EX HS053B

TURNER MORUM

Viability & Deliverability Analysis

North East Chelmsford - Strategic Growth Site 4

By

Turner Morum LLP

November 2018

32-33 Cowcross Street London EC1M 6DF • Tel: 020 7490 5505 • Web: www.tmllp.co.uk • Email: enquiries@tmllp.co.uk

Contents

Appendices

Appendix 10 – Wokingham SUE's Local Plan Trajectory

Appendix 11 – Safeguard Corridor Land – NEC Bypass

Appendix 12 – WBC Strategic Sites Trajectory 2017 – 2022

Appendix 13 – WBC Actual Completion Data

Appendix 14 – Strutt & Parker Market Commentary Chelmsford

1. BACKGROUND & RELEVANT EXPERIENCE

1.1 This viability and deliverability report for the proposed North East Chelmsford (NEC) allocation has been produced by John Turner MRICS and Nick Bignall MRICS of 32-33 Cowcross Street, London EC1M 6DF.

1.2 Turner Morum (TM) regularly advise across the whole of the UK on the value and potential of major tracts of development land. TM are currently instructed by a substantial number of Developers, Local Authorities, Landowners & Housing Associations and have over 30 years of experience in this field. Some of the work we are currently undertaking or have recently undertaken is attached to this report as **Appendix 5.**

1.3 In addition to producing a site specific Infrastructure Delivery Plan (IDP) along with other consultants for NEC (Arcadis, TPA & Mayer Brown), TM have also been instructed to assess the viability and deliverability of the proposed scheme within the plan period. The purpose of this exercise is to ensure that NEC will be viable and deliverable on the basis of the required infrastructure and S106 costs as outlined in the IDP.

1.4 As such this report considers, firstly, the viability of the NEC allocation and then the deliverability of the scheme in line with the NEC Masterplan/Local Plan housing trajectory considering constraints to delivery such as market saturation, land assembly and mineral phasing.

1.5 As outlined above the scheme assessed in the viability analysis is the 3,000 unit allocation at NEC as proposed in the Chelmsford Draft Local Plan January 2018. The site is located to the north-east of Chelmsford beyond the existing developments at Beaulieu and Channels – a site plan can be viewed as per **Appendix 1**. The gross area of the 3,000 unit site is 353.0 acres (142.9 hectares) with a net residential acreage of 211.8 acres (85.7 ha).

1.6 I have carried out a development appraisal adopting a bespoke valuation model structure to analyse the viability of the proposed scheme. The residual appraisal and supporting information can be seen as **Appendix 2.**

2. MECHANICS OF THE ASSESSMENT

2.1 My residual appraisal analysis can be summarised as follows:-

- **Appendix 2 Tab 1A –** Appraisal showing the viability of the proposed 3,000 unit scheme assuming 35% affordable housing (67% delivered as affordable rent and 33% as shared ownership as per the CCC Viability Study). The accommodation schedule is derived from a comparable strategic site as discussed below. This analysis also includes the delivery of 45,000 sqm of serviced commercial land.

- **Appendix 2 Tab 1B –** Appraisal showing the viability of the same scheme as above but with the total residential areas assumed as being approximately in line with the Chelmsford City Council (CCC) viability study as per **Evidence Base (EB) 082**.

2.2 I will now run through the various appraisal inputs in sequential order as they appear in my residual appraisal analysis:

ACCOMMODATION SCHEDULE & REVENUES

2.3 As mentioned above the mix in Tab 1A is intended to be a more detailed analysis of the likely mix of market housing than contained in the CCC viability study. In 2015/2016 Turner Morum were jointly instructed by Bovis and Taylor Wimpey to act on the viability of their development parcel at Cambourne known as Cambourne West. This scheme was for c. 2,350 dwellings with affordable housing tested from 40% - 20%. A sample of the

accommodation schedule we were provided with has been included as per **Appendix 4** of this submission.

2.4 The mix of market housing within this viability has formed the basis of the accommodation schedule included as per **Appendix 2 Tab 2**. This provides us with an accurate and realistic housing mix which is currently being delivered in a relatively similar location to NEC. As such I would contend that this represents a reasonable position on which to base ones accommodation schedule at this stage (i.e. before a formal planning application has been submitted).

2.5 The table below shows a comparison of the different unit types and mix from Cambourne and NEC:

Description	Beds	Cambourne	NEC
FOG	2	3%	5%
2 Bed Flat	2	4%	5%
Terrace	2	13%	13%
Terrace	3	4%	4%
Terrace	3	12%	12%
Terrace	3	9%	9%
Terrace	3	10%	10%
Terrace	3	5%	5%
Detached	4	5%	5%
Detached	4	5%	6%
Detached	4	8%	8%
Detached	4	9%	8%
Detached	5	9%	6%
Detached	5	6%	5%

2.6 One can observe from the above schedule there are some minor variances in terms of a larger proportion of 5 bed units in Cambourne, however I amended for this analysis in order to keep the coverage on this site at c. 15,000 sq ft per net residential acre. This is what I would consider as the 'standard' density for a strategic greenfield site such as this. For the Cambourne West viability analysis I undertook the coverage was c. 15,700 sq ft per net acre but due to the 'garden village' concept behind NEC I

have assumed a lower coverage of c. 15,100 sq ft per net residential acres.

2.7 The area in **Tab 1B** of **Appendix 2** replicates the overall area of market housing as per the CCC Viability Study for NEC. As the CCC viability study was a high level analysis of the strategic site no detailed breakdown was provided in terms of a likely accommodation schedule however the total areas for market and affordable housing are as follows:

- Market Housing GIA – 178,202 sqm
- Shared Ownership GIA – 26,576 sqm
- Affordable Rent GIA – 53,956 sqm

2.8 I have amended the housing mix used in Tab 1A to reduce the areas for the market housing in line with the above for the appraisal at Tab 1B. For the purpose of this assessment I have assumed in both scenarios (Tab 1A + 1B) that the gross affordable housing areas are as per the CCC Viability Study as I consider that the Council are best informed to advise on the affordable housing requirements. A summary of the different housing areas in this appraisal analysis are shown below:

Tenure	TM Appraisal sqm (Tab 1A)	CCC Appraisal sqm (Tab 1B)
Market	201,892	178,215
Shared Own	26,576	26,576
Afford Rent	53,956	53,956

2.9 In terms of market revenues, these are based on the adopted revenues within the CCC viability study as per **EB 082** at £3,900 psm or £362 psf. This is applied to all market housing units within the scheme in both Tabs 1A & 1B.

2.10 I have applied inflation to the market revenues as the date on the CCC Local Plan Viability Study (CIL Viability Review) is January 2018. Referring

to the Land Registry House Price Index for Chelmsford from January 2018 to August 2018 (the latest data available) this shows an increase in revenues of c. 2% which I have applied to the £362 psf; this increases the market revenues assumed in the appraisals to £369 psf. I would suggest this is a reasonable position although arguably a higher revenue position could be justified as I understand Beaulieu Park has achieved sales of c. £400 psf and above.

2.11 Likewise the affordable values are also based on the revenues within the CCC Viability Study at £2,535 psm (£235 psf) for affordable rent and £2,900 psm (£269 psf) for shared ownership. As the value of the affordable housing is linked to the movement of market housing I have also applied the above indexation to the affordable revenues thus increasing the values to £274 psf for shared ownership and £240 psf for affordable rent.

2.12 Finally in both Tab 1A & 1B I have assumed the commercial serviced land sale at £500k per net acre assuming 11 acres of serviced land (i.e. 45,000 sqm). This equates to a revenue of £5.557m

DEVELOPMENT COSTS

2.13 Fees and marketing costs in respect of the development are included at 3% of Market Housing Gross Development Value ("GDV") as per standard industry benchmarks.

2.14 The cost of transferring the affordable workspace to an occupier is included at 0.5% of the affordable GDV, which I would suggest is a relatively standard industry benchmark. Commercial disposal costs are included at 2% of the commercial GDV which, as above, I believe is a standard assumption in viability.

2.15 Build costs are derived from the BCIS database using median figures from Q4 2018 for estate housing generally and flats/apartments generally. As

can be viewed from **Tab 3 Appendix 2** BCIS provides a 'base' £ psm figure which I have converted into a £ psf. On top of this I have applied the following adjustments as per BCIS guidance:

- Locational weighting (1.04 Chelmsford)
- Net to Gross (for flats only) - 15%
- Externals – 10%
- Contingency – 5%

2.16 In addition to the above build cost analysis I have also applied a £5 psf uplift on top of BCIS to reflect the 'garden village' design requirements anticipated from NEC. The result of this shows a £ psf for housing of £136 and for flats of £179. This shows a blended build cost for NEC of £140 psf which I would consider as reasonable. If one reviews the CCC Viability Study as **EB 082** the build cost is included at £1,468 psm plus a 4% contingency thus equalling £1,527 (£142 psf).

2.17 External garages are included at a separate cost from BCIS at a rate of £7.5k per single unit and £11k per double unit. I have assumed all of the 5 bed market units within the appraisal would have double garages and half of the 4 bed market units. For the single garages I have assumed these would be allocated to half of 4 and 3 bed market units. As far as I can see no allowance for garages has been included within the CCC Viability Study.

2.18 Professional fees are included in my analysis at 7% of the above build cost and infrastructure costs discussed below. This is less than the CCC Viability Study which adopted a 'standard' 10% allowance but I would suggest for a strategic site such as this economies of scale would mean that a lower % is required for fees. These fees are applied to the standard housebuild and garage costs above, plus the costs scheduled in the IDP (excluding the RDR2 and Bypass cost assumed in the TM appraisal model at Tab 1A where Arcadis have advised on costs which are inclusive of fees). Also

excluded is the Arcadis site-wide infrastructure cost schedule which again includes allowances for fees.

2.19 I have then made an allowance for Developer Profit at 20% (of GDV) for the Market Housing and 6% (of GDV) for the affordable housing. For the commercial space I have assumed a developer profit requirement of 15% on GDV. Again I would suggest these assumed returns are within industry accepted industry parameters. The above profit margins result in a blended profit of 17% on GDV which I would suggest is reasonable based on my own professional experience.

2.20 A further deduction is then applied for site specific infrastructure costs not covered within the IDP or the BCIS allowance; i.e. spine roads, services, utilities etc. This has been estimated by Arcadis and included at a cost of £28,127 per dwelling. Full details of the Arcadis cost analysis can be viewed as per **Appendix 3** and one can observe within this that they have costed the whole allocation of 5,500 units (i.e. beyond the plan period) and calculated a £ per unit on this basis. For the purpose of this appraisal analysis I have included a 5% inflation on top of this £ per dwelling to reflect the fact that a higher proportion of these infrastructure costs are likely to be incurred during the first 3,000 dwellings which are assessed in my viability. The result of this is an additional cost infrastructure cost per dwelling of £29,533.

2.21 The remaining infrastructure and S106 costs in this analysis are included based on the analysis contained in the TM, Mayer Brown, TPA & Arcadis IDP submission (see separate Infrastructure Delivery Plan for NEC). In Tab 1A I have adopted the position as advised by Arcadis and the NEC consortium with a total cost of £112.836m. In Tab 1B I have adopted the position of the Council as per the June 2018 IDP and assumed £103.970m. CIL is then included at £164 psm of market housing in both appraisal scenarios; this is inclusive of inflation as advised by the Council.

2.22 Also in Tab 1B I have included the acquisition costs associated with the section of bypass required have been allowed for at an agricultural use value of £10,000 per acre for an area covering 145.7 acres, as advised by the consortium (see plan showing safeguarded corridor for bypass at **Appendix 11**). This gives a total cost figure for the bypass acquisition of £1.458m although this would be split between the other Growth Area 2 sites (North Chelmsford) thus leaving NEC with a split of c. £1m.

2.23 The reason this is not applied to the Tab 1A appraisal is because the cost is included within the IDP schedule by the consortium totalling £112.836m and therefore no further cost is required in the appraisal.

2.24 Finance costs are then calculated through a yearly cashflow analysis included as per Tabs 4A and 4B; relating to the appraisal in Tabs 1A and 1B respectively. In both cashflows I have assumed the housing delivery as per the Housing Trajectory Chelmsford Local Plan Schedule of Additional Changes June 2018 (**EB SD 002**). For the Section 106/infrastructure costs I have assumed the phasing and costs as per the IDP. I have adopted a 6.5% debit rate to calculate finance costs which I consider as reasonable in the current climate.

3. VALUATION METHODOLOGY

3.1 The Structure of my Residual Appraisals produces a Residual Land Value (RLV) which is then compared with the Benchmark Land Value (BLV). If the RLV exceeds the BLV, a surplus is generated and the scheme can be deemed "Viable". However if the RLV is less than the BLV, a deficit is produced and the scheme should be considered "Non-Viable".

3.2 In this case, I have referred to the CCC Viability Study for NEC as per **EB 082** which shows an adopted benchmark of £560k per gross hectare (£226,629 per gross acre) equating to a total BLV of £80m. After

allowances for SDLT and legals (4% and 1.5% respectively) this equates to a gross BLV of £84.402m

4. VIABILITY CONCLUSIONS

4.1 The outturn of my analysis can be summarised as below:

Tab	Description	Residual Land Value	BLV	Surplus / Deficit	Viable/ Non-Viable?
1A	35% Affordable Model – Cambourne Mkt Mix	£112,519,175	£84,401,688	**£28,117,487**	**VIABLE**
1B	35% Affordable Model – CCC Viability Mix	£89,552,705	£84,401,688	**£5,151,017**	**VIABLE**

4.2 On the basis of summary table above and as per my analysis at **Appendix 2** of this report, I consider that the proposed NEC development is viable and deliverable with the S106 and infrastructure requirements as per the TM & Arcadis IDP schedule, when adopting the Cambourne market mix (see Tab 1A).

4.3 It should also be acknowledged that this assessment only considers the viability of 3,000 units within the plan period. The Local Plan as per paragraph 7.215 states that the wider allocation for this site could have capacity for an additional 2,500 units post 2036. These units will benefit from much of the infrastructure works already completed pre-2036 and as such one could reasonably assert the viability would improve further after the end of the plan period.

5. HOUSING TRAJECTORY ANALYSIS

5.1 In this section of the report I move to consider if the timings of the housing delivery as per the NEC masterplan are realistic and achievable.

5.2 At paragraph 7.209 of the Local Plan it is confirmed that NEC will deliver 3,000 dwellings and 45,000 sqm of commercial space from 2022 – 2036. Beyond this initial allocation post 2036 the wider allocation may have capacity for an additional 2,500 dwellings to be developed.

5.3 The CCC trajectory assessment for NEC is based on the June 2018 Chelmsford Draft Local Plan Schedule of Additional Changes. There is a difference between the Trajectory in the draft Local Plan (January 2018) and the Trajectory outlined in June 2018 Schedule of Additional Changes although both still assume 3,000 units to be delivered during the plan period. As part of this assessment I have replicated the latest CCC trajectory for NEC as per the June 2018 update and included as per **Appendix 1A** of the IDP report.

5.4 A summary of the timings of housing/commercial delivery by NEC is shown in the table below:

INPUT	2022/23	2022/23 – 2027/28	2028/29 – 2032/33	2033/34 - 2036
Residential Completions (units)	100	450	1,225	1,225
Commercial Completions (sqm)	10,000		17,500	17,500

5.5 On this basis CCC are effectively assuming a 4 year lead time until the first completions are realised on site in 2022. From here the site takes c. 5 years

to 'reach maturity' before achieving a peak delivery of 245 completions p.a. from 2028 – 2033 and then 408 completions p.a. from 2033 – 2036. The large 'jump' in completions can be attributed to the completion of Beaulieu Park in 2032/33 and as such development at NEC representing the main strategic site in the locality.

5.6 In considering the ability of the NEC to deliver housing in line with the trajectory one needs to have some sort of objective benchmark as to how (especially) large sites can be expected to deliver. The Local Plan allocation for NEC is for 3,000 dwellings but beyond the plan period there is a potential for the site to deliver 5,500 dwellings. In this regard it is a significant development and there are a limited number of comparable sites which I can refer to in order to benchmark whether the assumptions by CCC within the Local Plan appear reasonable.

5.7 In this context, I refer (in **Appendix 6**) to a schedule derived from evidence given by Buchanan at ***East of England Regional Spatial Strategy Examination in Public***. It lists comprehensive large site (over 1000 dwellings capacity) completions data, within the whole of the Eastern Region, over the period from 1980/81 to 2004/5.

5.8 Obviously this data is historic; however it provides evidence of completions within the region during the pre-recession years. The economic downturn plainly had a significant impact on delivery of large sites so it is important, when benchmarking likely future delivery rates, to reflect upon evidence that unquestionably is not tainted by the recession.

5.9 I have taken the Buchanan data, sorted it in descending order (by the annual average completions rate) and then sought to interpret it. To make the analysis relevant I have focused on sites which have a capacity of 3,000 dwellings or over. My broad conclusions are as follows:-

- Of the 11 sites which have capacity of over 3,000 dwellings the

average rate of completion is 259 dwellings p.a. This is excluding the South Woodham Ferrers which is an anomaly compared to the other 10 SUEs at an average rate of completion of just 37 dwellings p.a.

- The top 3 sites contained in the Buchanan data are related to the Peterborough New Town Expansion which took place primarily between 1970 – 1988 with annual completions ranging from 229 – 425 p.a.

- Aside from the above, the best performing sites were Chafford Hundred (5,300 dwellings on former Blue Circle land north of the QEII Bridge) at 300 p.a. and Hampton Southern Township (5,200 dwellings on former London Brick Company Land) south of Peterborough at 281 p.a.

- If one reduces the sample size to those sites over and above 5,000 dwellings (as per the total capacity of NEC) the average rate of completion is 336 dwellings p.a. (i.e. Orton 425 p.a. / Bretton 340 p.a. / Chafford Hundred 300 p.a. / Hampton S Township 281 p.a.)

5.10 As outlined above this evidence is somewhat historic but it still provides a contextual backdrop about the delivery of large housing sites of over 3,000 dwellings over the life of a plan period and through a complete economic cycle. The above contextual evidence would suggest to me that the NEC Trajectory is not overly optimistic in terms of housing delivery although clearly this will need to be tested with the site specific constraints as explored later in this report. It should also be acknowledged that as discussed earlier in this report the scheme can viably deliver the S106 and infrastructure requirements, adopting the Cambourne market housing mix.

5.11 Although the Buchanan evidence is historic a number of the larger sites such as Cambourne continued to be built out after the end date of the Buchanan research in 2005. In order to observe how these sites performed after this time I have undertaken a review of the relevant Annual Monitoring Reports showing achieved completions on the sites.

5.12 For Cambourne delivery numbers are confirmed in the South Cambridgeshire Annual Monitoring Report (AMR) 2017 and contained in the schedule below from 1998 to 2017:

98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08
126	126	127	213	337	620	151	377	267	219
08/09	**09/10**	**10/11**	**11/12**	**12/13**	**13/14**	**14/15**	**15/16**	**16/17**	**TOTAL**
190	162	206	154	151	129	239	201	95	**4090**

5.13 The above indicates how during the lifetime of a project the delivery rates will go through a series of 'peaks' and 'troughs' dependent on a number of issues such as infrastructure, phasing and the economic climate.

5.14 Overall however, we see over the duration of the development (19 years in this case) an average **achieved** delivery rate of 215 completions p.a. with a peak delivery of 620 completions in 03/04. If one compares this average completion rate to the assumption for NEC one can observe that the average is at 214 completions p.a. (with peak delivery at 408 dwellings) and therefore broadly in line with the achieved rates at Cambourne over the last 19 years.

5.15 A further reference for contextual evidence can be found in the recently published Independent Review of Build Out Rates by Rt Hon Oliver Letwin MP (see **Appendix 7**). In this analysis Sir Oliver Letwin looks to review evidence from the delivery of large housing sites to explain the significant gap between housing completions and the amount of land allocated/permissioned and provide recommendations to the Government as to how housing delivery can be increased. At this stage

the Government has not responded to the recommendations so we do not know whether they will be implemented however the research on the delivery of strategic sites which Sir Oliver Letwin has undertaken is helpful in considering the deliverability of NEC.

5.16 Some of the sites he has reviewed include Arborfield Green, Wokingham (2,000 units), SW Bicester Cherwell (2,436 units), Great Western Park in South Oxfordshire (3,417 units) and Western Expansion Area, Milton Keynes (6,546 units).

5.17 In the annexes to his report Sir Oliver Letwin assessed all of the comparable sites he had reviewed and determined a median build out period (the time between the housebuilder obtaining a consent and when the last home is completed) as 15.5 years (or an average of 6.5% of the site built out each year).

5.18 Looking at the proposed NEC trajectory if one were to assume an implementable consent was obtained in 2020 and then housing completions (for 3,000 units) finished in 2036, this is a 16 year build out period at an average of 6.25% p.a.; clearly this is in line with the average data from Mr Oliver's report.

5.19 If one reviews the projected delivery (from the first application submission to practical completion) of some of the sites identified at 5.16 above, they range from c. 12 years for Arborfield (2,200 units) to c. 23 years for the Western Area Expansion in Milton Keynes (6,250 units). I understand the intention from NEC is for outline application(s) to be submitted in 2019 and as such the Local Plan assumes a timeframe of 17 years (2036) for completion of 3,000 dwellings. Based on the research undertaken to support the report from Sir Oliver Letwin i consider this as a reasonable assumption.

5.20 A further area reviewed in the report is to analyse the absorption rate on large development parcels. Sir Oliver Letwin concludes that the homogeneity of the types/tenures of homes delivered on large has a

direct link to the build out rate on these sites. Mr Oliver goes on to consider that if house builders were to offer a wider variety of housing (in terms of setting, design, landscape, tenure etc.) on the large sites then the overall absorption rates – and hence the overall build out rates – could be substantially accelerated.

5.21 Having discussed the details of delivery with the NEC consortium I understand the intention is for c. 6/7 outlets to be on site during the years of peak delivery; this includes an allowance for Housing Associations to be delivering the affordable quantum.

5.22 A large portion of the active outlets on site will be from 'Countryside Zest' however these outlets will be delivering a different design, housing type and product and thus avoiding the issues of homogeneity discussed by Mr. Letwin in his review. I am advised by Countryside the different outlets will be providing alternative housing in the form of 'New England', 'Traditional' and 'Contemporary' so as to provide a range of choice for prospective purchasers. Evidence of the different housing stock as provided by Countryside at Beaulieu Park is included as **Appendix 8.**

5.23 Furthermore if one reviews the Strutt & Parker market commentary report for Chelmsford as per **Appendix 14** on page 7-8 there is a detailed breakdown of the Beaulieu Park development and the 4 distinct areas which it is split up into (Beaulieu Chase, Heath, Kepp & Oaks). The different products and settings provided in these areas ensure that a high level of demand is maintained and the issue of homogeneity does not impact on the scheme.

5.24 I am also advised Countryside will be likely to dispose of serviced land parcels to other housebuilders (as will Ptarmigan) and thus through this approach a different range of housing will be available to purchasers. Needless to say Countryside will not want to dispose of land parcels to another developer who would construct a directly comparable product; it would seem logical that they would dispose to a developer offering an

alternative style/product for a different market so as not to negatively impact their achievable revenues.

5.25 I am aware of the fact that Countryside are also presently delivering housing with L&Q from their site at Beaulieu Park. Once again, I understand that a range of Countryside products are being delivered on Beaulieu Park to provide potential purchasers with different options. Countryside have advised that at 'peak' delivery from NEC and Beaulieu it is likely that there would be a maximum of 6 outlets spread across the two sites including housing association involvement in delivering the affordable quantum.

5.26 If one reviews the Beaulieu Park website showing the range of new homes provided one can observe the difference in products from traditional family housing to more contemporary designs (such as the Elevato & the Vita) – see **Appendix 8**. This is also explained in further detail on pages 7/8 of **Appendix 14**.

5.27 Further to this, the above is not considering the delivery of housing from Ptarmigan and further land sales which will incorporate additional developers onto the site delivering different housing products. Overall I consider that there will be a sufficient variety of product in NEC to ensure the anticipated delivery rates as outlined by the NEC consortium will be achievable.

5.28 In terms of contextual evidence it is helpful to consider how the nearby site at Beaulieu Park has performed in terms of housing completions. I discussed the Beaulieu Park completions with Countryside and have reviewed the Council's published annual completions which are as follows:

- 2015/16 – 40
- 2016/17 – 110
- 2017/18 – 262

5.29 I am advised by Countryside that the forecast for 2018/19 is for c. 300 completions which will be the level the development is anticipated to continue at for a number of years (representing peak completion). The above evidence confirms for me that a large strategic scheme such as Beaulieu or NEC will always take at least a few years to 'mature' before realising peak completions when the project is well underway. The completions at Beaulieu at c. 300 p.a. also confirm to me that the proposed average completion rate of NEC at 214 p.a. appears very reasonable.

5.30 This is especially the case as Countryside are the only housebuilder (along with L&Q delivering the affordable) active on Beaulieu Park; this shows that even with a single housebuilder and housing association active on a site one can still achieve completions of 262 p.a. (and rising). As both Countryside and Ptarmigan will be selling land parcels at NEC, it is likely NEC will have more outlets and more house builders active than Beaulieu Park and therefore is capable of achieving a higher rate of completion.

5.31 Furthermore, currently being delivered next to Beaulieu is the Channels development undertaken by Bellway, Croudace, Marden Homes and The Home Group. I understand from the Council's published annual completions that delivery from this site is as follows:

- 2015/16 – 31
- 2016/17 – 172
- 2017/18 – 110

5.32 Based on the above annual completion estimates and combined with Beaulieu this equates to total delivery of **71**(15/16), **282** (16/17) and **372** (17/18). The total consent for Beaulieu and Channels equates to 4,350 dwellings (3,600 at Bealieu + 750 at Channels) and as such is over the estimated delivery from NEC in the plan period.

5.33 Due to the sites being next to each other and delivering housing at the same time it is reasonable in this instance to consider them as a single scheme and in that regard this is an illustration of multiple different outlets delivering products on site at the same time at an increasing rate of completion. This also confirms the earlier comments that whilst a slow lead time is to be expected on large strategic sites, the project will eventually reach 'maturity' and if the demand and suitable product is there, it will deliver a significant number of dwellings. I consider that it is reasonable to assert there is a high demand for residential properties in both the centre and peripheral locations of Chelmsford; this is confirmed in the Strutt & Parker Market Commentary report as per **Appendix 14**.

5.34 Pertinently for this analysis Sir Oliver's report also considers the impact of infrastructure requirements in restricting/delaying housing delivery from strategic sites. He concludes that from the sites he has reviewed they do not, in general, appear to have any effect on build out rate. I would also point to the viability analysis undertaken on NEC within this report which shows the proposed infrastructure/S106 requirements to be viable and deliverable.

5.35 As a final comment on the report from Sir Oliver Letwin, it is worth noting that the comparable sites referenced in **paragraph 5.16** of this report which are the key sites comparable with NEC due to their size and location, have all delivered or are anticipated to deliver completion rates of over 200 dwellings p.a. The Milton Keynes Western Expansion Area delivered in 2017/18 over 500 dwellings p.a. which indicates the potential from these large sites once construction is underway to deliver a significant number of dwellings.

5.36 Whilst the position the Council have currently adopted on the housing trajectory shows a reduced delivery during the years of 'peak' delivery from Beaulieu Park (2023 – 28) I think it is important to acknowledge that two sites can deliver high numbers of completions even if located in close proximity (see earlier comments re: Beaulieu and Channels).

5.37 Turner Morum were involved in a review of the 5 year housing land supply position for Wokingham Borough Council (WBC) in 2017/18. The land supply position for WBC is essentially supported by the delivery of 4 Strategic Urban Extensions (SUE'S) known as South Wokingham, North Wokingham, South of M4 and Arborfield Garrison. I have included a summary of the WBC 2017 – 2022 5 year land supply position as per **Appendix 12**. Essentially WBC envisaged 4,785 completions coming from these SUE's over the 5 year period; this amounted to c. 70% of their total housing delivery during this period.

5.38 In comparison if one reviews the Chelmsford Draft Local Plan January 2018 page 53 the table showing Strategic Policy S8 (Housing & Employment Requirements) illustrates that the Local Plan Allocations of 9,085 dwellings represent just 41% of the total delivery of 21,893 dwellings. If one also considers Strategic sites (SUE's) as being over 500 dwellings the proposed allocation reduces to 7,974 dwellings (West Chelmsford, NEC, Great Leighs, Beaulieu Park, North of South Woodham Ferrers) of which Beaulieu is already underway delivering housing.

5.39 Obviously the Wokingham SUEs are located throughout the borough although when viewed on a map one can observe that the Arborfield Garrison and the South of M4 SUE are in 'relatively' close proximity – the distance between the sites measures as c. 2.7km from the eastern section of South of M4 to the North West of Arborfield (see **Appendix 9**). In spite of the relatively small distance between the SUEs it has been envisaged in the Council's 5 year housing land supply the delivery from these 2 SUEs will be as follows:

Sites	2017/18	2018/19	2019/20	2020/21	2021/22
South M4	324	346	322	411	460
Arborfield	186	335	390	315	282
TOTAL	**510**	**681**	**712**	**726**	**742**

5.40 In the case of Aborfield, Crest are delivering a portion of the scheme through 2 separate outlets (Crest Regeneration & South) and sold a parcel to Redrow who are now also delivering housing. Further parcels are to be sold to Millgate and Westbuild in due course which will further increase the delivery. The South of M4 development is being led by a consortium of Taylor Wimpey, David Wilson Homes and the University of Reading.

5.41 From researching the WBC completion data for 2017/18 it is apparent that these two sites actually delivered 533 completions in 2017/18 therefore above the estimated level in the land supply figures above (**Appendix 13**). Further the WBC Local Plan Core Strategy in Wokingham included estimates of delivery from these 2 SUE's of 500 completions p.a. for a significant period (see **Appendix 10**). This was reviewed and found sound by an Inspector in 2009.

5.42 There was a contentious appeal decision in 2017 (APP/X0360/W/17/3167142) where an Inspector ruled that WBC were unable to demonstrate a 5 year land supply position however this was largely down to a dispute on the adopted lapse rate and Objectively Assessed Need. The appellant did make the case for the removal of completions from the 'Hogwood Farm' parcel of land with Arborfield which would equate to 80 completions p.a. in 2019/20, and 90 p.a. in 2020/21 and 2021/22. Even taking these numbers out the delivery rates estimated by the Council which were not disputed at this appeal would be in excess of 600 p.a. in the later years of the schemes.

5.43 To compare this position in the WBC land supply with the NEC Trajectory as proposed by the consortium in their Masterplan document or the Local Plan submission – I am aware that there is a potential argument that during the 'peak' delivery years from Beaulieu Park and NEC the total combined completions could be in excess of 400 p.a. which could be considered as excessive due to the proximity of the sites.

5.44 However, as one can see from the Wokingham example above, there are large strategic sites which are currently being delivered at high completions rates which would support the trajectory position proposed by NEC. As mentioned the 2 SUEs referred to above in Wokingham are c. 2.7km apart in terms distance at their closest points whilst NEC and Beaulieu Park are c. 2km apart at their closest points. This suggests to me the amount of competition between Beaulieu and NEC would be broadly comparable to the Wokingham sites which are envisaged to be delivered at a rate of completion above the estimates of the Council and the NEC consortium. It is worth noting that the Channels development will be completed by the time housing delivery is envisaged on NEC.

5.45 In a similar way to NEC, Arborfield is also a 'Garden Village' development which means a significant portion of green land and space between the development parcels. This again serves to reduce the issue of any potential market saturation which could reduce the rate of completions because the scheme is not going to be delivered in a 'dense' housing block.

5.46 Furthermore, one also needs to acknowledge that whilst measuring the distances between the sites is a useful point of reference a more detailed analysis of proposed phasing is required. For, example, the NEC phasing is designed to be flexible to ensure no issues are encountered during the plan period with the mineral extractions. If one views the phasing plan as per **Appendix 1** you can observe that the early phases of NEC will mostly be delivered in the North West section of the site – the furthest distance from Beaulieu. There is a small portion of Phase 1 which is at the Southern section next to Beaulieu but this is only a relatively low number of dwellings within the phase.

5.47 On completion of Phase 1 the later phases move closer to Beaulieu Park but by this stage Beaulieu would be nearing completion itself by 2032/33 (which moves development further east away from NEC – 'Beaulieu Stage 4'). Essentially the **Appendix 1** phasing plan suggests that as development

from NEC moves closer towards Beaulieu it is to be phased in such a way that Beaulieu would either be completed or nearing completion thus reducing any potential issues of market saturation.

5.48 Based on the latest numbers proposed by the Council in their June 2018 Schedule of Additional Changes; the 'peak' delivery from Beaulieu and NEC would be 442 p.a. (2028 – 2033). This is lower than previous estimates with the assumption that the completions will be 'caught up' with a higher delivery rate from NEC once Beaulieu and Channels are completed.

5.49 I consider that based on the evidence above this is a reasonable position to adopt. I also consider that acknowledging the example of the WBC SUE's, there is also an argument that delivery rates from NEC may be higher during 2028 – 2033 than the Council's June 2018 estimates however ultimately the conclusion is that 3,000 completions is achievable within the plan period.

5.50 Having considered the trajectory evidence for the delivery of large sites such as NEC and the issue of market saturation, I now move to consider the impact of some other site specific issues/constraints on NEC which may impact its ability to deliver the housing as anticipated in the plan period and beyond. I have already addressed the issue of infrastructure delivery within a separate IDP and the scheme's viability earlier in this report, therefore the following key issues which could impact on housing trajectory are broken down into the following sub-headings:

- **Section 6 Site Assembly**
- **Section 7 Mineral Phasing**

6. SITE ASSEMBLY

6.1 A land ownership plan for NEC is included within the signed **Statement of Common Ground**. One can observe from this plan there are effectively 4 different landowner interests in the site as follows:

- Cliffords Ltd, Plunkett, Stubbings
- Cliffords Ltd
- Hanson Quarry Products Europe Ltd (Minerals Operator)
- Threadneedle Pensions Ltd

6.2 I am advised by the NEC consortium that the above Clifford Ltd/Clifford, Plunkett, Stubbings land is controlled under either Option or Promotion Agreement by Ptarmigan.

6.3 The remaining landowner interests on the site in the form of Hanson Quarry Products Europe Ltd and Threadneedle Pensions Ltd have signed up to a Collaboration Agreement with Countryside and Ptarmigan **which is included within the Planning Statement for NEC.** This agreement is intended to ensure that all parties are signed to an obligation to assist CCC in taking forward the Local Plan and delivering development in line with the plan. There has also been an agreement to work together to produce a joint Masterplan, Development Framework Document and Infrastructure Delivery Plan setting out how the site will be delivered; much of this is considered in this report. The Development Framework Document and the Infrastructure Delivery Plan are submitted as part of the representations made in support of the NEC allocation.

6.4 The work done by the Consortium on the Masterplan to date shows that close to 3,000 new homes can be delivered on land that is not affected by minerals and is therefore available for development. Consortium members are planning to submit a number of planning applications for housing on this land with the first to be submitted by the end of 2019, based on the Masterplan that will be agreed with Chelmsford City Council through the Planning Performance Agreement process.

6.5 One can also observe as part of the submission on NEC ahead of the Examination in Public that all interests in NEC including the Local Planning Authority (CCC) and the County Council have signed a **Planning**

Statement of Common Ground which concludes that all parties agree that the NEC site allocation is deliverable within the plan period, is a suitable location for development and is viable. There are no over-riding issues and constraints to bringing forward this development site in accordance with the Local Plan.

6.6 On the basis of the signed Consortium Agreement (appended to the Planning Statement) and the Planning Statement of Common Ground between the landowners/developers, I do not consider site assembly to be an impediment to delivery in this case.

7. MINERAL PHASING

7.1 As per paragraph 7.237 of the draft Local Plan the NEC allocation includes an area consented for long-term mineral extraction and as such a careful phasing is required in dialogue with the mineral operator to ensure development is not stalled by the extraction process.

7.2 The NEC consortium has produced a mineral strategy which shows the site separated into 5 areas for mineral extraction. One can observe from the map within the masterplan that Areas C, D and E are considered as not being required for mineral extraction; this is confirmed in the Mineral Statement of Common Ground (SOCG) agreed with ECC, Countryside, Ptarmigan, Threadneedle & Hanson (see core document **SOCG 15**).

7.3 Regarding Area A; I understand that the extraction of sand and gravel is on-going within the eastern section of the site, with two extant planning permissions; 'Airfield' and 'Park Farm'. I understand that a large area of the Airfield permission has already been worked and restored, with current extraction in the north of the site to shortly enter restoration.

7.4 This is important because with this restoration underway (or shortly to be underway) this covers the route of the North East Bypass through the site. As such with an estimated start date of construction on the Bypass at c.

2028 I consider this sufficient time based on the information I have received for the restoration to be complete. The SOCG confirms that it is agreed between the parties that all economic materials have been extracted from beneath the proposed route of the NEC bypass and that these areas will be fully restored prior to any highway construction.

7.5 Crucially I understand that as there is the availability of significant areas within the site which contain no mineral resources of economic importance, the early phases of the Garden Village can be delivered without reliance upon proposed variations to the mineral extraction phasing. I am advised by the Consortium that the first phase of housing delivery has been carefully planned (2021 – 2026) such that it is not affected in any way by mineral extraction matters. Phase 2 (2026 – 2031) includes a section of Area A but housing delivery is focused on land which has already been restored and is now in an agricultural use; the only other part of Phase 2 in Area A is the initial phase of delivering the Country Park.

7.6 I am advised that the incorporation of appropriate best practice 'stand-off' distances from areas of future mineral working will ensure that any non-mineral development does not prejudice the effective working of the remaining permitted minerals. This was successfully implemented in Phase 5 of the Channels scheme.

7.7 Ultimately as can be seen above there is a clear strategy in place with an open dialogue between ECC, the mineral extractor and the consortium. The NEC allocation has been planned in such a way that there is no prevention to the delivery of housing on Phases 1 & 2 due to mineral extractions. For the final phase of the 3,000 unit allocation within the plan period the delivery is on land which is either restored or will be restored from the mineral extraction and ready for development.

7.8 All mineral extraction is envisaged to be completed and the whole site restored in 2035 although as mentioned above there is sufficient developable land within these areas during the plan period to ensure

development will not be affected. Once the whole area has been extracted and then restored this will then allow further delivery of the additional 2,500 units.

7.9 The strategy for mineral extraction and restoration has been confirmed and agreed by the Consortium in the signed Mineral SOCG which has been submitted as part of the representations supporting this allocation (**SOCG 15**).

8. CONCLUSIONS

8.1 I consider that based on the information I have reviewed there is no restriction from the mineral extraction within NEC which would limit the ability of the consortium to deliver 3,000 units on this site within the plan period.

8.2 I also understand all the necessary land is controlled under either Option or Promotion Agreement for the delivery of 3,000 dwellings and this is confirmed through the Planning Statement of Common Ground and Collaboration Agreement.

8.3 Finally, based on my experience and analysis of this scheme I do not consider it unreasonable to believe that a trajectory of 3,000 completions is achieved by 2036; as evidenced above the average rate of completion for this to be achieved is in line with contextual evidence. I also consider this a strong market to develop in and so long as a variety of housing product is delivered I do not consider market saturation to be an issue.

8.4 My overall assessment at this stage is that the NEC allocation is both viable and deliverable within the plan period.

Turner Morum LLP

November 2018

Appendix 1

Delivery & Phasing

The Consortium has done a detailed appraisal of the capacity of the land at North East Chelmsford within the Strategic Growth Site 4.

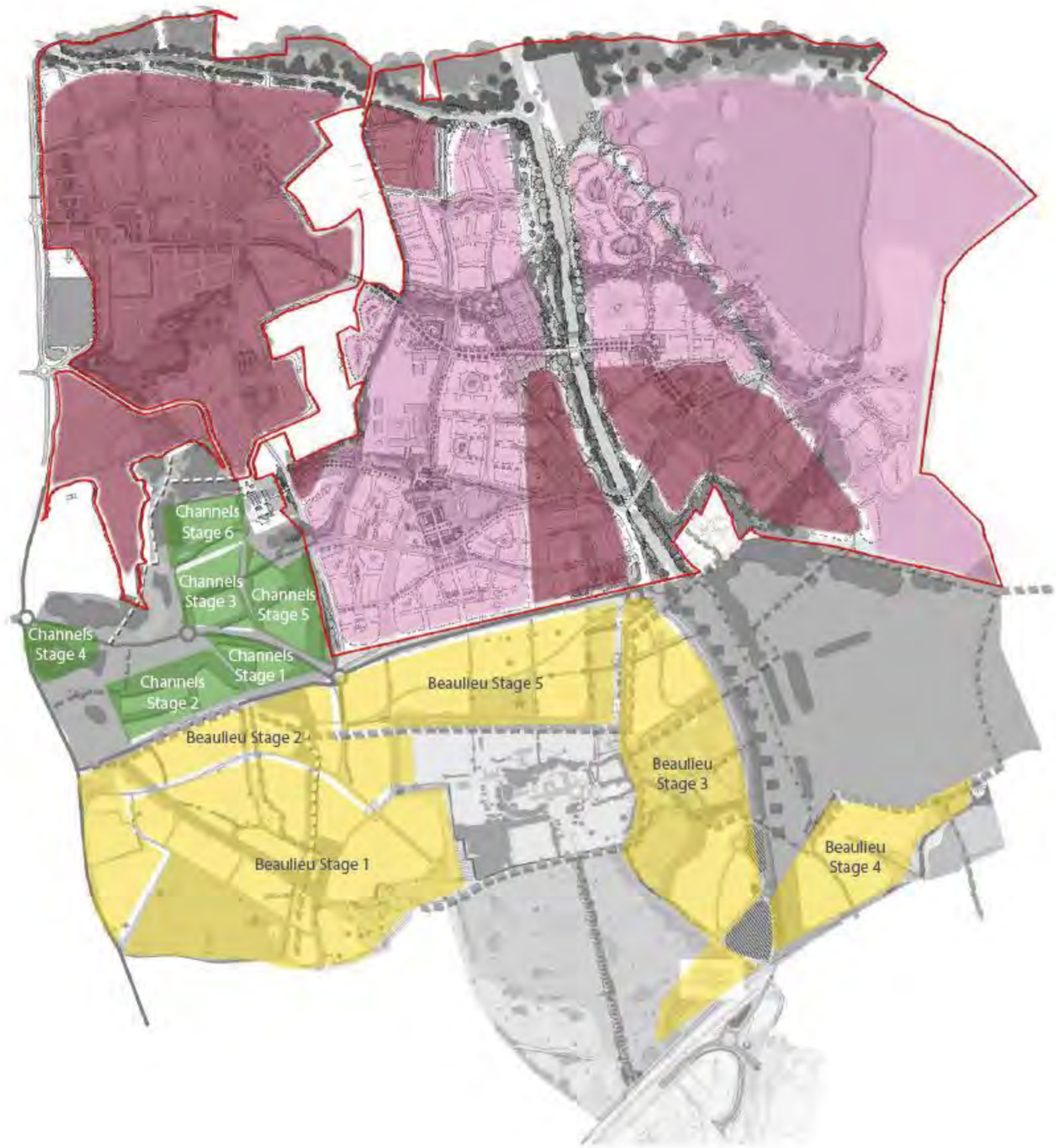
This has involved a comprehensive assessment of the physical and planning constraints that the site is subject to, including the need to continue the removal of minerals from parts of the site during the plan period. The results of this work are illustrated in the plan.

The Consortium has calculated the number of dwellings based on a range of densities from 20 to 40 dwellings per hectare, depending on the landscape and other conditions that influence the density that would be appropriate in any given part of the site.

This work shows that sufficient land to accommodate the delivery of 3,000 new homes, the minimum number identified in the policy, is available now and is unconstrained by future mineral extraction activities , . The Consortium is therefore confident that the site has a reasonable prospect of delivering at least the 3,000 homes set out on the Council's trajectory on land that is not constrained by mineral workings or other factors.

A further 2,800 can be delivered on land that will be available once the minerals have been extracted. Some of these homes could be delivered during the plan period to support the Council's continued five year housing land supply.

The detailed delivery plan will be developed by the Consortium once the site is allocated, consistent with the Infrastructure Delivery Plan that has been agreed with the Council.



Key

- Deliverable Now
- Deliverable Later in the Plan Period

Appendix 2

North East Chelmsford
S106/Infrastructure Viability Analysis

SUMMARY

Tab	Description	Total Units	Mkt	Rented	SO	GDV	TOTAL COSTS	S106/INFRASTRUCTURE (included in total costs)	CIL (included in total costs)	Residual Land Value	Benchmark Land Value	SURPLUS/DEFICIT	VIABLE/NON-VIABLE
1A	35% Model	3,000	1,950	347	703	£1,025,701,386	-£913,182,211	-£112,836,327	-£33,110,360	£112,519,175	£84,401,688	**£28,117,487**	**VIABLE**
1B	35% Model - Lower Resi Areas as per LA Viab	3,000	1,950	347	703	£931,562,045	-£842,009,340	-£104,970,832	-£29,225,075	£89,552,705	£84,401,688	**£5,151,017**	**VIABLE**

NORTH EAST CHELMSFORD VIABILITY ANALYSIS FOR EIP

35% Affordable Housing - 3,000 dwellings - TM Areas Schedule **Tab 1a**

Unit Type	Beds	Units	sq ft	sq m	Tot sq ft	Total sqm	£s/sq ft	Unit Value	GDV	Market	Affordable	Commercial
FOG	2	100	650	60	65,000	6,039	£369.17	£239,958	£23,995,832			
2 Bed Flat	2	105	665	62	69,825	6,487	£369.17	£245,496	£25,777,061			
Terrace	2	256	690	64	176,640	16,410	£369.17	£254,725	£65,209,597			
Terrace	3	71	875	81	62,125	5,772	£369.17	£323,021	£22,934,478			
Terrace	3	237	930	86	220,410	20,477	£369.17	£343,325	£81,368,021			
Terrace	3	178	865	80	153,970	14,304	£369.17	£319,329	£56,840,589			
Terrace	3	187	1,150	107	215,050	19,979	£369.17	£424,542	£79,389,288			
Terrace	3	97	1,300	121	126,100	11,715	£369.17	£479,917	£46,551,914			
Detached	4	89	1,170	109	104,130	9,674	£369.17	£431,925	£38,441,323			
Detached	4	115	1,220	113	140,300	13,034	£369.17	£450,383	£51,794,081			
Detached	4	150	1,370	127	205,500	19,092	£369.17	£505,758	£75,863,746			
Detached	4	150	1,530	142	229,500	21,321	£369.17	£564,825	£84,723,746			
Detached	5	110	1,750	163	192,500	17,884	£369.17	£646,042	£71,064,580			
Detached	5	105	2,020	188	212,100	19,705	£369.17	£745,717	£78,300,246			
SUB TOTAL MARKET HOUSING		**1,950**	**1,114**	**104**	**2,173,150**	**201,892**	**£369.17**	**£411,413**	**£802,254,501**	**£802,254,501**		
Flat	1	21	501	47	10,521	977	£274.51	£137,529	£2,888,104			
Flat	2	37	655	61	24,235	2,252	£274.51	£179,803	£6,652,714			
House	2	109	808	75	88,072	8,182	£274.51	£221,803	£24,176,516			
House	2	46	670	62	30,820	2,863	£274.51	£183,921	£8,460,353			
House	3	90	910	85	81,900	7,609	£274.51	£249,803	£22,482,249			
House	4	44	1,148	107	50,512	4,693	£274.51	£315,136	£13,865,975			
SUB TOTAL SHARED OWNERSHIP	**33%**	**347**	**824**	**77**	**286,060**	**26,576**	**£274.51**	**£226,299**	**£78,525,911**			
Flat	1	54	501	47	27,054	2,513	£239.96	£120,219	£6,491,832			
Flat	2	52	664	62	34,528	3,208	£239.96	£159,332	£8,285,281			
House	2	199	808	75	160,792	14,938	£239.96	£193,886	£38,583,378			
Flat	2	101	670	62	67,670	6,287	£239.96	£160,772	£16,237,980			
House	3	211	910	85	192,010	17,838	£239.96	£218,362	£46,074,397			
House	4	86	1,148	107	98,728	9,172	£239.96	£275,472	£23,690,605			
SUB TOTAL AFFORD RENT	**67%**	**703**	**826**	**77**	**580,782**	**53,956**	**£239.96**	**£198,241**	**£139,363,474**			
SUB TOTAL AFFORDABLE	**35%**	**1,050**	**826**	**77**	**866,842**	**80,532**	**£251.36**	**£207,514**	**£217,889,385**		**£217,889,385**	
GROSS HOUSING GDV		**3,000**	**1,013**	**94**	**3,039,992**	**282,425**	**£335.57**	**£340,048**	**£1,020,143,886**			
					sq ft	**sqm**	**acres**	**£ per acre**				
NON-RESIDENTIAL ELEMENT					484,376	45,000	11	£500,000	**£5,557,500**			**£5,557,500**
GROSS GDV					**3,524,368**	**327,425**			**£1,025,701,386**			
Gross Ha/ Acres				142.86	353.01							
Net acres (incl frontage roads)				85.71	211.79							
Dwelling density net per Ha/ acre (all tenures)					14.17							
Sq ft per net acre (**excludes commercial use**)					15,149							
Average market units sales values psf					£369							
Sales and marketing costs on Market @								3.00%	-£24,067,635	-£24,067,635		
Transaction Costs Affordable @								0.50%	-£1,089,447		-£1,089,447	
Non-Residential Disposal Costs @								2.00%	-£111,150			-£111,150
Standard Build costs per sq ft @							**Area (sq ft)**	**£ psf**				
Housing							2,741,159	£135.68	-£371,915,041	-£241,744,777	-£130,170,264	
Flats							298,833	£178.89	-£53,459,216	-£34,748,491	-£18,710,726	
							3,039,992	**£139.93**				
Garages							**Units**	**£ per unit**				
Single							637	£7,500	-£4,777,500	-£4,777,500		
Double							467	£11,000	-£5,137,000	-£5,137,000		
Professional Fees							7%	-£36,446,555.90	-£36,446,556	-£23,690,261	-£12,756,294.56	
Market Housing profit as % of GDV							20%	-£160,450,900		-£160,450,900		
Affordable Housing profit as % of GDV							6%	-£13,073,363			-£13,073,363	
Commercial profit as % of GDV							15%	-£833,625	-£174,357,888			-£833,625
							17.0%					
Gross Clean Serviced Land Value									**£354,339,953**	**£307,637,938**	**£42,089,290**	**£4,612,725**

			Inflation for front loading					
	Cost per dwelling	**Dwellings**	5%					
Site Infrastructure Items	£28,127	3,000	£29,533	-£88,599,113	-£88,599,113			
	Cost per dwelling	**Dwellings**						
S106/Infrastructure as per IDP	£37,612	3,000		-£112,836,327	-£112,836,327			
	Charge psm	**sqm market housing**		**£**				
CIL	£164	201,892		-£33,110,360	-£33,110,360			
Total Finance Costs				-£7,274,978	-£7,274,978			
						-£241,820,777	-£241,820,777	

RDR2 + Bypass cost advised by Arcadis inclusive of fees

£27,460,000

-£85,376,327

-£5,691,755.13

Finance as % of GDV	Finance as % of Cost
1%	1%

RESIDUAL LAND VALUE (RLV)				**£112,519,175**
BENCHMARK LAND VALUE (BLV)	**£ per GROSS acre**	**Gross Acres**	**BLV**	
BLV per gross acre	£226,629	353.01	£80,001,600	
	SDLT	4.0%	£3,200,064	
	Legals	1.5%	£1,200,024	**£84,401,688**
SURPLUS/DEFICIT				**£28,117,487**
VIABLE/NON-VIABLE				**VIABLE**

NORTH EAST CHELMSFORD VIABILITY ANALYSIS FOR EIP

35% Affordable Housing - 3,000 dwellings - Council Areas **Tab 1b**

Unit Type	Beds	Units	sq ft	sq m	Tot sq ft	Total sqm	£s/sq ft	Unit Value	GDV	Market	Affordable	Commercial
FOG	2	53	650	60	34,450	3,201	£369.17	£239,958	£12,717,791			
2 Bed Flat	2	163	665	62	108,395	10,070	£369.17	£245,496	£40,015,819			
Terrace	2	344	690	64	237,360	22,051	£369.17	£254,725	£87,625,396			
Terrace	3	266	875	81	232,750	21,623	£369.17	£323,021	£85,923,537			
Terrace	3	292	930	86	271,560	25,229	£369.17	£343,325	£100,250,895			
Terrace	3	244	865	80	211,060	19,608	£369.17	£319,329	£77,916,313			
Terrace	3	100	1,150	107	115,000	10,684	£369.17	£424,542	£42,454,165			
Terrace	3	97	1,300	121	126,100	11,715	£369.17	£479,917	£46,551,914			
Detached	4	56	1,170	109	65,520	6,087	£369.17	£431,925	£24,187,799			
Detached	4	80	1,220	113	97,600	9,067	£369.17	£450,383	£36,030,665			
Detached	4	80	1,370	127	109,600	10,182	£369.17	£505,758	£40,460,665			
Detached	4	50	1,530	142	76,500	7,107	£369.17	£564,825	£28,241,249			
Detached	5	75	1,750	163	131,250	12,194	£369.17	£646,042	£48,453,123			
Detached	5	50	2,020	188	101,000	9,383	£369.17	£745,717	£37,285,831			
SUB TOTAL MARKET HOUSING		**1,950**	**984**	**91**	**1,918,145**	**178,202**	**£369.17**	**£363,136**	**£708,115,160**	**£708,115,160**		
Flat	1	21	501	47	10,521	977	£274.51	£137,529	£2,888,104			
Flat	2	37	655	61	24,235	2,252	£274.51	£179,803	£6,652,714			
House	2	109	808	75	88,072	8,182	£274.51	£221,803	£24,176,516			
House	2	46	670	62	30,820	2,863	£274.51	£183,921	£8,460,353			
House	3	90	910	85	81,900	7,609	£274.51	£249,803	£22,482,249			
House	4	44	1,148	107	50,512	4,693	£274.51	£315,136	£13,865,975			
SUB TOTAL SHARED OWNERSHIP	**33%**	**347**	**824**	**77**	**286,060**	**26,576**	**£274.51**	**£226,299**	**£78,525,911**			
Flat	1	54	501	47	27,054	2,513	£239.96	£120,219	£6,491,832			
Flat	2	52	664	62	34,528	3,208	£239.96	£159,332	£8,285,281			
House	2	199	808	75	160,792	14,938	£239.96	£193,886	£38,583,378			
Flat	2	101	670	62	67,670	6,287	£239.96	£160,772	£16,237,980			
House	3	211	910	85	192,010	17,838	£239.96	£218,362	£46,074,397			
House	4	86	1,148	107	98,728	9,172	£239.96	£275,472	£23,690,605			
SUB TOTAL AFFORD RENT	**67%**	**703**	**826**	**77**	**580,782**	**53,956**	**£239.96**	**£198,241**	**£139,363,474**			
SUB TOTAL AFFORDABLE	**35%**	**1,050**	**826**	**77**	**866,842**	**80,532**	**£251.36**	**£207,514**	**£217,889,385**		**£217,889,385**	
GROSS HOUSING GDV		**3,000**	**928**	**86**	**2,784,987**	**258,734**	**£332.50**	**£308,668**	**£926,004,545**			
NON-RESIDENTIAL ELEMENT					**sq ft** 484,376	**sqm** 45,000	**acres** 11	**£ per acre** £500,000	**£5,557,500**			**£5,557,500**
GROSS GDV					**3,269,363**	**303,734**			**£931,562,045**			

Gross Ha/ Acres		142.86	353.01	
Net acres (incl frontage roads)		85.71	211.79	
Dwelling density net per Ha/ acre (all tenures)			14.17	
Sq ft per net acre (**excludes commercial use**)			13,878	
Average market units sales values psf			£369	

Sales and marketing costs on Market @							3.00%	-£21,243,455	-£21,243,455		
Transaction Costs Affordable @							0.50%	-£1,089,447		-£1,089,447	
Non-Residential Disposal Costs @							2.00%	-£111,150			-£111,150
Standard Build costs per sq ft @						**Area (sq ft)**	**£ psf**				
Housing						2,478,134	£135.68	-£336,228,328	-£218,548,413	-£117,679,915	
Flats						306,853	£178.89	-£54,893,940	-£35,681,061	-£19,212,879	
						2,784,987	**£140.44**				
Garages						**Units**	**£ per unit**				
Single						633	£7,500	-£4,747,500	-£4,747,500		
Double						258	£11,000	-£2,838,000	-£2,838,000		
Professional Fees						7%	-£35,257,502.05	-£35,257,502	-£22,917,376	-£12,340,126	
Market Housing profit as % of GDV						20%	-£141,623,032		-£141,623,032		
Affordable Housing profit as % of GDV						6%	-£13,073,363			-£13,073,363	
Commercial profit as % of GDV						15%	-£833,625	-£155,530,020			-£833,625
						16.7%					
Gross Clean Serviced Land Value								**£319,622,702**	**£260,516,322**	**£54,493,655**	**£4,612,725**

			Inflation for front loading					
	Cost per dwelling	**Dwellings**	5%					
Site Infrastructure Items	£28,127	3,000	£29,533	-£88,599,113	-£88,599,113			
		Cost per dwelling	**Dwellings**					
S106/Infrastructure as per IDP		£34,657	3,000	-£103,970,832				
Acquisition costs for single/dualled section of Bypass				-£1,000,000	-£104,970,832			
			sqm market housing	**£**				
		Charge psm						
CIL		£164	178,202	-£29,225,075	-£29,225,075			
Total Finance Costs				-£7,274,978	-£7,274,978			
						-£230,069,997	-£230,069,997	
RESIDUAL LAND VALUE (RLV)							**£89,552,705**	
BENCHMARK LAND VALUE (BLV)				**£ per GROSS acre**	**Gross Acres**	**BLV**		
BLV per gross acre				£226,629	353.01	£80,001,600		
				SDLT	4.0%	£3,200,064		
				Legals	1.5%	£1,200,024	**£84,401,688**	
SURPLUS/DEFICIT							**£5,151,017**	
VIABLE/NON-VIABLE							**VIABLE**	

RDR2 + Bypass cost advised by Arcadis inclusive of fees
£27,460,000

£583,000

£4,000
145.75
£583,000

Finance as % of GDV	Finance as % of Cost
1%	1%

North East Chelmsford

Notional Accommodation Schedule for 3,000 dwellings
35% Affordable Housing **Tab 2**

Open Market Units	Unit Type	Number Bedrooms	Number Units	Unit ft2		Total ft2	Total m2	Average £ ft2	Unit £	Total £
	FOG	2	100	650	60	65,000	6,039	£ 369.17	£ 239,958	£ 23,995,832
	2 Bed Flat	2	105	665	62	69,825	6,487	£ 369.17	£ 245,496	£ 25,777,061
	Terrace	2	256	690	64	176,640	16,410	£ 369.17	£ 254,725	£ 65,209,597
	Terrace	3	71	875	81	62,125	5,772	£ 369.17	£ 323,021	£ 22,934,478
	Terrace	3	237	930	86	220,410	20,477	£ 369.17	£ 343,325	£ 81,368,021
	Terrace	3	178	865	80	153,970	14,304	£ 369.17	£ 319,329	£ 56,840,589
	Terrace	3	187	1,150	107	215,050	19,979	£ 369.17	£ 424,542	£ 79,389,288
	Terrace	3	97	1,300	121	126,100	11,715	£ 369.17	£ 479,917	£ 46,551,914
	Detached	4	89	1,170	109	104,130	9,674	£ 369.17	£ 431,925	£ 38,441,323
	Detached	4	115	1,220	113	140,300	13,034	£ 369.17	£ 450,383	£ 51,794,081
	Detached	4	150	1,370	127	205,500	19,092	£ 369.17	£ 505,758	£ 75,863,746
	Detached	4	150	1,530	142	229,500	21,321	£ 369.17	£ 564,825	£ 84,723,746
	Detached	5	110	1,750	163	192,500	17,884	£ 369.17	£ 646,042	£ 71,064,580
	Detached	5	105	2,020	188	212,100	19,705	£ 369.17	£ 745,717	£ 78,300,246
TOTAL OPEN MARKET			**1,950**	**1,114**	**104**	**2,173,150**	**201,892**	**£ 369.17**	**£ 411,412.56**	**£802,254,501**
SO	**Unit Type**	**Number Bedrooms**	**Number Units**	**Unit ft2**		**Total ft2**	**Total m2**	**Average £ ft2**	**Unit £**	**Total £**
	Flat	1	21	501	47	10,521	977	£ 274.51	£ 137,529	£ 2,888,104.28
	Flat	2	37	655	61	24,235	2,252	£ 274.51	£ 179,803	£ 6,652,714
	House	2	109	808	75	88,072	8,182	£ 274.51	£ 221,803	£ 24,176,516
	House	2	46	670	62	30,820	2,863	£ 274.51	£ 183,921	£ 8,460,353
	House	3	90	910	85	81,900	7,609	£ 274.51	£ 249,803	£ 22,482,249
	House	4	44	1,148	107	50,512	4,693	£ 274.51	£ 315,136	£ 13,865,975
TOTAL SHARED OWNERSHIP		**33%**	**347**	**824**	**77**	**286,060**	**26,576**	**£ 274.51**	**£ 226,299.46**	**78,525,911**
RENT	**Unit Type**	**Number Bedrooms**	**Number Units**	**Unit ft2**		**Total ft2**	**Total m2**	**Average £ ft2**	**Unit £**	**Total £**
	Flat	1	54	501	47	27,054	2,513	£ 239.96	£ 120,219	£ 6,491,832.42
	Flat	2	52	664	62	34,528	3,208	£ 239.96	£ 159,332	£ 8,285,280.92
	House	2	199	808	75	160,792	14,938	£ 239.96	£ 193,886	£ 38,583,378.40
	Flat	2	101	670	62	67,670	6,287	£ 239.96	£ 160,772	£ 16,237,979.60
	House	3	211	910	85	192,010	17,838	£ 239.96	£ 218,362	£ 46,074,397.27
	House	4	86	1,148	107	98,728	9,172	£ 239.96	£ 275,472	£ 23,690,605.14
TOTAL AFFORD RENTED		**67%**	**703**	**826**	**77**	**580,782**	**53,956**	**£ 239.96**	**£ 198,241.07**	**139,363,474**
TOTAL AFFORDABLE		**35%**	**1,050**	**826**	**77**	**866,842**	**80,532**	**£ 251.36**	**£ 207,513.70**	**217,889,385**
TOTAL			**3,000**	**1,013**	**94**	**3,039,992**	**282,425**	**£ 335.57**	**£ 340,047.96**	**1,020,143,886**

35% Affordable Housing - AMENDED SCHEDULE TO GET AREAS IN LINE WITH COUNCIL VIAB CIL STUDY

Open Market Units	Unit Type	Number Bedrooms	Number Units	Unit ft2		Total ft2	Total m2	Average £ ft2	Unit £	Total £
	FOG	2	53	650	60	34,450	3,201	£ 369.17	£ 239,958	£ 12,717,791
	2 Bed Flat	2	163	665	62	108,395	10,070	£ 369.17	£ 245,496	£ 40,015,819
	Terrace	2	344	690	64	237,360	22,051	£ 369.17	£ 254,725	£ 87,625,396
	Terrace	3	266	875	81	232,750	21,623	£ 369.17	£ 323,021	£ 85,923,537
	Terrace	3	292	930	86	271,560	25,229	£ 369.17	£ 343,325	£ 100,250,895
	Terrace	3	244	865	80	211,060	19,608	£ 369.17	£ 319,329	£ 77,916,313
	Terrace	3	100	1,150	107	115,000	10,684	£ 369.17	£ 424,542	£ 42,454,165
	Terrace	3	97	1,300	121	126,100	11,715	£ 369.17	£ 479,917	£ 46,551,914
	Detached	4	56	1,170	109	65,520	6,087	£ 369.17	£ 431,925	£ 24,187,799
	Detached	4	80	1,220	113	97,600	9,067	£ 369.17	£ 450,383	£ 36,030,665
	Detached	4	80	1,370	127	109,600	10,182	£ 369.17	£ 505,758	£ 40,460,665
	Detached	4	50	1,530	142	76,500	7,107	£ 369.17	£ 564,825	£ 28,241,249
	Detached	5	75	1,750	163	131,250	12,194	£ 369.17	£ 646,042	£ 48,453,123
	Detached	5	50	2,020	188	101,000	9,383	£ 369.17	£ 745,717	£ 37,285,831
TOTAL OPEN MARKET			**1,950**	**984**	**91**	**1,918,145**	**178,202**	**£ 369.17**	**£ 363,135.98**	**£708,115,160**
SO	**Unit Type**	**Number Bedrooms**	**Number Units**	**Unit ft2**		**Total ft2**	**Total m2**	**Average £ ft2**	**Unit £**	**Total £**
	Flat	1	21	501	47	10,521	977	£ 274.51	£ 137,529	£ 2,888,104.28
	Flat	2	37	655	61	24,235	2,252	£ 274.51	£ 179,803	£ 6,652,714
	House	2	109	808	75	88,072	8,182	£ 274.51	£ 221,803	£ 24,176,516
	House	2	46	670	62	30,820	2,863	£ 274.51	£ 183,921	£ 8,460,353
	House	3	90	910	85	81,900	7,609	£ 274.51	£ 249,803	£ 22,482,249
	House	4	44	1,148	107	50,512	4,693	£ 274.51	£ 315,136	£ 13,865,975
TOTAL SHARED OWNERSHIP		**33%**	**347**	**824**	**77**	**286,060**	**26,576**	**£ 274.51**	**£ 226,299.46**	**78,525,911**
RENT	**Unit Type**	**Number Bedrooms**	**Number Units**	**Unit ft2**		**Total ft2**	**Total ft2**	**Average £ ft2**	**Unit £**	**Total £**
	Flat	1	54	501	47	27,054	2,513	£ 239.96	£ 120,219	£ 6,491,832.42
	Flat	2	52	664	62	34,528	3,208	£ 239.96	£ 159,332	£ 8,285,280.92
	House	2	199	808	75	160,792	14,938	£ 239.96	£ 193,886	£ 38,583,378.40
	Flat	2	101	670	62	67,670	6,287	£ 239.96	£ 160,772	£ 16,237,979.60
	House	3	211	910	85	192,010	17,838	£ 239.96	£ 218,362	£ 46,074,397.27
	House	4	86	1,148	107	98,728	9,172	£ 239.96	£ 275,472	£ 23,690,605.14
TOTAL AFFORD RENTED		**67%**	**703**	**826**	**77**	**580,782**	**53,956**	**£ 239.96**	**£ 198,241.07**	**139,363,474**
TOTAL AFFORDABLE		**35%**	**1,050**	**826**	**77**	**866,842**	**80,532**	**£ 251.36**	**£ 207,513.70**	**217,889,385**
TOTAL			**3,000**	**928**	**86**	**2,784,987**	**258,734**	**£ 332.50**	**£ 308,668.18**	**926,004,545**

Tab 3 - BCIS **Q4 2018 Median Data - 5 Year Averages** **Last updated:** 01-Sep-2018 02:05

Description	£ psm	£ psf	Location 1.04	Net to Gross 15%	Externals 10%	Contingency 5.00%	Extra local design COST	GROSS COST
Estate Housing Generally - Median	£ 1,171.00	£ 108.79	£ 113.14		£ 124.46	£ 130.68	£ 5.00	£ 135.68
Flats (Apartments) Generally - Median	£ 1,355.00	£ 125.88	£ 130.92	£ 150.56	£ 165.61	£ 173.89	£ 5.00	£ 178.89

Location	Chelmsford	1.04

NORTH EAST CHELMSFORD CLEAN SERVICED VALUE ANALYSIS PER PLOT

35% Affordable Housing - 3,000 dwellings

Finance Cashflow

Tab 4a

CASHFLOW			2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	TOTALS
Income																				
Resi Units		3,000			100	90	90	90	90	90	245	245	245	245	245	408	408	408		3,000
Market Units		1,950			65	59	59	59	59	59	159	159	159	159	159	265	265	265		1,950
Affordable Units		1,050			35	32	32	32	32	32	86	86	86	86	86	143	143	143		1,050
Commercial (sqm)		45,000			2,500	2,500	2,500	2,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500		45,000
Market Housing GDV		£802,254,501			£26,741,817	£24,067,635	£24,067,635	£24,067,635	£24,067,635	£24,067,635	£65,517,451	£65,517,451	£65,517,451	£65,517,451	£65,517,451	£109,195,743	£109,195,752	£109,195,760		£802,254,501
Affordable GDV		£217,889,385			£7,262,979	£6,536,682	£6,536,682	£6,536,682	£6,536,682	£6,536,682	£17,794,300	£17,794,300	£17,794,300	£17,794,300	£17,794,300	£29,657,164	£29,657,166	£29,657,168.68		£217,889,385
Commercial GDV		£5,557,500			£308,750	£308,750	£308,750	£308,750	£432,250	£432,250	£432,250	£432,250	£432,250	£432,250	£432,250	£432,250	£432,250	£432,250		£5,557,500
INCOME		**£1,025,701,386**	**£0**	**£0**	**£34,313,546**	**£30,913,067**	**£30,913,067**	**£30,913,067**	**£31,036,567**	**£31,036,567**	**£83,744,001**	**£83,744,001**	**£83,744,001**	**£83,744,001**	**£83,744,001**	**£139,285,157**	**£139,285,168**	**£139,285,179**		**£1,025,701,386**
Market housing fees and marketing	3.00%	-£24,067,635			-£802,255	-£722,029	-£722,029	-£722,029	-£722,029	-£722,029	-£1,965,524	-£1,965,524	-£1,965,524	-£1,965,524	-£1,965,524	-£3,275,872	-£3,275,873	-£3,275,873		-£24,067,635
Affordable disposal	0.50%	-£1,089,447			-£36,315	-£32,683	-£32,683	-£32,683	-£32,683	-£32,683	-£88,971	-£88,971	-£88,971	-£88,971	-£88,971	-£148,286	-£148,286	-£148,286		-£1,089,447
Commercial disposal	2.00%	-£111,150			-£6,175	-£6,175	-£6,175	-£6,175	-£8,645	-£8,645	-£8,645	-£8,645	-£8,645	-£8,645	-£8,645	-£8,645	-£8,645	-£8,645		-£111,150
Build Costs - Housing	2,741,159	-£371,915,041		-£12,397,168	-£11,157,451	-£11,157,451	-£11,157,451	-£11,157,451	-£11,157,451	-£11,157,451	-£30,373,062	-£30,373,062	-£30,373,062	-£30,373,062	-£30,373,062	-£50,621,765	-£50,621,769	-£50,621,774		-£371,915,041
Build Costs - Flats	298,833	-£53,459,216		-£1,781,974	-£1,603,776	-£1,603,776	-£1,603,776	-£1,603,776	-£1,603,776	-£1,603,776	-£4,365,836	-£4,365,836	-£4,365,836	-£4,365,836	-£4,365,836	-£7,276,393	-£7,276,393	-£7,276,394		-£53,459,216
Garages - Single	637	-£4,777,500		-£159,250	-£143,325	-£143,325	-£143,325	-£143,325	-£143,325	-£143,325	-£390,163	-£390,163	-£390,163	-£390,163	-£390,163	-£650,271	-£650,271	-£650,271		-£4,777,500
Garages - Double	467	-£5,137,000		-£171,233	-£154,110	-£154,110	-£154,110	-£154,110	-£154,110	-£154,110	-£419,522	-£419,522	-£419,522	-£419,522	-£419,522	-£699,203	-£699,203	-£699,203		-£5,137,000
Fees	7.00%	-£36,446,556		-£1,414,097	-£1,312,529	-£1,312,529	-£1,312,529	-£1,312,529	-£1,312,529	-£1,312,529	-£2,886,824	-£2,886,824	-£2,886,824	-£2,886,824	-£2,886,824	-£4,545,757	-£4,545,757	-£4,545,758	-£398,423	-£36,446,556
Site infrastructure (roads, utilities etc)	£ 28,127	-£88,599,113	-£2,953,303.77	-£2,657,973.39	-£2,657,973	-£2,657,973	-£2,657,973	-£2,657,973	-£7,235,594	-£7,235,594	-£7,235,594	-£7,235,594	-£7,235,594	-£12,059,323	-£12,059,324	-£12,059,325				-£88,599,113
Infrastructure + S106	£ 37,612	-£112,836,327			£0.00	-£2,838,842.07	-£2,838,842.07	-£2,838,842	-£2,838,842	-£2,838,842	-£8,905,079	-£8,905,079	-£8,905,079	-£8,905,079	-£8,905,079	-£18,038,907	-£18,038,907	-£18,038,907		-£112,836,327
Land acquistion for bypass		-£1,000,000	-£500,000.00	-£500,000																
CIL		-£33,110,360			-£1,103,678.65	-£993,311	-£993,310.79	-£993,311	-£993,311	-£993,311	-£2,704,013	-£2,704,013	-£2,704,013	-£2,704,013	-£2,704,013	-£4,506,687	-£4,506,688	-£4,506,688		-£33,110,360
Land Purchase (Unserviced per s.106)		-£80,001,600	-£80,001,600																	-£80,001,600
SDLT @	4%	-£3,200,064.00	-£3,200,064																	-£3,200,064
Legals & Agents	1.50%	-£1,200,024	-£1,200,024																	-£1,200,024
DEVELOPMENT COSTS			**-£87,854,992**	**-£19,081,695**	**-£18,977,588**	**-£21,622,206**	**-£21,622,206**	**-£21,622,206**	**-£26,202,297**	**-£50,266,510**	**-£59,343,231**	**-£59,343,231**	**-£59,343,231**	**-£64,166,960**	**-£89,524,944**	**-£101,831,116**	**-£89,771,797**	**-£26,376,822**		
Net spend in period			-£87,854,992	-£19,081,695	£15,335,958	£9,290,861	£9,290,861	£9,290,861	£4,834,270	-£19,229,943	£24,400,769	£24,400,769	£24,400,769	£19,577,041	-£5,780,943	£37,454,040	£49,513,370	£112,908,357		
Rolling Balance			-£87,854,992	-£19,081,695	-£4,986,048	£3,980,720	£13,271,581	£22,562,442	£27,396,712	£8,166,769	£32,567,538	£56,968,307	£81,369,077	£100,946,117	£95,165,174	£132,619,214	£182,132,585	£295,040,942		
Interest		**6.50%**	**-£5,710,574**	**-£1,240,310**	**-£324,093**															**-£7,274,978**
Balance at end of period			-£93,565,566	-£20,322,005	-£5,310,141	£3,980,720	£13,271,581	£22,562,442	£27,396,712	£8,166,769	£32,567,538	£56,968,307	£81,369,077	£100,946,117	£95,165,174	£132,619,214	£182,132,585	£295,040,942		

NORTH EAST CHELMSFORD CLEAN SERVICED VALUE ANALYSIS PER PLOT 750 4350

35% Affordable Housing - 3,000 dwellings 3% 5% 7% 7% 8% 8% 8% 8% 8% 8% 8% 8% 8% 8%

Finance Cashflow **Tab 4b**

CASHFLOW			2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	TOTALS
Income																				
Resi Units		3,000			100	150	200	200	230	230	230	230	230	240	240	240	240	240		3,000
Market Units		1,950			65	98	130	130	150	150	150	150	150	156	156	156	156	156		1,950
Affordable Units		1,050			35	53	70	70	81	81	81	81	81	84	84	84	84	84		1,050
Commercial (sqm)		45,000			2,500	2,500	2,500	2,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500		45,000
Market Housing GDV		£708,115,160			£23,603,839	£35,405,758	£47,207,677	£47,207,677	£54,288,829	£54,288,829	£54,288,829	£54,288,829	£54,288,829	£56,649,213	£56,649,213	£56,649,213	£56,649,213	£56,649,213		£708,115,160
Affordable GDV		£217,889,385			£7,262,979	£10,894,469	£14,525,959	£14,525,959	£16,704,853	£16,704,853	£16,704,853	£16,704,853	£16,704,853	£17,431,151	£17,431,151	£17,431,151	£17,431,151	£17,431,151		£217,889,385
Commercial GDV		£5,557,500			£308,750	£308,750	£308,750	£308,750	£432,250	£432,250	£432,250	£432,250	£432,250	£432,250	£432,250	£432,250	£432,250	£432,250		£5,557,500
INCOME		**£931,562,045**	**£0**	**£0**	**£31,175,568**	**£46,608,977**	**£62,042,386**	**£62,042,386**	**£71,425,932**	**£71,425,932**	**£71,425,932**	**£71,425,932**	**£71,425,932**	**£74,512,614**	**£74,512,614**	**£74,512,614**	**£74,512,614**	**£74,512,614**		**£931,562,045**
Market housing fees and marketing	3.00%	-£21,243,455			-£708,115	-£1,062,173	-£1,416,230	-£1,416,230	-£1,628,665	-£1,628,665	-£1,628,665	-£1,628,665	-£1,628,665	-£1,699,476	-£1,699,476	-£1,699,476	-£1,699,476	-£1,699,476		-£21,243,455
Affordable disposal	0.50%	-£1,089,447			-£36,315	-£54,472	-£72,630	-£72,630	-£83,524	-£83,524	-£83,524	-£83,524	-£83,524	-£87,156	-£87,156	-£87,156	-£87,156	-£87,156		-£1,089,447
Commercial disposal	2.00%	-£111,150			-£6,175	-£6,175	-£6,175	-£6,175	-£8,645	-£8,645	-£8,645	-£8,645	-£8,645	-£8,645	-£8,645	-£8,645	-£8,645	-£8,645		-£111,150
Build Costs - Housing	2,478,134	-£336,228,328		-£11,207,610.94	-£16,811,416	-£22,415,222	-£22,415,222	-£25,777,505	-£25,777,505	-£25,777,505	-£25,777,505	-£25,777,505	-£26,898,266	-£26,898,266	-£26,898,266	-£26,898,266	-£26,898,266			-£336,228,328
Build Costs - Flats	306,853	-£54,893,940		-£1,829,798	-£2,744,697	-£3,659,596	-£3,659,596	-£4,208,535	-£4,208,535	-£4,208,535	-£4,208,535	-£4,208,535	-£4,391,515	-£4,391,515	-£4,391,515	-£4,391,515	-£4,391,515			-£54,893,940
Garages - Single	633	-£4,747,500		-£158,250	-£237,375	-£316,500	-£316,500	-£363,975	-£363,975	-£363,975	-£363,975	-£363,975	-£379,800	-£379,800	-£379,800	-£379,800	-£379,800			-£4,747,500
Garages - Double	258	-£2,838,000		-£94,600	-£141,900	-£189,200	-£189,200	-£217,580	-£217,580	-£217,580	-£217,580	-£217,580	-£227,040	-£227,040	-£227,040	-£227,040	-£227,040			-£2,838,000
Fees	7.00%	-£35,257,502		-£930,318	-£1,395,477	-£2,043,742	-£2,043,742	-£2,322,837	-£2,322,837	-£2,322,837	-£2,714,110	-£2,714,110	-£2,807,142	-£2,807,142	-£2,807,142	-£3,396,275	-£3,396,275	-£1,163,512		-£35,187,502
Site infrastructure (roads, utilities etc)	£ 28,126.70	-£88,599,113	-£2,953,304	-£4,429,956	-£5,906,608	-£5,906,608	-£6,792,599	-£6,792,599	-£6,792,599	-£6,792,599	-£6,792,599	-£7,087,929	-£7,087,929	-£7,087,929	-£7,087,929	-£7,087,929				-£88,599,113
Infrastructure + S106	£ 34,656.94	-£103,970,832			£0	-£2,615,796	-£2,615,796	-£2,615,796	-£2,615,796	-£2,615,796	-£8,205,411	-£8,205,411	-£8,205,411	-£8,205,411	-£8,205,411	-£16,621,599	-£16,621,599	-£16,621,599		-£103,970,832
Land acquistion for bypass		-£1,000,000	-£500,000	-£500,000																
CIL		-£29,225,075			-£974,169	-£1,461,254	-£1,948,338	-£1,948,338	-£2,240,589	-£2,240,589	-£2,240,589	-£2,240,589	-£2,240,589	-£2,338,006	-£2,338,006	-£2,338,006	-£2,338,006	-£2,338,006		-£29,225,075
Land Purchase		-£80,001,600	-£80,001,600																	-£80,001,600
SDLT @	4%	-£3,200,064.00	-£3,200,064																	-£3,200,064
Legals & Agents	1.50%	-£1,200,024	-£1,200,024																	-£1,200,024
DEVELOPMENT COSTS			**-£87,854,992**	**-£19,150,533**	**-£28,962,247**	**-£39,730,737**	**-£41,476,028**	**-£45,742,201**	**-£46,260,250**	**-£46,260,250**	**-£52,241,139**	**-£52,536,470**	**-£53,958,527**	**-£54,130,387**	**-£54,130,387**	**-£63,135,708**	**-£56,047,779**	**-£21,918,394**		
Net spend in period			-£87,854,992	-£19,150,533	£2,213,321	£6,878,240	£20,566,359	£16,300,186	£25,165,681	£25,165,681	£19,184,793	£18,889,462	£17,467,404	£20,382,226	£20,382,226	£11,376,905	£18,464,834	£52,594,219		
Rolling Balance			-£87,854,992	-£19,150,533	-£18,181,997	-£12,485,586	£7,269,210	£23,569,395	£48,735,077	£73,900,758	£93,085,551	£111,975,013	£129,442,417	£149,824,644	£170,206,870	£181,583,775	£200,048,610	£252,642,829		
Interest		**6.50%**	**-£5,710,574**	**-£1,244,785**	**-£1,181,830**	**-£811,563**														**-£8,948,752**
Balance at end of period			-£93,565,566	-£20,395,317	-£19,363,826	-£13,297,149	£7,269,210	£23,569,395	£48,735,077	£73,900,758	£93,085,551	£111,975,013	£129,442,417	£149,824,644	£170,206,870	£181,583,775	£200,048,610	£252,642,829		

Arcadis Cost Plan/IDP Summary **Tab 5**

Description	Site Related IDP Costs	106 Costs	Comments
Allotments	£650,000		
Beaulieu Railway			
Burial Space			CIL
CHART		£3,600,000	
Bus Service & Infra	£0	£0	*included in Arcadis site specific cost plan
Children's play & youth facilities	£1,840,000		
Community centre		£1,500,000	*Arcadis to advise - NEC have increased allowance from £494,505 in IDP
Country Park	£0		*Included in Arcadis cost plan total
Cycle & footway link	£0	£500,000	*on-site cost included in site specific cost plan
Cycle & foot bridge over Essex Regiment Way	£2,608,696		
Early years & childcare - stand alone		£2,360,000	
Health		£2,500,000	*Arcadis to advise level of site related cost - IDP includes 'yes' but no cost allowance
Indoor sports facilities			*Cost will be included as S106 but on advice of Council no cost included as unknown at this stage
Libraries			CIL
Municipal waste			CIL
Chelmsford NE Bypass - single carriageway section	£16,850,000		*Arcadis increased from £13.2m - this cost includes professional/LA fees
Chelmsford NE Bypass - NEC to Deres Bridge single carriageway section		£16,813,187	
Chelmsford NE Bypass - Full dual carriageway			HIF
Acquisition of corrdior for whole bypass		**£1,000,000**	
RDR2	£10,610,000		*Arcadis increased from £10.4m - this cost includes professional/LA fees
Outdoor sports & changing facilities	£1,317,487		
Park & Ride - NEC			CIL
Park & Ride - Widford area			CIL
Police			CIL
Primary Education		£14,600,000	
Road junction improvements	£10,000,000		*Arcadis notes that this seems high - further info required from transport consultants
Secondary eduction		£26,086,957	
TOTAL	**£43,876,183**	**£68,960,144**	
	IDP TOTAL COST:	**£112,836,327**	
		£37,612.11	

Arcadis Site Specific Cost Plan Total	£154,696,864
Total Dwellings	5,500
£ per dwelling	**£28,127**
Total cost during plan period	**£84,380,107.64**

Appendix 3

ARCADIS Design & Consultancy for natural and built assets

NORTH EAST CHELMSFORD
STRATEGIC INFRASTRUCTURE COST SCHEDULE

06-Sep-18 | 5500 | **DRAFT 1.0** | All Costs at 3Q2018

ARC REF	AGREEMENT / DATE	ITEM NO.	DESCRIPTION	TRIGGER DATE	DWG REF	ARCADIS QTY	UNIT	RATE	TOTAL (£) 3Q2018	COMMENTS
			DIRECT WORKS							
100			**ENABLING WORKS**							
100.1			Haul Routes			1	Item	2,246,334	2,246,334	Allowance for 4km. Based on Beaulieu cost per m.
100.2			Demolition			1	Item	823,200	823,200	Includes allowance for asbestos removal and remediation at existing buildings
100.3			Site clearance			1	Item	384,091	384,091	Allowances.
100.4			Tree protection			1	Item	511,560	511,560	Allowance based on 10km
100.5			Fencing, acoustic fencing or bunding			3.5	km	250,000	875,000	Allowance. Required to A130 boundary and new dual carriageway
100.6			Mineral extraction backfill / Sitewide Earthworks			1	Item	20,000,000	20,000,000	Allowance
			Sub-Total						**24,840,185**	
200			**SECTION 278 HIGHWAYS**							
200.1			New roundabout on Essex Regiment Way			1	Item	900,000	900,000	
200.2			Other minor connections to existing			1	Item	500,000	500,000	
			Sub-Total						**1,400,000**	
300			**ON-SITE HIGHWAYS**							
300.1			Strategic infrastructure - Primary roads			1	Item	14,901,234	14,901,234	Approx. 8.5km of Primary Infrastructure
300.1			Strategic infrastructure - Secondary roads			1	Item	8,765,432	8,765,432	Approx. 5km of Secondary Infrastructure
			Sub-Total						**23,666,666**	
400			**ON-SITE PEDESTRIAN / CYCLE ROUTES (AWAY FROM SPINE ROADS)**							
400.1			Leisure footpaths / cycleways			1	item	2,807,669	2,807,669	Approx. 10km of footways / cycleways away from Spine roads
			Sub-Total						**2,807,669**	
500			**STRATEGIC SURFACE WATER DRAINAGE**							
500.1			Storm water drainage			1	item	5,889,776	5,889,776	To length of Primary Infrastructure + 10% for outfalls across open space
500.2			Attenuation ponds and swales			1	item	8,457,698	8,457,698	16 ponds
			Sub-Total						**14,347,474**	
600			**FOUL WATER DRAINAGE**							
600.1			Foul water drainage			1	item	5,586,120	5,586,120	To length of Primary Infrastructure
600.2			Strategic foul water sewer			1	item	3,089,223	3,089,223	
600.3			Upgrading of Beaulieu Pumping Station			1	item	500,000	500,000	
			Sub-Total						**9,175,343**	
700			**UTILITIES**							
700.1			BT - On site distribution			1	item	3,085,361	3,085,361	To length of Primary and Secondary Infrastructure
700.2			Gas - On site distribution			1	item	3,437,613	3,437,613	To length of Primary and Secondary Infrastructure
700.3			Water - On site infrastructure			1	Item	3,437,613	3,437,613	To length of Primary and Secondary Infrastructure
700.4			Electric - On site distribution			1	item	6,949,168	6,949,168	To length of Primary and Secondary Infrastructure
700.5			Ducting crossings for utilities			1	item	321,285	321,285	
700.6			Diversions (minor across the site)			1	item	1,000,000	1,000,000	
700.7			Reinforcements			1	item	5,000,000	5,000,000	
			Sub-Total						**23,231,040**	
800			**ECOLOGICAL MITIGATION WORKS**							
800.1			Bat mitigation strategy			1	item	120,000	120,000	Allowances based on Beaulieu
800.2			Great Crested Newt mitigation strategy			1	item	550,000	550,000	
800.3			Ecological supervision during soil stripping			50	days	400	20,000	
800.4			Reptile mitigation strategy			1	item	75,000	75,000	
800.5			Badger Mitigation Strategy			1	item	150,000	150,000	
			Sub-Total						**915,000**	
900			**LANDSCAPE & NATURE CONSERVATION**							
900.1			Green Corridors			100	Ha	90,000	9,000,000	Awaiting Land use budget
900.2			Parkland			20	Ha	50,000	1,000,000	

ARCADIS Design & Consultancy for natural and built assets

NORTH EAST CHELMSFORD
STRATEGIC INFRASTRUCTURE COST SCHEDULE

06-Sep-18 | 5500 | **DRAFT 1.0** | All Costs at 3Q2018

ARC REF	AGREEMENT / DATE	ITEM NO.	DESCRIPTION	TRIGGER DATE	DWG REF	ARCADIS QTY	UNIT	RATE	TOTAL (£) 3Q2018	COMMENTS
900.3			Leisure use			40	Ha		-	Inch in S106
900.4			Other			30	Ha	50,000	1,500,000	
900.5			Commuted Sums / Pump Priming			1	item	1,500,000	1,500,000	
			Sub-Total						13,000,000	
1000			**GEOTECHNICS**							
1000.1										
			Sub-Total						-	
1100			**UTILITIES DIVERSIONS IN CONNECTION WITH S278 WORKS**							
1100.1										
			Sub-Total						-	
1200			**RENEWABLE ENERGY**							
1200.1										
			Sub-Total						-	
			SUB - TOTAL DIRECT WORKS						£ 113,383,377	
			SECTION 106							
2000			**EDUCATION**							
			Sub-Total						-	
2100			**LANDSCAPE & NATURE CONSERVATION MAINTENANCE**							
			Sub-Total						-	
2200			**RECREATION**							
			Sub-Total						-	
2300			**RECREATION MAINTENANCE**							
			Sub-Total						-	
2400			**COMMUNITY FACILITIES**							
			Sub-Total						-	
2500			**COMMUNITY FACILITIES MAINTENANCE**							
			Sub-Total						-	
2600			**ART / IMPROVEMENTS TO CIVIC SPACE**							
			Sub-Total						-	
2700			**OFF-SITE ROAD IMPROVEMENTS**							
			Sub-Total						-	
2800			**PUBLIC TRANSPORT**							
			Sub-Total						-	
			SUB - TOTAL S106						£ -	
			GENERAL OVERHEADS AND PRELIMINARIES							

ARCADIS Design & Consultancy for natural and built assets

NORTH EAST CHELMSFORD
STRATEGIC INFRASTRUCTURE COST SCHEDULE

06-Sep-18 | 5500 | **DRAFT 1.0** | All Costs at 3Q2018

ARC REF	AGREEMENT / DATE	ITEM NO.	DESCRIPTION	TRIGGER DATE	DWG REF	ARCADIS QTY	UNIT	RATE	TOTAL (£) 3Q2018	COMMENTS
3000			**SITE PRELIMINARIES**							
3000.1			Road sweeping of infrastructure & S38 works			120	months	3,000	360,000	
3000.2			Wheel wash facility			208	weeks	769	159,952	
3000.3			Maintenance of Unadopted Sewers			5	Years	25,000	125,000	
3000.4			Maintenance of Unadopted Roads (Weed killing, Litter picking, Winter road salting, gully jetting and clearing)			5	Years	100,000	500,000	
3000.5			Attendance on STATS @ 2%			2%	Item	23,231,040	464,621	
3000.6			Site Offices (Project management offices for infrastructure construction)			1	Item	500,000	500,000	
3000.7			Site Security			60	months	5,820	349,171	
3000.8			Maintenance of Unadopted landscaping			5	Years	50,000	250,000	
3000.9			Remedials to Roads prior to adoption - kerb replacements etc			1	Item	500,000	500,000	
3000.10			Sitewide maintenance			1	Item	500,000	500,000	
			Sub-Total						3,708,744	
3100			**FINANCE / LEGALS**							
3100.1			Legal Costs - S38 Agreements			1	Item	100,000	100,000	
3100.2			Legal Costs - S104 Agreements			1	Item	100,000	100,000	
3100.3			Legal Costs - S106 Agreement			1	Item	350,000	350,000	
3100.4			Legal Costs - Consultant Appointments			1	Item	150,000	150,000	
3100.5			Part 1 Land Compensation Claims			1	Item	250,000	250,000	
3100.6			Legal costs - other			1	Item	100,000	100,000	
			Sub-Total						1,050,000	
3200			**PUBLIC RELATIONS**							
3200.1			Public relation and marketing costs - publicity, signage, website, public consultation			1	Item		-	Not included in infrastructure schedule
			Sub-Total						-	
3300			**MISCELLANEOUS**							
3300.1			Contamination			1	item	1,000,000	1,000,000	
			Sub-Total						1,000,000	
3400			**PLANNING**							
3400.1			Pre-Application Planning and Promotion			1	item		-	Not included in infrastructure schedule
			Sub-Total						-	
			SUB - TOTAL GENERAL OVERHEADS & PRELIMIARIES						**£ 5,758,744**	
			PROFESSIONAL / LOCAL AUTHORITY FEES							
4000			**STRATEGIC PLANNING AND MASTERPLAN**							
4000.1			Planning Fees @ 1.5% of Construction Costs including landscaping			1.5%	item	113,383,377	1,700,751	Discharge of planning conditions
			Sub-Total						1,700,751	
4100			**SITE INVESTIGATIONS**							
4100.1			Topographical Survey			1	item	50,000	50,000	
4100.2			Geotechnical Survey			1	item	300,000	300,000	
4100.3			Archaeology			1	item	2,000,000	2,000,000	
4100.4			Noise Surveys			1	Item	50,000	50,000	
4100.5			Arboricultural / Hedgerow Surveys			1	item	100,000	100,000	
4100.6			Proving storm water outfalls			1	Item	50,000	50,000	
			Sub-Total						2,550,000	
4200			**ENGINEERING DESIGN**							
4200.1			Engineering Design Fees @ 4% of Construction Costs			4%	item	98,983,377	3,959,335	
			Engineering Design Fees for S278 Works @ 6% of Construction Costs			6%	item	1,400,000	84,000	
			Sub-Total						4,043,335	

Prepared by A Fensome

ARCADIS Design & Consultancy for natural and built assets

NORTH EAST CHELMSFORD
STRATEGIC INFRASTRUCTURE COST SCHEDULE

06-Sep-18 | 5500 | **DRAFT 1.0** | All Costs at 3Q2018

ARC REF	AGREEMENT / DATE	ITEM NO.	DESCRIPTION	TRIGGER DATE	DWG REF	ARCADIS QTY	UNIT	RATE	TOTAL (£) 3Q2018	COMMENTS
4300			**LANDSCAPE DESIGN**							
4300.1			Landscape Design Fees @ 6% of Landscaping Costs			6%	item	13,000,000	780,000	
4300.2			Attendance on arboricultural surveys / procurement			1	Item	20,000	20,000	
			Sub-Total						**800,000**	
4400			**ECOLOGY**							
4400.1			Environmental Clerk of Works			8	Years	6,500	52,000	
4400.2			Ecological management strategy			1	Item	15,000	15,000	
			Sub-Total						**67,000**	
4500			**SITE SUPERVISION / GENERAL DESIGN**							
4500.1			Infrastructure Site Supervision and Administration @ 3.2%			3.2%	Item	113,383,377	3,628,268	
4500.2			CDM Management			1	Item	300,000	300,000	
			Sub-Total						**3,928,268**	
4600			**PROJECT MANAGEMENT**							
4600.1			Project Management Fees @ 1.2% of Construction Costs including landscaping			1.2%	item	113,383,377	1,360,601	
			Sub-Total						**1,360,601**	
4700			**COST MANAGEMENT**							
4700.1			Quantity Surveyor Fees @ 1.2% of Construction Costs including landscaping			1.2%	item	113,383,377	1,360,601	
			Sub-Total						**1,360,601**	
4800			**LOCAL AUTHORITY FEES**							
4800.1			Section 38 Inspection Fees (@ 8.5%)			8.5	%	23,666,666	2,011,667	
4800.2			SUDs Commuted Sums (20 years)			1	item	750,000	750,000	
4800.3			Section 278 Inspection Fees (@ 8.5%)			8.5	%	1,400,000	119,000	
4800.4			Section 38 Commuted Sums			1	item	1,000,000	1,000,000	Street lights and finish to footways
4800.5			Section 104 Inspection Fees (@ 2.5%)			2.5	%	23,522,817	588,070	
4800.6			County Council Pre design check fees (S278 Works)			1	Sum	75,000	75,000	
4800.7			County Council design check fees (S278)			1	Sum	75,000	75,000	
4800.8			County Council Mini cash deposit for highway works (S278 Works)			6	%	35,000	2,100	
4800.9			County Council costs for Traffic Regulation Orders			15	No	4,000	60,000	
4800.10			Bonding costs (5 years at 2% per annum)			10	%	10,000,000	1,000,000	
			Sub-Total						**5,680,837**	
			SUB - TOTAL (PROFESSIONAL / LOCAL AUTHORITY FEES)						**£ 21,491,392**	
			GRAND TOTAL (excluding risk)						**£ 140,633,513**	
5000			**RISK (on construction costs)**			10%	Item	140,633,513	14,063,351	
			GRAND TOTAL (including risk)						**£ 154,696,864**	
6000			**OTHER**							
			Section not used							
			Sub-Total						**-**	
7000			**INDEXATION**							
			Section not used							
			Sub-Total							
			GRAND TOTAL INCLUDING SERIES 6000						**£ 154,696,864**	

Prepared by A Fensome

Appendix 4

Turner Morum
Cambourne West
Taylor Wimpey East Anglia & Bovis Homes

Accommodation Schedule: **40% Affordable Housing**

Open Market Units	Unit Type	Number Bedrooms	Number Units	Unit ft2	Total ft2
PT21	FOG	2	39	653	25,467
A664	2 Bed Flat	2	56	664	37,184
PA22	Terrace	2	190	689	130,910
PT35	Terrace	3	52	876	45,552
PT36	Terrace	3	171	931	159,201
PA33	Terrace	3	129	866	111,714
PB33-G	Terrace	3	142	1,149	163,158
PC32	Terrace	3	70	1,299	90,930
PA44	Detached	4	64	1,170	74,880
PT42	Detached	4	64	1,222	78,208
PA48	Detached	4	111	1,369	151,959
PT43	Detached	4	120	1,530	183,600
PB52	Detached	5	120	1,759	211,080
H2024	Detached	5	82	2,024	165,968
TOTAL OPEN MARKET			**1,410**	**1,156**	**1,629,811**

Appendix 5

TURNER MORUM

Development Consultancy

32-33 COWCROSS STREET
LONDON, EC1M 6DF

www.tmllp.co.uk

RICS

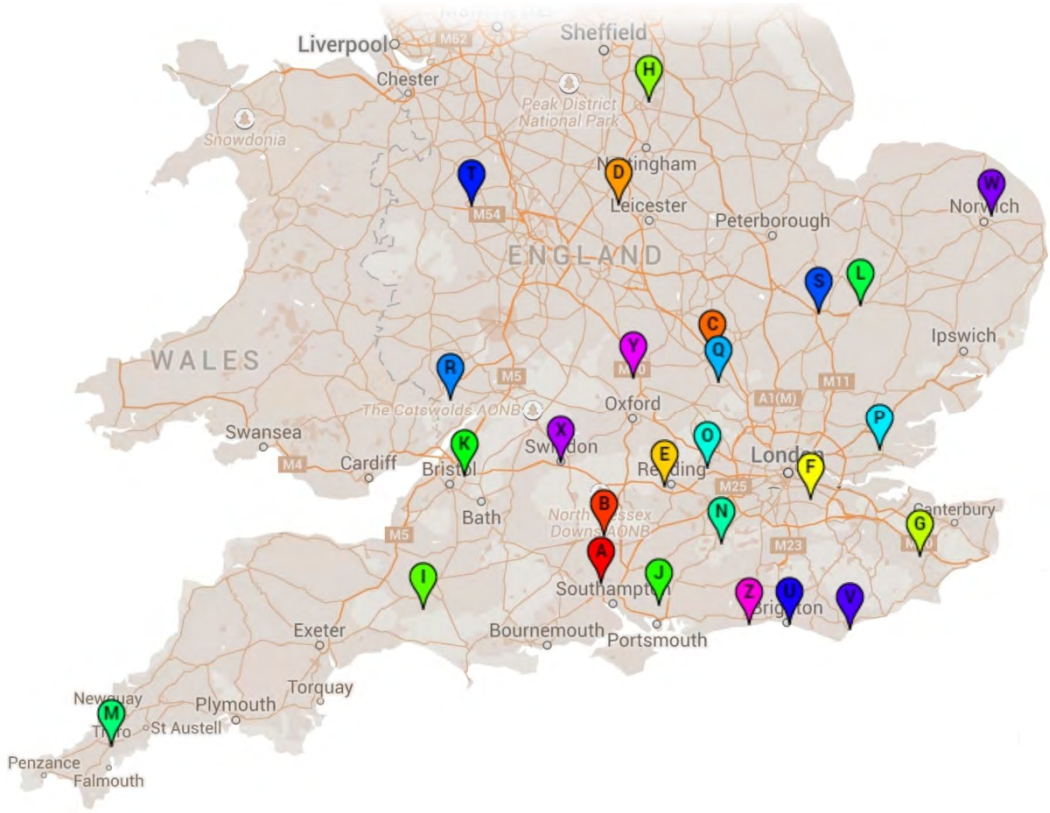
Contents

Development Consultancy

Turner Morum LLP is a niche firm of property advisors. The Development Consultancy Team specialises in the following:

- Viability Appraisals
- Development Land Valuation Advice
- 5-Year Land Supply Assessments
- Facilitating Site Promotion
- Local Plan Assessments (CIL, S.106, Affordable Housing and Infrastructure)
- Expert Witness Evidence

The map below shows a selection of our recent and notable projects, a number of which are explored in more detail on the following pages:



- A Abbotswood, Romsey
- B Andover
- C Area 11, Milton Keynes
- D Bardon Grange, Coalville
- E Bath Road, Reading
- F Blue Circle Sports Ground
- G Chilmington Green
- H Clipstone Road, Mansfield
- I Crewekerne
- J Denmead, Hampshire
- K Emersons Green, Bristol
- L Hatchfield Farm, Newmarket
- M Higher Newham Farm, Truro
- N Key Site, Goldaming
- O Badnell's Pit, Maidenhead
- P Southend Road, Wickford
- Q Leighton Linslade
- R Lydbrook
- S North West Cambridge
- T Redhill Way, Telford
- U Royal Alexandra Hospital
- V Sovereign Harbour
- W Sprowston, Norwich
- X Swindon EDA
- Y Upper Heyford, Cotswolds
- Z Worthing College

Viability

We specialise in advising both Developers and Local Authorities on Development Viability. Detailed analysis is usually carried out in the form of bespoke development appraisals; structured to allow various types of sensitivity analysis and built to incorporate high levels of detailed information. We also frequently use development viability toolkits, such as the HCA Model & Three Dragons Viability Toolkit.

We have significant experience in providing viability advice on large, phased schemes, structuring review mechanisms, carrying out commuted sum calculations and dealing with 'deferred contributions' (where applicable). Some examples of viability assessments undertaken are provided below:-

CHILMINGTON GREEN, ASHFORD, KENT

Consortium inc. BDW Kent, Hodson Developments, Jarvis Homes & Pentland Homes

We were instructed by a Consortium of housebuilders to provide detailed viability advice on this scheme of 5,750 dwellings in Ashford, Kent. Our modelling required us to consider the viability on a phase-by-phase basis, as well as the delivery of significant amounts of infrastructure and S.106 contributions. This scheme included a complex viability review mechanism, which we were responsible for structuring.

OXLOW LANE, LONDON BOROUGH OF BARKING AND DAGENHAM

Hello Neighbour Ltd

A scheme of 60-plus units was proposed on a build-to-rent basis. Turner Morum were instructed to provide viability advice to the applicant. We analysed a range of scenarios including open market sale and build-to-rent schemes and submitted our case to the Council. This was originally disputed by the Council's consultant, although, after a period of negotiation, the scheme proceeded through planning at the affordable housing level included within our appraisal.

BOMBAY STREET, LONDON BOROUGH OF SOUTHWARK

Southwark Park Road Ltd

Turner Morum were instructed by a developer client to advise on the viability of their proposed scheme in Southwark. During the course of discussions with the Council we were required to run numerous different scenarios due to issues regarding height and massing within the scheme. We were able to advise on the viability implications of such changes allowing the Council and developer to agree upon a suitable scheme.

CHAPEL ARCHES, MAIDENHEAD

Shanly Homes

We were appointed to represent Shanly Homes on this landmark scheme in central Maidenhead. The development comprised multiple buildings which had been secured by Shanly Homes over a considerable timeframe. We were asked to assess the viability of the scheme, and negotiate the viability on Shanly's behalf. A planning consent was subsequently agreed with a reduced level of affordable housing and S.106 package which included a contribution towards Maidenhead's waterways improvement scheme.

LEIGHTON LINSLADE, BEDFORDSHIRE

Willis Dawson Holdings (WDH)

WDH instructed us to provide viability advice on their proposed 1,210 residential unit mixed-use scheme, which is a key urban extension site in Leighton Linslade, Bedfordshire. Following the production of a detailed appraisal model which considered various affordable housing scenarios, we entered into negotiations with the Council and their appointed Valuer, before reaching a satisfactory viability agreement.

CARDINGTON, BEDFORDSHIRE

Fosbern Manufacturing Ltd

We were instructed by Fosbern Manufacturing Ltd to assess the viability of their proposed development of 592 residential units and the required refurbishment of the iconic World War 1 Airship Hanger within the S.106 agreement and following negotiations with Bedford Borough Council, an agreement on affordable housing was reached.

EASTLEIGH, HAMPSHIRE

Taylor Wimpey (Southern Counties) Ltd

Taylor Wimpey instructed us to assess the viability of their proposed development of 120 residential units on a Brownfield site in Eastleigh, Hampshire. Following the construction a bespoke viability model, our assessment was submitted and after negotiations with Eastleigh Borough Council, we reached an agreement on the level of affordable housing and S106 contributions to be delivered.

WINNYCROFT, GLOUCESTER

Barwood Homes

Turner Morum were appointed by Barwood Homes to provide viability advice regarding their planning application for 420 dwellings in Winnycroft which went to appeal. We produced bespoke appraisal models and provided evidence at Appeal which resulted in the Inspector's decision to grant permission for the development at the level of affordable housing we had submitted without the need for a review mechanism.

CAMBOURNE WEST, CAMBRIDGESHIRE

Bovis Homes & Taylor Wimpey

We were appointed by Taylor Wimpey and Bovis Homes to act for them in preparing a viability assessment to support their outline planning application for 2,350 dwellings on a partly-allocated 350 acre site at Cambourne. We were tasked with running a number of scenarios and carrying out detailed sensitivity analysis during negotiations with the Council's consultant, as well as being required to assist with the preparation of the S.106 agreement. We were able to reach the mutually agreeable position on the quantum of affordable housing to be provided across the entire development.

SWINDON, WILTSHIRE

Swindon Eastern Villages Consortium

Turner Morum were instructed by a consortium of developers and promoters to provide viability advice regarding their proposed development of 2,380 dwellings at Swindon. We produced a bespoke valuation model and carried out a number of detailed appraisals. Following productive negotiations with the Council and their appointed consultant we were able to reach a mutually acceptable position on the level of affordable housing to be provided and removed the need for a review mechanism.

Valuation Advice

We have extensive experience in providing valuation advice, usually where land is controlled via Option Agreements. Examples of some recent instructions are detailed below:-

EAST ANTON FARM, ANDOVER, HAMPSHIRE

Taylor Wimpey (Southern Counties) Ltd

We were appointed to advise Taylor Wimpey on this mixed-use (residential-led) 330 acre development site to the north-east of Andover. Our Input included advising during the S.106 negotiations, preparing a detailed cashflow model in-line with the Option Agreement and then negotiating the purchase price & acquisition terms (including a separate ransom negotiation with Network Rail).

AREAS 10 & 11 – MILTON KEYNES, BUCKINGHAMSHIRE

Gallagher Estates

Gallagher Estates instructed Turner Morum on this site in Milton Keynes known as the Western Expansion Area. This was the largest housing site to come to market in the Country at the time where planning was granted for 6,550 new homes. We were instructed in a valuation capacity through the arbitration process and acted as Expert Witnesses, providing detailed evidence under cross-examination.

LAND AT SOUTHEND ROAD, WICKFORD, ESSEX

Martin Grant Homes

We were appointed by Martin Grant Homes to assess the value of their development site, and then negotiate the purchase price with the vendor's appointed Valuer. When we were unable to agree a price, we proceeded to dispute resolution where the Independent Expert agreed with our recommended price figure. This was an amount calculated in-line with the prescribed valuation methodology within the Option Agreement.

PUCKERIDGE, EAST HERTFORDSHIRE

Fairview Homes

Fairview Homes appointed us to assess the value of this development site, and negotiate the Open Market Value. This instruction went to dispute resolution, where we submitted a proof of evidence and rebuttal report, outlining our opinion of Open Market Value, based on our detailed valuation modelling and analysis of comparable evidence.

SPROWSTON, NORWICH

Consortium inc. Persimmon Homes, Taylor Wimpey & Hopkins Homes

We were instructed by a consortium consisting of Persimmon Homes, Taylor Wimpey and Hopkins Homes to undertake a valuation assessment of their proposed development of 1,233 units on this 208 acre site at White House Farm, Sprowston, Norwich. The instruction included researching a large number of comparables and structuring the valuation appraisal in-line with the requirements of the Option Agreement.

THREE MILE CROSS, READING

Crest Nicholson

Crest Nicholson appointed us to assess and negotiate the acquisition of this development site from the private landowner. Our submission comprised a residual valuation cross-referenced with analysed comparable evidence. After negotiations and further analysis, particularly of comparable evidence, an Open Market Value figure was agreed.

NORTHSTOWE PHASE 1, CAMBRIDGESHIRE

Gallagher Estates

We were instructed by Gallagher Estates to undertake a valuation exercise and enter into negotiations on phase 1 of this development in Northstowe, Cambridge, which incorporated the first 1,500 homes of the 10,000 unit new settlement. This landmark development required producing and negotiating a bespoke Excel model that was agreed by both sides, as well as testing a range of development scenarios.

HOUGHTON REGIS, BEDFORDSHIRE

Lands Improvement

Lands Improvement, lead developer within the Houghton Regis Development Consortium, appointed us to undertake a comprehensive valuation assessment of numerous Option Agreements relating to the land assembly of this strategic site in Bedfordshire. This exercise also required us to assess the Open Market Value of the 5,150 unit site through an extensive cashflow appraisal model.

BUCKTON FIELDS, NORTHAMPTON

Bloor Homes and Martin Grant Homes

We were jointly instructed by Bloor Homes and Martin Grant Homes to initially assess the viability of their proposed joint venture scheme of 376 residential units in Northamptonshire. Following the grant of a satisfactory planning permission (with reduced affordable housing), we were then instructed in a valuation capacity to negotiate the acquisition of the development site, which was held under a number of Option Agreements.

REDDITCH, WORCESTERSHIRE

Alps Group

We were instructed by the vendor to examine the overage provisions relating to the 295 unit development in Redditch. This involved analysing the developer's valuation alongside the Agreement, undertaking our own analysis and producing our own valuation, before entering into discussions and negotiations with the developer and their agent. We were able to reach a mutually agreeable position between both sides and avoided dispute resolution proceedings.

Facilitating Site Promotion

We have been involved in promoting various sites across the Country. Our role tends to include providing advice on viability, securing site allocations in Local Development Plans and obtaining expressions of interest from potential purchasers. Once interest has been obtained and preferred bidders chosen, we also have experience in negotiating and finalising purchase terms on behalf of our landowner clients. Examples of some of our more recent site promotion instructions are shown below:-

HATCHFIELD FARM, NEWMARKET

Stanley Estates

We have provided on-going advice to the Derby Estate concerning approximately 150 gross acres of potential development land on the North side of Newmarket. Two planning applications have been lodged with the most recent being for 400 dwellings. Our input included advising on appropriate land uses for inclusion within the Masterplan, assisting with the S.106 negotiation and preparing a valuation model.

NORTH WEST CAMBRIDGE

University of Cambridge

We were instructed by the University of Cambridge to provide on-going consultancy and viability advice in relation to a c. 160 acre site in North West Cambridge. Our role was within a large multi-discipline team, providing in-depth financial modelling and developing complex cashflow appraisals, including elements of market, affordable, collegiate, key worker, employment, research & development land uses.

TICEHURST, EAST SUSSEX

Private Landowner

A private landowner client appointed us to advise them concerning a substantial area of agricultural land within the Area of Outstanding Natural Beauty (AONB) as part of a large professional team. A resolution to grant outline planning consent was secured for 40 houses (40% affordable) ahead of the LDF being adopted. We were then instructed to sell the site on behalf of the landowner, approaching a number of housebuilder and developer, seeking expressions of interest and offers for this consented site.

BOREHAMWOOD, HERTFORDSHIRE

Private Landowner

We were appointed by a private landowner to advise on the Open Market Value of a parcel of land suitable for residential development. In order to provide the landowners with an indication of value, we modelled a range of development scenarios, including different levels of density on the site and also tested a range of inputs including average market revenues and construction costs.

LISBURN, BELFAST, NORTHERN IRELAND

Neptune

Turner Morum were asked to model options for a "Roof Tax" mechanism which is intended to act as a method for funding the delivery of a new relief road by collecting contributions from circa 2,300 dwellings that are proposed to be constructed on the client's land and adjacent third parties.

Public Sector Advice

We have provided professional advice to a large number of Local Authorities across the country, as per the below examples:-

ASHFORD BOROUGH COUNCIL & KENT COUNTY COUNCIL

Ashford Borough Council & Kent County Council appointed us to provide consultancy and appraisal advice within the Ashford Growth Area for Ashford Borough, Kent County Council and English Partnerships with a view to identifying the potential level of "Planning Gain" that could be raised in relation to 31,000 new dwellings intended to be built over the period up to 2026. This instruction required a review of two major residential development sites, the preparation of appraisals and an analysis of the likely "On Site" and "Off Site" abnormal costs of development. There was a particular focus on those items that might, in future developments, fail to be dealt with by way of a "Planning Tariff".

TONBRIDGE & MALLING COUNCIL

We provided consultancy and appraisal advice in connection with the preparation of an Area Development Framework for the central area of Tonbridge. As part of a multi-disciplinary team, advice was prepared in relation to proposed leisure, office, industrial and residential uses. The brief required liaising with interested parties, computer modelling of the proposals and advice upon market demand and viability.

KENT COUNTY COUNCIL & THANET DISTRICT COUNCIL

We provided viability advice related to the affordable housing provision on a school site that was brought forward for housing. This scheme essentially required a 'land swap' to enable the delivery of a new school, and an affordable housing assessment was required in order to determine whether 'equivalent value' was achieved between the two sites in question.

CROYDON COUNCIL

We were appointed by Croydon Council to assist in a viability review for a large town centre scheme of over 500 units. The scheme was a build-to-rent proposal and the Council appointed Turner Morum to review the applicant's proposal. This instruction not only involved negotiating the level of affordable housing and Section 106 contributions the scheme could viably provide but also assisting solicitors with the drafting of the Section 106 specifically in relation the Review Mechanisms in line with the 2017 Mayoral Supplementary Planning Guidance.

HACKNEY COUNCIL

A site in a Priority Employment Area had been subject to a viability submission which the Council requested Turner Morum review and advise upon the viability of the scheme. As the site was in a Priority Employment Area our analysis was focused on whether additional commercial space could be delivered in lieu of residential. We reviewed the evidence provided by the applicant in detail and reported our findings back to the Council.

5-Year Land Supply

We have been involved in various 5-year land supply instructions where our role has been to assess, monitor and analyse the land supply assumptions of the Local Authorities, and to advise whether they can robustly demonstrate that they have 5-year housing land supply. We are regularly involved in associated planning appeals, providing proofs of evidence and expert witness evidence where necessary. Below are some examples of recent 5-year land supply instructions:-

BOROUGH COUNCIL OF WELLINGBOROUGH (BCW)

Redrow Homes

We were instructed to undertake an evaluation of BCW's suggested 5-year land supply, to support Redrow's proposed 85 unit scheme in Earls Barton. Our assessment looked at each of the Local Authority's key sites, considering any constraints on delivery and taking into account various issues including housing construction rates, assumptions for infrastructure delivery, local market competition & potential market saturation.

For the purposes of the public inquiry we provided a written proof of evidence and provided expert witness evidence given under cross examination. Our evidence was accepted by the Planning Inspector, who agreed that the Council could not demonstrate an adequate 5-year land supply (although the appeal was eventually overturned by the Secretary of State for non-land supply reasons).

We were also subsequently instructed by Aberdeen Asset Management, Barwood and Bowbridge Land to re-assess the BCW 5-year land supply, in all cases concluding that an adequate 5-year housing land supply did not exist.

SOUTH NORTHAMPTONSHIRE COUNCIL (SNC)

Redrow Homes Ltd

Redrow instructed us to undertake a 5-year land supply assessment of SNC to support an appeal on their site in Pottersbury. Working with Barton Willmore and Connells, a detailed proof of evidence was produced assessing the delivering of the key sites in South Northamptonshire. In the lead-up to the Public Inquiry, a meeting was held with SNC which enabled a position to be agreed with the Council on all of the key sites.

CANTERBURY CITY COUNCIL (CCC)

Pentland Homes Ltd

We were instructed to undertake an assessment of the 5-year land supply published by CCC to support submissions in respect of the emerging Local Plan. A detailed report was prepared and submitted based upon our detailed research, which involved reviewing the viability of each of the key sites, seeking to demonstrate that many were financially non-viable and thus unlikely to be delivered within the timeframe suggested by CCC.

NORTH NORFOLK DISTRICT COUNCIL (NNDC)

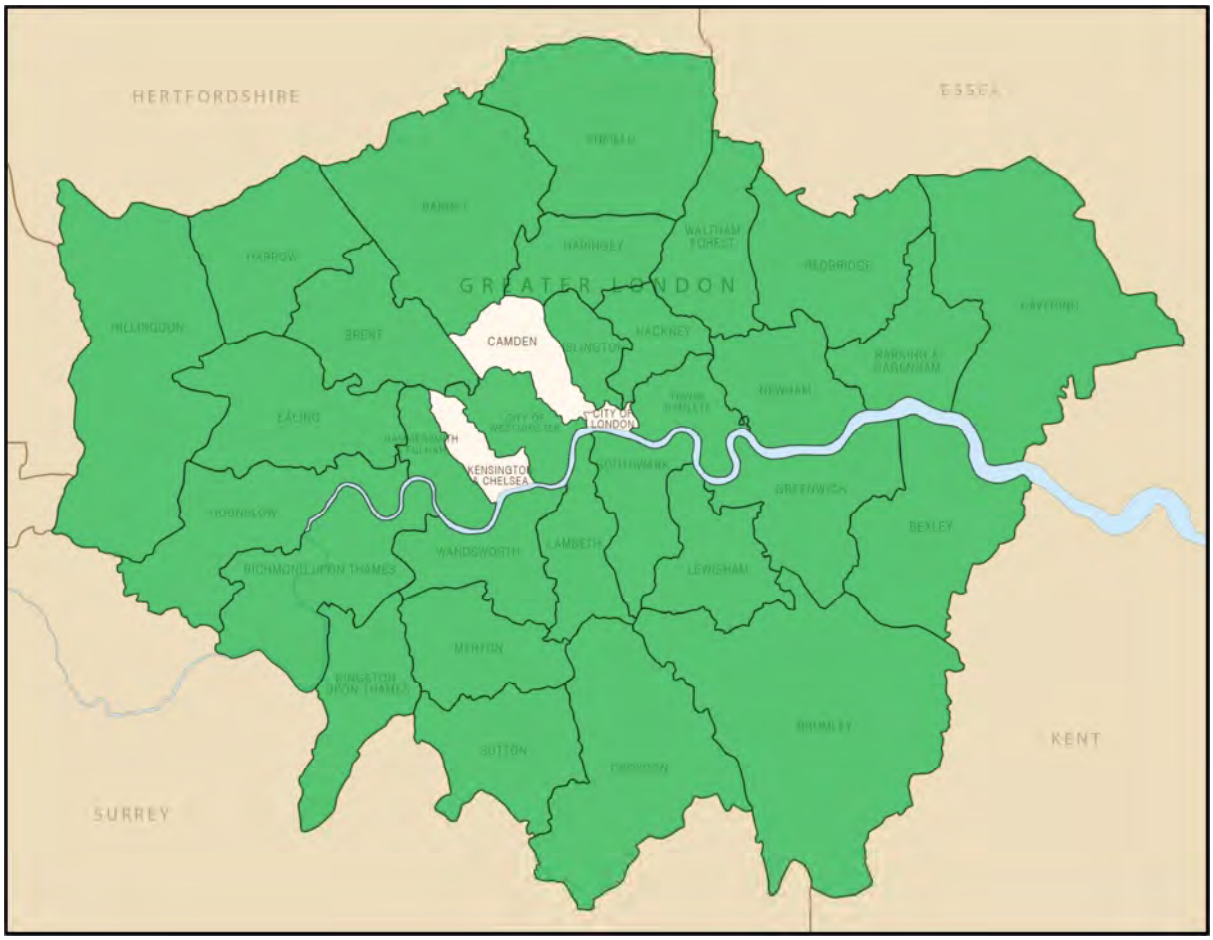
Gladmans Strategic Land

Gladmans appointed us to carry out a review of NNDC's suggested 5-year housing land supply, which was provided as a written report. This assessment required us to draw upon a number of our housebuilder contacts in order to ascertain when they saw the key sites coming forward and at what rate, identifying any potential delivery problems.

Greater London

As well as the great deal of work Turner Morum has been involved in regionally, we are very active within the Greater London area.

The Development Team have experience in nearly all of the London Boroughs; the below map shows those in which we have gained extensive experience as regards both advice and negotiations:



- Barking & Dagenham
- Barnet
- Bexley
- Brent
- Bromley
- Croydon
- Ealing
- Greenwich
- Hackney
- Hammersmith & Fulham
- Haringey
- Harrow
- Havering
- Hillingdon
- Hounslow
- Islington
- Kingston-upon-Thames
- Lambeth
- Lewisham
- Merton
- Newham
- Redbridge
- Richmond-upon-Thames
- Southwark
- Sutton
- Tower Hamlets
- Waltham Forest
- Wandsworth
- Westminster

The Team

John Turner BSc (Hons) MRICS

Partner
BSc (Hons) Estate Management
Member: Royal Institution of Chartered Surveyors 1977

After starting his career in the Valuation Office Agency, and following 10-years in Development Consultancy at DTZ (formerly Debenham Tewson & Chinnocks), John Turner set up Turner Morum in 1991.

Within the firm John heads up the Development Consultancy Team and has wide experience of advising on several of the country's largest and most complicated schemes.

A particular skill comprises computer modelling of large scale developments, including sensitivity, viability and valuation analysis. John has provided expert reports and witness evidence at numerous public inquiries, arbitrations and court cases.

Tel: 020 7688 3407
Email: jt@tmllp.co.uk

Thomas Hegan BSc (Hons) MRICS

Partner
BSc (Hons) Real Estate Valuation and Management
Member: Royal Institution of Chartered Surveyors 2009

Tom joined Turner Morum in 2007 and was made Partner in 2013. Responsibilities in this role include producing development appraisals, built to incorporate large amounts of variable information with high levels of accuracy on site development capacity and value.

Tom specialises in viability and valuation advice, and has been involved in bringing forward some of the key strategic sites across the country. Tom is a specialist in residual valuations, cashflow appraisals and review mechanisms.

In addition, Tom's role is to provide Expert Reports and Witness Evidence at public inquiries, arbitrations and court cases, and all other development consultancy matters. Tom is also an accredited expert and has undertaken the advanced professional award in expert witness evidence.

Tel: 020 7688 3414
Email: th@tmllp.co.uk

Nick Bignall BSc (Hons) MSc MRICS

Partner
BSc (Hons) Land Management
MSc Urban Planning and Development
Member: Royal Institution of Chartered Surveyors 2013

Nick joined Turner Morum in 2010 and was made Partner in 20018. Nick works mainly alongside Tom Hegan and John Turner, carrying out detailed financial modelling of development scenarios, specialising in complex development appraisals and cashflows, allowing our clients to easily test sensitivities within particular valuation and viability assessments.

Nick is a specialist in residual valuations, cashflow appraisals, review mechanisms, 5-year housing land supply assessments and proofs of evidence. Nick regularly produces detailed reports explaining and justifying inputs, setting out the conclusions of our detailed analysis, and negotiating planning consents on behalf of our clients.

Tel: 020 7688 3405
Email: nb@tmllp.co.uk

Samuel Carson BA (Hons) MRICS

Development Surveyor
BA (Hons) Property Development and Planning
Member: Royal Institution of Chartered Surveyors 2016

Sam joined the Development Team in March 2014 to work closely with Tom Hegan and Nick Bignall, mainly working on development appraisals and associated analysis on residential-led schemes across the country. His primary role is assisting the team with the production of these valuation models.

Sam is a specialist in researching and analysing proposed local authority 5-year housing land supply trajectories and constructing bespoke valuation models.

Tel: 020 7688 3402
Email: sc@tmllp.co.uk

Ramsay Evans BA (Hons) MRICS

Development Surveyor
BA (Hons) Property Development and Planning
Member: Royal Institution of Chartered Surveyors 2017

Ramsay joined the Development Team in April 2014 and works closely with John Turner, Tom Hegan and Nick Bignall in the production of development appraisals for residential schemes throughout the country in the context of viability assessments and valuation advice.

Ramsay provides specialist assistance, constructing valuation models and carrying out sensitivity analysis to inform the valuation outcomes. Ramsay assists with the production of detailed reports, the analysis of 5-year housing land supply trajectories and Section 106 negotiations.

Tel: 020 7688 3415
Email: re@tmllp.co.uk

Ollie Sanderson BA (Hons)

Development Surveyor
BA (Hons) Economics
Currently enrolled on the APC to become a Chartered Surveyor

Ollie joined Turner Morum in October 2016, following a year at Funding Circle, working within their credit risk department. Ollie assists the Development Team in a variety of ways including constructing bespoke valuation models, conducting sensitivity analysis and carrying out research to support housing land supply assessments.

Ollie is currently studying for a Real Estate masters, and is undertaking the APC to become a Chartered Surveyor.

Tel: 020 7688 3406
Email: os@tmllp.co.uk

Clients

PRIVATE SECTOR

PUBLIC SECTOR

Further Services

Business Rates

- Business Rates Minimisation
- Budgeting and Provisioning
- Vacant Property Management
- Account Auditing
- Rating List Appeals
- Discretionary Relief

Occupier Services

- Relocation – Search and Acquisition
- Rent Review
- Lease Renewal and Reconstructing
- Break Options and Lease Exits
- Service Charge Audit
- Investment
- Disposal
- Valuation Advice
- Dilapidations

Ian Charman
Partner
Tel: 020 7688 3409
Email: ic@tmllp.co.uk

Charles Hill
Partner
Tel: 020 7688 3404
Email: ch@tmllp.co.uk

Will Lawther
Associate
Tel: 020 7688 3410
Email: wl@tmllp.co.uk

Andrew Smith
Consultant
Tel: 020 7688 3413
Email: as@tmllp.co.uk

Appendix 6

Nick Bignall

From: John Turner
Sent: 12 August 2014 19:18
To: Nick Bignall
Subject: FW: Large Sites
Attachments: File0003.PDF; 11261.xls

Follow Up Flag: Follow up
Flag Status: Flagged

From: Snazle, Teresa - Cambourne Project [mailto:TSnazle@georgewimpey.co.uk]
Sent: 04 January 2007 14:38
To: John Turner
Subject: RE: Large Sites

Please see attached.

Kind regards
David Chare
Cambourne Project Office

From: John Turner [mailto:jturner@turner-morum.co.uk]
Sent: 04 January 2007 10:40
To: Snazle, Teresa - Cambourne Project
Subject: Large Sites

John Turner
Turner Morum
32-33 Cowcross Street
London EC1M 6DF

t: 020 7688 3407
m: 07770 846677
f: 020 7688 3417
e: jturner@turner-morum.co.uk
w: www.turnermorum.co.uk

Eastern Region Large Site Completions per Buchanan (sorted in descending order by Average Annual Completion rate from 1st Completion)

No	County	Planning Authority	Site Name	Site Capacity	80/81	81/82	82/83	83/84	84/85	85/86	86/87	87/88	88/89	89/90	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	TOTAL	Planning permision	Start	Lead time in years	End	Years of devpt *	Annual average	Max output	Actual completions or average	Remarks
1	Cambridgeshire	Peterborough UA	Orton	6800	425	425	425	425	425	425	425	425	425	425																4250	1973	1974	1	1990	10	425	425	Average	New Town Expansion mainly 1970 to 1988
2	Cambridgeshire	Peterborough UA	Bretton	5100	340	340	340	340	340	340	340	340																		2720	1970	1972	2	1987	8	340	340	Average	New Town Expansion mainly 1970 to 1988
3	Cambridgeshire	Peterborough UA	Werrington	3895	395	395	396	396	396	396	396	396	183	183	184	29	30	30	30	30	30									3895	1975	1975	0	1987	17	229	396	Average	New Town Expansion mainly 1970 to 1988
																																				0		
4	Essex	Thurrock UA	Chafford Hundred	5307									45	40	250	247	218	300	249	269	198	177	356	492	489	675	677	262	163	5107	1986	1988	2	2005	17	300	677		
5	Cambridgeshire	Peterborough UA	Hampton S Township	5200																	149	95	192	358	456	347	340	378	212	2527	1993	1996	3	2005	9	281	456		
6	Essex	Harlow	Church Langley	3528													287	237	381	407	397	466	513	316	158	66	49	35		3312	1988	1992	4	2004	12	276	513		
7	Hertfordshire	Welwyn Hatfield	Hatfield Aerodrome	2181																							37	347	435	819	1999	2001	2	2005	3	273	435		
8	Cambridgeshire	South Cambridgeshire	Cambourne	3300																			126	126	127	213	337	620	151	1700	1994	1998	4	2005	7	243	620		
9	**Bedfordshire**	**Luton Borough**	**Bramingham Park**	**2005**									**174**	**331**	**200**	**175**	**190**	**170**	**190**	**320**	**255**									**2005**	**N/A**	**1987/88**		**1996**	**9**	**223**	331		
10	Norfolk	Broadland	Thorpe Marriot	2854									500	164	153	216	98	241	238	213	279	205	219	157	171					2854		1988		2000	13	220	500		
11	Hertfordshire	Stevenage	Great Ashby	2191																			30	204	319	310	246	100	81	1290	1993	1995	2	2005	7	184	319		
12	Essex	Colchester BC	Highwoods	3910			181	181	181	181	181	181	176	229	157	285	163	205	272	105	173	252	257	156	88	70	196	40		3910		1982		2004	22	178	285		
13	Essex	Basildon	The Wick, Wickford	3555											59	89	25	334	285	346	190	306	157	157	218	78	125	76		2445	1973	1990		2004	14	175	346		
14	Essex	Chelmsford	East Springfield Chelmer Village	2959											295	244	78	156	64											837		1975		1995	5	167	295		
15	Essex	Braintree	Great Notley Garden Village	1766														60	110	153	195	215	133	84	271	193	282	70		1766	1989	1993	4	2004	11	161	282		
16	**Bedfordshire**	**Luton Borough**	**Wigmore**	**1976**						**32**	**164**	**164**	**164**	**161**	**161**	**161**	**161**	**161**	**161**	**162**	**162**	**162**								**1976**		**1985**		**1997**	**13**	**152**	164	**Average**	
17	Suffolk	Suffolk Coastal	Grange Farm	3150											146	146	146	146	146	146	146	146	146	146	146	146	146	146		2044	1987	1990	3	2005	14	146	146	Average	
18	Suffolk	Ipswich	Ravenswood	1200																				5	200	80	226	145	182	838	1998	1999	1	2005	6	140	226		
19	Norfolk	Broadland	Dussindale Park	1378										3	51	53	57	72	83	153	203	209	158	70	266					1378	1986	1989	3	2001	12	115	266		
20	Hertfordshire	East Hertfordshire	Bishops Park	1074										22	78	120	64	124	270	129	112	140	15							1074	1988	1989	1	1999	10	107	270		
21	Hertfordshire	Stevenage	Chells	1129							8	195	194	173	82	116	48	84	134	51	224	204	144	32	0	75	14			1778		1985		2002	17	105	224		
22	Suffolk	St Edmondsbury	Moreton Hall	2350	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	2350	1972	1980		2005	25	94	94	Average	
23	Cambridgeshire	Huntingdonshire	Stukeley Meadows	1240							122	122	123	123	99	99	99	100	100	55	55	55	56							1208		1986		1999	13	93	123	Average	
24	**Bedfordshire**	**Luton Borough**	**Bushmead**	**1027**								**69**	**95**	**95**	**96**	**96**	**96**	**96**	**96**	**96**	**96**	**96**								**1027**		**1987**		**1997**	**11**	**93**	96	**Average**	
25	Essex	Braintree	Kings Park Village (Marks Farm)	1350												9	17	21	21	75	169	150	155	243	138	55	55	72		1180	1988	1991	3	2004	13	91	243		
26	Hertfordshire	Stevenage	Poplars	1265					72	324	175	220	52	15	78	78	33	0	6	11	78	45	78							1265		1983		1998	15	84	324		
27	Hertfordshire	East Hertfordshire	Thorley Park	2953	154	154	154	154	154	154	154	154	154	154	154	23	23	23	23	23	23	23	23	23	23	23	23	23	23	2016	1974	1974	0	2005	25	81	154	Average	
28	Essex	Colchester BC	Garrison	2600																									56	56		2004		2005	1	56	56		
29	Norfolk	Forest Heath	Red Lodge	1250																									50	50	2003	2004	1	2005	1	50	50		
30	Suffolk	Suffolk Coastal	Bixley Farm	1050						49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49		931	1988	1985		2005	19	49	49	Average	
31	Essex	Uttlesford	Woodlands Park	1453																					46	46	46	46	46	230	1993	2000	7	2005	5	46	46	Average	
32	Essex	Chelmsford	South Woodham Ferrers	4757											36	73	74	92	29	41	30	28	2	0	6	20	47			478		pre 1991		2003	13	37	92		
33	Essex	Chelmsford	North Springfield	2810											74	42	18	22	10											166		1975		1995	5	33	74		
34	Essex	Chelmsford	North Melbourne	1336											0	0	17	0	0	0	0	36								53	1975	1976	1	1978	8	7	36		
35	Cambridgeshire	Huntingdonshire	E of railway, St Neots	1100																										0	2004	2005	1	N/A	0	0	0		
	MEAN AVERAGE																																			150			
	Districts with no > 1000 dwellings sites data																																						
	Bedfordshire	Bedford Borough	X																											0					0	0		
	Bedfordshire	Mid Bedfordshire	X																											0					0	0		
	Bedfordshire	South Bedfordshire	X																											0					0	0	Average	
	Cambridgeshire	Cambridge City	X																											0					0	0		
	Cambridgeshire	East Cambridgeshire	X																											0					0	0		
	Cambridgeshire	Fenland	X																											0					0	0		
	Essex	Brentwood	X																											0					0	0		
	Essex	Castle Point	X																											0					0	0		
	Essex	Epping Forest	X																											0					0	0		
	Essex	Maldon	X																											0					0	0		
	Essex	Rochford	X																											0					0	0		
	Essex	Southend UA	X																											0					0	0		
	Essex	Tendring	X																											0					0	0		
	Hertfordshire	Broxbourne	X																											0					0	0		
	Hertfordshire	Dacorum	X																											0					0	0		
	Hertfordshire	Hertsmere	X																											0					0	0		
	Hertfordshire	North Hertfordshire	Great Ashby (see Stevenage)																											0					0	0		
	Hertfordshire	St Albans	X																											0					0	0		
	Hertfordshire	Three Rivers	X																											0					0	0		
	Hertfordshire	Watford	X																											0					0	0		
	Norfolk	Breckland	X																											0					0	0		
	Norfolk	Great Yarmouth																												0					0	0		
	Norfolk	Kings Lynn & W Norfolk	X																											0					0	0		
	Norfolk	North Norfolk	X																											0					0	0		
	Norfolk	Norwich	X																											0					0	0		
	Norfolk	South Norfolk	X																											0					0	0		
	Suffolk	Babergh	X																											0					0	0		
	Suffolk	Mid Suffolk	X																											0					0	0		
	Suffolk	Waveney	X																											0					0	0		

**** from 1st completion***

Appendix 7

Independent Review of Build Out Rates

Draft Analysis

Rt Hon Sir Oliver Letwin MP

June 2018

This document/publication is also available on our website at www.gov.uk/mhclg

If you have any enquiries regarding this document/publication, complete the form at http://forms.communities.gov.uk/ or write to us at:

Ministry of Housing, Communities and Local Government
Fry Building
2 Marsham Street
London
SW1P 4DF
Telephone: 030 3444 0000

For all our latest news and updates follow us on Twitter: https://twitter.com/mhclg

June 2018

ISBN: 978-1-4098-5258-2

Chapter 1. Aims of the Review

1.1 My terms of reference require me, by the time of the Budget in the Autumn, to "explain the significant gap between housing completions and the amount of land allocated or permissioned in areas of high housing demand, and make recommendations for closing it".

1.2 The issue identified by the terms of reference is an important one, since the rate of build out is one of the determinants of the supply of new housing provided for the nation in any given year: the output of new housing is determined by the number of homes permitted and the rate at which those permissions are built out.

1.3 Planning permissions are, of course, given for sites of varying sizes around the country – and this is as true in areas of high housing need as it is elsewhere. I have, however, chosen to focus only on the largest sites in areas of high housing need, for two reasons:

- the 'build out rate' on small sites is intrinsically likely to be quicker than on large sites; (to take the limiting case, a site with just one house will take only as long to build out as that house takes to build); and
- the largest sites are dominated by the major house builders and other major participants in the residential property market, and it is in relation to these major firms that concern has been expressed in some quarters about "land banking" and 'intentional delay'.

1.4 As I made clear in my initial letter to the Chancellor and the Secretary of State for Housing in March, I have in accordance with my terms of reference focused on the issue of the build out rate of fully permitted new homes rather than allowing myself to be distracted by issues related to the speed of the planning system. Much has been done recently to encourage the granting of more planning permissions for more homes; and I have inevitably been told much, in the course of my enquiry, about the operation of the planning system. But I remain convinced, as I was in March, that – notwithstanding the complex permissioning and re-permissioning that frequently occurs in very large sites – it is possible to distinguish between a 'regulatory' Stage 1, which consists of securing all the necessary approvals to allow development to commence on at least part of the site, and a 'build out' Stage 2, which starts at the moment when the house builder has an implementable consent and is therefore able to start construction on the site (i.e. has received either the grant of full planning permission or the first final, detailed planning permission under reserved matters, and has satisfied all pre-commencement conditions).

1.5 I have accordingly 'started the clock ticking' for my enquiries at the beginning of Stage 2, and have 'stopped the clock' at the moment when the last home on the site has been, or is scheduled to be completed. The amount of time between these two moments is what I mean by the 'build out period'. By the 'build out rate', I mean the percentage of the site that is built out on average in each year during the build out period. My aim throughout the five months of my work to date has been to determine:

- what the build out rate on large sites in areas of high housing demand actually is;
- why the rate of build out on these sites is as it is; and

- which factors would be most likely to increase the rate of build out on these sites without having other, untoward effects.

1.6 As I promised in March, the present Draft Analysis deals exclusively with these three questions. It is only in the next phase of my work that I shall consider, in the light of my analysis of build out rates, what policies the Government might adopt to 'close the gap' between permissions and homes completed on the largest sites and hence to increase the overall rate at which land allocated for housing is converted into new homes. I will present my recommendations on this to the Chancellor and the Housing Secretary at the time of the Budget in the Autumn.

Chapter 2. Process of the Review

2.1 I have conducted my investigation independently from the Government, but have been assisted both by a team of seconded officials from HMT and MHCLG and by an expert and senior panel consisting of:

- Richard Ehrman,
- Lord Gadhia,
- Lord Hutton of Furness,
- Baroness Prashar, and
- Professor Christine Whitehead.

2.2 Accompanied by my team, and on some occasions by members of the expert panel, I have visited and collected data on 15 large sites (ranging from over 1,000 homes to over 15,000 homes and together providing over 70,000 homes) in areas of very high housing demand (measured by a ratio of more than seven to one between the median house prices and median earnings). Five of these sites are in Greater London; of the remaining ten sites, nine are in the south of England because this is where there is typically the highest demand for housing; the tenth is in an area of the Northwest where there is exceptionally high demand. I have also visited one smaller site in an area of the West Midlands where there is high demand, and one large site in the home counties that is at too early a stage for the data to be meaningful, but which provided interesting qualitative insights to which I refer in Chapter 4. During the course of these visits, I have met large numbers of representatives of builders, local authorities, development companies and other organisations involved in the development of the sites. Records of the information conveyed at these site meetings are provided in Annex C.

2.3 In order to gain a sense of the contrasts and similarities between the way that very large sites are handled in England and the way that they are handled in comparable European countries, I have in addition visited a number of such sites in Germany and the Netherlands. The records of these meetings are provided in Annex D.

2.4 With my team, I have analysed the detailed, site-specific data provided by each of the sites visited in England. The results are presented in a series of charts and graphs in Annex A. To cross-check whether the data gathered from the inevitably limited number of detailed site visits was out of line with other data-sets, I have (with the help of the Mayor of London) compared the results of my own investigations with results derived from the Molior data-set for sites of over 500 homes in Greater London and with their smaller data-set for sites of over 1,000 homes. The results from this cross-check are also presented in relevant graphs in Annex A.

2.5 The methods used to collect, verify and analyse data are described in a note by officials which is provided in Annex B. I should emphasise that, in the course of our work, we have been somewhat dismayed by the paucity of publicly available data on land

holdings and build out rates. I recognise that the Government has commissioned work to make options and other agreements on land transparent by ensuring that they are recorded at the Land Registry; I urge Ministers to expedite this work so far as possible. I also urge MHCLG to ensure that the work that they have commissioned to construct a national database of build out rates on large sites is accelerated, and to take forward the proposal in the recent White Paper that house builders should provide data on build out rates.

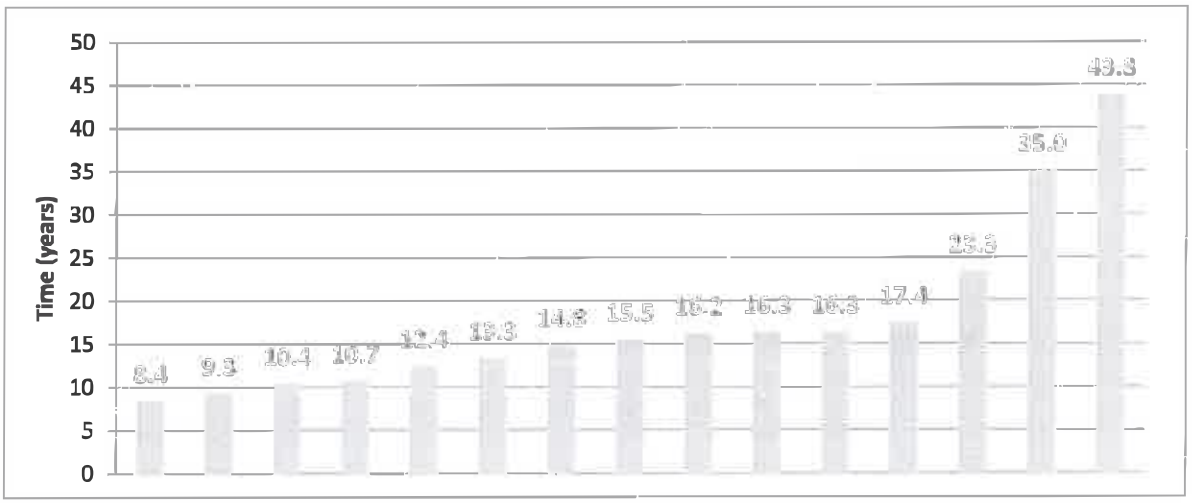
2.6 I have, in addition, accumulated and absorbed a range of published materials, listed in Annex E, and have held a large number of meetings to gather evidence from:

- local authorities,
- non-government organisations,
- housing associations,
- Homes England,
- house builders,
- promoters,
- investors,
- lenders,
- consultancies,
- planners and planning lawyers,
- land agents,
- representative and membership organisations,
- utilities,
- utility regulators,
- market analysts,
- economists and other experts,
- materials suppliers, and
- training providers.

2.7 Records of my meetings with these stakeholders are provided in Annex D.

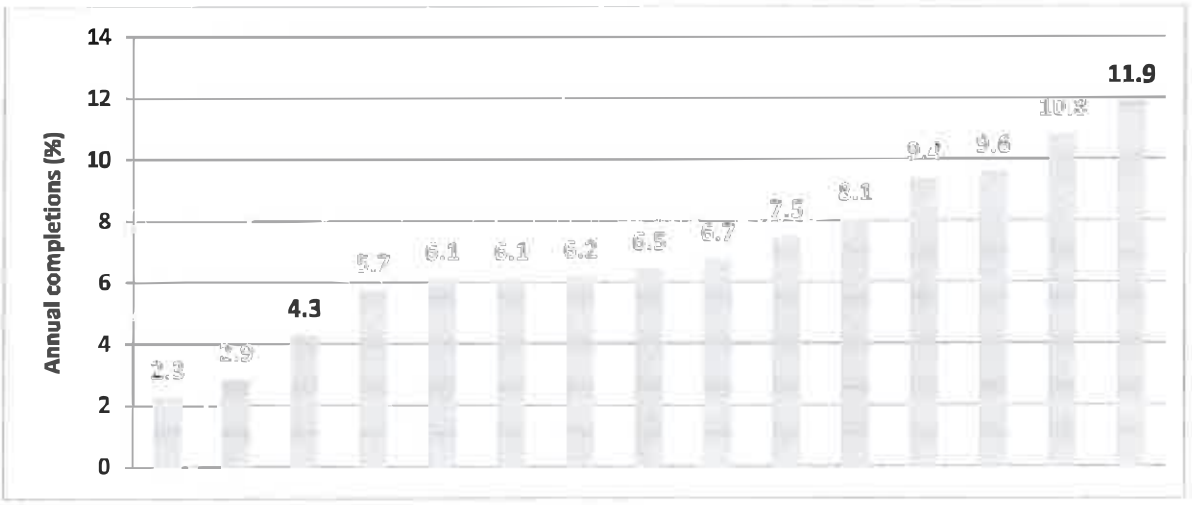
Chapter 3. Build out rates on large sites

3.1 The quantitative results of our investigation into 15 very large sites in areas of high housing demand are stark. As illustrated in graph AX25 of Annex A, reproduced below, the median build out period for these sites from the moment when the house builder has an implementable consent is 15.5 years:



Total build out period (years) of case study sites - Stage 2 - Median 15.5 years

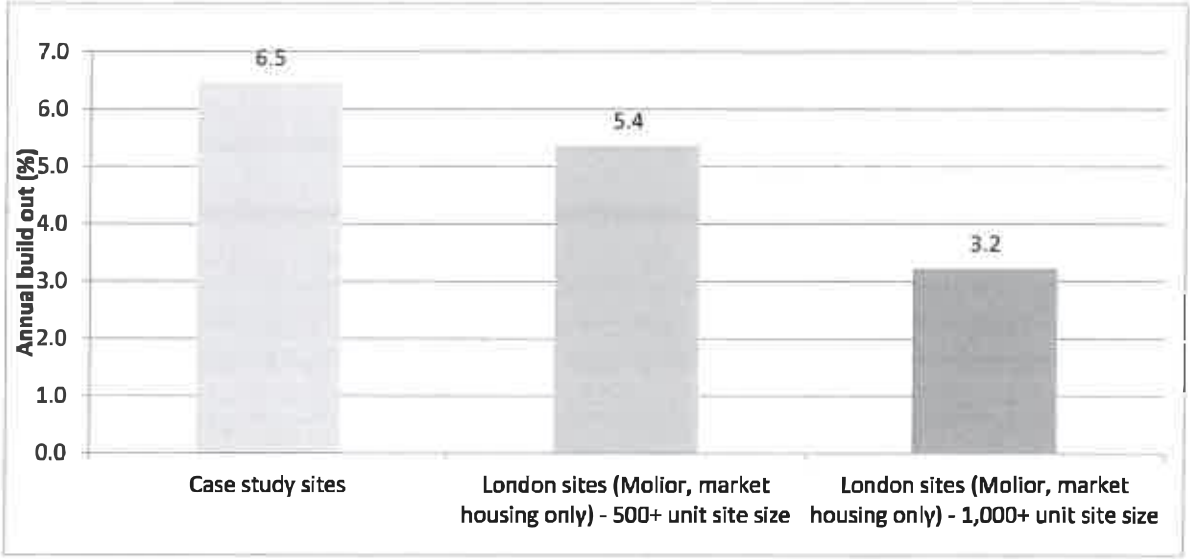
3.2 To put this another way, as illustrated in graph AX24 of Annex A, reproduced below, the median percentage of the site built out each year on average through the build out period in one of these 15 large sites is 6.5%:



Average annual build out (%) of case study sites - Stage 2 - Median 6.5%

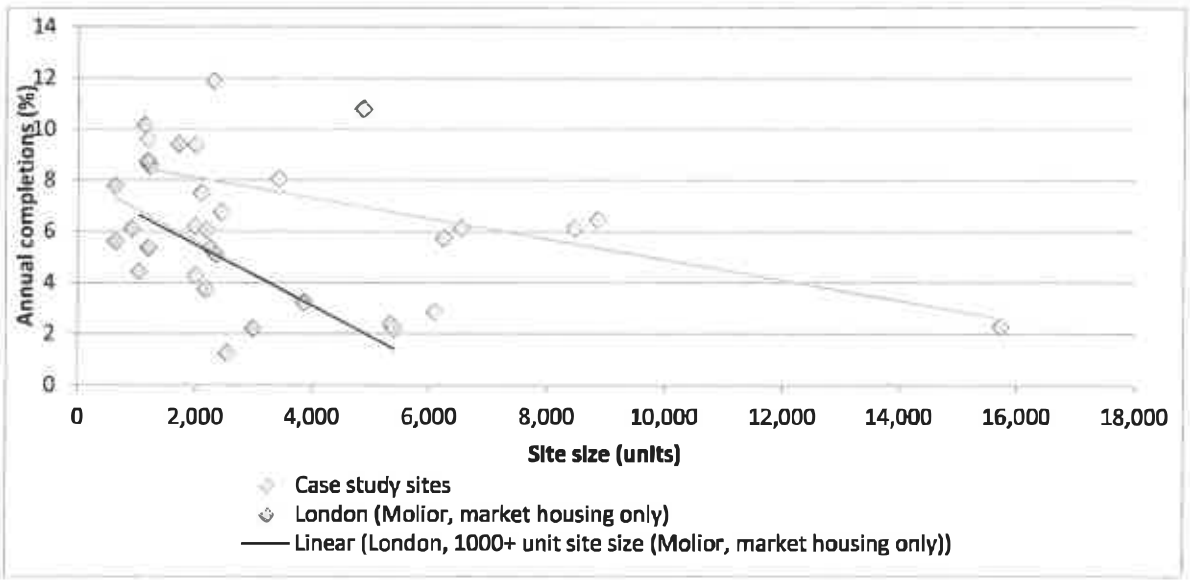
3.3 When we compare these figures with the figures derived from the Molior data-set for sites of over 500 homes in Greater London and with their smaller data-set for sites of

over 1,000 homes, we find that our sites are not atypical and indeed are, if anything, being built out at a faster rate than other large sites in London. This is illustrated in graph AX27 of Annex A, reproduced below:



Median annual build out rates (%)

3.4 There is, moreover, a clear, negative (though not overwhelmingly strong) relationship between the size of the site and the percentage of the site built out each year; as illustrated by graph AX34 of Annex A, reproduced below, all three data-sets suggest that the larger the site, the more likely it is to have a low build out rate. It is worth emphasising this point: very large sites will almost always deliver a higher absolute number of homes per year than large sites with only a few thousand homes in total; but the *proportion* of the site built out each year is likely to be smaller.



Average annual build out rate (%) by site size

Chapter 4. Fundamental explanations

4.1 This brings us to the question: why does it take so long to build out these large sites?

4.2 In my letter to the Chancellor and the Secretary of State of 9 March, I set out in the following terms what then appeared to me to be the fundamental explanation for the phenomenon:

> *The fundamental driver of build out rates once detailed planning permission is granted for large sites appears to be the 'absorption rate' – the rate at which newly constructed homes can be sold into (or are believed by the house builder to be able to be sold successfully into) the local market without materially disturbing the market price. The absorption rate of homes sold on the site appears, in turn, to be largely determined at present by the type of home being constructed (when 'type' includes size, design, context and tenure) and the pricing of the new homes built. The principal reason why house builders are in a position to exercise control over these key drivers of sales rates appears to be that there are limited opportunities for rivals to enter large sites and compete for customers by offering different types of homes at different price-points and with different tenures.*
>
> *When a large house builder occupies the whole (or even a large part) of a large site, the size and style (and physical context) of the homes on offer will typically be fairly homogeneous. We have seen examples of some variation in size, style and context on some large sites; but the variations have not generally been great. It has become apparent to us that, when major house builders talk about the absorption rates on a large site being affected by "the number of outlets", they are typically referring not only to the physical location of different points of sale on the site, but also and more importantly to differences in the size and style (and context) of the products being offered for open market sale in different parts of the site. Even these relatively slight variations are clearly sufficient to create additional demand – and hence additional absorption, leading to a higher rate of build out.*
>
> *It is also clear from our investigation of large sites that differences of tenure are critical. The absorption of the 'affordable homes' (including shared ownership homes) and of the 'social rented housing' on large sites is regarded universally as additional to the number of homes that can be sold to the open market in a given year on a given large site. We have seen ample evidence from our site visits that the rate of completion of the 'affordable' and 'social rented' homes is constrained by the requirement for cross-subsidy from the open market housing on the site. Where the rate of sale of open market housing is limited by a given absorption rate for the character and size of home being sold by the house builder at or near to the price of comparable second-hand homes in the locality, this limits the house builder receipts available to provide cross-subsidies. This in turn limits the rate at which the house builder will build out the 'affordable' and 'social rented' housing required by the Section 106 Agreement – at least in the case of large sites where the non-market housing is either mixed in with the open market housing as an act of conscious policy (as we have frequently found) or where the non-market housing is sold to the housing association at a price that reflects only construction cost (as we have also seen occurring). If freed from these supply constraints, the demand for 'affordable' homes (including shared ownership) and 'social rented' accommodation on large*

sites would undoubtedly be consistent with a faster rate of build out. And we have heard, also, that the demand for private rented accommodation at full open market rents (the scale of which is at present uncertain) would be largely additional to, rather than a substitute for, demand for homes purchased outright on the open market.

4.3 The further work we have done since 9 March, and the further evidence we have heard, has done nothing to alter my view that the homogeneity of the types and tenures of the homes on offer in these sites, and the limits on the rate at which the market will absorb such homogenous products, are the fundamental drivers of the slow rate of build out. Indeed, our further work has reinforced this view.

4.4 In March, I promised to ask three questions arising from this fundamental analysis – namely:

- *what are the implications of changing the absorption rate for the current business model of major house builders if the gross development value of sites starts to deviate from the original assumptions that underpin the land purchase?*
- *would the absorption rate be different if the reliance on large sites to deliver local housing were reduced? And*
- *would the absorption rate, and hence the build out rate be different if large sites were 'packaged' in ways that led to the presence on at least part of the site of:*
    - *other types of house builder offering different products in terms of size, price-point and tenure? Or*
    - *the major house builders offering markedly differing types of homes and/or markedly different tenures themselves?*

4.5 As a result of our further work, I am now in a position to answer these questions.

Implications of gross development value deviating from assumptions of land purchase

4.6 Turning first to the question of value, I have concluded that it would not be sensible to attempt to solve the problem of market absorption rates by forcing the major house builders to reduce the prices at which they sell their current, relatively homogenous products. This would, in my view, create very serious problems not only for the major house builders but also, potentially, for the housing market and hence the economy as a whole.

4.7 To understand this dynamic, one needs to grasp the way in which pricing and land values for large permitted sites are established.

4.8 The Royal Institution of Chartered Surveyors publishes a 'red book' which has become the 'bible' for surveyors and land agents when they are required for any purpose or by any client to value land. This 'red book', though large and complicated in detail, contains what is in principle a very simple instruction – viz. that the valuer should start with the assumption that the open market sale value of a new home of a given kind and size in a given location will be close to that of a second-hand home of the same or similar kind and size in the same or similar location – perhaps with some slight premium for the new home to represent the extent of the depreciation on the second-hand home and, of course,

with a further assumption about the expected average rate of house price inflation across the anticipated period to completion.

4.9 It is not difficult to see why the RICS has reached this view. Clearly, an individual or family seeking to buy a home in a particular location is able to compare the cost of two alternatives – buying something newly constructed or buying something second-hand. Accordingly, the open market value of a marginal newly constructed home (the price that can be reached between a price-maximising willing seller and a price-minimising willing buyer) will bear some close relation to the price of a comparable second-hand home in the same location.

4.10 There is, however, a crucial assumption lying behind this method of valuation: namely, that the supply of new homes in the locality is not going to be sufficiently large to have any noticeable effect on the supply and demand balance in that local housing market, and is therefore not going to have any noticeable impact on the open market value of second-hand homes in that locality. Only if this assumption holds good, will the marginal valuation principle hold true. In other words, the standard method of valuation for new housing used by all reputable valuers in the UK bakes in the assumption that local housing markets will not be 'flooded' with new homes to the point where the current prices of second-hand homes in the local market are forced downwards.

4.11 But the significance of the valuation method goes beyond the baking in of this assumption about the number of new homes built in a locality in a given period – because it also forms the basis for land valuation.

4.12 We have heard from a range of participants in different parts of the housing industry that, when house builders come to buy land for development, they typically do so on the basis of a so-called 'residual value' calculation. This calculation starts with an estimate of the open market value of the new homes that can be built on the site (i.e. a value close to the current value of comparable second-hand homes in that local market) multiplied by the number of homes of that value that are expected to be built on the site under the outline planning permission. The expected costs of construction (including return on equity, costs of debt, infrastructure and policy/regulatory requirements) are then subtracted from this 'gross development value' to yield a 'residual value' that should be attributed to the land and the outline planning permission.

4.13 It appears that, in some cases, this method of valuation is directly applied by independent valuers to settle a price for the land under the terms of an option agreement that the house builder has with a landowner. In other cases, a landowner or promoter may auction the land with outline planning permission. Or an auction may be held in order to determine an open market price for the land that will form the basis for the price that has to be paid by a house builder who holds an option if the house builder wishes to exercise that option. But we have heard from everyone we have talked to in the industry about these processes that, in all of these forms of land sale, the starting point of all participants is the residual value calculation. And that residual value calculation always starts with the assumed open market value of new homes in the local area – which is always fundamentally driven by the prices of comparable second-hand homes in the local area, and hence by the assumption that the number of new homes built in any given year in that area will not be large enough to put downward pressure on the price of second-hand homes in the area.

4.14 Once a house builder working on a large site has paid a price for the land that is based on the assumption that the sale value of the new homes will be close to the current

value of second-hand homes in the locality, the house building company is not inclined to build more homes of a given type in any given year on that site than can be sold by the company at that value; and the house builder's first customers (and indeed their mortgage lenders) may tend to be unenthusiastic if they see the prospect of homes of the same type on the same site being sold in such quantities as to reduce the prices obtained for those homes in the market after they have bought their own homes.

4.15 The value-unaffecting rate of sale that avoids all of these effects is what the house builders, the land agents, the council planners – and indeed independent commentators such as the OFT – call the 'absorption rate' for homes on a large site by the local market. They do not actually mean the absolute absorption rate in the sense of the rate at which the market will absorb the homes at any price, or even the construction-cost-relative absorption rate at which the market will absorb the homes if they are sold at or near to the cost of construction (including the cost of capital). They mean, instead, the rate at which new homes can be absorbed without reducing the price of the homes below the price assumed for the purposes of the land valuation.

4.16 We have heard, likewise, that these same principles and assumptions are built into the business plans of the house builders and the development assessments prepared for the house builders by the land agents. So it is natural that the whole process of construction by large house builders on a large site should thereafter be based on the same assumptions: we have found in all of our site visits that the pattern of phasing and financing is adapted to fit the rate at which it is believed that the new homes can be absorbed by the local market without contradicting the pricing assumptions built into the house builder's business model, and hence without affecting the sale prices of second-hand homes in that market. The same applies to the arrangements made for the provision of labour, materials, utilities, progressive remediation and site infrastructure; all of these are organised around the expected 'absorption rate' for the kind of homes being sold by the house builder at the price baked into the land value.

Increasing build out rates by reducing reliance on large sites

4.17 It seems sensible to ask whether we could hope to increase build out rates in high pressure areas by reducing reliance on very large sites. Would the use of more smaller sites (and hence the presence of more builders) increase output?

4.18 There is evidence from our statistical investigation to back the common sense intuition that smaller sites will tend to build out a greater proportion of the site each year than larger sites – at least once they begin to be built out at all. And the theoretical under-pinning of this proposition is not difficult to find. We have been told repeatedly that the market absorption rate for a given type of home is to some considerable degree highly location-specific: there is a given depth of market at a given price for a given type of home of a given tenure in this particular place. Move only a little way away and you enter a slightly different market, composed at least partly of people with somewhat differing patterns of life which make that other place more attractive to them. Hence, all else being equal, one might expect two homes, only one of which would sell at a given time at the given price on large site A, to be sold simultaneously at the same price on two smaller sites, B and C.

4.19 There are two principal ways in which we could increase the number of small sites. The first would be to find some means of "packaging" large sites into smaller sites. The

second would be to use the planning system to encourage the use of more "naturally" smaller sites.

4.20 Although not within the scope of my Review, there may well be advantages in attempting to adopt the second approach by encouraging the use of more individual small sites within local planning authority land supply plans. But there are reasons to believe that doing this without also increasing the rate of build out on large sites by "packaging" those sites in ways that increase the variety of supply is *not* desirable. The reasons are that:

- to increase housing supply as a whole over the long-term, we require increased infrastructure – and it is often the large sites that unlock values and short-term demand sufficiently great to support major new infrastructure with the help of grants, Section 106 agreements and the like; it is true that small sites typically require less additional infrastructure than large sites – but an attempt to fund all needed major new local infrastructure through Community Infrastructure Levies (CILs) collected from a multitude of small developments would require more effort from most local authorities in areas of high housing need;
- to meet the needs of people seeking homes in high pressure areas, we need *both* high rates of build out *and* high levels of allocation. Reliance exclusively on smaller sites requires local authorities in their local plans to pick a multitude of small fights – whereas many planners and councillors have told us that it is often far easier to pick a few, larger fights; although the National Planning Policy Framework has enabled some unallocated sites to receive planning permission where five year land supplies are not at the required levels, it would be an unfortunate irony if the effect of efforts to improve build out rates by concentrating exclusively on smaller sites actually led to reduced allocations in some local authority areas; and
- given that, in many areas, we have seen very large sites that are clearly suitable for development (e.g. major brownfield sites of derelict post-industrial land), it seems counter-productive (to the point of absurdity) to allow only small bits of them to be developed at any one time in order to accelerate build out rates; the rate on *permitted* sites might well (indeed, probably would) increase sharply – but the rate of build out across the remainder of the undeveloped brownfield land still begging to be developed would, paradoxically, reduce to zero.

4.21 My conclusion is that we cannot rely solely on small individual sites. This cannot be a question of "either / or". We will continue to need more new housing *both* on smaller sites *and* on large sites.

Differentiating products to address differing markets

4.22 This brings us to the question whether the problem of slow build out rates on large sites could be accelerated by means of increased differentiation within these sites.

4.23 Given my conclusion that the current low build out rates are caused by the restricted market absorption rates of the fairly homogeneous products typically being constructed at present by the major house builders on the largest sites, it seems natural to seek some means of achieving differentiation within sites. If this were achieved, it is intuitively plausible that a range of markets (each with their own absorption rates) could be addressed simultaneously, thereby accelerating the overall rate of build out.

4.24 But is this intuition an insight into the truth, or an illusion? Is the market for one type of dwelling with one type of tenure in a given place sufficiently separate from the market for other types of dwelling and other types of tenure on the same site to make simultaneous disposal of differentiated products possible?

4.25 I have not been able to find any conclusive numerical evidence of the extent of separation or overlap between the markets for different products on the same site. However, I have been able to observe some strong reasons for supposing that the degree of product separation is considerable, and that the degree of product overlap is relatively slight:

- it is a truth universally acknowledged that, in areas of high demand, the high ratio of house prices to incomes creates a serious problem of affordability; accordingly, for each individual or family that can afford to buy a home of a certain style and size on a given site in such an area, there will be other individuals or families who might like to live on that site, but who cannot afford to buy such a home at the price of such homes set by the local second-hand market; for such individuals or families, there are only two choices – to go elsewhere, or to obtain a home that has a different cost because it is of a different type or of a different tenure; and this alone is enough to imply that the market in any one site is tiered rather than homogeneous;
- I have been told, on every one of my site visits, that the need for social rented housing is far from exhausted; my interlocutors have regularly used phrases such as 'virtually unlimited' to describe the demand for such housing; and this, too, strongly implies that, in areas of high housing pressure at least, the market for social rented property is separate from the price-constrained market for open market sales of family-sized homes;
- on those visited sites where there was a significant amount of property being offered in the private rented sector, it has been repeatedly explained to me by those responsible for marketing homes on the site that the people seeking such rented property arrive seeking this particular form of tenure, due to whatever circumstances make it more appropriate for them than either open market purchase or social renting; how deep this market currently is outside the major cities, is currently in some doubt – but I have seen evidence that institutional investors are able to have private rented sector properties constructed simultaneously with properties for sale on the same site, and are able to dispose of them simultaneously, even in out-of-town locations; this, again, strongly suggests that the private rented sector is essentially a separate market;
- given these points about the separation of the social rented and private rented markets from the market for open market sales, I have not been surprised to find developers regularly telling me that they also have no difficulty disposing of 'affordable' rented properties at various discounts simultaneously with open market sales; on no occasion has it been suggested to me that there was any serious competition between homes offered with these four types of tenure (open market sale, open market private rented, discounted or 'affordable' rented and 'social' rented), implying that the markets for each are largely complementary rather than overlapping;
- the same seems clearly true of specialised housing for particular groups such as nurses, students or retirement living; I have seen significant amounts of housing of these kinds built right next to some of the sites I have visited, without any

suggestion from those marketing the visited sites that the specialised properties competed with the non-specialised newly built properties – once again, suggesting the existence of largely complementary, rather than significantly overlapping markets;

- in discussions both in the UK and in the Netherlands, it has become clear to me that there is a particular and separate market also for custom-build and self-build homes. The resistance to including such homes on large sites at present is considerable in some quarters; but both those who welcome (and provide) these more customised types of housing and those who resist them appear to agree that they suit a different clientele, who would not be attracted to the more uniform homes constructed on so many of our large sites at present. This, too, suggests the existence of separate markets;
- I have heard much the same said repeatedly about the market for shared ownership of various kinds; we have received testimony suggesting that this form of tenure is likely to become more established and more accepted both by the housing associations and by private investors – and it seems clear that it is a mixed tenure that will be attractive to purchasers somewhat different from those who are attracted either by outright sales or purely rented properties;
- I have learned that different types of builder, constructing different types of building, have different business models – and are clearly aiming to satisfy the demands of different market niches; for example, those building high rise flats (which are inevitably constructed in one fell swoop) are typically seeking a high proportion either of individual buy-to-let investors or institutional investors in the Private Rented Sector, whereas SME house builders typically have a very different set of customers in mind; and
- finally, I have been told many times by those engaged in marketing homes on large sites that the choice of a newly built home is much influenced not only by 'hard' facts such as location, size, price and tenure-type, but also by 'soft' facts such as architecture, interior design, garden, setting and surrounding landscape or street-scape; and this is entirely natural, as the choice of where to live is in part an aesthetic matter of huge significance to those (very many) of us who care about our surroundings as much as we care about almost any other aspect of our daily lives; accordingly, it seems extraordinarily likely that the presence of more variety in these aesthetic characteristics would create more, separate markets than can be created within the high degree of uniformity that characterises many (though not all) of the large sites that we have visited.

4.26 For all of these reasons, I conclude that if either the major house builders themselves, or others, were to offer much more housing of varying types, designs and tenures (and, indeed, more distinct settings, landscapes and street-scapes) on the large sites and if the resulting variety matched appropriately the desires of the people wanting to live in each particular part of the country, then the overall absorption rates – and hence the overall build out rates – could be substantially accelerated. The policy levers required to bring this about without damaging the economics of individual sites or the financial sustainability of the major house builders are topics for the second phase of my work, on which I shall report at the time of the Budget. But the shape of the outcome at which we should aim is, I think, clear from the work we have already done: to obtain more rapid building out of the largest sites, we need more variety within those sites.

Chapter 5. Other potential constraints

5.1 In my letter to the Chancellor and the Housing Secretary of 9 March, I promised to provide an assessment of the extent to which the rate of build out on very large sites might be held back by constraints other than the market absorption rate, if that binding constraint were removed. In particular, I said that I would consider the effects on build out rates that could be caused by:

- lack of transport infrastructure,
- difficulties of land remediation,
- delayed installations by utility companies,
- constrained site logistics,
- limited availability of capital,
- limited supplies of building materials, and
- limited availability of skilled labour.

5.2 In the course of the further work that I have undertaken since 9 March, I have looked in some detail at all of these issues, and have come to conclusions about the extent to which they could currently hold back, or might in future hold back rates of build out on large sites. I have also looked at one further issue, namely:

- alleged intentional "land banking" on the part of major house builders.

Lack of transport infrastructure

5.3 The time taken to provide major new transport infrastructure has certainly had a major impact on the speed of development in a number of the sites that I have studied. In some cases, the opportunity to develop housing was an outcome envisaged only after rapid transport links were installed for other reasons: the Olympic Park, North Greenwich and Ebbsfleet are cases in point – where rail links to central London were built, respectively, for the Olympics, the Millennium Dome and HS1, thereby opening up the possibility of major housing development that would not otherwise, in all probability, have occurred. In each of these cases, the building of the rail link took a considerable time. We have also seen a limited number of cases in which delays in provision of smaller local transport infrastructure (e.g. roundabouts, link roads and new rail stations) have caused a delay in the start of construction on site. But an outstanding example of delays in housing caused by delayed infrastructure is Barking Riverside – where a considerable period of time was spent considering whether to construct (and eventually deciding not to construct) an extension of the Docklands Light Railway. During the whole of this period, the large housing project at Barking Riverside was stalled; it moved forward only after the failed DLR proposition was replaced by a definite decision to extend the London Overground to reach the site (at far lower cost).

5.4 But these examples of the importance of new transport infrastructure, which are matched by several less dramatic examples in other large sites that I have visited, share

the characteristic that they do not, in general, appear to have had any effect on the build out rate during the periods at which I have been looking. My clock starts ticking only after the first implementable permission has been received – and, by this time, almost always, the major infrastructure issues have been sorted out. This is partly a feature of the planning system: typically, final permission to proceed with a large new site is not given until the transport infrastructure will enable the new inhabitants to take up residence without causing undue pressure on existing infrastructure. And it is partly a feature of the market: developers and builders do not generally seek final permits to build homes in places which cannot easily be accessed, because such homes are unlikely to be attractive to potential customers. Accordingly, whilst it seems clear (and an enormously important point) that faster resolution of major infrastructure issues would be likely to bring forward the dates at which new major housing construction sites could be opened up, this is largely a separate question from the acceleration of the narrowly defined 'build out rates' (from first implementable permission to final completion) on which I have focused, because (although later phases of development are sometimes contingent on the provision of further infrastructure) I have not found any notable example of delay in infrastructure affecting the rate of build out once construction has begun.

5.5 I accordingly welcome the effect on the release of new large housing sites that is likely to arise from the significant steps that have been taken in recent years to accelerate the provision of major new infrastructure (including the introduction of National Policy Statements for infrastructure and the establishment of the National Infrastructure Commission). I strongly urge Ministers to work collectively across government to ensure that the construction of major infrastructure is driven by the need to release large, allocated sites for development; this will require more effective coordination between the various government departments, agencies and private sector operators involved in providing infrastructure. But I do not believe that these steps, or any further (desirable) steps that may be taken in future to increase the speed of delivery of major new transport infrastructure, will have any noticeable impact on the particular question of the build out rates achieved on large sites between the time when the first implementable permission is received and the time when the last home is completed.

Difficulties of land remediation

5.6 In the course of visiting and studying the development of large "brownfield" sites, I have seen several examples of the costs and difficulties that can be caused by the need to remediate land before construction can begin. It is clear that, where a site has previously been used either by long-present heavy industry or by other, more specialised contaminators such as the MoD, such remediation is likely to be required – and the (entirely appropriate) regulatory requirements mean that the remedial work is likely to be both expensive and prolonged. Perhaps the outstanding example of this amongst those large sites I have seen is at Nine Elms, where the need for remediation of the former Battersea power station has clearly imposed very considerable financial burdens on a succession of developers.

5.7 But in such cases, as with major transport infrastructure, the remedial work is typically (and rightly) required before the first implementable permission to build homes is received. So (although remediation may in some cases continue through several phases of construction and may well affect the timing of capital requirements on a large brownfield

site) it does not tend to affect the rate of build out that I have been examining; starting the clock at the point of first implementable permission, I have been unable to find any systemic contrast between the rate of build out on large "greenfield" sites that require no remedial work and the rate of build out on large "brownfield" sites that have required intensive remediation before the housing construction could commence.

Delayed installations by utility companies

5.8 I have received somewhat conflicting evidence about the effect, or lack of effect, of utility connections on build out rates.

5.9 The house builders that we have met on the large sites studied have repeatedly complained about the impediments caused by slow responses from utility companies.

5.10 In discussion with the utility providers, we were told, on the contrary, that these problems arose from insufficient clarity, coordination, and notice on the part of the house builders. The providers took the view that a period of between nine months and two years was needed in order to plan significant additions to utility networks, and complained that this timetable is often not respected by the house builders and developers. (The Olympic Delivery Authority was cited as a shining exception and as a developer who gave full and adequate notice.)

5.11 Discussions with the utility regulators made clear that some of the reason for this conflict of views probably arises from the difficulty of distinguishing between infrastructure that will be paid for by utility customers, and infrastructure that needs to be paid for by house builders and developers; it also became apparent there remains some lack of clarity about the point at which a utility regulator will recognise a development as being sufficiently certain to permit assets constructed in relation to that development to be added to the regulatory asset base of the relevant utility. We also heard on some sites that there can be very different views between local and national levels within the utility companies.

5.12 However, despite this rather messy scene – which I believe definitely and urgently requires further attention across government – I have not in fact been able to find any substantial evidence that delays in the provision of utility connections have caused delays in build out once the first implementable permission has been received. My impression is that such problems as there are in dealing with utilities mainly increase the complexity and "bother" of development rather than impeding build out – and that, to the extent that significant utility infrastructure does cause substantial delay, this typically occurs before the point at which a very large site begins to be built out. For example, we discovered that, at the very large Nine Elms development in central London, it had proved necessary to submit a new planning application to remove an intended electricity sub-station due to late confirmation from the utility providers that the sub-station in question could be provided at an alternative site – thereby delaying the date of the implementable planning permission rather than lengthening the build out period.

5.13 In short, I conclude that the serious problem of utility provision for some sites falls broadly into the same category as the problem of transport infrastructure. Neither is directly relevant to the focus of my Review, but both require attention from government. I urge Ministers to establish a cross-government taskforce to address the provision of utility infrastructure for large sites at a pace that permits development on those sites to commence faster than at present.

Constrained site logistics

5.14 When I began my investigations, I imagined that the complexities of managing large sites might have a major impact on the rates at which such sites are built out. And I have found some instances in which the management of the site has clearly imposed constraints of certain sorts. For example, it has been pointed out to me in the course of several site visits that the developers recognised the need to avoid building simultaneously in all directions around the early inhabitants who had moved into one particular part of the site, lest their lives be made intolerable.

5.15 But I have been impressed both by the highly professional way in which the major house builders have learned to manage large sites so as to permit efficient construction without imposing unduly on the inhabitants, and by the lack of any evidence (outside highly constrained inner-city settings) that site logistics in fact currently impede the overall rate of build out on these sites. My impression has been that, if a faster rate of build out were thought to be feasible for other reasons, developers and major house builders would have all the capabilities required to organise entry to (and working on) different parts of large sites simultaneously in a way that is compatible both with efficient construction and with making life tolerable for early inhabitants.

Limited availability of capital

5.16 Capital constraints are sometimes advanced as reasons for slow development of housing – and I was therefore keen to find out whether there was any evidence of such restrictions on finance creating limits to the speed of build out on large sites.

5.17 Somewhat to my surprise, neither discussions with industry participants nor discussions with those involved in providing finance have furnished any evidence that such constraints are biting at present. It has, on the contrary, become clear that:

- The major house builders have capital structures with very low gearing. They are able to obtain large lines of credit to fund working capital requirements; but they rarely use this as a means of obtaining long-term debt finance, because at present their cash flow is typically sufficient to repay such loans in-year.
- The major house builders also have access, through structured project-financing, to debt finance for housing construction projects at low rates of interest, and over a term sufficient to fund a given phase of a given development. Because of their own strong cash positions, they do not currently appear to have any difficulty providing the cash required to fund the equity component of such projects.
- There are both major clearing banks and providers of non-bank finance who have appetite for increased lending to well-structured housing construction projects at present. We were told that the entry of challenger banks and of institutional investors had made this an increasingly competitive market for the lenders – suggesting a ready supply for the borrowers. We did not receive any evidence of inhibitions being caused at present by macro-prudential supervision.
- Both housing associations and commercial institutional investors have told us that they have appetite and equity finance available for considerable expansion into the

rented sector – but are currently held back by lack of access to large sites on which to build homes for rent.

- SME builders (who are not typically present on very large sites at the moment) are no longer able to obtain the straightforward balance sheet financing that they used to obtain from the high street banks, and are therefore driven back to project financing. We have been told that this frequently limits their capacity to engage in multiple transactions simultaneously, as each project requires a substantial equity component – but we were told by the lenders themselves that they are willing to provide the support and expertise required to enable SMEs to engage in project finance. I conclude that, if SMEs were more able to obtain a place on very large sites, they (unlike the major house builders) would probably begin to experience financing constraints that would require some attention.
- On the demand side, we were told that the only financial constraints for people seeking ordinary open-market purchases were the affordability of property in high pressure areas and the ability of potential purchasers to raise cash for deposits – in relation to which, we were also told by builders, estate agents and lenders that on large sites the availability of financial assistance through the Help to Buy scheme for first time buyers plays a role in supporting open market sales at prevailing prices. I have not reviewed the role of the Help to Buy scheme more generally, but have found no evidence of any rationing of mortgages for buyers who were able to meet the regulatory tests of affordability.
- Also on the demand side, we were told that shared ownership mortgages – though somewhat more complicated because of the requirement for close cooperation between the housing association or other landlord and the lender – are available in the market place both from the big mortgage lenders and from a handful of regional building societies. Though there are no doubt limits to the exposure that any one financial institution wishes to have to this particular risk, we were told that such mortgages do not at present have higher default rates than the traditional mortgage market, and are likely to be financeable in significantly greater quantities than at present if and when more shared ownership homes are made available on large sites.

Limited supplies of building materials

5.18 I am aware, from my experience in government shortly after the 2008/9 crash, that the supply of adequate building materials can be a significant barrier to construction. I was consequently anxious to find out whether there is any evidence of such constraints operating at present, or being likely to operate if rates of build out on the large sites (and hence rates of construction as a whole) were to rise significantly. I am pleased to report that I have not found any such evidence. So far as the future is concerned, even if rates of housing construction were to rise as the Government hopes and plans, I see little reason to expect that supply of building materials will be unable to keep pace.

5.19 I was told that sufficient quantities of steel, glass and timber could be obtained. In relation to ceramic construction materials, likewise, there appeared to be sufficient capacity through domestic production and imports to meet demand – though it was made clear to me that investment in further domestic capacity would depend upon the industry

having a clear line of sight to new levels of demand from house builders before taking steps such as securing long-term licences for clay assets.

5.20 The tightest relevant supply market appears to be in bricks. I received conflicting accounts of the operation of the brick supply chain from brick makers and house builders – with each blaming the other for inefficient supply or procurement practices. I was told that existing UK factories in existing configurations are currently producing at capacity, with roughly 20% of the total current supply being met from use of stock by merchants and from imports; it was felt by the brick industry participants with whom I spoke that construction growth in northern continental countries could put pressure on import prices. However, I was also told that – if there were a clear demand for increased numbers of bricks – changing shift patterns and increasing the number of production lines within existing factories could increase capacity by 10-15% in under a year, and that new factories could be built within about three years, and that substitutes such as concrete bricks could be introduced.

5.21 My conclusion is that, if there is a reasonable level of assurance about the future levels of building materials required, investment in increased domestic production of all the materials is likely to follow – with any gaps in the interim being filled by imports. In the medium term, it is also likely that the increasing move towards so-called modern methods of construction such as modular ('factory') production of components for new houses will reduce dependence on particular items (such as bricks) that might otherwise be temporarily in short supply if the rate of construction were to accelerate rapidly.

Limited availability of skilled labour

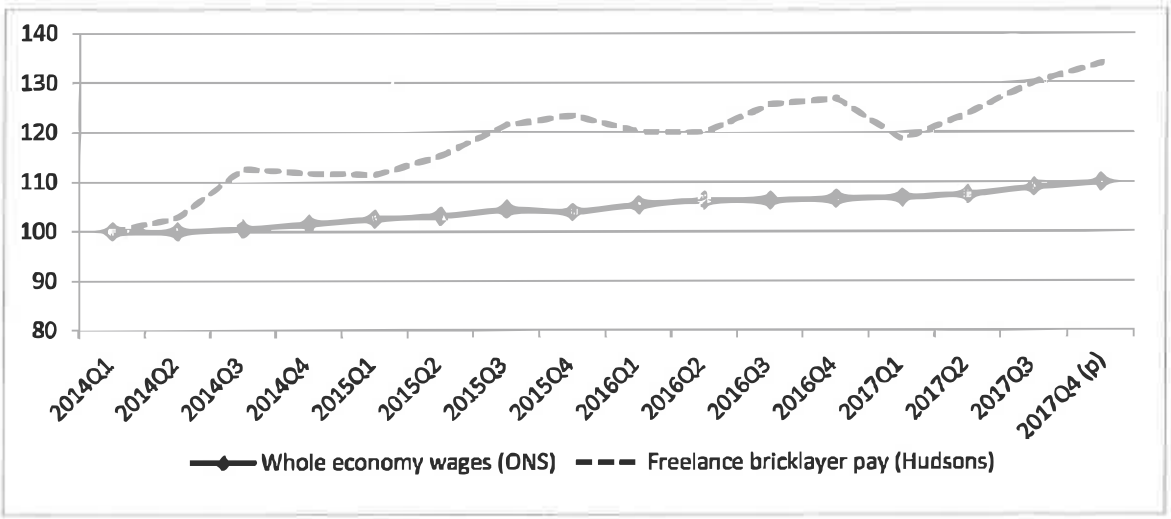
5.22 In general, the picture I have gained of the supply of skilled labour for house construction is similar to that for construction finance and building materials.

5.23 There seems little doubt that the availability and price of labour is a significant concern for the major house builders. More than 20% of members of the Federation of Master Builders reported shortages in thirteen different types of skilled labour, and the Royal Institution of Chartered Surveyors shows 40-60% of surveyed employers identifying shortages in both professions and trades – figures similar to those reported by members of the Home Builders Federation. During the course of our site visits, we heard anecdotal evidence confirming the impression that the market for skilled labour is currently quite tight – and it was clear that a significant proportion of the workforce employed on these sites (particularly in London) came from outside the UK; this echoes the figures presented in the HBF Home Building Workforce Census, which show around 50% of the workforce in London, and over 20% in the South East, coming from abroad (mainly from the EU). We also frequently heard reports of skilled labourers moving quite large distances to work on large sites in the high pressure areas that we were visiting; and this, too, is borne out by the figures produced by the HBF and the Construction Industry Training Board, which suggest that 19% of the workforce have relocated to take up employment and that 36% have frequently worked away from home. Finally, we heard reports that one of the motivations for experimenting with modular "factory" production of major components for new homes was to clear the critical path by removing the need for people with very particular skills to be present on site at exactly the right moment in the construction of each individual new home.

5.24 It is important, however, to set these points in context. The construction workforce is composed of people with a wide range of skills and occupations, many (though not all) of which are fairly interchangeable with skills and occupations in other industries; and even within the construction industry, people with the various skills are deployed in a wide range of activities including repair and maintenance of housing, the construction and repair of infrastructure and the construction and repair of commercial and industrial buildings. Consequently, according to ONS figures, the building of new homes occupies less than a quarter of the total construction workforce. Indeed, ONS figures show that even in most of the key trades which form part of the critical path for the construction of a new home, the majority of the skilled workforce (and, in most cases, the great majority) are employed in construction activities other than the building of new homes. This suggests that, if there were a serious shortage of skilled labour in the various trades and professions required for house building, it would in general be possible to meet these demands by raising the wage rates paid to these workers in order to draw them over from other parts of the construction industry – albeit with some consequences for the rest of the industry – until such time as the level of training increased to reduce the shortages.

5.25 Accordingly, I am reasonably confident that skilled labour from within the construction industry is, or could generally become available to meet demand even if rates of build out on large sites, and hence rates of house construction as a whole, were to increase markedly. I am told by some industry participants that they have concerns about the availability of sufficient skilled labour in a few areas for which I do not have adequate data, including groundworkers and site managers; this is an issue I shall need to pursue further over coming months. There is, however, at least one definite exception to the general rule – namely, the supply of skilled bricklayers.

5.26 The official ONS figures show mean hourly pay for bricklayers at a level below the average for all employees across the economy, and also show no growth in the wage-rates for bricklayers during recent years. But this does not reflect the anecdotal evidence, and subsequent investigation has revealed that the reason lies in the fact that a very high proportion – according to some estimates, as many as 90% – of bricklayers are self-employed and are therefore excluded from the ONS figures. I have accordingly obtained information from Hudsons (a company that administers payroll for many thousands of self-employed people, with a large number of bricklayers amongst them). This gives a national average weekly wage for self-employed bricklayers around 60% higher than the ONS figure for employed bricklayers; this is roughly what one would have expected on the basis of the anecdotal evidence of rates 80-100% higher than the ONS figure, once allowance is made for the fact that our anecdotal evidence derives from sites in the high pressure areas only. But, if we take these national figures for self-employed bricklayers rather than the ONS data for employed bricklayers as the guide, then we observe also a rise in bricklayer earnings of over 30% since Q1 2014 – suggesting that the market in this particular set of skills is very much tighter than it was in 2014.



Wages in the whole economy and freelance bricklayer pay (2014 Q1=100)

5.27 What makes this current situation concerning for the purposes of my Review is that, in contrast to the situation in most other parts of the construction workforce, the proportion of bricklayers working on the building of new homes appears to be very high. I have not been able to obtain reliable official figures – but, by combining estimates provided by the HBF for the average number of bricklayers required to build a new home with the CITB estimates for the total number of bricklayers in the country at present, and with the relatively reliable data for the number of new homes being constructed, one arrives at the conclusion that more (and perhaps significantly more) than three quarters of all bricklayers are engaged in the construction of new homes. This compares with some 20% of plasterers, 10% of carpenters and 5% of plumbers and electricians who are devoted to the building of new homes. Clearly, the opportunity to bring bricklayers across from other parts of the construction industry to work on newly built homes is restricted.

5.28 This will create a significant biting constraint if the rate of build out on large sites can be increased to the point where, in conjunction with other measures being taken by the Government, the total number of homes constructed each year rises from the present figure of around 220,000 to around 300,000 (in line with government targets). Again using HBF estimates for the average number of bricklayers currently required to build a new home, and allowing for the different types of construction typically involved in flats and houses, and further assuming that there is no rapid short-term change in methods of building, this will require an increase of about 15,000 in the total number of bricklayers, or almost one quarter of the existing size of this particular workforce.

5.29 To achieve such an increase over, say, a five year period by training more bricklayers would require more than doubling existing training levels. While it is encouraging that the Department for Education has established a new fund to increase innovative schemes for construction training, my discussions with those involved in such training lead me to believe that there is no prospect at present of the training providers being able to produce such a change in gear in the required timescale, even if sufficient funding were forthcoming. A far more realistic prospect would be for the providers to increase long-term training to a level at which it was able to provide a replenishment of the bricklaying workforce once that workforce had reached a steady state size roughly one quarter greater than its current size. Obviously, this would require an expansion of only

some 25% compared with current training provision – a realistic ambition over, say, 5 years.

5.30 The inevitable conclusion is that, in the immediate future, if there is not to be either a substantial move away from brick-built homes or a significant requirement for more skilled bricklayers from abroad, and to the extent that modular construction techniques do not sufficiently reduce demand for highly skilled bricklaying, the only realistic method of filling the gap in the number of bricklayers needed to raise production of new homes from about 220,000 to about 300,000, is for the Government and major house builders to work together (specifically *without the current training providers*) on a five year "flash" programme of pure on-the-job training. I therefore urge Ministers to consider now the need for measures to achieve a rapid expansion in the number of bricklayers.

Alleged intentional "land banking" on the part of major house builders

5.31 Finally, I have considered the allegation that the major house builders are reducing the rate of construction as part of an intentional attempt to "bank land".

5.32 In one sense, as I have argued, the major house builders are certainly "land banking": they proceed on a large site, once that site benefits from an implementable permission, at a rate designed to protect their profits by constructing and selling homes only at a pace that matches the market's capacity to absorb those homes at the prices determined by reference to the local second-hand market. Accordingly, if we can speed up the build out rate of large sites then the amount of land with full planning permission being held by the house builders should reduce. The further question, however, is whether there is or is not also "land banking" in the sense of major builders or others attempting to influence the market by "locking up" land before they seek final implementable permissions to build.

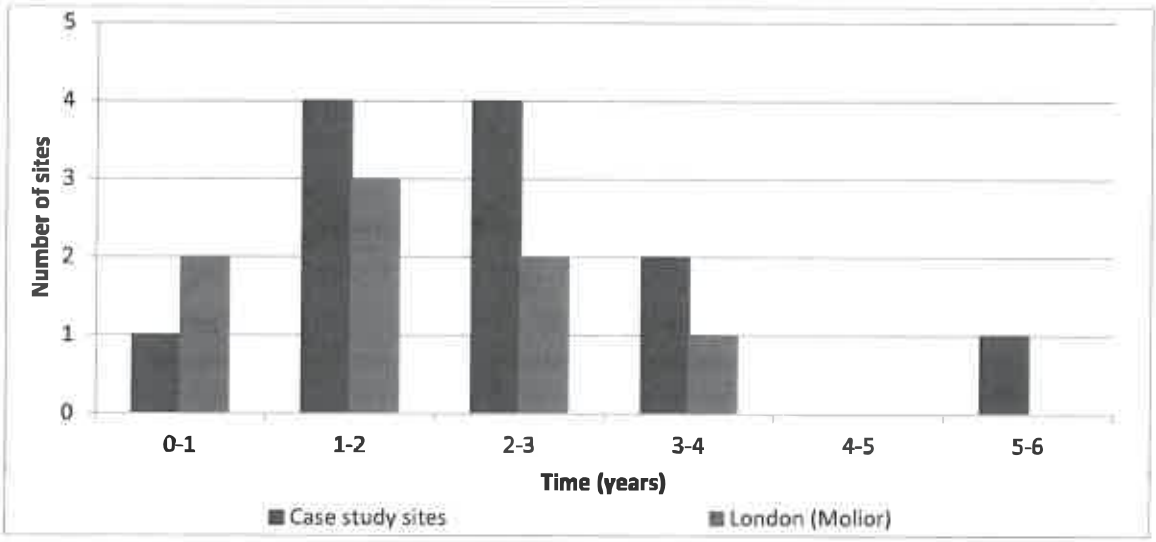
5.33 The reasons for the allegation that there is also this other form of "land banking" are:

- the large amounts of land 'held' under various forms of options and agreements by the major house builders at any one time – often leading to the elapse of a long period between the moment when a piece of land comes under the control of the builder and the moment when it begins to be built out; and
- the fact that land, unlike most assets, does not depreciate, has generally tended to increase in value, and has a 'real option' value.

5.34 The most obvious point to make is that the first of these observations – the large amount of land held in one way or another by major house builders – has a plausible explanation. The fact that a major house builder holds large amounts of land, is explained by the fact that the major house builders need to maintain a sustainable business and seek to do this by ensuring that they, rather than their competitors, hold as much of the land on which they will later wish to build as is compatible with their capital constraints. This may well enable them to minimise market entry and thereby enable them to maintain market share while building out at a stately pace; but it does not, in itself, drive slow build out rates. Indeed, if anything, one would expect faster rates of build out to require builders to hold larger supplies of land – since we have been told by market analysts that the stock-market valuations of house builders depend not only on the current annual profits of those

builders but also on the degree to which those profits are made sustainable by the holding of supplies of land that can be developed in coming years. The faster the land is used, the larger the need for a back-up supply of land that can be used in future.

5.35 So compelling is this point, indeed, that I became worried at one stage during our work about the opposite phenomenon: namely, that concerns about sustainability of profits (and hence concerns about more rapid use of land holdings) might actually act as a brake on speed of build out. I was concerned, in other words, that the builders might be reluctant to build out faster, lest this reduce their stock of land holdings to the point where market analysts and their own boards raised concerns about the sustainability of their businesses. I have now concluded that this is not, in fact, likely to be a major concern. I have been assured by both local authorities and industry participants that the percentage of planning applications from promoters and major house builders ultimately receiving approval is now very high (probably higher than the 80% figure for national planning data as a whole). Contrary to some assertions from industry participants, I have also ascertained that (as shown in graph AX15 of Annex A, reproduced below) the variability in the time taken to obtain outline permission for building on the large sites I have seen (and on the range of sites studied by Molior), whilst undoubtedly aggravating and sometimes costly for the major house builders, is actually not so great as to cause problems of business continuity for major house builders with large property portfolios.

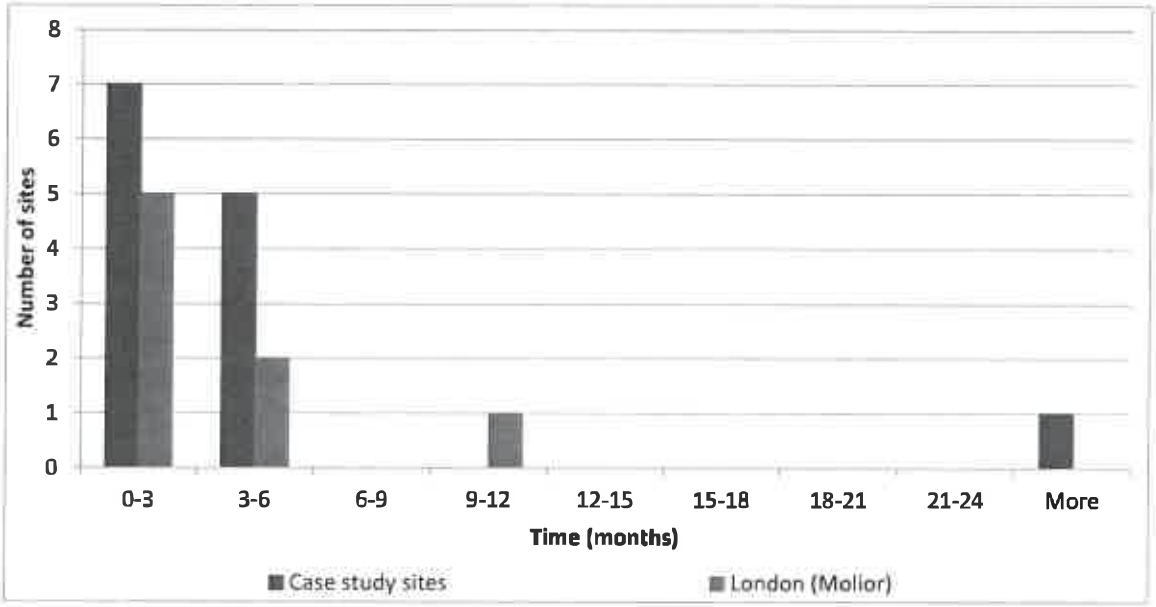


Stage 1A - Distribution - From application to outline permission granted (Exc. Barking Riverside and hybrid applications)

5.36 This suggests that major house builders can expect to obtain new additions to their portfolios of land for development within three to four years of making an application in all but the most exceptional circumstances, and typically within two to three years – thereby enabling them to accelerate the rate of build out of current sites without any substantial fear of running down their stock of land supply to levels that would reduce their long-term sustainability. This is in line with the findings of the study conducted by Professor Michael Ball in 2010 for the National Housing and Planning Advice Unit, which showed that – even before performance agreements between developers and local planning authorities

became widespread – around 90% of outline permissions granted were approved within three years of application, and that the median time taken was under 18 months.

5.37 During the course of the Review, I have received a number of representations about the time taken by (and the difficulty involved in) the process of converting an outline permission into the first fully implementable permission on a large site. I am certainly conscious of the very large amount of paperwork (and often the large amount of cost) involved – and this no doubt in part explains the fact that it has, on some of our studied sites, taken several years to convert outline permission into an implementable permission. However, I have not received any indication that such conversion in practice ever fails to occur after whatever delay may arise, and – as shown in graph AX17 of Annex A, reproduced below – the first implementable permission is typically granted within 6 months of the first application for such permission:



Stage 1C - Distribution - From first detailed application submitted to first detailed permission granted (exc. hybrid applications)

5.38 This is, of course, reliant on the maintenance of the current strong and effective planning system, and in particular the maintenance of the requirement for local authorities to have an adequate five year land supply. If this requirement were to be relaxed then speeding up the build out of large sites would merely bring forward housing – rather than increase the supply of housing in the long-term – as developers would struggle to replace their stock of land holdings.

5.39 The other allegation – that the 'real option' value attaching to the non-depreciating asset of land is inducing the major house builders to engage in "land banking" in the sense of "locking away" land from the market before receiving implementable permissions is (albeit in a slightly less obvious way) equally implausible.

5.40 It is of course true that, although the land market can be highly volatile, land (unlike most assets) does not depreciate, and has generally tended to increase in value across the cycle, and has a 'real option' value. By holding rights over land that benefits from (or is

soon likely to benefit from) some form of permission to build houses, the company which holds that land obtains a valuable ability to make profit by building on it at whatever time is thought likely to maximise the profitability of doing so. It would therefore be perfectly possible for financial investors of a certain kind to seek to make a business out of holding land as a purely speculative activity.

5.41 But I cannot find any evidence that the major house builders are financial investors of this kind. Their business models depend on generating profits out of sales of housing, rather than out of the increasing value of land holdings; and it is the profitability of the sale of housing that they are trying to protect by building only at the 'market absorption rate' for their products. I have heard anecdotes concerning land owners who seek to speculate in exactly this way by obtaining outline permission many years before allowing the land to have any real development upon it – and I am inclined to believe that this is a serious issue for the planning system. But it is not one that is consistent with the business model of the major house builders.

Chapter 6. Next steps

6.1 Interesting as it is to understand why the rate of build out on very large sites proceeds at its current stately pace, this analysis becomes of use only if it leads to action that will accelerate such build out rates. Accordingly, in line with my terms of reference, I shall now move on from analysis to recommendations.

6.2 By the time of the Budget in the Autumn, I shall seek – with the invaluable aid of my expert panel and my team of officials – to put forward policy options for ministers. Clearly, these options will be geared towards solving the particular problem that I have identified as the main cause of the slow build out rates on these sites: namely, the constraints imposed by the market absorption rates for the relatively homogeneous products currently being built on these sites. Clearly, also, in line with my analysis of the causes of the problem, I shall seek to find policy levers that will tend to increase the variety and differentiation of what is offered on these sites. I shall also look at the overall speed at which unconsented land can be converted into new housing on a sustained basis.

6.3 But, in constructing policy options, I shall be mindful of the need to ensure that:

a. they should not jam up the housing market or impair the capacity of the major house builders to continue large-scale construction;
b. they should not impose undue strains on local authorities whose planning departments are already under considerable strain;
c. they should help to widen opportunities for people seeking homes;
d. they should also widen opportunities for those capable of supplying new homes on large sites; and
e. they should yield the greatest possible likelihood that such sites, as well as being built out more quickly, will in future be places that are beautiful and ecologically sustainable, so that succeeding generations can be proud of them.

6.4 In short, the policies that emerge should not "throw the baby out with the bathwater".

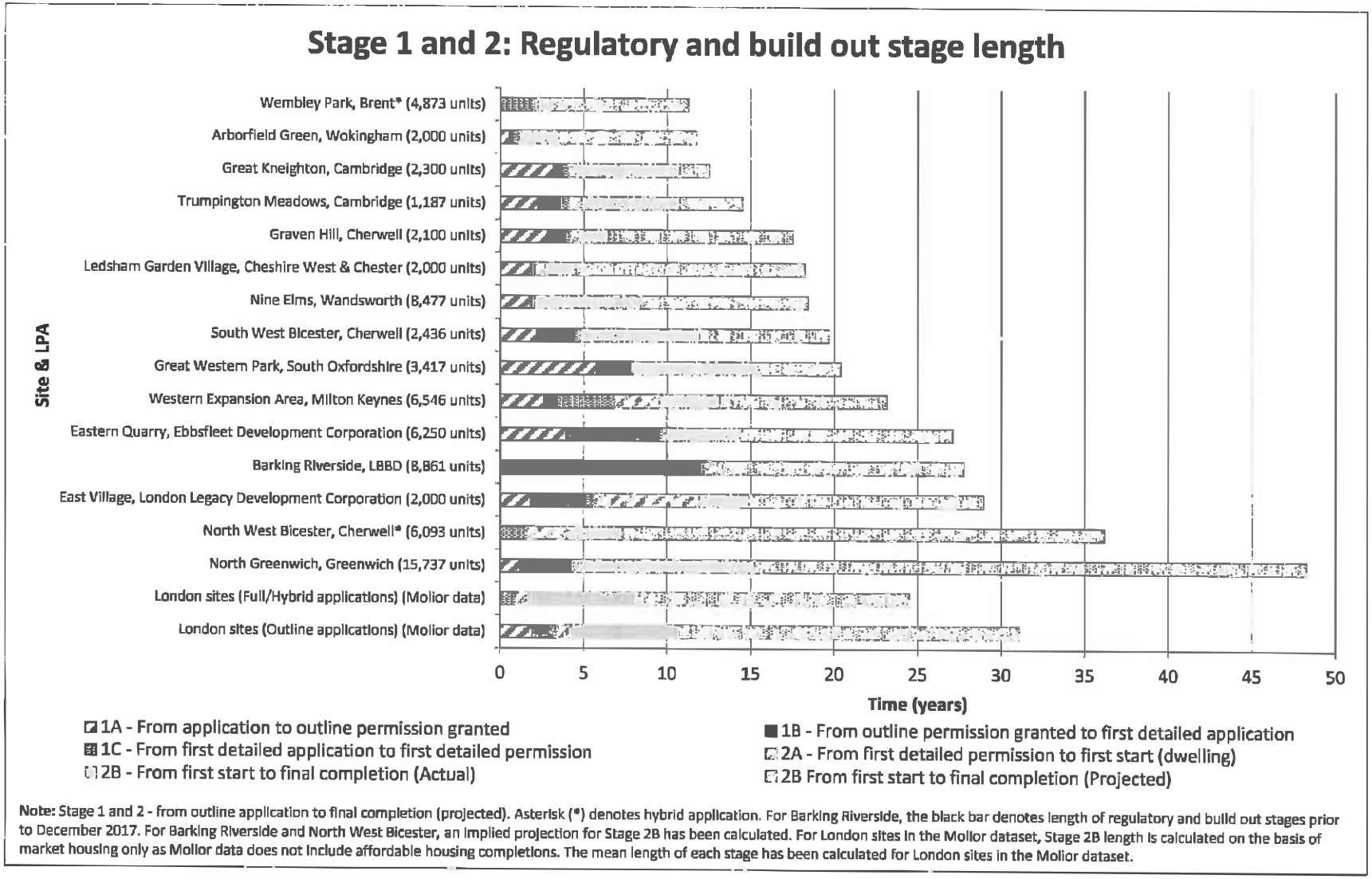
6.5 Finally, I am conscious, as I embark on the endeavour of identifying policy options which can meet all of these criteria, that we are unlikely to be able to find a single prescription which will be equally applicable in the short, medium and long-term. I shall accordingly be open to the possibility that the policies designed to achieve immediate, short-term improvement in build out rates (while avoiding all of the pitfalls) may be somewhat different in character from those designed to optimise the use of large sites that come forward in future and thereby increase the overall velocity of house building in the long-term.

Independent Review of Build Out Rates

Annexes

June 2018
Ministry of Housing, Communities and Local Government

1 Start to finish



Note: Stage 1 and 2 - from outline application to final completion (projected). Asterisk (*) denotes hybrid application. For Barking Riverside, the black bar denotes length of regulatory and build out stages prior to December 2017. For Barking Riverside and North West Bicester, an implied projection for Stage 2B has been calculated. For London sites in the Molior dataset, Stage 2B length is calculated on the basis of market housing only as Molior data does not include affordable housing completions. The mean length of each stage has been calculated for London sites in the Molior dataset.

4 Great Western Park, South Oxfordshire **18/01/2018**

Note based on site visit and briefing provided by the LPA

Background

Site details

Housing – 3,417 dwellings

Area - 1.8 sq km

Master Developer - Taylor Wimpey

Taylor Wimpey (TW) told us that Great Weston Park (GWP) is seen as 'how you can maintain output' on a site, thanks to cooperation and developer commitment.

Assumptions

Based volumes/prices on experience of big developments in Swindon/Bristol in recent years, where build out has been 200-300 per year. They expected 200-250/year at GWP; exceeded this due to demand (proximity to fast growing economies of London/Oxford).

Price reference

They use local market prices; they set prices below local market initially, with aim to get above market price over time as site is established. They are a 'price taker' and mortgage lenders play an important role in determining value.

New build premium

Normally 3-5% as they build for 'core of market' – the average home. New build stock has to sell so has to be priced competitively – second hand does not have that time pressure. Not 10-20% unless they are offering a markedly different product to the local market. Peak price on site now is £540k for a 5-bedroom property.

Options

Are triggered at granting of outline consent and post-S106 negotiation. The option sets a minimum price (per gross acre), and a negotiation takes place. In return for investment, the developer agrees to buy at 10% below market value or 15% of gross development value. They have to judge S106 costs, market potential etc. in determining price in option – arbitration takes place if this is not agreed.

There have been 16 reserved matters applications submitted relating to housing, with two currently under consideration.

Outlets

They told us they delivered 50-60 units per outlet. They also referred to 'factories'. For health and safety and capacity reasons, they have a production team structure that can deliver 60 units in multiples of 30 (up to 90 – they would recruit assistant site manager; up to 120 they would create additional team). At GWP, they have had 5 factories (3 large, 2 smaller), and 2 outlets. They told us that production, not sale, is the important factor.

Why couldn't they just have more factories and deliver more homes to meet high demand? They wanted to limit capital exposure, and balance business by reinvesting in other sites. Timeframe of investment/return is 3-5 years.

Constraints identified

Land ownership

TW's involvement at GWP started in 1982 – a 20 year pre-application phase is not unusual for sites of this size, and £3-5m can be spent. This long timeline means that quick movements (e.g. ramping up build out) are "not easy".

Originally, TW owned 90.35% of the site, David Wilson owned 9.65%. They serviced the site, and put in infrastructure with developers splitting the cost. Parcels sold to Persimmon (2012, 272 plots), Miller (2015, 163 plots), Bellway (321 plots over two tranches in 2014 and 2016). These developers were 'likeminded' in delivering place-making, community infrastructure, etc. Later on, part of the site was sold to HDD Ltd, who subsequently parcelled it up and sold part to McCarthy & Stone. If promoters own land the dynamic is different.

ROCE/business model

Sales to other builders on site reduce balance sheet exposure on the site and capital employed. There was a balance between market depth – which had been greater than anticipated – and physical ability of TW to deliver at high volumes. If 300/year had been limit of market, they would not have sold land on. GWP was 'sucking in' capital, which has now been released into the business.

The city expects return on capital in excess of 20% – releasing capital allows this to be realised. They have a 1.5-1.6 operation asset turnover; no return on strategic land; this results in a 1.2 return overall. They have an operational overdraft with nil borrowing at year end. They have a 3 year pipeline of permissioned/active sites; 7 years of strategic land. If they had unlimited land they would build up to capital constraints.

5 Arborfield Green, Wokingham **18/01/2018**

Note based on site visit and briefing provided by the LPA

Background

Wokingham Borough Core Strategy (adopted 2010) Policy CP17 establishes a requirement to provide at least 13,487 new dwellings with associated development and infrastructure in the period 2006-2026. The majority of this new residential development (10,000) will be focused in four Strategic Development Locations (SDL), all of which were masterplanned and subject to Infrastructure Delivery Plans (IDPs) initiated by the Council, of which Arborfield Garrison is one of these and will provide a development of around 3,500 dwellings. The policies establish a requirement for sustainable, well designed, mixed use development and make clear that a co-ordinated approach to the development of the SDL will be required to deliver the necessary infrastructure, facilities and services to meet the needs of the expanded community. The Council has approved two outline applications for the entire Strategic Development Location comprising two parcels to the north and south.

Northern Parcel – Arborfield Green

The northern parcel now known as Arborfield Green, is promoted by Crest Nicholson on behalf of the Defence Infrastructure Organisation (DIO) on the site of the former Arborfield Garrison. It was approved in April 2015, and provides a development of up to 2,000 new homes including affordable housing, a new district centre that will include community facilities, leisure and retail, primary and secondary schools, new roads and associated infrastructure including new public open space.

The Council have been working closely with Crest Nicholson to deliver infrastructure and housing on the northern parcel.

170 units are in construction, and 100 have been completed and are occupied. The planning permission has been granted on the basis of 35% affordable housing, with an off site provision of 15% via contribution with 20% delivered on site. Crest Nicholson is acting as development manager on behalf of the DIO as well as developers of around 1000 units, so half the site, which Crest is in the process of acquiring from the DIO. The remaining land is then parcelled up and disposed of on the open market on behalf of DIO and to date land has been sold to Redrow (179 units), Millgate (40 units) and a local SME Westbuild Homes (12 units). To date 114 units have been consented for PRS, the first scheme of this nature consented by Wokingham Borough Council, with a further 100 units of this tenure planned.

Outlets

Various channels to market to deliver up to c.300 per year:

- Affordable housing
- Apartments
- Market (large units)
- Market (smaller units) – including Help to Buy
- Private Rented Sector
- Senior Living
- Downsizer

Family housing is more popular here than apartments. Different housing styles are being built to deliver a broad range of products to market and to deliver a diverse community.

Building had started quickly on site in January 2016 following consent in April 2015, which has quickly increased due to the number of outlets and various accesses to the site (at the front and back) allowing numerous contractors to operate. As the site was under a single umbrella brand, there was an incentive to build quickly to establish the site and improve market demand for parcels of land.

Constraints identified

Market demand

Absorption (the choice of product buyers had) and scale are key – if site specific constraints such as land remediation were not an issue, they would not have built any faster.

Planning capacity

The LPA identified planning capacity as a constraint – they said that appeals on 14 sites had cost £1m and slowed down work on conditions on this site. 89 conditions were attached to the outline consent with a number of pre-commencement conditions. These required to be discharged ahead of start on site so following outline consent, a significant amount of work was still required before a start on site could be achieved.

Site specific

A number of site-specific issues were present, including demolition of existing MOD buildings and land remediation (asbestos).

MOD ownership

The site was not release by the MOD until 2014, and have been slow to vacate it – parts of the site are still in use. To get best value for the MOD, the site has to be drawn down gradually. At this stage Crest are delivering half the site, so around 1,000 units as well as disposing of other parcels on the open market. There is an ongoing dialogue with the MOD on the business plan for the site. The MOD's rate of release was not seen as a constraint. Land is disposed of to generate revenue for DIO as land owner, to offset significant upfront infrastructure spend and S106 obligations required to unlock the site.

Construction logistics

Existing residents live adjacent to the development with a number of public roads running throughout the site which add to the complexities on site. This is being addressed via ongoing public resident forums and a representatives steering group. There are numerous contractors on site due to the huge amount of infrastructure delivery as well as multiple outlets which requires close coordination and management. Coordinating infrastructure and logistics on site with so many different contractors is a complex task, so increased delivery would be particularly challenging from this point of view.

Utilities

Installation of new water/power infrastructure was identified as a constraint as it was not in the developer's control.

Infrastructure

The amount of infrastructure investment required early on is a challenge; and constrains development of the middle of the site due to the location of new service connections. The council approved a temporary film studio on the site in early 2017 which has produced a revenue stream for the DIO to offset the high infrastructure outlays.

Labour and materials were identified as a constraint which is an ongoing concern; finance was not. For example, bricks are currently on 28 week lead in times.

South West Bicester – 2,436 units
Site background Countryside Properties are the master developer – they promoted and serviced the site and are not building any homes on it. Subsequently, developers (Taylor Wimpey, Bovis, Bellway, David Wilson, Persimmon, Linden) have bought parcels, sought reserved matters (RM) approval and built these out.
Experience to date Build out has reached 200-250 pa, depending on the flow of affordable housing construction. There are four outlets on the site; they assumed three sales per outlet per month, which has proved to be about right. A design code was used and has worked very well, facilitating creation of coherent street scenes. There is a small proportion of custom build on this site, which sold very well. Over 1,000 homes are now occupied. 2 to 5 bedroom homes predominate, with 3-4 bedrooms the 'sweet spot', and a few one beds. A primary school has been built, and an application is in for a secondary school. A sport village is now open, and a community centre will be built. A hotel and pub have already been built. A road was constructed on completion of 650 units. An SME bought a farmhouse on the site, which has been refurbished alongside 11 new barn-style homes.
Pricing Prices are roughly £350-360/square foot – a 3-bedroom is £300-350k, a small 4-bedroom is £400k. 30 per cent of sales are through Help to Buy.

17 Western Expansion Area, Milton Keynes **10/05/2018**

Note based on site visit and briefing provided by the LPA

Background

Size – 317.1 hectares

Land ownership

The site is owned by Gallaghers (roughly two-thirds) and Milton Keynes Council (roughly one third). Gallagher have assembled the site and acted as promoter for the whole site, although residential applications have been made by individual house builders. The council is disposing of its portion to Gallaghers at a commercial rate.

Planning history

The Western Expansion Area (WEA) was allocated as the largest strategic expansion area for Milton Keynes in the 2005 Local Plan, incorporating an estimated 6,500 dwellings, as well as land for employment, education, retail, community and open space uses.

The site is split into two, Area 10 and Area 11, with outline applications being submitted in 2005 and 2006 respectively. Outline planning permission was granted in 2007 for 4,320 dwellings in Area 10 and 2,220 dwellings in Area 11; Milton Keynes Council also has permission for 6 dwellings. Between 2007 and 2012, as the downturn hit, work was done on infrastructure, fulfilment of planning conditions and development of design codes. First pre-commencement conditions were submitted in 2011 with the last of these conditions being approved in 2015 and, in 2014 the first starts were seen on site.

One of the conditions of the permission was for a series of design codes (to be applied to no more than 1000 units each, relating to different character areas within the site). These design codes were developed by Gallaghers, and gave developers a pallet of options, such as a choice of materials. The design code specifies that densities must increase closer to the town centre of the site.

Parcels

Gallaghers are selling plots in parcels to individual house builders – six in total so far.

At Area 11, 1140 plots have been sold to Barratt as a single disposal, with Barratt delivering infrastructure for these plots. It is anticipated that the remaining plots will be sold to Barratt too.

At Area 10, five developers have bought parcels, including Bovis (750 plots, 122 of which have been sold on to Cala Homes); and others to Abbey Homes, Bellway, and

Taylor Wimpey.

Gallagher is considering selling on future parcels to smaller builders and self-builders.

Build out

Delivery since 2015 has increased on a yearly basis with the most recent completion figures for 2017/18 showing over 500 dwellings across the whole expansion area within the year, exceeding that which was projected for the year.

Furthermore, as of the 1st April 2018, there are 297 dwellings currently under construction and 504 dwellings with reserved matters approval which are not yet started on Area 10. Similarly on Area 11, there are 104 dwellings under construction with 453 dwellings not yet started with reserved matters approval. This therefore provides hope that similar completion rates to those shown in 2017/18 could also be achieved in 2018/19 and the Council's current projections for delivery of the WEA, based on information provided by Gallagher's shows a continuation of these higher delivery rates. These projections have also been tested at recent Section 78 appeals and have not been questioned by the Inspectors.

Absorption rate

Barratt have accelerated house building in Milton Keynes generally because they are seeing growth; this applies to this site too.

A number of house builders are building a high number of two bedroom homes and flats. This is partly due to local demand, and partly due to design code requirements to build higher in some parts of the site.

A high proportion of homebuyers on the site are local buyers.

Tariff

An umbrella Section 106 agreement has been used to secure investment in infrastructure to support the wider growth of the city. This has funded strategic and site-specific infrastructure by apportioning the local (that is, Milton Keynes) contribution to infrastructure projects such as roads and schools through new development across the city. 75 per cent of the circa £400m local contribution was divided between the projected 15,000 new dwellings in the city, equating to £18,000 per new home. This is index-linked.

75 per cent of the payment is due on completion of dwellings; 10 per cent is payable on granting of implementable consents; and 15 per cent on implementation (e.g. a

start on a phase of development).

This system has provided certainty to developers, supporting delivery of new homes; and has allowed the local authority to forward fund infrastructure projects by borrowing against future Section 106 income.

It was suggested that this 'flat tax' on new homes de-incentivised delivery of smaller and hence lower value homes, such as one and two bedroom flats.

Constraints identified

Pre-commencements conditions

Specifically conditions related to archaeology as the site is adjacent to a Roman road; and ecology, as requirements for newt tracking has meant that 40km of newt fencing has been installed, as well as the construction of a new reservoir. These have taken over a year to fulfil, although much of this work was done during the downturn in 2008 and 2009.

Downturn

The 2008 downturn had triggered protracted discussions with the land owners, which was seen as delaying progress.

Appendix 8

KEY FEATURES

- Stylish, well-equipped kitchen with integrated appliances
- Handy utility
- Family/dining area opening onto the garden
- Large living room on the first floor opening onto the Juliet balcony
- Impressive master bedroom with fitted wardrobe and en suite
- Decked terrace
- Flooring included throughout
- Gated carport
- Help to Buy available!*

PLOT 184 THE AVANSIS

An eye-catching family home encompassing three luxurious floors. With four elegant bedrooms, there are two areas for loved ones to come together and share

Show Home now open!

The latest phase of new homes to come to Beaulieu. Register your interest today. Beaulieu Oaks has been designed to offer something for everyone, with a choice of 1 – 6 bedroom apartments and houses. The design of the homes takes inspiration from local architecture and exudes time-honoured character and charm. The impressive interiors are well-planned, and offer light filled living spaces designed for modern-day life in mind. From high specification kitchens complete with integrated appliances to luxurious bathrooms, we've thought of everything to create a collection of truly distinctive homes.

Now selling from the Beaulieu Oaks Marketing Suite. The 'Signature Collection' at Beaulieu Chase offers impressive 4 & 5 bedroom detached houses, all of which look over an expansive landscaped park known as 'The Chase'. Choose from two striking home designs, the four-bedroom Maxima and five-bedroom Terrazza, each providing an attractive vista over the thoughtfully designed series of gardens that make up the park.

KEY FEATURES

- Flexible living/dining area with Velux windows plus full-height glazed doors opening onto the rear garden
- Stylish, well-equipped kitchen opening onto the living/dining area, ideal for entertaining
- Generously-sized second bedroom, perfect for visiting guests
- Third bedroom could also be used as a home office/study.
- Master bedroom with fitted wardrobes and luxurious en suite shower room

OT 197
IE DARCY

An impressive three bedroom family home featuring a stylish kitchen and an open plan living/dining area opening onto the rear garden, plus a garage. A master bedroom with fitted wardrobes and luxurious en suite plus two further bedrooms occupy the first floor.

KEY FEATURES

- Stylish, well-equipped kitchen with integrated appliances.
- Open plan family/dining area
- Separate living room providing access to the rear garden.
- En suite and fitted wardrobes in the master bedroom
- Three further bedrooms
- Luxurious family bathroom
- Flooring included throughout
- Double garage

'LOT 200
'HE HAWLEY

A luxurious four bedroom family home with an open plan kitchen, family/dining area with access on to the rear garden, a separate living room which also provides

master bedroom with fitted wardrobes and luxurious en suite. Three further bedrooms and a family bathroom. This property also comes with a double garage

KEY FEATURES

- Stylish, well-equipped kitchen with integrated appliances with handy utility area.
- Separate living room leading out onto the garden
- En suite, fitted wardrobes and dressing area in the master bedroom
- Three further bedrooms
- Luxurious family bathroom
- Flooring included throughout
- Double garage

LOT 192
HE FULLWOOD

A stylish four bedroom family home featuring a well-equipped kitchen with integrated appliances with handy

family bathroom. On the second floor is an impressive master bedroom with dressing area, fitted wardrobes

KEY FEATURES

- Open plan, flexible family/dining area providing access to the rear garden
- Well-equipped kitchen, opening onto family/dining area
- Light-filled third bedroom, ideal for visiting guests
- The fourth bedroom could also be used as a study
- Expansive living/dining area, perfect for entertaining and relaxing with friends
- Impressive master bedroom with fitted wardrobe and en suite
- Expansive roof terrace area offering elevated views ideal for relaxing or al fresco dining

)T 21
E LAURENSON

An impressive four bedroom property offering well-planned accommodation over three floors. The ground floor boasts a living/dining area opening onto the

This exceptional new home is available with Help to Buy, meaning you could purchase it with just a 5% deposit. What's more, you'll receive a Government equity loan of

KEY FEATURES

- Stylish, well-equipped kitchen
- Handy utility room
- Open plan living/dining area providing access to the rear garden
- Impressive master bedroom with fitted wardrobe, dressing area and en suite
- Two further bedrooms
- Flooring included throughout
- Carport

PLOT 116
THE ORBIS

With a quirky layout, you're sure to fall in love with The Orbis. Its spacious living/dining area to the ground floor offers you a light and airy space where you can spend

while the bedrooms upstairs are all of an ideal size. A lovely rear garden is an exquisite accompaniment to the living accommodation inside

KEY FEATURES

- Parkside location
- Open plan family/dining area with double doors leading to the garden
- Stylish, well-equipped kitchen with integrated appliances
- Handy utility room
- Separate living room on the first floor with access to the terrace
- Bright master bedroom comes with fitted wardrobe and en suite/shower room
- Bedroom two benefits from its own en suite shower room
- Double Garage
- Flooring included throughout

OT 202
HE VITA

The Vita is the kind of home that is sure to fulfil the criteria of even the fussiest househunter. Set over three majestic floors, it's a four bedroom property which is just

Features include its generously-sized terrace where you will love entertaining friends and family, plus an expansive garage, cloakroom and utility room.

KEY FEATURES

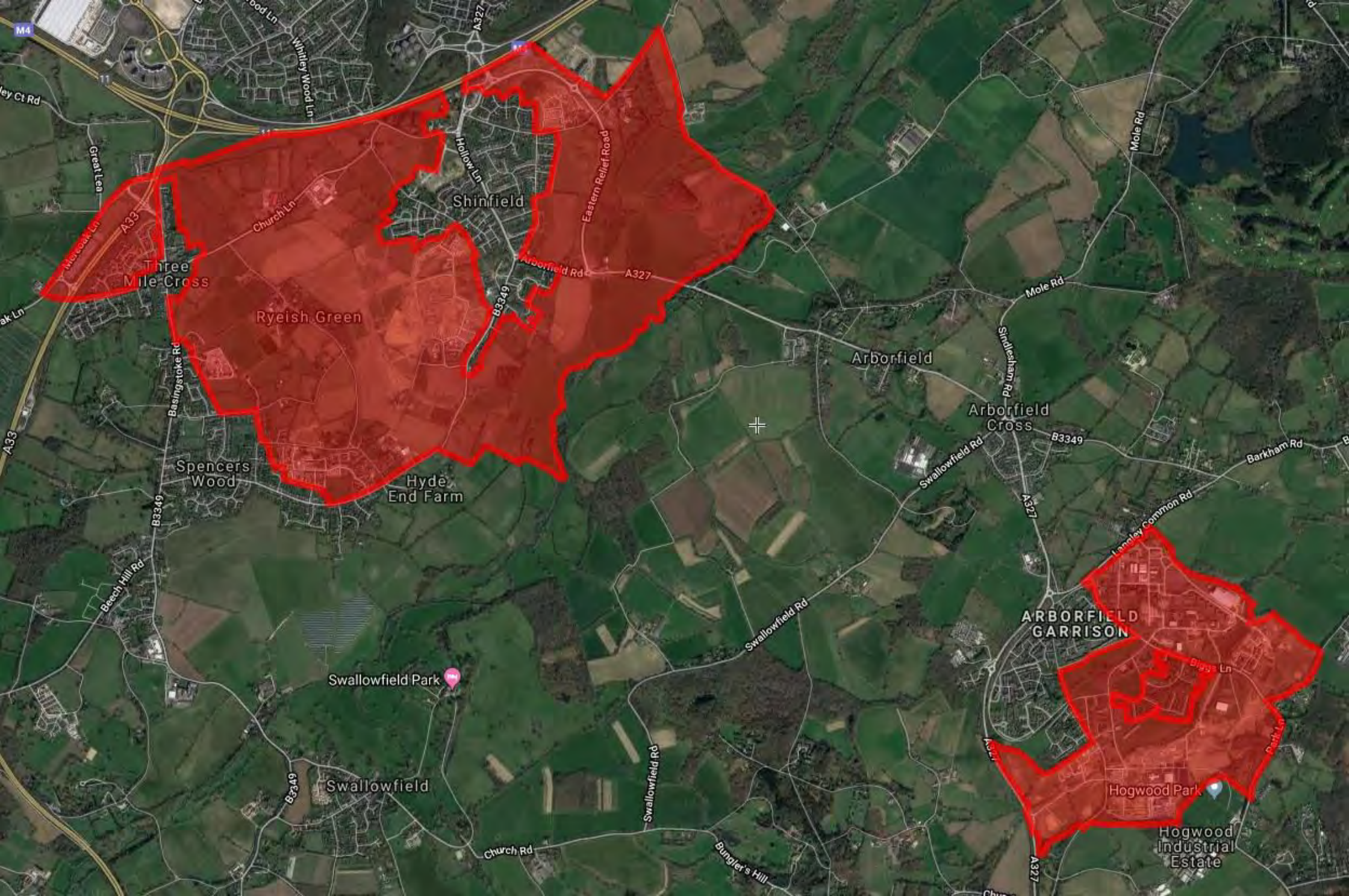
- Parkside location
- Open plan family/dining area with double doors leading to the garden.
- Well-equipped kitchen opening onto the family/dining area.
- Handy utility room
- Bedroom 4 could also be used as a Home Office
- Separate living room on the first floor with access to the terrace.
- Bedroom 2 also comes with a dressing room and access to the bathroom
- En suite to bedroom 3
- Master bedroom includes a dressing area, en suite bath/shower room and own decked terrace.
- Garage
- Flooring included throughout

PLOT 200 THE ELEVATO

Each floor of this lavish house is as lovely as the last, with natural light highlighting all of its charming

you can for your family. What's more, it's certain to be a property that will endure; a home for many generations.

Appendix 9


M4
A327
Whitley Wood Ln
Great Lea
Hollow Ln
Shinfield
Eastern Relief Road
Church Ln
A33
Three Mile Cross
Ryeish Green
Arborfield Rd
A327
B3349
Mole Rd
Arborfield
Sindlesham Rd
Arborfield Cross
B3349
Barkham Rd
Swallowfield Rd
Basingstoke Rd
Spencers Wood
Hyde End Farm
Langley Common Rd
Beech Hill Rd
ARBORFIELD GARRISON
Swallowfield Park
Swallowfield
Hogwood Park
Hogwood Industrial Estate
Church Rd
Bungler's Hill

Appendix 10

Appendix 6 – Expected Housing Land Supply to 2026

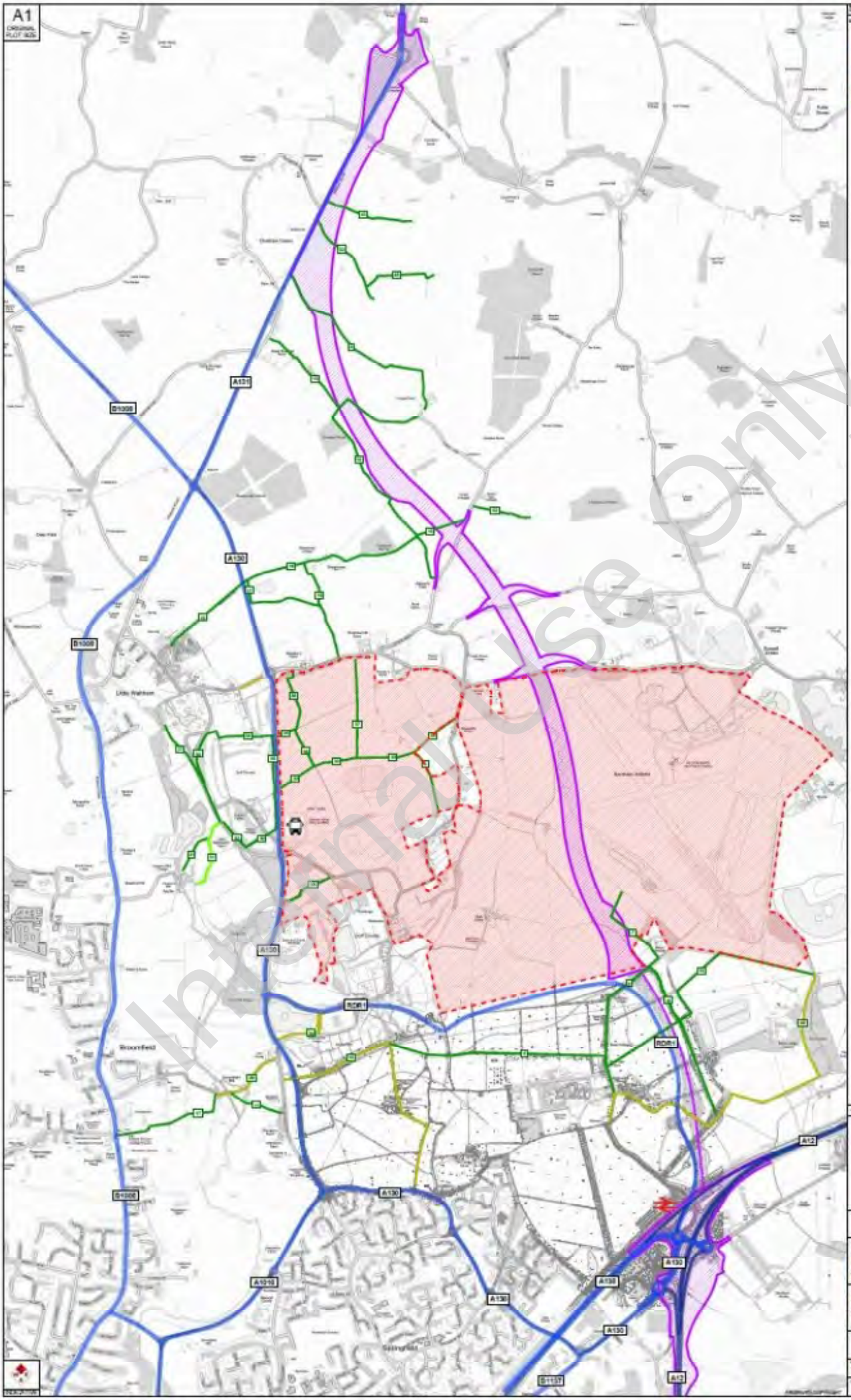
Explanations of each supply source is at the end of the table

	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2006-2026
Completions	1,018	488	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,506
Hard Commitments	0	0	286	98	170	60	20	0	0	0	0	0	0	0	0	0	0	0	0	0	634
WDLP sites	0	0	0	92	240	354	367	74	0	0	0	0	0	0	0	0	0	0	0	0	1,127
Soft Commitments	0	0	0	0	126	100	30	0	0	0	0	0	0	0	0	0	0	0	0	0	256
Identified small pdl in settlements	0	0	99	99	99	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	326
Other identified small sites	0	0	16	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30
Sites in major locations	0	0	0	0	0	55	55	55	55	55	0	0	0	0	0	55	55	55	55	55	550
Sites in modest locations	0	0	0	0	0	35	35	35	35	35	0	0	0	0	0	35	35	35	35	35	350
Sites in limited locations	0	0	0	0	0	10	10	10	10	10	0	0	0	0	0	10	10	10	10	10	100
S Wokingham SDL	0	0	0	0	0	100	200	200	200	200	200	200	200	200	200	200	200	150	50	0	2,500
N Wokingham SDL	0	0	0	0	50	50	150	200	200	200	200	200	200	50	0	0	0	0	0	0	1,500
S of M4 SDL	0	0	0	25	100	150	250	250	250	250	250	250	250	250	150	75	0	0	0	0	2,500
Arborfield Garrison SDL	0	0	0	0	0	50	150	250	250	250	250	250	250	250	250	250	250	250	250	200	3,400
Flexibility	0	0	-29	-22	-69	-96	-127	-107	-100	-100	-90	-90	-90	-75	-60	-63	-55	-50	-40	-30	-1,292
Total	1,018	488	372	307	716	897	1,140	967	900	900	810	810	810	675	540	563	495	450	360	270	13,487
Core Strategy	600	600	600	600	600	700	700	700	700	700	723	723	723	723	723	623	623	623	623	623	13,230
Difference	*418*	*-112*	*-228*	*-294*	*116*	*197*	*440*	*267*	*200*	*200*	*87*	*87*	*87*	*-48*	*-183*	*-61*	*-128*	*-173*	*-263*	*-353*	257
Cumulative	418	306	78	-215	-99	98	538	805	1,005	1,205	1,292	1,379	1,466	1,418	1,235	1,174	1,046	873	610	257	257

Notes on table:

Hard commitments are sites with a planning permission (at 1/4/08) for at least 10 dwellings (excluding sites allocated in the WDLP).

Appendix 11



Appendix 12

Turner Morum

Wokingham Borough Council - 5 Year Housing Land Supply

WBC SLD ANALYSIS

DELIVERY SITES	2017/18	2018/19	2019/20	2020/21	2021/22	5 Year Delivery (2017 - 2022)	TOTAL ANTICIPATED DELIVERY OVER PLAN PERIOD
S Wokingham SDL							
Updated Position	*61*	*64*	*44*	*9*	*44*	*222*	*2,252*
N Wokingham SDL							
Updated Position	*304*	*214*	*257*	*224*	*193*	*1,192*	*1,694*
South of M4							
Updated Position	*324*	*346*	*322*	*411*	*460*	*1,863*	*2,864*
Arborfield Garrison SDL							
Updated Position	*186*	*335*	*390*	*315*	*282*	*1,508*	*3,250*
AMENDED TOTAL DELIVERY FROM KEY SITES	***875***	***959***	***1,013***	***959***	***979***	***4,785***	**0**

Appendix 13

Appendix 2 – Completions from 1 April 2017 – 31 March 2018

App No/Site Ref	Address	Completions 01/04/17 – 31/03/18
170020	Kronos House Finchampstead Road Wokingham RG40 2NP	31
O/2011/0699 & RM/2013/1164	North Wokingham - East Kentwood Farm	64
F/2014/2105	Viscount Way, Woodley RG5 4BJ	29
O/2013/1221 + 161301	Land West Of Beech Hill Road Spencers Wood RG7 1FG	1
DEM/2013/1656 + F/2014/1612	Eustace Crescent (now Phoenix Ave), Wokingham RG40 1PS	8
DEM/2014/0588 + F/2014/1611	Former Fosters Home for the Elderly, Fosters Lane, Woodley RG5 4HH	34
O/2006/8687 + 152359	Hatch Farm Dairies, Winnersh	124
F/2014/1561	Junction of Hatch Ride/Old Wokingham Road, Crowthorne (Pinewood) RG40 3DU	46
O/2012/1863 + 161953	Courtyard Offices, Sandford Farm, Perimeter Rd, Woodley	20
F/2011/1629 + 152651	Sandford Farm, Woodley RG5 4TE	120
F/2014/0875	UoR Bulmershe Campus, Woodlands Ave, (phase 2) RG5 4BJ	131
161445	Stratfield & Apsley Houses, Riseley Business Park Basingstoke Road Riseley RG7 1QF	11
161747	Land At, Arborfield Garrison Biggs Lane Arborfield Parcel A-G	57
170686	Land At, Arborfield Garrison Biggs Lane Arborfield Parcel H, I and J	4
150162	Land At, Arborfield Garrison Biggs Lane Arborfield Parcel O1	53
O/2013/0565 & RM/2015/1019	S of M4 - East of Basingstoke Rd, Spencers Wood	47
162829	S of M4 - Land North of Church Lane, Church Lane, Three Mile Cross	4
161189	S of M4 - Land to West of Shinfield (Phase 1)	169
O/2013/0101 + RM/2014/2561	S of M4 - North of Cutbush Lane, Shinfield	59
O/2013/0346 & F/2013/0347	S of M4 - South of Croft Road	140
161839	North Wokingham - Bell Farm, Bell Foundry Lane Wokingham Berkshire RG40 5Q	18
162212	North Wokingham - East Kentwood Farm (Phase 1D)	4
150093	North Wokingham - Matthewsgreen Farm, Phase 1	68
160765	North Wokingham - Matthewsgreen Farm, Phase 2a	59
162140	North Wokingham - Matthewsgreen Farm, Phase 2b	5
RM/2014/0265 & 152378	South Wokingham - Montague Park (Phase 5)	58
153263	South Wokingham - Montague Park (Phase 7)	60
F/2015/0258	411 Wokingham Road Earley Reading RG6 7EL	1

533

App No/Site Ref	Address	Completions 01/04/17 – 31/03/18
F/2014/1142	64 Notton Way Lower Earley Reading RG6 4AJ	1
172749	148 Nine Mile Ride Finchampstead RG40 4JA	-1
CLP/2013/1596	New Mill House, New Mill Rd, Eversley RG27 0RB	-1
F/2012/2469	Springdale The Ridges Finchampstead Wokingham RG40 3SU	1
162918	The Cabin Rear Of 85 Kiln Ride Finchampstead RG40 3PJ	-1
F/2015/0050	Flat 6 Millgate Court Ruscombe Lane Ruscombe Reading RG10 9JN	-1
F/2013/2567	12 Grovelands Road Spencers Wood Wokingham RG7 1DP	-1
161851	2 Hollow Lane Shinfield RG2 9DX	5
F/2014/2585	20 Arborfield Road Shinfield Reading RG2 9DY	-1
F/2014/1862	5 Mereoak Orchard Three Mile Cross Wokingham RG7 1NY	1
F/2014/0805	8 Etudielttawjus Sussex Lane Spencers Wood Reading RG7 1BY	-1
F/2013/1913	81 Clares Green Road Spencers Wood Wokingham RG7 1DU	2
F/2012/2123	Holy Trinity Church, Church Lane Grazeley Wokingham RG7 1LD	1
162819	Land Adjacent To 2 Hollow Lane Shinfield RG2 9DX	2
150305	Land Adjacent to Sheraton House Basingstoke Road Three Mile Cross Reading RG7 1BA	2
F/2014/1307	Long Garden Shinfield Road Shinfield Reading RG2 9BE	1
161508	Littlefields Croft Road Shinfield RG2 9EX	4
152218	Foxhill, 21 West Drive, Sonning RG4 6GE	-1
163202	Fairview Forest Road Binfield Wokingham RG40 5SA	1
151529	Oakley Farm Pound Lane Hurst RG10 0RS	1
150320	The Old Bakery Ward's Cross Hurst RG10 0DA	1
162016	Whistley Bridge House Whistley Mill Lane Hurst RG10 0RA	-1
160290	Brandywell Spring Lane Swallowfield RG7 1SU	-1
150298	Fieldfayre, The Street, Swallowfield, RG7 1QX	-2
F/2014/0940	Willow Tree Works, Swallowfield St, Swallwofield RG7 1QX	32
F/2014/1645	Lyncot And Gertdene Bull Lane Riseley Reading RG7 1SE	2
161094	St John's Church, Church Road Farley Hill RG7 1TS	1
150280	42 Station Road Twyford RG10 9NT	2
160001	99 Colleton Drive Twyford Wokingham RG10 0AX	1
162284	Bridge Farm Bridge Farm Road Twyford TG10 9RU	-1
F/2015/0375	78 Victoria Road Wargrave Wokingham RG10 8AE	-1
153189	Arcadia Loddon Drive Wargrave RG10 8HH	-1
F/2008/2504	Copper Beech House Hennerton Wargrave Reading RG10 8PD	1
F/2013/1750	Crouch End Crazies Hill Wargrave Reading RG10 8LT	-1
MB/2015/0247	Highfield Farm Barn Highfield Lane Crazies Hill Reading RG108PU	1
162906	Loddon Reach Loddon Drive Wargrave RG10 8HL	-1

App No/Site Ref	Address	Completions 01/04/17 – 31/03/18
F/2014/1030	Meadswood Loddon Drive Wargrave Reading RG10 8HD	1
F/2014/2763	Summer House, Watershed Loddon Drive Wargrave Wokingham RG10 8HD	1
162785	2 Arbor Lane Winnersh RG41 5JA	-1
161664	42 Danywern Drive Winnersh Wokingham RG41 5PA	-1
163431	46 Robinhood Lane Winnersh RG41 5NQ	-1
151306	569 Reading Road Winnersh Wokingham Berkshire RG415HJ	2
F/2014/2581	Land To The Rear Of 5 - 7 Mayfields Sindlesham Wokingham RG41 5BY	1
173330 + 173280	546 Reading Road Winnersh RG41 5HA	-1
163052	10 Hutsons Close Wokingham RG40 1QB	1
F/2014/2704	184 and rear of 182 Finchampstead Road Wokingham RG40 3EY	3
153308	186 Finchampstead Road Wokingham RG40 3EY	-1
160894	51 Peach Street Wokingham Berkshire RG40 1XP	4
163444	52 Reading Road Wokingham RG41 1EH	8
160986	7 Peach Street Wokingham RG40 1XJ	2
F/2013/0700	Chadmore Close & Chadmore Dean, Gipsy Lane, Wokingham RG40 2HP	2
161797	Garage block adj to 13 Barrett Crescent Wokingham RG40 1UR	2
153418	Garth House 53 Denmark Street Wokingham RG40 2AY	6
F/2015/0741	14 Purcell Road Crowthorne RG45 6QN	2
160330	69 Ellis Road Crowthorne RG45 6PP	-1
160321	Land Adjacent to 49 New Wokingham Road Crowthorne RG45 6JG	1
150040	Land adjacent to Long Patch Heathlands Road Wokingham, Wokingham RG40 3AH	2
O/2015/0027 + 152405	15 Ladbroke Close, RG5 4DX	9
170302	29 Duncan Road Woodley Wokingham RG5 4HR	2
160375	77 Beechwood Avenue Woodley Wokingham RG5 3DF	-1
170714	301a -303 Headley Road East, And 12 - 14 Headley Close Woodley RG5 4SE	-4
Total completions for 2017/18		1,509

Appendix 3– Strategic Development Locations

Arborfield Strategic Development Location

Site Category	App No/Site Ref	App type	Address	Parish	Number of Dwellings Permitted (net)	Current Remaining Capacity (gross)	Under construction at 31/03/2018	Total completions at 31/03/2018	Available	Site Comments	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	5 year total	Post March 2023
Strategic Development Locations	O/2014/2179	Outline	Arborfield - Hogwood Farm	Arborfield	**1322**	**1322**	**0**	**0**	Yes	Outline planning permission was granted on 09/01/2017. There is 1 developer operating on site - Legal and General Homes. The council has received a discharge of conditions application for the outline (181469) and a reserved matter application (181422) for 178 dwellings. The council did not receive a response to its request for forecasted completions, however a response was provided in September 2017 in which the developer expects 80 completions in 2019/20, 90 in 2020/21 and 90 in 2021/22. The councils believes this to be achievable due to phase 1 currently being under consideration and the continued engagement with the developer regarding future phases. The council and developer are having ongoing discussions regarding the Nine Mile Ride Extension. Currently the intended start date for the Nine Mile Ride Extension (NMRE) (south) is late 2019 with completion expected in 2021. Once this section of the NMRE has been completed it will unlock the whole site for development. The NMRE (north) is complete and opened for public use in 2017. The site is going to deliver a wide range of products such as modular construction, retirement homes, affordable housing, flats and private housing.	**0**	**0**	**0**	**0**	**35**	**35**	**70**	**1252**
Strategic Development Locations	181422 (O/2014/2179)	RM	Arborfield - Hogwood Farm Sheerlands Road Arborfield RG40 4QY - Phase 1	Arborfield	**178**	**178**	**0**	**0**	No	Planning permission for a reserved matters application was received on 04/06/2018. Subject to approval, the site will deliver 170 dwellings within the 5 year period. There is 1 developer operating on site - Legal and General Homes. The council did not receive a response to its request for forecasted completions, however a response was provided in September 2017 relating to the overall outline of the site in which the developer expects 80 completions in 2019/20, 90 in 2020/21 and 90 in 2021/22. The council has used the developers' projections as a base for the reserved matters application and can expect all dwellings to be completed within the 5 year period. The development will consist of 116 market dwellings and 62 affordable dwellings, the development will see a range of products of offer, including apartments, coach houses and family houses. The approval of the planning application together with direct engagement with the applicant via the Councils delivery team, demonstrates that the site is achievable.	**0**	**0**	**13**	**55**	**55**	**55**	**178**	**0**

Appendix 14

Chelmsford Residential Market Commentary

Prepared for
North East Chelmsford Garden Village Consortium

Prepared by
J Marner BSc (Hons) MRICS
Director

November 2018

Chelmsford Residential Market Commentary

Contents

1. Executive Summary

Introduction

Strutt & Parker is one of the largest independent property consultants in the UK and in October 2017 merged with BNP Paribas Real Estate to offer a broad range of services throughout the real estate lifecycle, across every type of asset in commercial, residential and rural.

Strutt & Parker currently has a network of 67 offices across the country. Established in 1936, our Chelmsford office houses a multi-disciplinary team of approximately 50 professionals assisting clients on a wide range of property matters. The Chelmsford development team is one of the largest in Essex, drawing upon professionals with years of experience. Our team specialises in providing consultancy advice for landowners, developers and third parties, as well as the disposal of residential development sites throughout Essex and Hertfordshire.

This report has been prepared by James Marner BSc (Hons) a Director in the National Development Planning team in Strutt & Parker's Chelmsford Office. James has in excess of 15 years' experience in the eastern counties development market and has worked with Public Sector clients, Charities, Private Landowners and Companies.

This report has been prepared on behalf of the North East Chelmsford Garden Village Consortium to provide information on the following:

a) Commentary on local and national property market
b) Evidence of current demand for new build properties within and surrounding Chelmsford
c) Evidence of current demand for second hand properties throughout Chelmsford
d) Evidence of residential land sales
e) Overview on residential demand for development

Description

Chelmsford is both a City and a local authority located in central Essex. The City is the county capital and has a population of approximately 175,000. Chelmsford is easily accessible by both private and public transport infrastructure and the local train station provides services to London Liverpool Street in under 35 minutes. Chelmsford achieved city status in 2012 and has since seen extensive development of not only residential properties, but also retail and leisure. The city centre has recently experienced the redevelopment of Bond Street and Riverside Ice and Leisure Centre in addition to multiple large apartment led developments. In addition to this, there have been high levels of development on the peripheral areas of the City in particular with the expansion of northeast Chelmsford at Beaulieu and Channels, as well as in Broomfield and at Runwell Hospital.

National Market Commentary

Whilst performance measures of the national economic health remain broadly positive, there is some uncertainty surrounding Brexit which has slowed growth in residential property values in very recent times. To respond to Britain's housing shortage the government have brought forward planning and fiscal policies in order to encourage the development of new housing, as well as improve affordability.

Local Market Commentary

Chelmsford offers a variety of housing styles and areas, ranging from relatively high rise city centre apartment blocks to historic properties in the peripheral villages. Following investment in the city centre and improved

transport infrastructure there has been an influx of purchasers that commute to London for work. This is due to the ease and short journey times to the City, as well as the comparative affordability of property. This has fuelled house price growth in the area and in the last five years, local house prices have increased by 47.65%, greater than the UK average by 15%.

New Homes – Apartments

Chelmsford has experienced a high level of apartment led developments within the city centre, the largest two schemes being City Park West and Marconi Evolution. Demand has been high for these properties and sales rates of approximately 3 units per month have been maintained across most large developments. Demand has remained strong across various tenures, from open market units, to affordable rental and shared ownership.

New Homes – Housing

In the peripheral areas of the city there have been several major housing developments to respond both to the City Council's plans for growth and the strength of the market, in particular in the northeast of Chelmsford at Beaulieu and Channels. Despite the volume of housing being constructed in the area, demand has remained high across outlets and sales rates of approximately five per month have been maintained at the major developments. Two and three bedroom houses that fall below the Help to Buy threshold and benefit from amendments in Stamp Duty costs have been in particularly high demand, mainly from young families and professionals.

Second Hand Sales

Second hand house prices in Chelmsford have remained relatively stagnant over the past year, in line with the trend that is being experienced across the UK. According to the Land Registry, in the year from October 2017 average house prices in Chelmsford have increased by 1.5% and sales rates of second hand homes have slowed to 850 units in the last 6 months, compared to 1,217 in the six months prior. This is likely due to uncertainty surrounding Brexit and some concerns on confidence in the housing market, although local agents expect this to return to previous levels in the new year.

Land Sales

Chelmsford has several further housing developments planned in the short term, including the Former Royal Mail Sorting Office nearby the Marconi development in the city centre, as well as Plantation Road in Boreham and Days Garage in Broomfield. Demand for these sites was high with between nine and fifteen competitive offers received for the opportunities. Demand for land has been greatest in prime locations such as Chelmsford, Brentwood and Ongar, although has also remained relatively strong in secondary locations that are further from London.

Summary

Chelmsford has seen a considerable uplift in levels of development and investment in infrastructure in recent years. When current plans are complete, large residential schemes including Marconi Evolution, City Park West, Beaulieu and Channels will provide approximately 5,000 units both within and on the periphery of the City. Demand has remained high and sales rates at larger developments have ranged from 3 – 7 units per month, despite uncertainty surrounding Brexit negotiations. Feedback from local agents suggests that some second hand properties in the city have been overvalued and therefore sales completions have been slower, although this is expected to return to previous levels following Brexit in March 2019.

2. Background

The City of Chelmsford is the county capital of Essex and has a population of approximately 175,000. It is the principal settlement of the City of Chelmsford Government District. Chelmsford is located within the London commuter belt, approximately 32 miles (51 km) north east of London, and 22 miles (35 km) south from Colchester. The City has extensive transport links, including the A12 dual carriageway, Chelmsford Bus Station and Chelmsford Train Station which provides access west through Brentwood to London Liverpool Street in 35 minutes and northeast through Ipswich to Norwich.

Chelmsford's allocation as a city in 2012 has brought significant investment in the city centre. Bond Street, which was previously a brownfield site, has been redeveloped into an extension of the High Street, featuring shops such as John Lewis, Jack Wills and Goldsmiths, as well as a large cinema and multiple riverside restaurants. This has created a link from the High Street to Riverside Ice and Leisure Centre, which is currently being reconstructed to a higher specification.

Chelmsford benefits from further amenities including a well serviced High Street, multiple shopping centres, Chelmsford Cathedral and Hylands Park. The City is also home to both Anglia Ruskin University and Writtle University College, as well as multiple schools including King Edwards VI Grammar School and Chelmsford County High School for Girls.

3. National Market Commentary

According to the Nationwide House Price Index, UK property prices grew 2.1% in the year Q3 2018. Year on year growth over the same period shows that on a regional basis the best performer has been Yorkshire and Humberside (5.9%) followed by the East Midlands (4.8%) and N. Ireland (4.3%). Despite historically having the strongest growth rates in the UK, London now continues to show weak growth. In Q3 2018, the North had the lowest growth (-1.7%) with London registering the second lowest growth (-0.6%).

Nationally, house prices are now 16.7% above their pre-crisis peak and London prices are 53.9% their pre-crisis peak. Four regions remain below their pre-crisis peaks: N Ireland (-39.2%), Scotland (-2.5%), Wales (-2.5%) and the North (-6.7%).

Substantial economic and political uncertainty remains both nationally and globally and it does not look likely that this will change any time soon. The outcome of Brexit negotiations remains extremely uncertain, with the potential for this uncertainty to continue longer than hoped. The route Britain takes will have huge implications for the UK and the rest of Europe. The fundamentals of the UK economy remain broadly positive, but sentiment remains cautious with constant negative media resulting in indecision within many markets.

In order to solve the current housing shortage, the government is aiming to build 300,000 homes per year nationwide. The government have announced numerous changes to national policies that aim to increase housing delivery. The National Planning Policy Framework (NPPF) was updated in a number of areas including the methodology of the Objectively Assessed Need for housing which will pressure local authorities to permit the development of required housing.

Philip Hammond announced several policy changes in his Autumn Budget that will have an effect on the supply and demand of housing nationally. One policy change is the encouraging of vertical extension of some property types within town and city centres in order to increase housing densities. This links in with Chelmsford's policy of developing tall buildings in parts of the city centre.

In addition to the changes in housing delivery, the government has implemented policies to make housing more affordable. Successive changes in Stamp Duty announced in Autumn budgets has led to the abolition of the tax for Shared Ownership properties, as well as any property sold for under £300,000.

The Help to Buy policy was scheduled to end in 2021, but following an announcement in the Autumn Budget this has been extended by two years to 2023. As demonstrated by Bellway Homes' recent announcement that 40% of their completions in the last year were backed by Help to Buy, this should improve the affordability of homes for many first time buyers. Despite the benefits, one limitation of Help to Buy is that housing is now being constructed with the policy in mind. This has led to Bellway Homes only selling 4% of their properties for above the Help to Buy threshold of £600,000 in 2018.

4. Local Market Commentary

Following the investment in the city in recent years Chelmsford has become a more desirable destination. In the past 12 years, improvements in the local transport infrastructure surrounding Chelmsford has made access into the city centre, and in turn London, faster and more reliable. A new bus terminal in close proximity to the train station opened in 2007, replacing an ageing station closer to the retail area of the city. In addition to this, two Park and Ride services provide access to throughout the city from the east and north. This local transport infrastructure, combined with a short journey time of only 35 minutes to London Liverpool Street, has made commuting from Chelmsford to London a more viable option.

Chelmsford benefits from a variety of housing styles and locations, ranging from new build city centre apartment schemes to historic properties in peripheral villages. Traditionally, the prime markets have been these villages on the outskirts of the towns such as Writtle, Danbury and Stock – all of which offer the opportunity to purchase larger properties with surrounding land, whilst also being in close proximity to Chelmsford as well as the A12. In recent years developments such as Beaulieu, Channels and St Luke's have created prime markets in their own right as they command values significantly above the greater area of Chelmsford. For example, in 2018 sales at Beaulieu have averaged values of approximately £430 per square foot, compared to £380 in Chelmsford as a whole.

Chelmsford provides purchasers an opportunity to live closer to the countryside and to upsize their property when compared to what would be affordable in London. For example, according to Savills, one million pounds in London could only buy approximately 1,389 square feet compared to 2,490 in Chelmsford – a 56% increase. As property in London becomes increasingly unaffordable, demand has extending to commuter towns including Chelmsford which in turn has fuelled price growth. This has led to an increase of the commuter population with approximately one in four buyers moving to Chelmsford working in either finance or insurance. This has brought with it a wealthier demographic that are able to afford more valuable properties, as demonstrated by the fact that of all of the properties that have sold for £1.25m or more, approximately 60% of the purchasers work in London.

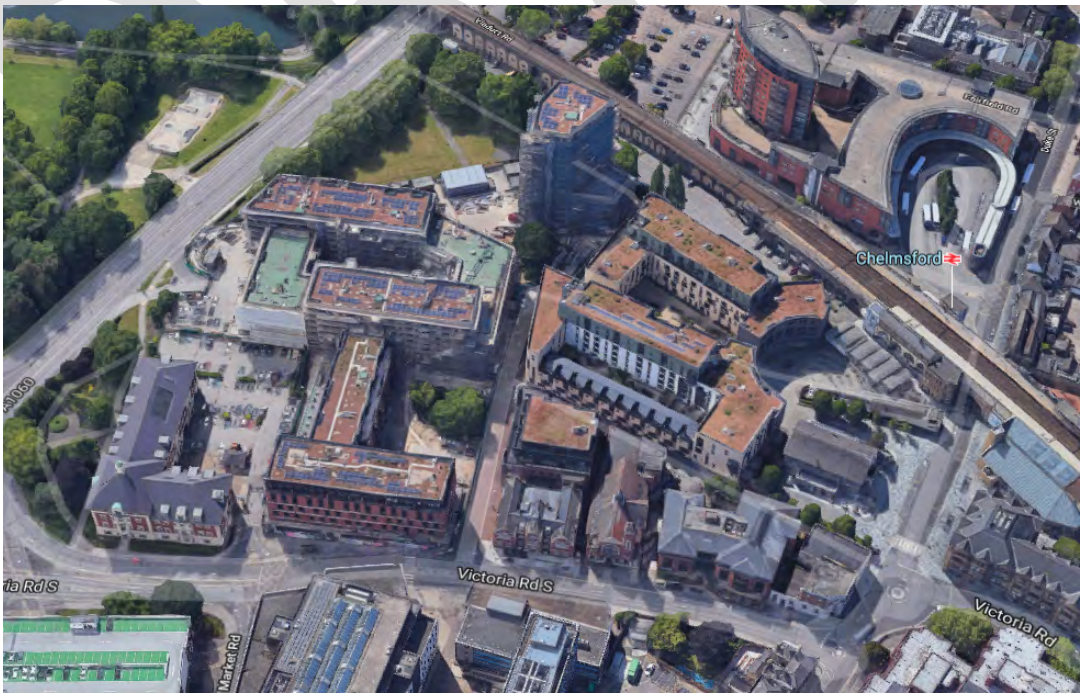
5. New Homes - Apartments

Chelmsford has recently experienced a high level of residential development, both within the city centre and the peripheral parishes including Great Baddow and Springfield. Within the city centre there have been several apartment led developments, the largest two being Marconi Evolution and City Park West.

Marconi Evolution

Marconi Evolution, developed by Bellway Homes, is a mixed-use scheme comprising of 437 residential units as well as office and commercial space. It is located on a site of circa 9.87 (4 ha), approximately 250m to the north east of Chelmsford Railway Station. Trieste House, the final phase of the development, features 56 open market units that have been on the market since February 2018. Sales have been slightly limited by a lack of onsite parking, although Bellway have maintained a sales rate of approximately 3 units per month, in line with their internal targets.

City Park West



City Park West features a mix of shared ownership and private rental apartments, and development is nearing completion. Phase 2 of this scheme features approximately 385 apartments with a mix of shared ownership and private rental units and is due for completion in early 2019. Shared ownership units have been sold off plan, with approximately 15 units remaining, despite current expectations that the development won't be completed until February 2019.

Further Developments

In addition to these large developments, there have been a number of medium and smaller scale developments. Central House is a similar conversion scheme of 36 apartments with a mix of 31 one-bedroom, 3 two-bedroom and 2 studio apartments. Marketing has only recently commenced and demand appears to be high for most units. The sales team are expecting that the two studio apartments will not achieve the same levels of demand but have reduced the asking prices accordingly.

Victoria Central, a small scheme of 11 two-bedroom apartments, is located approximately 200m to the north east of Chelmsford Train Station. These apartments are currently being marketed for £350,000 to £360,000, or approximately £440 - £450 per square foot. Following discussions with the selling agents we have found that these units are currently being marketed for more than their market value and therefore they have struggled to shift the properties. The asking price is currently significantly above the market value and a figure of approximately £325k would be more suitable.

Summary

Chelmsford has seen a very high level of apartment led developments over the last few years, primarily with the two large schemes of Marconi Evolution and City Park West. Sales rates have maintained a relatively steady rate, assuming that the units are marketed at an affordable level. As is the case with many new build developments, discounts such as the payment of Stamp Duty have been offered in order to encourage purchasers. Whilst there are two large developments, they do not compete directly with one another as Marconi Evolution features primarily open market sales, and City Park West is a mix of shared ownership and open market rental. The vast majority of developments include only one and two bedroom units, other than slight exceptions such as two studio apartments at Chelmsford Central limited three-bedroom units in various small scale developments.

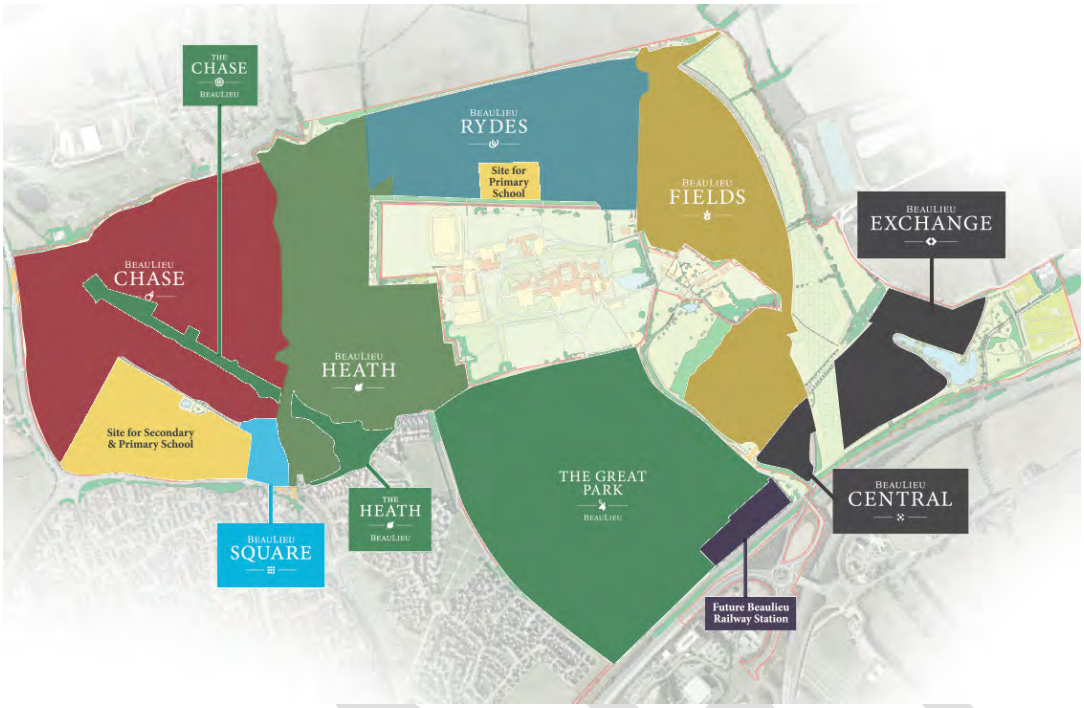
In addition to the schemes above, further developments are currently being planned at sites including the former Dukes Nightclub, the former Royal Mail Sorting Office and at Chelmer Waterside which will bring over 700 units to the city in the coming years.

6. New Homes - Housing

In addition to these town centre apartment schemes there have been further housing led developments such as Beaulieu in Springfield and both Parva Green and Hanbury Place located in in Broomfield.

Beaulieu

Following the success of Beaulieu Park in 2001, northeast Chelmsford is experiencing a vast level of development, including 3,600 residential properties, a train station, two schools and multiple commercial units. The current development at Beaulieu is split into four distinct areas, Beaulieu Chase, Beaulieu Heath, Beaulieu Keep and Beaulieu Oaks



Beaulieu Heath, the initial phase, features a mix of two to five bedroom houses of a traditional design with weatherboarding used for the majority of house types. Beaulieu Keep and Chase are both contemporary in their design, with the latter featuring many flat rooves. Beaulieu Oaks, the most recent phase, includes properties with a traditional exterior and a contemporary, open planned interiors. This area of the development includes a mix of two to five bedroom houses, as well as one and two-bedroom apartments. Beaulieu Keep features a range of three to five bedroom houses, whilst Beaulieu Chase is exclusively larger, four and five bedroom houses.

Following discussions with the sales agents at the respective developments at Beaulieu we have found that there is a high level of demand for residential units in this area. Countryside Properties have maintained a sales rate of 5-7 per month, in line with their internal targets, whilst offering minimal incentives. Typical incentives are approximately 2% of the asking price and are often in the form of stamp duty payments. Beaulieu Heath recently launched a further 200 units and have been greatly exceeding their target sales rate, achieving 11 completions in October 2018.

Whilst the demand has been high in general, larger units have been selling at a slower rate than typical two to three bedroom properties. Demand has stemmed mainly from younger families that have the benefit of Help to Buy, rather than older families that can afford properties over the £600,000 threshold. Whilst there have been some limitations in regards to onsite parking, the public transport provision in the area is very good. Purchasers at Beaulieu are further incentivised by the offer of a free annual First Bus Pass, which provides access from the development throughout Chelmsford and the rest of Essex.

Channels

Channels is located immediately to the north of Beaulieu and currently has three developers are on site at various stages of their respective developments.

Bellway Homes are in the final stages of their sales process and currently have some four and five bedroom units remaining. This is in line with the trend of larger units, in particular five-bedroom properties, having been the most difficult to shift, not helped by the fact that the asking prices often exceed the Help to Buy threshold. This was predicted to be the case when we discussed the sales of these units with the onsite marketing team at the beginning of the year. Whilst the three-bedroom units have achieved the highest sales rates, Bellway did see reduced rates with some units that are located in the vicinity of the affordable housing clusters. From discussions with their sales team we have found that Bellway have been offering to pay Stamp Duty on all properties as an incentive to prospective developers, this appears to be the case with many of their developments.

Currently there are two further developments at Channels built by Croudace Homes and Home Group. Croudace Homes' scheme of 74 units is now complete and all units have been sold. It is our understanding that many of the purchasers preferred the traditional design when compared with Bellway's, and that the two and three bedroom units recorded the most demand. The most expensive unit was the show home which was situated on a particularly large plot and sold in excess of £830,000.

Home Group, a large housing association, have been appointed to develop three phases of Channels and are currently in the preparatory stages of marketing two sites. One of which is a collection of three-bedroom shared ownership properties and the second is being marketed by Persona, their open market sales division, and includes a mix of two to five-bedroom properties. These units are contemporary in design whilst using traditional brick exteriors with wooden weatherboarding. Completion of these sites is expected in 2021.

Other Sites

Parva Green is a new build development of 37 units in Broomfield to the north of Chelmsford City centre. Currently high levels of discounts are being offered to purchasers and Higgins Homes are willing to strike a deal with potential purchasers. One example of this is that a three-bedroom property that was being marketed for £415,000 was recently sold for £385,000, a discount of over 7%.

In Writtle, one of the prime markets on the periphery of the city, Stonebond Properties have developed a small eleven-unit scheme of high quality units. This development comprises two 2-bedroom, two 3-bedroom and seven 4-bedroom houses on the northern boundary of the village. Marketing began in early October and three units were sold in the first month for approximately £5,000 - £10,000 above the asking prices. As expected from other schemes it has been the smaller units that have been the most popular with both 2-bedroom and one of the 3-bedroom units having sold thus far. Demand has been extremely high for this scheme as it is quite a unique site, a high end product in one of the most expensive areas of Chelmsford where there has been very little residential development in recent years.

Further from the city itself, approximately 10 miles to the south, Countryside Properties are marketing St Luke's Park. This development is currently in its first phase which features 153 units developed on the site of the former Runwell Hospital. This development is being marketed as an opportunity for families and features a mix of three to five bed properties which are larger than those at most comparable new build schemes. Following the sales achieved in this first phase, Countryside are now planning a further four phases as well as proposing a new school within the development.

Summary

In summary, there appears to be a high level of demand for residential properties both within the city centre and in peripheral locations. This is demonstrated by the fact that at many developments the majority of sales are being achieved off-plan prior to the completion of the development. On the whole, sales rates range from three to seven units per month and incentives of approximately 2% of the asking price are being offered on several developments in order to encourage purchasers.

Further development is planned throughout the city, not only residential but also retail, leisure, education and infrastructure. Whilst there have been significant delays with the second train station at Beaulieu, once completed this should encourage further expansion to the northeast of the city.

7. Second Hand Homes

Chelmsford benefits from a range of property styles both within the city and in the peripheral villages. Central Chelmsford features a mix mainly of apartments and terraced housing and is naturally the most densely populated area of the city. Many of the local parishes such as Moulsham feature Victorian terraces, and peripheral areas of the town such as Beaulieu benefit from many family sized semi-detached units. Beyond the city centre there are higher numbers of detached properties in the peripheral villages such as Writtle, Danbury and Terling.

According to the Land Registry, Chelmsford house prices have increased by 47.65% in the past five years, greater than the average for England by 15%. Whilst the city has experienced strong long term growth values in Chelmsford have remained relatively stagnant over the last year slightly below the UK trend. According to Land Registry, average house prices in Chelmsford increased by 1.5% from £333,750 to £338,743 in the period between August 2017 and August 2018, compared to the UK average of 3.2%. In Chelmsford, detached, semi-detached and terraced housing has all increased in value by 1.9% – 2.5% whilst apartments and maisonettes decreased by 0.3%. In addition to this, sales rates of second hand homes have fallen within the city, with only 850 sales in the last 6 months to November 2018, compared to 1,217 in the previous 6 months.

As is the case at some new build developments, the expected market value of houses is not always being met. Having discussed this with local agents we have found that a discount of approximately 5% is required in order to dispose of a property within a suitable time period, but in turn many properties are available for below their

asking price. This could be due to a number of factors, seasonally over Christmas it is normal to see values and sales rates drop for second hand properties, combined with Brexit only three months away there is a level of uncertainty. We understand that local agents expect this to be a short term slowdown and for the market to pick up again in the new year.

8. Land Sales

In addition to the property sales throughout the city there have been a number of land sales with and without planning permission.

Former Royal Mail Sorting Office, Victoria Road, Chelmsford

In central Chelmsford, approximately 0.3 miles to the east of the Train Station, we marketed the Former Royal Mail Sorting Office. We received 15 offers for this site from a variety of large developers. On this occasion Bellway Homes purchased the site for £9,800,000 on an unconditional basis in order to complement their existing Marconi Evolution scheme, demonstrating that they are confident that the market will continue to be strong in central Chelmsford.

Days Garage, Broomfield

Located approximately 1.5 miles to the north of Chelmsford Railway Station we marketed Days Garage, the site on which Parva Green is being developed. Following the receipt of eleven offers this site was purchased on a Subject to Planning basis by Higgins Homes. Planning permission was granted for 37 units in January 2017 and completion followed in February 2018 for £4,200,000.

Plantation Road, Boreham

Further outside the city centre in the bordering parish of Boreham, located approximately 3.5 miles to the northeast, we marketed a 16.95-acre site with planning permission for 145 residential units. Nine offers were received in June 2017, all at competitive prices from large national housebuilders, demonstrating their belief that there will be continued demand in peripheral areas of the city. The site was purchased in January 2018 by Bloor Homes for £18,700,000.

Other Sales

In addition to the sales within Chelmsford we have recently sold several large sites throughout the wider Essex area in areas ranging from prime locations in Brentwood and Chelmsford, to peripheral towns and villages such as Clacton on Sea and Hullbridge. Demand has remained high as demonstrated by the quantity and value of offers that we have received, in particular in prime areas which tend to provide fast access to London. Further from London, in the northeast of the county, we have received offers that at least meet, and usually exceed the vendor's expectations. Demand for sites has remained high, especially amongst national housebuilders who are better aware of the costs and values associated with developments in these areas.

9. Summary

Whilst sales rates have slowed slightly, demand appears to be strong for units both within and on the periphery of the city. As is normally the case, incentives such as the payment of Stamp Duty are being offered at various new build developments in order to increase sales rates, although only at a discount of approximately 2%. Chelmsford is experiencing vast levels of development, in particular apartment schemes in the city centre and housing in the north east surrounding Beaulieu. Despite the volume of properties being developed there do not appear to be any signs that the market is being flooded as sales have maintained a relatively steady rate.

Conversations with local agents have demonstrated that there has been a slowdown of second hand property sales but that sales rates at new build developments are in line with the internal targets of the respective developers. House prices have increased by approximately 1.5% in the last year, a rate slower than we have experienced in recent years. This is likely due to uncertainty surrounding Brexit, however the common consensus amongst local agents is that following Brexit in March 2019 sales rates and house price increases will trend back towards their previous levels.

Infrastructure Delivery Plan

North East Chelmsford - Strategic Growth Site 4

By

Turner Morum LLP, TPA, Mayer Brown & Arcadis

November 2018

32-33 Cowcross Street London EC1M 6DF • Tel: 020 7490 5505 • Web: www.tmllp.co.uk • Email: enquiries@tmllp.co.uk

Contents

Appendices

1. BACKGROUND AND RELEVANT EXPERIENCE

1.1 This infrastructure delivery report has been produced by John Turner MRICS and Nick Bignall MRICS of Turner Morum LLP 32-33 Cowcross Street, London EC1M 6DF with assistance and input from Mr. Rupert Lyons of Transport Planning Associates (TPA), Mr. Ian Mitchel of Mayer Brown and Mr. Andrew Fensome of Arcadis.

1.2 The North East Chelmsford (NEC) site (location 4) is an allocated Strategic Urban Extension within the Chelmsford Local Plan Pre-Submission Document (January 2018). The site lies to the north-east of Chelmsford beyond the existing developments at Beaulieu Park and Channels.

1.3 It is allocated to deliver 3,000 dwellings over the Local Plan period (5,500 dwellings in total) in addition to:

- 45,000 sqm of commercial floorspace
- A new country park
- Single carriageway road of the Chelmsford North East Bypass (NEC Bypass) within the site boundary
- An outer vehicular access Radial Distributor Road (RDR2)
- A new secondary school, two new primary schools & 2 nurseries
- Community space & green infrastructure

2. INSTRUCTIONS

2.1 Turner Morum are jointly instructed by Ptarmigan Land and Countryside Properties ('the Consortium') to: -

2.1.1. Review the infrastructure and S106 requirements from NEC as per the June 2018 Chelmsford Infrastructure Delivery Plan (IDP). We have replicated the schedule for NEC as per Table 13.4 of the June IDP (see **Appendix 1**). In this schedule the costs within the purple highlighted columns are as per the IDP (with costs separated into headings of 'site related items' and 's106 contributions') – these columns are numbers **2 &**

4 respectively. In the column directly to the left of these where the cells are highlighted, this shows where we have taken a different position to the IDP either in relation to the total costs or how it will be delivered (as advised in discussions with TPA, Mayer Brown, Arcadis, Countryside & Ptarmigan). These columns are numbers **1 & 3** respectively. Columns **5 & 6** show where the infrastructure cost item can be attributed to other sources (i.e. HIF) or CIL respectively.

2.1.2. Row numbers are also included against each infrastructure cost item identified in the IDP thus showing inputs from **1 – 27** at **Appendix 1.**

2.1.3. Where a change has been included in a yellow highlighted cell in columns 1 & 3 in **Appendix 1** this is either based on the advice of Mr. Fensome, Mr. Lyons & Mr. Mitchell or the experience of the Consortium in delivering similar schemes (i.e. Beaulieu Park) – and is discussed in the report below. During the course of this report I identify the cost items with reference to the row number and then confirm how they will be delivered with reference to the column number.

2.1.4. Where certain costs have been removed from the IDP schedule in this analysis they have been included separately in the Arcadis cost schedule included as **Appendix 2**. This ensures that all development costs have been reflected which is required for the Viability/Deliverability analysis undertaken by Turner Morum for the NEC allocation – this document has also been submitted to the Inspector.

2.1.5. We also consider the planned timing and delivery of the S106 obligations/work for NEC and consider how this relates to the development's 'cashflow' from residential completions considering the proposed timings as per the latest trajectory position adopted by the Council in their Chelmsford Draft Local Plan Schedule of Additional Changes June 2018 (trajectory extract included as per **Appendix 4**). In this review we analyse how the timings of completions and S106 receipts for the Council relate to the planned S106 obligations/works. This is

considered in the cashflow/trajectory model included as **Appendix 1A/1B; 1A** shows the position as per the Council's IDP and **1B** shows the position with amended cost assumptions from Arcadis.

2.1.6. Also included as **Appendix 1** we have commented how we understand each of the key cost items will be delivered from NEC, who will deliver it and when it will be delivered. In this regard we have again been assisted by Mr. Fensome of Arcadis, Mr. Mitchell of Mayer Brown and Mr. Lyons of TPA who are all experienced cost/transport consultants with recent experience of working with either Countryside or Ptarmigan on the costings of comparable strategic sites.

2.2 The main purpose of this report therefore is to analyse the Chelmsford Infrastructure Delivery Plan (IDP) June 2018 – specifically reviewing Table 13.4 for NEC – and provide a more detailed and thorough overview of how the identified cost items will be delivered and the realistic costs involved in doing so.

3. INFRASTRUCTURE DELIVERY

3.1 The draft Local Plan outlines the specific infrastructure and S106 works which are required from NEC as well as the June 2018 IDP.

3.2 From this document and in discussions with the NEC Consortium, TPA and Arcadis I detail below the timing, funding and delivery of each of the infrastructure items outlined in the IDP. This can be cross-referenced with the schedule included as per **Appendix 1**.

3.3 Furthermore the Consortium have agreed and signed a Planning Statement of Common Ground and a Collaboration Agreement (**as appended to the NEC Planning Statement**) to ensure all parties work together to deliver the infrastructure as envisaged within this report.

3.4 If one refers to the IDP June 2018 the proposed highways works with the Local Plan are broken down into separate categories; the main ones applicable to NEC is for the Chelmsford North East Bypass and RDR 2.

3.5 The IDP outlines the following indicative costs required for these highway works (paragraph 3.11 page 22):

- **RDR2** - £10.4m - £14.1m; linking NEC to A130 Essex Regiment Way including provisions for cycle/footway.
- **Chelmsford North East Bypass** - £13.2 - £19.6m; single carriageway way link from RDR1 to northern edge of NEC
- **Chelmsford North East Bypass** - £25.5m - £38.4m; single carriageway way link from northern edge of NEC to A131.

3.6 A plan showing the phased delivery of the Bypass and RDR2 within NEC is included as per **Appendix 3**.

3.7 From the above, the site related costs coming directly from NEC are the RDR2 (£10.4m - £14.1m) and the single carriageway bypass to the northern edge of NEC from roundabout 4 – 10 (£13.2m - £19.6m). RDR2 is shown at **Appendix 3** highlighted yellow from points 7 – 8.

3.8 The IDP schedule also includes a reference to the full dual carriageway NEC bypass (row 18) although no cost allowance is included as this is envisaged to be delivered after the end of the plan period 2036. It is also envisaged that this infrastructure would be funded by HIF.

3.9 Arcadis have reviewed the plans of the infrastructure within NEC and have costed both the RDR2 and the single carriageway bypass through measuring the length of road and calculating a cost based on achieved rates from comparable infrastructure projects. I understand the main basis of evidence used by Arcadis to cost the infrastructure was the RDR1 at

Beaulieu Park for which detailed drawings are currently submitted for approval and as such is at a fairly advanced stage.

3.10 For RDR2 (row number 20) Arcadis have advised of a cost of £10.61m and for the single carriageway Bypass (row number 16) a cost of £16.85m; both of these costs are included as site related costs in **Appendix 1** in column 1. This cost is significantly higher than the cost in the IDP Table 13.4 however is based on Arcadis' review of the plans and assessment including a provisional allowance for the potential expansion from a single to a dual carriageway in the future. These costs have been reviewed by TPA and are deemed as being reasonable and accurate.

3.11 The RDR2 falls entirely on land controlled by Countryside who will deliver the infrastructure themselves with the costs recouped from the other Consortium members. The intention is for works to commence by 2026 at the latest and to be completed by 2031.

3.12 For the section of the Bypass which is also located within NEC this falls within land controlled by the Consortium and Countryside will again deliver the single carriageway of the bypass recouping the cost from other Consortium members. In the case of both of the above infrastructure items, once completed the roads will be adopted by the Highway Authority. It is likely the works on the first phase of this infrastructure item may also commence at a similar time to RDR2 and would also be completed prior to 1,700 completions.

3.13 The other Bypass cost from the northern edge of NEC outside the site will be pro-rated between other sites (Great Leighs & Moulsham Hall) – the IDP alludes to £16.8m of cost for NEC (page 119 table 13.4 IDP). This section of the Bypass can be viewed as per **Appendix 3** between points 10 – 9. This cost assumption is maintained in our IDP schedule as per **Appendix 1** and is included as a S106 contribution (row 17/column 3).

3.14 The IDP schedule as per **Appendix 1** also includes a cost for the acquisition of the corridor required to construct the whole of the bypass route. This

has been advised by Mr. Lyons of TPA on the basis of £[illegible] per acre agricultural values multiplied by the whole area of the corridor which is 145.7 acres (£1.457m). This cost is assumed as a S106 item which the Consortium will provide to the Council to acquire the land for the bypass. The reality is that the Consortium would only pay a proportion of this cost with the remainder split between the other North Chelmsford sites; this equates to a c. £1m (65% * £1.457m) which is the cost included in the IDP as per row 19 column 3 of **Appendix 1**.

3.15 From detailed discussions with the Consortium at NEC I understand that there will be requirement for RDR2 to be completed prior to the delivery of 1,700 dwellings which is estimated as being at c. 2032/33 in the latest Trajectory from the Council.

3.16 Countryside are in the process of delivering RDR1 and the Boreham interchange improvements (as discussed below) at Beaulieu Park and as such have direct experience of the process and likely timings for similar infrastructure works to take place. As with the infrastructure at Beaulieu Park, the Consortium will be delivering the RDR2 & the single carriageway Bypass infrastructure for NEC and they have advised that to be completed by 2032/33 (i.e. 1,700 completions) it is envisaged that construction would ideally commence at 2026. Once completed all new public highways in the scheme will be adopted by the Local Highway Authority – Essex County Council (ECC).

3.17 Aside from the above infrastructure works associated with NEC, the IDP Table 13.4 also includes Beaulieu Park Rail Station at row 2. The intention as outlined in the IDP (page 19) is for the works at the Station to be undertaken by Network Rail and to be completed by 2025. It is important to note that there is no direct trigger between NEC and the proposed station and at this stage it is assumed the funding would be provided through the HIF bid made by ECC in March 2018. Details of the funding arrangement for Beaulieu Railway Station are addressed in the draft Beaulieu Station Statement of Common Ground (**Appendix 6**). For the purpose of this analysis one can observe as per **Appendix 1** the Beaulieu

Railway Station 'cost' has been included in the 'Other' funding column (number 5) which assumes HIF. No 'cost' has been allocated for this within the Council's IDP.

3.18 Aside from the main transport infrastructure items outlined above in NEC, there will also be a requirement for numerous junction improvements which is estimated in the IDP (paragraph 3.26) to amount to £10m of cost to be provided through the development at NEC. The IDP notes that at this stage it is not possible to be definitive as to which junctions will be upgraded and as such NEC has been allocated a £10m cost including a 20% contingency figure. Arcadis have commented that this figure appears excessive without a reasonable justification however for the purpose of this assessment it has been maintained in **Appendix 1** (column 1/row 26) as site related cost although at this stage it is not possible to determine who will undertake the works and where exactly they will fall within NEC.

3.19 There is also a requirement for land at NEC to be safeguarded for an extension of the Chelmer Valley Park & Ride and Sandon Park & Ride (row 23). I understand these extensions are not triggered by NEC completions and as such there is no significant pressure to deliver this in the short-term however the land should be safeguarded and the expansion could be delivered during the development. As per the IDP and the schedule at **Appendix 1** the delivery of the park & ride is presently anticipated to be funded through CIL contributions (column 6).

3.20 A new pedestrian and cycle bridge across the A130 Essex Regiment Way is required from NEC at an estimated cost of £2,608,696 (Table 3.1 page 33 - IDP). This infrastructure item will be delivered by Ptarmigan and will be factored into discussions with Countryside regarding the share of costs for the RDR2 (column 1/row 10). I am advised by the Consortium that this infrastructure item is intended to be delivered by 550 completions (2027/28) and will be provided by way of Section 278 Agreement.

3.21 Separate cycle and footway link improvements and crossings will be delivered by Ptarmigan and Countryside on their own land parcels respectively. No cost is included within the IDP table 13.4 schedule however as can be viewed as per **Appendix 1** I have been advised by Arcadis to include a £500k allowance for S106 contributions (column 3/row 9). A site related cost for this is also included but this is separate from the IDP and has been measured and costed by Arcadis and reflected in their cost schedule as per **Appendix 2**. Although not considered within the Appendix 1 IDP schedule, the costs in **Appendix 2** are reflected in the separate NEC Viability/Deliverability report.

3.22 The extension of ChART is required for NEC at an estimated cost of £1,000 per dwelling plus a 20% contingency (i.e. £3.6m for the plan period) which is maintained as per the IDP. As per Table 13.4 in the IDP and reflected in **Appendix 1** this to be delivered through S106 contributions collected from the development (column 3/row 4).

3.23 The IDP also makes reference for improvements/works to the bus service and infrastructure (row 5) although as can be viewed as per **Appendix 1** no cost is included in the IDP. In Appendix 1 one can observe that I have assumed these costs will be site related costs borne by the developer (column 1) rather than S106 receipts as they have been measured and are costed separately by Arcadis in **Appendix 2**. However the Council have advised that some costs may be required from S106 payments for this infrastructure item; if this is the case then the cost would move from the Arcadis cost plan and drop in as a S106 item.

3.24 In addition to the above, Chelmsford City Council, Essex County Council and the Consortium are preparing a Statement of Common Ground for the delivery of the highways which shows a clear intention to work together to deliver this site in line with the above.

3.25 The proposed delivery of these key infrastructure items at NEC is scheduled below:

Phase 1: 2021 – 2028 (550 dwellings)

- North Chelmsford Bypass Phase 1 underway
- Pedestrian and cycle bridge

Phase 2: 2028 – 2032 (1,775 dwellings)

- North Chelmsford Bypass Phase 1 continued
- Cycle/pedestrian routes
- RDR2 completed

Phase 3: 2032 – 2036 (3,000 dwellings)

- North Chelmsford Bypass Phase 1 completed
- Cycle/pedestrian routes completed

RECREATION AND LEISURE

3.26 For NEC there are two key infrastructure items under the recreation & leisure heading; these are allotments (row 1) and children's play/youth facilities (row 6). The allotment requirements within NEC equate to 2.16 ha and an estimated cost of £648k (page 48 IDP) which has been rounded up to £650k. Whilst the IDP assumes that this cost would be collected through S106, from discussions with Countryside/Ptarmigan it is envisaged that these items will be delivered by the developers on their land parcels with the maintenance and upkeep of the allotments likely to be undertaken by Parish Councils (column 1 **Appendix 1**). This is a fairly standard assumption for allotments in a development of this nature.

3.27 The children's play/youth facilities are estimated in the IDP (page 50) to cost £1.836m. For NEC this is based on 0.36 hectares of land for Local Equipped Areas for Play (LEAPs) and Neighbourhood Equipped Areas for Plays (NEAPs). A further 0.72 hectares of land is required for the youth needs provision of Multi-Use Games Areas (MUGAs).

3.28 It is envisaged the above recreation and leisure facilities will be delivered equally by Countryside and Ptarmigan on their respective land parcels as per column 1 at **Appendix 1**. Once again, this is different from the Table

13.4 in the IDP which assumes the £1.840m would be collected through S106 contributions.

3.29 In addition to the above the NEC development will also deliver a new Country Park (row 8) which is expected to retain and improve habitats for wildlife and provide new and enhanced recreational opportunities. The location of the Country Park in the NEC masterplan is on land currently controlled owned by Threadneedle Pensions Ltd and quarried by Hanson Quarry Products Europe Ltd under a lease with Threadneedle Pensions Ltd and is impacted by ongoing mineral extractions. As a result of this the development of the Country Park is likely to commence by 2031 and completion to fall beyond the plan period (2036). It is confirmed in the Minerals Statement of Common Ground (see core documents **SOCG 15**) that the Parties will ensure that all permitted mineral reserves in Areas A + B are extracted prior to the land being required for non-mineral development as part of NEC. No cost is included within the IDP for this however Arcadis have included an allowance within their cost schedule as **Appendix 2** for the Country Park works under the heading Landscape & Nature Conservation. As such in **Appendix 1** we have not included a cost for this item although it will be incurred as site related as opposed to S106.

3.30 With the Country Park location falling on Threadneedle land it is likely at this stage that they will undertake the necessary works after the restoration post mineral extraction with the costs to be recouped from other Consortium members.

3.31 The provision for indoor sports facilities (row 13) is included within the IDP schedule for NEC although no cost is allocated – on discussion with the Council they have advised that they would not include a cost for this item as yet as it is not yet clear what it could contribute to. It is likely however that this cost will not be a significant burden to the delivery of NEC. As such we have maintained the position of the Council that this will be a S106 item (column 3 **Appendix 1**).

3.32 Outdoor sports & changing facilities (row 21) are included within the IDP schedule at a cost of £1.317m which is considered to be a site-related cost delivered by the developer (column 1). It is not yet confirmed the exact location of the outdoor sports pitches and facilities within NEC however it will be delivered by the developer whose land parcel(s) it falls on with the monies recouped through equalisation.

EARLY YEARS, CHILDCARE & EDUCATION

3.33 The draft Local Plan outlines on page 144 that there is a requirement on NEC to deliver clean serviced land (c. 9 hectares) and funding for a co-located secondary school (D1). There is also a requirement for clean serviced land and funding for 2 co-located primary schools (c. 2.1 hectares & 2.4 hectares) each with early years and childcare nursery (D1). Clean serviced land (c. 0.13 hectares) and funding is also required for a stand-alone early years and childcare nursery.

3.34 The location of the 8 form entry secondary school (row 27) is to be determined but will fall on either Countryside/Ptarmigan controlled land. The serviced land will be provided by the Consortium to the Local Education Authority (LEA) and the contributions for the funding of £26.087m will be split between the Consortium on a per pupil basis through S106 receipts (column 3). As can be observed at **Appendix 1** this position differs from the IDP which assumes the £26m will be incurred as a site related cost (i.e. the developers will service the land and construct the school) with Council assuming the cost would fall in column 2 (i.e. direct works cost). In reality the serviced land will be provided to the LEA and the funding provided through the S106 which is a standard assumption for strategic developments such as this.

3.35 The funding for the 2 co-located 56 place primary school facility (row 25) is estimated in the IDP at £14.6m (page 83). As with the secondary school (cost of £26.087m) the funding for this will be provided through S106 receipts on a price per pupil basis (column 3). The locations of the serviced land parcels for the primary schools are assumed as one on

Countryside controlled land and one on Ptarmigan controlled land with an area of c. 2.1 ha for each plot.

3.36 The early years and childcare nursery facility (row 11) will be funded through S106 by Consortium on a per pupil basis with an estimated total cost of £2.360m (see column 3 **Appendix 1**). Following discussions with the Consortium it is likely 2 serviced land parcels will be provided; one on Ptarmigan and one on Countryside controlled land.

3.37 One can observe from the above and **Appendix 1** that although we have not disputed or changed the costs within the IDP for early years/education, all cost items in this section have been moved from site related costs to S106 contributions (column 3). As outlined above in all cases serviced land parcels will be provided for the sites with the 106 contributions funding the development. The cost for the servicing of the land is reflected separately in the Arcadis cost schedule as **Appendix 2**.

3.38 The delivery of the new primary school facilities is envisaged as per the IDP schedule on page 128 (table 13.12) to come forward in two phases; the first in the early stages of the scheme (i.e. 2023 – 2028) and the second towards the end of the plan period (i.e. 2033 - 2036). The delivery of the secondary school is estimated to be by c. 2,000 completions (i.e. 2033/34).

HEALTH & SOCIAL WELL BEING

3.39 The IDP describes that NEC needs to provide mitigation for the new build development and it is envisaged this will come in the form of a new doctors surgery within the development (page 91 IDP).

3.40 There is no cost input included within the IDP but as one can observe from **Appendix 1** on the recommendation of Arcadis and based on the experience of the Consortium we have assumed a £2.5m cost which would be collected through S106 receipts (row 12/column 3). These monies can then be used to fund the delivery of the health facility.

3.41 As a means of verification we have reviewed the BCIS data for health centres and as per **Appendix 5** one can observe that for an 800 sqm health centre included locational weighting for Chelmsford (1.02), an allowance for 10% externals and 5% contingency equals cost of £2.354m. This indicates the £2.5m advised by Arcadis is reasonable.

SOCIAL & COMMUNITY FACILITIES

3.42 The IDP (page 96) outlines that a single community centre is committed from the North Chelmsford allocations (NEC, Moulsham Hall/North of Great Leighs & North of Broomfield). The cost of a single centre is determined in the IDP at £750k and as such the contribution from NEC is £464,505 as a S106 cost.

3.43 From discussions with the Consortium I understand that whilst the intention is for the cost of the community centre to be accrued through S106 receipts it is likely that a community centre will be of significantly greater cost than the £464k included in the IDP. On the advice of Arcadis and as per **Appendix 1** I have included a cost of £1.5m for the community centre (row 7/column 3) to serve the NEC development.

3.44 As per the IDP (page 93) library services are provided by Essex County Council and as such the contributions for this from NEC will be collected through CIL. See **Appendix 1** row 14/column 6.

OTHER COMMUNITY INFRASTRUCTURE

3.45 The improvements and funding for additional services such as police and municipal waste are intended to be funded through payments to the County Council through CIL (rows 24/15 – column 6).

3.46 The provision for Burial Space (row 3/column 6) will also likely come from CIL as can be viewed as per the schedule at **Appendix 1**.

4. INFRASTRUCTURE & S106 DELIVERABILITY

4.1 This section considers the trajectory of NEC based on the S106/infrastructure requirements outlined above. To begin with I have constructed a trajectory model which mirrors the delivery of housing anticipated from NEC from the Chelmsford Draft Local Plan Schedule of Additional Changes (June 2018) – see **Appendix 4**.

4.2 This replicated Trajectory from NEC can be viewed as per **Appendix 1A** and **Appendix 1B** of this report. Both models show the anticipated delivery of housing along the top row and beneath this the estimated receipts to be achieved from S106.

4.3 The S106 on a £ per dwelling basis is derived from the analysis as per **Appendix 1**. Based on the Council's assumptions as per the IDP this equates to £8,669 per dwelling for S106 contributions from NEC (the other costs in the IDP are anticipated to be delivered as site related costs through the development therefore are not reliant on S106 receipts).

4.4 As such in **Appendix 1A** the total receipts from the Council for S106 are £8,669 per dwelling as per the IDP. One can observe that in the Trajectory model these receipts are assumed as being achieved in line with the anticipated delivery from the Council's June 2018 report (i.e. 2022 - 2036).

4.5 Beneath this row is the heading of the cost items listed in the IDP as being applicable as S106 obligations. I have plotted the anticipated delivery of these infrastructure items in line with the IDP phasing as per page 128 Table 13.12 although clearly the actual split of the costings on a yearly basis will vary from this model.

4.6 The purpose of this model is to assess the delivery of NEC based on the timings of the S106 contributions/works assessing that the proposed infrastructure can be delivered as anticipated.

4.7 **Appendix 1B** is the same model as **1A** but with the cost assumptions as per the adjusted position by the NEC Consortium as highlighted above and in Appendix 1.

4.8 In this regard the S106 is included at £22,987 per dwelling; the reason this is significantly higher than the Council's position is because in this analysis and as per **Appendix 1** a number of large cost items within the IDP have been moved from site related to S106 costs (e.g. primary & secondary education). The result of this means a greater S106 receipt to be allocated to the Council to deliver the key items.

4.9 One can observe in both of these Trajectory models the cumulative balance shown from the S106 works (bottom row) begins cashflow positive but turns into a slight negative balance towards the backend of the plan period before reverting to £0 in 2036. This is to be anticipated because of the conservative nature of the assumptions on the housing delivery up until 2033/34 and the 'worst case' position we have adopted to many costs in the schedule (e.g. £10m highways cost as per 3.16).

4.10 The Trajectory also does not reflect the S106 receipts which will be recouped by the Council from the delivery of the commercial elements of the scheme which are envisaged to come forward from 2022. Including these within the schedule would serve to improve the cashflow position as there will be a significant amount of S106 received by the Council from over 480,000 sq ft of commercial space within NEC.

4.11 Furthermore the phasing of the costs is currently included as per the IDP phasing at Table 13.12. This simply assumes costs split over the phases rather than a more detailed annual breakdown. I consider that a more detailed breakdown would spread the costs over the development programme more so than reflected in the IDP schedule and as a consequence reduce the negative balance shown towards the end of the programme.

5. CONCLUSIONS

5.1 The above analysis informed with the Arcadis cost advice would suggest that the infrastructure/S106 requirements for NEC are reasonable and would not prevent this site from coming forward as anticipated in the Local Plan. This analysis also provides further clarity as to how each cost item is envisaged to be delivered.

5.2 Furthermore, one also has to acknowledge that whilst during the plan period the 3,000 dwellings have been assessed, the site has potential capacity for a further 2,500 dwellings post 2036 (Local Plan para 7.215).

5.3 The Consortium has also signed a Planning Statement of Common Ground and a Collaboration Agreement (**as appended to the NEC Planning Statement**) to ensure all parties work together to deliver the infrastructure as envisaged within this report.

Turner Morum LLP

November 2018

Appendix 1

	ITEM	DESCRIPTION	NOTES	Site Related Items - NEC Assumptions	Site Related Items - Council Assumptions	S106 Contributions - NEC Assumptions	S106 Contributions - Council Assumption	Other (Historic Developments, HIF etc.)	CIL	Delivery Mechanism	Who to Deliver?
COLUMN / ROW NUMBER				1	2	3	4	5	6		
1	Allotments	Recreation & Leisure	Countryside and Ptarmigan to provide allotments on their own land as will be detailed in the Masterplan. The total cost is a relatively low figure and the provision of the allotments can be moved from development parcels to balance out other non-revenue generating land uses amongst the consortium. Site cost borne by developers - NOT a 106 item as per the IDP	£650,000			£650,000			Direct Works/Land Receipt	Consortium
2	Beaulieu Railway Station	Highways, Access & Transport	HIF will provide the funding to deliver this infrastructure in addition to the funding already in place from Countryside. The land is controlled by Countryside. Network Rail will undertake the development and is due to be completed by 2025.				Yes	Yes		Developer Contribution from BP/HIF Forward Funding	Network Rail
3	Burial Space	Other community infrastructure	CIL contribution as per IDP						Yes	CIL	CIL
4	ChART (Bus Priority/Rapid Bus Transit)	Highways, Access & Transport	106 cost item from the development to Council as per IDP			£3,600,000	£3,600,000			106 Contribution	106 Contribution
5	Bus Service& infrastructure	Highways, Access & Transport	Delivered on site throughout NEC - IDP states as 106 item but no cost provided. Not cost currently included in schedule as reflected Arcadis cost schedule used for viability.	£0			Yes			Direct Works	Consortium
6	Children's play and youth facilities	Recreation & Leisure	Countryside and Ptarmigan to provide landscaped play areas and youth facilities on their own land as will be detailed in the Masterplan. The total cost is a relatively low figure and the provision of the play area and youth facility can be moved from development parcels to balance out other non-revenue generating land uses amongst the consortium	£1,840,000			£1,840,000			Direct Works	Consortium
7	Community centres	Social & Community Facilities	IDP suggests a single community centre. Location has to be determined and will be outlined in the Masterplan - likely to be on Ptarmigan land. Provision of land and cash contribution as such included as 106 item by NEC - cost envisaged to be higher than IDP estimate so included at £1.5m. This assumption is based on discussions with Arcadis and consortium and experience from similar developments			£1,500,000	£494,505			106 Contribution	106 Contribution + Serviced Land?
8	Country Park	Recreation & Leisure	The completion of the Country Park (Phase C) extends beyond the Local Plan period (2036). The location of the Country Park is on Threadneedle owned land and will come forward following the phasing of mineral extractions. The development of the Country Park will be phased in accordance with the restoration of mineral land - aim is to commence in 2031 as per NEC draft masterplan . Cost is likely to be shared between the consortium. By the end of local plan period the Country Park will not be completed. For the purpose of this assessment the Country Park cost is reflected seperately in the Arcadis cost schedule used in the viability.	£0	Yes					Direct Works/Land Receipt	Consortium
9	Cycle & footway link/improvements/crossing	Highways, Access & Transport	Countryside and Ptarmigan to provide on their own land as will be detailed in the Masterplan - there will also be 106 contributions for connections off site. The on-site cost removed from trajectory as included in arcadis cost plan and S106 is assumed as £500k.	£0	Yes	£500,000	Yes			Direct Works/Land Receipt + 106 for off-site connections	Consortium + 106
10	Cycle/foot bridge over Essex Regiment Way	Highways, Access & Transport	Funded through 106 contributions	£2,608,696			£2,608,696.00			106 Contribution	106 Contribution
11	Early years & childcare - stand alone provision	Early years, childcare & education	2 units to be provided - 1 on Countryside and 1 on Ptarmigan land. The cost will be shared between the consortium members through S106 and serviced land parcel provided .		£2,360,000	£2,360,000				106 Contribution	106 Contribution
12	Health	Health & Social well being	Funded through 106 contributions - no cost included in IDP and therefore assumed cost covered in NEC assumption. Supporting evidence for this assumption derived from Ptarmigan Attleborough scheme of 2,000 dwellings - similar cost for doctors surgery.			£2,500,000	Yes			106 Contribution	106 Contribution
13	Indoor sports facilities	Recreation & Leisure	Contribution (on-site + off-site) - no cost included in IDP table 13.4 and therefore assumed cost of £2m included as NEC assumption based on experience from other developments and Arcadis input.			Yes	Yes			106 Contribution	106 Contribution
14	Libraries	Social & Community Facilities	CIL payment as per IDP						Yes		CIL
15	Municipal waste	Other community infrastructure	CIL payment as per IDP						Yes		CIL
16	Chelmsford NE Bypass - single carriageway section	Highways, Access & Transport	Single carriageway of bypass is within the NEC site and falls entirely on land controlled by Countryside - they will deliver the single carriageway with contributions from other consortium members. Once completed road will be adopted by Highways Authority No requirement to deliver the bypass before 3,000 cmopletions (i.e. 2036) - the bypass route is almost all on mineral land so will need to be phased accordingly. We have adopted a higher figure than IDP table 13.4 as this is inclusive of the potential future expansion of single carriageway - cost has been reviewed & advised by Arcadis.	£16,850,000	£13,200,000					Direct Works	Consortium
17	Chelmsford NE Bypass - NEC to Deres Bridge single carriageway section	Highways, Access & Transport	This falls on land outside of NEC therefore is solely a 106 contribution derived from IDP table 13.4.			£16,813,187	£16,813,187			106 Contribution	106 Contribution
18	Chelmsford NE Bypass - full dual carriageway	Highways, Access & Transport	This falls on land outside of NEC therefore £14.176m is solely a contribution. Removed from 106 as covered by HIF and delivery falls outside of 2036 plan period			Yes	Yes			HIF	-
19	**Acquisition of Corridor for whole Bypass**	**Highways, Access & Transport**	**This is a cost item not included within the Council's IDP schedule. This cost has been advised by Rupert Lyons of TPA as the amount required to safeguard the whole corridor for the bypass - whole cost estimated at £1.457m but in reality NEC would only contribute a portion of this (c. 65% = £1m). NEC would contribute as 106 to Council to acquire the land**			**£1,000,000**				106 Contribution	106 Contribution
20	Outer Radial Distributor Road (RDR2)	Highways, Access & Transport	Trigger on completion at 1,700 dwellings. This falls on Countryside land who will deliver the infrastructure and recoup the cost from the consortium on a roof tax basis. This schedule includes a higher figure than IDP table 13.4 on the advice of Arcadis who have measured and costed the road.	£10,610,000	£10,400,000					Direct Works	Countryside
21	Outdoor sports and changing facilities	Recreation & Leisure	Pitchs and changing facilities as per IDP	£1,317,487	£1,317,487					Direct Works	Consortium

22	Park & Ride - NEC	Highways, Access & Transport	CIL contribution as per IDP						Yes	CIL	CIL
23	Park & Ride - Widford area	Highways, Access & Transport	CIL contribution as per IDP						Yes	CIL	CIL
24	Police	Other community infrastructure	CIL contribution as per IDP						Yes	CIL	CIL
25	Primary education (incl shared EY & C provision)	Early years, childcare & education	2 school facilities - 1 on Ptarmigan controlled land and 1 on Countryside controlled land. Serviced land will be provided and total costs will be split proportionally between consortium as a contribution per pupil. Cost removed from site related cost as serviced land provided but costs funded through 106.		£14,600,000	£14,600,000				106 Contribution/Serviced Land	106/Consortium
26	Road junction improvements	Highways, Access & Transport	Further details can be discussed with Highways Consultants - most junctions on Ptarmigan controlled land so they are likely to execute the works and recoup monies from the consortium,	£10,000,000	£10,000,000					Direct Works	Consortium
27	Secondary eduction - new provision	Early years, childcare & education	As primary school above - serviced site to be provided for 8 form entry school. Serviced land to be provided and contribution per pupil from consortium. Cost removed from site related cost as serviced land provided but costs funded 106		£26,086,957	£26,086,957				106 Contribution/Serviced Land	106/Consortium
				NEC	**Council**	**NEC**	**Council**		**CIL**		
	TOTAL ESTIMATED SITE INFRASTRUCTURE / S106 / CIL COSTS			**£43,876,183**	**£77,964,444**	**£68,960,144**	**£26,006,388**		**£25,106,250**		
	£ PER DWELLING ESTIMATED SITE INFRASTRUCTURE / S106 / CIL COSTS			**£14,625.4**	**£25,988.1**	**£22,986.7**	**£8,668.8**		**£8,368.8**	£12,875	

	NEC ASSUMPTIONS	106	CIL	TOTAL
£112,836,327	ASSUMED NEC COSTS GROSS (INFRA/106/CIL)	£68,960,144	£25,106,250	£137,942,577
£37,612.11	ASSUMED NEC COSTS PER DWELLING (INFRA/106/CIL)	£22,987	£8,369	£45,980.86

	COUNCIL ASSUMPTIONS	106	CIL	TOTAL
£103,970,832	ASSUMED COUNCIL COSTS GROSS (INFRA/106/CIL)	£26,006,388	£25,106,250	£129,077,082
£34,656.94	ASSUMED COUNCIL COSTS PER DWELLING (INFRA/106/CIL)	£8,669	£8,369	£43,025.69

	CIL	£ psm	Number of Market Dwellings	Total sqm market housing	Total CIL Estimate
	Assumed CIL Charge	£125.00	1950	200,850	**£25,106,250**

Differences:

ITEM	NEC	Council
Bus services	£ -	Yes
Community centres	£ 1,500,000	£ 494,500
Country Park	£ -	Yes
Cycle + footway links/improvements	£ 500,000	Yes
Health	£ 2,500,000	Yes
Indoor sports facilties	Yes	Yes
RDR2	£ 10,610,000	£ 10,400,000
Bypass	£ 16,850,000	£ 13,200,000
TOTAL DIFFERENCE	£ 31,960,000	£ 24,094,500

Appendix 1A

NORTH EAST CHELMSFORD - COUNCIL TRAJECTORY DELIVERY AS PER JUNE IDP £26,006,388.0 Appendix 1A

							370				915					1715								3000
DESCRIPTION		**UNITS**					**2022/23**	**2023/24**	**2024/25**	**2025/26**	**2026/27**	**2027/28**	**2028/29**	**2029/30**	**2030/31**	**2031/32**	**2032/33**	**2033/34**	**2034/35**	**2035/36**	**2036/37**	**2037/38**	**2038/39**	**2039/40**	**TOTALS**
							Phase 1						*Phase 2*					*Phase 3*							
NORTH EAST CHELMSFORD		**TOTAL UNITS**	**3,000**				100	90	90	90	90	90	245	245	245	245	245	408	408	408					**3,000**
£ per dwelling S106					£8,669		£866,880	£780,192	£780,192	£780,192	£780,192	£780,192	£2,123,855	£2,123,855	£2,123,855	£2,123,855	£2,123,855	£3,539,758	£3,539,758	£3,539,758					
TOTAL £ per DWELLING 106							£866,880	£780,192	£780,192	£780,192	£780,192	£780,192	£2,123,855	£2,123,855	£2,123,855	£2,123,855	£2,123,855	£3,539,758	£3,539,758	£3,539,758					
		Site Related Items	**S106 Items**	**Other**	**CIL Items**																				
Allotments	Rec & Leis		£650,000										£130,000	£130,000	£130,000	£130,000	£130,000								**£650,000**
Beaulieu Railway Station	Transport		Yes				**EU RAIL STATION COMPLETED 2025 (Masterplan says 2022 targ**																		
ChART (Bus Priority/Rapid Bus Transit)	Transport		£3,600,000										£720,000	£720,000	£720,000	£720,000	£720,000								**£3,600,000**
Bus Service& infrastructure	Transport		Yes																						**£0**
Children's play and youth facilities	Rec & Leis		£1,840,000										£184,000	£184,000	£184,000	£184,000	£184,000	£306,667	£306,667	£306,667					**£1,840,000**
Community centres	Social & Comm		£494,505										£49,451	£49,451	£49,451	£49,451	£49,451	£82,418	£82,418	£82,418					**£494,505**
Cycle & footway link/improvements/crossing	Transport	Yes	Yes																						
Cycle/foot bridge over Essex Regiment Way	Transport		£2,608,696										£521,739.20	£521,739	£521,739	£521,739	£521,739								**£2,608,696**
Health	Health		Yes																						**£0**
Indoor sports facilities	Rec & Leis		Yes																						**£0**
Chelmsford NE Bypass - NEC to Deres Bridge single carriageway section	Transport		£16,813,187										£3,362,637	£3,362,637	£3,362,637	£3,362,637	£3,362,637								**£16,813,187**
Chelmsford NE Bypass - full dual carriageway	Transport		Yes																						**£0**
TOTAL COST ITEMS FUNDED THROUGH 106/CIL		**£77,964,444**	**£26,006,388**	**£0**	**£0**		**£0**	**£0**	**£0**	**£0**	**£0**	**£0**	**£4,967,827**	**£4,967,827**	**£4,967,827**	**£4,967,827**	**£4,967,827**	**£389,084**	**£389,084**	**£389,084**	**£0**	**£0**	**£0**	**£0**	**£26,006,388**
£ per dwelling		*£25,988.15*	*£8,668.80*	*£0.00*																					
NET BALANCE		**£34,656.94**					**£866,880**	**£780,192**	**£780,192**	**£780,192**	**£780,192**	**£780,192**	**-£2,843,972**	**-£2,843,972**	**-£2,843,972**	**-£2,843,972**	**-£2,843,972**	**£3,150,674**	**£3,150,674**	**£3,150,674**	**£0**	**£0**	**£0**	**£0**	
CUMULATIVE NET BALANCE							**£866,880**	**£1,647,071**	**£2,427,263**	**£3,207,455**	**£3,987,646**	**£4,767,838**	**£1,923,866**	**-£920,106**	**-£3,764,078**	**-£6,608,051**	**-£9,452,023**	**-£6,301,348**	**-£3,150,674**	**£0**	**£0**	**£0**	**£0**	**£0**	

Appendix 1B

NORTH EAST CHELMSFORD - TURNER MORUM TRAJECTORY DELIVERY BASED ON MARCH 2018 NEC MASTERPLAN | **£68,960,144.0** | 370 | 915 | 1715 | 3000 | **Appendix 1B**

DESCRIPTION		UNITS					2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	TOTALS
									Phase 1						*Phase 2*					*Phase 3*							
NORTH EAST CHELMSFORD		**TOTAL UNITS**	**3,000**						100	90	90	90	90	90	245	245	245	245	245	408	408	408					**3,000**
£ per dwelling S106					£22,987				£2,298,671	£2,068,804	£2,068,804	£2,068,804	£2,068,804	£2,068,804	£5,631,745	£5,631,745	£5,631,745	£5,631,745	£5,631,745	£9,386,242	£9,386,242	£9,386,242					
TOTAL £ per DWELLING 106									£2,298,671	£2,068,804	£2,068,804	£2,068,804	£2,068,804	£2,068,804	£5,631,745	£5,631,745	£5,631,745	£5,631,745	£5,631,745	£9,386,242	£9,386,242	£9,386,242					
		Site Related Items	**S106 Items**	**Other**	**CIL Items**																						
ChART (Bus Priority/Rapid Bus Transit)	Transport		£3,600,000												£720,000	£720,000	£720,000	£720,000	£720,000								**£3,600,000**
Community centres	Social & Comm		£1,500,000												£150,000	£150,000	£150,000	£150,000	£150,000	£250,000	£250,000	£250,000					**£1,500,000**
Cycle & footway link/improvements/crossing	Transport	£0	£500,000												£100,000.00	£100,000	£100,000	£100,000	£100,000								**£500,000**
Early years & childcare - stand alone provision	Childcare & Education	£0	£2,360,000							£236,000	£236,000	£236,000	£236,000	£236,000						£393,333	£393,333	£393,333					**£2,360,000**
Health	Health		£2,500,000												£500,000.00	£500,000	£500,000	£500,000	£500,000								**£2,500,000**
Indoor sports facilities	Rec & Leis		Yes																								**£0**
Chelmsford NE Bypass - NEC to Deres Bridge single carriageway section	Transport		£16,813,187												£3,362,637	£3,362,637	£3,362,637	£3,362,637	£3,362,637								**£16,813,187**
Acquisition of Corridor for whole Bypass	Transport		£1,000,000											£1,000,000													
Primary education (incl shared EY & C provision)	Childcare & Education		£14,600,000							£1,460,000	£1,460,000	£1,460,000	£1,460,000	£1,460,000						£2,433,333	£2,433,333	£2,433,333					**£14,600,000**
Secondary eduction - new provision	Childcare & Education		£26,086,957												£2,608,696	£2,608,696	£2,608,696	£2,608,696	£2,608,696	£4,347,826	£4,347,826	£4,347,826					**£26,086,957**
TOTAL COST ITEMS FUNDED THROUGH 106/CIL		**£41,267,487**	**£68,960,144**	**£0**	**£0**		**£0**	**£0**	**£0**	**£1,696,000**	**£1,696,000**	**£1,696,000**	**£1,696,000**	**£2,696,000**	**£7,441,333**	**£7,441,333**	**£7,441,333**	**£7,441,333**	**£7,441,333**	**£7,424,493**	**£7,424,493**	**£7,424,493**	**£0**	**£0**	**£0**	**£0**	**£68,960,144**
£ per dwelling		*£13,756*	*£22,987*	*£0.00*																							
NET BALANCE		**£36,743**					**£0**	**£0**	**£2,298,671**	**£372,804**	**£372,804**	**£372,804**	**£372,804**	**-£627,196**	**-£1,809,588**	**-£1,809,588**	**-£1,809,588**	**-£1,809,588**	**-£1,809,588**	**£1,961,749**	**£1,961,749**	**£1,961,749**	**£0**	**£0**	**£0**	**£0**	
CUMULATIVE NET BALANCE							**£0**	**£0**	**£2,298,671**	**£2,671,476**	**£3,044,280**	**£3,417,084**	**£3,789,889**	**£3,162,693**	**£1,353,105**	**-£456,483**	**-£2,266,071**	**-£4,075,659**	**-£5,885,247**	**-£3,923,498**	**-£1,961,749**	**£0**	**£0**	**£0**	**£0**	**£0**	

Appendix 2

ARCADIS Design & Consultancy for natural and built assets

NORTH EAST CHELMSFORD
STRATEGIC INFRASTRUCTURE COST SCHEDULE

06-Sep-18 | 5500 | **DRAFT 1.0** | All Costs at 3Q2018

ARC REF	AGREEMENT / DATE	ITEM NO.	DESCRIPTION	TRIGGER DATE	DWG REF	ARCADIS QTY	UNIT	RATE	TOTAL (£) 3Q2018	COMMENTS
			DIRECT WORKS							
100			**ENABLING WORKS**							
100.1			Haul Routes			1	Item	2,246,334	2,246,334	Allowance for 4km. Based on Beaulieu cost per m.
100.2			Demolition			1	Item	823,200	823,200	Includes allowance for asbestos removal and remediation at existing buildings
100.3			Site clearance			1	Item	384,091	384,091	Allowances.
100.4			Tree protection			1	Item	511,560	511,560	Allowance based on 10km
100.5			Fencing, acoustic fencing or bunding			3.5	km	250,000	875,000	Allowance. Required to A130 boundary and new dual carriageway
100.6			Mineral extraction backfill / Sitewide Earthworks			1	Item	20,000,000	20,000,000	Allowance
			Sub-Total						**24,840,185**	
200			**SECTION 278 HIGHWAYS**							
200.1			New roundabout on Essex Regiment Way			1	Item	900,000	900,000	
200.2			Other minor connections to existing			1	Item	500,000	500,000	
			Sub-Total						**1,400,000**	
300			**ON-SITE HIGHWAYS**							
300.1			Strategic infrastructure - Primary roads			1	Item	14,901,234	14,901,234	Approx. 8.5km of Primary Infrastructure
300.1			Strategic infrastructure - Secondary roads			1	Item	8,765,432	8,765,432	Approx. 5km of Secondary Infrastructure
			Sub-Total						**23,666,666**	
400			**ON-SITE PEDESTRIAN / CYCLE ROUTES (AWAY FROM SPINE ROADS)**							
400.1			Leisure footpaths / cycleways			1	item	2,807,669	2,807,669	Approx. 10km of footways / cycleways away from Spine roads
			Sub-Total						**2,807,669**	
500			**STRATEGIC SURFACE WATER DRAINAGE**							
500.1			Storm water drainage			1	item	5,889,776	5,889,776	To length of Primary Infrastructure + 10% for outfalls across open space
500.2			Attenuation ponds and swales			1	item	8,457,698	8,457,698	16 ponds
			Sub-Total						**14,347,474**	
600			**FOUL WATER DRAINAGE**							
600.1			Foul water drainage			1	item	5,586,120	5,586,120	To length of Primary Infrastructure
600.2			Strategic foul water sewer			1	item	3,089,223	3,089,223	
600.3			Upgrading of Beaulieu Pumping Station			1	item	500,000	500,000	
			Sub-Total						**9,175,343**	
700			**UTILITIES**							
700.1			BT - On site distribution			1	item	3,085,361	3,085,361	To length of Primary and Secondary Infrastructure
700.2			Gas - On site distribution			1	item	3,437,613	3,437,613	To length of Primary and Secondary Infrastructure
700.3			Water - On site infrastructure			1	Item	3,437,613	3,437,613	To length of Primary and Secondary Infrastructure
700.4			Electric - On site distribution			1	item	6,949,168	6,949,168	To length of Primary and Secondary Infrastructure
700.5			Ducting crossings for utilities			1	item	321,285	321,285	
700.6			Diversions (minor across the site)			1	item	1,000,000	1,000,000	
700.7			Reinforcements			1	item	5,000,000	5,000,000	
			Sub-Total						**23,231,040**	
800			**ECOLOGICAL MITIGATION WORKS**							
800.1			Bat mitigation strategy			1	item	120,000	120,000	Allowances based on Beaulieu
800.2			Great Crested Newt mitigation strategy			1	item	550,000	550,000	
800.3			Ecological supervision during soil stripping			50	days	400	20,000	
800.4			Reptile mitigation strategy			1	item	75,000	75,000	
800.5			Badger Mitigation Strategy			1	item	150,000	150,000	
			Sub-Total						**915,000**	
900			**LANDSCAPE & NATURE CONSERVATION**							
900.1			Green Corridors			100	Ha	90,000	9,000,000	Awaiting Land use budget
900.2			Parkland			20	Ha	50,000	1,000,000	

ARCADIS Design & Consultancy for natural and built assets

NORTH EAST CHELMSFORD
STRATEGIC INFRASTRUCTURE COST SCHEDULE

06-Sep-18 | 5500 | **DRAFT 1.0** | All Costs at 3Q2018

ARC REF	AGREEMENT / DATE	ITEM NO.	DESCRIPTION	TRIGGER DATE	DWG REF	ARCADIS QTY	UNIT	RATE	TOTAL (£) 3Q2018	COMMENTS
900.3			Leisure use			40	Ha		-	Inch in S106
900.4			Other			30	Ha	50,000	1,500,000	
900.5			Commuted Sums / Pump Priming			1	item	1,500,000	1,500,000	
			Sub-Total						13,000,000	
1000			**GEOTECHNICS**							
1000.1										
			Sub-Total						-	
1100			**UTILITIES DIVERSIONS IN CONNECTION WITH S278 WORKS**							
1100.1										
			Sub-Total						-	
1200			**RENEWABLE ENERGY**							
1200.1										
			Sub-Total						-	
			SUB - TOTAL DIRECT WORKS						£ 113,383,377	
			SECTION 106							
2000			**EDUCATION**							
			Sub-Total						-	
2100			**LANDSCAPE & NATURE CONSERVATION MAINTENANCE**							
			Sub-Total						-	
2200			**RECREATION**							
			Sub-Total						-	
2300			**RECREATION MAINTENANCE**							
			Sub-Total						-	
2400			**COMMUNITY FACILITIES**							
			Sub-Total						-	
2500			**COMMUNITY FACILITIES MAINTENANCE**							
			Sub-Total						-	
2600			**ART / IMPROVEMENTS TO CIVIC SPACE**							
			Sub-Total						-	
2700			**OFF-SITE ROAD IMPROVEMENTS**							
			Sub-Total						-	
2800			**PUBLIC TRANSPORT**							
			Sub-Total						-	
			SUB - TOTAL S106						£ -	
			GENERAL OVERHEADS AND PRELIMINARIES							

ARCADIS Design & Consultancy for natural and built assets

NORTH EAST CHELMSFORD
STRATEGIC INFRASTRUCTURE COST SCHEDULE

06-Sep-18 | 5500 | **DRAFT 1.0** | All Costs at 3Q2018

ARC REF	AGREEMENT / DATE	ITEM NO.	DESCRIPTION	TRIGGER DATE	DWG REF	ARCADIS QTY	UNIT	RATE	TOTAL (£) 3Q2018	COMMENTS
3000			**SITE PRELIMINARIES**							
3000.1			Road sweeping of infrastructure & S38 works			120	months	3,000	360,000	
3000.2			Wheel wash facility			208	weeks	769	159,952	
3000.3			Maintenance of Unadopted Sewers			5	Years	25,000	125,000	
3000.4			Maintenance of Unadopted Roads (Weed killing, Litter picking, Winter road salting, gully jetting and clearing)			5	Years	100,000	500,000	
3000.5			Attendance on STATS @ 2%			2%	Item	23,231,040	464,621	
3000.6			Site Offices (Project management offices for infrastructure construction)			1	Item	500,000	500,000	
3000.7			Site Security			60	months	5,820	349,171	
3000.8			Maintenance of Unadopted landscaping			5	Years	50,000	250,000	
3000.9			Remedials to Roads prior to adoption - kerb replacements etc			1	Item	500,000	500,000	
3000.10			Sitewide maintenance			1	Item	500,000	500,000	
			Sub-Total						3,708,744	
3100			**FINANCE / LEGALS**							
3100.1			Legal Costs - S38 Agreements			1	Item	100,000	100,000	
3100.2			Legal Costs - S104 Agreements			1	Item	100,000	100,000	
3100.3			Legal Costs - S106 Agreement			1	Item	350,000	350,000	
3100.4			Legal Costs - Consultant Appointments			1	Item	150,000	150,000	
3100.5			Part 1 Land Compensation Claims			1	Item	250,000	250,000	
3100.6			Legal costs - other			1	Item	100,000	100,000	
			Sub-Total						1,050,000	
3200			**PUBLIC RELATIONS**							
3200.1			Public relation and marketing costs - publicity, signage, website, public consultation			1	Item		-	Not included in infrastructure schedule
			Sub-Total						-	
3300			**MISCELLANEOUS**							
3300.1			Contamination			1	item	1,000,000	1,000,000	
			Sub-Total						1,000,000	
3400			**PLANNING**							
3400.1			Pre-Application Planning and Promotion			1	item		-	Not included in infrastructure schedule
			Sub-Total						-	
			SUB - TOTAL GENERAL OVERHEADS & PRELIMIARIES						**£ 5,758,744**	
			PROFESSIONAL / LOCAL AUTHORITY FEES							
4000			**STRATEGIC PLANNING AND MASTERPLAN**							
4000.1			Planning Fees @ 1.5% of Construction Costs including landscaping			1.5%	item	113,383,377	1,700,751	Discharge of planning conditions
			Sub-Total						1,700,751	
4100			**SITE INVESTIGATIONS**							
4100.1			Topographical Survey			1	item	50,000	50,000	
4100.2			Geotechnical Survey			1	item	300,000	300,000	
4100.3			Archaeology			1	item	2,000,000	2,000,000	
4100.4			Noise Surveys			1	Item	50,000	50,000	
4100.5			Arboricultural / Hedgerow Surveys			1	item	100,000	100,000	
4100.6			Proving storm water outfalls			1	Item	50,000	50,000	
			Sub-Total						2,550,000	
4200			**ENGINEERING DESIGN**							
4200.1			Engineering Design Fees @ 4% of Construction Costs			4%	item	98,983,377	3,959,335	
			Engineering Design Fees for S278 Works @ 6% of Construction Costs			6%	item	1,400,000	84,000	
			Sub-Total						4,043,335	

Prepared by A Fensome

ARCADIS Design & Consultancy for natural and built assets

NORTH EAST CHELMSFORD
STRATEGIC INFRASTRUCTURE COST SCHEDULE

06-Sep-18 | 5500 | **DRAFT 1.0** | All Costs at 3Q2018

ARC REF	AGREEMENT / DATE	ITEM NO.	DESCRIPTION	TRIGGER DATE	DWG REF	ARCADIS QTY	UNIT	RATE	TOTAL (£) 3Q2018	COMMENTS
4300			**LANDSCAPE DESIGN**							
4300.1			Landscape Design Fees @ 6% of Landscaping Costs			6%	item	13,000,000	780,000	
4300.2			Attendance on arboricultural surveys / procurement			1	Item	20,000	20,000	
			Sub-Total						**800,000**	
4400			**ECOLOGY**							
4400.1			Environmental Clerk of Works			8	Years	6,500	52,000	
4400.2			Ecological management strategy			1	Item	15,000	15,000	
			Sub-Total						**67,000**	
4500			**SITE SUPERVISION / GENERAL DESIGN**							
4500.1			Infrastructure Site Supervision and Administration @ 3.2%			3.2%	Item	113,383,377	3,628,268	
4500.2			CDM Management			1	Item	300,000	300,000	
			Sub-Total						**3,928,268**	
4600			**PROJECT MANAGEMENT**							
4600.1			Project Management Fees @ 1.2% of Construction Costs including landscaping			1.2%	item	113,383,377	1,360,601	
			Sub-Total						**1,360,601**	
4700			**COST MANAGEMENT**							
4700.1			Quantity Surveyor Fees @ 1.2% of Construction Costs including landscaping			1.2%	item	113,383,377	1,360,601	
			Sub-Total						**1,360,601**	
4800			**LOCAL AUTHORITY FEES**							
4800.1			Section 38 Inspection Fees (@ 8.5%)			8.5	%	23,666,666	2,011,667	
4800.2			SUDs Commuted Sums (20 years)			1	item	750,000	750,000	
4800.3			Section 278 Inspection Fees (@ 8.5%)			8.5	%	1,400,000	119,000	
4800.4			Section 38 Commuted Sums			1	item	1,000,000	1,000,000	Street lights and finish to footways
4800.5			Section 104 Inspection Fees (@ 2.5%)			2.5	%	23,522,817	588,070	
4800.6			County Council Pre design check fees (S278 Works)			1	Sum	75,000	75,000	
4800.7			County Council design check fees (S278)			1	Sum	75,000	75,000	
4800.8			County Council Mini cash deposit for highway works (S278 Works)			6	%	35,000	2,100	
4800.9			County Council costs for Traffic Regulation Orders			15	No	4,000	60,000	
4800.10			Bonding costs (5 years at 2% per annum)			10	%	10,000,000	1,000,000	
			Sub-Total						**5,680,837**	
			SUB - TOTAL (PROFESSIONAL / LOCAL AUTHORITY FEES)						**£ 21,491,392**	
			GRAND TOTAL (excluding risk)						**£ 140,633,513**	
5000			**RISK (on construction costs)**			10%	Item	140,633,513	14,063,351	
			GRAND TOTAL (including risk)						**£ 154,696,864**	
6000			**OTHER**							
			Section not used							
			Sub-Total						**-**	
7000			**INDEXATION**							
			Section not used							
			Sub-Total							
			GRAND TOTAL INCLUDING SERIES 6000						**£ 154,696,864**	

Prepared by A Fensome

Appendix 3

STRATEGIC GROWTH SITE 4 - NORTH EAST CHELMSFORD
Delivery of the Chelmsford North East Bypass Phases 1 and 2 and other Strategic Infrastructure

Local Improvements

Chelmsford North East Bypass Phase 1

Chelmsford North East Bypass Phase 2

A131

A130

Waltham

Graham Rd

Springfield

A12

Boreham

1

Local Access

P&R

P&R

KEY

Delivery of the Chelmsford North East Bypass Phases 1 and 2

Strategic Growth Site 4 - North East Chelmsford

CHELMSFORD NORTH EAST BYPASS PHASE 1

Chelmsford North East Bypass Phase 1 delivered by Strategic Growth Site 4

New Roundabout - Designed to allow dualling of the Chelmsford North East Bypass for Phase 2

Chelmsford North East Bypass Phase 1 delivered by contributions (ECC Secure Highways Land)

New roundabout junction connecting the Chelmsford North East Bypass to the A131

CHELMSFORD NORTH EAST BYPASS PHASE 2

Chelmsford North East Bypass Phase 2 - Dualling of Phase 1

Other Development Infrastructure

Outer RDR

Section of A130 to be relieved as a result of the Chelmsford North East Bypass Phase 1

Traffic Management of Essex Regiment Way as part of ChART Proposals

Bus and Vehicle Connections

Cycle and/or Pedestrian Connections

Land to be provided for Park & Ride Expansion

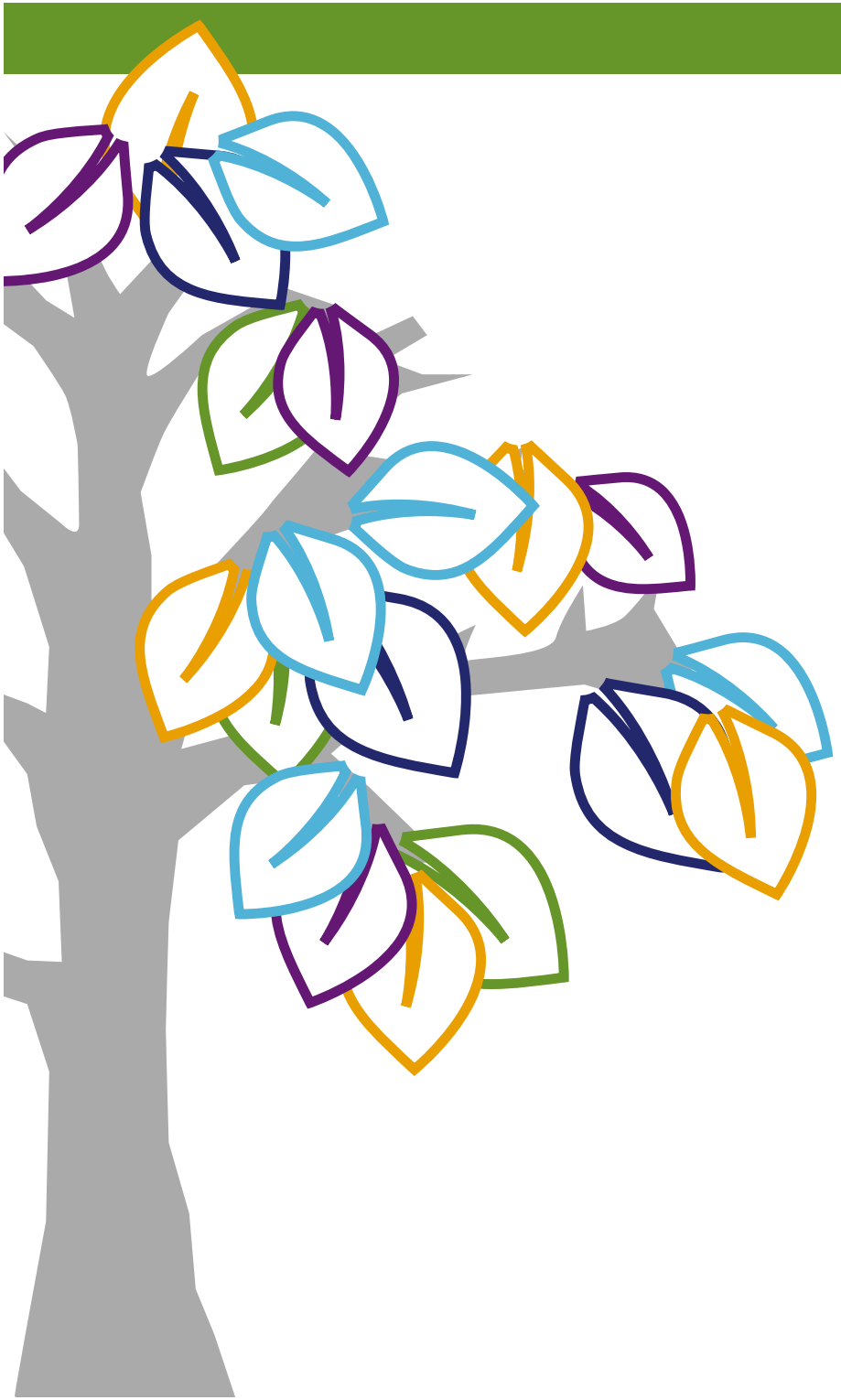
Strategic Infrastructure Coming Forward

RDR

The Boreham Interchange Improvements delivered by the Beaulieu Consent and A12 Widening

A12 Widening - Highways England

Appendix 4



SD 002

Chelmsford Draft Local Plan

Schedule of Additional Changes

June 2018

Our Planning Strategy to 2036

Chelmsford Local Plan

Local Plan Housing Trajectory 2013-2036

Site Address	Easting	Northing	Postcode	Ward/Parish	Allocation/Commitment Number	SLAA/UCS Reference	Estimated Total Capacity	No of which AH	Total Outstanding Capacity	AH Outstanding Capacity	Status	Governing Planning Permission and approval date	Reserved Matters/Other approvals and decision dates	Work Started	PDL	Greenfield	Conversion	Demolition	Year 1 18/19		Year 2 19/20		Year 3 20/21		Year 4 21/22		Year 5 22/23		Years 2023/24 - 2027/28	Years 2028/29 - 2032/33	Years 2033/34 - 2035/36
																			Market	Affordable	Market	Affordable	Market	Affordable	Market	Affordable	Market	Affordable			
West Chelmsford	568061	207735	CM1 3RU	Writtle	Strategic Growth Site 2	MON/00165/14	800	280	800	280	No application			N		Y									78	42	78	42	560		
East Chelmsford - Manor Farm	573578	205591	CM2 7DG	Great Baddow - Great Baddow East	Strategic Growth Site 3a	MON/00208/14	250	88	250	88	No application			N		Y									32	18	32	18	150		
East Chelmsford - Land South of Maldon Road	574067	205323	CM2 7AG	Sandon - Little Baddow Danbury and Sandon	Strategic Growth Site 3c	MON/00100/14 (part of)	100	35	100	35	No application			N		Y									32	18	32	18			
East Chelmsford - Land North of Maldon Road	574315	205599	CM2 7RU	Great Baddow - Great Baddow East	Strategic Site 3d	MON/00100/14 (part of)	50	18	50	18	No application			N		Y									32	18					
SUBTOTAL																			**0**	**0**	**0**	**0**	**12**	**11**	**249**	**149**	**218**	**132**	**1335**	**859**	**190**
TOTAL GROWTH AREA 1 - New local Plan Allocations																													**3155**		
Growth Area 1 - Central and Urban Chelmsford (Existing Commitments without Planning Permission)																															
Lockside Navigation Road Chelmsford	571590	206486	CM2 6HE	Chelmsford Town Area - Moulsham and Central	CW1c	CFS262	130	46	130	46	No application			N	Y										32	18	32	18	30		
Waterhouse Lane Depot and Nursery Chelmsford	569558	206570	CM1 2RY	Chelmsford Town Area - Waterhouse Farm	GS1p	CFS266	20	7	20	7	No application			N	Y														20		
Writtle Telephone Exchange Ongar Road Writtle	567557	206381	CM1 3NA	Writtle	EC2		25	9	25	9	No application			N	Y															25	
SUBTOTAL																			**0**	**0**	**0**	**0**	**0**	**0**	**32**	**18**	**32**	**18**	**50**	**25**	**0**
TOTAL GROWTH AREA 1 - Existing Commitments without Planning Permission																													**175**		
Growth Area 1 - Central and Urban Chelmsford (Existing Commitments with Planning Permission)																															
Peninsula Site Chelmer Waterside Development Wharf Road Chelmsford	571628	206292	CM2 6LU	Chelmsford Town Area - Moulsham and Central	CW1b	N/A	421	106	421	106	Permission granted	16/01630/FUL approved 15/03/2017	N/A	Y	421						123	99	72	7	120						
Land north of Galleywood Reservoir Beehive Lane Galleywood	570557	203053	CM2 8PZ	Galleywood - Galleywood	EC1	CFS260	13	0	13	0	Permission granted	16/01012/OUT approved 13/12/2017		N	13										13						
SUBTOTAL																			**0**	**0**	**123**	**99**	**72**	**7**	**133**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL GROWTH AREA 1 - Existing Commitments with Planning Permission																													**434**		
TOTAL GROWTH AREA 1																													**3764**		
Growth Area 2 - North Chelmsford																															
Growth Area 2 - North Chelmsford (New Local Plan Allocations)																															
North East Chelmsford	572140	212363	CM3 3LZ	Little Waltham - Broomfield and the Walthams	Strategic Growth Site 4	MON/00139/14 (part) MON/00094/14 (part) + subsequent masterplan submission	3000	1050	3000	1050	No application			N		Y											65	35	450	1225	1225
Great Leighs - Land at Moulsham Hall	573091	218377	CM3 1PZ	Great and Little Leighs - Boreham and the Leighs	Strategic Growth Site 5a	MON/00204/14 (part)	750	263	750	263	No application			N		Y													142	356	252
Great Leighs - Land East of London Road	573496	218450	CM3 1QX	Great and Little Leighs - Boreham and the Leighs	Strategic Growth Site 5b	MON/00204/14 (part)	250	88	250	88	No application			N		Y									45	25	65	35	80		
Great Leighs - Land North and South of Banters Lane	573476	218174	CM3 1TN	Great and Little Leighs - Boreham and the Leighs	Strategic Growth Site 5c	MON/00025/15 MON/00036/15 MON/00019/14	100	35	100	35	No application			N		Y													100		
North of Broomfield	570332	211817	CM3 3PG	Broomfield - Broomfield and the Walthams	Strategic Growth Site 6	MON/00181/14 (part) MON/00001/15 MON/001845/14 MON/00036/14	450	158	450	158	No application			N		Y									26	14	32	18	360		
SUBTOTAL																			**0**	**0**	**0**	**0**	**0**	**0**	**71**	**39**	**162**	**88**	**1132**	**1581**	**1477**
TOTAL GROWTH AREA 2 - New Local Plan Allocations																													**4550**		
Growth Area 2 - North Chelmsford (Existing Commitments with Planning Permission)																															
Greater Beaulieu Park White Hart Lane Springfield - Remainder of phase 2-4	572714	210006	CM1 6AR	Springfield - Springfield North	NCAAP 5,7-10,12	N/A	2205		2205		Permission granted	09/01314/EIA approved 07/03/2014				2205													1220	985	
Land North East of 158 Main Road Great Leighs	573181	217762	CM3 1NP	Great and Little Leighs - Boreham and the Leighs	EC3	CFS105	100	35	100	35	Appeal allowed	14/01791/OUT appeal allowed 26/09/2016	17/01949/REM approved 15/03/2018	N		100					45	22	20	13							
Land East of Plantation Road Boreham	575968	209900	CM3 3EA	Boreham - Boreham and the Leighs	EC4	CFS145	143	51	143	51	Appeal allowed	14/01552/OUT appeal allowed 26/05/2016		N		145		2			19	30	39	21	34						
SUBTOTAL																			**0**	**0**	**64**	**52**	**59**	**34**	**34**	**0**	**0**	**0**	**1220**	**985**	**0**
TOTAL GROWTH AREA 2 - Existing Commitments with Planning Permission																													**2448**		
TOTAL GROWTH AREA 2																													**6998**		

Appendix 5

BCIS Average Prices: £/m2 study

Downloaded: 30-Aug-2018 14:20

Updated: 18-Aug-2018 02:05

Rate per m2 gross internal floor area for the building Cost including prelims.

At 3Q2018 prices (based on a Tender Price Index of 313) and UK mean location (Location index 10

Type of Work	Building function	Sub-Class	Decile 5 (median)	Location Adjustment	Externals	Contingency	m2
New build				1.02	10.0%	5.0%	**800**
	421. Health Centres, clinics, group practice surgeries	Generally	£2,029	£2,070	£2,277	£2,390	£1,912,292
		Public	£2,450	£2,499	£2,749	£2,886	**£2,309,076**
		Private	£1,872	£1,909	£2,100	£2,205	£1,764,323

Appendix 6

CHELMSFORD CITY COUNCIL'S LOCAL PLAN

STATEMENT OF COMMON GROUND – PROPOSED STATION AT BEAULIEU (NORTH EAST CHELMSFORD)

Between:

1) Chelmsford City Council – the Local Planning Authority

2) Essex County Council – the Local Highway Authority

3) Network Rail – the Rail Infrastructure Provider

4) Greater Anglia – the Operator of the Rail Franchise

5) Countryside Zest – the promotor of the new neighbourhood at Beaulieu, from where access to the railway station is provided

INTRODUCTION AND BACKGROUND

1.1 Beaulieu Station is a long standing transportation priority for Chelmsford. It comprises a new station located in North East Chelmsford on the Great Eastern Main Line (GEML). The Station was granted outline planning permission in 2014.

1.2 Pursuant to the grant of Outline consent for the proposed station, a Steering Group has been formed by Essex County Council and Chelmsford City Council to progress the delivery of the proposed station.

1.3 This Statement of Common Ground has been signed by all parties who sit on the Steering Group to confirm the work and its status in delivering the proposed station. The parties and their responsibilities are listed below;

- Network Rail – The organisation responsible for the Management of the Rail Network, who would be responsible for implementation of the proposed station.
- Greater Anglia – The Train Operating Company who currently operates the rail service on the Great Eastern Main Line.
- Essex County Council – The Local Transport Authority
- Chelmsford City Council – The Local Planning Authority.
- Countryside Zest – The promoter of the new neighbourhood at North East Chelmsford (Beaulieu) and through their consent for Beaulieu the party responsible for delivery of access to the new station up to the interchange boundary.

Background

1.4 Leading up to the grant of Outline planning consent for the proposed station, detailed discussions were held with the rail industry which involved;

- considering the revenue forecasts for the station to ensure that the station created a revenue surplus above its operating costs,
- operating discussions to consider the most appropriate track layout to allow the station to come forward and
- engineering workshops to consider the technical issues.

1.5 Pursuant to the grant of planning consent in 2015, a Memorandum of Understanding was signed by Chelmsford City Council, Essex County Council, Network Rail and Countryside

Zest. This commits the parties to work in partnership on the Station's delivery and they are working collaboratively on the project's delivery.

1.6 Greater Anglia the Train Operating Company now sit on the Station Steering Group and are to be a signatory of an updated Memorandum of Understanding.

Implementation Programme

1.7 The delivery of the station design and ultimately its construction is being controlled through Network Rail's Governance for Railway Investment Projects (GRIP). This ensures that suitable options are developed for the station layout and then properly considered by the relevant stakeholders before a preferred option is selected. The selected option is then developed to detailed design before being constructed. At the conclusion of the GRIP stage 6 the station will be opened for use.

1.8 The GRIP process is summarised in eight stages below and the project is at **GRIP Stage 3.**

Deleted:

1.10 GRIP stage 2 was concluded in April 2017 with a range of options identified. A key objective for both Network Rail and the current train operating company, Greater Anglia is to ensure that the new station does not cause capacity issues on the GEML, particularly prejudicing faster journey times. The identified station options are thus configured with a central passing loop or turnback requiring 3 platforms.

1.11 These options that are now being developed further through GRIP stage 3 which will result in a preferred option for the station layout being selected.

1.12 The current programme for delivery of the Station is set out below;

- GRIP 1 and 2 – Completed April 2017
- GRIP 3 Currently being undertaken for Completion May 2020
- GRIP 4 (including Transport and Works Act Order) - Completion April 2022 (anticipated)
- GRIP 5 Completion March 2023 (anticipated)
- ***GRIP 6 Station opened Dec 2025 (anticipated)***

1.13 In terms of access to the Station, the consented Beaulieu scheme is required to provide access to the Station Interchange Boundary and to the MSCP. This access is taken from

the RDR and Boreham Interchange and is anticipated to be completed by 2021. Therefore in ample time prior to when the station opens and to allow its use for access during construction.

The Funding Position

1.14 The consented Beaulieu development provides a financial contribution of £22m towards the Station. These monies are currently being used to fund the Station's development through the current GRIP stages.

1.15 ECC and CCC were also successful in a bid for a further £12m allocated through the South East Local Enterprise Partnership. Therefore the current funding available towards the station delivery is £34m.

1.16 The GRIP Stage 2 study included detailed cost analysis. In accordance with the Network Rail GRIP procedures this has included for contingency and inflation allowance.

1.17 The current estimated cost of the Station is close to £145m allowing for the potential risk costs and inflation. As the design of the station develops through the GRIP stages and a preferred option is selected the potential risks will become better understood and effectively mitigated which will enable a more accurate assessment of the cost of the Station to be made, prior to the construction contract being awarded.

1.18 Essex County Council, with the support of Chelmsford City Council and other members of the Steering Group has submitted a bid to the Government's Housing Infrastructure Fund. The submitted bid is for £250m to fund the Station and the first phases of the Chelmsford North East Bypass. The bid is one of 45 areas in England that has been approved by the Government to be further developed during 2018.

1.19 A full business case for the station is now being prepared, in accordance with the Governments requirement and a final funding announcements from the Government is anticipated either late 2018/early 2019.

CONCLUSIONS

1.20 The Members of the Station Steering Group are fully committed to the delivery of the proposed station and progressing using existing available funds through the GRIP Stages to expedite its delivery.

Signed for and on behalf of ESSEX COUNTY COUNCIL

Signature: .....

Name: .....

Position: .....
Date: .....

Signed for and on behalf of CHELMSFORD CITY COUNCIL
Signature: .....
Name: .....
Position: .....
Date: .....

Signed for and on behalf of NETWORK RAIL INFRASTRUCTURE LIMITED
Signature: .....
Name: .....
Position: .....
Date: .....

Signed for and on behalf of Greater Anglia
Signature: .....
Name: .....
Position: .....
Date: .....
Position: .....
Date: .....

Signed for and on behalf of Countryside Zest
Signature: .....
Name: .....
Position: .....
Date: .....
Position: .....
Date: .....