# Ipswich Garden Suburb

On behalf of: Ipswich Borough Council

Stage 2 Report

Viability Assessment

June 2016



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# EXECUTIVE SUMMARY (NON-TECHNICAL)

1. Gerald Eve LLP ("GE") together with Mott MacDonald ("MM") have been instructed by Ipswich Borough Council (“IBC”) to undertake an independent assessment of the viability and deliverability of Ipswich Garden Suburb (“IGS”) in accordance with the related Interim Supplementary Planning Document (“Draft SPD”) which was published in September 2014.

2. GE’s instruction was to review and assess the viability of IGS in line with the requirements of the Draft SPD. Supported by inputs assumed by Peter Brett Associates (“PBA”) in May 2015, GE undertook a viability and cash flow exercise to analysis the maximum and reasonable level of Affordable Housing that may be anticipated from IGS.

3. Assessment has had regard to the National Planning Policy Framework (“NPPF”) and Planning Policy Guidance (“PPG”). It is recognised, however, that given the size and length of time of the proposed IGS, whilst there is no Area Wide assessment, the Scheme is not directly comparable to site specific assessment guidance. As such GE has considered IGS on an objective “current day” basis, as at Q2 2015 (date of cost data), but also considered the impact of forecasting and sensitivity in arriving at an opinion of the level of appropriate Affordable Housing. As part of the process, GE met with IBC and Key Stakeholders in the IGS between July 2015 and May 2016.

4. Whilst GE have had regard to the comments collected during the various Stakeholder meetings; issues and comments raised by individual Stakeholders which did not have regard to the wider Masterplan concept and market based assumptions have not been considered.

5. GE’s approach has considered the holistic delivery of the whole of IGS whilst aiming to maintain viability at a neighbourhood level. Individual phases may achieve a higher or lower quantum of Affordable Housing. Based on information provided by the Council and Key Stakeholders, it is



 

currently estimated that Affordable Housing within the phases could range between 12% and 35%.

6. To this end, it is GE's opinion that in order to maximise viability of the Garden Suburb, it will require Stakeholders to agree reasonable distribution and proportionment of infrastructure items, Section 106 obligations and Affordable Housing provisions, which may require consideration beyond their individual objectives. GE consider that the most appropriate method may be an overriding legal agreement which allows overall delivery and flexibility in applied assumptions which may be beyond those addressed in this report.

7. Given the nature of this assessment, there may be ways to improve the conclusion on the viability of IGS and the impact on Affordable Housing which will become clearer as various elements of the wider scheme are crystallised. Such amendments may include:

   - Reducing/rationalise proposed costs estimates;
   - Rationalise infrastructure;
   - Allowing flexibility to address changing Government Guidance to Section 106 items /costs;
   - Consider required environment/sustainable provisions and delivery;
   - Redistribution of trigger points for required infrastructure/Section 106 costs;
   - Consider the impact of economic cycles in market conditions over the lifecycle of IGS through reasonable regular reviews;
   - Collaborative delivery of the necessary infrastructure / Section 106 items.
   - Joint Venture equalisation of costs and Affordable housing.



 

8. Furthermore, sensitivity analysis has demonstrated that when allowing for the maximum density of the Scheme of 35 units per ha (14 units per acre) or 3,500 dwellings, IGS may be capable of delivering more Affordable Housing than initially estimated due to the fact costs such as land and site wide infrastructure are not proportionally affected by increased housing numbers and therefore making the IGS more viable.

# Summary of Appraisal Inputs

| Item | Input |
|---|---|
| **Unit Sizes** | **As at Q2 2015** |
| Average Private Residential Unit Size | 102 sq m (1,094 sq ft) |
| Total Units | 3,266 |
| Average Affordable Residential Unit Size | 70 sq m (753 sq ft) |
| Affordable Tenure Split | 80% Affordable Rent; 20% Intermediate |
| **Revenue** | |
| Private Residential Sales Values | £2,368 per sq m (£231.00 per sq ft) |
| Blended Affordable Housing Value | £1,256 per sqm (£136.29 per sq ft) |
| **Land Value** | |
| Land Value | £53.75 Million (£289k per gross Ha) |
| **Construction Costs** | |
| Base Rate Residential Cost | £922 per sq m (£85.65 per sq ft) |
| Residential External Works | 12% uplift of base rate |
| Sustainability Cost | £2,000 per dwelling |
| Abnormal Cost | £1,500 per dwelling |
| Contingency | 5% |
| Base Rate Local/District Centre | £789 per sq m (£73.30 per sq ft) |
| Local/District Centre External Works | 15% uplift of base rate |
| Professional Fees on Build Costs | 8% |
| Professional Fees on Abnormal Costs | 12% |
| **Funding** | |
| Finance Rate | 6% |
| **Return** | |
| Proxy | IRR |
| Benchmark Return | 14% IRR – present Day<br><br>20% on IRR- Growth Model: |

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# 1 Introduction

This section provides an overall explanation of the instruction.

1.1 Gerald Eve LLP ("GE") together with Mott MacDonald ("MM") have been instructed by Ipswich Borough Council ("IBC") to undertake an independent assessment to consider the viability and deliverability of Ipswich Garden Suburb ("IGS") in accordance with the related Interim Supplementary Planning Document ("Draft SPD") which was published in September 2014.

1.2 The purpose of the study was to assess objectively the viability of a large scale multi-phase development based on considered market evidence, where available. Whilst GE have had regard to the comments collected during the various Stakeholder meetings; issues and comments raised by individual Stakeholders which did not have regard to the wider Masterplan concept and market based assumptions have not been considered.

1.3 IBC Core Strategy has addressed the needs to accommodate the growing population through ensuring sufficient land is available to provide housing. The land at the Northern Fringe area between Henley Road and Westerfield Road in Ipswich (IGS), has been identified as the main source for the supply of housing beyond 2021 ("the Masterplan") making this a core strategic site.

1.4 The Draft SPD (2014) anticipates up to 3500 houses, seeking the IGS to "***maximise the delivery of housing land within the defined Northern Fringe Area***[1] *whilst ensuring that adequate land is reserved for the necessary supporting infrastructure for the number of homes proposed and an associated projected future population."*

1.5 This report is part of a wider instruction which has been broken down into three stages in which Stage1 clarified the costs of the key infrastructure items and build costs, reviewed the infrastructure and housing delivery phasing previously assumed and identified any cashflow funding gaps that may influence the

[1] Bolded and underlined for emphasis. Not part of direct quote



delivery of IGS. The information that was being assessed and updated were previously considered inputs and assumptions made by Peter Brett Associates ("PBA") in 2013 and later updated in May 2015.

1.6 Stage 2 provides an updated financial assessment of the IGS Masterplan having regard to Stage 1.

1.7 Stage 3 of the instruction is to work with the various parties to agree an appropriate approach to delivery of IGS.

1.8 This process has been informed by discussions with IBC and Key Stakeholders from July 2015 through to May 2016. GE has attended a number of meetings with the respective Key Stakeholders and Council both individually and collectively on a quarterly basis to discuss individual objectives and issues with delivering these elements of the IGS. GE has had regard to these discussions as part of their assessment of IGS.

1.9 It should be noted, that GE has not agreed with the Key Stakeholders proposals in all instances. Primarily these were individually proposed build costs which were in excess of comparable evidence / BCIS; and the proposal that land values should reflect individual commercial contract. Stakeholders have proposed these commercial contracts reflect the market norm, whereas GE considered the proposed land values to be in excess of the market norm and therefore should be disregarded.

1.10 The remainder of this report focuses of Stage 2 and draws upon conclusions from Stage 1 where appropriate and is set out as follows:

2. Background and Site Description;

3. Planning Policy Context and Issues;

4. Land Use and Key Stakeholders;

5. Assessment of Land Value;



6. Proposed Distribution of Units;

7. Summary of Appraisal Inputs;

8. Infrastructure, Section 106 and Other Associated Costs;

9. Return;

10. Appraisal Outputs;

11. Assessment of Affordable Housing;

12. Growth Modelling;

13. Stage 2 Conclusions.

1.11 There are a number of appendices which are introduced and referred to in the text of the report; these are included within the report submission.

1.12 Stage 3 is anticipated to make further consideration of the remaining concerns of Key Stakeholders of the delivery of the SPD and to determine the delivery process to ensure IGS is practically achieved. The FVA only considers policies (both locally and nationally) that are currently stated. It does not consider the impact of emerging policies such as how the Starter Homes provision might impact upon overall viability.



# 2 Background and Site Description

This section provides the context for the IGS focussing on the considered site and the need to deliver this site for development. A history of the development is also summarised.

**Background**

2.1 IBC's Core Strategy and Policies Development Plan Document, December 2011 addresses the need to meet the requirements of the growing population and demand for dwellings by targeting an increase in developable land to provide new homes within Ipswich.

2.2 The Core Strategy designated the land known as IGS for the delivery of a significant proportion of the proposed new homes for Ipswich; and is supported by a Supplementary Planning Document ("Draft SPD") (September 2014) which provides design guidance and master planning for the major urban extension. A number of objectives and requirements have been identified within the Draft SPD which considers the targeted number of dwellings to be delivered; desired site densities; an estimated delivery time frame; and infrastructure and Section 106 contributions that are likely to be required to support the development.

2.3 The Draft SPD was previously assessed by PBA in July 2013 where a number of inputs were considered in order to assess the ability to deliver the Site and whether the objectives of the Draft SPD could be achieved.

2.4 In 2013 PBA concluded that IGS could provide approximately 31.6% of the proposed units as affordable housing which was below the 35% policy target. PBA updated their report in May 2015 in which it was considered that 27.2% could be provided for affordable housing following changes in the market over this period.



2.5 GE and MM were instructed to review the inputs identified by PBA for assessing the viability of the IGS as set out in the Draft SPD (Stage 1). It was concluded that whilst a significant proportion of the assumptions proposed by PBA appeared reasonable, on review; a number would require refinement, including but not exclusively the cash-flow and distribution of the proposed delivery to correlate with the anticipated delivery programme and neighbourhood structure which would be reflected in a new viability assessment (stage 2).

2.6 In addition, due to the relatively headline nature of their instruction of the Masterplan, PBA assumed significantly greater than policy levels of Affordable Housing in the latter phases of IGS, although on an overall basis, this was diluted by the lack of Affordable Housing in the early phases. If the latter phases were to be capped at 35% Affordable Housing, the actual level in which PBA assessed would reduce to c.23% from the previously considered 27%, based on the total number of units.



### Ipswich Garden Suburb ("IGS")

2.7 The site allocated for the delivery of IGS is approximately 200 ha (c.494 acres) of Greenfield land located on the northern edge of the urban area, between Henley Road in the west and Tuddenham Road in the east. The site is approximately 1.5 miles north of Ipswich Town Centre outlined in red below.

**Figure 1: Location of Ipswich Garden Suburb**


Area is approximate. Source: Google Maps



**Figure 2: Aerial view of IGS in its current form**


Source: Draft SPD

### Structure of the proposed Neighbourhoods

2.8 IGS is proposed to be split into three key neighbourhoods; Fonnereau ("N1"), Henley Gate ("N2") and Redhouse Farm ("N3") as identified in Figure 3 below.

**Figure 3: Neighbourhood Plan**


Source: Network Rail Briefing August 2015

2.9 The Masterplan is broken down into three neighbourhoods which are currently under various levels of control by the respective Stakeholders. A breakdown of the land under the respective ownerships is set out in the table overleaf.

**Table 1: Stakeholders Interest in the Land**

| Name | Neighbourhood | Stakeholder | Comments |
|---|---|---|---|
| Fonnereau | N1 | (a) CBRE* | CBRE SPUK III (No45) Ltd own the land. |
| | | (b) Ipswich School* | Ipswich School own their respective land area which is currently used as sports facilities. |
| Henley Gate | N2 | (a) Crest Nicholson* | Crest Nicholson own and have an option agreement on the land. |
| | | (b) Other (adj. Henley Road and Lower Road) | Land owned outside of the control of Crest Nicholson. |
| Red House | N3 | (a) Mersea Homes* | Mersea Homes own the land. |
| | | (b) Red House Farm | Area not owned by Mersea Homes. |

Source: GE

* indicates Key Stakeholders

**Planning Applications**

2.10 In addition to the Masterplan, GE are aware that an outline planning application has been submitted by CBRE SPUK III (No.45) Ltd and Mersea Homes (Ipswich) Ltd in relation to the land within N1 which is under CBRE's ownership. This application is not inclusive of the land within N1 which is owned by Ipswich School. In addition, the outline application also includes land outside the Masterplan boundary. GE understands this application is currently pending with IBC.

2.11 The outline planning application (14/00638/OUTFL) is for:

*"An outline planning application for a mixed use development for up to 815 dwellings (C3); a district centre (with up to 7,360 sqm of floorspace in the following use classes: A1 retail (not exceeding 4,540 sqm), financial services (A2), restaurants, pubs and takeaways (A3, A4, A5), business uses (B1a), dwellings and institutional residential uses (C2,C3) and non-residential institutions (including health centre (D1) and leisure uses (D2)); a primary school (D1); vehicular access from Westerfield Road (x2) and Henley Road (cycle, pedestrian, emergency vehicle, temporary bus route only); provision of public amenity space; provision of infrastructure (including highways, parking, cycle, pedestrian routes, utilities and sustainable drainage systems); landscaping and engineering works (including ground remodelling and enabling works). Within the outline described above full details are submitted for 80 of the total dwellings proposed and associated vehicular access from Westerfield Road. Works proposed will affect Tree Preservation Orders and public right of ways within the application site. An Environmental Statement has been submitted with the application under the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2011."*



# 3 Planning Policy Context & Issues

This section provides an overview of the key planning policies associated at national, regional and local level including an overview of the planning background relating to the delivery of IGS. Additional reference should be made to the National Planning Policy Framework ("NPPF"), the Planning Practice Guidance ("PPG"), Local policies, and RICS Guidance Note: Financial Viability in Planning ("GN94/2012").

3.1 In undertaking this viability assessment, GE has considered policies on both a national and local level. Whilst this section provides an overview of the policy context for the Proposed Scheme, it also refers in particular to those policies which set the background and need for the viability assessments in order to justify the planning obligations package.

**National Planning Policy Framework**

3.2 The National Planning Policy Framework ("NPPF") published in March 2012 sets out the Government's economic, environmental and social planning policies for England. It summarises in a single document all previous national planning policy advice. Taken together, these policies articulate the Government's vision of sustainable development, which should be interpreted and applied locally to meet local aspirations.

3.3 The NPPF sets out the Government's requirements for the planning system only to the extent that it is relevant, proportionate and necessary to do so. It provides a framework within which local people and their accountable councils can produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities.

3.4 The NPPF establishes the presumption in favour of sustainable development. Specifically, paragraph 19 states that the planning system should do all that it can to promote sustainable economic growth in order to create jobs and prosperity and meet the challenges of global competition alongside a low carbon future. The NPPF states that significant weight should be placed on the need to support economic growth through the planning system.

3.5 Part 6 of the NPPF relates specifically to boosting the national supply of housing in order to meet local housing requirements. Paragraph 50 states that there should be provision of a wide choice of high quality homes, opportunities for home ownership should be widened and inclusive and mixed communities should be created through residential-led development proposals.

3.6 Section 7 of the NPPF states that the Government attaches great importance to the design of the built environment and that good design is a key aspect of sustainable development.

**Planning Practice Guidance**

3.7 Whilst the IGS SPD is an additional document to the Ipswich Development Framework, it is anticipated to deliver a significant proportion of the housing trajectory for the Authority. PPG states Local Plan viability is critical to overall assessment of deliverability. IGS reflects the vision for the area and as such, in line with PPG should be presented in context of an understanding of local economic conditions and market realities. This should not undermine the ambition for high quality design and wider social and environmental benefits, but should be tested against the realistic likelihood of delivery.

3.8 PPG recognises that there is no standard answer to viability or that there is a single approach for assessment; however in this instance, given this is not an area wide assessment; GE have given specific weight to RICS guidance (RICS Guidance Note 94: Financial Viability in Planning [August 2012]).



3.9 PPG suggests that viability plans do not require the need to test every individual site or the assurances that individual sites are viable; and this approach could be deemed to also follow on major masterplanning projects, where the impact of time and distribution of costs on viability may vary. In this instant GE have tested neighbourhoods as well the Masterplan as a whole and therefore follows this guidance.

3.10 It is also recognised that for both area wide plan making and site specific assessments, current day assumptions should be applied and that policies/ site requirements should not be set on the expectation of future rises in values, at least for the first five years of assessment.

3.11 PPG, however, also addresses the use of forecast modelling within viability testing as follows:

*"Viability assessment in decision-taking should be based on current costs and values. Planning applications should be considered in today's circumstances.*

*However, where a scheme requires phased delivery over the longer term, changes in the value of development and changes in costs of delivery may be considered. Forecasts, based on relevant market data, should be agreed between the Applicant and local planning authority wherever possible."*[2]

3.12 This report therefore considers assessment of the IGS, as a hybrid between Area Wide assessment and Site specific assessment, due to the nature of unknowns, detail and length of time involved in delivery. Furthermore, whilst the assessment has been undertaken on a current day basis, it also has regard to the impact of forecasting within sensitivity testing.

[2] Para. 017. Ref ID: 10-017-20140306



## Local Policies

3.13 The Core Strategy and Policies Development Plan Document, December 2011 sets out the key objectives for IBC. Within this document, IGS is referred to within Policy CS10 as "Ipswich Northern Fringe". There are a number of relevant policies within the Core Strategy that will need to be considered.

3.14 Policy CS7 states that there is a target of at least 14,000 additional residential units to be delivered between 2001 and 2021 which equates to approximately 700 units per year.

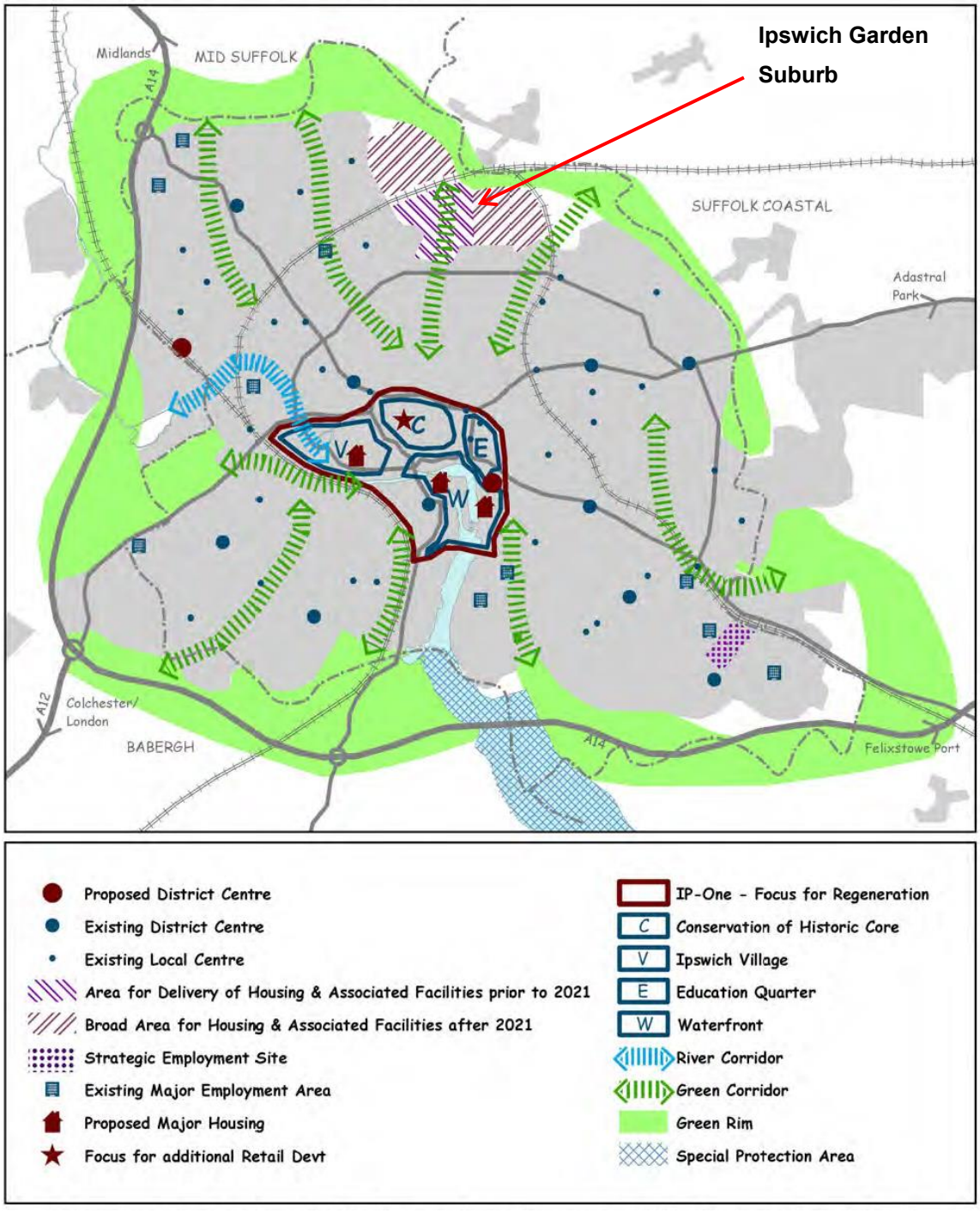
3.15 Policy CS8 states that the balance between flats and houses and housing densities should be in accordance with polices CS2 and DM30 whilst consideration should also be made to the Strategic Housing Market Assessment (SHMA) November 2008 document. Policy DM30 states that *"elsewhere in Ipswich, low-density development will be required (the average will be taken as 35 dph* [dwellings per hectare]*)".*

3.16 Policy CS10 refers to Ipswich Northern Fringe which is the outline site for IGS and considers that this site will enable the continuous delivery of housing and will form the main source of supply of housing land in Ipswich after 2021. The site is identified in the map overleaf.



## Figure 4: Location of IGS within the Core Strategy




Source: IBC Core Strategy page 30

3.17 Paragraph 8.104 (page 53) of the Core Strategy States:

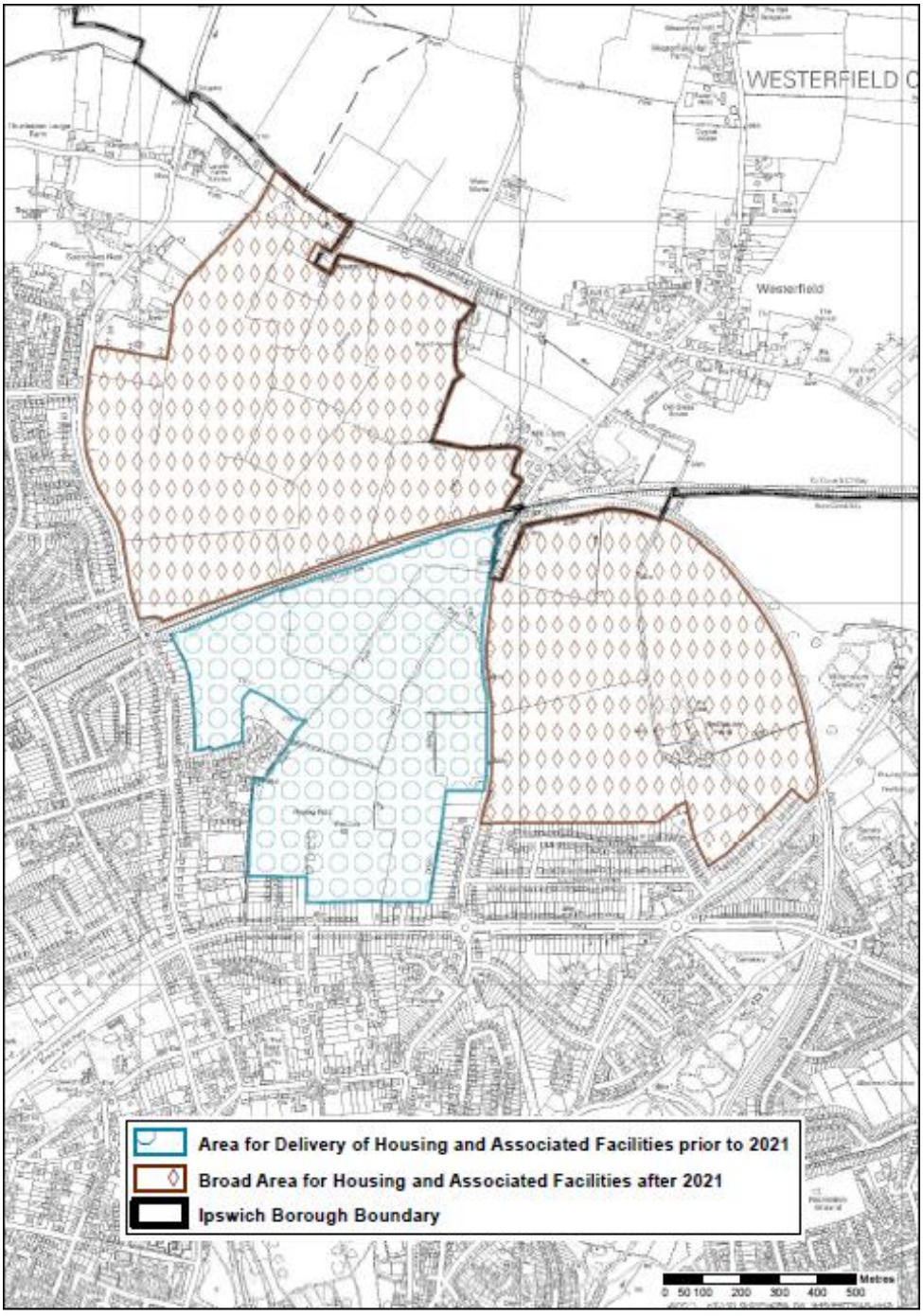
*"The tight urban boundary to Ipswich Borough means that there is only one area of extensive greenfield land still available on the periphery of the town and within the Borough. The land is located on the northern edge of the urban area and is known as the Northern Fringe. Development of the Northern Fringe would represent a major urban extension to the town. This could work against the plan's spatial strategy set out in policy CS2 by undermining urban regeneration efforts. Therefore, the questions as to whether the Northern Fringe land is needed as part of the fifteen year land supply, and how or when it would be released if so, are strategic issues to be determined through the Core Strategy."*

3.18 The Policy expresses concern that due to the limited availability of previously developed land in the rest of the town, the delivery of 1,000 dwellings will be expected to commence prior to 2021. This specific land has been identified as the land east of Henley Road which is highlighted in the map below.



**Figure 5: Allocated land expected for development prior to 2021**






Source: https://www.ipswich.gov.uk/sites/www.ipswich.gov.uk/files/Northern_Fringe_Area_A4_map.pdf

3.19 The Policy further describes the requirement of a Supplementary Planning Document to provide a development brief. One requirement is that any development will maintain an appropriate physical separation of Westerfield Village from Ipswich and provide the opportunity for the provision of a country park within the Northern Fringe as envisaged by Policy CS16.

3.20 Policy CS12 sets out the requirements for affordable housing where there is a target of 35% affordable housing in schemes of 15 or more dwellings or 0.5ha or more. The desired mix is then outlined that *"at least 80% of affordable housing provision should consist of social rented housing, subject to viability. The council will only consider reducing the requirement for the proportion of affordable housing in an open market development where an independent assessment of the applicant's development costs is carried out at the applicant's expense, which justifies a local percentage figure on viability grounds."* Policy DM24 Supports this requirement and sets out the requirement for on-site deliver rather than via a payment in lieu.

3.21 Policy CS16 requires that all developments are to contribute to the provision of open space according to the IBC's standards, identified strategic needs and existing deficits in the area. The policy also states that major new developments are to provide on-site public open spaces and wildlife habitats.

3.22 Policy CS17 requires that all developments meet the on and off-site infrastructure requirements needed to support the development and mitigate the impact of the development on the existing community and environment. Further details of this will be provided within the respective Supplementary Planning Document.

**Ipswich Core Strategy Review**

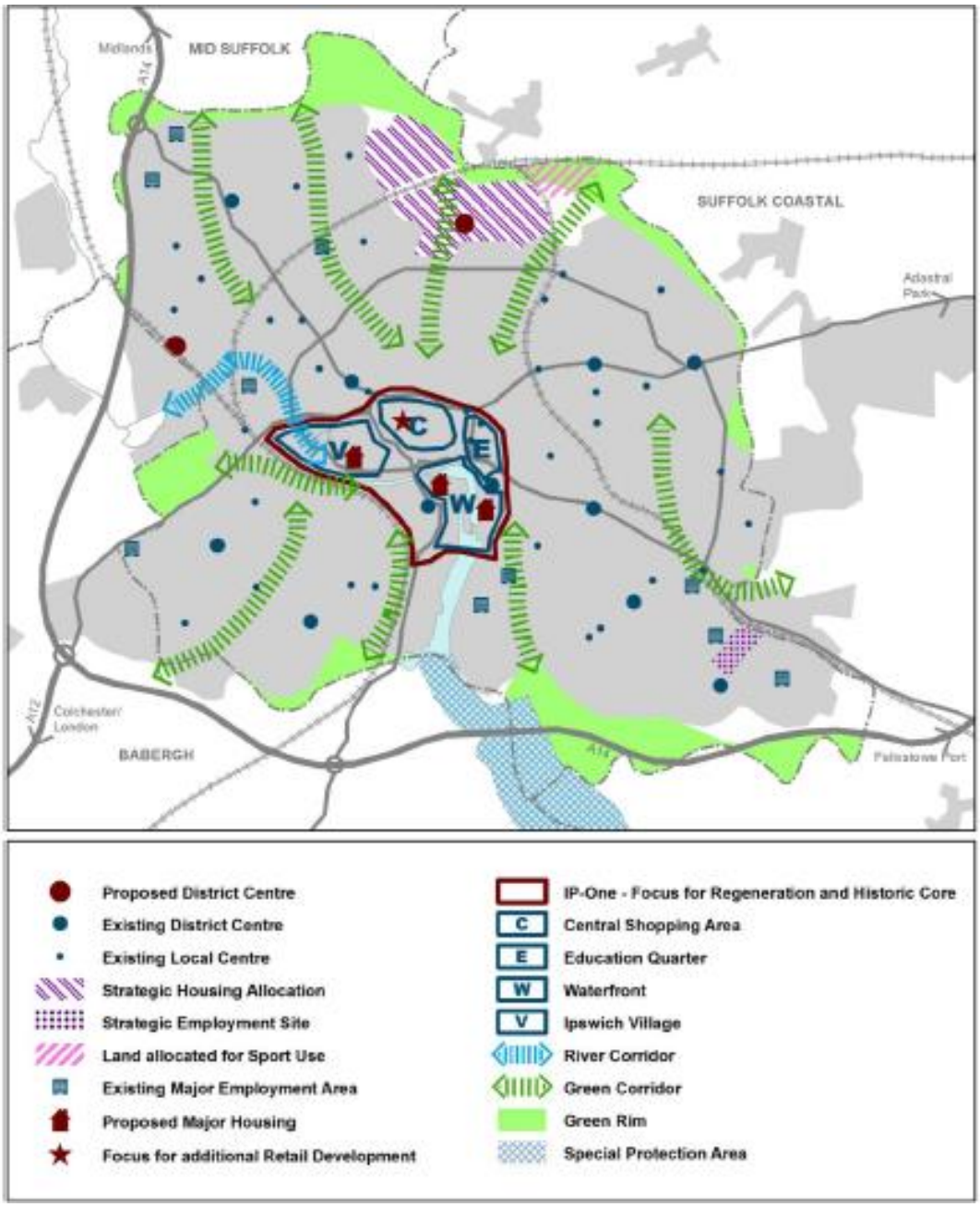
3.23 The Core Strategy Review was published November 2014 which has yet to be adopted, contains detailed policies to enable the management of development in Ipswich.



3.24 The Strategy Review provides an update to the approach to Ipswich Garden Suburb which is set out in the diagram below.

**Figure 6: Location of IGS within the Core Strategy Review**




Source: IBC Core Strategy Review page 24

3.25 The diagram above, when compared to Figure 4, now shows the requirement for a district centre within IGS and also incorporates the land above the railway line and to the east of Westerfield Road which are within the strategic housing allocation. In addition, the land to the right of IGS has now been identified as land allocated for sports use.

3.26 As part of CS2, new housing developments will ensure that new housing is provided close to local shops and facilities that can be accessed by non-car modes, which contributes to reducing carbon emissions and support communities.

3.27 The Core Strategy Review also updates the statistics set out within Policy CS7 where it is now considered that the Council will allocate land to provide an additional 4,734 dwellings by 2031 which is a reduction from the previously considered allocation of 5,434 dwellings. The Policy states that the IGS development will significantly contribute to meeting the housing needs during that period.

3.28 Sites will be allocated through the Site Allocations and Policies development plan document. In addition, the Council has updated the 2010 Strategic Housing Land Availability Assessment (SHLAA) which will be periodically updated.

3.29 The estimated delivery for IGS is stated to be 2,800 additional dwellings from 2014 to 2031 (Core Strategy Review: Table 3: Estimated Housing Delivery for 2014-2031 Excluding Current Permissions as at 1 April 2014).

3.30 Policy CS10 has been updated and instead of being called Ipswich Northern Fringe, now titled “Ipswich Garden Suburb” where it is considered to form a key component of the supply of housing land in Ipswich. The site is described to consist of 195ha and sets out the proposed land uses which are detailed in the table overleaf.



**Table 2: Core Strategy Review November 2014 – Land Allocation for IGS**

| Land Use | Approximate Area in Ha |
|---|---|
| Public Open Space | 40 |
| A Country Park (additional to the public open space above) | 24.5 minimum |
| Residential development of approximately 3,500 dwellings | 102 |
| A District Centre providing:<br>i. A maximum of 2,000 sq m net of convenience shopping, to include medium/large supermarket between 1,000 and 1,700 sq m net;<br>ii. Up to 1,200 sq m new of comparison shopping;<br>iii. Up to 1,320 sq m net of services uses including non-retail Use Class A1 plus A2 to A5 uses;<br>iv. A health centre;<br>v. A library;<br>vi. A police office;<br>vii. A multi-use community centre; and<br>viii. Appropriate residential accommodation in the form of upper floor apartments. | 3.5 |
| Two Local Centres together providing:<br>i. Up to 500 sq m net of convenience retail floor space;<br>ii. Up to 600 sq m net of comparison retail floor space; and<br>iii. Up to 500 sq m net of service uses including non-retail Use Class A1, plus Classes A2 to A5. | 1.5 including 0.5ha per local centre in the Northern and Eastern neighbourhoods and 0.5ha within the Northern neighbourhood for the country park visitor centre/community centre |
| A secondary school within the Eastern neighbourhood | 9 |
| Three primary schools | 6 |
| Primary road infrastructure, including a road bridge over the railway to link the Northern and Southern neighbourhoods | 8.5 |
| **Total** | **195** |

Source: IBC Core Strategy Review (2014): Page 48

3.31 The Council has prepared a Supplementary Planning Document ("SPD") to provide a development brief to:

a. Guide the development of the whole IGS area;
b. Amplify the infrastructure that developments will need to deliver on a comprehensive basis alongside new housing, including community facilities and, at an appropriate stage, the provision of a railway crossing to link potential development phases, in the interest of sustainability and integration;
c. Identify the detailed location of a district and two local centres and other supporting infrastructure; and
d. Provide guidance on the sequencing of housing and infrastructure delivery required for the development.

3.32 The infrastructure requirements for IGS are considered to be significant within the policy which is detailed within the SPD and triggers for the infrastructure are set out later in the document.

3.33 Policy DM21 sets out the provision, requirements and limitations for local shops and community facilities within defined District and Local Centres.

3.34 Table 8B as set out on page 137 of the IBC Core Strategy Review sets out the specific trigger points for the delivery of infrastructure within IGS. This has been assessed further under Section 8 of this report.

**The RICS Guidance Note: Financial Viability in Planning (GN94/2012)**

3.35 In line with assessing financial viability, we have had regard the RICS Guidance Note on Financial Viability in Planning.

3.36 GN94/2012 (first edition) was published in August 2012 and its purpose is to enable all participants in the planning process to have a more objective and transparent basis for understanding and evaluating financial viability in a planning context. It provides practitioners with advice in undertaking and assessing viability appraisals for planning purposes.

3.37 The RICS GN defines financial viability for planning purposes; separates the key functions of development, being land delivery and viable development (in accordance, and consistent, with the NPPF); highlights the residual appraisal methodology; defines Site Value for both scheme specific and area-wide testing in a market rather than hypothetical context; what to include in viability assessments; terminology and suggested protocols; and the uses of Financial Viability Assessments ("FVA") in planning.

3.38 It provides all those involved in financial viability in planning and related matters with an objective method, framework and set of principles that can be applied for both plan making and development management.



3.39 GN94/2012 is grounded in the statutory and regulatory planning regime that currently operates in the UK. It is consistent with the Localism Act 2011, the NPPF and the CIL Regulations 2010.

3.40 Financial viability for planning purposes is defined as follows:-

*"An objective financial viability test of the ability of a development project to meet its costs including the cost of planning obligations, whilst ensuring an appropriate site value for the landowner and a market risk adjusted return to the developer in delivering that project."*

**Summary**

3.41 The NPPF has a clear presumption in favour of sustainable development and in determining planning applications local planning authorities should take account of this.

3.42 The NPPF recognises that development should not be subject to such a scale of obligation and policy burdens to where its viability is threatened; and in addition, obligations should be flexible to market changes in order to ensure planned developments are not stalled. This reinforces the need for viability testing in order to allow willing landowners and developers to receive competitive returns which in turn enables the delivery of development.

3.43 Where local planning authorities have identified that affordable housing is needed, they should set policies for meeting this need on site, unless off-site provision or a financial contribution of broadly equivalent value can be robustly justified.

3.44 PPG recognises the need for the individual circumstances of a scheme to be taken into consideration and the impact that planning obligations may have on viability. Councils are therefore encouraged to be flexible with regards to planning obligations if the applicant is able to demonstrate that such obligations would make a scheme unviable.



3.45 In assessing the level of planning obligations, including affordable housing provision, in accordance with the IBC's Core Strategy and Draft SPD, regard must be had to the economics of development and financial viability considerations associated with the scheme proposals and other planning objectives and requirements.

3.46 In respect of affordable housing, the key document is the Core Strategy December 2011, where Policy CS12 states that there is a requirement to provide 35% affordable housing on schemes of over 0.5ha. It is recognised that policy CS12 has been amended in the review of the Core Strategy but the 'at least 35%' requirement of Affordable Housing for IGS remains.

3.47 It is important that the approach taken to affordable housing and scheme viability does not compromise the ability to deliver residential development on the Site.

3.48 This section therefore sets out the planning parameters and guidance under which the proposed development is assessed, having regard to the objectives of national, local and site specific planning policy.

3.49 The provision of affordable housing should be considered in accordance with the Policy CS12, and in accordance with the RICS Guidance Note.

3.50 The Core Strategy Review identifies IGS as an area of land suited to deliver the majority of new dwellings for Ipswich until 2031. However, whilst an SPD has been created for IGS, this cannot be implemented until the Core Strategy Review is formally adopted.



# 4 Land Use

In this section, we set out the required uses presented within the Draft SPD and by the Key Stakeholders of the respective parcels of IGS.

**Requirements of the Draft SPD**

4.1 The Draft SPD (2014) sets out that the desired land use for IGS seeks to "***maximise the delivery of housing land within the defined Northern Fringe Area***[3] *whilst ensuring that adequate land is reserved for the necessary supporting infrastructure for the number of homes proposed and an associated projected future population."*

4.2 Of the total 195 ha of gross land identified in the Draft SPD (2014) it appears that c.102 ha of land is anticipated to be used for new housing with a projected delivery of up to 3,500 new homes; which is estimated to accommodate c.8,250 people.

4.3 The Draft SPD has targeted a net residential density of between 30 and 35 dwellings per ha which equates to between 3,000 and 3,500 new homes that can be accommodated within the defined area. This is supported by Policy DM30 of the Core Strategy which sets out a requirement of up to 35 dwellings per ha.

4.4 The Draft SPD also identified additional land areas of c.68.5ha for supporting infrastructure and that a further c.24.5ha will be required for use of the Country Park. A summary of the Draft SPD's desired makeup of the land is set out in the table overleaf.

[3] Bolded and underlined for emphasis. Not part of direct quote



**Table 3: Breakdown of the land use as set out within the Draft SPD***

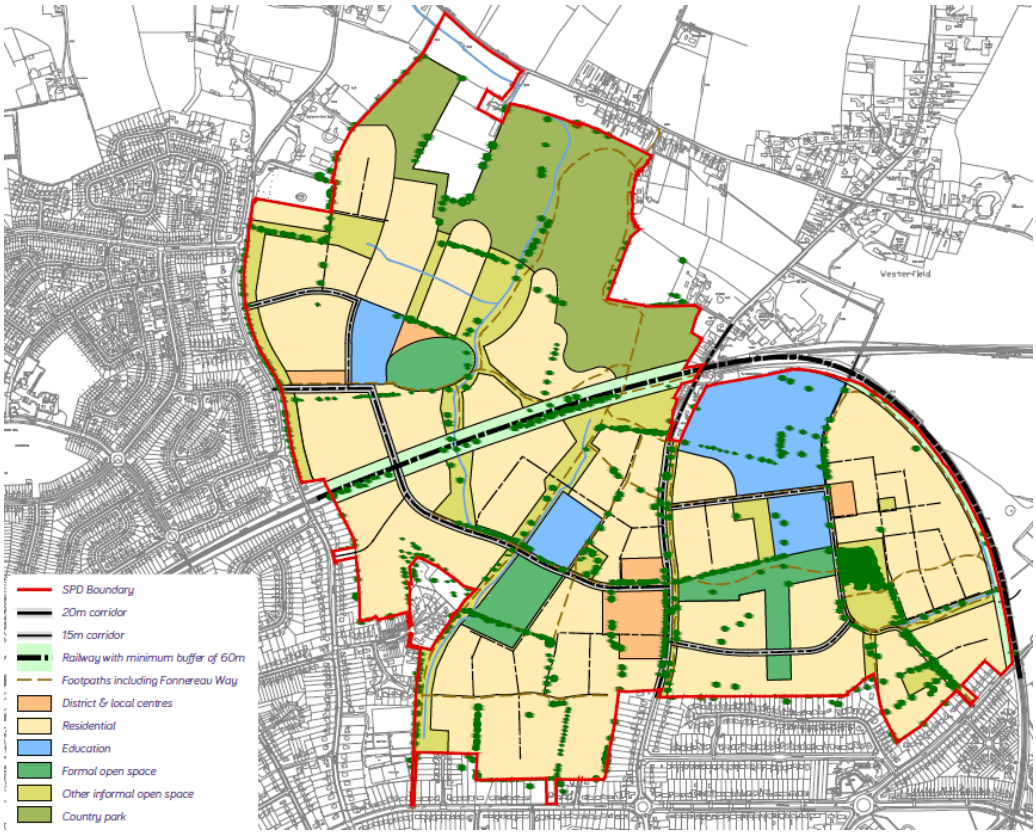
| Land Use | Approximate Area in Hectares |
|---|---|
| Public Open Space (formal and informal) | 40 |
| Country Park | 24.5 |
| Residential | 102 |
| District Centre | 3.5 |
| Local Centres | 1.5 including 0.5ha per local centre within N2 and N3 and 0.5ha within Henley neighbourhood for the country park visitor centre/community centre. |
| Education (Primary and Secondary Schools) | 15 |
| Primary Road Infrastructure | 8.5 |
| **Total** | **195 ha (481.85 acres)** |

Source: Draft SPD (2014)

*GE note the areas proposed in the Draft SPD are subject to amendment.

4.5 The map below illustrates how the table above is set out within the Draft SPD.

**Figure 7: Map of the breakdown of the land uses as set out within the Draft SPD**




Source: Draft SPD

**Land use and the Stakeholders**

4.6 As set out in Section 2, IGS has been split into three neighbourhoods, a country park, road and rail and an element of unallocated land. Furthermore primary elements of IGS are under control of a number of Stakeholders as set out in the table below and figure overleaf.

4.7 GE noted that there is an element of inconsistency of land areas within the various Draft SPD documents. As part of the production of this report further discussions between IBC and Key Stakeholders have resulted in a position being agreed between all parties regarding the correct land areas to be adopted as set out in the following table.

**Table 4: Stakeholders interest in the land (agreed October 2015).**

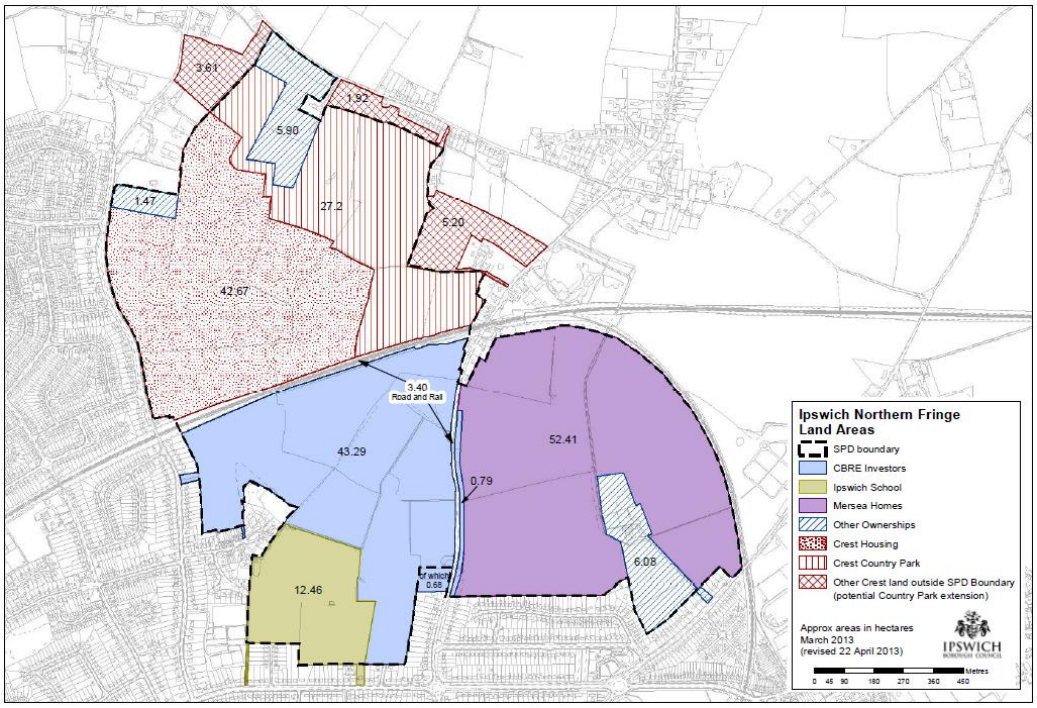
| Neighbourhood | Stakeholder | Gross Area | Net Residential Area | Net Commercial Area |
|---|---|---|---|---|
| N1 (a) | CBRE | 43.29 Ha<br>106.97 acres | 24.9 Ha<br>61.53 acres | 2.35 Ha<br>5.81 acres |
| N1 (b) | Ipswich School | 12.46 Ha<br>30.79 acres | 10 Ha<br>24.71 acres | - |
| N2 (a) | Crest Nicholson | 45.40 Ha<br>112.18 acres | 30.46 Ha<br>75.27 acres | 0.7 Ha<br>1.73 acres |
| N2 (b) | Other | 1.47 Ha<br>3.63 acres | 1.04 Ha<br>2.57 acres | - |
| N3 (a) | Mersea Homes | 44.22 Ha<br>109.27 acres | 30.73 Ha<br>75.93 acres | 0.3 Ha<br>0.74 acres |
| Secondary School | Mersea Homes* | 8.98 Ha<br>22.19 acres | - | - |
| N3 (b) | Red House Farm | 6.08 Ha<br>15.02 acres | 2.87 Ha<br>7.09 acres | - |
| Country park | Crest Nicholson* | 24.47 Ha<br>60.47 acres | - | - |
| Unallocated | | 5.90 Ha<br>14.58 acres | - | - |
| **Total** | | | **100 Ha<br>247.1 acres** | **3.35 Ha<br>8.28 acres** |

Source: IBC & Key Stakeholders

*Reflective of the draft SPD requirements; assumption made that all parties will have an interest in these sites.

4.8 The map below illustrates how the land has been split between the respective Stakeholders. This is not reflective of the land areas that have been agreed in Table 4.

**Figure 8: Map illustrating the respective land ownerships**




Source: IBC

Areas not reflective of the those agreed in Table 3

**Land Areas (Key Stakeholders)**

4.9 Table 4 and Figure 8 provide an overview of the site areas associated with each respective stakeholder which represents the total gross land areas. In addition, IBC has provided a draft map illustrating the different uses across IGS as set out in **Appendix 2**.

Source: GE

**Other Stakeholders' land**

4.10 There are a number of areas within the Draft SPD which are not allocated by use areas under control of the Key Stakeholders and with whom GE has not undertaken direct consultation. One area, within N2 which equates to approximately 1.47 ha (3.63 acres) has been identified to deliver housing. This land area has been included within the assessment throughout this report under the key stakeholder guise as "Other".

4.11 In addition, there are approximately 5.9 ha (14.58 acres) within the Red Line boundary which has not been allocated any form of use within the Draft SPD. For the purposes of this appraisal, GE considers that given the locality of this land area, this could potentially be used as an extension of the Country Park. However, for the purposes of this assessment, no value or use has been attributed to this area.

**Country Park**

4.12 The Country Park adjoins N2 and lies to the north of the railway line separating this and N3 where approximately 24.47 ha (60.47 acres) which GE understands falls within Crest Nicholson's control.

4.13 The Draft SPD requires the Country Park to include a joint visitor/community centre and a car park. The assessment of the delivery of the Country Park is set out in Section 8 of this report.



**Secondary School**

4.14 GE understands that there is a requirement from IBC and Suffolk County Council for the Site to provide a new secondary school. Whilst the school will be forward funded by the local authority, GE understands that the land will need to be delivered to allow for the school development. Part of the school will need to be ready for occupation by 2021. Therefore GE has phased the delivery of the land to reflect this time requirement and payment will be divided by those actively developing when the land for school is to be delivered. Future costs for the school have been considered in Section 8.

4.15 GE has assessed the land for the secondary school separately to the land for N3(a) based on the plan provided in Appendix 2 in which GE understands that this area equates to 8.98 ha (22.19 acres).

**Land for District and Local Centres**

4.16 Following discussions with the respective Key Stakeholders, GE understands that the Key Stakeholders are not considering the delivery of the District and Local Centres on the respective parcels of land. However, GE understands that the land will initially be purchased by the respective Stakeholders who will service the land as part of the wider development and then sell off the serviced land to other developers who will then develop District and Local Centres.



# 5 Assessment of Land Value

This section of the report sets the considered land values for the various elements of IGS.

5.1 In Stage 1, GE made consideration to the Site Value methodology that was previously applied by PBA in 2013.

5.2 The approach applied by PBA had regard to the following:

- The Harman Report – Local Housing Delivery Group (June 2012) Viability Testing Local Plans;
- The HCA Transparent Viability Assumptions Report (2010) Area Wide Viability Model Annex 1;
- Turner Morum DCLG (2011) Cumulative impacts of regulations of house builders and land owners research paper

GE notes that this approach is reflective of RICS Guidance.

5.3 PBA considered agricultural land values in order to assess the existing use value and then applied a multiplier to this to generate their considered gross and net land values to reflect Market Value.

5.4 In addition, PBA considered that the suitable threshold land value research published by Turner Morum on behalf of DCLG where land values were typically between £246,000 and £369,000 per gross hectare (£100,000 to £150,000 per gross acre) for greenfield agricultural sites with strategic development potential. It is worth noting that the Turner Morum report was based on their experience and observation. It was not supported by any market analysis or evidence.



5.5 Having considered the available evidence and the strength of the local Ipswich housing market, PBA derived a land value for the masterplan of c.£250k per gross hectare (c.£102k per gross acre) was appropriate. This equated a value for developable land accounting for infrastructure costs of c.£500k per hectare (c.£200k per acre). For the non-developable land, PBA considered a value of £25k per ha.

**Land Value Methodology adopted by GE**

5.6 Following assessment, GE has considered PBA's conclusion on estimates of land values to be reasonable, having regard to planning policies and infrastructure requirements to facilitate the delivery of development at this site.

5.7 Savills (October 2015) were instructed by Mersea Homes (on behalf of CBRE) to provide supporting commentary on land value to support their commercial contracts. This assessment of land was based on area wide CIL viability studies for other Authorities, land value publications and transactional evidence for sites in Dereham, Elmswell, Easton, Maldon, Attleborough and Colchester. Savills concluded that the land value should be in the order of c.£462k per gross Ha (c.£187k per gross acre).

5.8 In addition, Savills followed up with further commentary (March 2016) on the considered land value, this time having regard to "Benchmark Land Values Agreed on Toolkits for Similar Sites in the Eastern Region" and concluded that for the CBRE land area alone, land value should equate to c.£593k per gross Ha (c.£240k per gross acre). It should be noted this is significantly higher than and inconsistent with that provided by Savills in their intial commentary.

5.9 GE has undertaken a review of Savills' comments and notes a number of inconsistencies in their analysis; primarily application of the impact of infrastructure costs on the various approaches to considering land value. Furthermore, GE noted that a site specific or a local assessment of land included in the IGS was not undertaken by Savills.



5.10 To address the general and indirect methods of land assessment identified by Savills; GE has also undertaken consideration of a site specific land value assessment, through the assessment of notional land value for developable land at the IGS; accounting for appropriate infrastructure costs both residential and commercial land. The conclusions of this assessment together with commentary on the two Savills reports are set out in **Appendix 3**.

5.11 GE is of the opinion that Savills' conclusions propose a land value which is in excess of the Market norm; and does not demonstrate consideration of PBA initial assessment. It is understood that Savills maintain that the proposed land value is too low; however, the value is consistent with other Masterplan work undertaken by a wider number of development consultant assessors and has been demonstrated to be appropriate in this instance.

5.12 Indeed the conclusions reached by Savills also appear inconsistent with another Key Stakeholders concern that standard build costs proposed should increase, whilst proposed sales values are acceptable. By its very nature this assumption would have a direct negative impact on land value. Particularly given the alternative value of the land in question if the Masterplan and associated infrastructure necessary for it was not brought forward.

5.13 GE, are however, of the opinion that due to the variations in developable land (accounting for infrastructure costs) and non-developable land across the respective land parcels, appropriate Market Value of individual Stakeholder land take may vary across the masterplan on a gross acre basis.



**Applied Land Value**

5.14 GE has therefore considered that the Land Value for developable land accounting for infrastructure costs will differ to the Land Value for the non-developable land area. GE has had regard to PBA's initial assessment and following further assessment based on a notional hectare of developable land accounting for infrastructure costs, GE considers that the applied **£500,000 per hectare** was reasonable for blended commercial and residential serviced land area, net of infrastructure costs.

5.15 With regard to the non-developable land area, GE has estimated this at agricultural Land Values which range between £12,355 per ha (£5,000 per acre) and £29,652 per ha (£12,000 per acre). GE has applied a land value for the non-serviced area of **£25,000 per ha (£10,000 per acre)** in line with the conclusions of PBA and Savills.

5.16 The assessment of land value also does not account for the negotiating opportunities between Stakeholders where they may exist. In many schemes of this size and complexity, development agreements are in place to deal with the practical delivery of the overall scheme, such as the equalisation of planning obligations, resolution of potential ransom rights etc. At this stage in the assessment process, no such agreement has been reached. The land values assessed assume overall values, but accept that the individual negotiating position of each of the Stakeholders may result in their achieving higher or lower values; although this will be generally consistent with other established costs and values within the scheme(s).

5.17 The following table demonstrates the applied land values to the respective land areas which generate a total land area.



**Table 5: Total anticipated land values by Stakeholder (Approximate)**

| Serviced £/ha less infrastructure | | | | | £500,000 | | | |
|---|---|---|---|---|---|---|---|---|
| Non-serviced £/ha | | | | | £25,000 | | | |
| | | **Dev Area (Ha)** | **Dev LV** | **Non-Dev Area (Ha)** | **Total Non-Dev LV** | **Total Area (Ha)** | **Total Value** | **Gross £/Ha** |
| N1(a) | CBRE | 27.37 | £13.7m | 15.92 | £401k | 43.29 | £14.1m | £324k |
| N1(b) | Ipswich School | 10 | £5.0m | 2.46 | £62k | 12.46 | £5.1m | £406k |
| N2(a) | Crest Nicholson | 31.16 | £15.6m | 14.24 | £356k | 45.40 | £15.9m | £351k |
| N2(b) | Other adj Henley Rd | 1.04 | £520k | 0.43 | £11k | 1.47 | £531k | £361k |
| N3(a) | Mersea Homes | 31.03 | £15.5m | 13.19 | £330k | 44.22 | £15.9m | £358k |
| N3(a) | Secondary School | - | - | 8.98 | £225k | 8.98 | £225k | £25k |
| N3(b) | Red House Farm | 2.87 | £1.4m | 3.21 | £80k | 6.08 | £1.5m | £249k |
| Country Park | Crest Nicholson | - | - | 24.47 | £612k | 24.47 | £612k | £25k |
| Total | | 103.47 | £51.7m | 83.02 | £2.1m | 186.37 | **£53.75m** | **£288k** |

Source: GE

Land areas expressed in Hectares

Figures rounded

Dev Area is that for developable land accounting for infrastructure costs

## Conclusion

5.18 The total land value of the proposed scheme derived by consideration of the developable land accounting for infrastructure costs and non-developable land, having regard to planning policy and infrastructure requirements, equates to **circa £53.75million** which reflects a blended price of c.£288k per gross hectare (£117k per gross acre). This excludes the unallocated land area within IGS. Should this become allocated, the considered land value would change.

# 6 Proposed Distribution of Units

This section provides detail on the proposed units for IGS, including the density, total units and the distribution.

**Requirements of the Draft SPD**

6.1 This section has been assessed with regard to Policy DM30 and the Draft SPD.

6.2 The Draft SPD has assumed that the development of IGS could start on site in 2015 which is clearly now no longer feasible given the current stage of delivery and date of this report. In addition, the Draft SPD states that *"following initial site preparation and enabling works, new homes could be completed from 2016 onwards. It is currently estimated that the rate of delivery would be 50 for the first year, potentially ramping up to 200 year from 2018 onwards assuming more than one house builder being active on site at one time."* The SDP estimates that development of the site will take up to 20 years to complete and whilst the timescales cannot be achieved, the delivery programme can be incorporated into a present day position.

**Neighbourhood Unit Distribution**

6.3 Whilst the SPD looks to maximise the delivery of housing land, GE has had regard to the number of units proposed to be delivered by each of the respective Key Stakeholders proposed during the various meetings. This equates to 3,154 units.

6.4 For the remaining land outside of the Key Stakeholder ownership, GE has been instructed by IBC to adopt a site density of 32.5 dwelling per ha (13.15 dwellings per acre). This generates a total of 127 units.

6.5 When combining all of the identified units, the total units to be delivered equates to 3,281 which is 219 units below the maximum density level which could be achieved for IGS. GE has assessed this shortfall in Section 13 having carried out a number of sensitivity tests.



N1

6.6 It was previously understood that 815 dwellings were anticipated to be delivered on N1 (a). However, the Stakeholder has advised that 15 of the 815 units will be flats located within the district centre. In addition, GE understands that the respective developers intend to first service the land for the commercial uses and then sell on to be independently developed. Therefore, GE has omitted the 15 units located within the district centre for this neighbourhood assessment and has assessed an 800 unit development and allowed for servicing of the commercial land. The residential net developable land area provides a density of c.32.1 dwellings per net residential developable ha (13.0 dwellings per acre).

6.7 Ipswich School has advised that they intend to deliver 350 units on N1 (b) which equates to a density of 35 dwellings per net residential developable ha (14.2 units per acre).

N2

6.8 Crest Nicholson anticipate that N2 (a) can provide 990 dwellings which equates to c.30.5 units per net residential developable ha (12.3 units per acre).

6.9 GE has assumed the advised site density of 32.5 units per ha when considering how many units could be applied to N2 (b). GE considers that this area is capable of providing c.34 units on site.

N3

6.10 Mersea Homes anticipate that N3 (a) can provide 999 dwellings which equates to c.32.51 units per net residential ha (13.16 dwellings per acre).

6.11 Based on the target densities advised by IBC, GE considers that the Redhouse Farm Land, N3 (b), which totals 2.87 ha (7.09 acres) of residential developable land can accommodate 93 units.



6.12 Table 6 shows the proposed site net developable areas and resulting densities and the proposed unit delivery.

**Table 6: Anticipated number of dwellings per land owner**

| Neighbourhood | Proposed Units | Net Area (Ha) | Units/Ha | Net Area (Acres) | Units/Net Acre |
|---|---|---|---|---|---|
| N 1 (a) | 800* | 24.90 | 32.73 | 61.53 | 13.00 |
| N 1 (b) | 350 | 10.0 | 35.00 | 24.71 | 14.16 |
| **N 1 Total** | **1,150** | **34.10** | **33.72** | **86.2** | **13.34** |
| N 2 (a) | 990 | 30.46 | 32.50 | 75.27 | 13.15 |
| N 2 (b) | 34 | 1.04 | 32.69 | 2.57 | 13.23 |
| **N 2 Total** | **1,024** | **31.50** | **32.51** | **77.84** | **13.16** |
| N 3 (a) | 999 | 30.73 | 32.51 | 75.93 | 13.16 |
| N 3 (b) | 93 | 2.87 | 32.40 | 7.09 | 13.12 |
| **N 3 Total** | **1,092** | **33.60** | **32.50** | **83.03** | **13.15** |
| **Total** | **3,266** | **100** | **32.7** | **247.1** | **13.22** |

Source: GE/stakeholder discussions

*15 units deducted from 815 to reflect units to be within district and local centre

6.13 The proposed number of units for IGS is 3,281 dwellings, which is inclusive of the anticipated 15 dwellings to be developed above the commercial uses in N1(a) and 3,266 units when the units within the district centre are omitted. The total units proposed are therefore within the desired delivery of between 3,000 and 3,500 units for IGS. However, this is 234 units below the maximum units that could be delivered as outlined within the Draft SPD.

### Residential Delivery

6.14 Due to the large quantum of housing anticipated to be delivered from each neighbourhood and the requirements of the delivery programme set out in the draft SPD, it is therefore required that each respective neighbourhood delivery is broken down into commercially deliverable phases. This also allows opportunities to review the progress of the scheme within neighbourhoods and assigned S106 costs to appropriate quantum targets.

6.15 Mersea Homes has provided GE with a proposed scheme for N1 (a) where it has been assumed that the delivery of 815 dwellings with infrastructure would be split into three phases. GE notes that phase two of the anticipated delivery includes the district centre where 15 of the 815 units will be located and have therefore been omitted from this assessment. A table of the assumed phasing is set out below.

**Table 7: Phasing of proposed Mersea Homes element for N1**

| Neighbourhood | Phase | Net Area (Ha) | Net Area (Acres) | Units | Units/ha | Units/acre |
|---|---|---|---|---|---|---|
| N1 (a) | 1 | 4.58 | 11.32 | 175 | 32.73 | 13.25 |
| | 2 | 9.17 | 22.66 | 281* | 32.73 | 13.25 |
| | 3 | 11.15 | 27.55 | 344 | 32.73 | 13.25 |
| **Total** | | **24.90** | **61.53** | **800** | **32.73** | **13.25** |

*296 dwellings less the 15 dwellings above the district centre

Source: GE – adopted from Mersea Homes Scheme

6.16 GE has not been provided with proposed schemes from other Key Stakeholders with respect for the delivery for N2 and N3 and N1 (b) GE has therefore applied a delivery based on achieving the desired density of 32.7 units per ha (13.25 units per acre).

6.17 GE has assumed additional phasing for the Mersea Homes N3 (a) element to reflect the overlap of the development for N1 (a).



**Table 8: Assumed phasing of the respective neighbourhoods**

| Neighbourhood | Stakeholder | Phase | Net Area (Ha) | Net Area (Acres) | Units | Units /ha | Units /acre |
|---|---|---|---|---|---|---|---|
| N2 (a) | Crest Nicholson | 1 | 10.15 | 25.08 | 330 | 32.51 | 13.16 |
| | | 2 | 10.15 | 25.08 | 330 | 32.51 | 13.16 |
| | | 3 | 10.15 | 25.08 | 330 | 32.51 | 13.16 |
| | **Total** | | **30.46** | **75.27** | **990** | **32.51** | **13.16** |
| N3 (a) | Mersea Homes | 1 | 6.15 | 15.20 | 200 | 32.52 | 13.16 |
| | | 2 | 6.15 | 15.20 | 200 | 32.52 | 13.16 |
| | | 3 | 6.15 | 15.20 | 200 | 32.52 | 13.16 |
| | | 4 | 6.15 | 15.20 | 200 | 32.52 | 13.16 |
| | | 5 | 6.12 | 15.12 | 199 | 32.36 | 13.16 |
| | **Total** | | **30.73** | **75.93** | **999** | **32.51** | **13.16** |
| N1 (b) | Ipswich School | 1 | 10.0 | 24.71 | 350 | 35.0 | 14.16 |
| | **Total** | | **10.0** | **24.71** | **350** | **35.0** | **14.16** |
| N2 (b) | Other Land | 1 | 1.04 | 2.57 | 34 | 32.69 | 13.23 |
| | **Total** | | **1.04** | **2.57** | **34** | **32.69** | **13.23** |
| N3 (b) | Red House Farm | 1 | 2.87 | 7.09 | 93 | 32.40 | 13.12 |
| | **Total** | | **2.87** | **7.09** | **93** | **32.40** | **13.12** |

Source: GE

6.18 Due to the quantum of units associated with IGS, the Draft SPD anticipates that it will take approximately 20 years to complete the Masterplan. Furthermore, in line with the SPD delivery of a maximum of 200 dwellings per annum could be commercially delivered. This has been distributed in line with the draft SPD where 50 units could be delivered in the first year rising to 200 units per year by the third year.

6.19 GE considers it is likely that a maximum number of units which can be delivered from a single commercial outlet to be no more than 75 units per annum. Therefore it will be likely that multiple outlets will be delivering units in any one year.

6.20 This approach is consistent with the Mersea Homes scheme where N1 assumes that the delivery of the units will take approximately 12 years to complete, when allowing for land acquisition and unit sales. Delivery has been phased appropriately across the Scheme in accordance with the Draft SPD.

6.21 Ipswich School has raised concerns at the impact of losing the existing sports facilities currently on N1 (b) when developing the site without the immediate replacement of facilities on land within close proximity. However, GE understands that Ipswich School will be reliant on the revenue generated from the delivery of units on the land within the Draft SPD in order to finance development of the replacement pitches.

6.22 To mitigate this issue, GE has considered that Ipswich School's land within N1 will not be delivered until the end of the overall Scheme programme which could potentially allow for Ipswich School to generate funding elsewhere. GE's overall delivery programme for the wider IGS is set out in **Appendix 4** of this report. This programme estimates that the delivery of IGS will be completed by 2036.

6.23 The proposed delivery of the units remain consistent with the requirements set out within the Draft SPD and has regard to the individual aspirations of the respective land owners. GE has also had regard to the proposed build programme which has been provided by Key Stakeholders.

**Land Acquisition**

6.24 GE considers that it is not financially appropriate to acquire all of the land in one transaction at the start of the Scheme as it would have a detrimental impact on the viability. Therefore, GE considers that the land will be assembled for development or infrastructure as in line with the unit delivery programme. This will also include acquisition of the non-developable land that will be required based on the various trigger points set out in Section 8.

6.25 GE has assumed a drawdown of the land acquired to deliver each neighbourhood as necessary and has been proportioned by total units circa 12 months prior to any individual development. GE's assumed land acquisition programme is attached at **Appendix 5**.



### Affordable Housing Delivery

6.26 For this assessment, GE has assumed that the Affordable Housing Units will be forward sold to a Registered Provider ('RP') on the commencement of construction and have therefore been transacted on a quarterly basis during the construction period within the appraisals.



# 7 Summary Appraisal Inputs

This section sets out the applied inputs which, where possible, were identified in Stage 1.

**Stage 1 Inputs**

7.1 GE and MM identified a number of considered differences which could potentially impact upon the viability and deliverability of the Masterplan. A summary of the associated inputs for the Masterplan is set out in the table below. The full Stage 1 report is attached at Appendix 1.

7.2 Given the complexity in the delivery of the Masterplan, it was important to determine what inputs were reasonable to consider in line with current market conditions, prior to understanding the impact on the phasing and delivery of the development. A number of inputs have not been included within the table but are discussed in further detail throughout the report.

7.3 Discussions between IBC and the Key Stakeholders have resulted in revisions to the considered quantities of dwelling type. As a result of these changes, the average unit size has been revised for both the private market and affordable units. Furthermore, GE considers that the respective sales values will change to reflect the revision to the revised proportion of dwelling type and unit sizes. GE's assessment of the revised unit sizes and sales values is attached at **Appendix 6**.

### Table 9: Summary of Stage 1 Inputs

| Item | PBA Input | GE |
|---|---|---|
| **Unit Sizes** | | |
| Average Private Residential Unit Size | 98 sq m (1,055 per sq ft) | 102 sq m (1,094 sq ft) |
| Average Affordable Residential Unit Size | 84 sq m (904 sq ft) | 70 sq m (754 sq ft) |
| Affordable Tenure Split | | 80% Social Rent; 20% Intermediate |
| Local Centre | 3,632 sq m (39,095 sq ft) NIA | 3,632 sq m (39,095 sq ft) NIA |
| District Centre | 1,208 sq m (13,003 sq ft) NIA | 1,208 sq m (13,003 sq ft) NIA |
| **Revenue** | | |
| Private Residential Sales Values | £2,415 per sq m (£224.36 per sq ft) | £2,367 per sq m (£219.95 per sq ft)* |
| Affordable Rent Capital Transfer Value | £1,328 per sq m (£123.37 per sq ft) | £1,212 per sq m (127.05 per sq ft) |
| Intermediate Housing Capital Transfer Value | £1,570 per sq m (£145.86 per sq ft) | £1,432 per sq m (173.25 per sq ft) |
| Blended Affordable Housing Value | | £1,256 per sqm (£136.29 per sq ft) |
| **Land Value** | | |
| Land Value | £250k per gross ha<br>£102 per gross acre | £288k per gross ha<br>£117k per gross acre |
| **Construction Costs** | | |
| Base Rate Residential Cost | £905 per sq m (£84.08 per sq ft) | £922 per sq m (£85.65 per sq ft) |
| Residential External Works | 12% uplift of base rate | 12% uplift of base rate |
| Sustainability Cost | £2,000 per dwelling | £2,000 per dwelling |
| Abnormal Costs | 7.5% | £1,500 per dwelling |
| Contingencies | 5% | 5% |
| Base Rate Local/District Centre | £619 per sq m (£57.50 per sq ft) | £789 per sq m (£73.30 per sq ft) |
| Local/District Centre External Works | 15% uplift of base rate | 15% uplift of base rate |
| Professional Fees (build costs) | 8% | 8% |
| Professional Fees (abnormal Costs) | 12% | 12% |
| **Funding** | | |
| Finance Rate | 6% | 6% |

Source: MM Stage 1 Report

*BCIS Costs dated August 2015

**Affordable Housing Tenure**

7.4 GE recognise that policy requirements state that the desired tenure split is either 80% Affordable Rent or Social Rent with the remaining 20% to be for Intermediate Housing. PBA assessed viability based on an Affordable Rent tenure rather than the SPD preference for Social Rent; to remain consistent, this has also been the approach undertaken by GE. Should the Affordable Rent tenure become Social Rent, this would significantly reduce the onsite Affordable Housing provision due to the reduction of income.

**Costs**

7.5 There remains an outstanding debate with regard to the appropriate level of construction costs for the respective units. Whilst Key Stakeholders will have their own opinion on optimal development specification, a FVA should be an objective market based assessment.

7.6 PBA conclude that the appropriate base build costs should be based upon Build Cost Information Services ("BCIS") Median Estate Housing for Ipswich. This cost reflects £922 per sq m (£85.66 per sq ft).

7.7 GE has looked at a number of areas in Suffolk and Essex to support the applied build cost and to ensure that Ipswich is not an anomaly. The surrounding areas BCIS figures are set out in the following table.



**Table 10: BCIS base construction costs for Ipswich and surrounding areas**

| Location | £/sq m |
|---|---|
| Ipswich | £922 |
| Suffolk | £941 |
| Forest Heath | £951 |
| St Edmundsbury | £941 |
| Mid Suffolk | £951 |
| Waveney | £922 |
| Suffolk Coastal | £961 |
| Babergh | £932 |
| Colchester | £963 |
| Braintree | £999 |
| Chelmsford | £970 |
| **Average** | **£950** |
| **Median** | **£951** |

Source: BCIS (August 2015)

7.8 GE notes that whilst the costs for Ipswich are at the lower end of the range, the result has been sourced from a sample size of 1,746. The lowest cost within the sample size equates to £463 per sq m, whilst the highest cost equates to £1,916 per sq m. GE recognises that there is a degree of variation in the respective results, however, this has been derived from different geographical localities within Suffolk and Essex and from different sample sizes. In addition, these cost assessments do not provide details of sales values for the respective sites which GE consider will have a direct relationship with build costs. Therefore, on consideration, GE is in agreement with PBA's conclusions that adopting the median cost and re-basing to Ipswich is the most appropriate in this location.

7.9 In addition to the standard build costs, GE has made allowances for abnormal costs, sustainability costs and external works. A 5% contingency has also been allowed for.

7.10 However, discussions with Key Stakeholders made it apparent that there was a difference in opinion regarding the build costs to be applied. The Key Stakeholders have expressed costs based on their own specific development requirements; rather than looking at the general market for the holistic scheme.

7.11 Consequently, differences in build cost have been a main source of debate. Furthermore additional allowances over those identified by GE have been proposed by Key Stakeholders relating to abnormal costs, sustainability costs, external works and contingency. Key Stakeholders also consider that additional costs associated with design fees and planning enhancements should also be allowed for.

7.12 The planning enhancements proposed by the Key Stakeholders equate to approximately £10 per sq ft and have been proposed on the basis of delivering a superior product to a standard market unit to reflect the aspirations of the garden suburb. The Key Stakeholders are of the view that construction costs should be between c.£122 and £125 per sq ft. GE has therefore tested the construction cost rate of £125 per sq ft.

7.13 Whilst there are currently no planning specific requirements set out within the Draft SPD, nor has it been demonstrated that these requirements will generate additional costs, GE understand that it is hoped that the Masterplan will reflect a high quality product over and above standard market housing. Therefore GE has made an allowance of £10 per sq ft for planning enhancements over GE's assessed costs which generates a total build cost of c.£114.60 per sq ft compared to £125 per sq ft proposed by Key Stakeholders. A breakdown of GE's costs is set out in the following table.



**Table 11: Breakdown of GE's Applied Build Cost**

| Item | Cost |
|---|---|
| BCIS Base Cost | £922 per sq m £85.65 per sq ft |
| External Works | 12% |
| Planning Enhancements | £107.64 per sq m £10 per sq ft |
| Sustainability Costs | £2,000 per unit |
| Abnormal Costs | £1,500 per unit |
| Contingency | 5% |
| **Total** | **£1,233 per sq m £114.58 per sq ft** |

Source: GE

7.14 The comparison between the base cost between GE and the Key Stakeholders is set out in **Appendix 7**.

**Revenue**

7.15 GE's opinion of potential revenue is based on new build sale comparable evidence within Ipswich which suggests that private sales values could achieve a blended overall value of c.£220 per sq ft.

7.16 This sales evidence, however, has been derived from a variety of housing types and schemes across Ipswich and therefore it may not be reflective of a garden suburb quality of product or setting. It may be possible to anticipate additional value from both planning enhancements, as identified by the Key Stakeholders and also the superior setting and desirability of a Garden Suburb and associated community benefits, such as a country park and education facilities.

7.17 Key Stakeholders have suggested that average sales value within the masterplan, due to the enhanced specification, could exceed £220 per sq ft and consider that sales values of c.£230 per sq ft would be a reasonable value to test. GE considers that planning enhancements may add at least 5% to sales values and if applying this to the assumed average sales values, sales values then would equate to £231 per sq ft.



7.18 GE are of the opinion that the desirability of the IGS may have a greater impact on value than enhanced specification, however it is difficult to evidence this potential enhancement of value at this point in time. Sensitivity testing has therefore been carried out to understand the impact on the return should sales values increase beyond 5% which is set out in Section 13 of this report.

**Items not included**

7.19 In addition to the considered inputs, GE notes that there are potentially a number of other elements that could impact upon the viability of the Scheme. However, for the purposes of this assessment, the following items have not been included:

- Allowance for any potential additional costs for Network Rail;
- Additional costs for ransom issues between the parties;
- Commercial restrictions such as minimum land value drawdowns; although GE is aware that £100,000 per acre is often cited in Strategic contracts.

7.20 Whilst potential ransom costs have not been superficially identified this assessment; GE considers that a significant proportion of the potential ransoms would simply reflect apportionment of land value and may have minimal impact on additional costs if they are required to deliver development at this location. They may have a greater impact if the scheme is developed piecemeal, where alternative value is defined.



# 8 Infrastructure and other Associated Costs

In this Section, GE has assessed the impact of the delivery of the required infrastructure and other associated contributions for IGS.

8.1 The Draft SPD has set out a number of required infrastructure and Section 106 contributions to support the delivery of IGS. IBC consider that whilst the Community Infrastructure Levy ("CIL") rates are currently under consultation, the best option for delivering the required infrastructure for IBC will be through planning conditions and a site-specific Section 106 agreement with the landowners to ensure the commitment of either direct delivery or of financial sums towards infrastructure relating directly to the development site.

8.2 As part of Stage 1, MM assessed considered costs for each required infrastructure contribution. The last draft conclusions are included within Appendix 1.

8.3 Following the conclusions of Stage 1, Stage 2 has been drafted to assess the impact upon the viability and deliverability of the Scheme when factoring in the required infrastructure requirements. GE's understanding of the required implementation of these costs is set out in the table overleaf. These associated costs have either been set out within the Draft SPD or have been informed by either Suffolk County Council or IBC. Additional associated costs for specific neighbourhoods are discussed later in this Section.

**Overall Site Costs**

8.4 The following tables set out the assumed costs associated in delivering IGS. These have been split into draft Section 106 infrastructure and strategic infrastructure costs and have been cross referenced to the considered costs set out by MM in their draft assessment for Stage1.



## Table 12: Draft Section 106 Infrastructure Costs considered for Masterplan

| S106 Infrastructure | Item | Requirement for Delivery | MM Anticipated Total Cost |
|---|---|---|---|
| Access & Transport | Vehicular rail crossing, Network Rail interruption compensation and Commuted Sums (125 years). | Prior to occupation of 300 dwellings in Henley Gate or as agreed with IBC in view of the sequencing of both Fonnereau and Henley Gate. | c.£8.69m |
| | Fonnereau Way cycle/pedestrian bridge across rail line and Network Rail interruption compensation. | Prior to occupation of 300 dwellings in Henley Gate or as agreed with IBC in view of the sequencing of both Fonnereau and Henley Gate. | c.£2.07m |
| | Phased delivery of bus services & bus priority measures. | TBA – Assumed to be phased over the delivery of IGS | c.£292k |
| | Bus Service and shelters | Service for 5 years. | c.£3.83m |
| | Improvements to strategic town centre and east-west footpaths/cycleways | TBA – Phased over first 5 years of delivery of each phase | c.£848k |
| | Improvements to Westerfield Station and level-crossing | TBA – Phased over first 5 years of delivery of each phase | c.£310k |
| | Controlled cycle/pedestrian crossing on Westerfield Road | Prior to the first building occupation in both Fonnereau and Red House. | c.£187k |
| | Traffic management scheme for Westerfield Village, The Crofts and other locations | Details and timetable to be informed by the Transport Assessment for the whole development in agreement with the SCC Highways department. Assumed to be phased over the delivery of IGS | c.£328k |
| | Speed Limit Alterations | Details and timetable to be informed by the Transport Assessment for the whole development in agreement with the SCC Highways department. Assumed to be phased over the delivery of IGS | c.£12k |
| | Onsite pedestrian and cycle routes | Assumed to be phased over the delivery of IGS | c.£1.79m |
| | S106 Monitoring Costs | Assumed to be phased over the delivery of IGS | c.£117k |
| | Travel Bond | Assumed to be phased over the delivery of IGS | c.£292k |

Source: MM

| S106 Infrastructure | Item | Requirement for Delivery | MM Anticipated Total Cost |
|---|---|---|---|
| Education | 1200 space secondary school (incl sixth form) with playing fields and recreational facilities | TBA – Serviced Site (with access roads) with financial contributions over the occupation of the scheme proportionate to pupil yield thereafter. 0.22 pupils/dwelling as stipulated by SPD, approx. 770 places. Developer contribution to be a pro-rate from a build cost of £19.3million. | c.£12.40m |
| | 3 x primary schools (one in each neighbourhood) | Serviced Site (with access roads) to be transferred prior to occupation of 100 dwellings. The need and timetable for the provision of a second form of entry will be reviewed following this. Phased contributions proportionate to pupil yield shall be secured throughout each stage of the development. Assumed to be phased over the delivery of IGS. | c.£19.8m |
| Open space | Country park with joint visitor/community centre for Henley Gate with car park and maintenance allowance for 15 years | Phasing for tree planting and landscaping to be agreed and commenced an early stage in the development of Henley Gate. Completion and land transfer or initial ancillary works compound prior to the occupation of 500 dwellings in Henley Gate. Capital and maintenance contributions (or in-kind provision by the Henley Gate developer) and transfer of the remaining land will be secured at an appropriate stage in the development. | c.£4.433m |
| Community | Swimming contribution (off site) | TBA – Phased payments throughout development period starting from first occupation. | c.£1.21m |
| | District and local community centre Centre – community facility with Health, Library and police facilities (incl. 10 year maintenance) | TBA – Contributions assumed over construction period. | c.£3.45m |
| | On-site library contribution (60sqm) | Assumed to be phased over delivery of IGS | c.£286k |
| | Off-site upgrades to Suffolk library | Assumed to be phased over delivery of IGS | c.£153k |
| | Funding for community development support officer(s) | Phased payments on commencement of development to ensure officer(s) in post prior to first dwelling occupation. Allowance for resources and salary for 10 years. | c.£300k |
| | Community Infrastructure (CCTV, electric charging points, recycling facilities, cycle parking etc.) and community centre with integrated library, workspace and police office. | To be agreed prior to commencement of development | c.£91k |

Source: MM

## Table 13: Draft Strategic Infrastructure Items considered for Masterplan

| Infrastructure Theme | Strategic Infrastructure | Requirement for Delivery | MM Anticipated Total Cost |
|---|---|---|---|
| Utilities | Strategic Improvements to Electricity, Gas and Water supply and fire hydrants and off-site diversion works | As required | c.£20.14m |
| | Strategic Improvements to Sewerage system | As required | c.£2.66m |
| | Strategic SuDS infrastructure and connections | To be agreed prior to commencement of development | c.£2.92m |
| | Off-site Diversion Works | As required | c.£100k |
| Other Items | Superfast broadband infrastructure | As required | c.£1.67m |
| | Household waste facilities | As required | c.£178k |
| | Junction Works | As required | c.£3.15m |
| | S278 Utilities | As required | c.£328k |

Source: Draft SPD & MM as of time of report

### Neighbourhood Specific Costs

8.5 The following table sets out the costs outlined within the Draft SPD for specific neighbourhoods. These have been cross referenced to the considered costs set out by MM in Stage1.

**Table 14: Draft Section 106 Infrastructure for Specified Neighbourhoods**

| S106 Infrastructure | Item | Requirement for Delivery | MM Anticipated Total Cost |
|---|---|---|---|
| Access & Transport | Off-site junction improvements in surrounding road network | To be informed by the Transport Assessment. Assumed over delivery of the Scheme | c.£2.34m |
| | Connection to the Urban Traffic Management & Control | To be informed by the Transport Assessment | c.£1.17m |
| | Travel Plan Document, implementation & monitoring | To be implemented and monitored during and following each phase of the neighbourhood development | c.£1.34m |
| | Spine Roads | Assumed paid at start of construction for each respective development | c.£5.67m |
| | Pedestrian & cycle signage | As required | c.£146k |
| Open Space | Neighbourhood parks, allotments & open spaces with equipped sports and play facilities including maintenance and Ecology | To be agreed prior to commencement of development | c.£12.54m |

Source: Draft SPD & MM as of time of report

8.6 Table 13 shows that the implementation of a number of anticipated Strategic Infrastructure and Section 106 Infrastructure contributions are to be agreed prior to commencement of the development. Furthermore, there are also a number of items that are to be paid as required. For the purposes of this assessment, GE has therefore assumed that these costs will be evenly split between the developers based on the number of units being provided and will be paid equally throughout the development of the Scheme.

8.7 Additionally, there are a number of trigger points that have been set for specific items. The most significant are the delivery of the vehicular rail crossing, the secondary school and the country park, where the delivery of these are based upon a specified number of dwellings being delivered. When assessing how these costs should be distributed, GE has given consideration to who is to develop the units by the trigger points in accordance with the distribution programme set out in Section 6 and Appendix 4.

8.8 GE has distributed the costs in line with the specific trigger points set out in tables 11 – 13 above whilst having regard to the delivery programme set out in Appendix 4. The allocations of costs are set out in the Tables 14 – 16 overleaf.



**Table 15: Summary of distribution of Draft Infrastructure costs for Masterplan (Approximate)**

| Infrastructure | Neighbourhood | | | | | |
|---|---|---|---|---|---|---|
| | N1 a | N1 b | N2 a | N2 b | N3 a | N3 b |
| Vehicular rail crossing including National Rail Compensation and commuted sum | £4.15m | £- | £3.98m | £- | £561k | £- |
| Fonnereau Way cycle/pedestrian bridge across rail line including National Rail compensation | £988k | £- | £948km | £- | £134k | £- |
| Phased delivery of bus services and priority measures | £73k | £31k | £88k | £3k | £89k | £8k |
| Bus service for 5 years | £1.8m | £- | £1.8m | £- | £247k | £- |
| Improvements to strategic town centre and east-west footpaths/cycle ways (offsite) | £211k | £91k | £256k | £9k | £258k | £24k |
| Improvements to Westerfield Station and level-crossing | £77k | £33k | £94k | £3k | £94k | £9k |
| Controlled cycle/pedestrian crossing on Westerfield Road | £84k | £- | £- | £- | £103k | £- |
| Traffic management scheme for Westerfield Village, The Crofts and other locations | £81k | £35k | £99k | £3k | £100k | £9k |
| Speed Limit Alterations | £3k | £1k | £4k | £121 | £4k | £332 |
| 1200 space secondary school (incl sixth form) with playing fields and recreational facilities | £3.1m | £1.3m | £3.7m | £129k | £3.78m | £351k |
| Country park with joint visitor/community centre for Henley Gate (incl Car Park) | £908k | £- | £994k | £- | £248k | £- |
| Country Park Maintenance (allowance for 10 years) | £596k | £94k | £771k | £27k | £778k | £13k |
| Swimming contribution (off site) | £301k | £129k | £365k | £13k | £369k | £34k |
| District and Local Centre Community Contribution (incl maintenance) | £2.2m | £- | £584k | £20k | £590k | £55k |
| On-site library contribution | £71k | £31k | £86k | £3k | £87k | £8k |
| Off-site library contribution | £38k | £16k | £46k | £2k | £47k | £4k |
| Funding for community support officer and salary | £127k | £- | £129k | £- | £44k | £- |
| Onsite pedestrian & cycle routes | £443k | £190k | £539k | £19k | £543k | £51k |
| S106 Monitoring Costs | £29k | £13k | £35k | £1k | £36k | £3k |
| Travel Bond | £73k | £31k | £88k | £3k | £89k | £8k |
| **Total** | **£15.4m** | **£2.0m** | **£14.6m** | **£234k** | **£8.2m** | **£579k** |

Source: MM/GE
All figures have been rounded.

**Table 16: Summary of distribution of Draft Infrastructure costs for specific neighbourhoods (Approximate)**

| Infrastructure | Neighbourhood | | | | | |
|---|---|---|---|---|---|---|
| | N1 (a) | N1 (b) | N2 (a) | N2 (b) | N3 (a) | N3 (b) |
| Off-site junction improvements in surrounding road network | £581k | £250k | £706k | £24k | £712k | £66k |
| Connection to the Urban Traffic Management & Control | £291k | £125k | £353k | £12k | £356k | £33k |
| Travel Plan Document, implementation & monitoring | £332k | £143k | £403k | £14k | £1.3m | £122k |
| Improvements to Fonnereau Way (complete section linking Valley Road & railway line) | £1.6m | £706k | £1.8m | £63k | £407k | £38k |
| Pedestrian & cycle signage | £36k | £16k | £44k | £2k | £45k | £4k |
| Primary School & Nursery with potential for some facilities to be shared with community | £4.6m | £2.0 | £6.4m | £219k | £6.0m | £562k |
| Neighbourhood parks, allotments & open spaces with equipped sports and play facilities | £1.8m | £790k | £2.2m | £77k | £2.3m | £210k |
| 15 year maintenance | £1.1m | £491k | £1.4m | £48k | £1.4m | £131k |
| Ecology Mitigation | £132k | £57k | £161k | £6k | £162k | £15k |
| District Centre supporting infrastructure (Electric Charging Points, Recycling Facility, Cycle Parking, CCTV) | £8k | £4k | £10k | £339 | £10k | £928 |
| Community Facilities (police office etc.) | £30k | £- | £26k | £- | £3k | £- |
| Household Waste Facilities | £44k | £19k | £54k | £2k | £54k | £5k |
| **Total** | **£10.7m** | **£4.6m** | **£13.6m** | **£466** | **£12.8m** | **£1.2m** |

Source: MM/GE
All figures have been rounded

Infrastructure

8.9 GE has been provided with a breakdown of the assumed infrastructure costs and has apportioned these to the respective Stakeholders based on the total number of units being delivered. These costs are set out as follows.

**Table 17: Total Infrastructure Costs Per Developer (Approximate)**

| Cost | Neighbourhood | | | | | |
|---|---|---|---|---|---|---|
| | N1(a) | N1(b) | N2(a) | N2(b) | N3 (a) | N3 (b) |
| Utilities | £5.7m | £2.4m | £7.6m | £262k | £9.0m | £838k |
| Junction Works | £772k | £331k | £1.2m | £41k | £749k | £70k |
| S278 Works | £86k | £37k | £119k | £4k | £75k | £7k |
| Superfast Broadband | £414k | £178k | £503k | £17k | £508k | £47k |
| **Total** | **£6.9m** | **£3.0m** | **£9.4m** | **£324k** | **£10.3m** | **£962k** |

Source: MM
All figures have been rounded

Other Associated Costs

8.10 There are a number of additional costs that need to be considered when delivering the development which the Draft SPD does not detail explicitly. These relate to the physical delivery of the units which were outlined by MM in Stage 1 and are summarised in the following table.

**Table 18: Total abnormal costs**

| Draft SPD Abnormal Costs | Cost |
|---|---|
| Enabling Works | c.£1.34m |
| Acoustic Fencing | c.£700k |
| Finance & Legals | c.£380k |
| PR | c.£176k |
| Contamination | c.£292k |
| Planning | c.£859k |
| Ecology | c.£20k |
| Design Fees | c.£8.3m |
| Local Authority Fees | c.£4.9m |
| **SUB TOTAL** | c.**£17.0m** |

Source: MM

8.11 The table below shows how these costs have been distributed between the respective neighbourhoods based on the number of units being delivered. Again, MM provided the total cost and GE has distributed these costs to the respective neighbourhoods accordingly.

**Table 19: Distribution of abnormal costs payable by the respective land owners (Approximate)**

| Cost | Neighbourhood | | | | | |
|---|---|---|---|---|---|---|
| | N1 (a) | N1 (b) | N2 (a) | N2 (b) | N3 (a) | N3 (b) |
| Enabling Works | £333k | £143k | £404k | £14k | £408k | £38k |
| Acoustic Fencing | £174k | £75k | £211k | £7k | £213k | £20k |
| Finance & Legals | £94k | £41k | £115k | £4k | £116k | £11k |
| PR | £44k | £19k | £53k | £2k | £53k | £5k |
| Contamination | £73k | £31k | £88k | £3k | £89k | £8k |
| Planning | £213k | £92k | £259k | £9k | £262k | £24k |
| Ecology | £5k | £2k | £6k | £211 | £6k | £577 |
| Design Fees | £2.1m | £883k | £2.5m | £86k | £2.5m | £235k |
| Local Authority Fees | £1.2m | £527k | £1.5m | £51k | £1.5m | £140k |
| **Total** | **£4.2m** | **£1.8m** | **£5.1m** | **£176k** | **£5.2m** | **£482k** |

Source: MM
All numbers have been rounded

8.12 The phasing of these costs will be spread evenly over the delivery and distribution as set out in Section 6 and Appendix 4. However, given that these associated costs are to enable the development of the respective units, GE anticipates that these will be phased a year before the respective units are distributed. MM's Cost Assessment is attached at **Appendix 8**.

## Summary

8.13 The following table summarises the total infrastructure costs and Section 106 obligations which have been assessed by MM.

**Table 20: Summary of Infrastructure Costs for Masterplan**

| Item | Total Cost | £/Unit |
|---|---|---|
| Strategic Infrastructure | £64,623,336 | £19,787 |
| Neighbourhood Infrastructure | £67,598,724 | £20,698 |
| **Total** | **£132,222,060** | **£40,484** |

Source: MM

8.14 Table 20 shows that the total costs of the Masterplan Infrastructure requirements equate to c.£40k per unit based on the units proposed for delivery. However, this unit cost would reduce to c.£38k should the maximum delivery of units be achieved.

8.15 The total costs on a price per unit basis appear to be consistent when compared to other Masterplan reviews in which GE has assessed.

# 9 Return

In this section we look at the appropriate measure of return that a developer should consider to be reasonable given the associated costs and risks that might be required for the Site.

9.1 The financial appraisals have been undertaken in accordance with generally accepted guidance in undertaking viability assessments, in particular, PPG, RICS guidance and emerging viability assessment guidance of Masterplan developments.

9.2 A significant factor in undertaking viability assessments is the level of profit which a developer might reasonably require from undertaking the development. This will depend on a number of factors including the size of the development, the perceived risks involved, the degree of competition for the site from competing developers, the state of the market in terms of demand for value of the completed development, etc.

9.3 Development profit is necessary if private sector investment is to deliver any given project. The level of profit is essentially the reward to the developer for the time, expertise and risk involved in carrying out the process of development. When the developer/land owners are one and the same this may be reflected in the development return.

9.4 The level of profit will vary between projects and will reflect a range of factors including market demand, competition, scheme complexity, financial risk and exposure particularly in relation to up-front or abnormal costs together with the anticipated timescales for the development.

9.5 Measurements of return such as profit on cost (POC), profit on value (POV), development yield, or internal rates of return ('IRR') ratios are commonly used as comparable ratios, and the benchmark level against which the profitability of a scheme should be tested will depend on the degree of risk involved with the Scheme.



9.6 Determination of an appropriate proxy and target can depend on a number of factors, but it is predicated on the risk associated with developing out the proposed Site. The more risk involved, the higher return the developer will require.

9.7 As a measure of development return (GDV), it is commonly used as a benchmark for qualifying the risks of a standard development project when calculating a residual value, and as a simple measure of return in development appraisals. This methodology is reasonable where the influence of time is limited on both costs and revenues; for example, assessment of individual phases of the Masterplan at the time of implementation. However, major masterplan development is an exception to this approach.

9.8 There is an increasing consensus that assessment against a GDV proxy is less appropriate for a major development over a longer period or phased development as it inherently limits assessment, particularly where there is a significant amount of early infrastructure costs with value generated outside a short term window.

9.9 RICS Guidance 2012 (P42- E3.2.8) highlights that:

*"The Nature of the development prevailing practice in the market for the sector influences the target profit margin or rate of return. This varies between developments….Increasingly, and particularly in respect of large scale or lengthy developments, the internal rate of return is used."*

9.10 Whist IGS will be delivered through a number smaller phases, where standard methodologies for assessing a competitive return are appropriate; this approach is limited for considering viability of the holistic Masterplan in line with the SPD as development will be spread over at least 20 years and the risk and costs of the Scheme will be spread between Stakeholders and phases.



9.11 This limitation of assessing the distribution of risk was notable in the high level approach taken by PBA which, whilst proposing that 27% affordable was achievable overall, it did not demonstrate the cost or affordable housing profile over the development period.

9.12 In the PBA 2015 assessment of the scheme they applied an overall return on GDV of 17%. GE consider this is an appropriate method of assessment for standard/short-term development assessment, on the assumption that the overall return reflects an appropriate blend between that which should be anticipated for private residential and commercial revenue (say 20%) and that which should be anticipated for Affordable Housing (say 6%).

9.13 When compared to PBA, GE concludes that for a current day assessment of standard (short term) development, a blended return on GDV of 17.5% would reflect the anticipated return for onsite delivery of 35% affordable housing.

9.14 However, given the nature and quantum of the proposed IGS development, the appropriate application of such return proxy is limited as it will not appropriately assess the viability of a scheme which is delivered over a long period of time; where it is inevitable that costs and values will vary over the period. Furthermore, such an assessment will not appropriately consider the impact on viability of a high initial infrastructure costs in early phases vs the delivery of residential value over a 20 year period.

9.15 In line with RICS guidance, to reflect the prolonged period of the development which is anticipated to be approximately 20 years, GE considers that a more appropriate return proxy to be applied in this instance would be an Internal Rate of Return (IRR) rather than a GDV approach.



9.16 The RICS Workbook Financial Viability in Planning Principles and Methodologies V7 defines IRR as follows:

*"The IRR on an investment or project is the "annualised effective compounded return rate" that makes the net present value of all cash flows (both positive and negative), including the initial investment and future cash flows, equal to zero. It is found by trial and error by applying present values at different rates of interest in turn to the net cash flow. It is sometimes called the discounted cash flow rate of return. In development financial viability appraisals the IRR is commonly, although not always, calculated on a without-finance basis as a total project IRR."*

9.17 Such an approach has been recently adopted for the assessment of Canada Water Area Action Plan 2013 (Montagu Evans /London Borough of Southwark); Convoys Wharf (3,500 residential units plus other associated uses) by the Greater London Authority; BNPPRE/ London Borough of Brent in 2015/2016 as an appropriate method of assessment for Wembley Masterplan (c.4,000 units plus A1/B1/C1/DS/DS. Indeed, GVA/Birmingham City Council (2014) applied an IRR approach when considering an appropriate CIL charging schedule.



9.18 Furthermore, RICS study paper 'Financial Viability in planning appeals – theory and practice', paragraph 4.4 which expresses a preference for IRR in viability testing. This states:

*"Assumptions regarding finance are linked to those relating to profit. 100% debt financing appears to be universal and unchallenged and even the rate used appears on non-contentious with 7% adopted in four out of five cases where it is mentioned.*

*As stated above, the return to the developer is included as a cash sum, calculated as a ratio to total development costs or gross development value. In reality very few developments are funded using 100% debt finance. Instead financing arrangements are usually a mixture of debt and equity funding and the developer typically funds a proportion of the development costs as an equity provider. Consequently a measure of return on the developer's investment should be a function of this equity stake, i.e. a return on equity or, more correctly, an equity IRR."*

9.19 Based on the phasing and distribution of the development as set out in Section 6 together with the associated infrastructure and Section 106 costs set out in Section 8, GE considers that there is an increased risk over the early phases of the development. This early risk will be reflective of establishing a new neighbourhood, providing the infrastructure that eventually the whole of IGS will be accessing and making the necessary payments based on the trigger points for the Section 106 contributions.

9.20 For the latter stages of the development, GE considers that less associated risk will be involved as the majority of the core infrastructure and Section 106 contributions will already be in place and the respective neighbourhoods and sales values will already have been established.

9.21 As there is a variation in the completion date of the respective stakeholder developments, GE has therefore applied benchmark returns specific to each stakeholder which is reflective of the anticipated delivery programme and cost allowances set out in previous sections of this report and is set out in the following table.



### Table 21: Present Day IRR Benchmark Return

| Neighbourhood | Stakeholder | IRR Benchmark |
|---|---|---|
| N1 (a) | CBRE Investors | 18% |
| N1 (b) | Ipswich School | 11% |
| N2 (a) | Crest Nicholson | 18% |
| N2 (b) | Other | 11% |
| N3 (a) | Mersea Homes | 13% |
| N3 (b) | RedHouse Farm | 11% |
| **Overall** | | **14%** |

Source: GE

# 10 Present Day Appraisal Outputs Excluding Affordable Housing

This section provides the appraisal outputs for the Masterplan having regard to the inputs, phasing and distribution outlined in the previous sections of this report together with the considered infrastructure and Section 106 requirements of the Draft SPD.

10.1 Based on the inputs and assumptions proposed in Sections 4 to 8, GE concludes that IGS can generate a return based IRR of 22.4%. For comparison this accords to a profit on GDV of circa 20.4%. However, this outturn is based on providing no Affordable Housing and therefore enables GE to assess whether any Affordable Housing could be provided onsite without any variation to costs, infrastructure or development timetable.

10.2 The individual phases of IGS generate the following returns as set out in the table below. GE's appraisal based on a present day return is attached at **Appendix 9**.

**Table 22: Summary of current day residual Return on IRR**

| Neighbourhood | Stakeholder | Residual IRR |
|---|---|---|
| N1 (a) | CBRE Investors | 29.0% |
| N1 (b) | Ipswich School | 33.4% |
| N2 (a) | Crest Nicholson | 19.6% |
| N2 (b) | Other | 29.3% |
| N3 (a) | Mersea Homes | 17.5% |
| N3 (b) | Red House Farm | 29.8% |
| **Overall** | | **22.4%** |

Source: GE

10.3 Based on the inputs set out in the preceding sections of this report, the present day appraisal suggests that IGS can achieve a return above an overall present day target return of 14% on IRR, indicating that IGS is capable of delivering a quantum of Affordable Housing.

# 11 Assessment of Affordable Housing

This section assesses the potential delivery of Affordable Housing having had regard to the appraisal outputs of Section 10, local policy requirements and viability.

**Requirements of the Draft SPD**

11.1 Policy requirements of the IBC Core Strategy state that residential developments are to include 35% Affordable Housing, subject to development viability. This has been incorporated into the Draft SPD where it states that *"affordable housing will be distributed throughout the Ipswich Garden Suburb, and that each neighbourhood will have a proportionate share of affordable housing."*

11.2 Based on the proposed 3,266 units in the Masterplan, 35% affordable housing would reflect 1,142 units or up to 1,225 (assuming 3,500 units).

**GE's Assessment**

11.3 In Section 3, GE addressed both the national and local policy requirements where it is regularly stated that maintaining viability whilst delivering Section 106 obligations is an important consideration.

11.4 Throughout this report, GE has relied upon information provided by the Key Stakeholders together with a number of assumptions to assess the various elements of IGS which has culminated in an output being generated with no form of Affordable Housing. This was initially provided for GE to determine the Scheme's capability of delivering onsite Affordable Housing having taken into account of the infrastructure and Section 106 obligations and requirements of the Draft SPD.

11.5 Prior to assessing the level of onsite Affordable Housing that could be required, GE has first assessed the considered Affordable Housing values that could be generated in order to accurately determine what level can be provided.

11.6 Following the revision to the unit sizes as agreed by the Key Stakeholders, GE has assessed an Affordable Housing blended rate of £136.29 per sq ft based on a tenure split of 80% affordable rent and 20% intermediate (see Appendix 6).

11.7 When GE assessed PBA's proposed onsite Affordable Housing provision, PBA initially considered that the IGS could deliver circa 27% based on total units. However, GE noted that a number of the phases in the PBA appraisal exceeded the SPD requirements of 35% based on floor area.

11.8 The assessment of Affordable Housing has been based on the total number of units as set out in Section 6 which totals 3,266 units as determined by the IBC and Key Stakeholders. Based on the unit sizes determined in Appendix 6, GE considers that in order to achieve 35% of Affordable Housing based on floor areas, a delivery of approximately 1.25m sq ft (116k sq m) would be required.

11.9 GE has tested the Affordable Housing levels on a current day basis, based on an overall IRR of 14%, but with regard to the identified benchmarks for each stakeholder delivery of the Masterplan in Section 9 (**Appendix 10**).

11.10 GE has assumed the delivery of the onsite Affordable Housing at the latter stages of the respective phases in order to maximise the Affordable Housing delivery.



**Table 23: Estimated affordable housing provision**

| Neighbourhood | Stakeholder | Affordable Units | Total Percentage | IRR |
|---|---|---|---|---|
| N1 (a) | CBRE | 216 | 27% | 18.0% |
| N1 (b) | Ipswich School | 122 | 35% | 26.6% |
| N2 (a) | Crest Nicholson | 124 | 12.5% | 18.0% |
| N2 (b) | Other | 11 | 35% | 19.2% |
| N3 (a) | Mersea | 257 | 26% | 13.0% |
| N3 (b) | RedHouse Farm | 32 | 35% | 22.5% |
| | **Total** | **762** | **23%** | **16.8%** |

Source: GE

11.11 The table above shows that on a present day assessment (Q2 2015), there is potential to deliver approximately 762 units (23% by unit or 17% of the total floor space) of Affordable Housing. The overall return exceeds the benchmark of 14% IRR on a present day basis; however, this is because of an assumption that Affordable Housing is not to exceed 35% in any phase.

11.12 Whilst the overall Affordable Housing delivery set out in Table 23 is c.223%, there is a variance between the individual phases between 12.5% and 35%. This is due to the timing of the delivery of each respective phase and the infrastructure costs associated with each individual phase. Should there be any variation to the timing of the delivery or infrastructure costs to each phase, the Affordable Housing provision in any one individual phase or on the whole would change.

11.13 GE recognises the quantum of Affordable Housing estimated may vary by appraisal inputs which may change over time and between neighbourhoods and therefore would propose the scheme is reassessed in more detail at appropriate points in time.

11.14 In addition, GE recognises that assumptions applied are based on a holistic approach, therefore sensitivity has been undertaken in Section 12 to consider the variances on the present day assumptions, predominantly on sales values and construction costs.

11.15 Whilst already highlighted as inappropriate, a return proxy on current day GDV on this basis using GE assumptions would be circa 13.5%. However, in addition to the reasoning set out in Section 9; it is recognised by PPG that where a scheme requires phased delivery over the medium to long term, changes to value of development and changes in costs of delivery may be considered; demonstrating that basing the assessment on a current day GDV approach would be inappropriate in this instance with an IRR being a more appropriate proxy.

11.16 To reflect PPG and present the impact of delivering the IGS over some 20 years GE has also specifically undertaken sensitivity analysis applying a number of growth assumptions to reflect potential variation in the market over time in Section 12.



# 12 Sensitivity

This section assesses the longevity of the delivery of IGS and makes consideration to the changing market conditions over time. Growth and Inflation have therefore been applied to the assessment to understand the impact on delivering onsite Affordable Housing. This section also considers the impact of maximising the quantum of overall units delivered in line with the objective of the IGS SPD.

12.1 Sensitivity analysis is a fairly simplistic but reasonable approach to testing viability. In essence, uncertainties can be identified in respect of the inputs and their effects can be looked at in terms of the development return and then the level of Affordable Housing that can be generated. In short, this is a straightforward deterministic approach from which a judgement needs to be made as to the appropriateness of the outcome. Benchmarks can be used as performance measures.

12.2 **Cost/Sale Variation on current day modelling.**

12.3 It is recognised that a significant element of the Masterplan is based on headline cost assessments which may increase or decrease as the Masterplan progresses. Furthermore GE has had a reasonable level of debate with the Key Stakeholders over appropriate standard build costs and additional/abnormal build costs associated with planning requirements. To this end, GE has undertaken a sensitivity analysis of both the impact of increases and decreases of costs and values on the viability of the proposed Masterplan.

12.4 The assessment of the impact in variation in costs and values has been tested on ±2.5% intervals and is presented in the following table.

**Table 24: Sensitivity Assessment based on variations to Sales and Costs (Present Day)**

| | | Sales: Rate pf² | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | -10.0% | -7.5% | -5.0% | -2.5% | 0.0% | 2.5% | 5.0% | 7.5% | 10.0% |
| Construction: Rate pf² Gross | -10.0% | 12.0% | 14.5% | 17.0% | 19.5% | 22.0% | 24.5% | 27.1% | 29.6% | 32.1% |
| | -7.5% | 10.8% | 13.3% | 15.8% | 18.2% | 20.7% | 23.2% | 25.7% | 28.2% | 30.7% |
| | -5.0% | 9.5% | 12.0% | 14.5% | 16.9% | 19.4% | 21.9% | 24.3% | 26.8% | 29.3% |
| | -2.5% | 8.2% | 10.7% | 13.2% | 15.7% | 18.1% | 20.6% | 23.0% | 25.5% | 28.0% |
| | 0.0% | 7.0% | 9.5% | 11.9% | 14.4% | **16.8%** | 19.3% | 21.7% | 24.2% | 26.6% |
| | 2.5% | 5.8% | 8.2% | 10.7% | 13.1% | 15.6% | 18.0% | 20.4% | 22.8% | 25.3% |
| | 5.0% | 4.5% | 7.0% | 9.5% | 11.9% | 14.3% | 16.7% | 19.1% | 21.5% | 24.0% |
| | 7.5% | 3.3% | 5.8% | 8.2% | 10.7% | 13.1% | 15.5% | 17.9% | 20.3% | 22.7% |
| | 10.0% | 2.0% | 4.6% | 7.0% | 9.4% | 11.8% | 14.2% | 16.6% | 19.0% | 21.4% |

Source: GE

12.5 What is clear from the table above is a 5% decrease in costs would increase the current day viability of 22% Affordable Housing units from 16.9% IRR to 19.4% IRR. Whilst a 5% increase in achievable current day sale values would result in an IRR of 21.7%. Conversely, an increase in costs without an equivalent increase in values will have a negative impact on IRR, resulting in earlier phases reducing their potential affordable housing delivery.

12.6 Following on from discussions with Key Stakeholders as set out in Section 7, the construction cost of £125 per sq ft represents a c.9% increase to GE's applied construction costs. This cost lies within the range of 7.5% and 10% uplift in construction cost bracket where, dependent on the variation to sales values, could achieve a return of between 2.0% and 22.7% IRR.

12.7 When applying sensitivity analysis on the sales values and construction costs as set out in Table 24 based on ±2.5% intervals up to ±10%, the potential return could lie between 2.0% and 32.1% IRR.

12.8 Table 24 shows that when sales values have reduced by 10% and construction costs increase by 10%, the resulting IRR equates to c.2.0%. GE notes that, in this circumstance a reduction in the Affordable Housing from 762 units to zero, would not enable the resulting IRR to achieve the 14% IRR and therefore would remain unviable.

12.9 Alternatively, Table 24 also shows that where sales values increase by 10% and construction costs reduce by 10%, the resulting IRR equates to 32.1%. In these circumstances, the Scheme would be capable of viably supporting a policy compliant Affordable Housing level of 35% (c.1,137 units).

12.10 As set out in paragraph 7.11, the Key Stakeholders consider that construction costs should equate to £125 per sq ft which is approximately 9% higher than that considered by GE. If these costs were applied, in order to achieve a viable Scheme, the Affordable Housing provision would need to reduce to c. 12% based on total units (c.9% based on floor area) which equates to c.400 units.

**Impact of Forecasting**

12.11 The Draft SPD sets out that the delivery of IGS is anticipated to take approximately 20 years to complete. A return proxy on IRR was used as a benchmark return to establish whether onsite Affordable Housing could be provided on a present day basis at 14%. However, GE recognises that the return proxy percentage should increase when taking into account Growth.

12.12 GE considers an overall IRR of circa 20% would be reasonable to consider the deliverability of the Scheme as a whole when applying forecasting to viability assessment. Table 25 demonstrates the anticipated IRR benchmark on a stakeholder basis taking account of individual risks, as well as the IGS overall:

**Table 25: Growth Model IRR Benchmark Return**

| Neighbourhood | Stakeholder | IRR Benchmark |
|---|---|---|
| N1 (a) | CBRE Investors | 25% |
| N1 (b) | Ipswich School | 16% |
| N2 (a) | Crest Nicholson | 25% |
| N2 (b) | Other | 16% |
| N3 (a) | Mersea Homes | 18% |
| N3 (b) | RedHouse Farm | 16% |
| **Overall** | | **20%** |

Source: GE

12.13 Interest and growth has been applied to the appraisal used to generate the outcomes set out in Section 11 to assess if any improvement to the considered 23% overall onsite affordable housing could be achieved. The applied interest and growth rates are set out in the following table (Table 26).

12.14 Different inflation and growth sets have been considered as inflation on land will differ to other costs and growth will differ between residential and commercial uses.

**Table 26: Applied Interest and Growth Rates**

| Inflation Set 1: Costs | | | Growth Set 1: Sales | | |
|---|---|---|---|---|---|
| Year | Months | Rate | Year | Months | Rate |
| Jan-16 | 12 | 4.5% | Jan-16 | 12 | 5% |
| Jan-17 | 12 | 5.5% | Jan-17 | 12 | 5% |
| Jan-18 | 12 | 5% | Jan-18 | 12 | 4% |
| Jan-19 | Perpetuity | 4% | Jan-19 | Perpetuity | 5% |
| **Inflation Set 2*: Land** | | | **Growth Set 2**: Rent** | | |
| Year | Months | Rate | Year | Months | Rate |
| Jan-16 | Perpetuity | 2% | Jan-16 | Perpetuity | 1.5% |

Source: GE

* Inflation Set 2 has been applied to the land only

** Growth Set 2 has been applied to the affordable housing revenues only

12.15 Having applied inflation and growth assumptions (see **Appendix 11**), the onsite Affordable Housing provision has been assessed as set out in Section 11 to reflect the projected change in market conditions over time. Table 27, overleaf, shows that the onsite Affordable Housing provision may increase from circa 23% to 27% (20.3% by floor area).

12.16 Whilst Table 28 shows that the achieved IRR for Ipswich School and "Other" land is above the benchmark return, the Draft SPD requirement of 35% onsite Affordable Housing has already been achieved for these phases and therefore no additional Affordable Housing has been applied.

**Table 27: Onsite Affordable Housing having applied Inflation and Growth**

| Neighbourhood | Stakeholder | Benchmark IRR | Residual IRR | Onsite Affordable Provision | Onsite Affordable Units |
|---|---|---|---|---|---|
| N1 (a) | CBRE | 25% | 25.1% | 24.9% | 199 |
| N1 (b) | Ipswich School | 16% | 35.5% | 34.9% | 122 |
| N2 (a) | Crest Nicholson | 25% | 25.0% | 20.8% | 206 |
| N2 (b) | Other | 16% | 32.4% | 32.4% | 11 |
| N3 (a) | Mersea Homes | 18% | 18.0% | 31.2% | 312 |
| N3 (b) | RedHouse Farm | 16% | 32.8% | 34.4% | 32 |
| **Blended** | | **20%** | **23.2%** | **27.0%** | **882** |

Source: GE

12.17 Having considered forecasting in accordance with PPG, GE would consider that the originally proposed overall affordable quantum of 27% proposed by PBA may be achievable over the life time of the scheme, whilst not exceeding more than 35% affordable housing in any phase.

12.18 What is apparent from this sensitivity test is that it will be important to review the viability of the scheme at a number of appropriate points (pre-implementation of phases or sub-phases) through the overall life time of delivery of the IGS and it should be noted that delivery on a phase basis may go up as well as down when compared to the overall target.

12.19 Viability assessments are likely to be required as each stakeholder brings forward their respective elements of the Masterplan for development which would allow parties to consider viability when taking into account all relevant factors prevailing.

12.20 As there is no development agreement in place, it is important to agree viability review mechanisms that fully reflect the relevant factors of each individual scheme, taking account of the remaining parts of the scheme to be delivered rather than assessing viability of the overall scheme. (i.e. not basing viability on the previous phases in addition to those still to be delivered).

### Maximising Unit delivery

12.21 In Section 6, GE referred to the fact the IGS could deliver up to 3,500 units and that based on the applied density informed by IBC and the Stakeholders, there is a potential shortfall of 234 units that could be delivered onsite.

12.22 GE has therefore realigned the respective phases within the delivery schedule to ensure that all elements of IGS are achieving a site density of 35 units per ha (14 units per acre). The differences in the units for each neighbourhood are set out in the following table.

**Table 28: Sensitivity Assessment to Improve Site Density**

| Neighbourhood | Phase | Scheme Units | Maximum Units | Difference |
|---|---|---|---|---|
| N1(a) | 1 | 175 | 207 | 32 |
| | 2 | 281 | 300 | 19 |
| | 3 | 344 | 365 | 21 |
| | **Total** | **800** | **872** | **72** |
| N1(b) | 1 | 350 | 350 | - |
| | **Total** | **350** | **350** | **-** |
| N2(a) | 1 | 330 | 356 | 26 |
| | 2 | 330 | 355 | 25 |
| | 3 | 330 | 355 | 25 |
| | **Total** | **990** | **1,066** | **76** |
| N2(b) | 1 | 34 | 36 | 2 |
| | **Total** | **34** | **36** | **2** |
| N3(a) | 1 | 200 | 215 | 15 |
| | 2 | 200 | 215 | 15 |
| | 3 | 200 | 215 | 15 |
| | 4 | 200 | 215 | 15 |
| | 5 | 199 | 215 | 16 |
| | **Total** | **999** | **1,075** | **76** |
| N3(b) | 1 | 93 | 100 | 7 |
| | **Total** | **93** | **100** | **7** |
| **Total** | | **3,266** | **3,499** | **233** |

Source: GE

12.23 Table 28 shows that in order to achieve the maximum possible density based on the respective landowners plots, an additional 233 units could be delivered. GE has therefore tested the growth model assessment to allow for these additional units and identify the impact on the Affordable Housing provision. The sensitivity test is set out in **Appendix 13** and the results are summarised in the following table.

**Table 29: Sensitivity Analysis Revised Density Affordable Housing Delivery**

| Neighbourhood | Affordable (Scheme) | Affordable (Sensitivity) | Difference |
|---|---|---|---|
| N1(a) | 199 | 272 | 73 |
| N1(b) | 122 | 122 | - |
| N2(a) | 206 | 265 | 59 |
| N2(b) | 11 | 12 | 1 |
| N3(a) | 312 | 366 | 54 |
| N3(b) | 33 | 35 | - |
| **Total** | **882** | **1,072** | **190** |

Source: GE

12.24 Table 29 shows that when delivering the maximum density for IGS, the Affordable Housing provision improves by an additional 190 units. The sensitivity analysis shows that the Scheme is capable of providing approximately 1,072 Affordable Housing units which equates to c.30.6% which is an improvement on the conclusions set out in Section 11.

**Summary**

12.25 Having carried out a sensitivity assessment based on the maximum density, the position for the delivery of Affordable Housing shows that the Scheme could be capable of delivering up to 1,072 units which equates to 30.6% of units (or 23.3% of total floor area) if maximising the use of the land to deliver approximately 35 units per ha.

# 13 Conclusions

13.1 As part of Stage 1, GE reviewed the inputs proposed by PBA and concluded whilst a number of inputs appeared reasonable, further work was required, particularly in regard to the cashflow and delivery options.

13.2 Whilst a key objective to the IGS SPD is to maximise the delivery of up to 3,500 units, this assessment has been based upon 3,266 as advised by IBC and following discussions with Key Stakeholders.

13.3 Following review, GE has undertaken an appraisal of the entire Masterplan as well as considered the viability at a stakeholder level. Based on current day assumptions, GE estimate that the various phases within the IGS can viably deliver between 12.5% to 35% Affordable Housing, which reflects 23% by unit overall (17.3% based on floor area).

13.4 PPG sets out that for large, complex schemes, with long delivery programmes, the application of growth to an assessment would be appropriate. Given the size of this scheme and 20 year development programme GE has tested the impact of anticipated growth and inflation on the potential delivery of Affordable Housing.

13.5 Following the application of growth modelling, GE anticipates that holistically IGS may be able to deliver circa 27% Affordable Housing by unit (20.3% based on total floor area). It may be possible that individual phases will deliver higher or lower levels of Affordable Housing when tested pre individual phase implementation.

13.6 Furthermore, GE have tested the impact of delivering 3,500 units on a growth model basis, which suggests that a potential of circa 31% onsite Affordable Housing based on the total number of units (c.23% based on total floor area) could potentially be achieved over the development period. These sensitivity tests demonstrate there is potential to deliver more affordable housing over the life time of the Masterplan.



13.7 GE therefore, considers that it would be appropriate to estimate that the overall Masterplan could potentially deliver circa 20% Affordable Housing based on total number of units on a present day basis. This delivery would predominately be in the latter phases. Sensitivity analysis suggests that there is potential for Affordable Housing delivery to increase as the Masterplan is delivered and costs and values become further crystallised.

13.8 Given that IGS is a 3,000+ unit scheme with a time period of 20 years, it seems reasonable to conclude that values/cost will change over time. Therefore, whilst forecasting can provide some indication of potential Affordable Housing over the life of the development; it would be prudent to undertake pre-implementation viability assessments for individual phases with neighbourhoods to ensure reasonable viability conclusions are applied.

13.9 The approach taken in this assessment is consistent with both PPG and RICS Guidance. It is not the intention of the growth analysis in this report to inform minimum affordable housing levels to be included in a S106 agreement.

13.10 The conclusions reached within this report have been achieved as a result of a significant number of assumptions which may vary over time, including costs and values. Any adjustment in the timing of the requirements of these obligations will likely have an impact upon viability; and therefore the cost savings, either through reductions in actual costs or timing of delivery of items may result in an improved Affordable Housing quantum. It should be noted that whilst significant discussions have occurred between GE, the Council and the Key Stakeholders; the debate remains with regard to appropriate costs and land values applied to the Masterplan, when compared to individual commercial objectives.



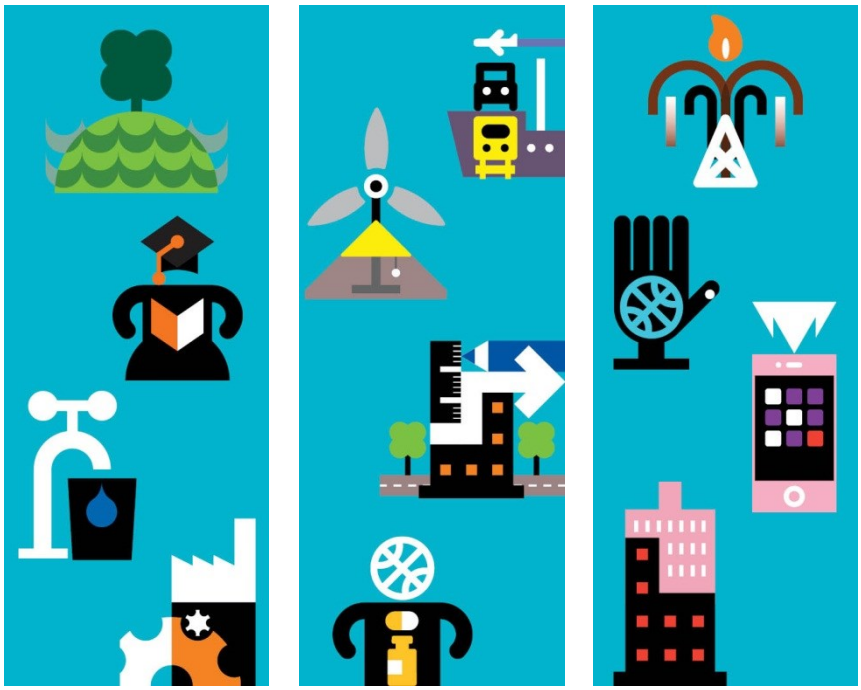
 

13.11 GE's instruction has been to assess the viability of the Ipswich Garden Suburb Masterplan, in line with the SPD, although GE has also aimed to maintain viability at a granular level (neighbourhood); GE concludes that in order to deliver a viable and vibrant Garden Suburb, it will be necessary for all parties to work together, potentially through a development and S106 agreement which could aim to limit or spread the impact of initial infrastructure costs which will be benefited by latter phases of the Masterplan.



# Appendix 1: Stage 1 Report – July 2015



# Ipswich Garden Suburb

Infrastructure Delivery Plan
Stage 1 Cost Review Report

May 2016 (Baseline Q2 2015)

Ipswich Borough Council

Mott MacDonald

# Ipswich Garden Suburb

Infrastructure Delivery Plan
Stage 1 Cost Review Report

May 2016 (Baseline Q2 2015)

Ipswich Borough Council

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# Issue and revision record

| Revision | Date | Originator | Checker | Approver | Description |
|---|---|---|---|---|---|
| 1 | 04/08/2015 | N Walford | G Sims | G Sims | Draft Report |
| 2 | 30/09/2015 | N Walford | G Sims | G Sims | Revised Draft Report |
| 3 | 10/11/2015 | N Walford | G Sims | G Sims | Draft Final Report |
| 4 | 18/12/2015 | N Walford | G Sims | G Sims | Final Report |
| 5 | 15/04/2016 | N Walford | G Sims | G Sims | Final Report |
| 6 | 11/05/2016 | N Walford | G Sims | G Sims | Final Report |

# Contents

# 1 Introduction

## 1.1 Background

Mott MacDonald and Gerald Eve were appointed in mid-May 2015 by Ipswich Borough Council (IBC) to assist in the preparation and adoption of an Infrastructure Delivery Plan (IDP) for the Ipswich Garden Suburb (IGS) site. The site covers an area of 195 ha of predominantly agricultural land and the current review of the Core Strategy identifies the whole IGS area as a strategic allocation for the development of up to 3,500 new dwellings and makes specific allocations for an appropriate mix of housing and support infrastructure.

The level of support infrastructure for this development is modelled on 'garden suburb' principles which means generous provision of green space, a sustainable drainage system, a wide range of local facilities including shops, schools, allotments, community halls, health facilities, and a new country park.

The site is subject to multiple land ownerships which has broken this land area within the SPD into separate phases as set out in the table below.

Table 1.1: Ownership of Land

| Owner | Area (ha) |
|---|---|
| Ipswich School | 12.46 |
| CBRE Investors | 43.29 |
| Crest Housing | 45.40 |
| Crest Country Park | 24.47 |
| Other (adjacent to Henley Road) | 1.47 |
| Other (adjacent to Lower Road) | 5.84 |
| Mersea Homes | 53.2 |
| Other (Redhouse) | 6.08 |
| Total | 192.21 |
| Road | 6.73 |
| Rail | 7.34 |

(Source: Gerald Eve based on the Consortium (Mersea Homes for Road and Rail) – November 2015)

A Supplementary Planning Document (SPD) was prepared by David Lock Associates on behalf of IBC in September 2014. The Masterplan identified a number of strategic and neighbourhood infrastructure items and the following associated key issues and queries;

1. No agreement on how the strategic infrastructure will be delivered and the costs apportioned.
2. There are concerns surrounding the viability and deliverability of the proposals for infrastructure.
3. Point 2 is further compounded by the phasing of the strategic infrastructure which may need to be delivered on land within other neighbourhoods in advance of residential works taking place.
4. Scope and cost of strategic infrastructure.
5. The need to secure delivery of a well – prepared and logically sequenced development.

To address these recognised issues, IBC requested that the IDP Review be prepared through the following 3 identified key sequential stages of work;

1. Review Costs, Infrastructure phasing and other key inputs presented by PBA.
2. Viability Review.

3. Delivery options – drafting of the IDP.

IBC subsequently appointed Motts McDonald and Gerald Eve to undertake the first stage of work, and to undertake a review of the costs, value and other associated key inputs.

## 1.2 Purpose of this Report

The Stage 1 review has now been carried out and completed and the purpose of this report is to summarise the approach taken to complete this stage of work, to present the findings and to make subsequent recommendations in order to take the project forwards.

The Report is structured as follows;

- Section 2: Stage 1 Infrastructure Cost Review
- Section 3: Stage 1 Proposed Development Input
- Section 4: Stage 1 Recommendations and Next Steps

This Report seeks to offer a summary of the work carried out with the main findings presented in the accompanying reports which can be found in the appendices.

# 2 Stage 1 Infrastructure Cost Review

## 2.1 Our Approach

In undertaking the Stage 1 Infrastructure Cost Review, Mott MacDonald undertook two principal tasks. The first task was to undertake a review of the cost inputs and assumptions contained in an initial Viability Assessment prepared by Peter Brett Associates (PBA) in 2013, which was supported by a follow up report in 2015.

The second task was then to build upon this review of the PBA cost inputs and to subsequently generate a set of updated costs for the recognised infrastructure items that could be used in preparing a draft IDP.

In undertaking this review, Mott MacDonald worked alongside IBC, Suffolk County Council and the developers/landowners. Mott MacDonald was not however instructed to review or challenge the appropriateness of the agreed infrastructure items. Mott MacDonald agreed with IBC to base their review on the whole IGS site and in accordance with the level of detailed provided and assumed in the SPD.

## 2.2 Task 1: Cost Input Review of PBA Viability Report

PBA's costs were base dated 4Q 2012 and were split into two sections, Abnormal Works and S.106 Works.

To facilitate ease of analysis, initially, as highlighted in Appendix A, Mott MacDonald re-based PBA's allowances to Q2 2015 based upon BCIS Tender Price Indices (TPI). This is to enable comparison on a like for like basis, whilst also retaining the same items as described by PBA within the Abnormal and S.106 sections. Please note that inflation going forward is excluded until a programme detailing the requirements is provided.

Mott MacDonald also undertook a review and prepared high level designs and associated costing review for key items of infrastructure, especially the bridges. The corresponding design and cost review, that has been reflected in the overall cost review, can be found in Appendix B.

Formal requests were made to the appropriate electrical and gas utility companies and the resulting estimations can be found in Appendix C. In agreement with IBC, no request was made to the relevant water providers as this would have incurred a cost which was deemed inappropriate at this early stage in the design process.

All cost review exercises have benefitted from being additionally based upon benchmarking against recent and relevant Mott MacDonald projects.

For the purposes of this element of the cost review, Mott MacDonald based its review on the same groupings used by PBA.

### Abnormal Cost Analysis

The abnormal works include a variety of infrastructure items, including, Enabling Works, Highway Works, Pedestrian / Cycle Routes, Surface / Foul Water Drainage, Utilities and project design team fee's.

*Enabling Works:*

In the sum of £1.34m, considering the intention to retain the hedge rows where possible, this allowance is of an appropriate level, however it is recommended that the design is developed in future stages to confirm and refine the scope of enabling works in connection with the Infrastructure Works.

*Highway Works / Pedestrian and Cycle Routes:*

Allowances are typically to cover the spine roads, including the main Primary and Secondary routes. The Cycle Routes and the Primary / Secondary routes were measured and priced (at current market conditions) in accordance with the indicative masterplan layout as outlined within the SPD.

Further design will be required in future stages to clarify and confirm the actual requirements, however at this stage, when combined, we estimate the allowance has increased by approximately £1.95m (in comparison to the PBA's allowances once uplifted to present day). To avoid any potential duplication with the pedestrian and cycle routes, the value of these elements were reviewed as a combined figure. The increase is largely due to the review of the highways specification and widths provided by SCC for the Primary and Secondary Routes, coupled by the extensive footpaths and upgrades to existing cycle paths as outlined in the SPD masterplan (approx. 14km).
Please refer to 1.3 & 1.4 of the Neighbourhood Infrastructure cost table Appendix D for the assumptions made and any further detail regarding the primary and secondary routes.

*Surface / Foul water Drainage:*

The Surface Water allowance appears to be appropriate for the level of design provided, however based on the information available, we anticipate that the Foul Water Drainage is significantly higher than that estimated by PBA, £1.65m for the Rising Main to link the phases. As there is no indicative information available regarding the proposed Rising Main for the overall masterplan, we have utilised the planning drawings provided for phase 1 (measured and priced the Rising Main in accordance with the current market conditions) and pro-rata the extent across the three phases, assuming that a consistent, collaborative approach will be deployed.

We therefore strongly recommend that the design is progressed for the Foul Water Infrastructure to co-ordinate the masterplan and define the scope of works going forward to facilitate further cost analysis.

*Utilities:*

The Utilities consist of the electrical infrastructure, gas infrastructure, incoming mains water and telecommunications & communications network. The cost breakdown of the utilities remains unclear within PBA's infrastructure delivery proposal and as such it is difficult reconcile on an individual basis against our findings detailed below.

In summary, it's currently estimated that the utilities have increased by approximately £3m to achieve the collaborative infrastructure requirements set out within the Electrical, Gas, Mains Water and Telecommunications noted below. The uplift is largely due to the additional £5m required for the 11kV electrical infrastructure to be distributed throughout the development by UKPN (over and above the £7m upgrade works).

Electrical Infrastructure, estimates have been provided by UKPN to distribute 11kV infrastructure around the site, including associated sub-stations and the final connections to properties.

The electrical estimate as provided by UKPN totals approximately £12 million, £7m for the provision of the 11kV switchboard at Highfield Primary and installation of a dual circuit cable from the switchboard to site and a further £1,500 / dwelling (approx. £5m) to include for the 11kV infrastructure to be distributed throughout the development. The estimate excludes the associated on-site excavations, therefore we have estimated the extent and allowed for excavating and backfilling trenches separately below.

Gas Infrastructure, the National Grid have confirmed that the existing network has sufficient capacity to serve the proposed development. Connection will be via a medium pressure main (225mm PE) located in the A1214 Valley Road to the South of the proposed development. Falcrum Gas have subsequently provided an estimate of £492,000 to supply gas up to the Emergency Control Valve (ECV) and provide meter installation. The estimate excludes on-site excavations and any specialist works, such as works in connection with rail crossings.

In response to the exclusions throughout the electrical and gas estimates, utilising the extent of the pro-rata'd Foul Water Infrastructure, we have included an allowance of £1.54m for the on-site trenching & backfilling for the gas and electrical infrastructure spines across the masterplan, a further £150,000 for any works in connection with the railway line and an allowance of £350,000 for any off-site road closures / diversions.

Mains Water / Sewerage Infrastructure, it is recommended that pre-development enquiries for site potable water supply, foul water disposal and surface water disposal are submitted to the appropriate statutory undertakers to confirm assumptions made and if applicable, confirm any additional works that may be required.

For the purpose of Stage 1, an allowance of £1,000 / dwelling has been allocated for the mains water, assuming that the existing incoming mains water infrastructure has sufficient capacity and does not require any additional reinforcement works.

Telecommunications and Communications Networks, we recommend that an estimate is sought for the provision of telecommunications throughout the site. In the meantime utilising existing benchmarking data, an allowance of £500 / dwelling has been allocated for the infrastructure, assuming that the telecommunications provider installs their superfast fibre free of charge.

In summary, it's currently estimated that the utility works equate to approximately £ 3m over PBA's previous cost estimate.

*Project Design Team Fee's:*

Any allowances for infrastructure design have been omitted from the viability model, and an allowance of 12% has been applied to all infrastructure deliverable items, equating to £8.28m. Therefore the landscape, engineering, strategic planning and site investigations previously noted within the infrastructure costs have also been omitted, totalling £3.98m.

## Summary of PBA's Abnormal Costs Review:

A summary of the Abnormal Cost findings is presented below.

Table 2.1: Summary of Abnormal Costs

**INFRASTRUCTURE VIABILITY COST ANALYSIS**
for
**IPSWICH GARDEN SUBURB**

**Project Title:** Ipswich Garden Suburb
**Project No:** 355949
**Date:** 19 Jun 2015

Variance Differential: ± < 5% | ± > 5% - 20% | ± > 20%

**Revision:** -
**Base Date:** 2Q 2015

**1.0 Abnormals Cost Analysis Summary**

BCIS TPI Inflation: 4Q 2012 - 2Q 2015 116.96%

| Ref | Description | Budget Allowance | | | |
|---|---|---|---|---|---|
| | | PBA | PBA Inflation Uplift 4Q 2012 - 2Q 2015 | Mott MacDonald | Variance |
| | **Abnormal Works** | | | | |
| 1 | Enabling Works | *1,145,969.00* | 1,340,374.46 | 1,340,374.46 | - |
| 2 | Section 278 Highway Works | *2,800,000.00* | 3,275,000.00 | 3,149,906.00 | - 125,094.00 |
| 3 | On-site Highway Works | *4,937,634.00* | 5,775,268.34 | 5,666,296.00 | - 108,972.34 |
| 4 | On-Site Pedestrian / Cycle Routes | *360,000.00* | 421,071.43 | 2,484,760.00 | 2,063,688.57 |
| 5 | Strategic Surface Water Drainage | *2,519,013.00* | 2,946,345.56 | 2,919,901.14 | - 26,444.42 |
| 6 | Foul Water Drainage | *864,385.00* | 1,011,021.74 | 2,664,803.50 | 1,653,781.76 |
| 7 | Utilities | *16,066,301.00* | 18,791,834.21 | 21,910,482.14 | 3,118,647.94 |
| 8 | Ecology Mitigation | *455,000.00* | 532,187.50 | 532,187.50 | - |
| 9 | Utilities in Connection with S.278 | *280,000.00* | 327,500.00 | 327,500.00 | - |
| 10 | Site Preliminaries | *Included* | Included | Included | |
| 11 | Finance / Legals | *325,000.00* | 380,133.93 | 380,133.93 | - |
| 12 | Public Relations | *150,000.00* | 175,446.43 | 175,446.43 | - |
| 13 | Miscellaneous - Contamination | *250,000.00* | 292,410.71 | 292,410.71 | - |
| 14 | Strategic Planning and Masterplan | *734,521.00* | 859,127.24 | 859,127.24 | - |
| 15 | Site Investigation | *838,345.00* | 980,564.24 | - | - 980,564.24 |
| 16 | Engineering Design | *1,948,572.00* | 2,279,133.32 | - | - 2,279,133.32 |
| 17 | Landscape Design | *614,796.00* | 719,091.75 | - | - 719,091.75 |
| 18 | Ecology | *17,404.00* | 20,356.46 | 20,356.46 | - |
| 19 | Site Supervision / General Design | *Included* | - | 8,279,829.58 | 8,279,829.58 |
| 20 | Project Management | *Included* | - | - | - |
| 21 | Cost Management | *Included* | - | - | - |
| 22 | Local Authority Fee's | *4,225,947.00* | 4,942,848.72 | 4,942,848.72 | - |
| | | *38,532,887.00* | 45,069,716.04 | 55,946,363.82 | 10,876,647.78 |

Source: Mott MacDonald – Revised April 2016 and based Q2 2015

## 2.3 S.106 Costs Analysis

IBC previously concluded a list of S.106 items; the items include various open spaces, primary and secondary schools, community facilities, two bridges, a range of off-site works and travel requirements.

*Country Park, natural / formal open spaces:*

Currently approximately £16.4m is allocated to the open spaces totalling circa 70ha, please refer to the cost tables in Appendix D for a detailed breakdown. Note the capital cost for the country park also includes for the small visitor centre.

Ipswich Parks and Gardens team have assisted in the provision of the capital and maintenance costs for the open spaces. Allocating approximately £6.9m for a 15 year maintenance period, whilst the remaining £9.5m is to cover the capital cost.

£16.4m equates to approximately £2.34m over PBA's allowances, largely due to an increase in the maintenance period requested by Ipswich Borough Council from 10 years to 15 years, coupled by capital cost confirmations from the Parks and Gardens team.

*Primary and Secondary Schools:*

The SPD sets out that 3nr 2 form of entry (2FE) primary schools' are required and a 1200 place secondary school. The secondary school requirement has previously been calculated on the basis of 0.22 pupils per dwelling, and therefore suggests that for the 3,500 dwellings, Ipswich Garden Suburb development will generate a need for an additional 770 secondary school places. The total cost of the 1200 place school has therefore been pro-rata'd to align with the 770 places required by the proposed development.

It's estimated that the 1200 place Secondary School will total approximately £19.3m, therefore when pro-rata'd, utilising the need for 770 places, it is proposed that £12.4m will be contributed by the developers to aid the development, equating to a reduction of approximately £1.7m in comparison to PBA's costs.

Further to discussions with Andrew Rowe of Concertus, and also utilising our in-house benchmarking data, we estimate that each of the 2FE primary schools will total approximately £6.6m, £19.8m in total. Therefore, it's currently estimated that the primary school costs will be approximately £3.9m higher than that allocated within PBA's allowances.

When combining the educational requirements, there is a net increase of £2.2m. This is largely due to a number of reasons which directly affect both the Primary and Secondary Schools. The design anticipated from Andrew regarding the delivery of other schools in the local area reflects recent expectations that we have experienced of other planning departments across the country, these elements have become best practice and as such, would not have been foreseen by PBA in 2012 / 2013.

The schools that are to be provided will typically be expected to meet
BREEAM Excellent as a base aspiration and the provision of Sport England requirements will apply with regards to the play areas, including a 3G floodlit MUGA as standard. Other specifications which will be required as a minimum requirement from planning are, sprinkler systems, mechanical ventilation, biomass boilers, PV panels, 50% glazed façade to achieve natural daylighting aspirations (including rooflights), large extent of canopies to form covered play areas, shared 3G playing facilities, typically an enhanced cladding is also to be applied such as red cedar and green roofs implemented to minimise the impact aesthetically on the local environment.

It must also be noted that best practice for primary and secondary schools is evolving and as such, the requirements expected for those provided in phase 2 may be more stringent than what is currently anticipated, the risk of this should be mitigated through early engagement and liaising with the planning team as the project develops.

*Community Facilities:*

The community facilities comprise of an indoor swimming pool, library two community centres and a temporary community centre.

Swimming Pool, it is estimated within the Sport England planning application that 21.07m$^2$ of surface water is required per 815 dwellings, therefore to meet the demands of the proposed development, a total 90.48m$^2$ of surface water area is required. It is therefore recommended that the developers' should provide a contribution (pro-rata the on-site requirement) for a 4 lane swimming pool facility to be constructed off-site.

A 4 lane swimming pool comprises of a surface water area totalling 212.5m$^2$, accommodating a maximum swimmer capacity or 'maximum bathing load' of 71 bathers. The overall swimming facility, including changing rooms, reception areas and the like is estimated by Sport England at approximately £2.84m. As the surface water area required is approximately 42.6% of a 4 lane pool facility, we therefore suggest that the developers contribute £1,211,082.00, towards the off-site provision.

Sport England also recommend that per 815 dwellings, 0.12 rinks of an indoor bowls facility is also to be provided at a cost of £30,784, and therefore totalling £132,202.00 for the 3,500 dwellings, however IBC have advised that insufficient demand in the local area, does not warrant any additional funding for these elements.
Sport England also note that per 815 dwellings, 0.57 courts (sports hall) and 0.06 pitches (artificial grass) are to be provided, it is anticipated that this provision will be provided within the local schools and shared to the public and therefore no additional contributions are deemed necessary.

In comparison to PBA, the above reflects an increase of £23k, due to the review of the swimming facilities.

Library, when re-based to current day, PBA previously had an allowance of £872,460 for a library, however the dimensions and requirements were not stated. Through design development, it has been concluded that a provision of 60m$^2$ of internal library space will be required on-site, estimated at £286k. It is anticipated that this will form part of the community centre, in addition to the 1,500m$^2$ noted below. The reduced on-site provision will therefore require additional off-site measures, in upgrading an existing Suffolk Library, estimated at £153k.

The revised allowance for the provision of Library facilities will therefore total £439k, equating to a saving of £433k in comparison to PBA.

Community Centres', the build-cost initially provided by PBA for the two community centres (totalling 1,500m$^2$) is significantly lower than anticipated. We would recommend that the build-cost for the community centres' should be increased by approximately £750k.

In addition to this, an allowance for a 10 year maintenance period for the 1,500m$^2$ community facility has also been included, over and above PBA's allowances, totalling a further £875k.

With regards to a temporary community centre, PBA included a notional allowance; the scope of which including dimensions and period required is yet to be defined. We have therefore retained an allowance of £58k for the provision of a modular temporary structure, until further information becomes available.

*Bridges and Network Rail:*

There are currently two bridges within the infrastructure development, a pedestrian / cycle bridge and a highways bridge. At this stage in the design, it is currently considered that the allowance for the highways bridge is appropriate and that the pedestrian bridge allowance should be increased by approximately

£465k. The increase is largely due to the significant increase in ramp requirements to clear the height restrictions for the electrified line; 5m wide ramp x 4.8m rise at 1:20 gradient.

A further £2.1m has also been allocated over and above PBA's allowances for line closures. Line closures, £400k for the vehicular bridge (2nr days) and £200k for the pedestrian bridge (1nr days), also, as advised by SCC, £1.5m for commuted sums covering a 125 year period.

We recommend that the design is further investigated in future stages as there is potential for significant cost savings should the pedestrian crossing be re-located closer to the main bridge. Should re-location of the pedestrian bridge be considered, the raised bank would reduce the additional height required to clear the electrified line, minimising the extent of the ramps, simplifying construction.

*Off-Site Works:*

The off-site works include a variety of items such as cycle and pedestrian / road safety improvements, signage, toucan crossings and an allowance for improved cycle and parking provision at Westerfield station. The off-site works also include for level crossing improvements, improvements have been increased to £250,000 to allow for contributions towards new barriers / improving the safety around the station. It is anticipated that further contributions may be provided by Network Rail and / or Greater Anglia.

Allowances allocated are generally of an appropriate level, however it is recommended that the improvements items are further investigated in future stages when the design is further developed. A defined scope of works will avoid any potential duplication where junctions overlap with on-site works and on-going negotiations with Network Rail will further define the requirements regarding the associated level crossing improvements. The impact on the previous assessment is an uplift of approximately £181k in comparison to PBA, directly resulting from the increased scope of improvements to Westerfield Station.

*Summary of PBA's s.106 Cost:*

A summary of the s.106 Cost findings is presented below.

Table 2.2: Summary of S.106 Costs

**INFRASTRUCTURE VIABILITY COST ANALYSIS**
for
**IPSWICH GARDEN SUBURB**

Mott MacDonald

| | | | |
|---|---|---|---|
| **Project Title:** Ipswich Garden Suburb | Variance Differential | ± < 5% | **Revision:** - |
| **Project No:** 355949 | | ± > 5% - 20% | **Base Date:** 2Q 2015 |
| **Date:** 19 Jun 2015 | | ± > 20% | |

**2.0 S.106 Cost Analysis Summary**

BCIS TPI Inflation:
4Q 2012 - 2Q 2015 116.96%

| Ref | Description | Budget Allowance | | | |
|---|---|---|---|---|---|
| | | PBA | PBA Inflation Uplift 4Q 2012 - 2Q 2015 | Mott MacDonald | Variance |
| | **S.106** | | | | |
| 1 | **Country Park, Natural / Formal Open Spaces** | *12,052,736.00* | 14,097,396.57 | 16,438,391.00 | 2,340,994.43 |
| 2 | **Schools** | | | | - |
| 2.1 | 3nr 2FE Primary Schools | *13,568,571.00* | 15,870,382.15 | 19,800,000.00 | 3,929,617.85 |
| 2.2 | Secondary School (1200 places) | *12,050,000.00* | 14,094,196.43 | 12,400,000.00 | (1,694,196.43) |
| 3 | **Community Facilities** | | | | - |
| 3.1 | Indoor Swimming Pool / off-site contributions | *1,015,571.00* | 1,187,855.37 | 1,211,082.00 | 23,226.63 |
| 3.2 | 1,000 sq m Community Centre | *1,040,000.00* | 1,216,428.57 | 2,200,000.00 | 983,571.43 |
| 3.3 | 500 sq m Community Centre | *520,000.00* | 608,214.29 | 1,250,000.00 | 641,785.71 |
| 3.4 | Library | *745,920.00* | 872,460.00 | 439,000.00 | (433,460.00) |
| 3.5 | Other | *300,000.00* | 350,892.86 | 358,482.14 | 7,589.29 |
| 4 | **Bridges** | | | | - |
| 4.1 | Rail crossing construction (Highway) | *5,805,000.00* | 6,789,776.79 | 8,189,776.79 | 1,400,000.00 |
| 4.2 | Pedestrian / Cycle Bridge | *1,200,000.00* | 1,403,571.43 | 2,570,000.00 | 1,166,428.57 |
| 5 | **Off-Site Works** | *4,660,000.00* | 5,450,535.71 | 5,631,875.00 | 181,339.29 |
| 6 | **Travel Requirements** | *4,445,250.00* | 5,199,354.91 | 5,199,354.91 | - |
| 7 | **Monitoring Costs / Bonds / Waste Transfer** | *502,490.00* | 587,733.84 | 587,733.84 | - |
| | | | | | |
| | | *57,905,538.00* | 67,728,798.91 | 76,275,695.68 | 8,546,896.77 |

Source: Mott MacDonald – Revised April 2016 and based Q2 2015

### Conclusions of the PBA Cost Review

In summary, our review of PBA's costs indicate that the present day costs are in the region of 37.1% higher than the original costs provided by PBA. Table 1.1 below also suggests that the increase equates to 17.2% in comparison to PBA's prices when re-based to 2Q 2015 using BCIS TPI.

Table 2.3: Stage 1 Infrastructure Cost Analysis - Summary

| Description | PBA | PBA Inflation Uplift 4Q 2012 - 2Q 2015 | Mott MacDonald | Variance (PBA Inflation Uplift - Mott MacDonald) |
|---|---|---|---|---|
| Abnormal Works | 38,532,887.00 | 45,069,716.04 | 55,946,363.82 | 10,876,647.78 |
| S.106 Works | 57,905,538.00 | 67,728,798.91 | 76,275,695.68 | 8,546,896.77 |
| **Total** | **96,438,425.00** | **112,798,514.95** | **132,222,059.50** | **19,423,544.55** |

Source: Mott MacDonald – Revised April 2016 and based Q2 2015

Table 1.1 above denotes a cost uplift of approximately £19.4m (17.2%) over PBA's estimate when uplifted to current day, further investigation into elements of the design as noted below could be rationalised and many of the risks could be mitigated within the early stages of design development.

A number of areas could be rationalised through early feasibility studies, such as combining the community facilities (reducing the overall GIFA required) and also utilising the raised banks (closer to the vehicular crossing) for the pedestrian /cycle crossing over the railway (minimising the quantum of ramps required, simplifying the design and construction).

With regards to the primary & secondary schools, there could be potential to control costs through optimising an efficient design development process, whilst also negotiating with planners to reduce the design limitations. However, for the secondary school, it must be noted that the design development needs to mitigate the demand for phasing, minimising the risk of any abortive works.

Utilities, to mitigate the risk regarding the utilities and additional reinforcement works, we recommend that when the information is available, that it is provided to the relevant utility companies to enable production of an estimate for the mains water infrastructure and telecommunications infrastructure for the masterplan.

We also strongly recommend that the off-site works and foul water drainage is designed to define the scope of works going forward, enabling the facilitation of further cost analysis.

## 2.4 Task 2: Establishing an agreed set of Infrastructure Costs

Further to the Task 1 PBA Cost Review, Mott MacDonald has carried out its own independent assessment of the related infrastructure cost items. This builds upon, and is largely reflective of the costs presented in Appendix A, However these costs are presented as per the SPD and within the two recognised groups of Strategic and Neighbourhood infrastructure. This review clearly identifies Mott MacDonald's position with regards to the costs and assumptions.

The updated cost schedules can be found in Appendix D.

The schedules facilitate IBC to utilise the data in future stages by enabling adjustments to the assumptions as the design develops and / or further information becomes available.

To retain a consistent approach and commonality between the IDP and the SPD, the 'Infrastructure Theme' and 'Item' columns noted within the schedules are as stipulated by the SPD. A further sub-element 'Detail' has been incorporated to further define the costs, followed by a brief description elaborating on the assumptions.

Schedule 1 sets out the Strategic Infrastructure, 'Infrastructure Theme' including items such as:

- Access & Transport; Vehicular rail crossing / Westerfield station / Footpath improvements
- Education; 1200 place secondary school
- Open Space Recreation & Play; Country park / Off-site swimming pool contribution
- Community Facilities; Community centre / Community support officers
- Utilities; Incoming Electric, Gas, Potable Water / On-site foul & surface water attenuation

The Strategic Infrastructure costs total approximately £64.6m, the detail and assumptions of which are as Appendix D.

Schedule 2 sets out the Neighbourhood Infrastructure, to align with the masterplan and omit the risk of potential duplication, the table incorporates elements across the three neighbourhoods. The 'Infrastructure Theme' incorporates:

- Access & Transport; Off-site junctions / Traffic Management / On-site spine roads
- Education & Early Years; Primary & Nursery Schools
- Open Space, Recreation & Play; Sports pitches / Parks / Gardens
- Community Infrastructure; Temporary community centre / Electric charging points / Household waste facilities
- Other Items; Enabling works / Design / Legals etc.

The Neighbourhood Infrastructure costs total approximately £67.6m, the detail and assumptions of which are as Appendix D.

In summary, it's estimated that the Strategic / Neighbourhood Infrastructure total approximately £132.22m. However, it should be noted that further detail is required to define the final infrastructure items and to offer more clarity and cost certainty.

A summary of these costs is presented below.

Table 2.4: Summary of Mott MacDonald Infrastructure Cost Review

## Strategic Infrastructure

**INFRASTRUCTURE VIABILITY COST ANALYSIS**
for
**IPSWICH GARDEN SUBURB**

**Project Title:** Ipswich Garden Suburb **Revision:** -

**Project No:** 355949 **Base Date:** 2Q 2015

**Date:** 01 Mar 2016

**1.1 Strategic Infrastructure**

| Ref | Infrastructure Theme (based on SPD tables) | Item | Mott MacDonald |
|---|---|---|---|
| 1 | Access & Transport | Vehicular Rail Crossing; Pedestrian Crossing; Bus Services; Town Centre Cycle Improvements etc | 16,567,098.21 |
| 2 | Education | 1200 place secondary school, including sixth form facility, playing fields and recreational facilities secured for use by the community (proportionate contribution of school build cost) | 12,400,000.00 |
| 3 | Open space, recreation & play | Country Park with visitor centre for Henley Gate; Swimming Contribution off-site | 5,639,551.00 |
| 4 | Community facilities | District & Local Community Centres including community buildings with integrated library facilities & police office alongside new health centre & reserved sites for community use | 4,189,000.00 |
| 5 | Utilities | Strategic improvements to electricity, gas, potable water, sewerage and SUDS | 25,827,686.79 |
| | | **Total** | **64,623,336.00** |

Source: Mott MacDonald – Revised April 2016 and based Q2 2015

## Neighbourhood Infrastructure

**INFRASTRUCTURE VIABILITY COST ANALYSIS**
for
**IPSWICH GARDEN SUBURB**

**Project Title:** Ipswich Garden Suburb **Revision:** -

**Project No:** 355949 **Base Date:** 2Q 2015

**Date:** 01 Mar 2016

**1.2 Neighbourhood Infrastructure Requirements**

| Ref | Infrastructure Theme (based on SPD tables) | Item | Mott MacDonald |
|---|---|---|---|
| 1 | Access & Transport | Off-site junction improvements in surrounding road network; Connection to UTMC; Travel Plan and Improvements to Fonnereau Way | 16,328,995.48 |
| 2 | Education & Early Years | 3nr 2FE (forms of entry) primary schools & nursery | 19,800,000.00 |
| 3 | Open space, recreation & play | Neighbourhood parks, allotments & open spaces with equipped sports & play facilities as per SPD | 12,542,109.50 |
| 4 | Community Infrastructure | District Centre supporting infrastructure (CCTV, electric charging points, recycling facility, cycle parking etc.); Temporary Community Centre | 91,232.14 |
| 5 | Other Items | Design, Legals etc. | 18,836,386.38 |
| | | **Total** | **67,598,723.50** |

Source: Mott MacDonald – Revised April 2016 and based Q2 2015

These costs are reflective of the current level of design detail and therefore will be subject to change as and when further detail is known and as the design evolves.

# 3 Stage 1 Initial Revenue and Construction Cost Review

## 3.1 Development Input Review of PBA Viability Report

Gerald Eve reviewed a number of PBA's key inputs including revenue, costs, funding, delivery phasing and cash-flow, land value and profit assumptions. This review would form a basis for any future viability work (Stage 2) in providing an accurate and up to date picture of the required infrastructure and investment needs.

The output of this exercise identifies whether the associated applied inputs within PBA's assessment are up to date and reasonable to assume for the proposed scheme. The assumptions summarise PBA's inputs together with what Gerald Eve considers to be reasonable and reflective of current market conditions. It was recognised however that there are a number of variables that need further analysis to understand how appropriate they are and how these variances impact viability.

Gerald Eve reviewed the following inputs as part of their review;

- Unit mix
- Affordable housing allocation
- Revenue assumption
  - Residential: private sale and affordable housing
  - Commercial: retail rents and yields
- Construction costs
- Funding assumptions
- Phasing and delivery
- Cash-flow assumptions
- Profit assumptions
- Land valueRevenue and Initial Viability Review

Within their 2015 update, PBA concluded that their assumptions were reflective of the proposed scheme and the market conditions as of May 2015. It was considered that the associated costs of delivering the scheme grew at a higher rate than the revenue levels between the time in which PBA assessed the scheme from 2013 to 2015. Initially, PBA considered that the scheme could viably deliver 31.6% affordable housing but reduced this to 27.2% based on the 2015 update.

Gerald Eve has assessed the inputs applied by PBA to understand whether these reflect the current market conditions and whether there is potential to improve the delivery of the scheme.

Gerald Eve considered that PBA's initial assessment of revenue levels reflected sales evidence, although location/scheme factors may suggest higher values may be possible. Furthermore, regard was given to the development timeline and therefore GE also considered the impact of inflation the schemes viability.

GE assessed the affordable housing tenures and prices and considers that PBA's assessment needed to be revised. The applied rental value for the district centre was considered reasonable in the current market when compared to minimal market evidence. However, GE does not consider that the local centres would not achieve the rental values considered by PBA. GE therefore consider the lower end of the range within the PBA report to the local centre should be applied.

A summary of these revenue findings is presented below.

Table 3.1: Summary of Revenue Values

| Item | PBA | GE |
|---|---|---|
| Base Rate Residential Sales Values | £2,415 per sq m | £2,367 per sq m |
| Affordable Rent (80%) | £1,184 per sq m | £1,212 per sq m* |
| Intermediate Rent (20%) | £1,399 per sq m | £1,432 per sq m* |
| District Centre | £129 per sq m | £129 per sq m |
| Local Centres | £129 per sq m | £77 per sq m |
| Commercial Yield | 8% | 8% |

*dependent on unit mix

Source: PBA / Gerald Eve – July 2015

BCIS data indicates construction costs have increased at a greater rate than sales values over the last two years. In addition to assessing current day costs, GE has also had regard to BCIS Build Cost Indices over the development period (20 years).

GE has updated PBA's base rate construction cost which is now reflective of July 2015 Build Cost Information Services ("BCIS") levels for both residential and retail uses to reflect the district and local centres which have been rebased to Ipswich.

A summary of these construction cost findings is presented below.

Table 3.2: Summary of Construction Costs

| Item | PBA | GE |
|---|---|---|
| Base Rate Residential | £905 per sq m | £922 per sq m |
| Residential External Works | 12% | 12% |
| CfSh L4 | £2,000 per dwelling | £2,000 per dwelling |
| Base Rate District/Local Centres | £619 per sq m | £780 per sq m |
| Abnormal Costs | 7.5% | £1,500 per dwelling |
| Contingencies | 5% | 5% |
| District/Local Centres External Works | 15% | 15% |

Source: Gerald Eve – July 2015

A summary of the unit size / mix findings is presented below.

Table 3.3: Summary of Unit Size and Unit Mix

| Item | PBA | GE |
|---|---|---|
| Total Units | 3,318 | 3,266 |
| Total Private Units | 2,416 (72.8%) | TBC |
| Total Affordable Units | 902 (27.2%) | TBC |
| Average Private Residential Unit Sizes | 98 sq m | 102 sq m |
| Average Affordable Residential Unit Sizes | 84 sq m | 70 sq m |
| District Centre | 3,395 sq m GIA (3,632 sq m NIA) | |
| Local Centre | 1,329 sq m GIA (1,208 sq m NIA) | |

Source: Gerald Eve based on PBS and the Consortium – November 2015

In addition to key inputs on cost revenues, Gerald Eve considers that there are a number of potential areas that could improve the scheme. The most important factor is the cash-flow for the scheme.

Timing has a significant impact on the return and deliverability of the scheme. It is important to understand where variations could be applied to understand how to deliver the best scheme whilst complying with the council's policy requirements. Timing of the acquisition of the land, payment of the infrastructure costs and S.106 obligations and distribution and delivery of the units could all significantly impact the viability of the scheme.

Gerald Eve also considers that there may be an opportunity to improve upon the density of the scheme to meet the SPDs allowance of providing up to 3,500 dwellings with a density of 30-35 dwellings per hectare. This in turn will also impact upon the deliverability and viability of the scheme. Gerald Eve has amended the average unit size to reflect the IGS SPD.

## 3.2 Conclusions of Revenue Input and Construction Cost Review

Market updates suggest that there are a number of differences that have been highlighted in both cost and revenue assumptions. Further assessment on this matter is therefore needed. Furthermore, additional consideration is required for changes in cashflow/cost/revenue distribution and the impact of growth/inflation on Scheme over its lifetime.

# 4 Stage 1 Recommendations and Next Steps

## 4.1 Recommendation

The findings from the Stage 1 cost, revenue and viability review demonstrates the need to further refine the cost and value inputs through undertaking an updated viability review. It is Gerald Eve's opinion at this stage that viability of the IGS scheme could be improved through further finer grain analysis of the proposed development.

IBC is subsequently recommended to proceed to Stage 2 of the commission and to undertake a detailed viability assessment.

# Appendices

| | |
|---|---|
| Appendix A. | Infrastructure Viability Cost Analysis |
| Appendix B. | Initial Infrastructure Design Review |
| Appendix C. | Utilities Statement |
| Appendix D. | Mott MacDonald Infrastructure Cost Review |

# Appendix A. Infrastructure Viability Cost Analysis

# INFRASTRUCTURE VIABILITY COST ANALYSIS
for
# IPSWICH GARDEN SUBURB

**Project Title:** Ipswich Garden Suburb
**Project No:** 355949
**Date:** 19 Jun 2015

Variance Differential
± < 5%
± > 5% - 20%
± > 20%

**Revision:** -
**Base Date:** 2Q 2015

## 2.0 S.106 Cost Analysis Summary

BCIS TPI Inflation:
4Q 2012 - 2Q 2015 116.96%

| Ref | Description | Budget Allowance | | | |
|---|---|---|---|---|---|
| | | PBA | PBA Inflation Uplift 4Q 2012 - 2Q 2015 | Mott MacDonald | Variance |
| | **S.106** | | | | |
| 1 | **Country Park, Natural / Formal Open Spaces** | *12,052,736.00* | 14,097,396.57 | 16,438,391.00 | 2,340,994.43 |
| 2 | **Schools** | | | | - |
| 2.1 | 3nr 2FE Primary Schools | *13,568,571.00* | 15,870,382.15 | 19,800,000.00 | 3,929,617.85 |
| 2.2 | Secondary School (1200 places) | *12,050,000.00* | 14,094,196.43 | 12,400,000.00 | (1,694,196.43) |
| 3 | **Community Facilities** | | | | - |
| 3.1 | Indoor Swimming Pool / off-site contributions | *1,015,571.00* | 1,187,855.37 | 1,211,082.00 | 23,226.63 |
| 3.2 | 1,000 sq m Community Centre | *1,040,000.00* | 1,216,428.57 | 2,200,000.00 | 983,571.43 |
| 3.3 | 500 sq m Community Centre | *520,000.00* | 608,214.29 | 1,250,000.00 | 641,785.71 |
| 3.4 | Library | *745,920.00* | 872,460.00 | 439,000.00 | (433,460.00) |
| 3.5 | Other | *300,000.00* | 350,892.86 | 358,482.14 | 7,589.29 |
| 4 | **Bridges** | | | | - |
| 4.1 | Rail crossing construction (Highway) | *5,805,000.00* | 6,789,776.79 | 8,189,776.79 | 1,400,000.00 |
| 4.2 | Pedestrian / Cycle Bridge | *1,200,000.00* | 1,403,571.43 | 2,570,000.00 | 1,166,428.57 |
| 5 | **Off-Site Works** | *4,660,000.00* | 5,450,535.71 | 5,631,875.00 | 181,339.29 |
| 6 | **Travel Requirements** | *4,445,250.00* | 5,199,354.91 | 5,199,354.91 | - |
| 7 | **Monitoring Costs / Bonds / Waste Transfer** | *502,490.00* | 587,733.84 | 587,733.84 | - |
| | | | | | |
| | | *57,905,538.00* | 67,728,798.91 | 76,275,695.68 | 8,546,896.77 |

# INFRASTRUCTURE VIABILITY COST ANALYSIS
for
# IPSWICH GARDEN SUBURB

**Project Title:** Ipswich Garden Suburb
**Project No:** 355949
**Date:** 19 Jun 2015

| Variance Differential | |
|---|---|
| | ± < 5% |
| | ± > 5% - 20% |
| | ± > 20% |

**Revision:** -
**Base Date:** 2Q 2015

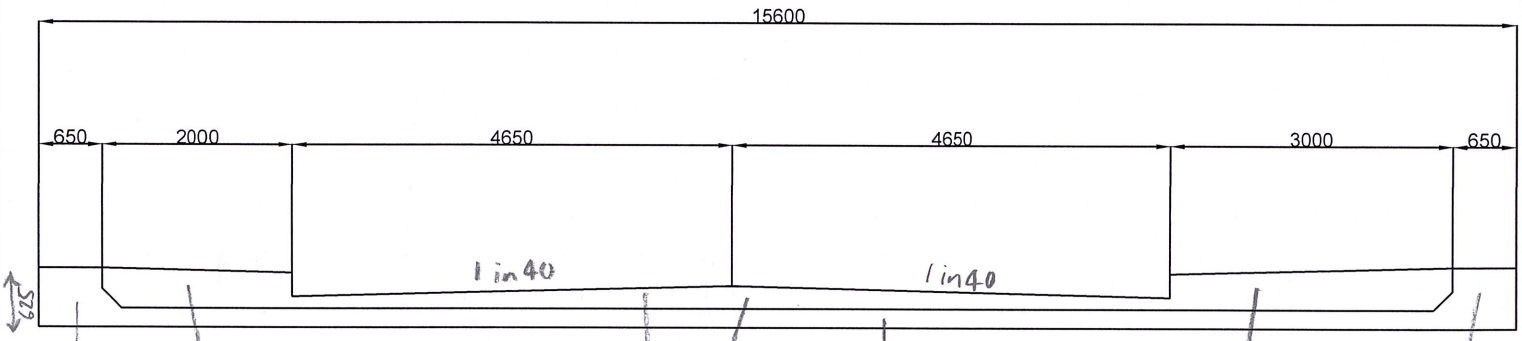
## 1.0 Abnormals Cost Analysis Summary

BCIS TPI Inflation:
4Q 2012 - 2Q 2015 116.96%

| Ref | Description | Budget Allowance | | | |
|---|---|---|---|---|---|
| | | PBA | PBA Inflation Uplift 4Q 2012 - 2Q 2015 | Mott MacDonald | Variance |
| | **Abnormal Works** | | | | |
| 1 | Enabling Works | *1,145,969.00* | 1,340,374.46 | 1,340,374.46 | - |
| 2 | Section 278 Highway Works | *2,800,000.00* | 3,275,000.00 | 3,149,906.00 | - 125,094.00 |
| 3 | On-site Highway Works | *4,937,634.00* | 5,775,268.34 | 5,666,296.00 | - 108,972.34 |
| 4 | On-Site Pedestrian / Cycle Routes | *360,000.00* | 421,071.43 | 2,484,760.00 | 2,063,688.57 |
| 5 | Strategic Surface Water Drainage | *2,519,013.00* | 2,946,345.56 | 2,919,901.14 | - 26,444.42 |
| 6 | Foul Water Drainage | *864,385.00* | 1,011,021.74 | 2,664,803.50 | 1,653,781.76 |
| 7 | Utilities | *16,066,301.00* | 18,791,834.21 | 21,910,482.14 | 3,118,647.94 |
| 8 | Ecology Mitigation | *455,000.00* | 532,187.50 | 532,187.50 | - |
| 9 | Utilities in Connection with S.278 | *280,000.00* | 327,500.00 | 327,500.00 | - |
| 10 | Site Preliminaries | *Included* | Included | Included | |
| 11 | Finance / Legals | *325,000.00* | 380,133.93 | 380,133.93 | - |
| 12 | Public Relations | *150,000.00* | 175,446.43 | 175,446.43 | - |
| 13 | Miscellaneous - Contamination | *250,000.00* | 292,410.71 | 292,410.71 | - |
| 14 | Strategic Planning and Masterplan | *734,521.00* | 859,127.24 | 859,127.24 | - |
| 15 | Site Investigation | *838,345.00* | 980,564.24 | - | - 980,564.24 |
| 16 | Engineering Design | *1,948,572.00* | 2,279,133.32 | - | - 2,279,133.32 |
| 17 | Landscape Design | *614,796.00* | 719,091.75 | - | - 719,091.75 |
| 18 | Ecology | *17,404.00* | 20,356.46 | 20,356.46 | - |
| 19 | Site Supervision / General Design | *Included* | - | 8,279,829.58 | 8,279,829.58 |
| 20 | Project Management | *Included* | - | - | - |
| 21 | Cost Management | *Included* | - | - | - |
| 22 | Local Authority Fee's | *4,225,947.00* | 4,942,848.72 | 4,942,848.72 | - |
| | | | | | |
| | | *38,532,887.00* | 45,069,716.04 | 55,946,363.82 | 10,876,647.78 |

# Appendix B. Initial Infrastructure Design Review

# Cross Section of Road on Bridge




parapet

footway

carriageway

RC slab on top of ~~box~~ Solid section box beams

cycleway

parapet

① 200 x 200 x 10 mm SHS for all beams

② 10mm thick deck plate

③ All connections welded

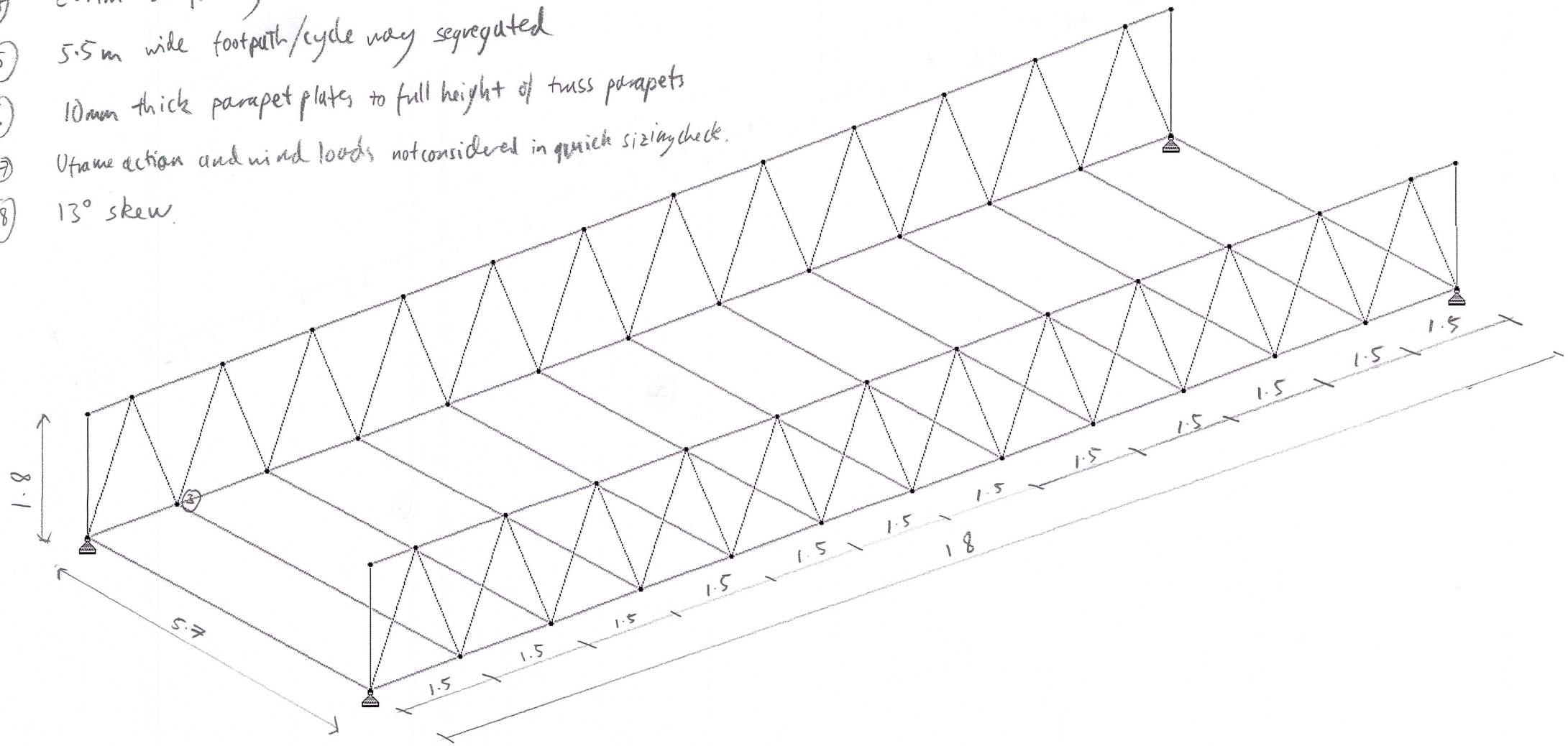
④ 20mm surfacing on deck

⑤ 5.5m wide footpath/cycle way segregated

⑥ 10mm thick parapet plates to full height of truss parapets

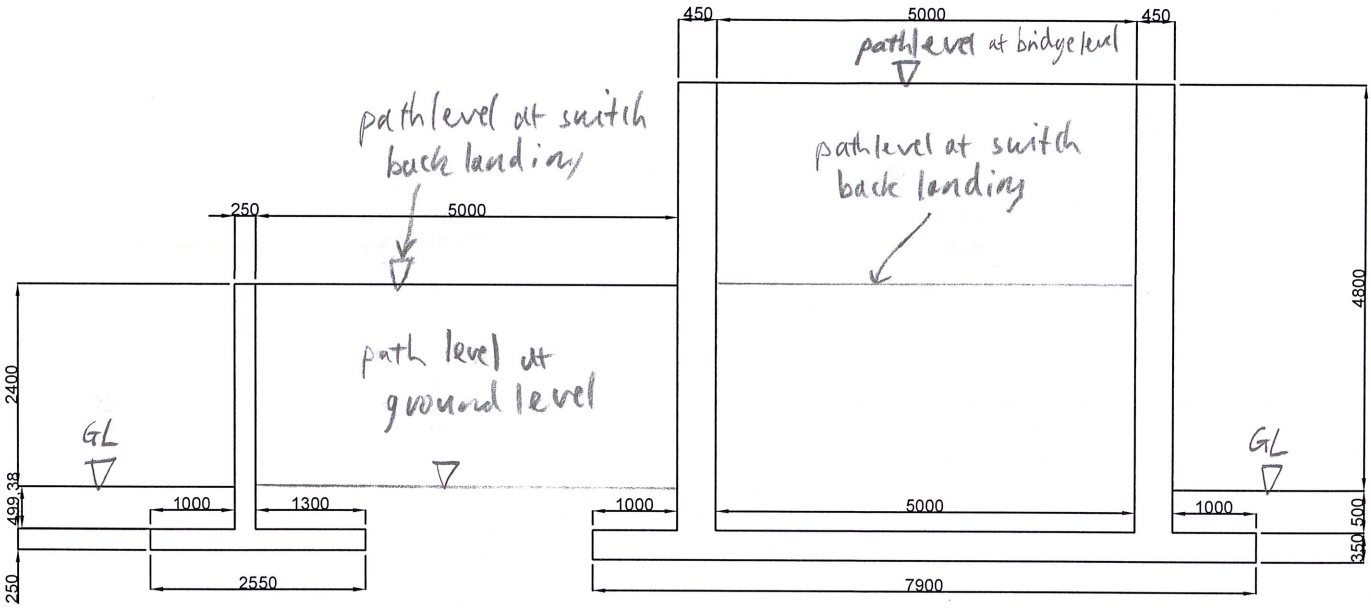
⑦ Uframe action and wind loads not considered in quick sizing check.

⑧ 13° skew




All dimensions in metres

# Switch back ramp retaining walls for foot bridge

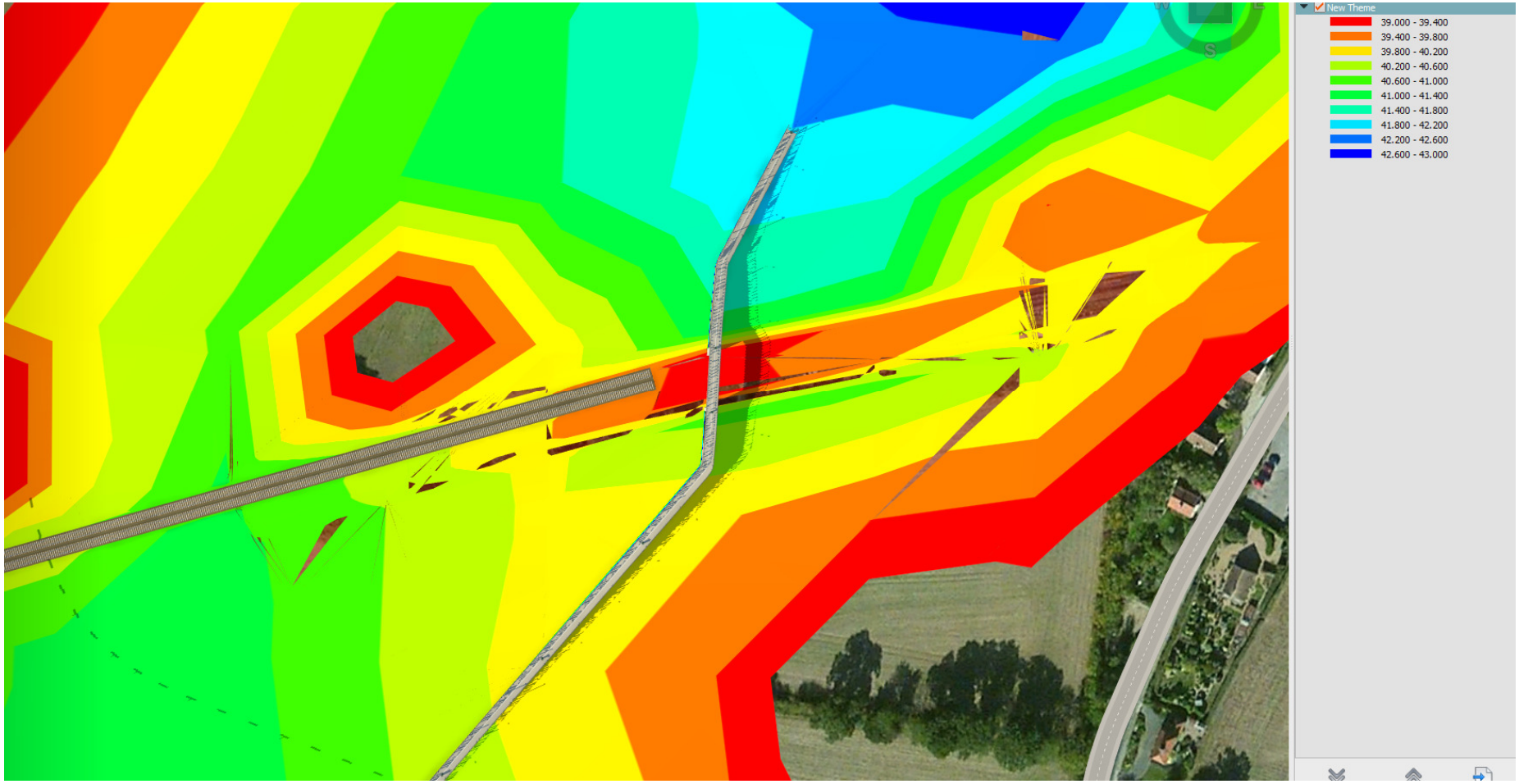



1:20 gradient

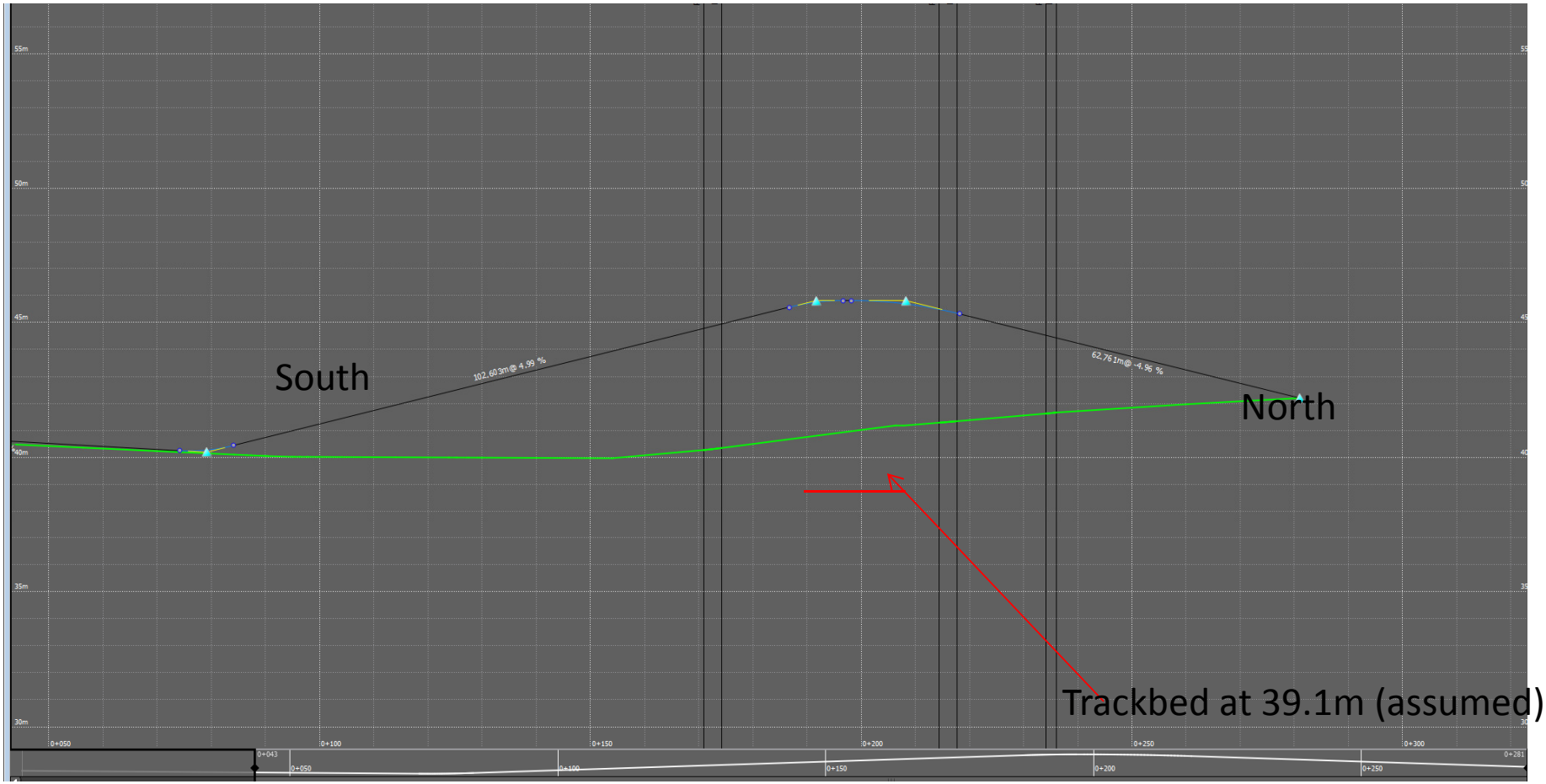
5m wide path

All dimensions in mm

# Alternative Ramp

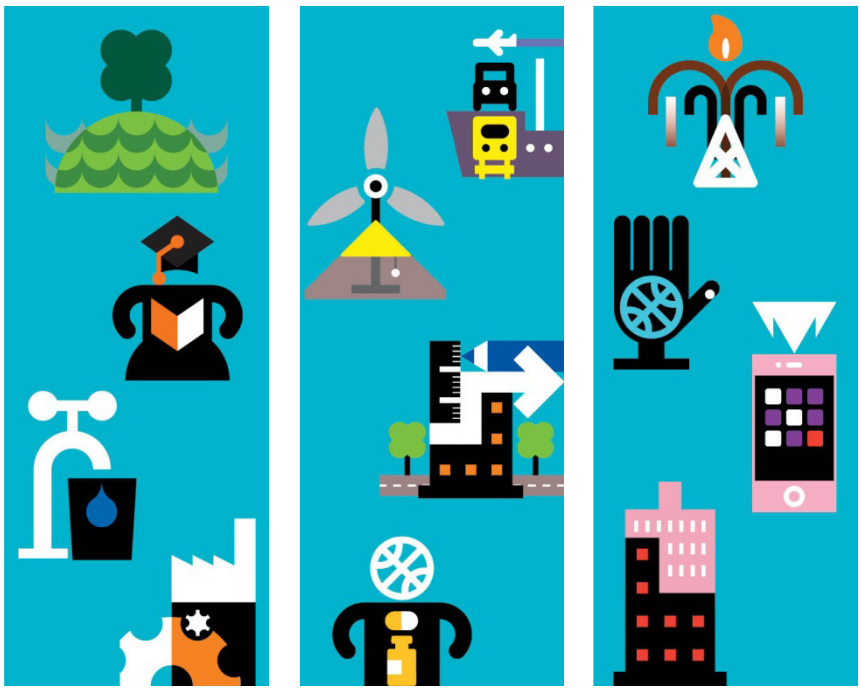


# Alternative Ramp




Footbridge approach ramp profile shown above.
Approx 70m approach on north side. 110m on south side.

# Appendix C. Utilities Statement



# Ipswich Garden Suburb

Utilities Statement

September 2015

Ipswich Borough Council

Mott MacDonald

# Ipswich Garden Suburb

## Utilities Statement

September 2015

Ipswich Borough Council

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# Issue and revision record

| Revision | Date | Originator | Checker | Approver | Description |
|---|---|---|---|---|---|
| A | September 2015 | P. H. Satchell | A. J. Newson | A. M. Rawlings | First Issue |

**Information class: Standard**

# Contents

# 1 Introduction

## 1.1 Development Description

This Utilities Statement report has been prepared by Mott MacDonald on behalf of Ipswich Borough Council to support the continuing development of the Ipswich Garden Suburb proposals.

It is proposed to develop land between Henley Road and Tuddenham Road, and south of Westerfield village. This Utilities Statement is based on the following proposed land use schedule:

1. Residential area 102ha
   a. 3,500no. homes comprising;
      i. 10% 1 bed homes (350no.)
      ii. 23% 2 bed homes (805no.)
      iii. 38% 3 bed homes (1330no.)
      iv. 21% 4 bed homes (735no.)
      v. 8% 5+ bed homes (280no.)

2. District Centre 3.5ha
   a. 2,000 sq. m of convenience shopping;
   b. 1,220 sq. m of comparison shopping;
   c. 1,320 sq. m of service use (Planning Classes A1, A2, A3, A4 and A5);
   d. A Health Centre;
   e. A Library;
   f. A Police Office; and
   g. A Multi-use Community Centre.

3. Local Centres 1.5ha
   a. 500 sq. m of convenience shopping;
   b. 600 sq. m of comparison shopping; and
   c. 500 sq. m of service use (Planning Classes A1, A2, A3, A4 and A5).

4. 1no. Secondary School 9ha
   a. 1,200no. students (including Sixth Form).

5. 3no. Primary Schools 6ha
   a. 210no. students per Primary School – total number of students 630no. (including Early Years).

The proposed development masterplan is included in **Appendix A**.

## 1.2 Indicative Development Phasing

It is understood that the development is proposed to be developed in 2no. separate phases, with Phase 1 delivering houses and associated facilities before 2021 and subsequent houses and facilities constructed

as Phase 2 after 2021. These Phases are required in order to develop in accordance with Ipswich Borough Council Core Strategy.

## 1.3 Pre-Development Enquiries

Pre development enquiries were submitted to the following statutory undertakers – outlined in **Table 1.1** below.

Table 1.1: Pre Development Enquiries

| Service | Statutory Undertaker |
|---|---|
| Electricity | UK Power Networks |
| Gas | National Grid |

Source: Mott MacDonald

It is recommended that up to date pre-development enquiries for site potable water supply, foul water disposal and surface water disposal are submitted to the appropriate statutory undertakers to confirm feasibility and costs associated with any works.

# 2 Existing Infrastructure

## 2.1 Site Utilities

Existing infrastructure information has been provided by Ipswich Borough Council. The following comments on the existing infrastructure are based on this information and information received from the respective statutory undertakers as part of the pre development enquiries only. The information and drawings included in this report should not be assumed to show all existing infrastructure on and adjacent to the site. These routes and locations of plant are not guaranteed and should be confirmed by Cable Avoidance Tool (CAT) scans and hand digging prior to any works on site. CAT scans and hand digging should be carried out by a competent contractor in accordance with current, relevant legislation and guidance including BS 6031:2009 Code of Practice for Earthworks, Health and Safety Executive (HSE) Avoiding Danger from Underground Services HS(G)47, HSE Avoiding Danger from Overhead Power Lines GS6 and National Joint Utilities Group (NJUG) Best Practice Guidance.

## 2.2 Electrical Infrastructure

The Vectos “Existing Statutory Undertakers” drawing (Drawing – 15.1) shows existing high voltage assets located adjacent to the site. The high voltage assets are located to the west of the site in Henley Road, to the south in Valley Road (A1214), and bisecting the southern part of the site in Westerfield Road (B1077) and to the east of the site in Tuddenham Road.

It is noted that the Vectos drawing does not show low voltage UKPN assets or connections details. The Vectos drawings should not be assumed to be the definitive source of existing UKPN asset information. UKPN should be contacted to confirm assets prior to the commencement of any works.

## 2.3 Gas Infrastructure

The National Grid drawing (Drawing 180002996) shows the layout of existing low pressure and medium pressure gas mains in the vicinity of the proposed development site. The medium pressure mains extend along Dales Road and Dale Hall Lane to the east of the development site, and Valley Road (A1214) to the south. The low pressure mains are located in the above mentioned roads and the network of minor roads adjacent to the west, south and east of the proposed development site. It is noted that it is likely that there may be existing gas assets not shown on the drawing, these include pipework, associated infrastructure and individual connections.

## 2.4 Water Supply Infrastructure

The Vectos “Existing Statutory Undertakers” drawing (Drawing – 15.1) shows existing Anglian Water mains adjacent to the site. The existing water mains and their respective locations are listed in **Table 2.1** below.

Table 2.1: Existing Anglian Water Strategic Mains

| Water Main | Location |
|---|---|
| 12 Inch Water Main | Valley Road (A1214) |
| 18 Inch Water Main | Henley Road |
| 150mm Water Main | Westerfield Road |
| 6 Inch Water Main | Tuddenham Road |
| 15 Inch Water Main | Between Westerfield Road and Tuddenham Road |
| 3 Inch Water Main | Lower Road / Church Lane |

Source: Vectos

The Vectos "Existing Statutory Undertakers" drawing (Drawing – 15.1) shows existing Anglian Water mains adjacent to the site. The existing water mains and their respective locations are listed in the table above.

# 3 New Infrastructure Requirements

## 3.1 Proposed Development Indicative Demands

The proposed development demands have been estimated in order to provide statutory undertakers with overall load figures upon which to base their assessments. UKPN and National Grid utilise their in-house software and engineers to carry out assessments of the loads on their networks in order to provide a response.

**Tables 3.1** and **3.2** below, show the estimated electrical and gas demands for the proposed development, based on the information available at the time; it should be noted that all estimates of anticipated demands are indicative only.

Table 3.1: Estimated Electrical Loads

| Description of Building | Estimated Electrical Load |
|---|---|
| 1 Bedroom House (350no. properties) | 1.5 kVA / Property |
| 2 Bedroom House (805no. Properties) | 1.8 kVA / Property |
| 3 Bedroom House (1330no. Properties) | 2.3 kVA / Property |
| 4 Bedroom House (735no. Properties) | 2.7 kVA / Property |
| 5 Bedroom House (280no. Properties) | 3.1 kVA / Property |
| District Centre Convenience Shopping (2,000sq.m) | 320 KW |
| District Centre Comparison Shopping (1,220sq.m) | 305 KW |
| District Centre Service Use (Classes A1, A2, A3, A4 and A5) | 330 KW |
| District Centre Health Centre | 130 KW |
| District Centre Library | 50 KW |
| District Centre Police Office | 43.5 KW |
| District Centre Multi Use Community Centre | 150 KW |
| Local Centre Convenience Shopping (500sq.m) | 80 KW |
| Local Centre Comparison Shopping (600sq.m) | 150 KW |
| Local Centre Service Use (Classes A1, A2, A3, A4 and A5) | 125 KW |
| 1no. Secondary School (1,200 students inc. Sixth Form) | 550 KW |
| 3no. Primary Schools (210 students per Primary School) | 175 KW |

Source: Mott MacDonald

Table 3.2: Estimated Gas Loads

| Description of Building | Estimated Gas Load |
|---|---|
| 1 Bedroom House (350no. properties) | Calculated by National Grid |
| 2 Bedroom House (805no. Properties) | Calculated by National Grid |
| 3 Bedroom House (1330no. Properties) | Calculated by National Grid |
| 4 Bedroom House (735no. Properties) | Calculated by National Grid |
| 5 Bedroom House (280no. Properties) | Calculated by National Grid |
| District Centre Convenience Shopping (2,000sq.m) | 120 KW |
| District Centre Comparison Shopping (1,220sq.m) | 73.2 KW |

| Description of Building | Estimated Gas Load |
|---|---|
| District Centre Service Use (Classes A1, A2, A3, A4 and A5) | 92.4 KW |
| District Centre Health Centre | 150 KW |
| District Centre Library | 80 KW |
| District Centre Police Office | 40 KW |
| District Centre Multi Use Community Centre | 180 KW |
| Local Centre Convenience Shopping (500sq.m) | 30 KW |
| Local Centre Comparison Shopping (600sq.m) | 36 KW |
| Local Centre Service Use (Classes A1, A2, A3, A4 and A5) | 35 KW |
| 1no. Secondary School (1,200 students inc. Sixth Form) | 700 KW |
| 3no. Primary Schools (210 students per Primary School) | 390 KW |

Source: Mott MacDonald

## 3.2 Electrical Infrastructure

A budget estimate enquiry was submitted to UKPN, the return is included in **Appendix B**. UKPN has stated that in order to serve the proposed development, the proposed non-contestable electrical works (to be completed by UKPN only) are to include:

- Extension of the 11kV switchboard at Highfield Primary; and
- Installation of a dual circuit cable from the Highfield Primary to the proposed development site.

The UKPN budget estimate for the proposed non-contestable electrical works is £7million (exc. VAT).

UKPN have confirmed that the budget estimate figure does not include civils/ground excavation for the non-contestable electrical works. The civils works are to be carried out by the Developer.

The contestable works electrical works (to be completed by an ICP (Independent Connections Provider) or DNO (Distribution Network Operator) are to include:

- 11kV infrastructure around the site and associated sub-stations; and
- Final connections to properties.

UKPN have advised that for the infrastructure and final connections on site to allow for approximately £1,500 per each connection over and above the budget estimate of £7million.

When further proposed development details are available, the Developer can seek competitive quotations for the contestable works and further engage with UKPN to develop a more detailed estimate.

## 3.3 Gas Infrastructure

### 3.3.1 Previous Gas Supply Information

The Vectos "Proposed Fulcrum Gas New Connections" drawing (Drawing – 15.3 – dated 23.05.14) shows the proposals by Fulcrum to supply the development with gas.

The proposals comprise:
- Installation of approximately 350m of offsite medium pressure mains to the site boundary from Valley Road;
- Construction of a Medium Pressure to Low Pressure reduction station within a GRP kiosk; and
- Construction of low pressure pipework and connections through the proposed development site.

The estimate shown on the Vectos drawing states a cost of £2.2million for the works (no detailed breakdown is provided in this estimate).

### 3.3.2 New Gas Supply Information

National Grid has stated that the existing network has the capacity to supply the predicted demand of the development. National Grid has stated that the gas supply for the proposed development can connect to the existing network medium pressure main (225mm PE) located in the A1214 Valley Road to the south of the proposed development. Refer to **Appendix C** for the National Grid Return

### 3.3.3 Fulcrum Gas Infrastructure Works

Fulcrum has prepared an indicative price quote for carrying out gas supply works on site. The indicative quote is £492,000. The quote provides an indicative figure for the following:
- Gas infrastructure to 3,500 domestic services, including meters (up to the Emergency Control Valve);
- Gas infrastructure to the commercial units (Fulcrum have estimated loads for these using their in-house software);
- An off-site connection and gas main laying to the site boundary;
- An MP to LP gas governor.

Fulcrum has confirmed that the quote has been computed based on their new prices and their direct labour model. Fulcrum has stated that the previous quote was based on their contractor model, which carries higher rates.

The quote does not include excavation, backfill and reinstatement of all trenches within the site boundary. The quote does not take into account, or include for, any specialist works e.g. rail crossings, third party underground plant, design studies, reinforcement, diversions or disconnections that may be required. The quote does not include traffic management or council permits or any out of hours work. When further details are available, a more accurate indicative price can be quoted by Fulcrum. The full list of inclusions

and exclusions is included on the quote in **Appendix D**. The Vectos drawing and the National Grid gas capacity check information were shared with Fulcrum for information for the indicative quote.

### 3.4 Potable Water and Wastewater Disposal

It is recommended that up to date pre-development enquiries for site potable water supply and foul water disposal are submitted to the appropriate statutory undertakers to confirm feasibility and costs associated with any works.

### 3.5 Telecommunications and Communications Networks

Telecommunications and communications network providers require a certain level of information in order to develop a strategy for a proposed development. BT Openreach guidance states that BT should be contacted as soon as possible after planning permission for the proposed development has been granted.

The BT Openreach guidance can be found here:
https://www.openreach.co.uk/orpg/home/contactus/connectingyourdevelopment/downloads/developers_guide.pdf

The guidance states that the following information is required by BT Openreach in order to progress telecommunications network connections:

1. Name and location of the development;
2. Developer contact details;
3. Site Manager contact details;
4. Confirmation that planning permission has been granted;
5. Details of the site location, including roads, and existing buildings;
6. Details of the site, including plot numbers for all properties and floor plans for each storey;
7. All drawings of the proposed development in black and white PDF format of less than 4Mb;
8. Proposed site start date and proposed first occupancy date;
9. When the first phone line will be required (some developments include lifts which require lift line installation early on during the construction phase);
10. Council addressing for the site as soon as it is available to enable BT to update their records and improve provision times for mutual customers;
11. A copy of any agreement or licence the Developer has with the Highway Authority – e.g. Highways Act 1980 Section 184 or Section 278 Agreements – where works impact on Openreach apparatus in the existing public highway;
12. Name and contact details of the builder; and it must be noted that
13. All work must be carried out within the requirements of the Health and Safety Work Act 1974 and Management of Health and Safety at Work Regulations 1992 and any other legislation or regulation that affect the task in hand. In addition, the Construction Design Management Regulations 1994 and he Construction (Health, Safety and Welfare) Regulations 1996.

It should be noted that there are other telecommunications and communications network providers that may be able to serve the site.

# 4 Conclusions

- This Utilities Statement has been carried out by Mott MacDonald on behalf of Ipswich Borough Council based on the information provided.
- UKPN has confirmed that it can supply the proposed development. However, necessary off-site works will need to be carried out in order to facilitate the supply.
- National Grid has confirmed that it can supply the proposed development.
- Fulcrum has quoted for gas supply works within the site boundary up to the Emergency Control Valve and the quote includes meter installation. However, the quote does not include excavation, backfill and reinstatement of trenches on site.
- It is recommended that up to date pre-development enquiries for site potable water supply and foul water disposal are submitted to the appropriate statutory undertakers to confirm feasibility and costs associated with any works.
- Telecoms ducts will need to be provided and used where required to facilitate telecoms connections to dwellings, including fibre optic broadband cabling, to meet the needs of future residents. The final number and location of ducts will be agreed as part of the detailed design process with the relevant service provider as agreed with the Developer.

# 4 Conclusions

- This Utilities Statement has been carried out by Mott MacDonald on behalf of Ipswich Borough Council based on the information provided.
- UKPN has confirmed that it can supply the proposed development. However, necessary off-site works will need to be carried out in order to facilitate the supply.
- National Grid has confirmed that it can supply the proposed development.
- Fulcrum has quoted for gas supply works within the site boundary up to the Emergency Control Valve and the quote includes meter installation. However, the quote does not include excavation, backfill and reinstatement of trenches on site.
- It is recommended that up to date pre-development enquiries for site potable water supply and foul water disposal are submitted to the appropriate statutory undertakers to confirm feasibility and costs associated with any works.
- Telecoms ducts will need to be provided and used where required to facilitate telecoms connections to dwellings, including fibre optic broadband cabling, to meet the needs of future residents. The final number and location of ducts will be agreed as part of the detailed design process with the relevant service provider as agreed with the Developer.

# Appendices

# Appendix A. Proposed Development Masterplan

- Proposed Development Masterplan [1 sheet]

Figure 5 – Development Framework Plan

# Appendix B. UKPN Pre Development Enquiry

- UK Power Networks (Electricity) Pre Development Enquiry Return [2 sheets]

Registered Office:
Newington House
237 Southwark Bridge Road
London SE1 6NP

Registered in England and Wales No: 3870728

Company:
UK Power Networks
(Operations) Limited

Mr. Philip Satchell
Mott MacDonald Ltd
Murdoch House
40-44, Station Road
CAMBRIDGE
CB1 2JH

08 July 2015

Our Ref: 8600000697/QID 3000002875

Dear Mr. Satchell,

Site Address: Between Henley Road & Tuddenham Rd / IPSWICH IP1 4NZ

Thank you for your recent enquiry regarding the above premises. I am writing to you on behalf of Eastern Power Networks PLC the licensed distributor of electricity for the above address trading as UK Power Networks.

I am pleased to be able to provide you with a budget estimate for the work.
It is important to note that this budget estimate is intended as a guide only. It may have been carried out without a site visit or system studies. No enquiry has been made as to the availability of consent or the existence of any ground conditions that may affect the ground works. It is not an offer to provide the connection and nor does it reserve any capacity on UK Power Networks electricity distribution system.

**1.Budget estimate:**
The budget estimation for this work is: £7,000,000.00 (exclusive of VAT)

Work included in this budget estimate:
- Extend 11kV switchboard at Highfield Primary
- Install dual circuit cable from Highfield Primary to site

Not included in this budget estimate
- 11kV Infrastructure around the site
- Final connections

For the infrastructure and final connection you may wish to include a cost of £1,500 per connection over and above the estimate of £7,000,000.00.

If you would like to proceed to a formal offer of connection then you should apply for a quotation, Please refer to our website https://www.ukpowernetworks.co.uk/internet/en/help-and-advice/documents/the_connection_process.pdf for '**The Connection Process**' which details our application process. To help our progress any future enquiry as quickly as possible please quote the UK Power Networks Reference Number from this letter on all correspondence.

If you have any questions about your budget estimation or need more information please do not hesitate to contact me.
The best time to call  is between 9am to 4pm, Monday to Friday.
If the person you need to speak to is unavailable or engaged on another call when you ring, you may leave a message or call back later.

Yours sincerely

Peter Hunt

Tel:07855056614
peter.hunt@ukpowernetworks.co.uk

# Appendix C. National Grid Pre Development Enquiry

- National Grid (Gas) Pre Development Enquiry Return [2 sheets]

**Network Enquiry No** : 180002996
**Your Reference** : 355949

nationalgrid

**National Gas Emergency Service - 0800 111 999* (24hrs)**
***calls will be recorded and may be monitored**

Phil Satchell
MOTT MACDONALD LIMITED
8-10
SYDENHAM ROAD
CROYDON
CR0 2EE

**Date** : 29th June 2015
**Contact** : Performance and Support
**Direct Tel** : 0845 3666758
**Email** : networkdesign@nationalgrid.com

www.nationalgrid.com

**Dear Phil,**

**Re: Land Enquiry for Proposed Development Site at NEW SUPPLY, IPSWICH SUBURB, LAND NEAR WESTERFIELD ROAD, IPSWICH, IP4 3AB.**

Thank you for your enquiry which we received on 22nd June 2015. I enclose details of National Grid Gas plant in the vicinity of your proposed supply.

The nearest main with sufficient capacity is 78 metres from the site boundary and it is a Medium Pressure main.

Plans attached: Yes

A copy of the National Grid Connections Charging Statement referenced in this letter can be found on National Grid's website:

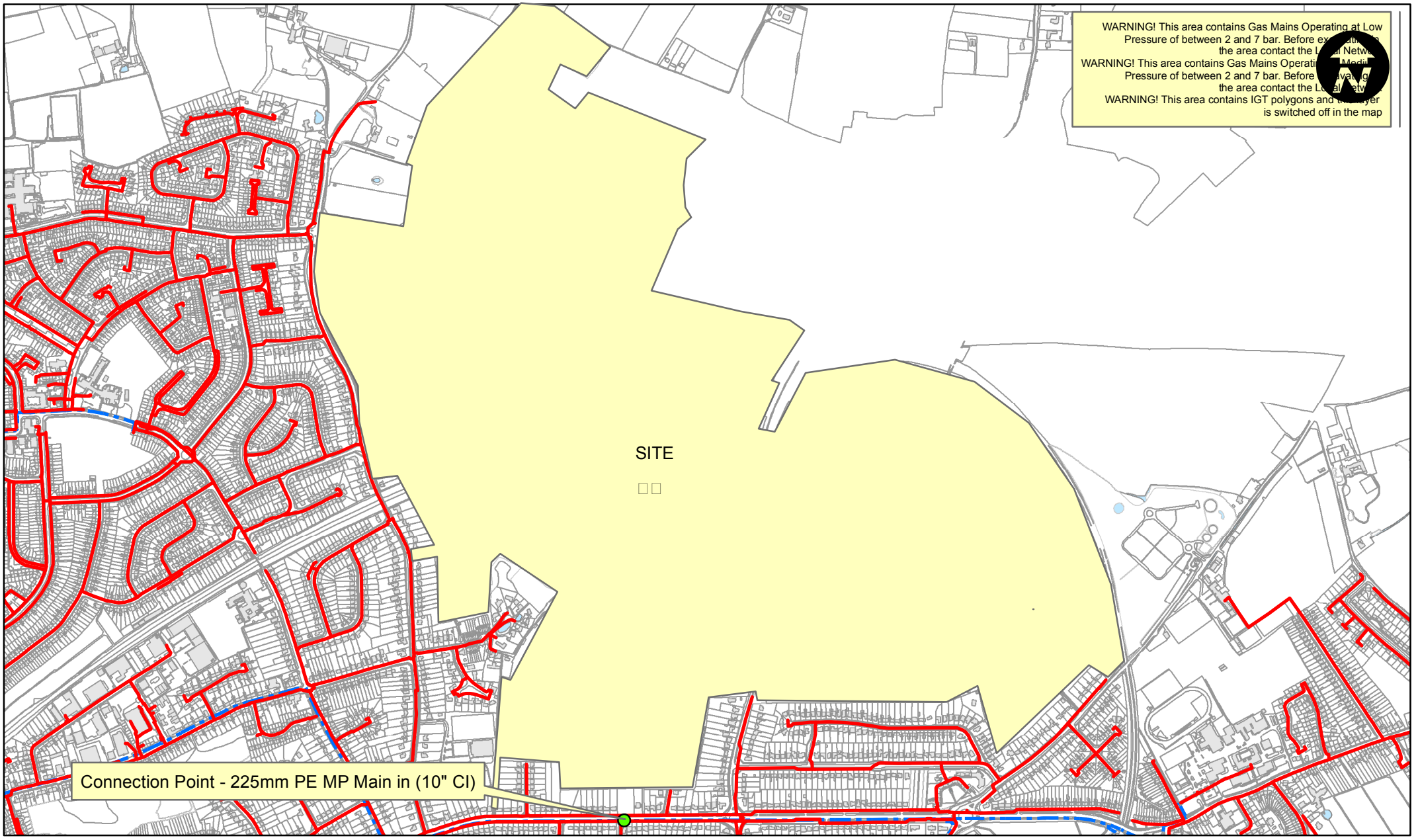
http://www2.nationalgrid.com/uk/services/Gas-distribution-connections/charges/

If you require a printed version please contact us on the details provided above.

I trust this meets with your requirements at this stage. If you have any queries please do not hesitate to contact Performance and Support on the above number.

Yours sincerely,

Adam Leeson
Design Specialist




SCALE: 1:1,250 @ A4

USER ID:rosie.whittle

DATE:29-Jun-2015 14:27:00

INTERNAL USE ONLY

MAP REF:616788, 247101

CENTRE:

L/P GAS MAIN
M/P GAS MAIN
I/P GAS MAIN
H/P GAS MAIN
N/H/P GAS MAIN
PROPOSED PIPE - LP
PROPOSED PIPE - MP
PROPOSED PIPE - IP
ABANDON - LP
ABANDON - MP

Some examples of Plant Items:
Valve Syphon Depth of Cover Change of Dia Change of Material

SCHEME: <NG GDFO Scheme Name>

DESIGN: <NG GDFO Design Number>

REVISION: <NG GDFO Revision>

This plan shows those pipes owned by National Grid in its role as a Licensed Gas Transporter (GT). Gas pipes owned by other GTs, or otherwise privately owned, may be present in this area. Information with regard to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guranteed. Service pipes, valves, syphons, stub connections, etc., are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by National Grid plc or their agents, servants or contractors for any error or omission. Safe digging practices, inaccordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and any other apparatus on site before any mechanical plant is used. It is your responsability to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue.

180002996

nationalgrid

# Appendix D. Fulcrum Quote (Gas)

- Fulcrum On-Site Gas Supply Works Quote [2 sheets]

| | |
|---|---|
| DATE | 26/08/2015 |
| QUOTATION REFERENCE | 5045787/PQ092090 |
| YOUR REFERENCE | IP4 3AB |

# YOUR INDICATIVE PRICE QUOTE

FULCRUM

Mott MacDonald
Demeter House
Station Road
Cambridge
CB1 2RS

Tel: 03330 146 466

2 Europa View
Sheffield Business Park
Sheffield S9 1XH

Web: fulcrum.co.uk
Email: enquiries@fulcrum.co.uk

Dear Mr Satchell,

**RE: Dev @ Land nr Westerfield Road, Westerfield Road, Ipswich, IP4 3AB**

Thank you for giving us the opportunity to quote for works at the above site.

I am pleased to provide you with the following indicative price for the works as detailed below:

- Gas supply up to the Emergency Control Valve (ECV)
- Meter installation

The indicative price to carry out the work is: **£492,000.00** (excluding VAT)
**This price will be subject to VAT at the appropriate rate as set out by HM Customs and Excise.**

This figure is indicative and does not represent an offer to carry out the works. If a firm quotation is requested, Fulcrum may provide a price that is different from the amount indicated.

## ASSUMPTIONS

- Fulcrum is assumed to excavate, backfill and reinstate all trenches required outside the site boundary
- It is assumed that the customer / developer will excavate, backfill and reinstate all trenches required within the site boundaries.
- The customer / developer would be required to provide suitable provision for all work and clear working access to site at all times
- Termination points assumed
- It is assumed that no easements or permissions are required to carry out any of the proposed works
- It is assumed that any CHP, compressors or boosters etc. to be connected to the proposed infrastructure will be done in accordance with all appropriate legislation/policies etc. to maintain the integrity and security of the existing infrastructure (this may mean upsizing of some or all of the proposed new infrastructure) and no additional design parameters have been included for
- The assumption that there will be sufficient capacity in the existing network, no investigation into the available pressure or potential reinforcement with the network owner has been carried out, this will be done once a firm quotation is required. (To enable a firm quotation to be produced we will require a site layout plan).
- The estimate is based upon a minimum of 6 services being called at a time
- This indicative price quotation does not take into account, or include for, any specialist works e.g. rail crossings, third party underground plant, design studies, reinforcement, diversions or disconnections etc. that may be required

## WHAT YOU NEED TO DO NOW

If you would like to proceed and make this indicative price quotation a firm quotation, or if you would like us to undertake a detailed design study, please contact us on 03330 146 466.

THANK YOU FOR CHOOSING FULCRUM

Yours sincerely,

**Kevin Walpole**
Head of Design

# Appendix D. Mott MacDonald Infrastructure Cost Review

# INFRASTRUCTURE VIABILITY COST ANALYSIS
for
# IPSWICH GARDEN SUBURB

**Project Title:** Ipswich Garden Suburb

**Revision:** -

**Project No:** 355949

**Base Date:** 2Q 2015

**Date:** 01 Mar 2016

## 1.0 Infrastructure Viability Cost Analysis Schedule

| Ref | Item | Mott MacDonald |
|---|---|---|
| **1.1** | **Strategic Infrastructure** | 64,623,336.00 |
| **1.2** | **Neighbourhood Infrastructure Requirements** | 67,598,723.50 |
| | | |
| | **Total** | **132,222,059.50** |

# INFRASTRUCTURE VIABILITY COST ANALYSIS
for
# IPSWICH GARDEN SUBURB

**Project Title:** Ipswich Garden Suburb

**Revision:** -

**Project No:** 355949

**Base Date:** 2Q 2015

**Date:** 01 Mar 2016

## 1.1 Strategic Infrastructure

| Ref | Infrastructure Theme (based on SPD tables) | Item | Mott MacDonald |
|---|---|---|---|
| **1** | Access & Transport | Vehicular Rail Crossing; Pedestrian Crossing; Bus Services; Town Centre Cycle Improvements etc | 16,567,098.21 |
| **2** | Education | 1200 place secondary school, including sixth form facility,<br>playing fields and recreational facilities secured for use by the community (proportionate contribution of school build cost) | 12,400,000.00 |
| **3** | Open space, recreation & play | Country Park with visitor centre for Henley Gate; Swimming Contribution off-site | 5,639,551.00 |
| **4** | Community facilities | District & Local Community Centres including community buildings with integrated library facilities & police office alongside new health centre & reserved sites for community use | 4,189,000.00 |
| **5** | Utilities | Strategic improvements to electricity, gas, potable water, sewerage and SUDS | 25,827,686.79 |
| | | **Total** | **64,623,336.00** |

**INFRASTRUCTURE VIABILITY COST ANALYSIS**
for
**IPSWICH GARDEN SUBURB**

Mott MacDonald

**Project Title:** Ipswich Garden Suburb
**Project No:** 355949
**Date:** 01 Mar 2016

**Revision:** -
**Base Date:** 2Q 2015

**1.1 Strategic Infrastructure**

| Ref | Infrastructure Theme (based on SPD tables) | Item | Detail | Mott MacDonald | Assumptions | Trigger Point for Delivery |
|---|---|---|---|---|---|---|
| **1** | | | | | | |
| 1.1 | Access & Transport | Vehicular Rail Crossing | Vehicular crossing; approx. 6.2m overhead clearance from railway line | 6,789,776.79 | Assume steel construction to minimise Network Rail Compensation costs | Prior to the occupation of 300 dwellings in Henley Gate or as agreed with IBC in view of the sequencing of both Fonnereau and Henley Gate, unless this is otherwise required at an earlier point as informed by an agreed Transport Assessment for the whole development. |
| 1.1.1 | | | Network Rail Interruption Compensation; Vehicular Bridge | 400,000.00 | £200,000 / day; 2 days line closure - as advised by Network Rail | |
| 1.1.2 | | | Commuted Sums - 125 Years | 1,500,000.00 | Including Pedestrian / Cycle Bridge, as advised by SCC | |
| 1.2 | | Fonnereau Way cycle / pedestrian bridge | Pedestrian / Cycle Bridge | 1,870,000.00 | Significant increase in ramp requirements to pedestrian footbridge; 5m wide ramp x 4.8m rise at 1:20 gradient | Prior to the occupation of 300 dwellings in Henley Gate or as agreed with IBC in view of the sequencing of both Fonnereau and Henley Gate, unless this is otherwise required at an earlier point as informed by Network Rail consultation. |
| 1.2.1 | | | Network Rail Interruption Compensation; Pedestrian / Cycle Bridge | 200,000.00 | £200,000 / day; 1 day line closure - as advised by Network Rail | |
| 1.2.2 | | | Commuted Sums - 125 Years | Included in 1.1.2 | As advised by SCC | |
| 1.3 | | Phased delivery of bus service & bus priority measures | Bus service for 5 years | 3,830,580.36 | 5 year bus service (£3.7m) and 5nr shelters (£130k) | Strategic phasing plan for delivery of service and bus priority measures to be agreed prior to the commencement of development. |
| 1.3.1 | | | Off-site bus priority measures (physical) | 292,410.71 | Contribution allowance | |
| 1.4 | | Improvements to strategic town centre & east - west footpaths / cycleways | Off site cycle and ped improvements | 847,991.07 | Allowance, scope to be defined | Strategic phasing plan for delivery of strategic improvements to be agreed prior to the commencement of development. |
| 1.5 | | Improvements to Westerfield Station and level crossing | Improvements to level crossing | 250,000.00 | Allowance for contribution towards improved automated barriers and associated signalling | Contribution towards car & cycle parking provision (to include CCTV, lighting, landscaping and other associated infrastructure) and level-crossing upgrade (where required by Network Rail) will be secured at an appropriate stage in the development. |
| 1.5.1 | | | Resurfacing to Car Park; including line marking | 37,500.00 | Allowance for up to 250m2 | |
| 1.5.2 | | | Lighting to Car Park | 12,500.00 | Allowance for up to 250m2 | |
| 1.5.3 | | | Sheffield cycle hoops, on concrete base | 10,000.00 | Assume 20nr cycle hoops; excluding shelter | |
| 1.6 | | Controlled Pedestrian & Cycle Crossings on Westerfield Road | Controlled Pedestrian & Cycle Crossings | 187,142.86 | Allowance for 2nr toucan crossing | Prior to the first building occupation in both Fonnereau and Red House. |
| 1.7 | | Traffic management scheme for Westerfield Village, The Crofts and other locations | Road safety improvements in Westerfield village & The Crofts | 327,500.00 | Allowance, Westerfield village (£100k) & The Crofts (£227k) | Details and timetable for delivery of scheme to be informed by the Transport Assessment for the whole development in agreement with SCC Highways department. |
| 1.7.1 | | | Speed limit alterations | 11,696.43 | | |
| | Access & Transport | | | 16,567,098.21 | | |
| **2** | | | | | | |
| 2.1 | Education | 1200 place secondary school, including sixth form facility, playing fields and recreational facilities secured for use by the community (proportionate contribution of school build cost) | 1200 Place Secondary School; to achieve BREEAM Excellent, including provision for a shared community 3G floodlit MUGA to Sport England requirements | 12,400,000.00 | 0.22 pupils / dwelling as stipulated by the SPD, approx. 770 places. Developer contribution to be pro-rata from a build-cost of £19.3m | Development will not be permitted to commence until arrangements are in place to secure the commencement of the construction of a secondary school within the SPD site in accordance with a timetable to be agreed. Phased contributions proportionate to pupil yield shall be secured throughout each stage of the development. |
| | Education | | | 12,400,000.00 | | |

**INFRASTRUCTURE VIABILITY COST ANALYSIS**
for
**IPSWICH GARDEN SUBURB**

Mott MacDonald

**Project Title:** Ipswich Garden Suburb
**Project No:** 355949
**Date:** 01 Mar 2016

**Revision:** -
**Base Date:** 2Q 2015

**1.1 Strategic Infrastructure**

| Ref | Infrastructure Theme (based on SPD tables) | Item | Detail | Mott MacDonald | Assumptions | Trigger Point for Delivery |
|---|---|---|---|---|---|---|
| **3** | | | | | | |
| 3.1 | Open space, recreation & play | Country Park with visitor centre for Henley Gate | Country Park - Capital Cost | 2,037,500.00 | 24.5ha; Capital costs as advised by Ipswich Parks and Gardens team, including visitor facilities which are to be delivered in connection with local community centre | Phasing for tree planting and landscaping to be agreed and commenced an early stage in the development of Henley Gate. Completion and land transfer of initial ancillary works to include visitor facility / community centre and works compound prior to the occupation of 500 dwellings in Henley Gate. Capital and maintenance contributions (or in-kind provision by the Henley Gate developer) and transfer of the remaining land will be secured at an appropriate stage in the development. |
| | | | Country Park, Car Park | 112,500.00 | Allowance for 30nr car parking spaces; As advised by IBC | |
| 3.1.1 | | | Country Park - maintenance sum | 2,278,469.00 | 15 years maintenance; Maintenance costs as advised by Ipswich Parks and Gardens team, including visitor facilities which are to be delivered in connection with local community centre | |
| 3.2 | | Swimming Contribution (off-site) | | | Sport England advice in response to Planning Application; per 815 dwellings | Contributions to be secured at an appropriate stage in the development and used to enhance and maintain existing facilities. |
| | | | Off-site swimming contribution | 1,211,082.00 | Swimming pool - 21.07m2 (£282,009) | |
| | Country Park, Natural / Formal Open Spaces | | | 5,639,551.00 | | |
| **4** | | | | | | |
| 4.1 | Community facilities | District & Local Community Centres including community buildings with integrated library facilities & police office alongside new health centre & reserved sites for community use | District & Local Community Centres - 1,000m2 | 1,700,000.00 | Scope to be defined | Delivery linked to development of each neighbourhood – see entries in Tables 2-4. |
| 4.1.1 | | | District & Local Community Centres, linked to country park visitor centre - 500m2 | 875,000.00 | Scope to be defined | |
| 4.1.2 | | | Maintenance of district and local community centres - 1000m2 | 500,000.00 | 10 years maintenance | |
| 4.1.3 | | | Maintenance of district and local community centres - 500m2 | 375,000.00 | 10 years maintenance | |
| 4.1.4 | | | Library contribution; on-site 60m2 | 286,000.00 | | |
| 4.1.5 | | | Library contribution; off-site upgrades to Suffolk Library | 153,000.00 | Enhance facilities off-site | |
| 4.2 | | Funding for community development support officer(s) | Community Development Officer | 300,000.00 | Allowance for Resources & Salary - 10 years | |
| | Community Facilities | | | 4,189,000.00 | | |

**INFRASTRUCTURE VIABILITY COST ANALYSIS**
for
**IPSWICH GARDEN SUBURB**

Mott MacDonald

**Project Title:** Ipswich Garden Suburb
**Project No:** 355949
**Date:** 01 Mar 2016

**Revision:** -
**Base Date:** 2Q 2015

**1.1 Strategic Infrastructure**

| Ref | Infrastructure Theme (based on SPD tables) | Item | Detail | Mott MacDonald | Assumptions | Trigger Point for Delivery |
|---|---|---|---|---|---|---|
| **5** | | | | | | |
| 5.1 | Utilities | Strategic improvements to electricity supply | | | | As required |
| 5.1.1 | | | UKPN | 7,000,000.00 | 11kV switchboard at Highfield Primary School - Estimate as provided by UKPN | |
| 5.1.2 | | | Electric Distribution | | 11kV Infrastructure and Final Connections on-site; £1,500 allowance per dwelling - Estimate as provided by UKPN (3,381 Units as Appendix 3 - Assumed Delivery Programme) | |
| | | | Electric Distribution - Phase 1 | 1,200,000.00 | | |
| | | | Electric Distribution - Phase 2 | 1,411,500.00 | | |
| | | | Electric Distribution - Phase 3 | 2,460,000.00 | | |
| 5.1.3 | | | Off-site diversion works | 100,000.00 | Allowance; Scope to be defined | |
| 5.1.4 | | | On-site Trenching for Electric | 770,000.00 | Estimated spine trenches; scope to be defined | |
| 5.2 | | Strategic improvements to gas supply | | | | As required |
| 5.2.1 | | | National Grid | 2,200,000.00 | Medium pressure gas main (225mm PE) - Estimate as noted on Vectos drawing | |
| 5.2.2 | | | Falcrum Gas Infrastructure Works | 492,000.00 | Including meters up to the Emergency Control Valve - Estimate as provided by Falcrum | |
| 5.2.3 | | | On-site Trenching for Gas | 770,000.00 | Estimated spine trenches; scope to be defined | |
| 5.2.4 | | | Gas works in connection with rail crossings | 150,000.00 | Allowance; Scope to be defined | |
| 5.2.5 | | | Off-site diversion works | 100,000.00 | Allowance; Scope to be defined | |
| 5.3 | | Strategic improvements to Water supply | | | | As required |
| 5.3.1 | | | Mains water distribution | | £1,000 allowance per dwelling; Assume no upgrade required to existing network (3,381 Units as Appendix 3 - Assumed Delivery Programme) | |
| | | | Mains water distribution - Phase 1 | 800,000.00 | | |
| | | | Mains water distribution - Phase 2 | 941,000.00 | | |
| | | | Mains water distribution - Phase 3 | 1,640,000.00 | | |
| 5.3.2 | | | Fire Hydrants | 58,482.14 | Allowance; Scope to be defined | |
| 5.3.3 | | | Off-site diversion works | 50,000.00 | Allowance; Scope to be defined | |
| 5.4 | | Strategic infrastructure to the sewerage system | | | | As required |
| 5.4.1 | | | On-Site Foul Water Drainage Phase 1 | 935,680.20 | | |
| 5.4.2 | | | On-Site Foul Water Drainage Phase 2 | 906,547.30 | Allowance pro-rata Phase 1 planning design for foul water rising main | |
| 5.4.3 | | | On-Site Foul Water Drainage Phase 3 | 822,576.00 | | |
| 5.4.4 | | | Off-site diversion works | 100,000.00 | Allowance; Scope to be defined | |
| 5.5 | | Strategic SuDS infrastructure & connections | | | | In accordance with agreed phasing plan prior to the commencement of development. |
| 5.5.1 | | | SW Drainage and attenuation - Phase 1 | 505,410.00 | Allowance as masterplan detail in SPD | |
| 5.5.2 | | | SW Drainage and attenuation - Phase 2 | 462,270.00 | Allowance as masterplan detail in SPD | |
| 5.5.3 | | | SW Drainage and attenuation - Phase 3 | 533,070.00 | Allowance as masterplan detail in SPD | |
| 5.5.4 | | | Swales / attenuation - Phase 1 | 373,488.00 | Allowance as masterplan detail in SPD | |
| 5.5.5 | | | Swales / attenuation - Phase 2 | 386,384.00 | Allowance as masterplan detail in SPD | |
| 5.5.6 | | | Swales / attenuation - Phase 3 | 355,172.00 | Allowance as masterplan detail in SPD | |
| 5.5.7 | | | Works to existing watercourses | 70,178.57 | Allowance; Scope to be defined | |
| 5.5.8 | | | Drainage connection to railway | 233,928.57 | Allowance; Scope to be defined | |
| | Utilities | | | 25,827,686.79 | | |
| | | | | 64,623,336.00 | | |

# INFRASTRUCTURE VIABILITY COST ANALYSIS
for
# IPSWICH GARDEN SUBURB

**Project Title:** Ipswich Garden Suburb

**Revision:** -

**Project No:** 355949

**Base Date:** 2Q 2015

**Date:** 01 Mar 2016

## 1.2 Neighbourhood Infrastructure Requirements

| Ref | Infrastructure Theme (based on SPD tables) | Item | Mott MacDonald |
|---|---|---|---|
| **1** | Access & Transport | Off-site junction improvements in surrounding road network; Connection to UTMC; Travel Plan and Improvements to Fonnereau Way | 16,328,995.48 |
| **2** | Education & Early Years | 3nr 2FE (forms of entry) primary schools & nursery | 19,800,000.00 |
| **3** | Open space, recreation & play | Neighbourhood parks, allotments & open spaces with equipped sports & play facilities as per SPD | 12,542,109.50 |
| **4** | Community Infrastructure | District Centre supporting infrastructure (CCTV, electric charging points, recycling facility, cycle parking etc.); Temporary Community Centre | 91,232.14 |
| **5** | Other Items | Design, Legals etc. | 18,836,386.38 |
| | | **Total** | **67,598,723.50** |

**INFRASTRUCTURE VIABILITY COST ANALYSIS**
for
**IPSWICH GARDEN SUBURB**

Mott MacDonald

**Project Title:** Ipswich Garden Suburb
**Project No:** 355949
**Date:** 01 Mar 2016

**Revision:** -
**Base Date:** 2Q 2015

**1.2 Neighbourhood Infrastructure Requirements**

| Ref | Infrastructure Theme (based on SPD tables) | Item | Detail | Mott MacDonald | Assumptions | Trigger Point for Delivery |
|---|---|---|---|---|---|---|
| **1** | | | | | | |
| 1.1 | Access & Transport | Off-site junction improvements in surrounding road network | Off-site 278 Works | 2,339,285.71 | Allowance for scope denoted in SPD | Timetable for delivery to be informed by the Transport Assessment for the whole development in agreement with SCC Highways department. |
| 1.1.1 | | | Junction off Henley Road and Phase 1 of development | 233,734.00 | Phase 1 - West of Westerfield Road | |
| 1.1.2 | | | Junction off Westerfield Road and new development Phase 1 | 869,297.00 | | |
| 1.1.3 | | | Junction off Westerfield Road and new development Phase 2 | 818,750.00 | Phase 2 - North of Railway Line | |
| 1.1.4 | | | Junction off Tuddenham Road and new development Phase 2 | 409,375.00 | | |
| 1.1.5 | | | Junction off Henley Road and Phase 3 of development | 818,750.00 | Phase 3 - East of Westerfield Road | |
| | | | Utilities in Connection with S.278 | | Allowance for drainage and lighting | |
| 1.1.6 | | | Junction off Henley Road and Phase 1 of development | 40,937.50 | Phase 1 - West of Westerfield Road | |
| 1.1.7 | | | Junction off Westerfield Road and new development Phase 1 | 81,875.00 | | |
| 1.1.8 | | | Junction off Westerfield Road and new development Phase 2 | 81,875.00 | Phase 2 - North of Railway Line | |
| 1.1.9 | | | Junction off Tuddenham Road and new development Phase 2 | 40,937.50 | | |
| 1.1.10 | | | Junction off Henley Road and Phase 3 of development | 81,875.00 | Phase 3 - East of Westerfield Road | |
| 1.2 | | Connection to the Urban Traffic Management & Control (UTMC) System | Connection to the Urban Traffic Management & Control (UTMC) System | 1,169,642.86 | Allowance; To be advised by highways | Timetable for delivery to be informed by the Transport Assessment for the whole development in agreement with SCC Highways department. |
| 1.3 | | Travel Plan development, implementation & monitoring | | | | Travel Plan to be submitted and agreed with SCC Highways department as part of full/outline application for the development of the site. To be implemented and monitored during and following each phase of the neighbourhood development. |
| 1.3.1 | | | Travel Plan | 1,336,024.55 | Allowance; Scope to be defined | |
| 1.3.2 | | | S106 Monitoring Costs | 116,964.29 | Allowance; Scope to be defined | |
| 1.3.3 | | | Travel bond | 292,410.71 | Allowance; Scope to be defined | |
| 1.3.4 | | | Spine Roads | | Allowance for primary and secondary roads as detailed on figure 11 in the SPD; Specification as advised by SCC Primary; Excavation and disposal of arisings on-site; 340mm Type 1 Sub-Base; 130mm HRA Regulating Course; 50mm HRA Binder Course; 50mm HRA Surface Course; 150mm granite kerbs; 7m in width Secondary; Excavation and disposal of arisings on-site; 320mm Type 1 Sub-Base; 100mm HRA Regulating Course; 60mm HRA Binder Course; 50mm HRA Surface Course; 150mm granite kerbs; 5.5m in width Assume 2.5m wide footways to one side, including 50 x 150mm precast concrete pin kerbs, lighting and drainage | |
| 1.3.4.1 | | | Spine Roads phase 1 (West of Westerfield Road) off Westerfield Road | 1,971,096.00 | Approx. 1700m Secondary & 800m Primary Route | |
| 1.3.4.2 | | | Spine Roads phase 1 (West of Westerfield Road) off (remaining link to Henley Road) | 378,875.00 | Approx. 425m Primary Route | |
| 1.3.4.3 | | | Spine Roads phase 2 (East of Westerfield Road) (Part 1) - top | 1,054,375.00 | Approx. 1200m Primary Route | |
| 1.3.4.4 | | | Spine Roads phase 2 (East of Westerfield Road) (Part 2) | 633,820.00 | Approx. 850m Secondary Route | |
| 1.3.4.5 | | | Spine Roads phase 2 (works to existing access off Tuddenham Road) | 198,990.00 | Approx. 275m Secondary Route | |
| 1.3.4.6 | | | Spine Roads phase 3 (North of Railway Line) | 1,429,140.00 | Approx. 1100m Secondary & 700m Primary Route | |
| 1.4 | | Improvements to Fonnereau Way | | | Allowance for footpaths / cycle routes as defined on figure 11 of the SPD; assume 2m wide footpaths at approx. 12,000m & upgrading existing footpath to cycleway, approx. 2,300m | |
| 1.4.7 | | | On-Site Pedestrian / Cycle Routes | 1,784,760.00 | | |
| 1.5 | | Pedestrian & cycle signage (monoliths) | Pedestrian & cycle signage (monoliths) | 146,205.36 | Allowance for signage | Contributions to be secured at an appropriate stage in the development. |
| | Access & Transport | | | 16,328,995.48 | | |

**INFRASTRUCTURE VIABILITY COST ANALYSIS**
for
**IPSWICH GARDEN SUBURB**

Mott MacDonald

**Project Title:** Ipswich Garden Suburb
**Project No:** 355949
**Date:** 01 Mar 2016

**Revision:** -
**Base Date:** 2Q 2015

**1.2 Neighbourhood Infrastructure Requirements**

| Ref | Infrastructure Theme (based on SPD tables) | Item | Detail | Mott MacDonald | Assumptions | Trigger Point for Delivery |
|---|---|---|---|---|---|---|
| **2** | | | | | | |
| 2.1 | Education & Early Years | 3nr 2FE (forms of entry) primary schools & nursery | 3nr 2FE (forms of entry) primary schools & nursery, including shared community fields | | | Serviced site (with access roads) to be transferred prior to occupation of 100 dwellings. The need and timetable for the provision of a second form of entry will be reviewed following this<br>Phased contributions proportionate to pupil yield shall be secured throughout each stage of the development. |
| | | | 2FE Primary School - Phase 1 | 6,600,000.00 | Allowance for 3nr 2FE Schools on approx. 2ha sites in accordance to BB103, achieving BREEAM Excellent and Sport England Requirements; Design and phasing requirements to be defined | |
| | | | 2FE Primary School - Phase 2 | 6,600,000.00 | | |
| | | | 2FE Primary School - Phase 3 | 6,600,000.00 | | |
| | Education & Early Years | | | 19,800,000.00 | | |
| **3** | | | | | | |
| 3.1 | Open space, recreation & play | Neighbourhood parks, allotments & open spaces with equipped sports & play facilities as per SPD | | | | In accordance with phasing plan to be agreed prior to the commencement of development. |
| 3.1.1 | | | **Capital Cost -** Formal open space (incl sports pitches), parks & gardens, play areas and youth provision | | | |
| 3.1.1.1 | | | Formal recreation facilities such as playing fields 12 ha in total (5.5 ha in the community) | 2,409,000.00 | As advised by Ipswich Parks and Gardens team | |
| 3.1.1.2 | | | Formal recreation facilities such as playing fields 12 ha in total (6.5 ha in schools) | Included | As advised by Ipswich Parks and Gardens team, Capital Cost £2.847m; Included within Primary and Secondary School sports provisions | |
| 3.1.1.3 | | | Play areas (1.2 ha) | 2,160,000.00 | As advised by Ipswich Parks and Gardens team | |
| 3.1.1.4 | | | Youth Provision (0.3 ha) | 522,000.00 | As advised by Ipswich Parks and Gardens team | |
| 3.1.1.5 | | | Green spaces and parks with neighbourhoods (8 ha) | 600,000.00 | As advised by Ipswich Parks and Gardens team | |
| 3.1.1.6 | | | Natural & semi-natural green spaces including footpath links, hedgerows (16 ha) | 960,000.00 | As advised by Ipswich Parks and Gardens team | |
| 3.1.1.7 | | | Amenity green space (6 ha) | 312,600.00 | As advised by Ipswich Parks and Gardens team | |
| 3.1.1.8 | | | Allotments & community orchards (3ha) | 442,500.00 | As advised by Ipswich Parks and Gardens team | |
| 3.1.2 | | | **Maintenance -** Formal open space (incl sports pitches), parks & gardens, play areas and youth provision | | | |
| 3.1.2.1 | | | Formal recreation facilities such as playing fields 12 ha in total (5.5 ha in the community) | 646,421.00 | 15 years maintenance; £9,000 average from £13,000 Tennis Court & £5,000 for Football Pitch | |
| 3.1.2.2 | | | Formal recreation facilities such as playing fields 12 ha in total (6.5 ha in schools) | 763,952.00 | 15 years maintenance; £9,000 average from £13,000 Tennis Court & £5,000 for Football Pitch; As advised by Ipswich Parks and Gardens team | |
| 3.1.2.3 | | | Play areas (1.2 ha) | 734,961.00 | 15 years maintenance; As advised by Ipswich Parks and Gardens team | |
| 3.1.2.4 | | | Youth Provision (0.3 ha) | 118,315.00 | 15 years maintenance; As advised by Ipswich Parks and Gardens team | |
| 3.1.2.5 | | | Green spaces and parks with neighbourhoods (8 ha) | 1,076,062.00 | 15 years maintenance; As advised by Ipswich Parks and Gardens team | |
| 3.1.2.6 | | | Natural & semi-natural green spaces including footpath links, hedgerows (16 ha) | 480,571.00 | 15 years maintenance; As advised by Ipswich Parks and Gardens team | |
| 3.1.2.7 | | | Amenity green space (6 ha) | 697,351.00 | 15 years maintenance; As advised by Ipswich Parks and Gardens team | |
| 3.1.2.8 | | | Allotments & community orchards (3ha) | 86,189.00 | 15 years maintenance; As advised by Ipswich Parks and Gardens team | |
| 3.1.3 | | | Ecology Mitigation | 532,187.50 | Allowance | Prior to occupation of 500 dwellings. |
| | Open space, recreation & play | | | 12,542,109.50 | | |

**INFRASTRUCTURE VIABILITY COST ANALYSIS**
for
**IPSWICH GARDEN SUBURB**

Mott MacDonald

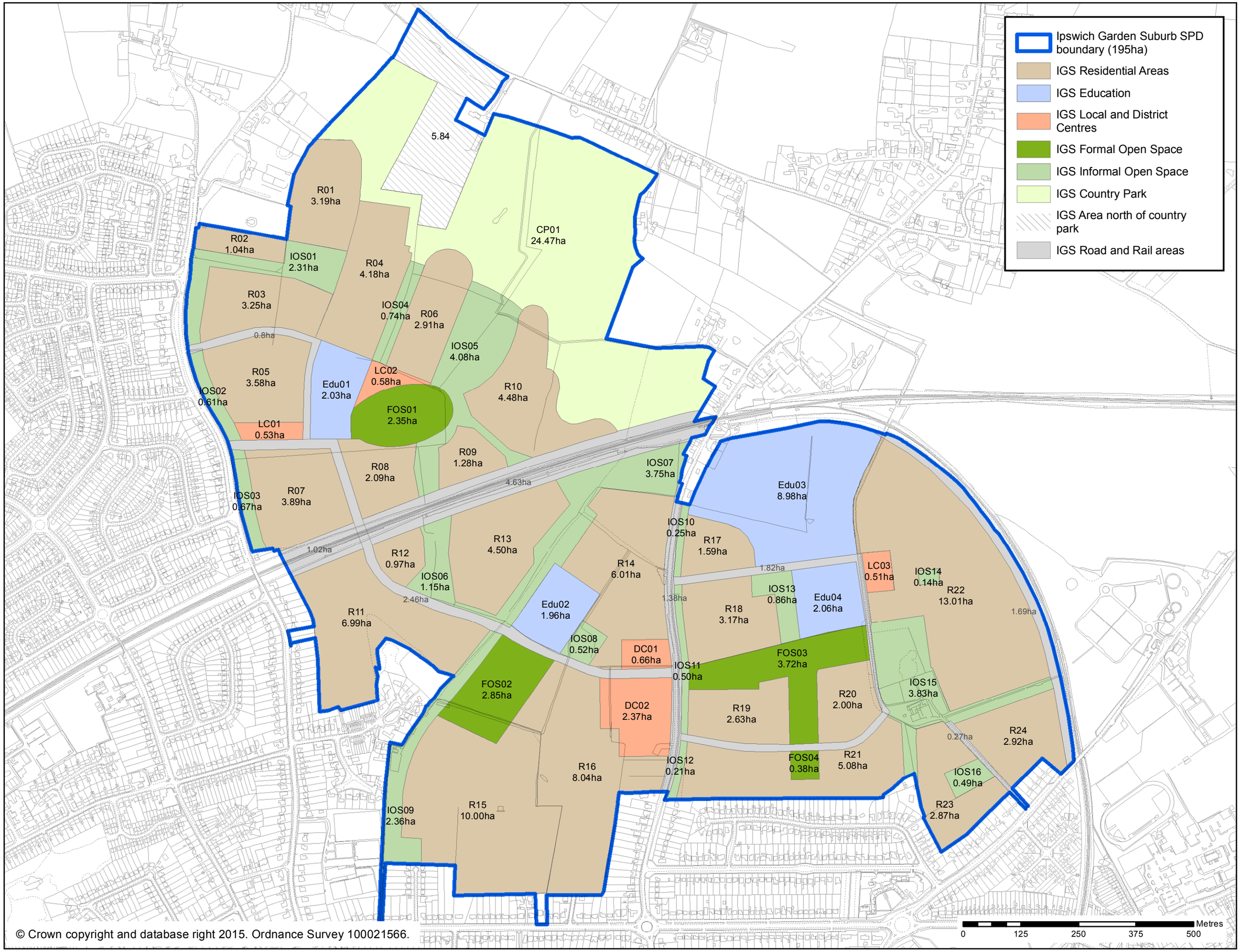
**Project Title:** Ipswich Garden Suburb
**Project No:** 355949
**Date:** 01 Mar 2016

**Revision:** -
**Base Date:** 2Q 2015

**1.2 Neighbourhood Infrastructure Requirements**

| Ref | Infrastructure Theme (based on SPD tables) | Item | Detail | Mott MacDonald | Assumptions | Trigger Point for Delivery |
|---|---|---|---|---|---|---|
| **4** | | | | | | Prior to occupation of 500 dwellings. |
| 4.1 | Community Infrastructure | District Centre supporting infrastructure (CCTV, electric charging points, recycling facility, cycle parking etc.) | | | | |
| 4.1.1 | | | Electric Charging Points | 32,750.00 | Allowance for 8nr; To be advised on minimum nr of car charging points required | |
| 4.1.2 | | | Recycling Facility | | Included within household waste facilities | |
| 4.1.3 | | | Cycle Parking | | Included within travel plan | |
| 4.1.4 | | | CCTV | | Included within build-costs | |
| 4.2 | | Community Centre in DC with integrated library facilities, workspace hub and police office (where required by Suffolk Constabulary) | Community Centre with integrated library facilities, workspace hub and police office | 58,482.14 | Allowance for temporary modular building; to be advised on dimensions and time period | Temporary community centre to be provided prior to occupation of 50 dwell-ings. Permanent community centre with integrated facilities prior to occupation of 500 dwellings. |
| 4.3 | | Health Centre | Health Centre | | Assume incorporated within 1,500m2 community facility under strategic infrastructure | Serviced site within District Centre to be transferred at time to be agreed. Phased contributions for capital costs of providing health centre to be agreed. |
| | Community Infrastructure | | | 91,232.14 | | |
| **5** | | | | | | |
| 5.1 | Other Items | | | | | |
| 5.1.1 | | Household Waste Facilities | | 178,358.84 | Assume contribution to off-site facility | Contributions to be secured at an appropriate stage in the development. |
| 5.1.2 | | Superfast broadband infrastructure | | 1,667,500.00 | Allowance for trenching and ductwork to facilitate fibre optic cabling; £500 allowance per dwelling | To be delivered in each phase of development in neighbourhood. |
| 5.1.3 | | Acoustic fence to boundary of railway line | | 700,000.00 | | |
| 5.1.4 | | Enabling Works | | 1,340,374.46 | | |
| 5.1.5 | | Site Preliminaries | | Included | Reflected in construction costs | |
| 5.1.6 | | Finance / Legals | | 380,133.93 | Allowance for legal costs, S.278, S.38, S.104, Easements, Consultant Appointments and Part 1 Land Compensation Claims | |
| 5.1.7 | | Public Relations | | 175,446.43 | Allowance for publicity, signage, website and public consultation | |
| 5.1.8 | | Miscellaneous - Contamination | | 292,410.71 | Allowance | |
| 5.1.9 | | Strategic Planning and Masterplan | | 859,127.24 | Planning Fee's, including landscaping; 1.3% of construction costs | |
| 5.1.10 | | Site Investigation | | | Included in 12% professional fee below | |
| 5.1.11 | | Engineering Design | | | Included in 12% professional fee below | |
| 5.1.12 | | Landscape Design | | | Included in 12% professional fee below | |
| 5.1.13 | | Ecology | | 20,356.46 | Allowance for Environmental Clerk of Works and Ecological involvement in procurement | |
| | | Design and Professional Fee's: Phase 1 - 3 | | 8,279,829.58 | 12% on construction costs only | |
| 5.1.14 | | Site Supervision / General Design | | | Included in 12% professional fee above | |
| 5.1.15 | | Project Management | | | Included in 12% professional fee above | |
| 5.1.16 | | Cost Management | | | Included in 12% professional fee above | |
| 5.1.17 | | Local Authority Fee's | | 4,942,848.72 | Allowance for S.38, 104 & 276 Inspection Fee's; County Council Pre and Post Design Check Fee's; Mini Cash Deposit for Highway Works; Traffic Regulation Orders and S.38, 104 & 276 Bonding Costs | |
| | Other Items | | | 18,836,386.38 | | |
| | | | | 67,598,723.50 | | |

# Appendix 2: Breakdown of land uses






| Residential | |
|---|---|
| R01 | 3.19 ha |
| R02 | 1.04 ha |
| R03 | 3.25 ha |
| R04 | 4.18 ha |
| R05 | 3.58 ha |
| R06 | 2.91 ha |
| R07 | 3.89 ha |
| R08 | 2.09 ha |
| R09 | 1.28 ha |
| R10 | 4.48 ha |
| R11 | 6.99 ha |
| R12 | 0.97 ha |
| R13 | 4.50 ha |
| R14 | 6.01 ha |
| R15 | 10.00 ha |
| R16 | 8.04 ha |
| R17 | 1.59 ha |
| R18 | 3.17 ha |
| R19 | 2.63 ha |
| R20 | 2.00 ha |
| R21 | 5.08 ha |
| R22 | 13.01 ha |
| R23 | 2.87 ha |
| R24 | 2.92 ha |
| Total | 99.67 ha |

| District & Local Centre | |
|---|---|
| DC01 | 0.66 ha |
| DC02 | 2.37 ha |
| LC01 | 0.53 ha |
| LC02 | 0.58 ha |
| LC03 | 0.51 ha |
| Total | 4.65 ha |

| Education | |
|---|---|
| Edu01 | 2.03 ha |
| Edu02 | 1.96 ha |
| Edu03 | 8.98 ha |
| Edu04 | 2.06 ha |
| Total | 15.03 ha |

| Formal Open Space | |
|---|---|
| FOS01 | 2.35 ha |
| FOS02 | 2.85 ha |
| FOS03 | 3.72 ha |
| FOS04 | 0.38 ha |
| Total | 9.30 ha |

| Informal Open Space | |
|---|---|
| IOS01 | 2.31 ha |
| IOS02 | 0.61 ha |
| IOS03 | 0.67 ha |
| IOS04 | 0.74 ha |
| IOS05 | 4.08 ha |
| IOS06 | 1.15 ha |
| IOS07 | 3.75 ha |
| IOS08 | 0.52 ha |
| IOS09 | 2.36 ha |
| IOS10 | 0.25 ha |
| IOS11 | 0.50 ha |
| IOS12 | 0.21 ha |
| IOS13 | 0.86 ha |
| IOS14 | 0.14 ha |
| IOS15 | 3.83 ha |
| IOS16 | 0.49 ha |
| Total | 22.47 ha |

| Country Park | |
|---|---|
| CP01 | 24.47 ha |
| Total | 24.47 ha |

| | |
|---|---|
| Area north of Country Park | 5.84 ha |
| Road | 6.73 ha |
| Rail | 7.34 ha |
| **Total** | **195.50 ha** |

# Appendix 3: GE Land Value Assessment

## Review of Savills Assessment of Land Value for Ipswich Garden Suburb

### Introduction

1. In May 2015, Gerald Eve LLP ("GE"), together with Mott MacDonald ("MM"), were instructed by Ipswich Borough Council ("IBC") and the Key Stakeholders to assess the deliverability and viability of Ipswich Garden Suburb ("IGS"). Over the process of this assessment, one of the main elements has been debated has been consideration of the appropriate land value benchmark for IGS. On behalf of CBRE, Savills has provided an assessment of land value following GE's draft stage 2 report.

2. However, before an appropriate land value can be defined, it necessary to establish the land area of the proposed masterplan and proportion of the uses of the land to ensure that the appropriate land values are attributed to the relevant uses.

3. The October 2015 Steering Group meeting highlighted that the considered land areas between GE, IBC and the Key Stakeholders were inconsistent and that this was to be resolved. Following further discussions between IBC and Key Stakeholders, GE was provided with a final agreed land area position (26 November 2016) as set out in the following table.

**Table 1. Masterplan land area by stakeholder.**

| Area | Stakeholder | Site Area (Ha) | Developable Resi (Ha) | Developable Commercial (Ha) | Non Developable (Ha)* |
|---|---|---|---|---|---|
| N1(a) | CBRE | 43.29 | 24.9 | 2.35 | 16.04 |
| N1(b) | Ipswich School | 12.46 | 10 | 0 | 2.46 |
| N2(a) | Crest Nicholson | 45.4 | 30.46 | 0.7 | 14.24 |
| N2(b) | Other adj Henley Rd | 1.47 | 1.04 | 0 | 0.43 |
| N3(a) | Mersea Homes | 53.2 | 30.73 | 0.3 | 22.44 |
| N3(b) | Other Red House | 6.08 | 2.87 | 0 | 3.21 |
| Country Park | Crest Nicholson | 24.47 | 0 | 0 | 24.47 |
| **Net Total** | | **186.37** | **100** | **3.35** | **83.02** |
| Other land adjacent to lower road | - | 5.84 | 0 | 0 | 5.84 |
| Existing Rail | - | 7.34 | 0 | 0 | 7.34 |
| | | | | | |
| **Gross** | | **199.55** | **100** | | **199.55** |

Source: IBC and Key Stakeholders (26 November 2015) –

* includes green and service/road infrastructure, education and country park.

4. Savills land assessment relates only to that for N1(a) or the 'the CBRE land'. Savills were requested to consider appropriate land values and compare evidence. Savills have identified 27.24 ha of developable land, presumably aggregating the residential and commercial land. However, non-consideration appears to have been made in their assessment of the potential differences in value between net residential and net commercial land.

5. In the draft review GE assessed the Land Value for IGS in September 2015 and concluded that 'developable' land (accounting for residential and commercial blended values) for this scheme had an estimated value of £500,000 per ha allowing for infrastructure costs and for the non-developable area, which was perceived to be any land required which would not generate income, a value of £25,000 per ha. On this basis the new agreed land area would have an overall land value of £53.49m.

6. This was also in line with the approach applied by Peter Brett Associates (PBA) who assessed IGS in 2013. This equated to an overall Land Value of circa: £52.78 million for IGS based on the areas within the draft SPD at the time of when the report was submitted and reflected a blended rate of £271,800 per gross hectare for required land.

7. Savills are of the opinion that the Land Value for 43.29 hectares should be set at £20million which equates to £462,229 per gross hectare which is inclusive of the non-developable land. In arriving at this figure, Savills had regard to the following methods:

    i. CIL Viability Land Values (Eastern Region Boroughs);

    ii. FVA theory and practice publications; and

    iii. Comparable Agreed Land Value Benchmarks in the Eastern Region.

8. GE has addressed each of the points presented within Savills Land Value Statement and determined whether this assessment is reasonable with further regard having been made to RICS Guidance and the residual method of valuation.

**Assessment of CIL Viability Land Values**

9. Under Section 3 of the Land Value Statement, Savills has made consideration to a number of CIL Viability Land Values which have been agreed in the Eastern Region, although detailed evidence has not been provided to support the information presented within the table.

10. CIL assessments are produced to provide an areas wide benchmark which does not take account of site specifics. The benchmark land values proposed appear to be based on schemes of 6-14 units and therefore appear to have been based on single acre, small scale development. No evidence has been provided on how these values are relevant to IGS or how the values presented have been derived.

11. Furthermore, it would appear the information provided reflects anticipation of serviced developable land values. Savills state that "these values are said to be policy compliant and serviced i.e inc abnormals, affordable housing and CIL". Therefore it appears as though these figures do not account for the infrastructure costs associated with the schemes which would be site specific. These values are used to define the proposed CIL rate, however, no commentary has been given to how these rates compare to the S106 requirements of IGS.

12. Within this section, Savills acknowledge the requirement to deduct infrastructure; proposing if these rates were to be reduce by the estimate infrastructure cost on a per hectare basis a potential range of land values would be generated between £15.42m and £22.24m for N1(a).

13. Therefore when assessing the Site Value on this basis, Savills are proposing gross land values for N1(a) of £356,317 to £513,629 per ha. It is assumed it remains the assumption that this land value has had regard to planning policy as indicated by the RICS; as would have also been the case in the CIL assessments.

14. This land value range identified by Savills is significantly higher than that proposed previously PBA for the Masterplan. Although PBA produced 4 of the 5 BLV on the evidenced CIL assessments, no explanation as to why this may be the case has been presented.

15. GE understand that the update overall infrastructure costs associated with the masterplan are c.£43.025m. The masterplan proposes 186.37 required total gross ha and 103.35 developable ha (including commercial land). This would generate £230,860 per required gross ha and £416,304 per developable ha. Therefore for N1(a) on an equalised value the infrastructure cost equates to £11.34m.

**RICS Financial Viability Appraisal in Planning Decisions: Theory and Practice**

16. Under Section 4 of the Land Value Statement, Savills has had regard to RICS Research Paper "Financial Viability Appraisal in Planning Decisions: Theory and Practice" dated April 2015. The research paper sets out that in which an EUV plus method is identified as the basis of assessing the Land Value.

17. Whilst published by the RICS, this paper is not reflective of RICS guidance on how to assess land value which is set out in the RICS Guidance Note 94: "Financial Viability in Planning" dated August 2014. The paper referred to be Savills is simply a commentary on planning decisions and does not reflect RICS opinion on how to formulate land value. RICS GN94 states:

    ***"Site Value should equate to market value, subject to the following assumption: that the value has regard to development plan policies and all other material planning considerations and disregards that which is contrary to the development plan".***[1]

18. Savills propose that, based off Appendix A, section 3 of the research paper; where it has been indicated benchmark land values for greenfield land range from 10 to 20 times agricultural land value; N1(a) would have a value of circa £21.65m or £500,000 per ha (£202,347 per acre). By calculation this would suggest Savills have proposed agricultural land value to be circa £10,000 per acre or £25,000 per ha.

[1] Box 7 RICS GN94/12: Financial viability in planning, (1st edition).

19. It does not appear, however, that an adjustment has been made for infrastructure costs associated with the scheme, as previous applied by Savills. This deduction would equate to a land value of circa £10.31m or £238,000 per gross ha or (£96,000 per gross acre). Interestingly this gross value is more reflective of the PBA estimates. If the lower end of identified mark-up range of 10% was applied it would effectively half the land values. No indication has been presented as to why Savills did not consider 10% mark-up was appropriate in this instance.

20. RICS GN/94/12 however, is very clear on the RICS position on applying premiums over that of existing use. 3.4 indicates that the margin mark-up approach is arbitrary and often inconsistently applied in practical application. EUV plus a premium can over-value and under-value sites compared to the market with an 'an assumption' and the resultant impact on planning obligations that can be viably afforded. However, the guidance recognised that some Practitioners and users may find this approach helpful as part of the decision process.

21. Whilst GE accept the EUVplus method can be a useful 'check' on land values, Savills have not provided an indication as to why 20 time over existing use is appropriate in this instant to ensure its application is appropriate in this instance, which is even reflective of the upper end of the range identified in the research paper.

22. In addition in this Section, Savills have also made regard to Turner Morum's DCLG Report 2011 where it is considered that a minimum land value should equate to £200,000 per ha for the gross acre and £400,000 per net acre.

23. These figures when applied to IGS equates to £494,000 per gross ha. However GE consider that this figure has not been adjusted for site specific infrastructure costs. It also notable that the Turner Morum is not supported by relevant evidence or demonstrates any adjustment for geography. There also appears to be an inconsistency in the evidence based of the Turner Morum report between the application of values on a hectare and acre basis.

24. If the values indicated by Savills relating to the Turner Morum report were to be adjusted to reflect infrastructure costs the gross land value per ha would reduce to circa £232,000 per ha or £94,000 per acre. Again these adjusted values are reflective of the PBA estimates of land value for this Masterplan.

**Benchmark Land Values Agreed on Toolkits**

25. Under Section 5 of the Land Value Statement, Savills has had regard to a number of comparable Land Values that have been agreed as benchmarks within the Eastern Region. These include sites located in Dareham, Elmswell, Attleborough, Easton (not specified if Norfolk or Suffolk), Maldon and Colchester. The source of this information has not been provided nor has evidence to support the information presented.

26. The considered comparables range in gross areas from 9.21 (unit numbers not advised) to 256.3 (unit numbers not advised). However we note that the metric of acres or hectares has not been provided. GE note that the largest scheme area is 256.3, which seems too large to indicate it is hectares. Furthermore, we are aware of a 47 acre site called Maldon Hall Farm which is proposed for development in Maldon (2015). Therefore we would estimate the areas are in acres and have therefore have also presented values in to per ha to be consistent with the commentary in our report.

27. GE have not verified these comparables, which may or may not be in the public domain, however, we have assumed all the information provided has been signed off by Savills for publication by the land owners.

28. The land values from these comparables provide a range of between £139k to £214k per gross acre (£344k to £529k per gross ha) and between £199k to £284k per net acre (£491k to £590k per net ha).

29. No comparison has been provided of date of assessment, unit density, infrastructure, sales value or build costs has been presented, so GE are unable to determine whether the information presented has any relevance other than to conclude that the comparables are considerably less in value than that proposed by Savills for the N1(a), even though Savills suggest they are levels which have been agreed for “similar” sites in equivalent locations.

30. Savills suggest that based on the evidence the value applied to the site would be circa £16.39m or £379k per gross hectare. Again no commentary or apparent adjustment has been made for site specific infrastructure.

**Savills Conclusions**

31. Under Section 6 of the Land Value Statement, Savills conclude that based on their assessment land value for N1(a) ranges between £15.425m and £26.9m or £356k per gross ha and £622k per ha. It is therefore their opinion that site value should be set at the mean value of their range reflecting circa £20,000,000 or (462,229 gross hectare/ £187,090 per acre).

32. From GE's assessment of the above it is not consider that the analysis has been undertaken on a clear and comparable basis. However, what appears to be apparent in the assessment is the application of the impact of site specific infrastructure has been inconsistent. Therefore, GE cannot consider the conclusions as appropriate or justified by the information provided.

**GE additional Land consideration**

33. In addition to Savills assessment of Land Values presented within their statement, GE notes that Savills have not included a residual viability appraisal to support their conclusions on land value.

34. To this end GE have undertaken an assessment of a notional hectare of land in Ipswich based upon the updated assumptions following discussions between GE, the Council and the Key Stakeholders (inputs are set out in the Stage 2 report). GE have undertaken a residual viability of a notional 35 unit scheme to generate a reasonable residual land value assuming policy compliant affordable housing at 35% and £10,000 per unit S106. Based on our appraisal (Appendix 1) we conclude that a notional land values for serviced residential development in Ipswich would reflect circa £855k per hectare (£358k per acre). This value reflects serviced (net) residential land value and is consistent with evidence presented by Savills prior to infrastructure costs.

35. Additionally GE has estimated a residual land value for a notional serviced hectare of commercial land at circa £571,000 per hectare (£231k per acre) (Appendix 2).

36. As stated in Stage 1, Mott Macdonald estimate the total infrastructure costs associated with this Masterplan to be c.£40.0m or c.£400k per developable hectare. Furthermore, as previously states GE estimate non-development land to have a value of circa £25k per hectare or £10k per acre. This is consistent with Savills application in section 4 of their report.

37. The below table therefore sets out estimated 'developable' and non-developable land value and the impact of infrastructure costs based upon a notional residual basis.

| | Developable | | Non-Dev | Infra | LV (£) | LV £/ Ha |
|---|---|---|---|---|---|---|
| | Resi | Commercial | | | | |
| Value/cost per Ha | £885k (£358k pa) | £571k (£231k pa) | £25k | - | | |
| Dev Area (Ha) | 100 | 3.35 | - | - | | |
| Dev LV **(Net LV)** | *£88.5m* | *£1.9m* | | *(£40.0m)* | *£50.4m* | *£487k* |
| Non Dev Area (ha) | | | 83.02 | | | |
| Non-Dev LV | | | | | £2.08m | £25k |
| **Gross LV** | | | | | **£53.75m** | **£288k** |

38. The table above demonstrates that the gross appropriate land values based upon a notional residual land value approach would be circa £53.75m or £288,000 per hectare or (£123k per acre).

39. This notional approach is consistent with the assumption of £500,000 and £25,000 per hectare applied in the GE Stage 1 & 2 reports and that concluded by PBA. Serviced land net of infrastructure values are also reasonably consistent with evidence presented in Sections 3 and 4 of the Savills report as well as appearing higher that of evidence in Section 5 of the Savills report, allowing for scheme specifics.

40. Furthermore this notional approach has been based upon GE's assumptions of build cost including the additional planning enhancement costs of £114.58 psqft[2] and the improved sales values of £231 per sq ft. When this figure is amended to reflect that proposed by the Key Stakeholders of £125 psqft[2], the notional serviced residential land value reduces to circa £548k per ha (Appendix 3). If the notional LV reflecting Key Stakeholders proposed costs was applied, the land value reduces to a £161,000 per developable acre.

[2] This figure includes assumed allowances for standard build costs, externals, planning enhancements, CfSH, abnormals , design, and contingencies.

41. Clearly if the build costs are higher than proposed by GE, then it is reasonable to assume the notional land value will reduce. It is therefore illogical to conceive that the land value should increase if build costs increase and revenue remains static.

**Conclusion**

42. GE do not consider the information by Savills is reasonably evidenced or provided sufficient detail as to allow their conclusions that the required land within the IGS masterplan has a value of £86.15m or £462,229 per hectare (£187k per acre) are reasonable. Nor that they have they sufficiently evidenced N1(a) has a site value of £20m having regard to planning policy.

43. GE however remains of the opinion that the proposed land value based upon £500k for developable land and £25k per non-developable land in the GE stage 2 reports appears reasonable even when considered in context of the information presented by Savills.

44. Based upon the information in this statement GE consider that the land value appropriate for the assessment of N1(a) should be £14.035m or £324,000 per gross hectare (£131,000 per acre).

**Appendix 1- Appraisal of notional residential serviced land value (GE).**

**Appendix 2- Appraisal of notional commercial serviced land value.**

**Appendix 3- Appraisal of notional residential serviced land value (Key Stakeholders).**

# Appendix 4: Assumed Unit Delivery Programme

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 4**
**Assumed Unit Delivery Programme**

Unit Distribution

| Details | | | | | | | Year | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ownership | Phase | G.Area | N.Area | Total Units | Units/G.HA | Units/N.HA | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 |
| CBRE | 1 | 9.30 | 5.35 | 175 | 18.83 | 32.73 | 50 | 70 | 55 | | | | | | | | | | | | | | | | | |
| | 2 | 15.72 | 9.04 | 296 | 18.83 | 32.73 | | | 45 | 75 | 75 | 75 | 26 | | | | | | | | | | | | | |
| | 3 | 18.27 | 10.51 | 344 | 18.83 | 32.73 | | | | | | | 54 | 75 | 75 | 75 | 65 | | | | | | | | | |
| | **Total** | **43.29** | **24.90** | **815** | **18.83** | **32.73** | **50** | **120** | **220** | **295** | **370** | **445** | **525** | **600** | **675** | **750** | **815** | | | | | | | | | |
| Crest Nicholson | 1 | 15.13 | 10.15 | 330 | 21.81 | 32.50 | | 55 | 75 | 75 | 75 | 50 | | | | | | | | | | | | | | |
| | 2 | 15.13 | 10.15 | 330 | 21.81 | 32.50 | | | 25 | 25 | 25 | 40 | 75 | 75 | 65 | | | | | | | | | | | |
| | 3 | 15.13 | 10.15 | 330 | 21.81 | 32.50 | | | | | | | | | 30 | 75 | 75 | 75 | 75 | | | | | | | |
| | **Total** | **45.40** | **30.46** | **990** | **21.81** | **32.50** | **0** | **55** | **155** | **255** | **355** | **445** | **520** | **595** | **690** | **765** | **840** | **915** | **990** | | | | | | | |
| Mersea | 1 | 8.85 | 6.15 | 200 | 22.59 | 32.51 | | | | 25 | 25 | 35 | 45 | 50 | 20 | | | | | | | | | | | |
| | 2 | 8.85 | 6.15 | 200 | 22.59 | 32.51 | | | | | | | | | 10 | 50 | 60 | 75 | 5 | | | | | | | |
| | 3 | 8.85 | 6.15 | 200 | 22.59 | 32.51 | | | | | | | | | | | | 50 | 70 | 75 | 5 | | | | | |
| | 4 | 8.85 | 6.15 | 200 | 22.59 | 32.51 | | | | | | | | | | | | | 50 | 75 | 75 | | | | | |
| | 5 | 8.81 | 6.12 | 199 | 22.59 | 32.51 | | | | | | | | | | | | | | 50 | 75 | 74 | | | | |
| | **Total** | **44.22** | **30.73** | **999** | **22.59** | **32.51** | **0** | **0** | **0** | **25** | **50** | **85** | **130** | **180** | **210** | **260** | **320** | **445** | **570** | **770** | **925** | **999** | | | | |
| Ipswich School | 1 | 12.46 | 10.00 | 350 | 28.09 | 35.00 | | | | | | | | | | | | | | | 45 | 75 | 75 | 75 | 75 | 5 |
| | **Total** | **12.46** | **10.00** | **350** | **28.09** | **35.00** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 120 | 195 | 270 | 345 | 350 |
| Redhouse Farm | 1 | 6.08 | 2.87 | 93 | 15.3 | 32.40 | | | | | | | | | | | | | | | | 17 | 50 | 26 | | |
| | | **6.08** | **2.87** | **93** | **15.30** | **32.40** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 67 | 93 | | |
| Other Developable Land | | 1.47 | 1.04 | 34 | 23.13 | 32.69 | | | | | | | | | | | | | | | | 34 | | | | |
| | | **1.47** | **1.04** | **34** | **23.13** | **32.69** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **34** | | | | |
| Country Park | | **24.47** | **0.00** | | | | | | | | | | | | | | | | | | | | | | | |
| Secondary School | | **8.98** | | | | | | | | | | | | | | | | | | | | | | | | |
| Unallocated Land | | **5.90** | **0.00** | **Annual Total** | | | **50** | **125** | **200** | **200** | **200** | **200** | **200** | **200** | **200** | **200** | **200** | **200** | **200** | **200** | **200** | **200** | **125** | **101** | **75** | **5** |
| TOTAL (Cummulative) | | **192.27** | **100.00** | **3281** | **17.06** | **32.81** | **50** | **175** | **375** | **575** | **775** | **975** | **1175** | **1375** | **1575** | **1775** | **1975** | **2175** | **2375** | **2575** | **2775** | **2975** | **3100** | **3201** | **3276** | **3281** |

# Appendix 5: Assumed Land Acquisition Programme

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 5**
**Assumed Land Assembly Programme**

| Details | | Year | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ownership | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 |
| CBRE Net Land Assembly | 1.53 | 2.14 | 3.06 | 2.29 | 2.29 | 2.29 | 2.44 | 2.29 | 2.29 | 2.29 | 1.99 | | | | | | | | | | |
| CBRE Commercial Land Assembly | 0.47 | 0.47 | 0.47 | 0.47 | 0.47 | | | | | | | | | | | | | | | | |
| Remaining CBRE Land Assembly | 0.66 | 1.11 | 1.79 | 1.22 | 1.22 | 1.69 | 1.81 | 1.69 | 1.69 | 1.69 | 1.47 | | | | | | | | | | |
| Total Cost | £1,015,259.20 | £1,332,062.88 | £1,807,268.40 | £1,411,263.80 | £1,411,263.80 | £1,188,013.80 | £1,267,214.72 | £1,188,013.80 | £1,188,013.80 | £1,188,013.80 | £1,029,611.96 | | | | | | | | | | |
| Crest Net Land Assembly | | 1.69 | 3.08 | 3.08 | 3.08 | 2.77 | 2.31 | 2.31 | 2.92 | 2.31 | 2.31 | 2.31 | 2.31 | | | | | | | | |
| Crest Commercial Land Assembly | | 0.35 | 0.35 | | | | | | | | | | | | | | | | | | |
| Remaining Crest Land Assembly | | 0.48 | 1.16 | 1.51 | 1.51 | 1.36 | 1.13 | 1.13 | 1.43 | 1.13 | 1.13 | 1.13 | 1.13 | | | | | | | | |
| Total Cost | | £ 1,033,111 | £ 1,742,361 | £ 1,576,111 | £ 1,576,111 | £ 1,418,500 | £ 1,182,083 | £ 1,182,083 | £ 1,497,306 | £ 1,182,083 | £ 1,182,083 | £1,182,083 | £1,182,083 | | | | | | | | |
| Mersea Net Land Assembly | | | | 0.77 | 0.77 | 1.08 | 1.38 | 1.54 | 0.92 | 1.54 | 1.85 | 3.85 | 3.85 | 6.15 | 4.77 | 2.28 | | | | | |
| Mersea Commercial Land Assembly | | | | 0.30 | | | | | | | | | | | | | | | | | |
| Remaining Mersea Land Assembly | | | | 0.04 | 0.34 | 0.47 | 0.61 | 0.68 | 0.41 | 0.68 | 0.81 | 1.69 | 1.69 | 2.70 | 2.09 | 1.00 | | | | | |
| Total Cost | | | | £ 535,449 | £ 392,949 | £ 550,129 | £ 707,309 | £ 785,898 | £ 471,539 | £ 785,898 | £ 943,078 | £1,964,746 | £1,964,746 | £3,143,594 | £2,436,285 | £1,163,130 | | | | | |
| Ipswich Net Land Assembly | | | | | | | | | | | | | | | 1.29 | 2.14 | 2.14 | 2.14 | 2.14 | 0.14 | |
| Remaining Ipswich Land Assembly | | | | | | | | | | | | | | | 0.32 | 0.53 | 0.53 | 0.53 | 0.53 | 0.04 | |
| Total Cost | | | | | | | | | | | | | | | £ 650,764 | £1,084,607 | £1,084,607 | £1,084,607 | £1,084,607 | £72,307 | |
| Redhouse Net Land Assembly | | | | | | | | | | | | | | | | 0.52 | 1.54 | 0.80 | | | |
| Remaining Redhouse Land Assembly | | | | | | | | | | | | | | | | 0.59 | 1.73 | 0.90 | | | |
| Total Cost | | | | | | | | | | | | | | | | £ 276,981 | £ 814,651 | £ 423,618 | | | |
| Other Net Land Assembly | | | | | | | | | | | | | | | | 1.04 | | | | | |
| Remaining Other Land Assembly | | | | | | | | | | | | | | | | 0.43 | | | | | |
| Total Cost | | | | | | | | | | | | | | | | £ 530,750 | | | | | |
| Country Park Land Assembly | | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | | | | | | | | | | |
| Total Cost | | | £ 87,393 | £ 87,393 | £ 87,393 | £ 87,393 | £ 87,393 | £ 87,393 | £ 87,393 | | | | | | | | | | | | |
| Secondary School | 2.25 | 2.25 | 2.25 | 2.25 | | | | | | | | | | | | | | | | | |
| Total Cost | £ 56,125.00 | £ 56,125.00 | £ 56,125.00 | £ 56,125.00 | | | | | | | | | | | | | | | | | |

# Appendix 6: Assessment of Average Sizes and Sales Values

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 6**
**Assessment of Average Sizes and Values**

**Average Sizes**

| Beds | Agreed Size sq ft | Private Units | Total Private Area (sq ft) | Affordable Units | Total Affordable Area (sq ft) |
|---|---|---|---|---|---|
| 1 | 500 | 139 | 69,721 | 197 | 98,430 |
| 2 | 761 | 558 | 424,463 | 197 | 149,810 |
| 3 | 1047 | 1199 | 1,255,568 | 49 | 51,528 |
| 4 | 1401 | 641 | 898,651 | 39 | 55,160 |
| 5 | 1600 | 251 | 401,594 | 10 | 15,749 |
| Total | | 2789 | 3,049,998 | 492 | 370,678 |
| **Average Area sq ft** | | | **1,094** | | **753** |

**Private Sales Values**

| Beds | Agreed Sizes | Policy Mix | Total Units | Private Values | Total GDV | £/sq ft |
|---|---|---|---|---|---|---|
| 1 | 500 | 10% | 139 | £ 105,000.00 | £ 14,641,462.50 | £ 210.00 |
| 2 | 761 | 23% | 558 | £ 152,250.00 | £ 84,920,482.50 | £ 200.07 |
| 3 | 1047 | 38% | 1199 | £ 215,250.00 | £ 258,128,983.88 | £ 205.59 |
| 4 | 1401 | 21% | 641 | £ 341,250.00 | £ 218,889,864.38 | £ 243.58 |
| 5 | 1600 | 8% | 251 | £ 509,250.00 | £ 127,819,967.63 | £ 318.28 |
| | Total | 100% | 2789 | | | |
| | | | | | **£ 704,400,760.88** | **£ 231** |

**Affordable Sales Values**

| Beds | Agreed Sizes | Affordable Units | 80% Affordable | 20% Intermediate | Affordable Value £/sq ft | Total Affordable Area sq ft | Total Affordable GDV | Intermediate Value £/ sq ft | Total Intermediate Area sq ft | Total Intermediate GDV |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 500 | 197 | 157 | 39 | £124.36 | 78,744 | £ 9,792,761 | £168.00 | 19,686 | £ 3,307,248 |
| 2 | 761 | 197 | 157 | 39 | £118.44 | 119,848 | £ 14,194,841 | £160.00 | 29,962 | £ 4,793,935 |
| 3 | 1047 | 49 | 39 | 10 | £121.99 | 41,222 | £ 5,028,863 | £164.80 | 10,306 | £ 1,698,366 |
| 4 | 1401 | 39 | 31 | 8 | £144.50 | 44,128 | £ 6,376,375 | £195.20 | 11,032 | £ 2,153,453 |
| 5 | 1600 | 10 | 8 | 2 | £188.32 | 12,599 | £ 2,372,646 | £254.40 | 3,150 | £ 801,299 |
| | Total | 492 | 394 | 98 | | 296,542 | £ 37,765,486 | | 74,136 | £ 12,754,301 |
| Total affordable Area | 370,678 | | | | | | | | | |
| Total Affordable Revenue | £ 50,519,787 | | | | | | | | | |
| **Blended Affordable Value** | **£ 136.29** | | | | | | | | | |

Affordable Housing units represent 15% of total as set out in the agreed unit mix
Based on agreed areas between IBC and Key Stakeholders

## Appendix 7: Differences in Costs between GE, Crest Nicholson & Mersea Homes

**Ipswich Garden Suburb**
**Stage 2 - Appendix 7**
**Differences in Construction Costs**

| Base-line Construction Costs | | |
|---|---|---|
| **Item** | **GE** | **Key Stakeholders** |
| Standard | **£85.65 per sq ft** | £88.17 psf |
| Externals | 12% | 15% |
| Planning Enhancements | £10 per sq ft | £10 per sq ft |
| Code for Sustainable Homes | £2,000 per dwelling | £2,750 per dwelling (£2.50 psf) |
| Contingency | 5% | 5% |
| Abnormals | £1,500 per dwelling | £1,495 per dwelling (£1.35 psf) |
| Design Fees | 0% | 3% |
| **Total Overall** | **£114.56 psf** | **£124.57 psf** |

Source: GE / Key Stakeholders

# Appendix 8: MM Cost Schedule



# INFRASTRUCTURE VIABILITY COST ANALYSIS
for
# IPSWICH GARDEN SUBURB

**Project Title:** Ipswich Garden Suburb

**Revision:** -

**Project No:** 355949

**Base Date:** 2Q 2015

**Date:** 01 Mar 2016

## 1.0 Infrastructure Viability Cost Analysis Schedule

| Ref | Item | Mott MacDonald |
|---|---|---|
| **1.1** | **Strategic Infrastructure** | 64,623,336.00 |
| **1.2** | **Neighbourhood Infrastructure Requirements** | 67,598,723.50 |
| | | |
| | **Total** | **132,222,059.50** |

# INFRASTRUCTURE VIABILITY COST ANALYSIS
for
# IPSWICH GARDEN SUBURB

**Project Title:** Ipswich Garden Suburb

**Revision:** -

**Project No:** 355949

**Base Date:** 2Q 2015

**Date:** 01 Mar 2016

## 1.1 Strategic Infrastructure

| Ref | Infrastructure Theme (based on SPD tables) | Item | Mott MacDonald |
|---|---|---|---|
| **1** | Access & Transport | Vehicular Rail Crossing; Pedestrian Crossing; Bus Services; Town Centre Cycle Improvements etc | 16,567,098.21 |
| **2** | Education | 1200 place secondary school, including sixth form facility,<br>playing fields and recreational facilities secured for use by the community (proportionate contribution of school build cost) | 12,400,000.00 |
| **3** | Open space, recreation & play | Country Park with visitor centre for Henley Gate; Swimming Contribution off-site | 5,639,551.00 |
| **4** | Community facilities | District & Local Community Centres including community buildings with integrated library facilities & police office alongside new health centre & reserved sites for community use | 4,189,000.00 |
| **5** | Utilities | Strategic improvements to electricity, gas, potable water, sewerage and SUDS | 25,827,686.79 |
| | | **Total** | **64,623,336.00** |

**INFRASTRUCTURE VIABILITY COST ANALYSIS**
for
**IPSWICH GARDEN SUBURB**

Mott MacDonald

**Project Title:** Ipswich Garden Suburb
**Project No:** 355949
**Date:** 01 Mar 2016

**Revision:** -
**Base Date:** 2Q 2015

**1.1 Strategic Infrastructure**

| Ref | Infrastructure Theme (based on SPD tables) | Item | Detail | Mott MacDonald | Assumptions | Trigger Point for Delivery |
|---|---|---|---|---|---|---|
| **1** | | | | | | |
| 1.1 | Access & Transport | Vehicular Rail Crossing | Vehicular crossing; approx. 6.2m overhead clearance from railway line | 6,789,776.79 | Assume steel construction to minimise Network Rail Compensation costs | Prior to the occupation of 300 dwellings in Henley Gate or as agreed with IBC in view of the sequencing of both Fonnereau and Henley Gate, unless this is otherwise required at an earlier point as informed by an agreed Transport Assessment for the whole development. |
| 1.1.1 | | | Network Rail Interruption Compensation; Vehicular Bridge | 400,000.00 | £200,000 / day; 2 days line closure - as advised by Network Rail | |
| 1.1.2 | | | Commuted Sums - 125 Years | 1,500,000.00 | Including Pedestrian / Cycle Bridge, as advised by SCC | |
| 1.2 | | Fonnereau Way cycle / pedestrian bridge | Pedestrian / Cycle Bridge | 1,870,000.00 | Significant increase in ramp requirements to pedestrian footbridge; 5m wide ramp x 4.8m rise at 1:20 gradient | Prior to the occupation of 300 dwellings in Henley Gate or as agreed with IBC in view of the sequencing of both Fonnereau and Henley Gate, unless this is otherwise required at an earlier point as informed by Network Rail consultation. |
| 1.2.1 | | | Network Rail Interruption Compensation; Pedestrian / Cycle Bridge | 200,000.00 | £200,000 / day; 1 day line closure - as advised by Network Rail | |
| 1.2.2 | | | Commuted Sums - 125 Years | Included in 1.1.2 | As advised by SCC | |
| 1.3 | | Phased delivery of bus service & bus priority measures | Bus service for 5 years | 3,830,580.36 | 5 year bus service (£3.7m) and 5nr shelters (£130k) | Strategic phasing plan for delivery of service and bus priority measures to be agreed prior to the commencement of development. |
| 1.3.1 | | | Off-site bus priority measures (physical) | 292,410.71 | Contribution allowance | |
| 1.4 | | Improvements to strategic town centre & east - west footpaths / cycleways | Off site cycle and ped improvements | 847,991.07 | Allowance, scope to be defined | Strategic phasing plan for delivery of strategic improvements to be agreed prior to the commencement of development. |
| 1.5 | | Improvements to Westerfield Station and level crossing | Improvements to level crossing | 250,000.00 | Allowance for contribution towards improved automated barriers and associated signalling | Contribution towards car & cycle parking provision (to include CCTV, lighting, landscaping and other associated infrastructure) and level-crossing upgrade (where required by Network Rail) will be secured at an appropriate stage in the development. |
| 1.5.1 | | | Resurfacing to Car Park; including line marking | 37,500.00 | Allowance for up to 250m2 | |
| 1.5.2 | | | Lighting to Car Park | 12,500.00 | Allowance for up to 250m2 | |
| 1.5.3 | | | Sheffield cycle hoops, on concrete base | 10,000.00 | Assume 20nr cycle hoops; excluding shelter | |
| 1.6 | | Controlled Pedestrian & Cycle Crossings on Westerfield Road | Controlled Pedestrian & Cycle Crossings | 187,142.86 | Allowance for 2nr toucan crossing | Prior to the first building occupation in both Fonnereau and Red House. |
| 1.7 | | Traffic management scheme for Westerfield Village, The Crofts and other locations | Road safety improvements in Westerfield village & The Crofts | 327,500.00 | Allowance, Westerfield village (£100k) & The Crofts (£227k) | Details and timetable for delivery of scheme to be informed by the Transport Assessment for the whole development in agreement with SCC Highways department. |
| 1.7.1 | | | Speed limit alterations | 11,696.43 | | |
| | Access & Transport | | | 16,567,098.21 | | |
| **2** | | | | | | |
| 2.1 | Education | 1200 place secondary school, including sixth form facility, playing fields and recreational facilities secured for use by the community (proportionate contribution of school build cost) | 1200 Place Secondary School; to achieve BREEAM Excellent, including provision for a shared community 3G floodlit MUGA to Sport England requirements | 12,400,000.00 | 0.22 pupils / dwelling as stipulated by the SPD, approx. 770 places. Developer contribution to be pro-rata from a build-cost of £19.3m | Development will not be permitted to commence until arrangements are in place to secure the commencement of the construction of a secondary school within the SPD site in accordance with a timetable to be agreed. Phased contributions proportionate to pupil yield shall be secured throughout each stage of the development. |
| | Education | | | 12,400,000.00 | | |

**INFRASTRUCTURE VIABILITY COST ANALYSIS**
for
**IPSWICH GARDEN SUBURB**

Mott MacDonald

**Project Title:** Ipswich Garden Suburb
**Project No:** 355949
**Date:** 01 Mar 2016

**Revision:** -
**Base Date:** 2Q 2015

**1.1 Strategic Infrastructure**

| Ref | Infrastructure Theme (based on SPD tables) | Item | Detail | Mott MacDonald | Assumptions | Trigger Point for Delivery |
|---|---|---|---|---|---|---|
| **3** | | | | | | |
| 3.1 | Open space, recreation & play | Country Park with visitor centre for Henley Gate | Country Park - Capital Cost | 2,037,500.00 | 24.5ha; Capital costs as advised by Ipswich Parks and Gardens team, including visitor facilities which are to be delivered in connection with local community centre | Phasing for tree planting and landscaping to be agreed and commenced an early stage in the development of Henley Gate. Completion and land transfer of initial ancillary works to include visitor facility / community centre and works compound prior to the occupation of 500 dwellings in Henley Gate. Capital and maintenance contributions (or in-kind provision by the Henley Gate developer) and transfer of the remaining land will be secured at an appropriate stage in the development. |
| | | | Country Park, Car Park | 112,500.00 | Allowance for 30nr car parking spaces; As advised by IBC | |
| 3.1.1 | | | Country Park - maintenance sum | 2,278,469.00 | 15 years maintenance; Maintenance costs as advised by Ipswich Parks and Gardens team, including visitor facilities which are to be delivered in connection with local community centre | |
| 3.2 | | Swimming Contribution (off-site) | | | Sport England advice in response to Planning Application; per 815 dwellings | Contributions to be secured at an appropriate stage in the development and used to enhance and maintain existing facilities. |
| | | | Off-site swimming contribution | 1,211,082.00 | Swimming pool - 21.07m2 (£282,009) | |
| | Country Park, Natural / Formal Open Spaces | | | 5,639,551.00 | | |
| **4** | | | | | | |
| 4.1 | Community facilities | District & Local Community Centres including community buildings with integrated library facilities & police office alongside new health centre & reserved sites for community use | District & Local Community Centres - 1,000m2 | 1,700,000.00 | Scope to be defined | Delivery linked to development of each neighbourhood – see entries in Tables 2-4. |
| 4.1.1 | | | District & Local Community Centres, linked to country park visitor centre - 500m2 | 875,000.00 | Scope to be defined | |
| 4.1.2 | | | Maintenance of district and local community centres - 1000m2 | 500,000.00 | 10 years maintenance | |
| 4.1.3 | | | Maintenance of district and local community centres - 500m2 | 375,000.00 | 10 years maintenance | |
| 4.1.4 | | | Library contribution; on-site 60m2 | 286,000.00 | | |
| 4.1.5 | | | Library contribution; off-site upgrades to Suffolk Library | 153,000.00 | Enhance facilities off-site | |
| 4.2 | | Funding for community development support officer(s) | Community Development Officer | 300,000.00 | Allowance for Resources & Salary - 10 years | |
| | Community Facilities | | | 4,189,000.00 | | |

**INFRASTRUCTURE VIABILITY COST ANALYSIS**
for
**IPSWICH GARDEN SUBURB**

Mott MacDonald

**Project Title:** Ipswich Garden Suburb
**Project No:** 355949
**Date:** 01 Mar 2016

**Revision:** -
**Base Date:** 2Q 2015

**1.1 Strategic Infrastructure**

| Ref | Infrastructure Theme (based on SPD tables) | Item | Detail | Mott MacDonald | Assumptions | Trigger Point for Delivery |
|---|---|---|---|---|---|---|
| **5** | | | | | | |
| 5.1 | Utilities | Strategic improvements to electricity supply | | | | As required |
| 5.1.1 | | | UKPN | 7,000,000.00 | 11kV switchboard at Highfield Primary School - Estimate as provided by UKPN | |
| 5.1.2 | | | Electric Distribution | | 11kV Infrastructure and Final Connections on-site; £1,500 allowance per dwelling - Estimate as provided by UKPN (3,381 Units as Appendix 3 - Assumed Delivery Programme) | |
| | | | Electric Distribution - Phase 1 | 1,200,000.00 | | |
| | | | Electric Distribution - Phase 2 | 1,411,500.00 | | |
| | | | Electric Distribution - Phase 3 | 2,460,000.00 | | |
| 5.1.3 | | | Off-site diversion works | 100,000.00 | Allowance; Scope to be defined | |
| 5.1.4 | | | On-site Trenching for Electric | 770,000.00 | Estimated spine trenches; scope to be defined | |
| 5.2 | | Strategic improvements to gas supply | | | | As required |
| 5.2.1 | | | National Grid | 2,200,000.00 | Medium pressure gas main (225mm PE) - Estimate as noted on Vectos drawing | |
| 5.2.2 | | | Falcrum Gas Infrastructure Works | 492,000.00 | Including meters up to the Emergency Control Valve - Estimate as provided by Falcrum | |
| 5.2.3 | | | On-site Trenching for Gas | 770,000.00 | Estimated spine trenches; scope to be defined | |
| 5.2.4 | | | Gas works in connection with rail crossings | 150,000.00 | Allowance; Scope to be defined | |
| 5.2.5 | | | Off-site diversion works | 100,000.00 | Allowance; Scope to be defined | |
| 5.3 | | Strategic improvements to Water supply | | | | As required |
| 5.3.1 | | | Mains water distribution | | £1,000 allowance per dwelling; Assume no upgrade required to existing network (3,381 Units as Appendix 3 - Assumed Delivery Programme) | |
| | | | Mains water distribution - Phase 1 | 800,000.00 | | |
| | | | Mains water distribution - Phase 2 | 941,000.00 | | |
| | | | Mains water distribution - Phase 3 | 1,640,000.00 | | |
| 5.3.2 | | | Fire Hydrants | 58,482.14 | Allowance; Scope to be defined | |
| 5.3.3 | | | Off-site diversion works | 50,000.00 | Allowance; Scope to be defined | |
| 5.4 | | Strategic infrastructure to the sewerage system | | | | As required |
| 5.4.1 | | | On-Site Foul Water Drainage Phase 1 | 935,680.20 | | |
| 5.4.2 | | | On-Site Foul Water Drainage Phase 2 | 906,547.30 | Allowance pro-rata Phase 1 planning design for foul water rising main | |
| 5.4.3 | | | On-Site Foul Water Drainage Phase 3 | 822,576.00 | | |
| 5.4.4 | | | Off-site diversion works | 100,000.00 | Allowance; Scope to be defined | |
| 5.5 | | Strategic SuDS infrastructure & connections | | | | In accordance with agreed phasing plan prior to the commencement of development. |
| 5.5.1 | | | SW Drainage and attenuation - Phase 1 | 505,410.00 | Allowance as masterplan detail in SPD | |
| 5.5.2 | | | SW Drainage and attenuation - Phase 2 | 462,270.00 | Allowance as masterplan detail in SPD | |
| 5.5.3 | | | SW Drainage and attenuation - Phase 3 | 533,070.00 | Allowance as masterplan detail in SPD | |
| 5.5.4 | | | Swales / attenuation - Phase 1 | 373,488.00 | Allowance as masterplan detail in SPD | |
| 5.5.5 | | | Swales / attenuation - Phase 2 | 386,384.00 | Allowance as masterplan detail in SPD | |
| 5.5.6 | | | Swales / attenuation - Phase 3 | 355,172.00 | Allowance as masterplan detail in SPD | |
| 5.5.7 | | | Works to existing watercourses | 70,178.57 | Allowance; Scope to be defined | |
| 5.5.8 | | | Drainage connection to railway | 233,928.57 | Allowance; Scope to be defined | |
| | Utilities | | | 25,827,686.79 | | |
| | | | | 64,623,336.00 | | |

# INFRASTRUCTURE VIABILITY COST ANALYSIS
for
# IPSWICH GARDEN SUBURB

**Project Title:** Ipswich Garden Suburb

**Revision:** -

**Project No:** 355949

**Base Date:** 2Q 2015

**Date:** 01 Mar 2016

## 1.2 Neighbourhood Infrastructure Requirements

| Ref | Infrastructure Theme (based on SPD tables) | Item | Mott MacDonald |
|---|---|---|---|
| **1** | Access & Transport | Off-site junction improvements in surrounding road network; Connection to UTMC; Travel Plan and Improvements to Fonnereau Way | 16,328,995.48 |
| **2** | Education & Early Years | 3nr 2FE (forms of entry) primary schools & nursery | 19,800,000.00 |
| **3** | Open space, recreation & play | Neighbourhood parks, allotments & open spaces with equipped sports & play facilities as per SPD | 12,542,109.50 |
| **4** | Community Infrastructure | District Centre supporting infrastructure (CCTV, electric charging points, recycling facility, cycle parking etc.); Temporary Community Centre | 91,232.14 |
| **5** | Other Items | Design, Legals etc. | 18,836,386.38 |
| | | **Total** | **67,598,723.50** |

**INFRASTRUCTURE VIABILITY COST ANALYSIS**
for
**IPSWICH GARDEN SUBURB**

Mott MacDonald

**Project Title:** Ipswich Garden Suburb
**Project No:** 355949
**Date:** 01 Mar 2016

**Revision:** -
**Base Date:** 2Q 2015

**1.2 Neighbourhood Infrastructure Requirements**

| Ref | Infrastructure Theme (based on SPD tables) | Item | Detail | Mott MacDonald | Assumptions | Trigger Point for Delivery |
|---|---|---|---|---|---|---|
| **1** | | | | | | |
| 1.1 | Access & Transport | Off-site junction improvements in surrounding road network | Off-site 278 Works | 2,339,285.71 | Allowance for scope denoted in SPD | Timetable for delivery to be informed by the Transport Assessment for the whole development in agreement with SCC Highways department. |
| 1.1.1 | | | Junction off Henley Road and Phase 1 of development | 233,734.00 | Phase 1 - West of Westerfield Road | |
| 1.1.2 | | | Junction off Westerfield Road and new development Phase 1 | 869,297.00 | | |
| 1.1.3 | | | Junction off Westerfield Road and new development Phase 2 | 818,750.00 | Phase 2 - North of Railway Line | |
| 1.1.4 | | | Junction off Tuddenham Road and new development Phase 2 | 409,375.00 | | |
| 1.1.5 | | | Junction off Henley Road and Phase 3 of development | 818,750.00 | Phase 3 - East of Westerfield Road | |
| | | | Utilities in Connection with S.278 | | Allowance for drainage and lighting | |
| 1.1.6 | | | Junction off Henley Road and Phase 1 of development | 40,937.50 | Phase 1 - West of Westerfield Road | |
| 1.1.7 | | | Junction off Westerfield Road and new development Phase 1 | 81,875.00 | | |
| 1.1.8 | | | Junction off Westerfield Road and new development Phase 2 | 81,875.00 | Phase 2 - North of Railway Line | |
| 1.1.9 | | | Junction off Tuddenham Road and new development Phase 2 | 40,937.50 | | |
| 1.1.10 | | | Junction off Henley Road and Phase 3 of development | 81,875.00 | Phase 3 - East of Westerfield Road | |
| 1.2 | | Connection to the Urban Traffic Management & Control (UTMC) System | Connection to the Urban Traffic Management & Control (UTMC) System | 1,169,642.86 | Allowance; To be advised by highways | Timetable for delivery to be informed by the Transport Assessment for the whole development in agreement with SCC Highways department. |
| 1.3 | | Travel Plan development, implementation & monitoring | | | | Travel Plan to be submitted and agreed with SCC Highways department as part of full/outline application for the development of the site. To be implemented and monitored during and following each phase of the neighbourhood development. |
| 1.3.1 | | | Travel Plan | 1,336,024.55 | Allowance; Scope to be defined | |
| 1.3.2 | | | S106 Monitoring Costs | 116,964.29 | Allowance; Scope to be defined | |
| 1.3.3 | | | Travel bond | 292,410.71 | Allowance; Scope to be defined | |
| 1.3.4 | | | Spine Roads | | Allowance for primary and secondary roads as detailed on figure 11 in the SPD; Specification as advised by SCC Primary; Excavation and disposal of arisings on-site; 340mm Type 1 Sub-Base; 130mm HRA Regulating Course; 50mm HRA Binder Course; 50mm HRA Surface Course; 150mm granite kerbs; 7m in width Secondary; Excavation and disposal of arisings on-site; 320mm Type 1 Sub-Base; 100mm HRA Regulating Course; 60mm HRA Binder Course; 50mm HRA Surface Course; 150mm granite kerbs; 5.5m in width Assume 2.5m wide footways to one side, including 50 x 150mm precast concrete pin kerbs, lighting and drainage | |
| 1.3.4.1 | | | Spine Roads phase 1 (West of Westerfield Road) off Westerfield Road | 1,971,096.00 | Approx. 1700m Secondary & 800m Primary Route | |
| 1.3.4.2 | | | Spine Roads phase 1 (West of Westerfield Road) off (remaining link to Henley Road) | 378,875.00 | Approx. 425m Primary Route | |
| 1.3.4.3 | | | Spine Roads phase 2 (East of Westerfield Road) (Part 1) - top | 1,054,375.00 | Approx. 1200m Primary Route | |
| 1.3.4.4 | | | Spine Roads phase 2 (East of Westerfield Road) (Part 2) | 633,820.00 | Approx. 850m Secondary Route | |
| 1.3.4.5 | | | Spine Roads phase 2 (works to existing access off Tuddenham Road) | 198,990.00 | Approx. 275m Secondary Route | |
| 1.3.4.6 | | | Spine Roads phase 3 (North of Railway Line) | 1,429,140.00 | Approx. 1100m Secondary & 700m Primary Route | |
| 1.4 | | Improvements to Fonnereau Way | | | Allowance for footpaths / cycle routes as defined on figure 11 of the SPD; assume 2m wide footpaths at approx. 12,000m & upgrading existing footpath to cycleway, approx. 2,300m | |
| 1.4.7 | | | On-Site Pedestrian / Cycle Routes | 1,784,760.00 | | |
| 1.5 | | Pedestrian & cycle signage (monoliths) | Pedestrian & cycle signage (monoliths) | 146,205.36 | Allowance for signage | Contributions to be secured at an appropriate stage in the development. |
| | Access & Transport | | | 16,328,995.48 | | |

**INFRASTRUCTURE VIABILITY COST ANALYSIS**
for
**IPSWICH GARDEN SUBURB**

Mott MacDonald

**Project Title:** Ipswich Garden Suburb
**Project No:** 355949
**Date:** 01 Mar 2016

**Revision:** -
**Base Date:** 2Q 2015

**1.2 Neighbourhood Infrastructure Requirements**

| Ref | Infrastructure Theme (based on SPD tables) | Item | Detail | Mott MacDonald | Assumptions | Trigger Point for Delivery |
|---|---|---|---|---|---|---|
| **2** | | | | | | |
| 2.1 | Education & Early Years | 3nr 2FE (forms of entry) primary schools & nursery | 3nr 2FE (forms of entry) primary schools & nursery, including shared community fields | | | Serviced site (with access roads) to be transferred prior to occupation of 100 dwellings. The need and timetable for the provision of a second form of entry will be reviewed following this<br>Phased contributions proportionate to pupil yield shall be secured throughout each stage of the development. |
| | | | 2FE Primary School - Phase 1 | 6,600,000.00 | Allowance for 3nr 2FE Schools on approx. 2ha sites in accordance to BB103, achieving BREEAM Excellent and Sport England Requirements; Design and phasing requirements to be defined | |
| | | | 2FE Primary School - Phase 2 | 6,600,000.00 | | |
| | | | 2FE Primary School - Phase 3 | 6,600,000.00 | | |
| | Education & Early Years | | | 19,800,000.00 | | |
| **3** | | | | | | |
| 3.1 | Open space, recreation & play | Neighbourhood parks, allotments & open spaces with equipped sports & play facilities as per SPD | | | | In accordance with phasing plan to be agreed prior to the commencement of development. |
| 3.1.1 | | | **Capital Cost -** Formal open space (incl sports pitches), parks & gardens, play areas and youth provision | | | |
| 3.1.1.1 | | | Formal recreation facilities such as playing fields 12 ha in total (5.5 ha in the community) | 2,409,000.00 | As advised by Ipswich Parks and Gardens team | |
| 3.1.1.2 | | | Formal recreation facilities such as playing fields 12 ha in total (6.5 ha in schools) | Included | As advised by Ipswich Parks and Gardens team, Capital Cost £2.847m; Included within Primary and Secondary School sports provisions | |
| 3.1.1.3 | | | Play areas (1.2 ha) | 2,160,000.00 | As advised by Ipswich Parks and Gardens team | |
| 3.1.1.4 | | | Youth Provision (0.3 ha) | 522,000.00 | As advised by Ipswich Parks and Gardens team | |
| 3.1.1.5 | | | Green spaces and parks with neighbourhoods (8 ha) | 600,000.00 | As advised by Ipswich Parks and Gardens team | |
| 3.1.1.6 | | | Natural & semi-natural green spaces including footpath links, hedgerows (16 ha) | 960,000.00 | As advised by Ipswich Parks and Gardens team | |
| 3.1.1.7 | | | Amenity green space (6 ha) | 312,600.00 | As advised by Ipswich Parks and Gardens team | |
| 3.1.1.8 | | | Allotments & community orchards (3ha) | 442,500.00 | As advised by Ipswich Parks and Gardens team | |
| 3.1.2 | | | **Maintenance -** Formal open space (incl sports pitches), parks & gardens, play areas and youth provision | | | |
| 3.1.2.1 | | | Formal recreation facilities such as playing fields 12 ha in total (5.5 ha in the community) | 646,421.00 | 15 years maintenance; £9,000 average from £13,000 Tennis Court & £5,000 for Football Pitch | |
| 3.1.2.2 | | | Formal recreation facilities such as playing fields 12 ha in total (6.5 ha in schools) | 763,952.00 | 15 years maintenance; £9,000 average from £13,000 Tennis Court & £5,000 for Football Pitch; As advised by Ipswich Parks and Gardens team | |
| 3.1.2.3 | | | Play areas (1.2 ha) | 734,961.00 | 15 years maintenance; As advised by Ipswich Parks and Gardens team | |
| 3.1.2.4 | | | Youth Provision (0.3 ha) | 118,315.00 | 15 years maintenance; As advised by Ipswich Parks and Gardens team | |
| 3.1.2.5 | | | Green spaces and parks with neighbourhoods (8 ha) | 1,076,062.00 | 15 years maintenance; As advised by Ipswich Parks and Gardens team | |
| 3.1.2.6 | | | Natural & semi-natural green spaces including footpath links, hedgerows (16 ha) | 480,571.00 | 15 years maintenance; As advised by Ipswich Parks and Gardens team | |
| 3.1.2.7 | | | Amenity green space (6 ha) | 697,351.00 | 15 years maintenance; As advised by Ipswich Parks and Gardens team | |
| 3.1.2.8 | | | Allotments & community orchards (3ha) | 86,189.00 | 15 years maintenance; As advised by Ipswich Parks and Gardens team | |
| 3.1.3 | | | Ecology Mitigation | 532,187.50 | Allowance | Prior to occupation of 500 dwellings. |
| | Open space, recreation & play | | | 12,542,109.50 | | |

**INFRASTRUCTURE VIABILITY COST ANALYSIS**
for
**IPSWICH GARDEN SUBURB**

Mott MacDonald

**Project Title:** Ipswich Garden Suburb
**Project No:** 355949
**Date:** 01 Mar 2016

**Revision:** -
**Base Date:** 2Q 2015

**1.2 Neighbourhood Infrastructure Requirements**

| Ref | Infrastructure Theme (based on SPD tables) | Item | Detail | Mott MacDonald | Assumptions | Trigger Point for Delivery |
|---|---|---|---|---|---|---|
| **4** | | | | | | Prior to occupation of 500 dwellings. |
| 4.1 | Community Infrastructure | District Centre supporting infrastructure (CCTV, electric charging points, recycling facility, cycle parking etc.) | | | | |
| 4.1.1 | | | Electric Charging Points | 32,750.00 | Allowance for 8nr; To be advised on minimum nr of car charging points required | |
| 4.1.2 | | | Recycling Facility | | Included within household waste facilities | |
| 4.1.3 | | | Cycle Parking | | Included within travel plan | |
| 4.1.4 | | | CCTV | | Included within build-costs | |
| 4.2 | | Community Centre in DC with integrated library facilities, workspace hub and police office (where required by Suffolk Constabulary) | Community Centre with integrated library facilities, workspace hub and police office | 58,482.14 | Allowance for temporary modular building; to be advised on dimensions and time period | Temporary community centre to be provided prior to occupation of 50 dwell-ings. Permanent community centre with integrated facilities prior to occupation of 500 dwellings. |
| 4.3 | | Health Centre | Health Centre | | Assume incorporated within 1,500m2 community facility under strategic infrastructure | Serviced site within District Centre to be transferred at time to be agreed. Phased contributions for capital costs of providing health centre to be agreed. |
| | Community Infrastructure | | | 91,232.14 | | |
| **5** | | | | | | |
| 5.1 | Other Items | | | | | |
| 5.1.1 | | Household Waste Facilities | | 178,358.84 | Assume contribution to off-site facility | Contributions to be secured at an appropriate stage in the development. |
| 5.1.2 | | Superfast broadband infrastructure | | 1,667,500.00 | Allowance for trenching and ductwork to facilitate fibre optic cabling; £500 allowance per dwelling | To be delivered in each phase of development in neighbourhood. |
| 5.1.3 | | Acoustic fence to boundary of railway line | | 700,000.00 | | |
| 5.1.4 | | Enabling Works | | 1,340,374.46 | | |
| 5.1.5 | | Site Preliminaries | | Included | Reflected in construction costs | |
| 5.1.6 | | Finance / Legals | | 380,133.93 | Allowance for legal costs, S.278, S.38, S.104, Easements, Consultant Appointments and Part 1 Land Compensation Claims | |
| 5.1.7 | | Public Relations | | 175,446.43 | Allowance for publicity, signage, website and public consultation | |
| 5.1.8 | | Miscellaneous - Contamination | | 292,410.71 | Allowance | |
| 5.1.9 | | Strategic Planning and Masterplan | | 859,127.24 | Planning Fee's, including landscaping; 1.3% of construction costs | |
| 5.1.10 | | Site Investigation | | | Included in 12% professional fee below | |
| 5.1.11 | | Engineering Design | | | Included in 12% professional fee below | |
| 5.1.12 | | Landscape Design | | | Included in 12% professional fee below | |
| 5.1.13 | | Ecology | | 20,356.46 | Allowance for Environmental Clerk of Works and Ecological involvement in procurement | |
| | | Design and Professional Fee's: Phase 1 - 3 | | 8,279,829.58 | 12% on construction costs only | |
| 5.1.14 | | Site Supervision / General Design | | | Included in 12% professional fee above | |
| 5.1.15 | | Project Management | | | Included in 12% professional fee above | |
| 5.1.16 | | Cost Management | | | Included in 12% professional fee above | |
| 5.1.17 | | Local Authority Fee's | | 4,942,848.72 | Allowance for S.38, 104 & 276 Inspection Fee's; County Council Pre and Post Design Check Fee's; Mini Cash Deposit for Highway Works; Traffic Regulation Orders and S.38, 104 & 276 Bonding Costs | |
| | Other Items | | | 18,836,386.38 | | |
| | | | | 67,598,723.50 | | |

# Appendix 9: GE Appraisal – Present day appraisal output without onsite Affordable Housing



# Ipswich Garden Suburb
# Stage 2 Report - Appendix 9
# Present Day Appraisal Output - No Affordable Housing

Development Appraisal
Gerald Eve LLP
16 May 2016

# Ipswich Garden Suburb
## Stage 2 Report - Appendix 9
## Present Day Appraisal Output - No Affordable Housing

**Summary Appraisal for Merged Phases 1 2 3 4 5 6**

**Currency in £**

**REVENUE**

| **Sales Valuation** | **Units** | **ft²** | **Rate ft²** | **Unit Price** | **Gross Sales** |
|---|---|---|---|---|---|
| N1(a) 1 | 175 | 191,450 | 231.00 | 252,714 | 44,224,950 |
| N1(a) 2 | 281 | 307,414 | 231.00 | 252,714 | 71,012,634 |
| N1(a) 3 | 344 | 376,336 | 231.00 | 252,714 | 86,933,616 |
| N2(a) 1 | 330 | 361,020 | 231.00 | 252,714 | 83,395,620 |
| N2(a) 2 | 330 | 361,020 | 231.00 | 252,714 | 83,395,620 |
| N2(a) 3 | 330 | 361,020 | 231.00 | 252,714 | 83,395,620 |
| N3(a) 1 | 200 | 218,800 | 231.00 | 252,714 | 50,542,800 |
| N3(a) 2 | 200 | 218,800 | 231.00 | 252,714 | 50,542,800 |
| N3(a) 3 | 200 | 218,800 | 231.00 | 252,714 | 50,542,800 |
| N3(a) 4 | 200 | 218,800 | 231.00 | 252,714 | 50,542,800 |
| N3(a) 5 | 199 | 217,706 | 231.00 | 252,714 | 50,290,086 |
| N1(b) 1 | 350 | 382,900 | 231.00 | 252,714 | 88,449,900 |
| N2(b) 1 | 34 | 37,196 | 231.00 | 252,714 | 8,592,276 |
| N3(b) 1 | 93 | 101,742 | 231.00 | 252,714 | 23,502,402 |
| **Totals** | **3,266** | **3,573,004** | | | **825,363,924** |

| | | | |
|---|---|---|---|
| **Additional Revenue** | | | |
| District Centre Land Sale | | 1,175,000 | |
| Local Centre Land Sale | | 350,000 | |
| Local Centre Land Sale | | 150,000 | |
| | | | 1,675,000 |
| **NET REALISATION** | | | **827,038,924** |
| **OUTLAY** | | | |
| **ACQUISITION COSTS** | | | |
| Gross development land | | 14,026,001 | |
| Country Park Land | | 313,856 | |
| Secondary School | | 115,180 | |
| Gross development land | | 15,935,998 | |
| Country Park Land | | 271,299 | |
| Fixed Price | | 99,561 | |
| Gross development land | | 15,844,750 | |
| Country Park Land | | 26,598 | |
| Secondary School | | 9,761 | |
| Gross development land | | 5,061,499 | |
| Gross development land | | 530,750 | |
| Gross development land | | 1,515,250 | |
| Total Acquisition (400.05 Acres 134,359.46 pAcre) | | 53,750,503 | |
| | | | 53,750,503 |
| Stamp Duty | 4.00% | 2,150,020 | |
| Agent Fee | 1.00% | 537,505 | |
| Legal Fee | 0.50% | 268,753 | |
| | | | 2,956,278 |
| **Other Acquisition** | | | |
| VAT | 20.00% | 43,365 | |
| VAT | 20.00% | 48,921 | |
| VAT | 20.00% | 47,643 | |
| VAT | 20.00% | 15,184 | |
| VAT | 20.00% | 1,592 | |
| VAT | 20.00% | 4,546 | |
| | | | 161,252 |

**CONSTRUCTION COSTS**

| **Construction** | **ft²** | **Rate ft²** | **Cost** |
|---|---|---|---|
| N1(a) 1 | | | |
| - Standard | 191,450 ft² | 85.65 pf² | 16,397,693 |
| - Externals 12% | | 12.00% | 1,967,723 |
| - Planning Enhancements | 191,450 ft² | 10.00 pf² | 1,914,500 |
| - Sustainability | 175 un | 2,000.00 /un | 350,000 |
| - Abnormals | 175 un | 1,500.00 /un | 262,500 |
| - Contingency 5% | | 5.00% | 1,044,621 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 9**
**Present Day Appraisal Output - No Affordable Housing**

| | | | |
|---|---|---|---|
| | | | 21,937,036 |
| N1(a) 2 | | | |
| - Standard | 307,414 ft² | 85.65 pf² | 26,330,009 |
| - Externals 12% | | 12.00% | 3,159,601 |
| - Planning Enhancements | 307,414 ft² | 10.00 pf² | 3,074,140 |
| - Sustainability | 281 un | 2,000.00 /un | 562,000 |
| - Abnormals | 281 un | 1,500.00 /un | 421,500 |
| - Contingnecy 5% | | 5.00% | 1,677,363 |
| | | | 35,224,613 |
| N1(a) 3 | | | |
| - Standard | 376,336 ft² | 85.65 pf² | 32,233,178 |
| - Externals 12% | | 12.00% | 3,867,981 |
| - Planning Enhancements | 376,336 ft² | 10.00 pf² | 3,763,360 |
| - Sustainability | 344 un | 2,000.00 /un | 688,000 |
| - Abnormals | 344 un | 1,500.00 /un | 516,000 |
| - Contingency 5% | | 5.00% | 2,053,426 |
| | | | 43,121,946 |
| N2(a) 1 | | | |
| - Standard | 361,020 ft² | 85.65 pf² | 30,921,363 |
| - Externals 12% | | 12.00% | 3,710,564 |
| - Planning Enhancements | 361,020 ft² | 10.00 pf² | 3,610,200 |
| - Sustainability | 330 un | 2,000.00 /un | 660,000 |
| - Abnormals | 330 un | 1,500.00 /un | 495,000 |
| - Contingency 5% | | 5.00% | 1,969,856 |
| | | | 41,366,983 |
| N2(a) 2 | | | |
| - Standard | 361,020 ft² | 85.65 pf² | 30,921,363 |
| - Externals 12% | | 12.00% | 3,710,564 |
| - Planning Enhancements | 361,020 ft² | 10.00 pf² | 3,610,200 |
| - Sustainability | 330 un | 2,000.00 /un | 660,000 |
| - Abnormals | 330 un | 1,500.00 /un | 495,000 |
| - Contingency 5% | | 5.00% | 1,969,856 |
| | | | 41,366,983 |
| N2(a) 3 | | | |
| - Standard | 361,020 ft² | 85.65 pf² | 30,921,363 |
| - Externals 12% | | 12.00% | 3,710,564 |
| - Planning Enhancements | 361,020 ft² | 10.00 pf² | 3,610,200 |
| - Sustainability | 330 un | 2,000.00 /un | 660,000 |
| - Abnormals | 330 un | 1,500.00 /un | 495,000 |
| - Contingency 5% | | 5.00% | 1,969,856 |
| | | | 41,366,983 |
| N3(a) 1 | | | |
| - Standard | 218,800 ft² | 85.65 pf² | 18,740,220 |
| - Externals 12% | | 12.00% | 2,248,826 |
| - Planning Enhancements | 218,800 ft² | 10.00 pf² | 2,188,000 |
| - Sustainability | 200 un | 2,000.00 /un | 400,000 |
| - Abnormals | 200 un | 1,500.00 /un | 300,000 |
| - Contingnecy 5% | | 5.00% | 1,193,852 |
| | | | 25,070,899 |
| N3(a) 2 | | | |
| - Standard | 218,800 ft² | 85.65 pf² | 18,740,220 |
| - Externals 12% | | 12.00% | 2,248,826 |
| - Planing Enhancements | 218,800 ft² | 10.00 pf² | 2,188,000 |
| - Sustainability | 200 un | 2,000.00 /un | 400,000 |
| - Abnormals | 200 un | 1,500.00 /un | 300,000 |
| - Contingency 5% | | 5.00% | 1,193,852 |
| | | | 25,070,899 |
| N3(a) 3 | | | |
| - Standard | 218,800 ft² | 85.65 pf² | 18,740,220 |
| - Externals 12% | | 12.00% | 2,248,826 |
| - Planning Enhancements | 218,800 ft² | 10.00 pf² | 2,188,000 |
| - Sustainability | 200 un | 2,000.00 /un | 400,000 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 9**
**Present Day Appraisal Output - No Affordable Housing**

| | | | | |
|---|---|---|---|---|
| - Abnormals | 200 un | 1,500.00 /un | 300,000 | |
| - Contingency 5% | | 5.00% | 1,193,852 | |
| | | | 25,070,899 | |
| N3(a) 4 | | | | |
| - Standard | 218,800 ft² | 85.65 pf² | 18,740,220 | |
| - Externals 12% | | 12.00% | 2,248,826 | |
| - Planning Enhancement | 218,800 ft² | 10.00 pf² | 2,188,000 | |
| - Sustainability | 200 un | 2,000.00 /un | 400,000 | |
| - Abnormals | 200 un | 1,500.00 /un | 300,000 | |
| - Contingency 5% | | 5.00% | 1,193,852 | |
| | | | 25,070,899 | |
| N3(a) 5 | | | | |
| - Standard | 217,706 ft² | 85.65 pf² | 18,646,519 | |
| - Externals 12% | | 12.00% | 2,237,582 | |
| - Planning Enhancements | 217,706 ft² | 10.00 pf² | 2,177,060 | |
| - Sustainability | 199 un | 2,000.00 /un | 398,000 | |
| - Abnormals | 199 un | 1,500.00 /un | 298,500 | |
| - Contingency 5% | | 5.00% | 1,187,883 | |
| | | | 24,945,544 | |
| N1(b) 1 | | | | |
| - Standard | 382,900 ft² | 85.65 pf² | 32,795,385 | |
| - Externals 12% | | 12.00% | 3,935,446 | |
| - Planning Enhancements | 382,900 ft² | 10.00 pf² | 3,829,000 | |
| - Sustainability | 350 un | 2,000.00 /un | 700,000 | |
| - Abnormals | 350 un | 1,500.00 /un | 525,000 | |
| - Contingency 5% | | 5.00% | 2,089,242 | |
| | | | 43,874,073 | |
| N2(b) 1 | | | | |
| - Standard | 37,196 ft² | 85.65 pf² | 3,185,837 | |
| - Externals 12% | | 12.00% | 382,300 | |
| - Planning Enhancements | 37,196 ft² | 10.00 pf² | 371,960 | |
| - Sustainability | 34 un | 2,000.00 /un | 68,000 | |
| - Abnormals | 34 un | 1,500.00 /un | 51,000 | |
| - Contingency 5% | | 5.00% | 202,955 | |
| | | | 4,262,053 | |
| N3(b) 1 | | | | |
| - Standard | 101,742 ft² | 85.65 pf² | 8,714,202 | |
| - Externals 12% | | 12.00% | 1,045,704 | |
| - Planning Enhancements | 101,742 ft² | 10.00 pf² | 1,017,420 | |
| - Sustainability | 93 un | 2,000.00 /un | 186,000 | |
| - Abnormals | 93 un | 1,500.00 /un | 139,500 | |
| - Contingency 5% | | 5.00% | 555,141 | |
| | | | 11,657,968 | |
| **Totals** | **3,573,004 ft²** | | **409,407,776** | **409,407,776** |
| Enabling works | | | 1,340,375 | |
| Acoustic Fence | | | 700,000 | |
| Finance/Legal | | | 380,134 | |
| PR | | | 175,447 | |
| Contamination | | | 292,410 | |
| Planning | | | 859,127 | |
| Ecology | | | 20,337 | |
| Design Fees | | | 8,279,829 | |
| Local Authority Fees | | | 4,942,848 | |
| | | | | 16,990,507 |
| **Other Construction** | | | | |
| Vehicular rail crossing | | | 3,241,571 | |
| NR Comp Vehicular Bridge + Com Sums | | | 907,097 | |
| Fonnereau Way cycle/pedestrian brid | | | 892,774 | |
| NR Compensation Cycle Bridge | | | 95,484 | |
| Phased delivery of bus service | | | 72,635 | |
| Bus Service for 5 years + shelters | | | 1,828,793 | |
| Offiste cycleway/footpath | | | 210,641 | |
| Improvements to Westerfield Station | | | 77,004 | |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 9**
**Present Day Appraisal Output - No Affordable Housing**

| | |
|---|---|
| Westerfield Road crossing | 84,080 |
| Traffic Management | 81,351 |
| Speed Limit Alterations | 2,905 |
| Secondary school | 3,080,158 |
| Country Park | 907,778 |
| 15 maintenance for Country Park | 595,907 |
| Swimming contribution | 300,833 |
| District and Local Centres 1000sqm | 1,700,000 |
| Maintenance for Dis and Loc Centres | 500,000 |
| On-site Libraty Contribution | 71,042 |
| Off-site Library Contribution | 38,005 |
| Community support officer | 126,761 |
| Electricity, Gas. Water | 4,303,056 |
| Sewerage | 654,574 |
| Off-site Diversion Works | 24,840 |
| SuDS | 690,392 |
| Off-site improvements | 581,078 |
| Junction off Henley & Westerfield R | 771,648 |
| S278 Utilities | 85,916 |
| UTMC | 290,539 |
| Travel Plan | 331,868 |
| Improvements to Fonnereau Way | 1,643,971 |
| Pedestrian/cycle signage | 36,317 |
| Primary School | 4,617,167 |
| Open space incl allotments | 1,839,674 |
| Open space maintenance 15 years | 1,143,589 |
| Ecology Mitigation | 132,195 |
| Supporting Infra (Charge, CCTV etc) | 8,135 |
| Temporary Community Centre | 30,003 |
| Household waste facilities | 44,304 |
| Superfast Broadband | 414,207 |
| Onsite Pedestrian & Cycle Routes | 443,334 |
| S106 Monitoring | 29,054 |
| Travel Bond | 72,635 |
| Vehicular rail crossing | 3,110,156 |
| NR Comp Vehicular Bridge + Com sums | 870,323 |
| Fonnereau Way cycle/pedestrian brid | 856,581 |
| NR Compensation Cycle Bridge | 91,613 |
| Phased delivery of bus service | 88,231 |
| Bus Service for 5 years + shelters | 1,754,653 |
| Offiste cycleway/footpath | 255,870 |
| Improvements to Westerfield Station | 93,539 |
| Traffic Management | 98,819 |
| Speed Limit Alterations | 3,529 |
| Secondary school | 3,741,542 |
| Country Park | 993,778 |
| 10 yr maintenance for Country Park | 771,174 |
| Swimming contribution | 365,429 |
| District and Local Centres 500 sq m | 409,381 |
| Maintenance for Dis and Loc Centres | 175,449 |
| On-site Library Contribution | 86,297 |
| Off-site Library Contribution | 46,166 |
| Community support officer | 129,296 |
| Electricity, Gas. Water | 5,801,844 |
| Sewerage | 876,447 |
| Off-site Diversion Works | 30,174 |
| SuDS | 912,237 |
| Off-site Improvements | 705,850 |
| Junction off Westerfield & Tuddenha | 1,187,347 |
| S278 Utilities | 118,735 |
| UTMC | 352,925 |
| Travel Plan | 403,129 |
| Improvements to Fonnereau Way | 1,824,525 |
| Pedestrian/cycle signage | 44,116 |
| Primary School | 6,380,859 |
| Open space incl allotments | 2,234,696 |
| Open space maintenance 15 years | 1,389,145 |
| Ecology Mitigation | 160,581 |
| Supporting Infra (Charge, CCTV etc) | 9,882 |
| Temporary Community Centre | 25,936 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 9**
**Present Day Appraisal Output - No Affordable Housing**

| | |
|---|---|
| Household waste facilities | 53,818 |
| Superfast Broadband | 503,147 |
| Onsite Pedestrian & Cycle Routes | 538,529 |
| S106 Monitoring | 35,292 |
| Travel Bond | 88,231 |
| Vehicular rail crossing | 438,050 |
| NR Comp Vehicular Bridge + Com Sums | 122,581 |
| Fonnereau Way cycle/pedestrian brid | 120,645 |
| NR Compensation Cycle Bridge | 12,903 |
| Phased delivery of bus service | 89,033 |
| Bus Service 5 years + shelters | 247,134 |
| Offiste cycleway/footpath | 258,197 |
| Improvements to Westerfield Station | 94,389 |
| Westerfield Road crossing | 103,063 |
| Traffic Management | 99,717 |
| Speed Limit Alterations | 3,561 |
| Secondary school | 3,775,556 |
| Country Park | 248,444 |
| 10 yr maintenance for Country Park | 778,185 |
| Swimming contribution | 368,751 |
| District and Local Centres 500 sq m | 413,103 |
| Maintenance Dist and Loc Centres | 177,044 |
| On-site Library Contribution | 87,081 |
| Off-site Library Contribution | 46,585 |
| Community support officer | 43,944 |
| Electricity, Gas. Water | 7,310,346 |
| Sewerage | 752,521 |
| Off-site Diversion Works | 30,448 |
| SuDS | 905,190 |
| Off-site improvements | 712,267 |
| Junction off Henley Road | 749,021 |
| S278 Utilities | 74,902 |
| UTMC | 356,133 |
| Improvements to Fonnereau Way | 1,307,428 |
| Travel Plan | 406,793 |
| Pedestrian/cycle signage | 44,517 |
| Primary School | 6,037,913 |
| Open space incl allotments | 2,255,012 |
| Open space maintenance 15 years | 1,401,773 |
| Ecology Mitigation | 162,041 |
| Supporting Infra (Charge, CCTV etc) | 9,972 |
| Community Centre with Facilities | 2,543 |
| Household waste facilities | 54,307 |
| Superfast Broadband | 507,721 |
| Onsite Pedestrian & Cycle Routes | 543,424 |
| S106 Monitoring | 35,613 |
| Travel Bond | 89,033 |
| Phased delivery of bus service | 31,193 |
| Offiste cycleway/footpath | 90,459 |
| Improvements to Westerfield Station | 33,069 |
| Traffic Management | 34,936 |
| Speed Limit Alterations | 1,248 |
| Secondary school | 1,322,767 |
| Swimming contribution | 129,192 |
| On-site Library Contribution | 30,509 |
| Off-site Library Contribution | 16,321 |
| Electricity, Gas. Water | 1,847,938 |
| Sewerage | 281,106 |
| Off-site diversion works | 10,667 |
| SuDS | 296,487 |
| Off-site improvements | 249,543 |
| Junction off Henley & Westerfield R | 331,383 |
| S278 Utilities | 36,896 |
| UTMC | 124,771 |
| Travel Plan | 142,520 |
| Improvements to Fonnereau Way | 706,000 |
| Pedestrian/cycle signage | 15,596 |
| Primary School | 1,982,833 |
| Neighbourhood Allotments etc | 790,044 |
| 15 Year maintenance | 491,112 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 9**
**Present Day Appraisal Output - No Affordable Housing**

| | |
|---|---|
| Ecology Mitigation | 56,771 |
| District Supporting infra | 3,494 |
| Household waste facilities | 19,026 |
| Superfast Broadband | 177,880 |
| Onsite Pedestrian & Cycle Routes | 190,389 |
| S106 Monitoring | 12,477 |
| Travel Bond | 31,193 |
| Country Park Maintenance | 93,476 |
| Phased delivery of bus service | 3,030 |
| Offiste cycleway/footpath | 8,787 |
| Improvements to Westerfield Station | 3,212 |
| Traffic Management | 3,394 |
| Speed Limit Alterations | 121 |
| Secondary school | 128,497 |
| Swimming contribution | 12,550 |
| District and Local Centres 500 sq m | 14,060 |
| Maintenance Dis and Loc Centres | 6,026 |
| On-site Library Contribution | 2,964 |
| Off-site Library Contribution | 1,585 |
| Electricity, Gas. Water | 199,255 |
| Sewerage | 30,100 |
| Off-site Diversion Works | 1,036 |
| SuDS | 31,329 |
| Off-site improvements | 24,241 |
| Junction off Henley & Westerfield R | 40,778 |
| S278 Utilities | 4,078 |
| UTMC | 12,121 |
| Travel Plan | 13,845 |
| Improvements to Fonnereau Way | 62,660 |
| Pedestrian/cycle signage | 1,515 |
| Open space incl allotments | 76,747 |
| Open space maintenance 15 years | 47,708 |
| Ecology Mitigation | 5,515 |
| Supporting Infra (Charge, CCTV etc) | 339 |
| Primary School | 219,141 |
| Household waste facilities | 1,848 |
| Superfast Broadband | 17,280 |
| Onsite Pedestrian & Cycle Routes | 18,495 |
| S106 Monitoring | 1,212 |
| Travel Bond | 3,030 |
| Country Park Maintenance | 26,485 |
| Phased delivery of bus service | 8,288 |
| Offiste cycleway/footpath | 24,036 |
| Improvements to Westerfield Station | 8,787 |
| Traffic Management | 9,283 |
| Speed Limit Alterations | 332 |
| Secondary school | 351,478 |
| Swimming contribution | 34,328 |
| District and Local Centres 500 sq m | 38,457 |
| Maintenance Dis and Loc Centres | 16,482 |
| On-site Library Contribution | 8,107 |
| Off-site Library Contribution | 4,337 |
| Electricity, Gas. Water | 680,543 |
| Sewerage | 70,055 |
| Off-site Diversion Works | 2,835 |
| SuDS | 84,267 |
| Off-site improvements | 66,307 |
| Junction off Henley & Westerfield R | 69,729 |
| S278 Utilities | 6,973 |
| UTMC | 33,154 |
| Travel Plan | 37,870 |
| Improvements to Fonnereau Way | 121,712 |
| Pedestrian/cycle signage | 4,144 |
| Open space incl allotments | 209,926 |
| Open space maintenance 15 years | 130,495 |
| Ecology Mitigation | 15,085 |
| Supporting Infra (Charge, CCTV etc) | 928 |
| Primary School | 562,088 |
| Household waste facilities | 5,056 |
| Superfast Broadband | 47,265 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 9**
**Present Day Appraisal Output - No Affordable Housing**

| | | | | |
|---|---|---|---|---|
| Onsite Pedestrian & Cycle Routes | | | 50,589 | |
| S106 Monitoring | | | 3,315 | |
| Travel Bond | | | 8,288 | |
| Country Park Maintenance | | | 13,242 | |
| | | | | 115,231,531 |
| **PROFESSIONAL FEES** | | | | |
| Professional Fees on Build Costs | | 8.00% | 30,801,053 | |
| Professional Fees on Abnormal Costs | | 12.00% | 587,880 | |
| | | | | 31,388,933 |
| **MARKETING & LETTING** | | | | |
| Marketing | | 1.00% | 6,092,935 | |
| | | | | 6,092,935 |
| **DISPOSAL FEES** | | | | |
| Sales Agent Fee | | 2.00% | 12,185,869 | |
| Sales Legal Fee | 2,867 un | 500.00 /un | 1,433,500 | |
| | | | | 13,619,369 |
| **FINANCE** | | | | |
| Debit Rate 6.000%, Credit Rate 0.000% (Nominal) | | | | |
| Total Finance Cost | | | | 9,114,414 |
| **TOTAL COSTS** | | | | **658,713,498** |
| **PROFIT** | | | | |
| | | | | **168,325,426** |
| **Performance Measures** | | | | |
| Profit on Cost% | | 25.55% | | |
| Profit on GDV% | | 20.39% | | |
| Profit on NDV% | | 20.39% | | |
| IRR | | 22.40% | | |
| Profit Erosion (finance rate 6.000%) | | 3 yrs 10 mths | | |

# Appendix 10: GE Appraisal – Present day appraisal output – Affordable Housing Assessment

# Ipswich Garden Suburb
# Stage 2 Report - Appendix 10
# Present Day Appraisal Output - Affordable Housing Assessment

Development Appraisal
Gerald Eve LLP
16 May 2016

# APPRAISAL SUMMARY — GERALD EVE LLP

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 10**
**Present Day Appraisal Output - Affordable Housing Assessment**

**Summary Appraisal for Merged Phases 1 2 3 4 5 6**

**Currency in £**

| | Units | ft² | Rate ft² | Unit Price | Gross Sales |
|---|---|---|---|---|---|
| **REVENUE** | | | | | |
| **Sales Valuation** | | | | | |
| N1(a) 1 | 175 | 191,450 | 231.00 | 252,714 | 44,224,950 |
| N1(a) 2 | 185 | 202,390 | 231.00 | 252,714 | 46,752,090 |
| N1(a) 3 | 224 | 245,056 | 231.00 | 252,714 | 56,607,936 |
| N1(a) 3 AH | 120 | 90,480 | 136.29 | 102,763 | 12,331,519 |
| N1(a) 2 AH | 96 | 72,384 | 136.29 | 102,763 | 9,865,215 |
| N2(a) 1 | 330 | 361,020 | 231.00 | 252,714 | 83,395,620 |
| N2(a) 2 | 321 | 351,174 | 231.00 | 252,714 | 81,121,194 |
| N2(a) 3 | 215 | 235,210 | 231.00 | 252,714 | 54,333,510 |
| N2(a) 3 AH | 115 | 86,710 | 136.29 | 102,763 | 11,817,706 |
| N2(a) 2 AH | 9 | 6,786 | 136.29 | 102,763 | 924,864 |
| N3(a) 1 | 200 | 218,800 | 231.00 | 252,714 | 50,542,800 |
| N3(a) 2 | 152 | 166,288 | 231.00 | 252,714 | 38,412,528 |
| N3(a) 3 | 130 | 142,220 | 231.00 | 252,714 | 32,852,820 |
| N3(a) 4 | 130 | 142,220 | 231.00 | 252,714 | 32,852,820 |
| N3(a) 5 | 130 | 142,220 | 231.00 | 252,714 | 32,852,820 |
| N3(a) 5 AH | 69 | 52,026 | 136.29 | 102,763 | 7,090,624 |
| N3(a) 4 AH | 70 | 52,780 | 136.29 | 102,763 | 7,193,386 |
| N3(a) 3 AH | 70 | 52,780 | 136.29 | 102,763 | 7,193,386 |
| N3(a) 2 AH | 48 | 36,192 | 136.29 | 102,763 | 4,932,608 |
| N1(b) 1 | 228 | 249,432 | 231.00 | 252,714 | 57,618,792 |
| N1(b) 1 AH | 122 | 91,988 | 136.29 | 102,763 | 12,537,045 |
| N2(b) 1 | 23 | 25,162 | 231.00 | 252,714 | 5,812,422 |
| N2(b) 1 AH | 11 | 8,294 | 136.29 | 102,763 | 1,130,389 |
| N3(b) 1 | 61 | 66,734 | 231.00 | 252,714 | 15,415,554 |
| N3(b) 1 AH | 32 | 24,128 | 136.29 | 102,763 | 3,288,405 |
| **Totals** | **3,266** | **3,313,924** | | | **711,101,003** |
| **Additional Revenue** | | | | | |
| District Centre Land Sale | | | 1,175,000 | | |
| Local Centre Land Sale | | | 350,000 | | |
| Local Centre Land Sale | | | 150,000 | | |
| | | | | 1,675,000 | |
| **NET REALISATION** | | | | **712,776,003** | |
| **OUTLAY** | | | | | |
| **ACQUISITION COSTS** | | | | | |
| Gross development land | | 14,026,001 | | | |
| Country Park Land | | 313,856 | | | |
| Secondary School | | 115,180 | | | |
| Gross development land | | 15,935,998 | | | |
| Country Park Land | | 271,299 | | | |
| Fixed Price | | 99,561 | | | |
| Gross development land | | 15,844,750 | | | |
| Country Park Land | | 26,598 | | | |
| Secondary School | | 9,761 | | | |
| Gross development land | | 5,061,499 | | | |
| Gross development land | | 530,750 | | | |
| Gross development land | | 1,515,250 | | | |
| Total Acquisition (400.05 Acres 134,359.46 pAcre) | | | 53,750,503 | | |
| | | | | 53,750,503 | |
| Stamp Duty | | 4.00% | 2,150,020 | | |
| Agent Fee | | 1.00% | 537,505 | | |
| Legal Fee | | 0.50% | 268,753 | | |
| | | | | 2,956,278 | |
| **Other Acquisition** | | | | | |
| VAT | | 20.00% | 43,365 | | |
| VAT | | 20.00% | 48,921 | | |
| VAT | | 20.00% | 47,643 | | |
| VAT | | 20.00% | 15,184 | | |
| VAT | | 20.00% | 1,592 | | |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 10**
**Present Day Appraisal Output - Affordable Housing Assessment**

| | | | | |
|---|---|---|---|---|
| VAT | | 20.00% | 4,546 | |
| | | | | 161,252 |

**CONSTRUCTION COSTS**

| **Construction** | **ft²** | **Rate ft²** | **Cost** |
|---|---|---|---|
| N1(a) 1 | | | |
| - Standard | 191,450 ft² | 85.65 pf² | 16,397,693 |
| - Externals 12% | | 12.00% | 1,967,723 |
| - Planning Enhancements | 191,450 ft² | 10.00 pf² | 1,914,500 |
| - Sustainability | 175 un | 2,000.00 /un | 350,000 |
| - Abnormals | 175 un | 1,500.00 /un | 262,500 |
| - Contingency 5% | | 5.00% | 1,044,621 |
| | | | 21,937,036 |
| N1(a) 2 | | | |
| - Standard | 202,390 ft² | 85.65 pf² | 17,334,704 |
| - Externals 12% | | 12.00% | 2,080,164 |
| - Planning Enhancements | 202,390 ft² | 10.00 pf² | 2,023,900 |
| - Sustainability | 185 un | 2,000.00 /un | 370,000 |
| - Abnormals | 185 un | 1,500.00 /un | 277,500 |
| - Contingnecy 5% | | 5.00% | 1,104,313 |
| | | | 23,190,581 |
| N1(a) 3 | | | |
| - Standard | 245,056 ft² | 85.65 pf² | 20,989,046 |
| - Externals 12% | | 12.00% | 2,518,686 |
| - Planning Enhancements | 245,056 ft² | 10.00 pf² | 2,450,560 |
| - Sustainability | 224 un | 2,000.00 /un | 448,000 |
| - Abnormals | 224 un | 1,500.00 /un | 336,000 |
| - Contingency 5% | | 5.00% | 1,337,115 |
| | | | 28,079,407 |
| N1(a) 3 AH | | | |
| - Standard | 90,480 ft² | 85.65 pf² | 7,749,612 |
| - Externals 12% | | 12.00% | 929,953 |
| - Planning Enhancements | 90,480 ft² | 10.00 pf² | 904,800 |
| - Sustainability | 120 un | 2,000.00 /un | 240,000 |
| - Abnormals | 120 un | 1,500.00 /un | 180,000 |
| - Contingency 5% | | 5.00% | 500,218 |
| | | | 10,504,584 |
| N1(a) 2 AH | | | |
| - Standard | 72,384 ft² | 85.65 pf² | 6,199,690 |
| - Externals 12% | | 12.00% | 743,963 |
| - Planning Enhancements | 72,384 ft² | 10.00 pf² | 723,840 |
| - Sustainability | 96 un | 2,000.00 /un | 192,000 |
| - Abnormals | 96 un | 1,500.00 /un | 144,000 |
| - Contingnecy 5% | | 5.00% | 400,175 |
| | | | 8,403,667 |
| N2(a) 1 | | | |
| - Standard | 361,020 ft² | 85.65 pf² | 30,921,363 |
| - Externals 12% | | 12.00% | 3,710,564 |
| - Planning Enhancements | 361,020 ft² | 10.00 pf² | 3,610,200 |
| - Sustainability | 330 un | 2,000.00 /un | 660,000 |
| - Abnormals | 330 un | 1,500.00 /un | 495,000 |
| - Contingency 5% | | 5.00% | 1,969,856 |
| | | | 41,366,983 |
| N2(a) 2 | | | |
| - Standard | 351,174 ft² | 85.65 pf² | 30,078,053 |
| - Externals 12% | | 12.00% | 3,609,366 |
| - Planning Enhancements | 351,174 ft² | 10.00 pf² | 3,511,740 |
| - Sustainability | 321 un | 2,000.00 /un | 642,000 |
| - Abnormals | 321 un | 1,500.00 /un | 481,500 |
| - Contingency 5% | | 5.00% | 1,916,133 |
| | | | 40,238,792 |
| N2(a) 3 | | | |
| - Standard | 235,210 ft² | 85.65 pf² | 20,145,736 |
| - Externals 12% | | 12.00% | 2,417,488 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 10**
**Present Day Appraisal Output - Affordable Housing Assessment**

| | | | |
|---|---|---|---|
| - Planning Enhancements | 235,210 ft² | 10.00 pf² | 2,352,100 |
| - Sustainability | 215 un | 2,000.00 /un | 430,000 |
| - Abnormals | 215 un | 1,500.00 /un | 322,500 |
| - Contingency 5% | | 5.00% | 1,283,391 |
| | | | 26,951,216 |

N2(a) 3 AH

| | | | |
|---|---|---|---|
| - Standard | 86,710 ft² | 85.65 pf² | 7,426,712 |
| - Externals 12% | | 12.00% | 891,205 |
| - Planning Enhancements | 86,710 ft² | 10.00 pf² | 867,100 |
| - Sustainability | 115 un | 2,000.00 /un | 230,000 |
| - Abnormals | 115 un | 1,500.00 /un | 172,500 |
| - Contingency 5% | | 5.00% | 479,376 |
| | | | 10,066,893 |

N2(a) 2 AH

| | | | |
|---|---|---|---|
| - Standard | 6,786 ft² | 85.65 pf² | 581,221 |
| - Externals 12% | | 12.00% | 69,747 |
| - Planning Enhancements | 6,786 ft² | 10.00 pf² | 67,860 |
| - Sustainability | 9 un | 2,000.00 /un | 18,000 |
| - Abnormals | 9 un | 1,500.00 /un | 13,500 |
| - Contingency 5% | | 5.00% | 37,516 |
| | | | 787,844 |

N3(a) 1

| | | | |
|---|---|---|---|
| - Standard | 218,800 ft² | 85.65 pf² | 18,740,220 |
| - Externals 12% | | 12.00% | 2,248,826 |
| - Planning Enhancements | 218,800 ft² | 10.00 pf² | 2,188,000 |
| - Sustainability | 200 un | 2,000.00 /un | 400,000 |
| - Abnormals | 200 un | 1,500.00 /un | 300,000 |
| - Contingnecy 5% | | 5.00% | 1,193,852 |
| | | | 25,070,899 |

N3(a) 2

| | | | |
|---|---|---|---|
| - Standard | 166,288 ft² | 85.65 pf² | 14,242,567 |
| - Externals 12% | | 12.00% | 1,709,108 |
| - Planing Enhancements | 166,288 ft² | 10.00 pf² | 1,662,880 |
| - Sustainability | 152 un | 2,000.00 /un | 304,000 |
| - Abnormals | 152 un | 1,500.00 /un | 228,000 |
| - Contingency 5% | | 5.00% | 907,328 |
| | | | 19,053,883 |

N3(a) 3

| | | | |
|---|---|---|---|
| - Standard | 142,220 ft² | 85.65 pf² | 12,181,143 |
| - Externals 12% | | 12.00% | 1,461,737 |
| - Planning Enhancements | 142,220 ft² | 10.00 pf² | 1,422,200 |
| - Sustainability | 130 un | 2,000.00 /un | 260,000 |
| - Abnormals | 130 un | 1,500.00 /un | 195,000 |
| - Contingency 5% | | 5.00% | 776,004 |
| | | | 16,296,084 |

N3(a) 4

| | | | |
|---|---|---|---|
| - Standard | 142,220 ft² | 85.65 pf² | 12,181,143 |
| - Externals 12% | | 12.00% | 1,461,737 |
| - Planning Enhancement | 142,220 ft² | 10.00 pf² | 1,422,200 |
| - Sustainability | 130 un | 2,000.00 /un | 260,000 |
| - Abnormals | 130 un | 1,500.00 /un | 195,000 |
| - Contingency 5% | | 5.00% | 776,004 |
| | | | 16,296,084 |

N3(a) 5

| | | | |
|---|---|---|---|
| - Standard | 142,220 ft² | 85.65 pf² | 12,181,143 |
| - Externals 12% | | 12.00% | 1,461,737 |
| - Planning Enhancements | 142,220 ft² | 10.00 pf² | 1,422,200 |
| - Sustainability | 130 un | 2,000.00 /un | 260,000 |
| - Abnormals | 130 un | 1,500.00 /un | 195,000 |
| - Contingency 5% | | 5.00% | 776,004 |
| | | | 16,296,084 |

N3(a) 5 AH

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 10**
**Present Day Appraisal Output - Affordable Housing Assessment**

| | | | |
|---|---|---|---|
| - Standard | 52,026 ft² | 85.65 pf² | 4,456,027 |
| - Externals 12% | | 12.00% | 534,723 |
| - Planning Enhancements | 52,026 ft² | 10.00 pf² | 520,260 |
| - Sustainability | 69 un | 2,000.00 /un | 138,000 |
| - Abnormals | 69 un | 1,500.00 /un | 103,500 |
| - Contingency 5% | | 5.00% | 287,626 |
| | | | 6,040,136 |

N3(a) 4 AH

| | | | |
|---|---|---|---|
| - Standard | 52,780 ft² | 85.65 pf² | 4,520,607 |
| - Externals 12% | | 12.00% | 542,473 |
| - Planning Enhancement | 52,780 ft² | 10.00 pf² | 527,800 |
| - Sustainability | 70 un | 2,000.00 /un | 140,000 |
| - Abnormals | 70 un | 1,500.00 /un | 105,000 |
| - Contingency 5% | | 5.00% | 291,794 |
| | | | 6,127,674 |

N3(a) 3 AH

| | | | |
|---|---|---|---|
| - Standard | 52,780 ft² | 85.65 pf² | 4,520,607 |
| - Externals 12% | | 12.00% | 542,473 |
| - Planning Enhancements | 52,780 ft² | 10.00 pf² | 527,800 |
| - Sustainability | 70 un | 2,000.00 /un | 140,000 |
| - Abnormals | 70 un | 1,500.00 /un | 105,000 |
| - Contingency 5% | | 5.00% | 291,794 |
| | | | 6,127,674 |

N3(a) 2 AH

| | | | |
|---|---|---|---|
| - Standard | 36,192 ft² | 85.65 pf² | 3,099,845 |
| - Externals 12% | | 12.00% | 371,981 |
| - Planing Enhancements | 36,192 ft² | 10.00 pf² | 361,920 |
| - Sustainability | 48 un | 2,000.00 /un | 96,000 |
| - Abnormals | 48 un | 1,500.00 /un | 72,000 |
| - Contingency 5% | | 5.00% | 200,087 |
| | | | 4,201,833 |

N1(b) 1

| | | | |
|---|---|---|---|
| - Standard | 249,432 ft² | 85.65 pf² | 21,363,851 |
| - Externals 12% | | 12.00% | 2,563,662 |
| - Planning Enhancements | 249,432 ft² | 10.00 pf² | 2,494,320 |
| - Sustainability | 228 un | 2,000.00 /un | 456,000 |
| - Abnormals | 228 un | 1,500.00 /un | 342,000 |
| - Contingency 5% | | 5.00% | 1,360,992 |
| | | | 28,580,825 |

N1(b) 1 AH

| | | | |
|---|---|---|---|
| - Standard | 91,988 ft² | 85.65 pf² | 7,878,772 |
| - Externals 12% | | 12.00% | 945,453 |
| - Planning Enhancements | 91,988 ft² | 10.00 pf² | 919,880 |
| - Sustainability | 122 un | 2,000.00 /un | 244,000 |
| - Abnormals | 122 un | 1,500.00 /un | 183,000 |
| - Contingency 5% | | 5.00% | 508,555 |
| | | | 10,679,660 |

N2(b) 1

| | | | |
|---|---|---|---|
| - Standard | 25,162 ft² | 85.65 pf² | 2,155,125 |
| - Externals 12% | | 12.00% | 258,615 |
| - Planning Enhancements | 25,162 ft² | 10.00 pf² | 251,620 |
| - Sustainability | 23 un | 2,000.00 /un | 46,000 |
| - Abnormals | 23 un | 1,500.00 /un | 34,500 |
| - Contingency 5% | | 5.00% | 137,293 |
| | | | 2,883,153 |

N2(b) 1 AH

| | | | |
|---|---|---|---|
| - Standard | 8,294 ft² | 85.65 pf² | 710,381 |
| - Externals 12% | | 12.00% | 85,246 |
| - Planning Enhancements | 8,294 ft² | 10.00 pf² | 82,940 |
| - Sustainability | 11 un | 2,000.00 /un | 22,000 |
| - Abnormals | 11 un | 1,500.00 /un | 16,500 |
| - Contingency 5% | | 5.00% | 45,853 |
| | | | 962,920 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 10**
**Present Day Appraisal Output - Affordable Housing Assessment**

| | | | | |
|---|---|---|---|---|
| N3(b) 1 | | | | |
| - Standard | 66,734 ft² | 85.65 pf² | 5,715,767 | |
| - Externals 12% | | 12.00% | 685,892 | |
| - Planning Enhancements | 66,734 ft² | 10.00 pf² | 667,340 | |
| - Sustainability | 61 un | 2,000.00 /un | 122,000 | |
| - Abnormals | 61 un | 1,500.00 /un | 91,500 | |
| - Contingency 5% | | 5.00% | 364,125 | |
| | | | 7,646,624 | |
| N3(b) 1 AH | | | | |
| - Standard | 24,128 ft² | 85.65 pf² | 2,066,563 | |
| - Externals 12% | | 12.00% | 247,988 | |
| - Planning Enhancements | 24,128 ft² | 10.00 pf² | 241,280 | |
| - Sustainability | 32 un | 2,000.00 /un | 64,000 | |
| - Abnormals | 32 un | 1,500.00 /un | 48,000 | |
| - Contingency 5% | | 5.00% | 133,392 | |
| | | | 2,801,222 | |
| **Totals** | **3,313,924 ft²** | | **380,591,759** | **380,591,759** |
| Enabling works | | | 1,340,375 | |
| Acoustic Fence | | | 700,000 | |
| Finance/Legal | | | 380,134 | |
| PR | | | 175,447 | |
| Contamination | | | 292,410 | |
| Planning | | | 859,127 | |
| Ecology | | | 20,337 | |
| Design Fees | | | 8,279,829 | |
| Local Authority Fees | | | 4,942,848 | |
| | | | | 16,990,507 |
| **Other Construction** | | | | |
| Vehicular rail crossing | | | 3,241,571 | |
| NR Comp Vehicular Bridge + Com Sums | | | 907,097 | |
| Fonnereau Way cycle/pedestrian brid | | | 892,774 | |
| NR Compensation Cycle Bridge | | | 95,484 | |
| Phased delivery of bus service | | | 72,635 | |
| Bus Service for 5 years + shelters | | | 1,828,793 | |
| Offiste cycleway/footpath | | | 210,641 | |
| Improvements to Westerfield Station | | | 77,004 | |
| Westerfield Road crossing | | | 84,080 | |
| Traffic Management | | | 81,351 | |
| Speed Limit Alterations | | | 2,905 | |
| Secondary school | | | 3,080,158 | |
| Country Park | | | 907,778 | |
| 15 maintenance for Country Park | | | 595,907 | |
| Swimming contribution | | | 300,833 | |
| District and Local Centres 1000sqm | | | 1,700,000 | |
| Maintenance for Dis and Loc Centres | | | 500,000 | |
| On-site Libraty Contribution | | | 71,042 | |
| Off-site Library Contribution | | | 38,005 | |
| Community support officer | | | 126,761 | |
| Electricity, Gas. Water | | | 4,303,056 | |
| Sewerage | | | 654,574 | |
| Off-site Diversion Works | | | 24,840 | |
| SuDS | | | 690,392 | |
| Off-site improvements | | | 581,078 | |
| Junction off Henley & Westerfield R | | | 771,648 | |
| S278 Utilities | | | 85,916 | |
| UTMC | | | 290,539 | |
| Travel Plan | | | 331,868 | |
| Improvements to Fonnereau Way | | | 1,643,971 | |
| Pedestrian/cycle signage | | | 36,317 | |
| Primary School | | | 4,617,167 | |
| Open space incl allotments | | | 1,839,674 | |
| Open space maintenance 15 years | | | 1,143,589 | |
| Ecology Mitigation | | | 132,195 | |
| Supporting Infra (Charge, CCTV etc) | | | 8,135 | |
| Temporary Community Centre | | | 30,003 | |
| Household waste facilities | | | 44,304 | |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 10**
**Present Day Appraisal Output - Affordable Housing Assessment**

| | |
|---|---|
| Superfast Broadband | 414,207 |
| Onsite Pedestrian & Cycle Routes | 443,334 |
| S106 Monitoring | 29,054 |
| Travel Bond | 72,635 |
| Vehicular rail crossing | 3,110,156 |
| NR Comp Vehicular Bridge + Com sums | 870,323 |
| Fonnereau Way cycle/pedestrian brid | 856,581 |
| NR Compensation Cycle Bridge | 91,613 |
| Phased delivery of bus service | 88,231 |
| Bus Service for 5 years + shelters | 1,754,653 |
| Offiste cycleway/footpath | 255,870 |
| Improvements to Westerfield Station | 93,539 |
| Traffic Management | 98,819 |
| Speed Limit Alterations | 3,529 |
| Secondary school | 3,741,542 |
| Country Park | 993,778 |
| 10 yr maintenance for Country Park | 771,174 |
| Swimming contribution | 365,429 |
| District and Local Centres 500 sq m | 409,381 |
| Maintenance for Dis and Loc Centres | 175,449 |
| On-site Library Contribution | 86,297 |
| Off-site Library Contribution | 46,166 |
| Community support officer | 129,296 |
| Electricity, Gas. Water | 5,801,844 |
| Sewerage | 876,447 |
| Off-site Diversion Works | 30,174 |
| SuDS | 912,237 |
| Off-site Improvements | 705,850 |
| Junction off Westerfield & Tuddenha | 1,187,347 |
| S278 Utilities | 118,735 |
| UTMC | 352,925 |
| Travel Plan | 403,129 |
| Improvements to Fonnereau Way | 1,824,525 |
| Pedestrian/cycle signage | 44,116 |
| Primary School | 6,380,859 |
| Open space incl allotments | 2,234,696 |
| Open space maintenance 15 years | 1,389,145 |
| Ecology Mitigation | 160,581 |
| Supporting Infra (Charge, CCTV etc) | 9,882 |
| Temporary Community Centre | 25,936 |
| Household waste facilities | 53,818 |
| Superfast Broadband | 503,147 |
| Onsite Pedestrian & Cycle Routes | 538,529 |
| S106 Monitoring | 35,292 |
| Travel Bond | 88,231 |
| Vehicular rail crossing | 438,050 |
| NR Comp Vehicular Bridge + Com Sums | 122,581 |
| Fonnereau Way cycle/pedestrian brid | 120,645 |
| NR Compensation Cycle Bridge | 12,903 |
| Phased delivery of bus service | 89,033 |
| Bus Service 5 years + shelters | 247,134 |
| Offiste cycleway/footpath | 258,197 |
| Improvements to Westerfield Station | 94,389 |
| Westerfield Road crossing | 103,063 |
| Traffic Management | 99,717 |
| Speed Limit Alterations | 3,561 |
| Secondary school | 3,775,556 |
| Country Park | 248,444 |
| 10 yr maintenance for Country Park | 778,185 |
| Swimming contribution | 368,751 |
| District and Local Centres 500 sq m | 413,103 |
| Maintenance Dist and Loc Centres | 177,044 |
| On-site Library Contribution | 87,081 |
| Off-site Library Contribution | 46,585 |
| Community support officer | 43,944 |
| Electricity, Gas. Water | 7,310,346 |
| Sewerage | 752,521 |
| Off-site Diversion Works | 30,448 |
| SuDS | 905,190 |
| Off-site improvements | 712,267 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 10**
**Present Day Appraisal Output - Affordable Housing Assessment**

| | |
|---|---|
| Junction off Henley Road | 749,021 |
| S278 Utilities | 74,902 |
| UTMC | 356,133 |
| Improvements to Fonnereau Way | 1,307,428 |
| Travel Plan | 406,793 |
| Pedestrian/cycle signage | 44,517 |
| Primary School | 6,037,913 |
| Open space incl allotments | 2,255,012 |
| Open space maintenance 15 years | 1,401,773 |
| Ecology Mitigation | 162,041 |
| Supporting Infra (Charge, CCTV etc) | 9,972 |
| Community Centre with Facilities | 2,543 |
| Household waste facilities | 54,307 |
| Superfast Broadband | 507,721 |
| Onsite Pedestrian & Cycle Routes | 543,424 |
| S106 Monitoring | 35,613 |
| Travel Bond | 89,033 |
| Phased delivery of bus service | 31,193 |
| Offiste cycleway/footpath | 90,459 |
| Improvements to Westerfield Station | 33,069 |
| Traffic Management | 34,936 |
| Speed Limit Alterations | 1,248 |
| Secondary school | 1,322,767 |
| Swimming contribution | 129,192 |
| On-site Library Contribution | 30,509 |
| Off-site Library Contribution | 16,321 |
| Electricity, Gas. Water | 1,847,938 |
| Sewerage | 281,106 |
| Off-site diversion works | 10,667 |
| SuDS | 296,487 |
| Off-site improvements | 249,543 |
| Junction off Henley & Westerfield R | 331,383 |
| S278 Utilities | 36,896 |
| UTMC | 124,771 |
| Travel Plan | 142,520 |
| Improvements to Fonnereau Way | 706,000 |
| Pedestrian/cycle signage | 15,596 |
| Primary School | 1,982,833 |
| Neighbourhood Allotments etc | 790,044 |
| 15 Year maintenance | 491,112 |
| Ecology Mitigation | 56,771 |
| District Supporting infra | 3,494 |
| Household waste facilities | 19,026 |
| Superfast Broadband | 177,880 |
| Onsite Pedestrian & Cycle Routes | 190,389 |
| S106 Monitoring | 12,477 |
| Travel Bond | 31,193 |
| Country Park Maintenance | 93,476 |
| Phased delivery of bus service | 3,030 |
| Offiste cycleway/footpath | 8,787 |
| Improvements to Westerfield Station | 3,212 |
| Traffic Management | 3,394 |
| Speed Limit Alterations | 121 |
| Secondary school | 128,497 |
| Swimming contribution | 12,550 |
| District and Local Centres 500 sq m | 14,060 |
| Maintenance Dis and Loc Centres | 6,026 |
| On-site Library Contribution | 2,964 |
| Off-site Library Contribution | 1,585 |
| Electricity, Gas. Water | 199,255 |
| Sewerage | 30,100 |
| Off-site Diversion Works | 1,036 |
| SuDS | 31,329 |
| Off-site improvements | 24,241 |
| Junction off Henley & Westerfield R | 40,778 |
| S278 Utilities | 4,078 |
| UTMC | 12,121 |
| Travel Plan | 13,845 |
| Improvements to Fonnereau Way | 62,660 |
| Pedestrian/cycle signage | 1,515 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 10**
**Present Day Appraisal Output - Affordable Housing Assessment**

| | | | | |
|---|---|---|---|---|
| Open space incl allotments | | | 76,747 | |
| Open space maintenance 15 years | | | 47,708 | |
| Ecology Mitigation | | | 5,515 | |
| Supporting Infra (Charge, CCTV etc) | | | 339 | |
| Primary School | | | 219,141 | |
| Household waste facilities | | | 1,848 | |
| Superfast Broadband | | | 17,280 | |
| Onsite Pedestrian & Cycle Routes | | | 18,495 | |
| S106 Monitoring | | | 1,212 | |
| Travel Bond | | | 3,030 | |
| Country Park Maintenance | | | 26,485 | |
| Phased delivery of bus service | | | 8,288 | |
| Offiste cycleway/footpath | | | 24,036 | |
| Improvements to Westerfield Station | | | 8,787 | |
| Traffic Management | | | 9,283 | |
| Speed Limit Alterations | | | 332 | |
| Secondary school | | | 351,478 | |
| Swimming contribution | | | 34,328 | |
| District and Local Centres 500 sq m | | | 38,457 | |
| Maintenance Dis and Loc Centres | | | 16,482 | |
| On-site Library Contribution | | | 8,107 | |
| Off-site Library Contribution | | | 4,337 | |
| Electricity, Gas. Water | | | 680,543 | |
| Sewerage | | | 70,055 | |
| Off-site Diversion Works | | | 2,835 | |
| SuDS | | | 84,267 | |
| Off-site improvements | | | 66,307 | |
| Junction off Henley & Westerfield R | | | 69,729 | |
| S278 Utilities | | | 6,973 | |
| UTMC | | | 33,154 | |
| Travel Plan | | | 37,870 | |
| Improvements to Fonnereau Way | | | 121,712 | |
| Pedestrian/cycle signage | | | 4,144 | |
| Open space incl allotments | | | 209,926 | |
| Open space maintenance 15 years | | | 130,495 | |
| Ecology Mitigation | | | 15,085 | |
| Supporting Infra (Charge, CCTV etc) | | | 928 | |
| Primary School | | | 562,088 | |
| Household waste facilities | | | 5,056 | |
| Superfast Broadband | | | 47,265 | |
| Onsite Pedestrian & Cycle Routes | | | 50,589 | |
| S106 Monitoring | | | 3,315 | |
| Travel Bond | | | 8,288 | |
| Country Park Maintenance | | | 13,242 | |
| | | | | 115,231,531 |
| **PROFESSIONAL FEES** | | | | |
| Professional Fees on Build Costs | | 8.00% | 23,614,770 | |
| Professional Fees on Abnormal Costs | | 12.00% | 450,720 | |
| | | | | 24,065,490 |
| **MARKETING & LETTING** | | | | |
| Marketing | | 1.00% | 4,761,132 | |
| | | | | 4,761,132 |
| **DISPOSAL FEES** | | | | |
| Sales Agent Fee | | 2.00% | 9,522,264 | |
| Sales Legal Fee | 2,244 un | 500.00 /un | 1,122,000 | |
| | | | | 10,644,264 |
| **FINANCE** | | | | |
| Debit Rate 6.000%, Credit Rate 0.000% (Nominal) | | | | |
| Total Finance Cost | | | | 10,536,996 |
| **TOTAL COSTS** | | | | **619,689,709** |
| **PROFIT** | | | | |
| | | | | **93,086,294** |
| **Performance Measures** | | | | |
| Profit on Cost% | | 15.02% | | |
| Profit on GDV% | | 13.09% | | |
| Profit on NDV% | | 13.09% | | |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 10**
**Present Day Appraisal Output - Affordable Housing Assessment**

| | |
|---|---|
| IRR | 16.83% |
| Profit Erosion (finance rate 6.000%) | 2 yrs 4 mths |

# Appendix 11: GE Appraisal – Inflation and growth applied with onsite Affordable Housing

# Ipswich Garden Suburb
# Stage 2 Report - Appendix 12
# Sensitivity Test - Maximum Density AH Assessment

Development Appraisal
Gerald Eve LLP
16 May 2016

# APPRAISAL SUMMARY — GERALD EVE LLP

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

**Summary Appraisal for Merged Phases 1 2 3 4 5 6**

**Currency in £**

| | Units | ft² | Rate ft² | Unit Price |
|---|---|---|---|---|
| **REVENUE** | | | | |
| **Sales Valuation** | | | | |
| ‡ N1(a) 1 | 175 | 191,450 | 231.00 | 252,714 |
| ‡ N1(a) 2 | 202 | 220,988 | 231.00 | 252,714 |
| ‡ N1(a) 3 | 224 | 245,056 | 231.00 | 252,714 |
| ‡ N1(a) 3 AH | 120 | 90,480 | 136.29 | 102,763 |
| ‡ N1(a) 2 AH | 79 | 59,566 | 136.29 | 102,763 |
| ‡ N2(a) 1 | 330 | 361,020 | 231.00 | 252,714 |
| ‡ N2(a) 2 | 239 | 261,466 | 231.00 | 252,714 |
| ‡ N2(a) 3 | 215 | 235,210 | 231.00 | 252,714 |
| ‡ N2(a) 3 AH | 115 | 86,710 | 136.29 | 102,763 |
| ‡ N2(a) 2 AH | 91 | 68,614 | 136.29 | 102,763 |
| ‡ N3(a) 1 | 167 | 182,698 | 231.00 | 252,714 |
| ‡ N3(a) 2 | 130 | 142,220 | 231.00 | 252,714 |
| ‡ N3(a) 3 | 130 | 142,220 | 231.00 | 252,714 |
| ‡ N3(a) 4 | 130 | 142,220 | 231.00 | 252,714 |
| ‡ N3(a) 5 | 130 | 142,220 | 231.00 | 252,714 |
| ‡ N3(a) 5 AH | 69 | 52,026 | 136.29 | 102,763 |
| ‡ N3(a) 4 AH | 70 | 52,780 | 136.29 | 102,763 |
| ‡ N3(a) 3 AH | 70 | 52,780 | 136.29 | 102,763 |
| ‡ N3(a) 2 AH | 70 | 52,780 | 136.29 | 102,763 |
| ‡ N3(a) 1 AH | 33 | 24,882 | 136.29 | 102,763 |
| ‡ N1(b) 1 | 228 | 249,432 | 231.00 | 252,714 |
| ‡ N1(b) 1 AH | 122 | 91,988 | 136.29 | 102,763 |
| ‡ N2(b) 1 | 23 | 25,162 | 231.00 | 252,714 |
| ‡ N2(b) 1 AH | 11 | 8,294 | 136.29 | 102,763 |
| ‡ N3(b) 1 | 61 | 66,734 | 231.00 | 252,714 |
| ‡ N3(b) 1 AH | 32 | 24,128 | 136.29 | 102,763 |
| **Totals** | **3,266** | **3,273,124** | | |
| **Additional Revenue** | | | | |
| District Centre Land Sale | | | 1,265,809 | |
| Local Centre Land Sale | | | 365,987 | |
| Local Centre Land Sale | | | 159,205 | |
| | | | | 1,791,001 |
| **NET REALISATION** | | | | **1,108,188,444** |
| **OUTLAY** | | | | |
| **ACQUISITION COSTS** | | | | |
| Gross development land | | 15,449,721 | | |
| Country Park Land | | 323,932 | | |
| Secondary School | | 118,682 | | |
| Gross development land | | 18,077,261 | | |
| Country Park Land | | 282,296 | | |
| Secondary School | | 103,597 | | |
| Gross development land | | 19,722,864 | | |
| Country Park Land | | 28,226 | | |
| Secondary School | | 10,358 | | |
| Gross development land | | 7,049,935 | | |
| Gross development land | | 714,320 | | |
| Gross development land | | 2,084,289 | | |
| Total Acquisition (400.05 Acres 159,893.71 pAcre) | | | 63,965,480 | |
| | | | | 63,965,480 |
| Stamp Duty | | 4.00% | 2,558,619 | |
| Agent Fee | | 1.00% | 639,655 | |
| Legal Fee | | 0.50% | 319,827 | |
| | | | | 3,518,101 |
| **Other Acquisition** | | | | |
| VAT | | 20.00% | 47,677 | |
| VAT | | 20.00% | 55,389 | |
| VAT | | 20.00% | 59,284 | |
| VAT | | 20.00% | 21,150 | |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

| | | | | |
|---|---|---|---|---|
| VAT | | 20.00% | 2,143 | |
| VAT | | 20.00% | 6,253 | |
| | | | | 191,896 |

**CONSTRUCTION COSTS**

| **Construction** | **ft²** | **Rate ft²** | **Cost** |
|---|---|---|---|
| N1(a) 1 | | | |
| - Standard | 191,450 ft² | 85.65 pf² | 18,631,928 |
| - Externals 12% | | 12.00% | 2,235,831 |
| - Planning Enhancements | 191,450 ft² | 10.00 pf² | 2,155,265 |
| - Sustainability | 175 un | 2,000.00 /un | 394,016 |
| - Abnormals | 175 un | 1,500.00 /un | 299,135 |
| - Contingency 5% | | 5.00% | 1,185,809 |
| | | | 24,901,984 |
| N1(a) 2 | | | |
| - Standard | 220,988 ft² | 85.65 pf² | 23,452,667 |
| - Externals 12% | | 12.00% | 2,814,320 |
| - Planning Enhancements | 220,988 ft² | 10.00 pf² | 2,738,198 |
| - Sustainability | 202 un | 2,000.00 /un | 500,585 |
| - Abnormals | 202 un | 1,500.00 /un | 375,439 |
| - Contingnecy 5% | | 5.00% | 1,494,060 |
| | | | 31,375,269 |
| N1(a) 3 | | | |
| - Standard | 245,056 ft² | 85.65 pf² | 31,055,671 |
| - Externals 12% | | 12.00% | 3,726,681 |
| - Planning Enhancements | 245,056 ft² | 10.00 pf² | 3,625,881 |
| - Sustainability | 224 un | 2,000.00 /un | 662,867 |
| - Abnormals | 224 un | 1,500.00 /un | 497,150 |
| - Contingency 5% | | 5.00% | 1,978,412 |
| | | | 41,546,662 |
| N1(a) 3 AH | | | |
| - Standard | 90,480 ft² | 85.65 pf² | 11,466,429 |
| - Externals 12% | | 12.00% | 1,375,971 |
| - Planning Enhancements | 90,480 ft² | 10.00 pf² | 1,338,754 |
| - Sustainability | 120 un | 2,000.00 /un | 355,107 |
| - Abnormals | 120 un | 1,500.00 /un | 266,330 |
| - Contingency 5% | | 5.00% | 740,130 |
| | | | 15,542,721 |
| N1(a) 2 AH | | | |
| - Standard | 59,566 ft² | 85.65 pf² | 6,321,527 |
| - Externals 12% | | 12.00% | 758,583 |
| - Planning Enhancements | 59,566 ft² | 10.00 pf² | 738,065 |
| - Sustainability | 79 un | 2,000.00 /un | 195,773 |
| - Abnormals | 79 un | 1,500.00 /un | 146,830 |
| - Contingnecy 5% | | 5.00% | 408,039 |
| | | | 8,568,817 |
| N2(a) 1 | | | |
| - Standard | 361,020 ft² | 85.65 pf² | 37,158,644 |
| - Externals 12% | | 12.00% | 4,459,037 |
| - Planning Enhancements | 361,020 ft² | 10.00 pf² | 4,338,429 |
| - Sustainability | 330 un | 2,000.00 /un | 793,131 |
| - Abnormals | 330 un | 1,500.00 /un | 594,849 |
| - Contingency 5% | | 5.00% | 2,367,205 |
| | | | 49,711,295 |
| N2(a) 2 | | | |
| - Standard | 261,466 ft² | 85.65 pf² | 29,783,142 |
| - Externals 12% | | 12.00% | 3,573,977 |
| - Planning Enhancements | 261,466 ft² | 10.00 pf² | 3,477,308 |
| - Sustainability | 239 un | 2,000.00 /un | 635,705 |
| - Abnormals | 239 un | 1,500.00 /un | 476,779 |
| - Contingency 5% | | 5.00% | 1,897,346 |
| | | | 39,844,257 |
| N2(a) 3 | | | |
| - Standard | 235,210 ft² | 85.65 pf² | 32,546,953 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

| | | | |
|---|---|---|---|
| - Externals 12% | | 12.00% | 3,905,634 |
| - Planning Enhancements | 235,210 ft² | 10.00 pf² | 3,799,995 |
| - Sustainability | 215 un | 2,000.00 /un | 694,697 |
| - Abnormals | 215 un | 1,500.00 /un | 521,023 |
| - Contingency 5% | | 5.00% | 2,073,415 |
| | | | 43,541,718 |
| N2(a) 3 AH | | | |
| - Standard | 86,710 ft² | 85.65 pf² | 11,998,411 |
| - Externals 12% | | 12.00% | 1,439,809 |
| - Planning Enhancements | 86,710 ft² | 10.00 pf² | 1,400,865 |
| - Sustainability | 115 un | 2,000.00 /un | 371,582 |
| - Abnormals | 115 un | 1,500.00 /un | 278,687 |
| - Contingency 5% | | 5.00% | 774,468 |
| | | | 16,263,823 |
| N2(a) 2 AH | | | |
| - Standard | 68,614 ft² | 85.65 pf² | 7,815,703 |
| - Externals 12% | | 12.00% | 937,884 |
| - Planning Enhancements | 68,614 ft² | 10.00 pf² | 912,516 |
| - Sustainability | 91 un | 2,000.00 /un | 242,047 |
| - Abnormals | 91 un | 1,500.00 /un | 181,535 |
| - Contingency 5% | | 5.00% | 504,484 |
| | | | 10,594,169 |
| N3(a) 1 | | | |
| - Standard | 182,698 ft² | 85.65 pf² | 20,813,962 |
| - Externals 12% | | 12.00% | 2,497,675 |
| - Planning Enhancements | 182,698 ft² | 10.00 pf² | 2,430,118 |
| - Sustainability | 167 un | 2,000.00 /un | 444,263 |
| - Abnormals | 167 un | 1,500.00 /un | 333,197 |
| - Contingnecy 5% | | 5.00% | 1,325,961 |
| | | | 27,845,176 |
| N3(a) 2 | | | |
| - Standard | 142,220 ft² | 85.65 pf² | 19,125,449 |
| - Externals 12% | | 12.00% | 2,295,054 |
| - Planing Enhancements | 142,220 ft² | 10.00 pf² | 2,232,977 |
| - Sustainability | 130 un | 2,000.00 /un | 408,223 |
| - Abnormals | 130 un | 1,500.00 /un | 306,167 |
| - Contingency 5% | | 5.00% | 1,218,393 |
| | | | 25,586,263 |
| N3(a) 3 | | | |
| - Standard | 142,220 ft² | 85.65 pf² | 21,263,597 |
| - Externals 12% | | 12.00% | 2,551,632 |
| - Planning Enhancements | 142,220 ft² | 10.00 pf² | 2,482,615 |
| - Sustainability | 130 un | 2,000.00 /un | 453,860 |
| - Abnormals | 130 un | 1,500.00 /un | 340,395 |
| - Contingency 5% | | 5.00% | 1,354,605 |
| | | | 28,446,704 |
| N3(a) 4 | | | |
| - Standard | 142,220 ft² | 85.65 pf² | 22,114,141 |
| - Externals 12% | | 12.00% | 2,653,697 |
| - Planning Enhancement | 142,220 ft² | 10.00 pf² | 2,581,920 |
| - Sustainability | 130 un | 2,000.00 /un | 472,015 |
| - Abnormals | 130 un | 1,500.00 /un | 354,011 |
| - Contingency 5% | | 5.00% | 1,408,789 |
| | | | 29,584,572 |
| N3(a) 5 | | | |
| - Standard | 142,220 ft² | 85.65 pf² | 22,998,706 |
| - Externals 12% | | 12.00% | 2,759,845 |
| - Planning Enhancements | 142,220 ft² | 10.00 pf² | 2,685,196 |
| - Sustainability | 130 un | 2,000.00 /un | 490,895 |
| - Abnormals | 130 un | 1,500.00 /un | 368,171 |
| - Contingency 5% | | 5.00% | 1,465,141 |
| | | | 30,767,955 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

| | | | |
|---|---|---|---|
| N3(a) 5 AH | | | |
| - Standard | 52,026 ft² | 85.65 pf² | 8,413,238 |
| - Externals 12% | | 12.00% | 1,009,589 |
| - Planning Enhancements | 52,026 ft² | 10.00 pf² | 982,281 |
| - Sustainability | 69 un | 2,000.00 /un | 260,552 |
| - Abnormals | 69 un | 1,500.00 /un | 195,414 |
| - Contingency 5% | | 5.00% | 543,054 |
| | | | 11,404,127 |
| N3(a) 4 AH | | | |
| - Standard | 52,780 ft² | 85.65 pf² | 8,206,893 |
| - Externals 12% | | 12.00% | 984,827 |
| - Planning Enhancement | 52,780 ft² | 10.00 pf² | 958,190 |
| - Sustainability | 70 un | 2,000.00 /un | 254,162 |
| - Abnormals | 70 un | 1,500.00 /un | 190,621 |
| - Contingency 5% | | 5.00% | 529,735 |
| | | | 11,124,427 |
| N3(a) 3 AH | | | |
| - Standard | 52,780 ft² | 85.65 pf² | 7,891,243 |
| - Externals 12% | | 12.00% | 946,949 |
| - Planning Enhancements | 52,780 ft² | 10.00 pf² | 921,336 |
| - Sustainability | 70 un | 2,000.00 /un | 244,386 |
| - Abnormals | 70 un | 1,500.00 /un | 183,290 |
| - Contingency 5% | | 5.00% | 509,360 |
| | | | 10,696,565 |
| N3(a) 2 AH | | | |
| - Standard | 52,780 ft² | 85.65 pf² | 7,097,744 |
| - Externals 12% | | 12.00% | 851,729 |
| - Planing Enhancements | 52,780 ft² | 10.00 pf² | 828,692 |
| - Sustainability | 70 un | 2,000.00 /un | 219,812 |
| - Abnormals | 70 un | 1,500.00 /un | 164,859 |
| - Contingency 5% | | 5.00% | 458,142 |
| | | | 9,620,978 |
| N3(a) 1 AH | | | |
| - Standard | 24,882 ft² | 85.65 pf² | 2,834,694 |
| - Externals 12% | | 12.00% | 340,163 |
| - Planning Enhancements | 24,882 ft² | 10.00 pf² | 330,963 |
| - Sustainability | 33 un | 2,000.00 /un | 87,788 |
| - Abnormals | 33 un | 1,500.00 /un | 65,841 |
| - Contingnecy 5% | | 5.00% | 182,973 |
| | | | 3,842,423 |
| N1(b) 1 | | | |
| - Standard | 249,432 ft² | 85.65 pf² | 44,537,254 |
| - Externals 12% | | 12.00% | 5,344,470 |
| - Planning Enhancements | 249,432 ft² | 10.00 pf² | 5,199,913 |
| - Sustainability | 228 un | 2,000.00 /un | 950,624 |
| - Abnormals | 228 un | 1,500.00 /un | 712,968 |
| - Contingency 5% | | 5.00% | 2,837,261 |
| | | | 59,582,490 |
| N1(b) 1 AH | | | |
| - Standard | 91,988 ft² | 85.65 pf² | 16,424,889 |
| - Externals 12% | | 12.00% | 1,970,987 |
| - Planning Enhancements | 91,988 ft² | 10.00 pf² | 1,917,675 |
| - Sustainability | 122 un | 2,000.00 /un | 508,667 |
| - Abnormals | 122 un | 1,500.00 /un | 381,500 |
| - Contingency 5% | | 5.00% | 1,060,186 |
| | | | 22,263,904 |
| N2(b) 1 | | | |
| - Standard | 25,162 ft² | 85.65 pf² | 4,188,122 |
| - Externals 12% | | 12.00% | 502,575 |
| - Planning Enhancements | 25,162 ft² | 10.00 pf² | 488,981 |
| - Sustainability | 23 un | 2,000.00 /un | 89,393 |
| - Abnormals | 23 un | 1,500.00 /un | 67,045 |
| - Contingency 5% | | 5.00% | 266,806 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

| | | | | |
|---|---|---|---|---|
| | | | 5,602,922 | |
| N2(b) 1 AH | | | | |
| - Standard | 8,294 ft² | 85.65 pf² | 1,380,506 | |
| - Externals 12% | | 12.00% | 165,661 | |
| - Planning Enhancements | 8,294 ft² | 10.00 pf² | 161,180 | |
| - Sustainability | 11 un | 2,000.00 /un | 42,753 | |
| - Abnormals | 11 un | 1,500.00 /un | 32,065 | |
| - Contingency 5% | | 5.00% | 89,108 | |
| | | | 1,871,273 | |
| N3(b) 1 | | | | |
| - Standard | 66,734 ft² | 85.65 pf² | 11,556,377 | |
| - Externals 12% | | 12.00% | 1,386,765 | |
| - Planning Enhancements | 66,734 ft² | 10.00 pf² | 1,349,256 | |
| - Sustainability | 61 un | 2,000.00 /un | 246,665 | |
| - Abnormals | 61 un | 1,500.00 /un | 184,999 | |
| - Contingency 5% | | 5.00% | 736,203 | |
| | | | 15,460,265 | |
| N3(b) 1 AH | | | | |
| - Standard | 24,128 ft² | 85.65 pf² | 4,178,264 | |
| - Externals 12% | | 12.00% | 501,392 | |
| - Planning Enhancements | 24,128 ft² | 10.00 pf² | 487,830 | |
| - Sustainability | 32 un | 2,000.00 /un | 129,398 | |
| - Abnormals | 32 un | 1,500.00 /un | 97,048 | |
| - Contingency 5% | | 5.00% | 269,697 | |
| | | | 5,663,628 | |
| **Totals** | **3,273,124 ft²** | | **581,254,386** | **581,254,386** |
| Enabling works | | | 1,999,924 | |
| Acoustic Fence | | | 1,036,016 | |
| Finance/Legal | | | 567,184 | |
| PR | | | 175,447 | |
| Contamination | | | 432,607 | |
| Planning | | | 859,127 | |
| Ecology | | | 30,078 | |
| Design Fees | | | 10,225,840 | |
| Local Authority Fees | | | 7,191,562 | |
| | | | | 22,517,785 |
| **Other Construction** | | | | |
| Vehicular rail crossing | | | 3,666,017 | |
| NR Comp Vehicular Bridge + Com Sums | | | 1,045,164 | |
| Fonnereau Way cycle/pedestrian brid | | | 1,009,683 | |
| NR Compensation Cycle Bridge | | | 110,017 | |
| Phased delivery of bus service | | | 83,691 | |
| Bus Service for 5 years + shelters | | | 2,149,909 | |
| Offiste cycleway/footpath | | | 232,083 | |
| Improvements to Westerfield Station | | | 84,843 | |
| Westerfield Road crossing | | | 87,864 | |
| Traffic Management | | | 83,181 | |
| Speed Limit Alterations | | | 3,875 | |
| Secondary school | | | 4,476,385 | |
| Country Park | | | 1,091,590 | |
| 15 maintenance for Country Park | | | 873,513 | |
| Swimming contribution | | | 401,263 | |
| District and Local Centres 1000sqm | | | 2,288,932 | |
| Maintenance for Dis and Loc Centres | | | 666,920 | |
| On-site Libraty Contribution | | | 74,239 | |
| Off-site Library Contribution | | | 39,715 | |
| Community support officer | | | 162,371 | |
| Electricity, Gas. Water | | | 5,739,588 | |
| Sewerage | | | 873,097 | |
| Off-site Diversion Works | | | 25,958 | |
| SuDS | | | 920,873 | |
| Off-site improvements | | | 775,065 | |
| Junction off Henley & Westerfield R | | | 806,372 | |
| S278 Utilities | | | 111,275 | |
| UTMC | | | 303,613 | |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

| | |
|---|---|
| Travel Plan | 346,802 |
| Improvements to Fonnereau Way | 2,213,493 |
| Pedestrian/cycle signage | 48,441 |
| Primary School | 4,890,394 |
| Open space incl allotments | 2,453,831 |
| Open space maintenance 15 years | 1,525,365 |
| Ecology Mitigation | 176,327 |
| Supporting Infra (Charge, CCTV etc) | 10,851 |
| Temporary Community Centre | 30,678 |
| Household waste facilities | 59,094 |
| Superfast Broadband | 552,486 |
| Onsite Pedestrian & Cycle Routes | 591,337 |
| S106 Monitoring | 30,361 |
| Travel Bond | 74,269 |
| Vehicular rail crossing | 4,172,895 |
| NR Comp Vehicular Bridge + Com sums | 1,212,234 |
| Fonnereau Way cycle/pedestrian brid | 1,149,274 |
| NR Compensation Cycle Bridge | 127,604 |
| Phased delivery of bus service | 106,198 |
| Bus Service for 5 years + shelters | 2,111,962 |
| Offiste cycleway/footpath | 294,815 |
| Improvements to Westerfield Station | 107,776 |
| Traffic Management | 111,636 |
| Speed Limit Alterations | 5,006 |
| Secondary school | 5,667,390 |
| Country Park | 1,221,089 |
| 10 yr maintenance for Country Park | 1,208,051 |
| Swimming contribution | 518,406 |
| District and Local Centres 500 sq m | 586,043 |
| Maintenance for Dis and Loc Centres | 251,161 |
| On-site Library Contribution | 95,140 |
| Off-site Library Contribution | 50,897 |
| Community support officer | 175,857 |
| Electricity, Gas. Water | 8,230,636 |
| Sewerage | 1,243,349 |
| Off-site Diversion Works | 33,266 |
| SuDS | 1,294,121 |
| Off-site Improvements | 1,001,336 |
| Junction off Westerfield & Tuddenha | 1,309,020 |
| S278 Utilities | 169,667 |
| UTMC | 389,091 |
| Travel Plan | 444,440 |
| Improvements to Fonnereau Way | 2,611,869 |
| Pedestrian/cycle signage | 62,584 |
| Primary School | 7,224,868 |
| Open space incl allotments | 3,170,194 |
| Open space maintenance 15 years | 1,892,694 |
| Ecology Mitigation | 207,700 |
| Supporting Infra (Charge, CCTV etc) | 14,019 |
| Temporary Community Centre | 27,848 |
| Household waste facilities | 76,348 |
| Superfast Broadband | 713,777 |
| Onsite Pedestrian & Cycle Routes | 763,970 |
| S106 Monitoring | 38,909 |
| Travel Bond | 94,737 |
| Vehicular rail crossing | 508,746 |
| NR Comp Vehicular Bridge + Com Sums | 147,576 |
| Fonnereau Way cycle/pedestrian brid | 142,918 |
| NR Compensation Cycle Bridge | 15,534 |
| Phased delivery of bus service | 111,646 |
| Bus Service 5 years + shelters | 328,166 |
| Offiste cycleway/footpath | 323,775 |
| Improvements to Westerfield Station | 123,097 |
| Westerfield Road crossing | 124,078 |
| Traffic Management | 122,451 |
| Speed Limit Alterations | 5,583 |
| Secondary school | 6,091,087 |
| Country Park | 305,272 |
| 10 yr maintenance for Country Park | 1,288,282 |
| Swimming contribution | 578,130 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

| | |
|---|---|
| District and Local Centres 500 sq m | 653,684 |
| Maintenance Dist and Loc Centres | 277,571 |
| On-site Library Contribution | 104,837 |
| Off-site Library Contribution | 56,084 |
| Community support officer | 64,674 |
| Electricity, Gas. Water | 11,461,203 |
| Sewerage | 1,179,807 |
| Off-site Diversion Works | 36,656 |
| SuDS | 1,419,162 |
| Off-site improvements | 1,116,696 |
| Junction off Henley Road | 901,748 |
| S278 Utilities | 118,309 |
| UTMC | 428,749 |
| Improvements to Fonnereau Way | 2,068,841 |
| Travel Plan | 489,739 |
| Pedestrian/cycle signage | 69,794 |
| Primary School | 7,912,243 |
| Open space incl allotments | 3,535,421 |
| Open space maintenance 15 years | 2,197,708 |
| Ecology Mitigation | 254,049 |
| Supporting Infra (Charge, CCTV etc) | 15,634 |
| Community Centre with Facilities | 3,916 |
| Household waste facilities | 85,143 |
| Superfast Broadband | 796,008 |
| Onsite Pedestrian & Cycle Routes | 851,983 |
| S106 Monitoring | 42,875 |
| Travel Bond | 109,331 |
| Phased delivery of bus service | 61,409 |
| Offiste cycleway/footpath | 178,085 |
| Improvements to Westerfield Station | 66,392 |
| Traffic Management | 64,749 |
| Speed Limit Alterations | 2,602 |
| Secondary school | 2,816,936 |
| Swimming contribution | 269,327 |
| On-site Library Contribution | 57,664 |
| Off-site Library Contribution | 30,848 |
| Electricity, Gas. Water | 3,852,399 |
| Sewerage | 586,022 |
| Off-site diversion works | 20,161 |
| SuDS | 618,087 |
| Off-site improvements | 471,650 |
| Junction off Henley & Westerfield R | 690,835 |
| S278 Utilities | 77,120 |
| UTMC | 235,824 |
| Travel Plan | 269,371 |
| Improvements to Fonnereau Way | 1,478,265 |
| Pedestrian/cycle signage | 32,513 |
| Primary School | 4,133,615 |
| Neighbourhood Allotments etc | 1,647,006 |
| 15 Year maintenance | 1,023,822 |
| Ecology Mitigation | 118,351 |
| District Supporting infra | 6,476 |
| Household waste facilities | 39,664 |
| Superfast Broadband | 370,827 |
| Onsite Pedestrian & Cycle Routes | 396,904 |
| S106 Monitoring | 23,582 |
| Travel Bond | 58,957 |
| Country Park Maintenance | 195,726 |
| Phased delivery of bus service | 5,891 |
| Offiste cycleway/footpath | 16,285 |
| Improvements to Westerfield Station | 6,071 |
| Traffic Management | 6,415 |
| Speed Limit Alterations | 235 |
| Secondary school | 254,658 |
| Swimming contribution | 24,389 |
| District and Local Centres 500 sq m | 27,336 |
| Maintenance Dis and Loc Centres | 11,716 |
| On-site Library Contribution | 5,760 |
| Off-site Library Contribution | 3,080 |
| Electricity, Gas. Water | 387,218 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

| | | | | |
|---|---|---|---|---|
| Sewerage | | | 58,494 | |
| Off-site Diversion Works | | | 2,013 | |
| SuDS | | | 60,883 | |
| Off-site improvements | | | 46,724 | |
| Junction off Henley & Westerfield R | | | 78,599 | |
| S278 Utilities | | | 7,997 | |
| UTMC | | | 23,363 | |
| Travel Plan | | | 26,686 | |
| Improvements to Fonnereau Way | | | 120,776 | |
| Pedestrian/cycle signage | | | 2,944 | |
| Open space incl allotments | | | 149,145 | |
| Open space maintenance 15 years | | | 92,712 | |
| Ecology Mitigation | | | 10,717 | |
| Supporting Infra (Charge, CCTV etc) | | | 659 | |
| Primary School | | | 414,189 | |
| Household waste facilities | | | 3,591 | |
| Superfast Broadband | | | 33,581 | |
| Onsite Pedestrian & Cycle Routes | | | 35,942 | |
| S106 Monitoring | | | 2,355 | |
| Travel Bond | | | 5,727 | |
| Country Park Maintenance | | | 51,493 | |
| Phased delivery of bus service | | | 16,113 | |
| Offiste cycleway/footpath | | | 46,353 | |
| Improvements to Westerfield Station | | | 17,972 | |
| Traffic Management | | | 18,247 | |
| Speed Limit Alterations | | | 671 | |
| Secondary school | | | 724,706 | |
| Swimming contribution | | | 69,406 | |
| District and Local Centres 500 sq m | | | 77,935 | |
| Maintenance Dis and Loc Centres | | | 33,401 | |
| On-site Library Contribution | | | 16,391 | |
| Off-site Library Contribution | | | 8,769 | |
| Electricity, Gas. Water | | | 1,375,950 | |
| Sewerage | | | 141,640 | |
| Off-site Diversion Works | | | 5,732 | |
| SuDS | | | 170,375 | |
| Off-site improvements | | | 127,806 | |
| Junction off Henley & Westerfield R | | | 134,402 | |
| S278 Utilities | | | 14,254 | |
| UTMC | | | 63,904 | |
| Travel Plan | | | 72,994 | |
| Improvements to Fonnereau Way | | | 234,598 | |
| Pedestrian/cycle signage | | | 8,379 | |
| Open space incl allotments | | | 424,437 | |
| Open space maintenance 15 years | | | 263,840 | |
| Ecology Mitigation | | | 30,499 | |
| Supporting Infra (Charge, CCTV etc) | | | 1,876 | |
| Primary School | | | 1,104,873 | |
| Household waste facilities | | | 10,222 | |
| Superfast Broadband | | | 95,562 | |
| Onsite Pedestrian & Cycle Routes | | | 102,283 | |
| S106 Monitoring | | | 6,702 | |
| Travel Bond | | | 16,291 | |
| Country Park Maintenance | | | 26,835 | |
| | | | | 165,183,162 |
| **PROFESSIONAL FEES** | | | | |
| Professional Fees on Build Costs | | 8.00% | 34,140,544 | |
| Professional Fees on Abnormal Costs | | 12.00% | 651,759 | |
| | | | | 34,792,303 |
| **MARKETING & LETTING** | | | | |
| Marketing | | 1.00% | 7,437,603 | |
| | | | | 7,437,603 |
| **DISPOSAL FEES** | | | | |
| Sales Agent Fee | | 2.00% | 14,875,207 | |
| Sales Legal Fee | 2,124 un | 500.00 /un | 1,062,000 | |
| | | | | 15,937,207 |
| **FINANCE** | | | | |
| Debit Rate 6.000%, Credit Rate 0.000% (Nominal) | | | | |
| Total Finance Cost | | | | 7,861,015 |

# Ipswich Garden Suburb
## Stage 2 Report - Appendix 12
## Sensitivity Test - Maximum Density AH Assessment

| | |
|---|---|
| **TOTAL COSTS** | **902,658,939** |
| **PROFIT** | **205,529,505** |

**Performance Measures**

| | |
|---|---|
| Profit on Cost% | 22.77% |
| Profit on GDV% | 18.58% |
| Profit on NDV% | 18.58% |
| IRR | 23.23% |
| Profit Erosion (finance rate 6.000%) | 3 yrs 5 mths |

‡ Inflation/Growth applied

| **Growth on Sales** | | **Ungrown** | **Growth** |
|---|---|---|---|
| N1(a) 1 | Growth Set 1 at 5.000% var. | 44,224,950 | 5,478,478 |
| N1(a) 2 | Growth Set 1 at 5.000% var. | 51,048,228 | 14,348,842 |
| N1(a) 3 | Growth Set 1 at 5.000% var. | 56,607,936 | 32,876,459 |
| N1(a) 3 AH | Growth Set 2 at 1.500% | 12,331,519 | 1,885,660 |
| N1(a) 2 AH | Growth Set 2 at 1.500% | 8,118,250 | 661,159 |
| N2(a) 1 | Growth Set 1 at 5.000% var. | 83,395,620 | 19,414,748 |
| N2(a) 2 | Growth Set 1 at 5.000% var. | 60,398,646 | 25,363,056 |
| N2(a) 3 | Growth Set 1 at 5.000% var. | 54,333,510 | 43,737,362 |
| N2(a) 3 AH | Growth Set 2 at 1.500% | 11,817,706 | 2,235,710 |
| N2(a) 2 AH | Growth Set 2 at 1.500% | 9,351,402 | 896,865 |
| N3(a) 1 | Growth Set 1 at 5.000% var. | 42,203,238 | 17,121,097 |
| N3(a) 2 | Growth Set 1 at 5.000% var. | 32,852,820 | 24,366,063 |
| N3(a) 3 | Growth Set 1 at 5.000% var. | 32,852,820 | 31,769,793 |
| N3(a) 4 | Growth Set 1 at 5.000% var. | 32,852,820 | 35,139,180 |
| N3(a) 5 | Growth Set 1 at 5.000% var. | 32,852,820 | 38,528,793 |
| N3(a) 5 AH | Growth Set 2 at 1.500% | 7,090,624 | 1,858,185 |
| N3(a) 4 AH | Growth Set 2 at 1.500% | 7,193,386 | 1,750,950 |
| N3(a) 3 AH | Growth Set 2 at 1.500% | 7,193,386 | 1,591,340 |
| N3(a) 2 AH | Growth Set 2 at 1.500% | 7,193,386 | 1,244,289 |
| N3(a) 1 AH | Growth Set 2 at 1.500% | 3,391,168 | 338,501 |
| N1(b) 1 | Growth Set 1 at 5.000% var. | 57,618,792 | 79,916,599 |
| N1(b) 1 AH | Growth Set 2 at 1.500% | 12,537,045 | 3,817,540 |
| N2(b) 1 | Growth Set 1 at 5.000% var. | 5,812,422 | 7,202,960 |
| N2(b) 1 AH | Growth Set 2 at 1.500% | 1,130,389 | 306,733 |
| N3(b) 1 | Growth Set 1 at 5.000% var. | 15,415,554 | 20,500,833 |
| N3(b) 1 AH | Growth Set 2 at 1.500% | 3,288,405 | 939,406 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

| Gross Sales | Adjustment | Net Sales |
|---|---|---|
| 44,224,950 | 5,478,478 | 49,703,428 |
| 51,048,228 | 14,348,842 | 65,397,070 |
| 56,607,936 | 32,876,459 | 89,484,395 |
| 12,331,519 | 1,885,660 | 14,217,179 |
| 8,118,250 | 661,159 | 8,779,410 |
| 83,395,620 | 19,414,748 | 102,810,368 |
| 60,398,646 | 25,363,056 | 85,761,702 |
| 54,333,510 | 43,737,362 | 98,070,872 |
| 11,817,706 | 2,235,710 | 14,053,416 |
| 9,351,402 | 896,865 | 10,248,267 |
| 42,203,238 | 17,121,097 | 59,324,335 |
| 32,852,820 | 24,366,063 | 57,218,883 |
| 32,852,820 | 31,769,793 | 64,622,613 |
| 32,852,820 | 35,139,180 | 67,992,000 |
| 32,852,820 | 38,528,793 | 71,381,613 |
| 7,090,624 | 1,858,185 | 8,948,809 |
| 7,193,386 | 1,750,950 | 8,944,337 |
| 7,193,386 | 1,591,340 | 8,784,726 |
| 7,193,386 | 1,244,289 | 8,437,675 |
| 3,391,168 | 338,501 | 3,729,669 |
| 57,618,792 | 79,916,599 | 137,535,391 |
| 12,537,045 | 3,817,540 | 16,354,584 |
| 5,812,422 | 7,202,960 | 13,015,382 |
| 1,130,389 | 306,733 | 1,437,122 |
| 15,415,554 | 20,500,833 | 35,916,387 |
| 3,288,405 | 939,406 | 4,227,811 |
| **693,106,842** | **413,290,601** | **1,106,397,443** |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

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**Ipswich Garden Suburb**
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**Sensitivity Test - Maximum Density AH Assessment**

| Total |
|---|
| 49,703,428 |
| 65,397,070 |
| 89,484,395 |
| 14,217,179 |
| 8,779,410 |
| 102,810,368 |
| 85,761,702 |
| 98,070,872 |
| 14,053,416 |
| 10,248,267 |
| 59,324,335 |
| 57,218,883 |
| 64,622,613 |
| 67,992,000 |
| 71,381,613 |
| 8,948,809 |
| 8,944,337 |
| 8,784,726 |
| 8,437,675 |
| 3,729,669 |
| 137,535,391 |
| 16,354,584 |
| 13,015,382 |
| 1,437,122 |
| 35,916,387 |
| 4,227,811 |

## Appendix 12: GE Appraisal – Sensitivity Analysis based on maximum site density

# Ipswich Garden Suburb
# Stage 2 Report - Appendix 12
# Sensitivity Test - Maximum Density AH Assessment

Development Appraisal
Gerald Eve LLP
25 April 2016

# APPRAISAL SUMMARY — GERALD EVE LLP

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

**Summary Appraisal for Merged Phases 1 2 3 4 5 6**

**Currency in £**

| | Units | ft² | Rate ft² | Unit Price |
|---|---|---|---|---|
| **REVENUE** | | | | |
| **Sales Valuation** | | | | |
| ‡ N1(a) 1 | 167 | 182,698 | 231.00 | 252,714 |
| ‡ N1(a) 2 | 195 | 213,330 | 231.00 | 252,714 |
| ‡ N1(a) 3 | 238 | 260,372 | 231.00 | 252,714 |
| ‡ N1(a) 3 AH | 127 | 95,758 | 136.29 | 102,763 |
| ‡ N1(a) 2 AH | 105 | 79,170 | 136.29 | 102,763 |
| ‡ N1(a) 1 AH | 40 | 30,160 | 136.29 | 102,763 |
| ‡ N2(a) 1 | 339 | 370,866 | 231.00 | 252,714 |
| ‡ N2(a) 2 | 231 | 252,714 | 231.00 | 252,714 |
| ‡ N2(a) 3 | 231 | 252,714 | 231.00 | 252,714 |
| ‡ N2(a) 3 AH | 124 | 93,496 | 136.29 | 102,763 |
| ‡ N2(a) 2 AH | 124 | 93,496 | 136.29 | 102,763 |
| ‡ N2(a) 1 AH | 17 | 12,818 | 136.29 | 102,763 |
| ‡ N3(a) 1 | 149 | 163,006 | 231.00 | 252,714 |
| ‡ N3(a) 2 | 140 | 153,160 | 231.00 | 252,714 |
| ‡ N3(a) 3 | 140 | 153,160 | 231.00 | 252,714 |
| ‡ N3(a) 4 | 140 | 153,160 | 231.00 | 252,714 |
| ‡ N3(a) 5 | 140 | 153,160 | 231.00 | 252,714 |
| ‡ N3(a) 5 AH | 75 | 56,550 | 136.29 | 102,763 |
| ‡ N3(a) 4 AH | 75 | 56,550 | 136.29 | 102,763 |
| ‡ N3(a) 3 AH | 75 | 56,550 | 136.29 | 102,763 |
| ‡ N3(a) 2 AH | 75 | 56,550 | 136.29 | 102,763 |
| ‡ N3(a) 1 AH | 66 | 49,764 | 136.29 | 102,763 |
| ‡ N1(b) 1 | 228 | 249,432 | 231.00 | 252,714 |
| ‡ N1(b) 1 AH | 122 | 91,988 | 136.29 | 102,763 |
| ‡ N2(b) 1 | 24 | 26,256 | 231.00 | 252,714 |
| ‡ N2(b) 1 AH | 12 | 9,048 | 136.29 | 102,763 |
| ‡ N3(b) 1 | 65 | 71,110 | 231.00 | 252,714 |
| ‡ N3(b) 1 AH | 35 | 26,390 | 136.29 | 102,763 |
| **Totals** | **3,499** | **3,463,426** | | |

| | | | |
|---|---|---|---|
| **Additional Revenue** | | | |
| District Centre Land Sale | | 1,265,809 | |
| Local Centre Land Sale | | 365,987 | |
| Local Centre Land Sale | | 159,205 | |
| | | | 1,791,001 |
| **NET REALISATION** | | | **1,155,525,707** |
| **OUTLAY** | | | |
| **ACQUISITION COSTS** | | | |
| Gross development land | 15,449,721 | | |
| Country Park Land | 323,932 | | |
| Secondary School | 118,682 | | |
| Gross development land | 18,077,261 | | |
| Country Park Land | 282,296 | | |
| Secondary School | 103,597 | | |
| Gross development land | 19,722,864 | | |
| Country Park Land | 28,226 | | |
| Secondary School | 10,358 | | |
| Gross development land | 7,049,935 | | |
| Gross development land | 714,320 | | |
| Gross development land | 2,084,289 | | |
| Total Acquisition (400.05 Acres 159,893.71 pAcre) | | 63,965,480 | |
| | | | 63,965,480 |
| Stamp Duty | 4.00% | 2,558,619 | |
| Agent Fee | 1.00% | 639,655 | |
| Legal Fee | 0.50% | 319,827 | |
| | | | 3,518,101 |
| **Other Acquisition** | | | |
| VAT | 20.00% | 47,677 | |
| VAT | 20.00% | 55,389 | |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

| | | | | |
|---|---|---|---|---|
| VAT | | 20.00% | 59,284 | |
| VAT | | 20.00% | 21,150 | |
| VAT | | 20.00% | 2,143 | |
| VAT | | 20.00% | 6,253 | |
| | | | | 191,896 |

**CONSTRUCTION COSTS**

| **Construction** | **ft²** | **Rate ft²** | **Cost** |
|---|---|---|---|
| N1(a) 1 | | | |
| - Standard | 182,698 ft² | 85.65 pf² | 17,780,183 |
| - Externals 12% | | 12.00% | 2,133,622 |
| - Planning Enhancements | 182,698 ft² | 10.00 pf² | 2,056,739 |
| - Sustainability | 167 un | 2,000.00 /un | 376,003 |
| - Abnormals | 167 un | 1,500.00 /un | 285,460 |
| - Contingency 5% | | 5.00% | 1,131,600 |
| | | | 23,763,608 |
| N1(a) 2 | | | |
| - Standard | 213,330 ft² | 85.65 pf² | 22,639,951 |
| - Externals 12% | | 12.00% | 2,716,794 |
| - Planning Enhancements | 213,330 ft² | 10.00 pf² | 2,643,310 |
| - Sustainability | 195 un | 2,000.00 /un | 483,238 |
| - Abnormals | 195 un | 1,500.00 /un | 362,428 |
| - Contingnecy 5% | | 5.00% | 1,442,286 |
| | | | 30,288,007 |
| N1(a) 3 | | | |
| - Standard | 260,372 ft² | 85.65 pf² | 32,996,651 |
| - Externals 12% | | 12.00% | 3,959,598 |
| - Planning Enhancements | 260,372 ft² | 10.00 pf² | 3,852,499 |
| - Sustainability | 238 un | 2,000.00 /un | 704,296 |
| - Abnormals | 238 un | 1,500.00 /un | 528,222 |
| - Contingency 5% | | 5.00% | 2,102,063 |
| | | | 44,143,328 |
| N1(a) 3 AH | | | |
| - Standard | 95,758 ft² | 85.65 pf² | 12,135,304 |
| - Externals 12% | | 12.00% | 1,456,236 |
| - Planning Enhancements | 95,758 ft² | 10.00 pf² | 1,416,848 |
| - Sustainability | 127 un | 2,000.00 /un | 375,822 |
| - Abnormals | 127 un | 1,500.00 /un | 281,866 |
| - Contingency 5% | | 5.00% | 783,304 |
| | | | 16,449,380 |
| N1(a) 2 AH | | | |
| - Standard | 79,170 ft² | 85.65 pf² | 8,402,029 |
| - Externals 12% | | 12.00% | 1,008,244 |
| - Planning Enhancements | 79,170 ft² | 10.00 pf² | 980,972 |
| - Sustainability | 105 un | 2,000.00 /un | 260,205 |
| - Abnormals | 105 un | 1,500.00 /un | 195,154 |
| - Contingnecy 5% | | 5.00% | 542,330 |
| | | | 11,388,934 |
| N1(a) 1 AH | | | |
| - Standard | 30,160 ft² | 85.65 pf² | 2,935,173 |
| - Externals 12% | | 12.00% | 352,221 |
| - Planning Enhancements | 30,160 ft² | 10.00 pf² | 339,529 |
| - Sustainability | 40 un | 2,000.00 /un | 90,061 |
| - Abnormals | 40 un | 1,500.00 /un | 68,374 |
| - Contingency 5% | | 5.00% | 189,268 |
| | | | 3,974,625 |
| N2(a) 1 | | | |
| - Standard | 370,866 ft² | 85.65 pf² | 38,172,062 |
| - Externals 12% | | 12.00% | 4,580,647 |
| - Planning Enhancements | 370,866 ft² | 10.00 pf² | 4,456,750 |
| - Sustainability | 339 un | 2,000.00 /un | 814,762 |
| - Abnormals | 339 un | 1,500.00 /un | 611,072 |
| - Contingency 5% | | 5.00% | 2,431,765 |
| | | | 51,067,058 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

| | | | |
|---|---|---|---|
| N2(a) 2 | | | |
| - Standard | 252,714 ft² | 85.65 pf² | 28,786,217 |
| - Externals 12% | | 12.00% | 3,454,346 |
| - Planning Enhancements | 252,714 ft² | 10.00 pf² | 3,360,913 |
| - Sustainability | 231 un | 2,000.00 /un | 614,426 |
| - Abnormals | 231 un | 1,500.00 /un | 460,820 |
| - Contingency 5% | | 5.00% | 1,833,836 |
| | | | 38,510,558 |
| N2(a) 3 | | | |
| - Standard | 252,714 ft² | 85.65 pf² | 34,969,052 |
| - Externals 12% | | 12.00% | 4,196,286 |
| - Planning Enhancements | 252,714 ft² | 10.00 pf² | 4,082,785 |
| - Sustainability | 231 un | 2,000.00 /un | 746,396 |
| - Abnormals | 231 un | 1,500.00 /un | 559,797 |
| - Contingency 5% | | 5.00% | 2,227,716 |
| | | | 46,782,031 |
| N2(a) 3 AH | | | |
| - Standard | 93,496 ft² | 85.65 pf² | 12,937,417 |
| - Externals 12% | | 12.00% | 1,552,490 |
| - Planning Enhancements | 93,496 ft² | 10.00 pf² | 1,510,498 |
| - Sustainability | 124 un | 2,000.00 /un | 400,663 |
| - Abnormals | 124 un | 1,500.00 /un | 300,497 |
| - Contingency 5% | | 5.00% | 835,078 |
| | | | 17,536,644 |
| N2(a) 2 AH | | | |
| - Standard | 93,496 ft² | 85.65 pf² | 10,649,968 |
| - Externals 12% | | 12.00% | 1,277,996 |
| - Planning Enhancements | 93,496 ft² | 10.00 pf² | 1,243,429 |
| - Sustainability | 124 un | 2,000.00 /un | 329,822 |
| - Abnormals | 124 un | 1,500.00 /un | 247,366 |
| - Contingency 5% | | 5.00% | 687,429 |
| | | | 14,436,011 |
| N2(a) 1 AH | | | |
| - Standard | 12,818 ft² | 85.65 pf² | 1,319,316 |
| - Externals 12% | | 12.00% | 158,318 |
| - Planning Enhancements | 12,818 ft² | 10.00 pf² | 154,036 |
| - Sustainability | 17 un | 2,000.00 /un | 40,858 |
| - Abnormals | 17 un | 1,500.00 /un | 30,644 |
| - Contingency 5% | | 5.00% | 85,159 |
| | | | 1,788,330 |
| N3(a) 1 | | | |
| - Standard | 163,006 ft² | 85.65 pf² | 18,570,541 |
| - Externals 12% | | 12.00% | 2,228,465 |
| - Planning Enhancements | 163,006 ft² | 10.00 pf² | 2,168,189 |
| - Sustainability | 149 un | 2,000.00 /un | 396,378 |
| - Abnormals | 149 un | 1,500.00 /un | 297,284 |
| - Contingnecy 5% | | 5.00% | 1,183,043 |
| | | | 24,843,900 |
| N3(a) 2 | | | |
| - Standard | 153,160 ft² | 85.65 pf² | 20,596,637 |
| - Externals 12% | | 12.00% | 2,471,596 |
| - Planing Enhancements | 153,160 ft² | 10.00 pf² | 2,404,745 |
| - Sustainability | 140 un | 2,000.00 /un | 439,624 |
| - Abnormals | 140 un | 1,500.00 /un | 329,718 |
| - Contingency 5% | | 5.00% | 1,312,116 |
| | | | 27,554,437 |
| N3(a) 3 | | | |
| - Standard | 153,160 ft² | 85.65 pf² | 22,899,258 |
| - Externals 12% | | 12.00% | 2,747,911 |
| - Planning Enhancements | 153,160 ft² | 10.00 pf² | 2,673,585 |
| - Sustainability | 140 un | 2,000.00 /un | 488,772 |
| - Abnormals | 140 un | 1,500.00 /un | 366,579 |
| - Contingency 5% | | 5.00% | 1,458,805 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

| | | | |
|---|---|---|---|
| | | | 30,634,912 |
| N3(a) 4 | | | |
| - Standard | 153,160 ft² | 85.65 pf² | 23,815,229 |
| - Externals 12% | | 12.00% | 2,857,827 |
| - Planning Enhancement | 153,160 ft² | 10.00 pf² | 2,780,529 |
| - Sustainability | 140 un | 2,000.00 /un | 508,323 |
| - Abnormals | 140 un | 1,500.00 /un | 381,243 |
| - Contingency 5% | | 5.00% | 1,517,158 |
| | | | 31,860,308 |
| N3(a) 5 | | | |
| - Standard | 153,160 ft² | 85.65 pf² | 24,767,838 |
| - Externals 12% | | 12.00% | 2,972,141 |
| - Planning Enhancements | 153,160 ft² | 10.00 pf² | 2,891,750 |
| - Sustainability | 140 un | 2,000.00 /un | 528,656 |
| - Abnormals | 140 un | 1,500.00 /un | 396,492 |
| - Contingency 5% | | 5.00% | 1,577,844 |
| | | | 33,134,720 |
| N3(a) 5 AH | | | |
| - Standard | 56,550 ft² | 85.65 pf² | 9,144,824 |
| - Externals 12% | | 12.00% | 1,097,379 |
| - Planning Enhancements | 56,550 ft² | 10.00 pf² | 1,067,697 |
| - Sustainability | 75 un | 2,000.00 /un | 283,209 |
| - Abnormals | 75 un | 1,500.00 /un | 212,407 |
| - Contingency 5% | | 5.00% | 590,276 |
| | | | 12,395,791 |
| N3(a) 4 AH | | | |
| - Standard | 56,550 ft² | 85.65 pf² | 8,793,100 |
| - Externals 12% | | 12.00% | 1,055,172 |
| - Planning Enhancement | 56,550 ft² | 10.00 pf² | 1,026,632 |
| - Sustainability | 75 un | 2,000.00 /un | 272,316 |
| - Abnormals | 75 un | 1,500.00 /un | 204,237 |
| - Contingency 5% | | 5.00% | 567,573 |
| | | | 11,919,029 |
| N3(a) 3 AH | | | |
| - Standard | 56,550 ft² | 85.65 pf² | 8,454,904 |
| - Externals 12% | | 12.00% | 1,014,588 |
| - Planning Enhancements | 56,550 ft² | 10.00 pf² | 987,146 |
| - Sustainability | 75 un | 2,000.00 /un | 261,842 |
| - Abnormals | 75 un | 1,500.00 /un | 196,382 |
| - Contingency 5% | | 5.00% | 545,743 |
| | | | 11,460,605 |
| N3(a) 2 AH | | | |
| - Standard | 56,550 ft² | 85.65 pf² | 7,604,726 |
| - Externals 12% | | 12.00% | 912,567 |
| - Planing Enhancements | 56,550 ft² | 10.00 pf² | 887,884 |
| - Sustainability | 75 un | 2,000.00 /un | 235,513 |
| - Abnormals | 75 un | 1,500.00 /un | 176,635 |
| - Contingency 5% | | 5.00% | 490,866 |
| | | | 10,308,191 |
| N3(a) 1 AH | | | |
| - Standard | 49,764 ft² | 85.65 pf² | 5,669,389 |
| - Externals 12% | | 12.00% | 680,327 |
| - Planning Enhancements | 49,764 ft² | 10.00 pf² | 661,925 |
| - Sustainability | 66 un | 2,000.00 /un | 175,577 |
| - Abnormals | 66 un | 1,500.00 /un | 131,683 |
| - Contingnecy 5% | | 5.00% | 365,945 |
| | | | 7,684,845 |
| N1(b) 1 | | | |
| - Standard | 249,432 ft² | 85.65 pf² | 44,537,254 |
| - Externals 12% | | 12.00% | 5,344,470 |
| - Planning Enhancements | 249,432 ft² | 10.00 pf² | 5,199,913 |
| - Sustainability | 228 un | 2,000.00 /un | 950,624 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

| | | | | |
|---|---|---|---|---|
| - Abnormals | 228 un | 1,500.00 /un | 712,968 | |
| - Contingency 5% | | 5.00% | 2,837,261 | |
| | | | 59,582,490 | |
| N1(b) 1 AH | | | | |
| - Standard | 91,988 ft² | 85.65 pf² | 16,424,889 | |
| - Externals 12% | | 12.00% | 1,970,987 | |
| - Planning Enhancements | 91,988 ft² | 10.00 pf² | 1,917,675 | |
| - Sustainability | 122 un | 2,000.00 /un | 508,667 | |
| - Abnormals | 122 un | 1,500.00 /un | 381,500 | |
| - Contingency 5% | | 5.00% | 1,060,186 | |
| | | | 22,263,904 | |
| N2(b) 1 | | | | |
| - Standard | 26,256 ft² | 85.65 pf² | 4,370,215 | |
| - Externals 12% | | 12.00% | 524,426 | |
| - Planning Enhancements | 26,256 ft² | 10.00 pf² | 510,241 | |
| - Sustainability | 24 un | 2,000.00 /un | 93,280 | |
| - Abnormals | 24 un | 1,500.00 /un | 69,960 | |
| - Contingency 5% | | 5.00% | 278,406 | |
| | | | 5,846,527 | |
| N2(b) 1 AH | | | | |
| - Standard | 9,048 ft² | 85.65 pf² | 1,506,006 | |
| - Externals 12% | | 12.00% | 180,721 | |
| - Planning Enhancements | 9,048 ft² | 10.00 pf² | 175,833 | |
| - Sustainability | 12 un | 2,000.00 /un | 46,640 | |
| - Abnormals | 12 un | 1,500.00 /un | 34,980 | |
| - Contingency 5% | | 5.00% | 97,209 | |
| | | | 2,041,389 | |
| N3(b) 1 | | | | |
| - Standard | 71,110 ft² | 85.65 pf² | 12,314,172 | |
| - Externals 12% | | 12.00% | 1,477,701 | |
| - Planning Enhancements | 71,110 ft² | 10.00 pf² | 1,437,732 | |
| - Sustainability | 65 un | 2,000.00 /un | 262,839 | |
| - Abnormals | 65 un | 1,500.00 /un | 197,130 | |
| - Contingency 5% | | 5.00% | 784,479 | |
| | | | 16,474,052 | |
| N3(b) 1 AH | | | | |
| - Standard | 26,390 ft² | 85.65 pf² | 4,569,976 | |
| - Externals 12% | | 12.00% | 548,397 | |
| - Planning Enhancements | 26,390 ft² | 10.00 pf² | 533,564 | |
| - Sustainability | 35 un | 2,000.00 /un | 141,529 | |
| - Abnormals | 35 un | 1,500.00 /un | 106,147 | |
| - Contingency 5% | | 5.00% | 294,981 | |
| | | | 6,194,594 | |
| **Totals** | **3,463,426 ft²** | | **614,328,209** | **614,328,209** |
| Enabling works | | | 1,999,924 | |
| Acoustic Fence | | | 1,036,016 | |
| Finance/Legal | | | 567,184 | |
| PR | | | 175,447 | |
| Contamination | | | 432,607 | |
| Planning | | | 859,127 | |
| Ecology | | | 30,078 | |
| Design Fees | | | 10,225,840 | |
| Local Authority Fees | | | 7,191,562 | |
| | | | | 22,517,785 |
| **Other Construction** | | | | |
| Vehicular rail crossing | | | 3,666,017 | |
| NR Comp Vehicular Bridge + Com Sums | | | 1,045,164 | |
| Fonnereau Way cycle/pedestrian brid | | | 1,009,683 | |
| NR Compensation Cycle Bridge | | | 110,017 | |
| Phased delivery of bus service | | | 83,691 | |
| Bus Service for 5 years + shelters | | | 2,149,909 | |
| Offiste cycleway/footpath | | | 232,083 | |
| Improvements to Westerfield Station | | | 84,843 | |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

| | |
|---|---|
| Westerfield Road crossing | 87,864 |
| Traffic Management | 83,181 |
| Speed Limit Alterations | 3,875 |
| Secondary school | 4,476,385 |
| Country Park | 1,091,590 |
| 15 maintenance for Country Park | 873,513 |
| Swimming contribution | 401,263 |
| District and Local Centres 1000sqm | 2,288,932 |
| Maintenance for Dis and Loc Centres | 666,920 |
| On-site Libraty Contribution | 74,239 |
| Off-site Library Contribution | 39,715 |
| Community support officer | 162,371 |
| Electricity, Gas. Water | 5,739,588 |
| Sewerage | 873,097 |
| Off-site Diversion Works | 25,958 |
| SuDS | 920,873 |
| Off-site improvements | 775,065 |
| Junction off Henley & Westerfield R | 806,372 |
| S278 Utilities | 111,275 |
| UTMC | 303,613 |
| Travel Plan | 346,802 |
| Improvements to Fonnereau Way | 2,213,493 |
| Pedestrian/cycle signage | 48,441 |
| Primary School | 4,890,394 |
| Open space incl allotments | 2,453,831 |
| Open space maintenance 15 years | 1,525,365 |
| Ecology Mitigation | 176,327 |
| Supporting Infra (Charge, CCTV etc) | 10,851 |
| Temporary Community Centre | 30,678 |
| Household waste facilities | 59,094 |
| Superfast Broadband | 552,486 |
| Onsite Pedestrian & Cycle Routes | 591,337 |
| S106 Monitoring | 30,361 |
| Travel Bond | 74,269 |
| Vehicular rail crossing | 4,172,895 |
| NR Comp Vehicular Bridge + Com sums | 1,212,234 |
| Fonnereau Way cycle/pedestrian brid | 1,149,274 |
| NR Compensation Cycle Bridge | 127,604 |
| Phased delivery of bus service | 106,198 |
| Bus Service for 5 years + shelters | 2,111,962 |
| Offiste cycleway/footpath | 294,815 |
| Improvements to Westerfield Station | 107,776 |
| Traffic Management | 111,636 |
| Speed Limit Alterations | 5,006 |
| Secondary school | 5,667,390 |
| Country Park | 1,221,089 |
| 10 yr maintenance for Country Park | 1,208,051 |
| Swimming contribution | 518,406 |
| District and Local Centres 500 sq m | 586,043 |
| Maintenance for Dis and Loc Centres | 251,161 |
| On-site Library Contribution | 95,140 |
| Off-site Library Contribution | 50,897 |
| Community support officer | 175,857 |
| Electricity, Gas. Water | 8,230,636 |
| Sewerage | 1,243,349 |
| Off-site Diversion Works | 33,266 |
| SuDS | 1,294,121 |
| Off-site Improvements | 1,001,336 |
| Junction off Westerfield & Tuddenha | 1,309,020 |
| S278 Utilities | 169,667 |
| UTMC | 389,091 |
| Travel Plan | 444,440 |
| Improvements to Fonnereau Way | 2,611,869 |
| Pedestrian/cycle signage | 62,584 |
| Primary School | 7,224,868 |
| Open space incl allotments | 3,170,194 |
| Open space maintenance 15 years | 1,892,694 |
| Ecology Mitigation | 207,700 |
| Supporting Infra (Charge, CCTV etc) | 14,019 |
| Temporary Community Centre | 27,848 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

| | |
|---|---|
| Household waste facilities | 76,348 |
| Superfast Broadband | 713,777 |
| Onsite Pedestrian & Cycle Routes | 763,970 |
| S106 Monitoring | 38,909 |
| Travel Bond | 94,737 |
| Vehicular rail crossing | 508,746 |
| NR Comp Vehicular Bridge + Com Sums | 147,576 |
| Fonnereau Way cycle/pedestrian brid | 142,918 |
| NR Compensation Cycle Bridge | 15,534 |
| Phased delivery of bus service | 111,646 |
| Bus Service 5 years + shelters | 328,166 |
| Offiste cycleway/footpath | 323,775 |
| Improvements to Westerfield Station | 123,097 |
| Westerfield Road crossing | 124,078 |
| Traffic Management | 122,451 |
| Speed Limit Alterations | 5,583 |
| Secondary school | 6,091,087 |
| Country Park | 305,272 |
| 10 yr maintenance for Country Park | 1,288,282 |
| Swimming contribution | 578,130 |
| District and Local Centres 500 sq m | 653,684 |
| Maintenance Dist and Loc Centres | 277,571 |
| On-site Library Contribution | 104,837 |
| Off-site Library Contribution | 56,084 |
| Community support officer | 64,674 |
| Electricity, Gas. Water | 11,461,203 |
| Sewerage | 1,179,807 |
| Off-site Diversion Works | 36,656 |
| SuDS | 1,419,162 |
| Off-site improvements | 1,116,696 |
| Junction off Henley Road | 901,748 |
| S278 Utilities | 118,309 |
| UTMC | 428,749 |
| Improvements to Fonnereau Way | 2,068,841 |
| Travel Plan | 489,739 |
| Pedestrian/cycle signage | 69,794 |
| Primary School | 7,912,243 |
| Open space incl allotments | 3,535,421 |
| Open space maintenance 15 years | 2,197,708 |
| Ecology Mitigation | 254,049 |
| Supporting Infra (Charge, CCTV etc) | 15,634 |
| Community Centre with Facilities | 3,916 |
| Household waste facilities | 85,143 |
| Superfast Broadband | 796,008 |
| Onsite Pedestrian & Cycle Routes | 851,983 |
| S106 Monitoring | 42,875 |
| Travel Bond | 109,331 |
| Phased delivery of bus service | 61,409 |
| Offiste cycleway/footpath | 178,085 |
| Improvements to Westerfield Station | 66,392 |
| Traffic Management | 64,749 |
| Speed Limit Alterations | 2,602 |
| Secondary school | 2,816,936 |
| Swimming contribution | 269,327 |
| On-site Library Contribution | 57,664 |
| Off-site Library Contribution | 30,848 |
| Electricity, Gas. Water | 3,852,399 |
| Sewerage | 586,022 |
| Off-site diversion works | 20,161 |
| SuDS | 618,087 |
| Off-site improvements | 471,650 |
| Junction off Henley & Westerfield R | 690,835 |
| S278 Utilities | 77,120 |
| UTMC | 235,824 |
| Travel Plan | 269,371 |
| Improvements to Fonnereau Way | 1,478,265 |
| Pedestrian/cycle signage | 32,513 |
| Primary School | 4,133,615 |
| Neighbourhood Allotments etc | 1,647,006 |
| 15 Year maintenance | 1,023,822 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

| | |
|---|---|
| Ecology Mitigation | 118,351 |
| District Supporting infra | 6,476 |
| Household waste facilities | 39,664 |
| Superfast Broadband | 370,827 |
| Onsite Pedestrian & Cycle Routes | 396,904 |
| S106 Monitoring | 23,582 |
| Travel Bond | 58,957 |
| Country Park Maintenance | 195,726 |
| Phased delivery of bus service | 5,891 |
| Offiste cycleway/footpath | 16,285 |
| Improvements to Westerfield Station | 6,071 |
| Traffic Management | 6,415 |
| Speed Limit Alterations | 235 |
| Secondary school | 254,658 |
| Swimming contribution | 24,389 |
| District and Local Centres 500 sq m | 27,336 |
| Maintenance Dis and Loc Centres | 11,716 |
| On-site Library Contribution | 5,760 |
| Off-site Library Contribution | 3,080 |
| Electricity, Gas. Water | 387,218 |
| Sewerage | 58,494 |
| Off-site Diversion Works | 2,013 |
| SuDS | 60,883 |
| Off-site improvements | 46,724 |
| Junction off Henley & Westerfield R | 78,599 |
| S278 Utilities | 7,997 |
| UTMC | 23,363 |
| Travel Plan | 26,686 |
| Improvements to Fonnereau Way | 120,776 |
| Pedestrian/cycle signage | 2,944 |
| Open space incl allotments | 149,145 |
| Open space maintenance 15 years | 92,712 |
| Ecology Mitigation | 10,717 |
| Supporting Infra (Charge, CCTV etc) | 659 |
| Primary School | 414,189 |
| Household waste facilities | 3,591 |
| Superfast Broadband | 33,581 |
| Onsite Pedestrian & Cycle Routes | 35,942 |
| S106 Monitoring | 2,355 |
| Travel Bond | 5,727 |
| Country Park Maintenance | 51,493 |
| Phased delivery of bus service | 16,113 |
| Offiste cycleway/footpath | 46,353 |
| Improvements to Westerfield Station | 17,972 |
| Traffic Management | 18,247 |
| Speed Limit Alterations | 671 |
| Secondary school | 724,706 |
| Swimming contribution | 69,406 |
| District and Local Centres 500 sq m | 77,935 |
| Maintenance Dis and Loc Centres | 33,401 |
| On-site Library Contribution | 16,391 |
| Off-site Library Contribution | 8,769 |
| Electricity, Gas. Water | 1,375,950 |
| Sewerage | 141,640 |
| Off-site Diversion Works | 5,732 |
| SuDS | 170,375 |
| Off-site improvements | 127,806 |
| Junction off Henley & Westerfield R | 134,402 |
| S278 Utilities | 14,254 |
| UTMC | 63,904 |
| Travel Plan | 72,994 |
| Improvements to Fonnereau Way | 234,598 |
| Pedestrian/cycle signage | 8,379 |
| Open space incl allotments | 424,437 |
| Open space maintenance 15 years | 263,840 |
| Ecology Mitigation | 30,499 |
| Supporting Infra (Charge, CCTV etc) | 1,876 |
| Primary School | 1,104,873 |
| Household waste facilities | 10,222 |
| Superfast Broadband | 95,562 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

| | | | | |
|---|---|---|---|---|
| Onsite Pedestrian & Cycle Routes | | | 102,283 | |
| S106 Monitoring | | | 6,702 | |
| Travel Bond | | | 16,291 | |
| Country Park Maintenance | | | 26,835 | |
| | | | | 165,183,162 |
| **PROFESSIONAL FEES** | | | | |
| Professional Fees on Build Costs | | 8.00% | 34,944,671 | |
| Professional Fees on Abnormal Costs | | 12.00% | 667,101 | |
| | | | | 35,611,772 |
| **MARKETING & LETTING** | | | | |
| Marketing | | 1.00% | 7,642,589 | |
| | | | | 7,642,589 |
| **DISPOSAL FEES** | | | | |
| Sales Agent Fee | | 2.00% | 15,285,179 | |
| Sales Legal Fee | 2,147 un | 500.00 /un | 1,073,500 | |
| | | | | 16,358,679 |
| **FINANCE** | | | | |
| Debit Rate 6.000%, Credit Rate 0.000% (Nominal) | | | | |
| Total Finance Cost | | | | 7,402,057 |
| **TOTAL COSTS** | | | | **936,719,729** |
| **PROFIT** | | | | |
| | | | | **218,805,978** |

| **Performance Measures** | |
|---|---|
| Profit on Cost% | 23.36% |
| Profit on GDV% | 18.97% |
| Profit on NDV% | 18.97% |
| IRR | 23.21% |
| Profit Erosion (finance rate 6.000%) | 3 yrs 6 mths |

‡ Inflation/Growth applied

| **Growth on Sales** | | **Ungrown** | **Growth** |
|---|---|---|---|
| N1(a) 1 | Growth Set 1 at 5.000% var. | 42,203,238 | 4,988,918 |
| N1(a) 2 | Growth Set 1 at 5.000% var. | 49,279,230 | 12,967,868 |
| N1(a) 3 | Growth Set 1 at 5.000% var. | 60,145,932 | 36,706,292 |
| N1(a) 3 AH | Growth Set 2 at 1.500% | 13,050,858 | 1,958,366 |
| N1(a) 2 AH | Growth Set 2 at 1.500% | 10,790,079 | 749,608 |
| N1(a) 1 AH | Growth Set 2 at 1.500% | 4,110,506 | 414,314 |
| N2(a) 1 | Growth Set 1 at 5.000% var. | 85,670,046 | 19,944,241 |
| N2(a) 2 | Growth Set 1 at 5.000% var. | 58,376,934 | 24,514,083 |
| N2(a) 3 | Growth Set 1 at 5.000% var. | 58,376,934 | 46,992,236 |
| N2(a) 3 AH | Growth Set 2 at 1.500% | 12,742,570 | 2,410,678 |
| N2(a) 2 AH | Growth Set 2 at 1.500% | 12,742,570 | 1,222,102 |
| N2(a) 1 AH | Growth Set 2 at 1.500% | 1,746,965 | 234,628 |
| N3(a) 1 | Growth Set 1 at 5.000% var. | 37,654,386 | 15,275,709 |
| N3(a) 2 | Growth Set 1 at 5.000% var. | 35,379,960 | 26,240,375 |
| N3(a) 3 | Growth Set 1 at 5.000% var. | 35,379,960 | 34,213,623 |
| N3(a) 4 | Growth Set 1 at 5.000% var. | 35,379,960 | 37,842,193 |
| N3(a) 5 | Growth Set 1 at 5.000% var. | 35,379,960 | 41,492,546 |
| N3(a) 5 AH | Growth Set 2 at 1.500% | 7,707,200 | 2,019,766 |
| N3(a) 4 AH | Growth Set 2 at 1.500% | 7,707,200 | 1,876,018 |
| N3(a) 3 AH | Growth Set 2 at 1.500% | 7,707,200 | 1,705,007 |
| N3(a) 2 AH | Growth Set 2 at 1.500% | 7,707,200 | 1,333,167 |
| N3(a) 1 AH | Growth Set 2 at 1.500% | 6,782,336 | 677,003 |
| N1(b) 1 | Growth Set 1 at 5.000% var. | 57,618,792 | 79,916,599 |
| N1(b) 1 AH | Growth Set 2 at 1.500% | 12,537,045 | 3,817,540 |
| N2(b) 1 | Growth Set 1 at 5.000% var. | 6,065,136 | 7,516,132 |
| N2(b) 1 AH | Growth Set 2 at 1.500% | 1,233,152 | 334,618 |
| N3(b) 1 | Growth Set 1 at 5.000% var. | 16,426,410 | 21,845,150 |
| N3(b) 1 AH | Growth Set 2 at 1.500% | 3,596,693 | 1,027,475 |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

| Gross Sales | Adjustment | Net Sales |
|---|---|---|
| 42,203,238 | 4,988,918 | 47,192,156 |
| 49,279,230 | 12,967,868 | 62,247,098 |
| 60,145,932 | 36,706,292 | 96,852,224 |
| 13,050,858 | 1,958,366 | 15,009,224 |
| 10,790,079 | 749,608 | 11,539,687 |
| 4,110,506 | 414,314 | 4,524,820 |
| 85,670,046 | 19,944,241 | 105,614,287 |
| 58,376,934 | 24,514,083 | 82,891,017 |
| 58,376,934 | 46,992,236 | 105,369,170 |
| 12,742,570 | 2,410,678 | 15,153,248 |
| 12,742,570 | 1,222,102 | 13,964,672 |
| 1,746,965 | 234,628 | 1,981,594 |
| 37,654,386 | 15,275,709 | 52,930,095 |
| 35,379,960 | 26,240,375 | 61,620,335 |
| 35,379,960 | 34,213,623 | 69,593,583 |
| 35,379,960 | 37,842,193 | 73,222,153 |
| 35,379,960 | 41,492,546 | 76,872,506 |
| 7,707,200 | 2,019,766 | 9,726,966 |
| 7,707,200 | 1,876,018 | 9,583,218 |
| 7,707,200 | 1,705,007 | 9,412,207 |
| 7,707,200 | 1,333,167 | 9,040,366 |
| 6,782,336 | 677,003 | 7,459,339 |
| 57,618,792 | 79,916,599 | 137,535,391 |
| 12,537,045 | 3,817,540 | 16,354,584 |
| 6,065,136 | 7,516,132 | 13,581,268 |
| 1,233,152 | 334,618 | 1,567,770 |
| 16,426,410 | 21,845,150 | 38,271,560 |
| 3,596,693 | 1,027,475 | 4,624,168 |
| **723,498,450** | **430,236,257** | **1,153,734,707** |

**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

**Ipswich Garden Suburb**
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**Ipswich Garden Suburb**
**Stage 2 Report - Appendix 12**
**Sensitivity Test - Maximum Density AH Assessment**

| Total |
|---|
| 47,192,156 |
| 62,247,098 |
| 96,852,224 |
| 15,009,224 |
| 11,539,687 |
| 4,524,820 |
| 105,614,287 |
| 82,891,017 |
| 105,369,170 |
| 15,153,248 |
| 13,964,672 |
| 1,981,594 |
| 52,930,095 |
| 61,620,335 |
| 69,593,583 |
| 73,222,153 |
| 76,872,506 |
| 9,726,966 |
| 9,583,218 |
| 9,412,207 |
| 9,040,366 |
| 7,459,339 |
| 137,535,391 |
| 16,354,584 |
| 13,581,268 |
| 1,567,770 |
| 38,271,560 |
| 4,624,168 |