0.0	1.1	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.9
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL	0	0	0	9	12	12	12	12	12	12	12	12	12	12	12	0	0	0	0	0	0	0	0	0	141.0
Units 'built'	*Market housing*					0	6	8	8	8	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	99
+2Q	*Affordable soc rent*					0	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	25
	Affordable sh oship					0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	17
	0					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Units completed	*Market housing*						0	6	8	8	8	8	8	8	8	8	8	8	8	0	0	0	0	0	0	99
+3Q	*Affordable soc rent*						0	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	25
	Affordable sh oship						0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	17
	0						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Units purchased	*Market housing*							0	6	8	8	8	8	8	8	8	8	8	8	8	0	0	0	0	0	99
+4Q	*Affordable soc rent*							0	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	25
	Affordable sh oship							0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	17
	0							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SITE 5 CASH FLOW AFFORDABLE

		rate	Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	Year 5 Q1	Q2	Q3	Q4	Year 6 Q1	Q2	Q3	Q4	TOTALS
INCOME																											
Housing sales	*Market housing*		0	0	0	0	0	0	0	1,180	1,574	1,574	1,574	1,574	1,574	1,574	1,574	1,574	1,574	1,574	1,574	0	0	0	0	0	18,489
	Affordable soc rent		0	0	0	0	0	0	0	101	134	134	134	134	134	134	134	134	134	134	134	0	0	0	0	0	1,578
	Affordable sh oship		0	0	0	0	0	0	0	87	115	115	115	115	115	115	115	115	115	115	115	0	0	0	0	0	1,356
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sales fees		0	0	0	0	0	0	0	-43	-57	-57	-57	-57	-57	-57	-57	-57	-57	-57	-57	0	0	0	0	0	-675
Total income			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,367**	**1,823**	**1,823**	**1,823**	**1,823**	**1,823**	**1,823**	**1,823**	**1,823**	**1,823**	**1,823**	**1,823**	**0**	**0**	**0**	**0**	**0**	**21,423**
COSTS																											
Land	*Land acquisition*		1,451																								1,451
	Stamp duty		58																								58
	Purchase fees		40																								40
	Total																										**1,549**
Build costs	*Market housing*		0	0	0	0	0	466	621	621	621	621	621	621	621	621	621	621	621	0	0	0	0	0	0	0	7,302
	Affordable soc rent		0	0	0	0	0	120	160	160	160	160	160	160	160	160	160	160	160	0	0	0	0	0	0	0	1,878
	Affordable sh oship		0	0	0	0	0	80	107	107	107	107	107	107	107	107	107	107	107	0	0	0	0	0	0	0	1,252
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Build contingency	*5.0%*	0	0	0	0	0	33	44	44	44	44	44	44	44	44	44	44	44	0	0	0	0	0	0	0	522
	Total																										**10,954**
Dev costs	*Upfront*	*6.0%*	164	164	164	164																					657
	Build related	*6.0%*	0	0	0	42	56	56	56	56	56	56	56	56	56	56	56	0	0	0	0	0	0	0	0	0	657
	Abnormals	*3%*	150	150																							300
	Total																										**1,615**
Fees	*Fees on build costs*	*10.0%*	0	0	0	0	0	70	93	93	93	93	93	93	93	93	93	93	93	0	0	0	0	0	0	0	1,095
	Fees on dev costs	*8.0%*	25	25	13	17	4	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0	129
	Total																										**1,225**
PG	*Planning gain*				0	72	96	96	96	96	96	96	96	96	96	96	96	0	0	0	0	0	0	0	0	0	1,128
	Total																										**1,128**
Grant	*Grant*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																										**0**
Other	*Planning*	*£473*	22	22	22																						67
	Survey	*£500*	71																								71
	Marketing	*£0*			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																										**137**
Sales fees	*b/forward from above*		0	0	0	0	0	0	0	43	57	57	57	57	57	57	57	57	57	57	57	0	0	0	0	0	**675**
Total costs			**1,982**	**362**	**200**	**295**	**156**	**925**	**1,182**	**1,225**	**1,239**	**1,239**	**1,239**	**1,239**	**1,239**	**1,239**	**1,239**	**1,083**	**1,083**	**57**	**57**	**0**	**0**	**0**	**0**	**0**	**17,282**
Net profit/loss from quarter			**-1,982**	**-362**	**-200**	**-295**	**-156**	**-925**	**-1,182**	**142**	**584**	**584**	**584**	**584**	**584**	**584**	**584**	**740**	**740**	**1,766**	**1,766**	**0**	**0**	**0**	**0**	**0**	**4,140**
Profit/loss bf from last quarter			0	-2,019	-2,425	-2,674	-3,024	-3,240	-4,244	-5,527	-5,485	-4,993	-4,492	-3,981	-3,461	-2,931	-2,391	-1,841	-1,121	-388	1,404	3,229	3,289	3,351	3,351	3,351	
Cumulative profit/loss			-1,982	-2,380	-2,625	-2,968	-3,180	-4,165	-5,425	-5,385	-4,902	-4,409	-3,908	-3,398	-2,877	-2,347	-1,807	-1,101	-381	1,378	3,169	3,229	3,289	3,351	3,351	3,351	
Interest	*Charged at*	*7.50%*	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	0.00%	0.00%	0.00%	
	Total		-37	-45	-49	-56	-60	-78	-102	-101	-92	-83	-73	-64	-54	-44	-34	-21	-7	26	59	61	62	0	0	0	**-791**
Cumulative developer profit carried forward to RV calc			**-2,019**	**-2,425**	**-2,674**	**-3,024**	**-3,240**	**-4,244**	**-5,527**	**-5,485**	**-4,993**	**-4,492**	**-3,981**	**-3,461**	**-2,931**	**-2,391**	**-1,841**	**-1,121**	**-388**	**1,404**	**3,229**	**3,289**	**3,351**	**3,351**	**3,351**	**3,351**	**3,350**
HAS DEVELOPMENT FINISHED?			**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**YES**	**STOP**	**STOP**	**STOP**	
Costs for calculating % profit																											18,073
																											19%

SITE 6: The Brecks, Strensall

Input assumptions | **Scenario & option** | Affordable 30% = 60% social rented 40% intermediate ZERO GRANT

York site viability study

Site details

Site		6 Adjacent the Brecks
Location		Strensall, York
Area	ha	3.99
	acres	9.86
No dwgs		120
Density dw/ha		30.1

		£k
Contingency		
allowance	2.50%	302
Development costs		
standard % build	13.50%	1,670
plus abnormals	0.3%	40
Total	14%	
Design fees		
on build costs	10.0%	1,237
on dev costs	8%	
Planning gain & Grant contributions		
PG £ per dwg	8,000	960
Grant £ per dwg	0	0
PG ALL		

Dwellings

Dwellings		% of dwgs	% of units	ave floor space gross sq ft	net sq ft	build cost per sq ft	build index = 1.000	sales value per sq ft
Market housing	84.0	70.00%	70.00%	1,156	1,150	87.00	87.00	217.00
						0.0%		
Affordable soc rent	21.6	18.00%	18.0%	1,156	1,150	87.00	87.00	75.00
						0.0%		
Affordable sh oship	14.4	12.00%	12.0%	1,156	1,150	87.00	87.00	97.00
Total dwgs	120.0	100.00%	100.0%					
			0.0%	0	0	0.00	0.00	0.00
			0.0%	0	0	0.00	0.00	0.00
Total units	120.0		100.0%	138,720	138,000		£12,068,640	£24,431,520

Floorspace density = 13,997 net sq ft per acre

Other costs

Planning	451.3	£ per dwelling
Survey	200	£ per dwelling
Marketing	0	£ per dwelling

Interest
% per annum 7.50%

Notes

SITE 6 LAND COST & PHASING

Land

Iterate to achieve 20.0% profit

		Affordable	No affordable	Hectare: Affordable	Hectare: No affordable
Land purchase price	£	2,160,468	5,298,790		
RV per acre	£	219,130	537,441	£541,471	£1,328,017
Dev profit	£	3,820,059	4,995,622		
Total costs	£	20,612,811	24,951,728		
profit as % of costs		18.53%	20.02%		

Programme		Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	Year 5 Q1	Q2	Q3	Q4	TOTALS
Units started	*Market housing*			0.0	7.0	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	0.0	0.0	0.0	0.0	0.0	0.0	84.0
	Affordable soc rent			0.0	1.8	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	21.6
	Affordable sh oship			0.0	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	14.4
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL	0	0	0	10	11	11	11	11	11	11	11	11	11	11	0	0	0	0	0	0	120.0
Units 'built'	*Market housing*					0	7	8	8	8	8	8	8	8	8	8	8	0	0	0	0	84
+2Q	*Affordable soc rent*					0	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	22
	Affordable sh oship					0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	14
	0					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Units completed	*Market housing*						0	7	8	8	8	8	8	8	8	8	8	8	0	0	0	84
+3Q	*Affordable soc rent*						0	2	2	2	2	2	2	2	2	2	2	2	0	0	0	22
	Affordable sh oship						0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	14
	0						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Units purchased	*Market housing*							0	7	8	8	8	8	8	8	8	8	8	8	0	0	84
+4Q	*Affordable soc rent*							0	2	2	2	2	2	2	2	2	2	2	2	0	0	22
	Affordable sh oship							0	1	1	1	1	1	1	1	1	1	1	1	0	0	14
	0							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SITE 6 CASH FLOW AFFORDABLE

		rate	Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	Year 5 Q1	Q2	Q3	Q4	TOTALS
INCOME																							
Housing sales	*Market housing*		0	0	0	0	0	0	0	1,747	1,922	1,922	1,922	1,922	1,922	1,922	1,922	1,922	1,922	1,922	0	0	20,962
	Affordable soc rent		0	0	0	0	0	0	0	155	171	171	171	171	171	171	171	171	171	171	0	0	1,863
	Affordable sh oship		0	0	0	0	0	0	0	134	147	147	147	147	147	147	147	147	147	147	0	0	1,606
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sales fees		0	0	0	0	0	0	0	-64	-70	-70	-70	-70	-70	-70	-70	-70	-70	-70	0	0	-767
Total income			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2,036**	**2,240**	**2,240**	**2,240**	**2,240**	**2,240**	**2,240**	**2,240**	**2,240**	**2,240**	**2,240**	**0**	**0**	**24,432**
COSTS																							
Land	*Land acquisition*		2,160																				2,160
	Stamp duty		86																				86
	Purchase fees		59																				59
	Total																						**2,306**
Build costs	*Market housing*		0	0	0	0	0	704	774	774	774	774	774	774	774	774	774	774	0	0	0	0	8,448
	Affordable soc rent		0	0	0	0	0	181	199	199	199	199	199	199	199	199	199	199	0	0	0	0	2,172
	Affordable sh oship		0	0	0	0	0	121	133	133	133	133	133	133	133	133	133	133	0	0	0	0	1,448
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Build contingency	*2.5%*	0	0	0	0	0	25	28	28	28	28	28	28	28	28	28	28	0	0	0	0	302
	Total																						**12,370**
Dev costs	*Upfront*	*6.8%*	209	209	209	209																	835
	Build related	*6.8%*	0	0	0	70	77	77	77	77	77	77	77	77	77	77	0	0	0	0	0	0	835
	Abnormals	*0%*	20	20																			40
	Total																						**1,710**
Fees	*Fees on build costs*	*10.0%*	0	0	0	0	0	103	113	113	113	113	113	113	113	113	113	113	0	0	0	0	1,237
	Fees on dev costs	*8.0%*	18	18	17	22	6	6	6	6	6	6	6	6	6	6	0	0	0	0	0	0	137
	Total																						**1,374**
PG	*Planning gain*				0	80	88	88	88	88	88	88	88	88	88	88	0	0	0	0	0	0	960
	Total																						**960**
Grant	*Grant*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																						**0**
Other	*Planning*	*£451*	18	18	18																		54
	Survey	*£200*	24																				24
	Marketing	*£0*			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																						**78**
Sales fees	*b/forward from above*		0	0	0	0	0	0	0	64	70	70	70	70	70	70	70	70	70	70	0	0	**767**
Total costs			**2,595**	**265**	**243**	**381**	**171**	**1,305**	**1,418**	**1,482**	**1,488**	**1,488**	**1,488**	**1,488**	**1,488**	**1,488**	**1,318**	**1,318**	**70**	**70**	**0**	**0**	**19,565**
Net profit/loss from quarter			**-2,595**	**-265**	**-243**	**-381**	**-171**	**-1,305**	**-1,418**	**554**	**751**	**751**	**751**	**751**	**751**	**751**	**922**	**922**	**2,169**	**2,169**	**0**	**0**	**4,866**
Profit/loss bf from last quarter			0	-2,644	-2,963	-3,267	-3,716	-3,959	-5,362	-6,907	-6,472	-5,828	-5,172	-4,504	-3,823	-3,129	-2,422	-1,529	-618	1,580	3,820	3,820	
Cumulative profit/loss			-2,595	-2,909	-3,207	-3,647	-3,886	-5,264	-6,780	-6,353	-5,721	-5,077	-4,421	-3,753	-3,072	-2,378	-1,500	-607	1,551	3,750	3,820	3,820	
Interest	*Charged at*	*7.50%*	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	0.00%	0.00%	
	Total		-49	-55	-60	-68	-73	-99	-127	-119	-107	-95	-83	-70	-58	-45	-28	-11	29	70	0	0	**-1,048**
Cumulative developer profit carried forward to RV calc			**-2,644**	**-2,963**	**-3,267**	**-3,716**	**-3,959**	**-5,362**	**-6,907**	**-6,472**	**-5,828**	**-5,172**	**-4,504**	**-3,823**	**-3,129**	**-2,422**	**-1,529**	**-618**	**1,580**	**3,820**	**3,820**	**3,820**	**3,819**
HAS DEVELOPMENT FINISHED?			**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**YES**	**STOP**	**STOP**	
Costs for calculating % profit																							**20,613**
																							19%

SITE 7: Askham Bar Park & Ride

Input assumptions | **Scenario & option** | Affordable 30% = 60% social rented 40% intermediate ZERO GRANT

York site viability study

Site details

Site		7 Askham Bar Park & Ride
Location		York
Area	ha	1.28
	acres	3.16
No dwgs		60
Density dw/ha		46.9

		£k
Contingency		
allowance	5.00%	222
Development costs		
standard % build	12.00%	559
plus abnormals	0.4%	20
Total	12%	
Design fees		
on build costs	10.0%	466
on dev costs	8%	
Planning gain & Grant contributions		
PG £ per dwg	8,000	480
Grant £ per dwg	0	0

PG ALL

Dwellings

Dwellings		% of dwgs	% of units	ave floor space gross sq ft	ave floor space net sq ft	build cost per sq ft	build index = 1.000	sales value per sq ft
Market housing	42.0	70.00%	70.00%	835	817	88.50	88.50	247.00
						0.0%		
Affordable soc rent	10.8	18.00%	18.0%	835	817	88.50	88.50	76.00
						0.0%		
Affordable sh oship	7.2	12.00%	12.0%	835	817	88.50	88.50	98.00
Total dwgs	60.0	100.00%	100.0%					
			0.0%	0	0	0.00	0.00	0.00
			0.0%	0	0	0.00	0.00	0.00
Total units	60.0		100.0%	50,100	49,020		£4,433,850	£9,722,627

Floorspace density = 15,499 net sq ft per acre

Other costs

Planning	307.5	£ per dwelling
Survey	500	£ per dwelling
Marketing	0	£ per dwelling

Interest
% per annum 7.50%

Notes

SITE 7 LAND COST & PHASING

Land

Iterate to achieve 20.0% profit

		Affordable	No affordable	Hectare: Affordable	Hectare: No affordable
Land purchase price	£	1,081,935	2,469,714		
RV per acre	£	342,073	780,843	£845,262	£1,929,464
Dev profit	£	1,524,163	2,026,103		
Total costs	£	8,199,588	10,082,962		
profit as % of costs		18.59%	20.09%		

Programme		Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	TOTALS
Units started	*Market housing*			0.0	2.8	5.6	5.6	5.6	5.6	5.6	5.6	5.6	0.0	0.0	0.0	0.0	0.0	42.0
	Affordable soc rent			0.0	0.7	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.0	0.0	0.0	0.0	0.0	10.8
	Affordable sh oship			0.0	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	7.2
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL	0	0	0	4	8	8	8	8	8	8	8	0	0	0	0	0	60.0
Units 'built' +2Q	*Market housing*					0	3	6	6	6	6	6	6	6	0	0	0	42
	Affordable soc rent					0	1	1	1	1	1	1	1	1	0	0	0	11
	Affordable sh oship					0	0	1	1	1	1	1	1	1	0	0	0	7
	0					0	0	0	0	0	0	0	0	0	0	0	0	0
	0					0	0	0	0	0	0	0	0	0	0	0	0	0
Units completed +3Q	*Market housing*						0	3	6	6	6	6	6	6	6	0	0	42
	Affordable soc rent						0	1	1	1	1	1	1	1	1	0	0	11
	Affordable sh oship						0	0	1	1	1	1	1	1	1	0	0	7
	0						0	0	0	0	0	0	0	0	0	0	0	0
	0						0	0	0	0	0	0	0	0	0	0	0	0
Units purchased +4Q	*Market housing*							0	3	6	6	6	6	6	6	6	0	42
	Affordable soc rent							0	1	1	1	1	1	1	1	1	0	11
	Affordable sh oship							0	0	1	1	1	1	1	1	1	0	7
	0							0	0	0	0	0	0	0	0	0	0	0
	0							0	0	0	0	0	0	0	0	0	0	0

SITE 7 CASH FLOW AFFORDABLE

		rate	Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	TOTALS
INCOME																			
Housing sales	*Market housing*		0	0	0	0	0	0	0	565	1,130	1,130	1,130	1,130	1,130	1,130	1,130	0	8,476
	Affordable soc rent		0	0	0	0	0	0	0	45	89	89	89	89	89	89	89	0	671
	Affordable sh oship		0	0	0	0	0	0	0	38	77	77	77	77	77	77	77	0	576
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sales fees		0	0	0	0	0	0	0	-21	-41	-41	-41	-41	-41	-41	-41	0	-309
Total income			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**648**	**1,296**	**1,296**	**1,296**	**1,296**	**1,296**	**1,296**	**1,296**	**0**	**9,723**
COSTS																			
Land	*Land acquisition*		1,082																1,082
	Stamp duty		43																43
	Purchase fees		30																30
	Total																		**1,155**
Build costs	*Market housing*		0	0	0	0	0	207	414	414	414	414	414	414	414	0	0	0	3,104
	Affordable soc rent		0	0	0	0	0	53	106	106	106	106	106	106	106	0	0	0	798
	Affordable sh oship		0	0	0	0	0	35	71	71	71	71	71	71	71	0	0	0	532
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Build contingency	*5.0%*	0	0	0	0	0	15	30	30	30	30	30	30	30	0	0	0	222
	Total																		**4,656**
Dev costs	*Upfront*	*6.0%*	70	70	70	70													279
	Build related	*6.0%*	0	0	0	19	37	37	37	37	37	37	37	0	0	0	0	0	279
	Abnormals	*0%*	10	10															20
	Total																		**579**
Fees	*Fees on build costs*	*10.0%*	0	0	0	0	0	31	62	62	62	62	62	62	62	0	0	0	466
	Fees on dev costs	*8.0%*	6	6	6	7	3	3	3	3	3	3	3	0	0	0	0	0	46
	Total																		**512**
PG	*Planning gain*				0	32	64	64	64	64	64	64	64	0	0	0	0	0	480
	Total																		**480**
Grant	*Grant*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																		**0**
Other	*Planning*	*£308*	6	6	6														18
	Survey	*£500*	30																30
	Marketing	*£0*			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																		**48**
Sales fees	*b/forward from above*		0	0	0	0	0	0	0	21	41	41	41	41	41	41	41	0	**309**
Total costs			**1,277**	**92**	**82**	**128**	**104**	**446**	**787**	**808**	**828**	**828**	**828**	**724**	**724**	**41**	**41**	**0**	**7,738**
Net profit/loss from quarter			**-1,277**	**-92**	**-82**	**-128**	**-104**	**-446**	**-787**	**-159**	**468**	**468**	**468**	**572**	**572**	**1,255**	**1,255**	**0**	**1,984**
Profit/loss bf from last quarter			0	-1,301	-1,420	-1,529	-1,688	-1,826	-2,314	-3,159	-3,380	-2,967	-2,545	-2,116	-1,573	-1,019	241	1,524	
Cumulative profit/loss			-1,277	-1,394	-1,501	-1,657	-1,792	-2,271	-3,101	-3,318	-2,912	-2,499	-2,077	-1,544	-1,000	236	1,496	1,524	
Interest	*Charged at*	*7.50%*	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	0.00%	
	Total		-24	-26	-28	-31	-34	-43	-58	-62	-55	-47	-39	-29	-19	4	28	0	**-461**
Cumulative developer profit carried forward to RV calc			**-1,301**	**-1,420**	**-1,529**	**-1,688**	**-1,826**	**-2,314**	**-3,159**	**-3,380**	**-2,967**	**-2,545**	**-2,116**	**-1,573**	**-1,019**	**241**	**1,524**	**1,524**	**1,523**
HAS DEVELOPMENT FINISHED?			**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**YES**	**STOP**	
Costs for calculating % profit																			**8,200**
																			19%

SITE 8: Discus Bungalows

Input assumptions | **Scenario & option** | Affordable 30% = 60% social rented 40% intermediate ZERO GRANT

York site viability study

Site details

Site		8 Discuss Bungalows
Location		Regent St., York
Area	ha	1.10
	acres	2.72
No dwgs		58
Density dw/ha		52.7

		£k
Contingency		
allowance	5.00%	229
Development costs		
standard % build	11.50%	553
plus abnormals	10.2%	490
Total	22%	
Design fees		
on build costs	10.0%	480
on dev costs	8%	
Planning gain & Grant contributions		
PG £ per dwg	8,000	464
Grant £ per dwg	0	0
PG ALL		

Dwellings

Dwellings		% of dwgs	% of units	ave floor space gross sq ft	ave floor space net sq ft	build cost per sq ft	build index = 1.000	sales value per sq ft
Market housing	40.6	70.00%	70.00%	867	831	91.00	91.00	213.00
						0.0%		
Affordable soc rent	10.4	18.00%	18.0%	867	831	91.00	91.00	76.00
						0.0%		
Affordable sh oship	7.0	12.00%	12.0%	867	831	91.00	91.00	99.00
Total dwgs	58.0	100.00%	100.0%					
			0.0%	0	0	0.00	0.00	0.00
			0.0%	0	0	0.00	0.00	0.00
Total units	58.0		100.0%	50,286	48,198		£4,576,026	£8,418,263

Floorspace density = 17,732 net sq ft per acre

Other costs

Planning	297.6	£ per dwelling
Survey	500	£ per dwelling
Marketing	0	£ per dwelling

Interest
% per annum 7.50%

Notes

SITE 8 LAND COST & PHASING

Land

Iterate to achieve 20.0% profit

		Affordable	No affordable	Hectare Affordable	Hectare No affordable
Land purchase price	£	-334,978	767,572		
RV per acre	£	-123,240	282,393	-£304,525	£697,793
Dev profit	£	1,316,405	1,712,921		
Total costs	£	7,102,982	8,554,378		
profit as % of costs		18.53%	20.02%		

Programme		Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	TOTALS
Units started	*Market housing*			0.0	1.4	5.6	5.6	5.6	5.6	5.6	5.6	5.6	0.0	0.0	0.0	0.0	0.0	40.6
	Affordable soc rent			0.0	0.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.0	0.0	0.0	0.0	0.0	10.4
	Affordable sh oship			0.0	0.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	7.0
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL	0	0	0	2	8	8	8	8	8	8	8	0	0	0	0	0	58.0
Units 'built'	*Market housing*					0	1	6	6	6	6	6	6	6	0	0	0	41
+2Q	*Affordable soc rent*					0	0	1	1	1	1	1	1	1	0	0	0	10
	Affordable sh oship					0	0	1	1	1	1	1	1	1	0	0	0	7
	0					0	0	0	0	0	0	0	0	0	0	0	0	0
	0					0	0	0	0	0	0	0	0	0	0	0	0	0
Units completed	*Market housing*						0	1	6	6	6	6	6	6	6	0	0	41
+3Q	*Affordable soc rent*						0	0	1	1	1	1	1	1	1	0	0	10
	Affordable sh oship						0	0	1	1	1	1	1	1	1	0	0	7
	0						0	0	0	0	0	0	0	0	0	0	0	0
	0						0	0	0	0	0	0	0	0	0	0	0	0
Units purchased	*Market housing*							0	1	6	6	6	6	6	6	6	0	41
+4Q	*Affordable soc rent*							0	0	1	1	1	1	1	1	1	0	10
	Affordable sh oship							0	0	1	1	1	1	1	1	1	0	7
	0							0	0	0	0	0	0	0	0	0	0	0
	0							0	0	0	0	0	0	0	0	0	0	0

SITE 8 CASH FLOW AFFORDABLE

		rate	Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	TOTALS
INCOME																			
Housing sales	*Market housing*		0	0	0	0	0	0	0	248	991	991	991	991	991	991	991	0	7,186
	Affordable soc rent		0	0	0	0	0	0	0	23	91	91	91	91	91	91	91	0	659
	Affordable sh oship		0	0	0	0	0	0	0	20	79	79	79	79	79	79	79	0	573
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sales fees		0	0	0	0	0	0	0	-9	-36	-36	-36	-36	-36	-36	-36	0	-263
Total income			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**290**	**1,161**	**1,161**	**1,161**	**1,161**	**1,161**	**1,161**	**1,161**	**0**	**8,418**
COSTS																			
Land	*Land acquisition*		-335																-335
	Stamp duty		0																0
	Purchase fees		-9																-9
	Total																		**-344**
Build costs	*Market housing*		0	0	0	0	0	110	442	442	442	442	442	442	442	0	0	0	3,203
	Affordable soc rent		0	0	0	0	0	28	114	114	114	114	114	114	114	0	0	0	824
	Affordable sh oship		0	0	0	0	0	19	76	76	76	76	76	76	76	0	0	0	549
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Build contingency	*5.0%*	0	0	0	0	0	8	32	32	32	32	32	32	32	0	0	0	229
	Total																		**4,805**
Dev costs	*Upfront*	*5.8%*	69	69	69	69													276
	Build related	*5.8%*	0	0	0	10	38	38	38	38	38	38	38	0	0	0	0	0	276
	Abnormals	*10%*	245	245															490
	Total																		**1,043**
Fees	*Fees on build costs*	*10.0%*	0	0	0	0	0	17	66	66	66	66	66	66	66	0	0	0	480
	Fees on dev costs	*8.0%*	25	25	6	6	3	3	3	3	3	3	3	0	0	0	0	0	83
	Total																		**564**
PG	*Planning gain*				0	16	64	64	64	64	64	64	64	0	0	0	0	0	464
	Total																		**464**
Grant	*Grant*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																		**0**
Other	*Planning*	*£298*	6	6	6														17
	Survey	*£500*	29																29
	Marketing	*£0*			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																		**46**
Sales fees	*b/forward from above*		0	0	0	0	0	0	0	9	36	36	36	36	36	36	36	0	**263**
Total costs			**30**	**345**	**80**	**101**	**105**	**287**	**834**	**843**	**870**	**870**	**870**	**765**	**765**	**36**	**36**	**0**	**6,841**
Net profit/loss from quarter			**-30**	**-345**	**-80**	**-101**	**-105**	**-287**	**-834**	**-553**	**291**	**291**	**291**	**396**	**396**	**1,125**	**1,125**	**0**	**1,577**
Profit/loss bf from last quarter			0	-30	-382	-471	-583	-701	-1,007	-1,875	-2,474	-2,224	-1,969	-1,710	-1,339	-961	167	1,316	
Cumulative profit/loss			-30	-375	-463	-572	-688	-988	-1,841	-2,428	-2,183	-1,933	-1,679	-1,314	-943	164	1,292	1,316	
Interest	*Charged at*	*7.50%*	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	0.00%	
	Total		-1	-7	-9	-11	-13	-19	-35	-46	-41	-36	-31	-25	-18	3	24	0	**-262**
Cumulative developer profit carried forward to RV calc			**-30**	**-382**	**-471**	**-583**	**-701**	**-1,007**	**-1,875**	**-2,474**	**-2,224**	**-1,969**	**-1,710**	**-1,339**	**-961**	**167**	**1,316**	**1,316**	**1,315**
HAS DEVELOPMENT FINISHED?			**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**YES**	**STOP**	
Costs for calculating % profit																			**7,103**
																			19%

SITE 10: Delivery Off, Birch Park

Input assumptions | **Scenario & option** | Affordable 30% = 60% social rented 40% intermediate ZERO GRANT

York site viability study

Site details

Site		10 R/O Del Off, Birch Park
Location		Huntington Road, York
Area	ha	0.42
	acres	1.04
No dwgs		37
Density dw/ha		88.1

		£k
Contingency		
allowance	5.00%	139
Development costs		
standard % build	10.50%	307
plus abnormals	2.6%	75
Total	13%	
Design fees		
on build costs	10.0%	293
on dev costs	8%	
Planning gain & Grant contributions		
PG £ per dwg	8,000	296
Grant £ per dwg	0	0

PG ALL

Dwellings

Dwellings		% of dwgs	% of units	ave floor space gross sq ft	ave floor space net sq ft	build cost per sq ft	build index = 1.000	sales value per sq ft
Market housing	25.9	70.00%	70.00%	777	701	97.00	97.00	231.00
						0.0%		
Affordable soc rent	6.7	18.00%	18.0%	777	701	97.00	97.00	78.00
						0.0%		
Affordable sh oship	4.4	12.00%	12.0%	777	701	97.00	97.00	101.00
Total dwgs	37.0	100.00%	100.0%					
			0.0%	0	0	0.00	0.00	0.00
			0.0%	0	0	0.00	0.00	0.00
Total units	37.0		100.0%	28,749	25,937		£2,788,653	£4,872,525

Floorspace density = 24,992 net sq ft per acre

Other costs

Planning	515.0	£ per dwelling
Survey	500	£ per dwelling
Marketing	0	£ per dwelling

Interest
% per annum 7.50%

Notes

SITE 10 LAND COST & PHASING

Land

Iterate to achieve 20.0% profit

		Affordable	No affordable	Hectare: Affordable	Hectare: No affordable
Land purchase price	£	-140,935	539,000		
RV per acre	£	-135,799	519,358	-£335,560	£1,283,333
Dev profit	£	762,631	1,000,459		
Total costs	£	4,110,868	4,991,963		
profit as % of costs		18.55%	20.04%		

Programme		Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	TOTALS
Units started	*Market housing*			0.0	1.4	4.9	4.9	4.9	4.9	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.9
	Affordable soc rent			0.0	0.4	1.3	1.3	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7
	Affordable sh oship			0.0	0.2	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL	0	0	0	2	7	7	7	7	7	0	0	0	0	0	0	0	37.0
Units 'built'	*Market housing*					0	1	5	5	5	5	5	0	0	0	0	0	26
+2Q	*Affordable soc rent*					0	0	1	1	1	1	1	0	0	0	0	0	7
	Affordable sh oship					0	0	1	1	1	1	1	0	0	0	0	0	4
	0					0	0	0	0	0	0	0	0	0	0	0	0	0
	0					0	0	0	0	0	0	0	0	0	0	0	0	0
Units completed	*Market housing*						0	1	5	5	5	5	5	0	0	0	0	26
+3Q	*Affordable soc rent*						0	0	1	1	1	1	1	0	0	0	0	7
	Affordable sh oship						0	0	1	1	1	1	1	0	0	0	0	4
	0						0	0	0	0	0	0	0	0	0	0	0	0
	0						0	0	0	0	0	0	0	0	0	0	0	0
Units purchased	*Market housing*							0	1	5	5	5	5	5	0	0	0	26
+4Q	*Affordable soc rent*							0	0	1	1	1	1	1	0	0	0	7
	Affordable sh oship							0	0	1	1	1	1	1	0	0	0	4
	0							0	0	0	0	0	0	0	0	0	0	0
	0							0	0	0	0	0	0	0	0	0	0	0

SITE 10 CASH FLOW AFFORDABLE

		rate	Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	TOTALS
INCOME																			
Housing sales	*Market housing*		0	0	0	0	0	0	0	227	793	793	793	793	793	0	0	0	4,194
	Affordable soc rent		0	0	0	0	0	0	0	20	69	69	69	69	69	0	0	0	364
	Affordable sh oship		0	0	0	0	0	0	0	17	59	59	59	59	59	0	0	0	314
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sales fees		0	0	0	0	0	0	0	-8	-29	-29	-29	-29	-29	0	0	0	-153
Total income			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**263**	**922**	**922**	**922**	**922**	**922**	**0**	**0**	**0**	**4,873**
COSTS																			
Land	*Land acquisition*		-141																-141
	Stamp duty		0																0
	Purchase fees		-4																-4
	Total																		**-145**
Build costs	*Market housing*		0	0	0	0	0	106	369	369	369	369	369	0	0	0	0	0	1,952
	Affordable soc rent		0	0	0	0	0	27	95	95	95	95	95	0	0	0	0	0	502
	Affordable sh oship		0	0	0	0	0	18	63	63	63	63	63	0	0	0	0	0	335
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Build contingency	*5.0%*	0	0	0	0	0	8	26	26	26	26	26	0	0	0	0	0	139
	Total																		**2,928**
Dev costs	*Upfront*	*5.3%*	38	38	38	38													154
	Build related	*5.3%*	0	0	0	8	29	29	29	29	29	0	0	0	0	0	0	0	154
	Abnormals	*3%*	37	37															75
	Total																		**382**
Fees	*Fees on build costs*	*10.0%*	0	0	0	0	0	16	55	55	55	55	55	0	0	0	0	0	293
	Fees on dev costs	*8.0%*	6	6	3	4	2	2	2	2	2	0	0	0	0	0	0	0	31
	Total																		**323**
PG	*Planning gain*				0	16	56	56	56	56	56	0	0	0	0	0	0	0	296
	Total																		**296**
Grant	*Grant*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																		**0**
Other	*Planning*	*£515*	6	6	6														19
	Survey	*£500*	19																19
	Marketing	*£0*			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																		**38**
Sales fees	*b/forward from above*		0	0	0	0	0	0	0	8	29	29	29	29	29	0	0	0	**153**
Total costs			**-38**	**88**	**48**	**66**	**87**	**262**	**697**	**705**	**726**	**638**	**638**	**29**	**29**	**0**	**0**	**0**	**3,976**
Net profit/loss from quarter			**38**	**-88**	**-48**	**-66**	**-87**	**-262**	**-697**	**-442**	**196**	**283**	**283**	**893**	**893**	**0**	**0**	**0**	**897**
Profit/loss bf from last quarter			0	39	-50	-100	-170	-262	-533	-1,253	-1,726	-1,559	-1,299	-1,035	-144	763	763	763	
Cumulative profit/loss			38	-50	-98	-167	-257	-523	-1,230	-1,694	-1,530	-1,275	-1,016	-142	749	763	763	763	
Interest	*Charged at*	*7.50%*	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	0.00%	0.00%	0.00%	
	Total		1	-1	-2	-3	-5	-10	-23	-32	-29	-24	-19	-3	14	0	0	0	**-135**
Cumulative developer profit carried forward to RV calc			**39**	**-50**	**-100**	**-170**	**-262**	**-533**	**-1,253**	**-1,726**	**-1,559**	**-1,299**	**-1,035**	**-144**	**763**	**763**	**763**	**763**	**762**
HAS DEVELOPMENT FINISHED?			**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**YES**	**STOP**	**STOP**	**STOP**	
Costs for calculating % profit																			**4,111**
																			19%

SITE 12: Burdike Avenue

Input assumptions | **Scenario & option** | Affordable 30% = 60% social rented 40% intermediate ZERO GRANT

York site viability study

Site details

Site		12 Burdike Ave.,
Location		Sutton Way/Libourne Drive, York
Area	ha	0.38
	acres	0.94
No dwgs		22
Density dw/ha		57.9

		£k
Contingency		
allowance	2.50%	33
Development costs		
standard % build	12.50%	169
plus abnormals	0.0%	0
Total	13%	
Design fees		
on build costs	10.0%	135
on dev costs	8%	
Planning gain & Grant contributions		
PG £ per dwg	8,000	176
Grant £ per dwg	0	0

PG ALL

Dwellings

Dwellings		% of dwgs	% of units	ave floor space gross sq ft	ave floor space net sq ft	build cost per sq ft	build index = 1.000	sales value per sq ft
Market housing	15.4	70.00%	70.00%	680	662	88.00	88.00	203.00
						0.0%		
Affordable soc rent	4.0	18.00%	18.0%	680	662	88.00	88.00	76.00
						0.0%		
Affordable sh oship	2.6	12.00%	12.0%	680	662	88.00	88.00	98.00
Total dwgs	22.0	100.00%	100.0%					
			0.0%	0	0	0.00	0.00	0.00
			0.0%	0	0	0.00	0.00	0.00
Total units	22.0		100.0%	14,960	14,564		£1,316,480	£2,440,053

Floorspace density = 15,510 net sq ft per acre

Other costs

Planning	515.0	£ per dwelling
Survey	200	£ per dwelling
Marketing	0	£ per dwelling
Interest		
% per annum	7.50%	

Notes

SITE 12 LAND COST & PHASING

Land

		Iterate to achieve 20.0% profit		Hectare	
		Affordable	No affordable	Affordable	No affordable
Land purchase price	£	43,400	356,000		
RV per acre	£	46,220	379,135	£114,211	£936,842
Dev profit	£	381,447	492,356		
Total costs	£	2,059,581	2,465,111		
profit as % of costs		18.52%	19.97%		

Programme		Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	TOTALS
Units started	*Market housing*			0.0	1.4	2.8	2.8	2.8	2.8	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4
	Affordable soc rent			0.0	0.4	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0
	Affordable sh oship			0.0	0.2	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL	0	0	0	2	4	4	4	4	4	0	0	0	0	0	0	0	22.0
Units 'built'	*Market housing*					0	1	3	3	3	3	3	0	0	0	0	0	15
+2Q	*Affordable soc rent*					0	0	1	1	1	1	1	0	0	0	0	0	4
	Affordable sh oship					0	0	0	0	0	0	0	0	0	0	0	0	3
	0					0	0	0	0	0	0	0	0	0	0	0	0	0
	0					0	0	0	0	0	0	0	0	0	0	0	0	0
Units completed	*Market housing*						0	1	3	3	3	3	3	0	0	0	0	15
+3Q	*Affordable soc rent*						0	0	1	1	1	1	1	0	0	0	0	4
	Affordable sh oship						0	0	0	0	0	0	0	0	0	0	0	3
	0						0	0	0	0	0	0	0	0	0	0	0	0
	0						0	0	0	0	0	0	0	0	0	0	0	0
Units purchased	*Market housing*							0	1	3	3	3	3	3	0	0	0	15
+4Q	*Affordable soc rent*							0	0	1	1	1	1	1	0	0	0	4
	Affordable sh oship							0	0	0	0	0	0	0	0	0	0	3
	0							0	0	0	0	0	0	0	0	0	0	0
	0							0	0	0	0	0	0	0	0	0	0	0

SITE 12 CASH FLOW AFFORDABLE

		rate	Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	TOTALS
INCOME																			
Housing sales	*Market housing*		0	0	0	0	0	0	0	188	376	376	376	376	376	0	0	0	2,070
	Affordable soc rent		0	0	0	0	0	0	0	18	36	36	36	36	36	0	0	0	199
	Affordable sh oship		0	0	0	0	0	0	0	16	31	31	31	31	31	0	0	0	171
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sales fees		0	0	0	0	0	0	0	-7	-14	-14	-14	-14	-14	0	0	0	-76
Total income			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**222**	**444**	**444**	**444**	**444**	**444**	**0**	**0**	**0**	**2,440**
COSTS																			
Land	*Land acquisition*		43																43
	Stamp duty		0																0
	Purchase fees		1																1
	Total																		**45**
Build costs	*Market housing*		0	0	0	0	0	84	168	168	168	168	168	0	0	0	0	0	922
	Affordable soc rent		0	0	0	0	0	22	43	43	43	43	43	0	0	0	0	0	237
	Affordable sh oship		0	0	0	0	0	14	29	29	29	29	29	0	0	0	0	0	158
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Build contingency	*2.5%*	0	0	0	0	0	3	6	6	6	6	6	0	0	0	0	0	33
	Total																		**1,349**
Dev costs	*Upfront*	*6.3%*	21	21	21	21													84
	Build related	*6.3%*	0	0	0	8	15	15	15	15	15	0	0	0	0	0	0	0	84
	Abnormals	*0%*	0	0															0
	Total																		**169**
Fees	*Fees on build costs*	*10.0%*	0	0	0	0	0	12	25	25	25	25	25	0	0	0	0	0	135
	Fees on dev costs	*8.0%*	2	2	2	2	1	1	1	1	1	0	0	0	0	0	0	0	13
	Total																		**148**
PG	*Planning gain*				0	16	32	32	32	32	32	0	0	0	0	0	0	0	176
	Total																		**176**
Grant	*Grant*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																		**0**
Other	*Planning*	*£515*	4	4	4														11
	Survey	*£200*	4																4
	Marketing	*£0*			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																		**16**
Sales fees	*b/forward from above*		0	0	0	0	0	0	0	7	14	14	14	14	14	0	0	0	**76**
Total costs			**76**	**27**	**27**	**47**	**49**	**183**	**318**	**325**	**332**	**284**	**284**	**14**	**14**	**0**	**0**	**0**	**1,979**
Net profit/loss from quarter			**-76**	**-27**	**-27**	**-47**	**-49**	**-183**	**-318**	**-104**	**111**	**160**	**160**	**430**	**430**	**0**	**0**	**0**	**461**
Profit/loss bf from last quarter			0	-77	-105	-134	-185	-237	-429	-761	-881	-784	-635	-484	-55	381	381	381	
Cumulative profit/loss			-76	-103	-132	-181	-233	-421	-747	-865	-769	-624	-476	-55	374	381	381	381	
Interest	*Charged at*	*7.50%*	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	0.00%	0.00%	0.00%	
	Total		-1	-2	-2	-3	-4	-8	-14	-16	-14	-12	-9	-1	7	0	0	0	**-81**
Cumulative developer profit carried forward to RV calc			**-77**	**-105**	**-134**	**-185**	**-237**	**-429**	**-761**	**-881**	**-784**	**-635**	**-484**	**-55**	**381**	**381**	**381**	**381**	**380**
HAS DEVELOPMENT FINISHED?			**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**YES**	**STOP**	**STOP**	**STOP**	
Costs for calculating % profit																			**2,060**
																			19%

SITE 13: Burnholme WMC

Input assumptions | **Scenario & option** | Affordable 30% = 60% social rented 40% intermediate ZERO GRANT

York site viability study

Site details

Site		13 Burnhole WMC,
Location		Burnhole Dr., York
Area	ha	0.34
	acres	0.84
No dwgs		20
Density dw/ha		58.8

		£k
Contingency		
allowance	5.00%	59
Development costs		
standard % build	12.00%	148
plus abnormals	1.3%	15
Total	13%	
Design fees		
on build costs	10.0%	124
on dev costs	8%	
Planning gain & Grant contributions		
PG £ per dwg	8,000	160
Grant £ per dwg	0	0

PG ALL

Dwellings

Dwellings		% of dwgs	% of units	ave floor space gross sq ft	ave floor space net sq ft	build cost per sq ft	build index = 1.000	sales value per sq ft
Market housing	14.0	70.00%	70.00%	669	651	88.00	88.00	222.00
						0.0%		
Affordable soc rent	3.6	18.00%	18.0%	669	651	88.00	88.00	76.00
						0.0%		
Affordable sh oship	2.4	12.00%	12.0%	669	651	88.00	88.00	98.00
Total dwgs	20.0	100.00%	100.0%					
			0.0%	0	0	0.00	0.00	0.00
			0.0%	0	0	0.00	0.00	0.00
Total units	20.0		100.0%	13,380	13,020		£1,177,440	£2,354,537

Floorspace density = 15,497 net sq ft per acre

Other costs

Planning	515.0	£ per dwelling
Survey	500	£ per dwelling
Marketing	0	£ per dwelling

Interest
% per annum 7.50%

Notes

SITE 13 LAND COST & PHASING

Land

Iterate to achieve 20.0% profit

		Affordable	No affordable	Hectare: Affordable	Hectare: No affordable
Land purchase price	£	104,685	431,172		
RV per acre	£	124,604	513,214	£307,896	£1,268,153
Dev profit	£	367,769	482,535		
Total costs	£	1,987,668	2,408,805		
profit as % of costs		18.50%	20.03%		

Programme		Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	TOTALS
Units started	*Market housing*			0.0	2.8	2.8	2.8	2.8	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.0
	Affordable soc rent			0.0	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6
	Affordable sh oship			0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL	0	0	0	4	4	4	4	4	0	0	0	0	0	0	0	0	20.0
Units 'built'	*Market housing*					0	3	3	3	3	3	0	0	0	0	0	0	14
+2Q	*Affordable soc rent*					0	1	1	1	1	1	0	0	0	0	0	0	4
	Affordable sh oship					0	0	0	0	0	0	0	0	0	0	0	0	2
	0					0	0	0	0	0	0	0	0	0	0	0	0	0
	0					0	0	0	0	0	0	0	0	0	0	0	0	0
Units completed	*Market housing*						0	3	3	3	3	3	0	0	0	0	0	14
+3Q	*Affordable soc rent*						0	1	1	1	1	1	0	0	0	0	0	4
	Affordable sh oship						0	0	0	0	0	0	0	0	0	0	0	2
	0						0	0	0	0	0	0	0	0	0	0	0	0
	0						0	0	0	0	0	0	0	0	0	0	0	0
Units purchased	*Market housing*							0	3	3	3	3	3	0	0	0	0	14
+4Q	*Affordable soc rent*							0	1	1	1	1	1	0	0	0	0	4
	Affordable sh oship							0	0	0	0	0	0	0	0	0	0	2
	0							0	0	0	0	0	0	0	0	0	0	0
	0							0	0	0	0	0	0	0	0	0	0	0

SITE 13 CASH FLOW AFFORDABLE

		rate	Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	TOTALS
INCOME																			
Housing sales	*Market housing*		0	0	0	0	0	0	0	405	405	405	405	405	0	0	0	0	2,023
	Affordable soc rent		0	0	0	0	0	0	0	36	36	36	36	36	0	0	0	0	178
	Affordable sh oship		0	0	0	0	0	0	0	31	31	31	31	31	0	0	0	0	153
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sales fees		0	0	0	0	0	0	0	-15	-15	-15	-15	-15	0	0	0	0	-74
Total income			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**471**	**471**	**471**	**471**	**471**	**0**	**0**	**0**	**0**	**2,355**
COSTS																			
Land	*Land acquisition*		105																105
	Stamp duty		1																1
	Purchase fees		3																3
	Total																		**109**
Build costs	*Market housing*		0	0	0	0	0	165	165	165	165	165	0	0	0	0	0	0	824
	Affordable soc rent		0	0	0	0	0	42	42	42	42	42	0	0	0	0	0	0	212
	Affordable sh oship		0	0	0	0	0	28	28	28	28	28	0	0	0	0	0	0	141
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Build contingency	*5.0%*	0	0	0	0	0	12	12	12	12	12	0	0	0	0	0	0	59
	Total																		**1,236**
Dev costs	*Upfront*	*6.0%*	19	19	19	19													74
	Build related	*6.0%*	0	0	0	15	15	15	15	15	0	0	0	0	0	0	0	0	74
	Abnormals	*1%*	8	8															15
	Total																		**164**
Fees	*Fees on build costs*	*10.0%*	0	0	0	0	0	25	25	25	25	25	0	0	0	0	0	0	124
	Fees on dev costs	*8.0%*	2	2	1	3	1	1	1	1	0	0	0	0	0	0	0	0	13
	Total																		**137**
PG	*Planning gain*				0	32	32	32	32	32	0	0	0	0	0	0	0	0	160
	Total																		**160**
Grant	*Grant*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																		**0**
Other	*Planning*	*£515*	3	3	3														10
	Survey	*£500*	10																10
	Marketing	*£0*			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																		**20**
Sales fees	*b/forward from above*		0	0	0	0	0	0	0	15	15	15	15	15	0	0	0	0	**74**
Total costs			**150**	**32**	**23**	**68**	**48**	**320**	**320**	**335**	**287**	**287**	**15**	**15**	**0**	**0**	**0**	**0**	**1,900**
Net profit/loss from quarter			**-150**	**-32**	**-23**	**-68**	**-48**	**-320**	**-320**	**136**	**184**	**184**	**456**	**456**	**0**	**0**	**0**	**0**	**455**
Profit/loss bf from last quarter			0	-153	-188	-216	-289	-343	-676	-1,014	-895	-724	-550	-95	368	368	368	368	
Cumulative profit/loss			-150	-185	-212	-284	-337	-663	-996	-878	-710	-540	-94	361	368	368	368	368	
Interest	*Charged at*	*7.50%*	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	0.00%	0.00%	0.00%	0.00%	
	Total		-3	-3	-4	-5	-6	-12	-19	-16	-13	-10	-2	7	0	0	0	0	**-88**
Cumulative developer profit carried forward to RV calc			**-153**	**-188**	**-216**	**-289**	**-343**	**-676**	**-1,014**	**-895**	**-724**	**-550**	**-95**	**368**	**368**	**368**	**368**	**368**	**367**
HAS DEVELOPMENT FINISHED?			**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**YES**	**STOP**	**STOP**	**STOP**	**STOP**	
Costs for calculating % profit																			**1,988**
																			19%

SITE 14: Water Lane, Clifton

Input assumptions | **Scenario & option** | Affordable 30% = 60% social rented 40% intermediate ZERO GRANT

York site viability study

Site details

Site		14 Water Lane
Location		Clifton, York
Area	ha	0.31
	acres	0.77
No dwgs		18
Density dw/ha		58.1

		£k
Contingency		
allowance	5.00%	90
Development costs		
standard % build	11.00%	207
plus abnormals	0.6%	10
Total	12%	
Design fees		
on build costs	10.0%	188
on dev costs	8%	
Planning gain & Grant contributions		
PG £ per dwg	8,000	144
Grant £ per dwg	0	0

PG ALL

Dwellings

Dwellings		% of dwgs	% of units	ave floor space gross sq ft	ave floor space net sq ft	build cost per sq ft	build index = 1.000	sales value per sq ft
Market housing	12.6	70.00%	70.00%	855	809	116.50	116.50	217.00
						0.0%		
Affordable soc rent	3.2	18.00%	18.0%	855	809	116.50	116.50	77.00
						0.0%		
Affordable sh oship	2.2	12.00%	12.0%	855	809	116.50	116.50	99.00
Total dwgs	18.0	100.00%	100.0%					
			0.0%	0	0	0.00	0.00	0.00
			0.0%	0	0	0.00	0.00	0.00
Total units	18.0		100.0%	15,390	14,562		£1,792,935	£2,586,794

Floorspace density = 19,010 net sq ft per acre

Other costs

Planning	515.0	£ per dwelling
Survey	500	£ per dwelling
Marketing	0	£ per dwelling

Interest
% per annum 7.50%

Notes

SITE 14 LAND COST & PHASING

Land

Iterate to achieve 20.0% profit

		Affordable	No affordable	Hectare: Affordable	Hectare: No affordable
Land purchase price	£	-381,703	-31,521		
RV per acre	£	-498,300	-41,150	-£1,231,300	-£101,682
Dev profit	£	404,033	526,912		
Total costs	£	2,183,660	2,633,942		
profit as % of costs		18.50%	20.00%		

Programme		Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	TOTALS
Units started	*Market housing*			0.0	1.4	2.8	2.8	2.8	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.6
	Affordable soc rent			0.0	0.4	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2
	Affordable sh oship			0.0	0.2	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL	0	0	0	2	4	4	4	4	0	0	0	0	0	0	0	0	18.0
Units 'built'	*Market housing*					0	1	3	3	3	3	0	0	0	0	0	0	13
+2Q	*Affordable soc rent*					0	0	1	1	1	1	0	0	0	0	0	0	3
	Affordable sh oship					0	0	0	0	0	0	0	0	0	0	0	0	2
	0					0	0	0	0	0	0	0	0	0	0	0	0	0
	0					0	0	0	0	0	0	0	0	0	0	0	0	0
Units completed	*Market housing*						0	1	3	3	3	3	0	0	0	0	0	13
+3Q	*Affordable soc rent*						0	0	1	1	1	1	0	0	0	0	0	3
	Affordable sh oship						0	0	0	0	0	0	0	0	0	0	0	2
	0						0	0	0	0	0	0	0	0	0	0	0	0
	0						0	0	0	0	0	0	0	0	0	0	0	0
Units purchased	*Market housing*							0	1	3	3	3	3	0	0	0	0	13
+4Q	*Affordable soc rent*							0	0	1	1	1	1	0	0	0	0	3
	Affordable sh oship							0	0	0	0	0	0	0	0	0	0	2
	0							0	0	0	0	0	0	0	0	0	0	0
	0							0	0	0	0	0	0	0	0	0	0	0

SITE 14 CASH FLOW AFFORDABLE

		rate	Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	TOTALS
INCOME																			
Housing sales	*Market housing*		0	0	0	0	0	0	0	246	492	492	492	492	0	0	0	0	2,212
	Affordable soc rent		0	0	0	0	0	0	0	22	45	45	45	45	0	0	0	0	202
	Affordable sh oship		0	0	0	0	0	0	0	19	38	38	38	38	0	0	0	0	173
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sales fees		0	0	0	0	0	0	0	-9	-18	-18	-18	-18	0	0	0	0	-81
Total income			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**287**	**575**	**575**	**575**	**575**	**0**	**0**	**0**	**0**	**2,587**
COSTS																			
Land	*Land acquisition*		-382																-382
	Stamp duty		0																0
	Purchase fees		-10																-10
	Total																		**-392**
Build costs	*Market housing*		0	0	0	0	0	139	279	279	279	279	0	0	0	0	0	0	1,255
	Affordable soc rent		0	0	0	0	0	36	72	72	72	72	0	0	0	0	0	0	323
	Affordable sh oship		0	0	0	0	0	24	48	48	48	48	0	0	0	0	0	0	215
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Build contingency	*5.0%*	0	0	0	0	0	10	20	20	20	20	0	0	0	0	0	0	90
	Total																		**1,883**
Dev costs	*Upfront*	*5.5%*	26	26	26	26													104
	Build related	*5.5%*	0	0	0	12	23	23	23	23	0	0	0	0	0	0	0	0	104
	Abnormals	*1%*	5	5															10
	Total																		**217**
Fees	*Fees on build costs*	*10.0%*	0	0	0	0	0	21	42	42	42	42	0	0	0	0	0	0	188
	Fees on dev costs	*8.0%*	2	2	2	3	2	2	2	2	0	0	0	0	0	0	0	0	17
	Total																		**206**
PG	*Planning gain*				0	16	32	32	32	32	0	0	0	0	0	0	0	0	144
	Total																		**144**
Grant	*Grant*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																		**0**
Other	*Planning*	*£515*	3	3	3														9
	Survey	*£500*	9																9
	Marketing	*£0*			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																		**18**
Sales fees	*b/forward from above*		0	0	0	0	0	0	0	9	18	18	18	18	0	0	0	0	**81**
Total costs			**-347**	**37**	**31**	**56**	**57**	**287**	**517**	**526**	**478**	**478**	**18**	**18**	**0**	**0**	**0**	**0**	**2,157**
Net profit/loss from quarter			**347**	**-37**	**-31**	**-56**	**-57**	**-287**	**-517**	**-239**	**97**	**97**	**557**	**557**	**0**	**0**	**0**	**0**	**430**
Profit/loss bf from last quarter			0	353	323	297	245	192	-97	-625	-880	-798	-714	-160	404	404	404	404	
Cumulative profit/loss			347	316	291	241	188	-95	-614	-864	-783	-701	-157	397	404	404	404	404	
Interest	*Charged at*	*7.50%*	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	0.00%	0.00%	0.00%	0.00%	
	Total		6	6	5	5	4	-2	-12	-16	-15	-13	-3	7	0	0	0	0	**-27**
Cumulative developer profit carried forward to RV calc			**353**	**323**	**297**	**245**	**192**	**-97**	**-625**	**-880**	**-798**	**-714**	**-160**	**404**	**404**	**404**	**404**	**404**	**403**
HAS DEVELOPMENT FINISHED?			**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**YES**	**STOP**	**STOP**	**STOP**	**STOP**	
Costs for calculating % profit																			**2,184**
																			19%

SITE 15: 22 Princess Rd Strensall

Input assumptions | **Scenario & option** | Affordable 30% = 60% social rented 40% intermediate ZERO GRANT

York site viability study

Site details

Site		15 22 Princess Road
Location		Strensall, York
Area	ha	0.40
	acres	0.99
No dwgs		12
Density dw/ha		30.0

	£k
Contingency	
allowance 5.00%	69
Development costs	
standard % build 12.00%	173
plus abnormals 1.8%	25
Total 14%	
Design fees	
on build costs 10.0%	144
on dev costs 8%	
Planning gain & Grant contributions	
PG £ per dwg 8,000	96
Grant £ per dwg 0	0
PG ALL	

Dwellings

Dwellings		% of dwgs	% of units	ave floor space gross sq ft	ave floor space net sq ft	build cost per sq ft	build index = 1.000	sales value per sq ft
Market housing	8.4	70.00%	70.00%	1,277	1,277	89.50	89.50	220.00
						0.0%		
Affordable soc rent	2.2	18.00%	18.0%	1,277	1,277	89.50	89.50	75.00
						0.0%		
Affordable sh oship	1.4	12.00%	12.0%	1,277	1,277	89.50	89.50	97.00
Total dwgs	12.0	100.00%	100.0%					
			0.0%	0	0	0.00	0.00	0.00
			0.0%	0	0	0.00	0.00	0.00
Total units	12.0		100.0%	15,324	15,324		£1,371,498	£2,745,141

Floorspace density = 15,504 net sq ft per acre

Other costs

Planning	515.0	£ per dwelling
Survey	500	£ per dwelling
Marketing	0	£ per dwelling
Interest		
% per annum	7.50%	

Notes

SITE 15 LAND COST & PHASING

Land

		Iterate to achieve 20.0% profit		Hectare	
		Affordable	No affordable	Affordable	No affordable
Land purchase price	£	206,000	590,435		
RV per acre	£	208,418	597,364	£515,000	£1,476,087
Dev profit	£	429,097	562,662		
Total costs	£	2,316,870	2,809,443		
profit as % of costs		18.52%	20.03%		

Programme		Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	TOTALS
Units started	*Market housing*			0.0	2.1	2.1	2.1	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4
	Affordable soc rent			0.0	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2
	Affordable sh oship			0.0	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL	0	0	0	3	3	3	3	0	0	0	0	0	0	0	0	0	12.0
Units 'built'	*Market housing*					0	2	2	2	2	0	0	0	0	0	0	0	8
+2Q	*Affordable soc rent*					0	1	1	1	1	0	0	0	0	0	0	0	2
	Affordable sh oship					0	0	0	0	0	0	0	0	0	0	0	0	1
	0					0	0	0	0	0	0	0	0	0	0	0	0	0
	0					0	0	0	0	0	0	0	0	0	0	0	0	0
Units completed	*Market housing*						0	2	2	2	2	0	0	0	0	0	0	8
+3Q	*Affordable soc rent*						0	1	1	1	1	0	0	0	0	0	0	2
	Affordable sh oship						0	0	0	0	0	0	0	0	0	0	0	1
	0						0	0	0	0	0	0	0	0	0	0	0	0
	0						0	0	0	0	0	0	0	0	0	0	0	0
Units purchased	*Market housing*							0	2	2	2	2	0	0	0	0	0	8
+4Q	*Affordable soc rent*							0	1	1	1	1	0	0	0	0	0	2
	Affordable sh oship							0	0	0	0	0	0	0	0	0	0	1
	0							0	0	0	0	0	0	0	0	0	0	0
	0							0	0	0	0	0	0	0	0	0	0	0

SITE 15 CASH FLOW AFFORDABLE

		rate	Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	TOTALS
INCOME																			
Housing sales	*Market housing*		0	0	0	0	0	0	0	590	590	590	590	0	0	0	0	0	2,360
	Affordable soc rent		0	0	0	0	0	0	0	52	52	52	52	0	0	0	0	0	207
	Affordable sh oship		0	0	0	0	0	0	0	45	45	45	45	0	0	0	0	0	178
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sales fees		0	0	0	0	0	0	0	-22	-22	-22	-22	0	0	0	0	0	-86
Total income			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**686**	**686**	**686**	**686**	**0**	**0**	**0**	**0**	**0**	**2,745**
COSTS																			
Land	*Land acquisition*		206																206
	Stamp duty		2																2
	Purchase fees		6																6
	Total																		**214**
Build costs	*Market housing*		0	0	0	0	0	240	240	240	240	0	0	0	0	0	0	0	960
	Affordable soc rent		0	0	0	0	0	62	62	62	62	0	0	0	0	0	0	0	247
	Affordable sh oship		0	0	0	0	0	41	41	41	41	0	0	0	0	0	0	0	165
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Build contingency	*5.0%*	0	0	0	0	0	17	17	17	17	0	0	0	0	0	0	0	69
	Total																		**1,440**
Dev costs	*Upfront*	*6.0%*	22	22	22	22													86
	Build related	*6.0%*	0	0	0	22	22	22	22	0	0	0	0	0	0	0	0	0	86
	Abnormals	*2%*	13	13															25
	Total																		**198**
Fees	*Fees on build costs*	*10.0%*	0	0	0	0	0	36	36	36	36	0	0	0	0	0	0	0	144
	Fees on dev costs	*8.0%*	3	3	2	3	2	2	2	0	0	0	0	0	0	0	0	0	16
	Total																		**160**
PG	*Planning gain*				0	24	24	24	24	0	0	0	0	0	0	0	0	0	96
	Total																		**96**
Grant	*Grant*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																		**0**
Other	*Planning*	*£515*	2	2	2														6
	Survey	*£500*	6																6
	Marketing	*£0*			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																		**12**
Sales fees	*b/forward from above*		0	0	0	0	0	0	0	22	22	22	22	0	0	0	0	0	**86**
Total costs			**259**	**39**	**25**	**71**	**47**	**443**	**443**	**418**	**418**	**22**	**22**	**0**	**0**	**0**	**0**	**0**	**2,206**
Net profit/loss from quarter			**-259**	**-39**	**-25**	**-71**	**-47**	**-443**	**-443**	**269**	**269**	**665**	**665**	**0**	**0**	**0**	**0**	**0**	**539**
Profit/loss bf from last quarter			0	-263	-308	-340	-418	-474	-934	-1,403	-1,156	-904	-244	429	429	429	429	429	
Cumulative profit/loss			-259	-302	-333	-410	-465	-917	-1,378	-1,135	-887	-239	421	429	429	429	429	429	
Interest	*Charged at*	*7.50%*	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	0.00%	0.00%	0.00%	0.00%	0.00%	
	Total		-5	-6	-6	-8	-9	-17	-26	-21	-17	-4	8	0	0	0	0	0	**-111**
Cumulative developer profit carried forward to RV calc			**-263**	**-308**	**-340**	**-418**	**-474**	**-934**	**-1,403**	**-1,156**	**-904**	**-244**	**429**	**429**	**429**	**429**	**429**	**429**	**428**
HAS DEVELOPMENT FINISHED?			**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**YES**	**STOP**	**STOP**	**STOP**	**STOP**	**STOP**	
Costs for calculating % profit																			**2,317**
																			19%

SITE 16: Reynards Garage

Input assumptions | **Scenario & option** | Affordable 30% = 60% social rented 40% intermediate ZERO GRANT

York site viability study

Site details

Site		16 Reynards Garage
Location		York
Area	ha	0.13
	acres	0.32
No dwgs		12
Density dw/ha		92.3

		£k
Contingency		
allowance	5.00%	54
Development costs		
standard % build	10.00%	114
plus abnormals	2.2%	25
Total	12%	
Design fees		
on build costs	10.0%	114
on dev costs	8%	
Planning gain & Grant contributions		
PG £ per dwg	8,000	96
Grant £ per dwg	0	0
PG ALL		

Dwellings

Dwellings		% of dwgs	% of units	ave floor space gross sq ft	net sq ft	build cost per sq ft	build index = 1.000	sales value per sq ft
Market housing	8.4	70.00%	70.00%	896	810	101.00	101.00	322.00
						0.0%		
Affordable soc rent	2.2	18.00%	18.0%	896	810	101.00	101.00	78.00
						0.0%		
Affordable sh oship	1.4	12.00%	12.0%	896	810	101.00	101.00	101.00
Total dwgs	12.0	100.00%	100.0%					
			0.0%	0	0	0.00	0.00	0.00
			0.0%	0	0	0.00	0.00	0.00
Total units	12.0		100.0%	10,752	9,720		£1,085,952	£2,445,163

Floorspace density = 30,259 net sq ft per acre

Other costs

Planning	515.0	£ per dwelling
Survey	500	£ per dwelling
Marketing	0	£ per dwelling
Interest		
% per annum	7.50%	

Notes

SITE 16 LAND COST & PHASING

Land

Iterate to achieve 20.0% profit

		Affordable	No affordable	Hectare: Affordable	Hectare: No affordable
Land purchase price	£	334,953	755,029		
RV per acre	£	1,042,719	2,350,430	£2,576,559	£5,807,912
Dev profit	£	382,464	523,032		
Total costs	£	2,063,524	2,607,633		
profit as % of costs		18.53%	20.06%		

Programme		Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	TOTALS
Units started	*Market housing*			0.0	2.1	2.1	2.1	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4
	Affordable soc rent			0.0	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2
	Affordable sh oship			0.0	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL	0	0	0	3	3	3	3	0	0	0	0	0	0	0	0	0	12.0
Units 'built' +2Q	*Market housing*					0	2	2	2	2	0	0	0	0	0	0	0	8
	Affordable soc rent					0	1	1	1	1	0	0	0	0	0	0	0	2
	Affordable sh oship					0	0	0	0	0	0	0	0	0	0	0	0	1
	0					0	0	0	0	0	0	0	0	0	0	0	0	0
	0					0	0	0	0	0	0	0	0	0	0	0	0	0
Units completed +3Q	*Market housing*						0	2	2	2	2	0	0	0	0	0	0	8
	Affordable soc rent						0	1	1	1	1	0	0	0	0	0	0	2
	Affordable sh oship						0	0	0	0	0	0	0	0	0	0	0	1
	0						0	0	0	0	0	0	0	0	0	0	0	0
	0						0	0	0	0	0	0	0	0	0	0	0	0
Units purchased +4Q	*Market housing*							0	2	2	2	2	0	0	0	0	0	8
	Affordable soc rent							0	1	1	1	1	0	0	0	0	0	2
	Affordable sh oship							0	0	0	0	0	0	0	0	0	0	1
	0							0	0	0	0	0	0	0	0	0	0	0
	0							0	0	0	0	0	0	0	0	0	0	0

SITE 16 CASH FLOW AFFORDABLE

		rate	Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	TOTALS
INCOME																			
Housing sales	*Market housing*		0	0	0	0	0	0	0	548	548	548	548	0	0	0	0	0	2,191
	Affordable soc rent		0	0	0	0	0	0	0	34	34	34	34	0	0	0	0	0	136
	Affordable sh oship		0	0	0	0	0	0	0	29	29	29	29	0	0	0	0	0	118
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sales fees		0	0	0	0	0	0	0	-20	-20	-20	-20	0	0	0	0	0	-79
Total income			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**611**	**611**	**611**	**611**	**0**	**0**	**0**	**0**	**0**	**2,445**
COSTS																			
Land	*Land acquisition*		335																335
	Stamp duty		10																10
	Purchase fees		9																9
	Total																		**354**
Build costs	*Market housing*		0	0	0	0	0	190	190	190	190	0	0	0	0	0	0	0	760
	Affordable soc rent		0	0	0	0	0	49	49	49	49	0	0	0	0	0	0	0	195
	Affordable sh oship		0	0	0	0	0	33	33	33	33	0	0	0	0	0	0	0	130
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Build contingency	*5.0%*	0	0	0	0	0	14	14	14	14	0	0	0	0	0	0	0	54
	Total																		**1,140**
Dev costs	*Upfront*	*5.0%*	14	14	14	14													57
	Build related	*5.0%*	0	0	0	14	14	14	14	0	0	0	0	0	0	0	0	0	57
	Abnormals	*2%*	13	13															25
	Total																		**139**
Fees	*Fees on build costs*	*10.0%*	0	0	0	0	0	29	29	29	29	0	0	0	0	0	0	0	114
	Fees on dev costs	*8.0%*	2	2	1	2	1	1	1	0	0	0	0	0	0	0	0	0	11
	Total																		**125**
PG	*Planning gain*				0	24	24	24	24	0	0	0	0	0	0	0	0	0	96
	Total																		**96**
Grant	*Grant*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																		**0**
Other	*Planning*	*£515*	2	2	2														6
	Survey	*£500*	6																6
	Marketing	*£0*			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																		**12**
Sales fees	*b/forward from above*		0	0	0	0	0	0	0	20	20	20	20	0	0	0	0	0	**79**
Total costs			**391**	**31**	**17**	**55**	**39**	**353**	**353**	**333**	**333**	**20**	**20**	**0**	**0**	**0**	**0**	**0**	**1,946**
Net profit/loss from quarter			**-391**	**-31**	**-17**	**-55**	**-39**	**-353**	**-353**	**278**	**278**	**592**	**592**	**0**	**0**	**0**	**0**	**0**	**499**
Profit/loss bf from last quarter			0	-398	-437	-463	-528	-578	-948	-1,325	-1,067	-804	-216	382	382	382	382	382	
Cumulative profit/loss			-391	-429	-455	-518	-567	-931	-1,301	-1,047	-789	-212	375	382	382	382	382	382	
Interest	*Charged at*	*7.50%*	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	0.00%	0.00%	0.00%	0.00%	0.00%	
	Total		-7	-8	-9	-10	-11	-17	-24	-20	-15	-4	7	0	0	0	0	0	**-117**
Cumulative developer profit carried forward to RV calc			**-398**	**-437**	**-463**	**-528**	**-578**	**-948**	**-1,325**	**-1,067**	**-804**	**-216**	**382**	**382**	**382**	**382**	**382**	**382**	**382**
HAS DEVELOPMENT FINISHED?			**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**YES**	**STOP**	**STOP**	**STOP**	**STOP**	**STOP**	
Costs for calculating % profit																			**2,064**
																			19%

SITE 17: Rear 62 Mill Ln Wigginton

Input assumptions | **Scenario & option** | Affordable 30% = 60% social rented 40% intermediate ZERO GRANT

York site viability study

Site details

Site		17 Rear 62 Mill Ln
Location		Wiggington, York
Area	ha	0.22
	acres	0.54
No dwgs		10
Density dw/ha		45.5

		£k
Contingency		
allowance	5.00%	41
Development costs		
standard % build	12.00%	104
plus abnormals	1.7%	15
Total	14%	
Design fees		
on build costs	10.0%	87
on dev costs	8%	
Planning gain & Grant contributions		
PG £ per dwg	8,000	80
Grant £ per dwg	0	0
PG ALL		

Dwellings

Dwellings		% of dwgs	% of units	ave floor space gross sq ft	ave floor space net sq ft	build cost per sq ft	build index = 1.000	sales value per sq ft
Market housing	7.0	70.00%	70.00%	872	843	95.00	95.00	211.00
						0.0%		
Affordable soc rent	1.8	18.00%	18.0%	872	843	95.00	95.00	76.00
						0.0%		
Affordable sh oship	1.2	12.00%	12.0%	872	843	95.00	95.00	99.00
Total dwgs	10.0	100.00%	100.0%					
			0.0%	0	0	0.00	0.00	0.00
			0.0%	0	0	0.00	0.00	0.00
Total units	10.0		100.0%	8,720	8,430		£828,400	£1,460,582

Floorspace density = 15,507 net sq ft per acre

Other costs

Planning	515.0	£ per dwelling
Survey	500	£ per dwelling
Marketing	0	£ per dwelling

Interest
% per annum 7.50%

Notes

SITE 17 LAND COST & PHASING

Land

Iterate to achieve 20.0% profit

		Affordable	No affordable	Hectare: Affordable	Hectare: No affordable
Land purchase price	£	-31,500	163,252		
RV per acre	£	-57,945	300,306	-£143,182	£742,055
Dev profit	£	228,150	296,857		
Total costs	£	1,233,256	1,482,698		
profit as % of costs		18.50%	20.02%		

Programme		Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	TOTALS
Units started	*Market housing*			0.0	0.7	2.1	2.1	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0
	Affordable soc rent			0.0	0.2	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8
	Affordable sh oship			0.0	0.1	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL	0	0	0	1	3	3	3	0	0	0	0	0	0	0	0	0	10.0
Units 'built'	*Market housing*					0	1	2	2	2	0	0	0	0	0	0	0	7
+2Q	*Affordable soc rent*					0	0	1	1	1	0	0	0	0	0	0	0	2
	Affordable sh oship					0	0	0	0	0	0	0	0	0	0	0	0	1
	0					0	0	0	0	0	0	0	0	0	0	0	0	0
	0					0	0	0	0	0	0	0	0	0	0	0	0	0
Units completed	*Market housing*						0	1	2	2	2	0	0	0	0	0	0	7
+3Q	*Affordable soc rent*						0	0	1	1	1	0	0	0	0	0	0	2
	Affordable sh oship						0	0	0	0	0	0	0	0	0	0	0	1
	0						0	0	0	0	0	0	0	0	0	0	0	0
	0						0	0	0	0	0	0	0	0	0	0	0	0
Units purchased	*Market housing*							0	1	2	2	2	0	0	0	0	0	7
+4Q	*Affordable soc rent*							0	0	1	1	1	0	0	0	0	0	2
	Affordable sh oship							0	0	0	0	0	0	0	0	0	0	1
	0							0	0	0	0	0	0	0	0	0	0	0
	0							0	0	0	0	0	0	0	0	0	0	0

SITE 17 CASH FLOW AFFORDABLE

		rate	Year 1 Q1	Q2	Q3	Q4	Year 2 Q1	Q2	Q3	Q4	Year 3 Q1	Q2	Q3	Q4	Year 4 Q1	Q2	Q3	Q4	TOTALS
INCOME																			
Housing sales	*Market housing*		0	0	0	0	0	0	0	125	374	374	374	0	0	0	0	0	1,245
	Affordable soc rent		0	0	0	0	0	0	0	12	35	35	35	0	0	0	0	0	115
	Affordable sh oship		0	0	0	0	0	0	0	10	30	30	30	0	0	0	0	0	100
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sales fees		0	0	0	0	0	0	0	-5	-14	-14	-14	0	0	0	0	0	-46
Total income			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**146**	**438**	**438**	**438**	**0**	**0**	**0**	**0**	**0**	**1,461**
COSTS																			
Land	*Land acquisition*		-32																-32
	Stamp duty		0																0
	Purchase fees		-1																-1
	Total																		**-32**
Build costs	*Market housing*		0	0	0	0	0	58	174	174	174	0	0	0	0	0	0	0	580
	Affordable soc rent		0	0	0	0	0	15	45	45	45	0	0	0	0	0	0	0	149
	Affordable sh oship		0	0	0	0	0	10	30	30	30	0	0	0	0	0	0	0	99
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Build contingency	*5.0%*	0	0	0	0	0	4	12	12	12	0	0	0	0	0	0	0	41
	Total																		**870**
Dev costs	*Upfront*	*6.0%*	13	13	13	13													52
	Build related	*6.0%*	0	0	0	5	16	16	16	0	0	0	0	0	0	0	0	0	52
	Abnormals	*2%*	7	7															15
	Total																		**119**
Fees	*Fees on build costs*	*10.0%*	0	0	0	0	0	9	26	26	26	0	0	0	0	0	0	0	87
	Fees on dev costs	*8.0%*	2	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	10
	Total																		**97**
PG	*Planning gain*				0	8	24	24	24	0	0	0	0	0	0	0	0	0	80
	Total																		**80**
Grant	*Grant*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																		**0**
Other	*Planning*	*£515*	2	2	2														5
	Survey	*£500*	5																5
	Marketing	*£0*			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total																		**10**
Sales fees	*b/forward from above*		0	0	0	0	0	0	0	5	14	14	14	0	0	0	0	0	**46**
Total costs			**-4**	**24**	**16**	**28**	**41**	**137**	**328**	**292**	**301**	**14**	**14**	**0**	**0**	**0**	**0**	**0**	**1,189**
Net profit/loss from quarter			**4**	**-24**	**-16**	**-28**	**-41**	**-137**	**-328**	**-146**	**137**	**424**	**424**	**0**	**0**	**0**	**0**	**0**	**272**
Profit/loss bf from last quarter			0	4	-20	-37	-66	-108	-250	-588	-748	-621	-201	228	228	228	228	228	
Cumulative profit/loss			4	-20	-36	-65	-107	-245	-578	-734	-610	-197	224	228	228	228	228	228	
Interest	*Charged at*	*7.50%*	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	0.00%	0.00%	0.00%	0.00%	0.00%	
	Total		0	0	-1	-1	-2	-5	-11	-14	-11	-4	4	0	0	0	0	0	**-44**
Cumulative developer profit carried forward to RV calc			**4**	**-20**	**-37**	**-66**	**-108**	**-250**	**-588**	**-748**	**-621**	**-201**	**228**	**228**	**228**	**228**	**228**	**228**	**227**
HAS DEVELOPMENT FINISHED?			**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**YES**	**STOP**	**STOP**	**STOP**	**STOP**	**STOP**	
Costs for calculating % profit																			**1,233**
																			18%