



# LONG MARSTON AIRFIELD NEW SETTLEMENT

## TECHNICAL STATEMENT: FEASIBILITY

JULY 2014



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& Partners  
Planning, Design, Economics.







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**Long Marston Airfield  
Feasibility Assessment**

CALA Homes

July 2014

13817/MS/MT

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## 1.0 Introduction

- 1.1 This Feasibility Assessment has been prepared by Nathaniel Lichfield & Partners (NLP) on behalf of CALA Homes. It provides evidence on the deliverability and financial viability of the proposed 3,500 dwelling new settlement development at Long Marston Airfield. It considers the infrastructure and mitigation works necessary to deliver the proposals, evidencing how they can be provided to overcome any barriers (and the costs of doing so). It goes on to appraise the viability of the scheme, in the context of the proposed scale of development and necessary works and costs.
- 1.2 The feasibility assessment is, therefore, intended to provide a strategic overview of the deliverability of the Long Marston Airfield new settlement proposals. It draws upon a wide range of technical evidence prepared in relation to the impacts of the proposed scheme and the proposed mitigation measures to be put in place. It should therefore be read in the context of these technical assessments.
- 1.3 Additionally the feasibility assessment is intended to verify the evidence that Stratford-on-Avon District Council has produced in relation to the development of the Stratford-on-Avon Core Strategy. In particular, two studies by Peter Brett Associates (PBA) on behalf of the Council look specifically at the deliverability of Long Marston Airfield:
- The Stratford-on-Avon District Council Assessment of Potential New Settlements and Sustainable Urban Assessments (June 2013); and
  - The Stratford-on-Avon District Council Viability and deliverability of strategic sites (April 2014).
- Both studies fundamentally conclude that the new settlement proposals at Long Marston Airfield are a deliverable and viable prospect.
- 1.4 This feasibility study represents a high level appraisal of the scheme as currently proposed. It should be explicitly noted that as the masterplan develops and there becomes more certainty on design and specification for all aspects of development, then the appraisal will need to be revisited many times. It solely provides a snapshot in time assessment based upon currently available information and is intended to evidence the deliverability of the scheme within the Local Plan process.
- 1.5 The assessment is set out as follows:
- **Section 2.0** sets out the infrastructure and mitigation measures required to overcome identified constraints and considers their deliverability;
  - **Section 3.0** sets out the scale and mix of the proposed development, considering its role as part of the wider scheme; and
  - **Section 4.0** sets out the financial viability of the Long Marston Airfield proposed new settlement.

## 2.0 **Delivering Infrastructure and Overcoming Constraints**

- 2.1 During the period December 2013 to July 2014, the proposals for a new settlement at Long Marston Airfield have been developed by CALA Homes and their consultant team in conjunction with the Council and other technical stakeholders. The purpose of this stream of work was to feed into the 'Stratford-on-Avon District Core Strategy Focused Consultation: 2011-2031 Housing Requirement and Strategic Site Options' which consulted upon a number of different options for Stratford-on-Avon to deliver new housing in the future, one of which was a new settlement at Long Marston Airfield.
- 2.2 Whilst through that consultation process undertaken in early 2014, Long Marston Airfield was ultimately not chosen as the Council's preferred option for the Core Strategy, CALA Homes remain committed to delivering an exceptional new settlement to help Stratford-on-Avon District Council meet housing needs across the housing market area over the long term. Throughout the process of developing the proposals to date (July 2014) a wide range of constraints and infrastructure requirements have been identified, as would be expected on a scheme of the proposed size. These have each been considered in consultation with the key stakeholders, with appropriate mitigation measures identified to ensure Long Marston Airfield is a deliverable prospect.
- 2.3 This feasibility assessment brings together all of the identified constraints and infrastructure requirements to demonstrate how they can be overcome, and the development delivered, without any substantive adverse impacts. Fundamentally the evidence in this feasibility assessment seeks to demonstrate that there are no 'show-stopping' factors that would ultimately prevent the development from occurring if it were to be allocated through the Local Plan Core Strategy. In doing so, the costs of infrastructure and mitigation are fully accounted for within a high level appraisal of the viability of the scheme.

## **Delivering Infrastructure**

### **Transport**

- 2.4 The proposed new settlement includes a comprehensive package of transport improvements that have been identified as necessary to enable the full delivery of the masterplan proposals as well as provide wider benefits to Stratford-upon-Avon. A high level 'Strategic Transport Assessment' has been carried out for the Long Marston Airfield proposals which have been robustly tested using Warwickshire County Councils (WCC) approved S-PARAMICS model for Stratford-upon-Avon. The package of transport improvements have been developed in conjunction with WCC with the key components outlined as follows.



## **Western Relief Road (WRR)**

- 2.5 Key to the delivery of a new settlement at Long Marston Airfield is a means of ameliorating the traffic impacts within the centre of Stratford-upon-Avon. The testing carried out has identified the need for a Western Relief Road (WRR) to Stratford-upon-Avon, which will link up to the A46 through the West of Shottery Relief Road to provide a comprehensive north/south alternative to travelling through Stratford-upon-Avon. Critically the proposed WRR will provide a further crossing of the River Avon, which will help to alleviate traffic on the Clopton Bridge.
- 2.6 CALA Homes is proposing to deliver the Western Relief Road and is currently negotiating with the four landowners along the proposed route. Three of these land owners have appointed the same agent to negotiate on their behalf. It is CALA Homes' intention that contracts will be in place before any allocation or application for the site, in order to ensure deliverability is within CALA's control. Strategic transport modelling suggests that 1,000 new homes could be delivered in the Long Marston area before the WRR would need to be in place.
- 2.7 A cost associated with the delivery of the Western Relief Road has been set aside at £29m for delivery of the road (inclusive of all build costs and fees) and an assumed figure for land purchase (inclusive of all duty and fees). The cost for delivery of the WRR has been estimated using a cost per metre rate from an earlier Eastern Relief Road proposal, which included an indicative cost of £45m. It has also been compared with the Rugby Eastern Relief Road (A4071), which was completed at a total cost of £61m including fees and land compensation for the 6km road. The Rugby Eastern Relief Road had to overcome a number of costly issues including a river crossing, a railway crossing and utilities diversions and can be compared with the c.2.6km length of the WRR. The Barford By-pass is a further scheme useful as a benchmark, where the £11m scheme achieved a 2km long road with a 4 span bridge crossing the river Avon and a route through the flood plain. It is considered the £29m costing is a reasonable worst case scenario in advance of detailed design and investigation.
- 2.8 The Western Relief Road will also complement the West of Shottery Relief Road being delivered as part of the West of Shottery development by Bloor Homes and Hallam Land. This development, including the Shottery relief road, has planning permission and it is our understanding that negotiations on the delivery of the road are at an advance stage, with this road scheduled to be in place before CALA need to deliver the WRR.

## **Delivering Junction Improvements**

- 2.9 As well as the WRR there are a number of junction and carriageway improvements that are required to mitigate the highways impact of the Long Marston Airfield new settlement. The Strategic Transport Assessment provides details on the key points that will require works. These have been fully costed into the appraisal, with CALA to provide through either CIL/s106 contributions or s278 agreements the following:

- a Dynamic Variable Messaging Signs directing traffic to/from the A46 via either the A3400 Birmingham Road or the A439 Warwick Road (£200,000);
- b Upgrades to B439 Evesham Road/Shottery WRR /Luddington Road roundabout (£750,000);
- c Pear Tree Close/Station Road priority junction (£750,000);
- d A4390 Seven Meadows Road/Old town Mews/Wetherby Way roundabout (£750,000);
- e A4390 Grove Road/A422 Alcester Road/A4390 Arden Street/Greenhill Street signals (£750,000);
- f Windsor Street/Wood Street/Rother Street/Greenhill Street signals (750,000);
- g Bridge Foot Gyratory (A439/Bridgeway sections) (£750,000);
- h A3400 Guild Street/Union Street priority junction (£750,000);
- i B4632 Campden Road/Station Road priority junction (£750,000);
- j Carriageway and safety improvements along the B4632 Campden Road (£1,000,000); and
- k 2 x New entrance roundabouts to the site (£1,000,000)
- l Contribution to Stratford Transport Package works and other identified transport works to be provided through pooled contributions, with the cost included within the Council's proposed Community Infrastructure Levy (CIL) rate.

2.10 These highway improvements have been costed for the purpose of testing based upon similar works being undertaken elsewhere in Stratford-on-Avon (including those as part of the Stratford Transport Package). The improvements would be combined with a range of other sustainable transport initiatives and infrastructure to promote other forms of travel in order to fully mitigate the transport impacts of the scheme.

### **Other Transport Infrastructure**

2.11 The other transport infrastructure and contributions that will be made as part of the new settlement will include:

- a Walking and cycling enhancements within the vicinity of the site (£1,200,000);
- b Public transport improvements, likely to be financial support for a regular bus service to serve the development as well as linking in with other developments in the area (£2,800,000); and
- c A Framework Travel Plan (FTP) to promote sustainable modes of transport (£300,000).

- 2.12 Combined with a mixed-use pattern of development, with a range of facilities, services and employment on site, together seek to stimulate modal shift and reduce the need to travel long distances.

### **Stratford-Honeybourne Rail Corridor**

- 2.13 The former route of the Stratford-Honeybourne railway line runs to the west of the Long Marston Airfield and is currently used as the 'Stratford Greenway' cycle route. There is growing support in the area for the reopening of the Stratford to Honeybourne railway line as it would both provide additional train services and different routes into Stratford-upon-Avon, but would also provide greater network resilience for network rail, providing an alternative route for trains into Birmingham in the event that the West Coast or Chiltern lines became inoperable. The route is safeguarded for re-opening in the event that proposals do come forward.
- 2.14 Although the proposals are in no way reliant on the re-opening of the railway line to mitigate the transport impacts of the development, it would nevertheless provide significant additional benefit to both the sustainable transport opportunities for this part of the district as well as the attractiveness of the area as a place to live and work. In this regard CALA Homes are generally supportive of the reopening of the greenway as a public transport corridor, with opportunities for a phased approach whereby the route is implemented as a tram or light rail and subsequently upgraded to a heavy rail line. The current proposals for LMA set aside both a parcel of land within the masterplan for a potential new station as well as £17,000,000 which is available as private sector funding to go towards the re-instatement of rail-based transport along the line, should workable plans come forward to do so. This sum could act as leverage for public sector capital funding in order to secure the delivery of the railway line, to the significant benefit of Stratford-upon-Avon and the Long Marston area.
- 2.15 In the event that this £17,000,000 is not utilised for the re-opening of the rail line CALA Homes are committed to recycling this element of contribution into other suitable schemes which would benefit the local area and the proposed new settlement.

## **Utilities**

### **Gas Pipeline**

- 2.16 A high pressure gas pipeline runs broadly South West to North East in a straight line throughout the site. Whilst this represents a constraint, with the current thin walled (1200mm) pipe having an HSE hazard land use planning zone of between 55m and 270m across the site, it is neither unfeasible nor unaffordable to overcome the issues this presents. CALA Homes has been in discussion with National Grid who have confirmed that reinforcing and diverting the section of pipe crossing the site with a thick walled pipe would enable residential development to take place up to 3 metres from the pipeline.

- 2.17 National Grid have estimated this will cost £4,000,000 to implement and would take between 3 and 5 years to complete. The first phases of development along the Campden Road frontage are, however, likely to be beyond the currently restricted zone, so could commence before the gas pipeline works were complete. The diversion of the pipeline will not impact on the delivery of the site and the timescales associated with the construction of the site.
- 2.18 More information can be found in a note from CALA Homes' consultants Hamer Associates in Appendix 2.

### **Wastewater Treatment Capacity**

- 2.19 The Stratford Water Cycle Study (2014) indicated potential constrained capacity within the adjacent Long Marston Wastewater Treatment Works (WwTW) which could affect the deliverability of development on Long Marston Airfield. This position has been investigated by CALA Homes with Severn Trent Water and two potential solutions have been identified, with these reflected in a position statement issued by Severn Trent Water on 13 May 2014 (Appendix 3). These solutions are either:
- a To upgrade/replace the Long Marston WwTW albeit this would be subject to agreement with the Environment Agency and a new discharge consent being issued for releasing treated effluent into the Gran Brook which Long Marston WwTW discharges into (which itself may be subject volumetric constraints on discharge); or
  - b To pump all flows away to Stratford (Milcote) WwTW which is 4.7km to the North East. This is a modern WwTW and is located on the River Avon, so would not be subject to the same level of constraints on discharge. Any rising main for pumping flows would need to be suitably routed, but, for example, could follow the route of the Greenway.
- 2.20 The existing capacity at Long Marston WwTW is unlikely to be reached until 2018, allowing sufficient time for new infrastructure to be commissioned by Severn Trent Water, who has a statutory duty to adequately plan for growth across its network and to connect the development.

### **Other Utilities**

- 2.21 At this stage, no other utility constraints have been identified in terms of serving the development, with access achievable to the electricity, gas and potable water networks.

### **Social Infrastructure**

- 2.22 The provision of suitable, adequate and timely social infrastructure is key to adequately mitigating the impact that the development will have on services and facilities.

## **Schools and Education**

- 2.23 Working alongside Warwickshire County Council, the proposals have been developed to include 2 primary schools, a secondary school and a contribution to provision of off-site 6<sup>th</sup> form facilities. The schools within the new settlement will serve both all pupils on the development but also, particularly in the case of the secondary school, pupils from the nearby settlements too. The delivery of a secondary school is a key benefit of the proposed scheme as provision of pupil places across existing secondary schools in the District is particularly constrained, with currently no measures identified to overcome this.
- 2.24 The masterplan is being developed to provide land for all three proposed schools, with CALA Homes funding the delivery of these. It is estimated within the Council's draft infrastructure delivery plan that the costs associated will be £20m for the secondary school, £10m for the two primary schools and £1.7m of contribution to off-site 6<sup>th</sup> form provision, totalling a package of over £31m plus requisite land for the delivery of education facilities.
- 2.25 Further funding for education services, such as adult education, is included within the proposed CIL contributions.

## **Emergency Services**

- 2.26 The new settlement will have implications for the provision of emergency services, with an expanded population requiring widened police, fire and ambulance coverage. The proposed CIL rate within the district includes an element for the funding of upgrades to emergency services. Notwithstanding, there is a particular requirement for the provision of an on-site police post as a base for a new safer neighbourhoods team to serve the new settlement. To allow for this CALA have set aside £100,000 to deliver this, which could be co-located with other community facilities, such as the school or community centre.

## **Health**

- 2.27 The new settlement will also place additional pressures on health services in the area. Primary health services, such as GP surgeries and dental surgeries, are provided on a commercial basis with GP's or dentists funding delivery of new premises. CALA Homes will, however, make available suitable land or premises for the delivery of these services within the development.
- 2.28 Secondary health services, such as hospital provision, will require ongoing expansion to deal with population growth within the area. A contribution to upgrades to secondary and acute health services is included within the proposed CIL contribution as set out by the Council.

## **Superfast Broadband**

- 2.29 CALA Homes are committed to delivering superfast broadband through a fibre-based network throughout the site. This will enable residents and businesses

to access the superfast communication networks demanded for both home use and successful business. Initial investigations indicate that this is feasible.

### **Community Facilities**

- 2.30 The provision of appropriate community facilities will be incorporated into the new settlement scheme. Drawing upon the Council's infrastructure delivery plan for Long Marston Airfield, it was identified that provision or improvement of libraries and community meeting spaces would be necessary in the area. The emerging masterplan for the new settlement therefore includes the provision of a new Library and a new Community Centre to serve the community at Long Marston Airfield. This has been reflected in the infrastructure costing for the scheme with £1,900,000 put aside for CALA Homes to deliver these as part of a village centre within the scheme.
- 2.31 The masterplan also makes provision for extensive areas of public open space, children's play space and playing fields. These are also to be provided as part of a holistic green infrastructure plan for the new settlement, with the costs associated for provision of green infrastructure fully reflected in the external landscaping allowance within CALA Homes' assumed build costs.

## **Overcoming Constraints**

### **Ecology**

- 2.32 The Ecology technical assessment undertaken by FPCR on behalf of CALA Homes identifies a number of ecological constraints on and around the land to be used for the proposed new settlement and the Western Relief Road. Full surveys are ongoing, in accordance with the seasonal requirements for different types of surveys. Notwithstanding, initial on-site and desk based surveys indicate a range of potential ecological constraints, albeit do not indicate any 'showstopper' factors, with all ecological facets able to be enhanced, appropriately offset or adequate mitigation provided. Warwickshire are currently one county who are using the 'Biodiversity Offsetting Matrix' and if a scheme were to be forthcoming CALA Homes would provide the offsetting matrix to demonstrate net overall biodiversity benefits from the scheme for a site which is not currently managed in a manner which is not sympathetic to biodiversity.
- 2.33 We set out the key constraints for the two areas of development (the airfield and the WRR) as follows.

### **Long Marston Airfield**

- 2.34 The majority of the Long Marston Airfield site is currently a Proposed Local Wildlife Site (pLWS). The reason for this designation is due to the potential for grassland habitats and overwintering birds. The initial and more detailed grassland survey by FPCR on behalf of CALA Homes indicates that much of the grassland is of low species diversity and, due to the activities on the

airfield, is actively managed. The masterplan allows for appropriate retention of better quality areas and has the ability to be refined further during the planning process to response to the changing nature of the site. This allows the established area of grassland to be appropriately managed and lead to an improved position across the whole site. In respect of the overwintering birds, a full survey is yet to be undertaken, but the masterplan includes the creation of a country park with a habitat and wildlife corridor along the brook which runs to the west of the site. This would include creation of wader scrapes and other habitat features to enhance the habitat for overwintering bird species. Overall, it is considered that the development on the airfield site would have a positive effect on the aims and objectives of the pLWS designation.

### **Western Relief Road**

2.35 The proposed Western Relief Road routes through an area to the south of Stratford-upon-Avon. It dissects a Local Wildlife Site and a proposed Local Wildlife Site, to the west of the Stratford Racecourse. The current proposed alignment also skirts around the west of the Racecourse Meadow SSSI, which is described in Natural England's most recent survey as being in an "unfavourable declining" condition. These areas are designated due to the presence of unimproved fields which are potentially species rich for grasslands and herbs although recent surveys indicate this is potentially in decline. Active management of the SSSI, as well as the pLWS and LWS areas, would help to address this and provide net benefits to the ecology of the area. CALA Homes would seek to implement an appropriate mitigation strategy to overcome these issues, with this included within the assumed costings for the WRR.

2.36 It should be noted that the proposed WRR alignment does not dissect the SSSI. This is incorrectly presented within the Sustainability Appraisal of Stratford-on-Avon Core Strategy (2014) which states (Table 3.5):

*"The current proposed route of the relief road bisects Racecourse Meadow SSSI, a local wildlife site and a proposed local wildlife site. The proposal would therefore have significant adverse impacts on biodiversity unless the impacts could be mitigated for or avoided."*

### **Landscape and Visual Impact**

2.37 The landscape and visual impact of the scheme will be mitigated by an appropriate masterplan design and landscaping strategy. Overall the site is contained from the wider landscape by a combination of the flattish topography, intervening vegetation and built development which limits its visibility from all directions. There are relatively few potential viewpoints into the scheme and most views will occur from locations at the site boundaries or in close proximity to the site. While there are likely to be distant views of the development from higher ground there will be very few of the whole scheme and, given the level of proposed public open space and green infrastructure, much of the built development is likely to be hidden in the longer term once the structure planting establishes. The proposed tree planting throughout the development will also significantly 'break up' the appearance of the built form.

The proposed scheme will therefore be able to fully mitigate its landscape and visual impact.

## **Contamination & Ground Conditions**

- 2.38 The history of the site as a WWII airfield and subsequent commercial airfield with open storage means that it is likely there will be some contamination. This could include contamination from ordnance, fuel storage/distribution and engineering/workshop operations associated with the airfield. A full ground contamination survey will need to be carried out, however, it is considered that the long-term decontamination of the site will be a major benefit of the scheme. This is accounted for within the assumed build cost for the scheme.
- 2.39 In addition to potential contamination, there is a large amount of topsoil and hardcore material on the site (e.g. with the existing bunds) and these will be retained on site and utilised to create levels for new development. In addition, materials such as the concrete within the runways, would be broken up and used as subsurface hardcore for the building of the internal roads within the site. Such measures will help to reduce the need for lorry journeys into and off of the site moving materials and would reduce the waste associated with ground conditions on site.

## **Archaeology & Historic Significance**

- 2.40 The main feature of historical significance on the site is the presence of a Deserted Medieval Village (DMV) adjacent to Campden Road on the east of the site. This DMV warrants retention in-situ and the masterplan reflects this, leaving the area as an undeveloped area.
- 2.41 There are also areas of ridge and furrow on the site, albeit of varying quality. Critically the areas of ridge and furrow identified are relatively isolated and not part of a wider and more significant field system. Some prominent areas of ridge and furrow are proposed to be retained as part of the indicative masterplan, including areas adjacent to the DMV, however, some elements may be removed recognising that significance and quality is lesser.
- 2.42 The previous Stratford-on-Avon consultation elicited a response from English Heritage stating that the WW2 Airfield Heritage of Long Marston should be retained. In this context, it should be noted that Long Marston Airfield was only ever an RAF training base and therefore played a less significant role in WW2 in comparison to other airfields. Few significant WW2 era buildings remain on the site, with the main existing features being three anti-aircraft gun emplacements (colloquially known as mushroom pillboxes ) and the Battle Headquarters located in the north eastern corner of the site. Both are proposed to be retained in a new parkland area. The control tower is the main other building of the era. The majority of other WW2 era buildings associated with the airfield are actually located to the east of Campden Road, where the technical and communal buildings were located, such as Bomber Command and WAAF buildings (and still exist today). These are not part of the Long Marston Airfield site.



- 2.43 Overall it is considered there would be no significant impacts upon archaeology or the historical significance of the airfield that would prevent the deliverability of the new settlement proposal.

## Existing Uses and Ownership

- 2.44 There is a range of disparate employment, leisure and open storage uses on the site. These include occupiers such as light aircraft, microlight and glider operators, a scrap metal business, a drag racing club, driving schools, clay pigeon shooting, radio controlled model clubs and a regular Sunday market. VOA data shows there is currently permanent commercial floorspace on the site totalling 1,818 sqm, comprising a range of small hangars, offices, portable cabins and workshops (alongside c.2,600 sqm of open storage area).
- 2.45 In addition to permanent occupiers, the site is available for hire for outdoor events, including music festivals, film and TV production and other shows/rallies. This brings in occasional and seasonal use to the estate, including the annual hosting of Global Gathering music festival and the Bulldog Bash rally. However, the owners of the airfield have indicated there is *“very little uptake in the facilities on the site at present.”*
- 2.46 All existing uses are either on short term leases or have suitable break clauses, which mean vacant possession of the site can be achieved in a phased manner to accommodate the proposed development. Some of the existing uses may be able to continue to operate in the short term on other parts of the airfield estate during the first phases of the residential development, enabling them time to seek other suitable premises. The aircraft operations from the site could potentially be consolidated onto airfields which have better facilities (such as Wellesbourne locally).
- 2.47 In total economic activity on the site is relatively low, with few FTE jobs accommodated in comparison to what is proposed through the new settlement development (and as evidenced in the Socio-Economic Assessment). There are no abnormal costs for achieving vacant possession of the site and it is considered that the proposed development would make a significant net beneficial contribution to the economic role of the site through the new proposed business park.
- 2.48 The whole airfield is in single ownership which means that there are no issues of land assembly associated with assembling the site for development. CALA Homes has an option on the entire airfield, which can be exercised should the site be allocated or receive planning permission for development.

## Summary

- 2.49 CALA Homes has commissioned a range of technical assessments to identify whether there are any constraints to the delivery of a 3,500 dwelling new community at Long Marston Airfield and to identify what package of mitigation measures would be necessary. The above summarises the outcome of these technical assessment and demonstrates that there are no fundamental barriers

to the delivery of the site. Although constraints have been identified, through sensitive masterplanning and design, alongside a package of infrastructure and mitigation measures, these can be fully avoided, mitigated or overcome. There are no technical barriers which would mean delivery of a residential-led, mixed-use, new settlement would not be feasible.

## 3.0 The Development Proposal

3.1 The vision for Long Marston Airfield is for a sustainable, mixed use new settlement, to be located on the 205 hectare, predominantly brownfield, site approximately 5km south of Stratford-upon-Avon. The proposed development will comprise of 3,500 new homes, including 1,225 affordable homes, two primary schools, a nursery, a secondary school, a new neighbourhood centre, a community centre, 13.5 hectare of employment development and the provision of significant areas of open space. An indicative site masterplan is presented in Figure 1.1.

Figure 3.1 Indicative site masterplan



Source: Long Marston Airfield New Settlement Vision document (2014)

3.2 In total the masterplan represents a net developable area of 127.5ha comprising 100ha residential, 13.5ha employment, 4ha local/neighbourhood centre uses and 10ha of education.

3.3 The following sections set out in more detail the nature of development and why it is being tested as part of this feasibility assessment.

### Delivering Housing

3.4 The primary proposed use is housing, with 3,500 new homes considered to be appropriate for the site. This level of housing development has been arrived at by firstly considering the size of, and constraints on, the site and secondly considering the appropriate scale of development which could create a critical

mass to support a viable and sustainable range of local facilities. In particular, 3,500 new homes, combined with other committed housing development in the locality and the existing settlements, would be sufficient to make a secondary school a feasible prospect for the site, alleviating a particular infrastructure pinch-point in the district. 3,500 dwellings would also be a scale of development that would make best use of this large brownfield site. The masterplanning exercise undertaken indicates that this scale of development could comfortably be accommodated on the site at appropriate net densities.

- 3.5 The types and mix of housing to be delivered will be established following allocation through any subsequent Supplementary Planning Document/Development Brief for the site, or through subsequent planning applications. However, for the purposes of testing feasibility it is assumed that a scheme in line with proposed Policies CS.17 and CS.18 would come forward. This would include 35% affordable housing (of which 20% would be Affordable Rented, 60% Social Rented and 20% Intermediate tenures) and a mix of dwelling types/sizes in line with the general needs housing mix. This would arrive at a dwelling mix for the 3,500 dwellings on the Long Marston Airfield scheme as set out in Table 3.1.

Table 3.1 Indicative Dwelling Mix

Dwelling Mix:	Market Tenures (65%)	Affordable Tenures (35%)		
	Market Housing (65%)	Social Rented (21%)	Affordable Rented (7%)	Intermediate (S/O) (7%)
1-bed Apartment (Market Only)	102	0	0	0
2-bed Apartment (Market Only)	340	0	0	0
1-bed Maisonette/Coach House	11	51	17	0
2-bed Maisonette/Coach House	46	110	37	24
1-bed Bungalow	0	22	7	0
2-bed Bungalow	23	22	7	0
2-bed House	501	162	54	98
3-bed House	910	221	74	98
4-bed House	228	147	49	25
5-bed House	114	0	0	0
<b>Total</b>	<b>2,275</b>	<b>735</b>	<b>245</b>	<b>245</b>

Source: Proposed Policies CS.17 and CS.18

## Delivering Employment

- 3.6 The masterplan makes provision for some employment uses, with 13.5ha of land within the indicative masterplan budget proposed for a business park. The intention of the employment area is to provide opportunities for businesses to thrive in modern offices and premises in an attractive environment, whilst providing employment opportunities close to people's homes.

- 3.7 Initial feasibility work has been carried out by commercial property consultants Bruton Knowles on behalf of CALA Homes and indicates that there is excellent demand across Stratford-on-Avon district for commercial premises. There are particular requirements for premises within the automotive industries and supply chains, within research and development and for flexible courtyard-style office schemes. The delivery of employment development will be guided by the market, however, CALA Homes envisage that any employment park would be for clean, high technology, uses as opposed to typical industrial uses which could create amenity conflicts with the proposed housing. This could include incubation space for start-up businesses as well as flexible space for SME occupiers. This would complement, rather than compete with, other commercial premises in the area, such as that on the Long Marston Depot site and Station Road Industrial Estate.
- 3.8 At this stage, an indicative employment park totalling 50,000 sq. m of B1 office space (net lettable area) has been used for testing. An assumption of 15% floorspace on top is adopted to estimate gross internal area. Initial soft market testing with commercial developers suggests that this is a feasible location for providing a business park of this scale, albeit the market will dictate when this comes forward and the exact nature and mix of occupiers.

## **Delivering Shops and Commercial Services**

- 3.9 The indicative masterplan includes provision for up to 8,600 sq. m of floorspace within the local centre and neighbourhood centre, with up to 7,500 sq. m of this to be within use classes A1-A5. The local centre and neighbourhood centre areas are anticipated to include a small supermarket, convenience and comparison shops, key local retail services such as a hairdresser, post office and dry cleaners as well as other commercial services such as estate agents and a bank. There would also be a range of food and drink uses including a public house, cafes, restaurants and takeaways. In addition the local centre will be a focus for community uses, such as the community centre, library and health centre.
- 3.10 The intention of the centres is to provide a sustainable mixed use community, with local shopping and services available to the residents of the new settlement. It is not intended that the centre will serve a significantly wider catchment than the site and immediate area, and the proposed schemes feasibility is not reliant, for example, on accommodating a large format supermarket.

## **Development Trajectory**

- 3.11 A development trajectory for the entire new settlement is set out within the Long Marston Airfield New Settlement Vision document. It anticipates delivery over a 20 year period following first completion on the site. In respect of residential build rates, it is currently estimate that average rates of delivery would increase from 150 homes per annum in the early years, to 200 homes per annum in the later years, average 175 homes per annum across the whole

20 year build period. This is considered to represent a reasonable pace of delivery for a large housing development and is, for example, comparable to the range of average delivery rates on new settlements at Dickens Heath, Solihull (average of 131 dwellings per annum); Kings Hill, Tonbridge and Malling (141 per annum); Cambourne, South Cambridgeshire (254 per annum); and Great Notley, Braintree (222 per annum).

3.12

While in the initial stages of development, the needs of the new populations could be absorbed by available capacity at existing infrastructure and services and the provision of interim measures, housing development at Long Marston Airfield would be accompanied by delivery of the important infrastructure and services in a timely manner with early delivery where possible. In particular, it is anticipated the WRR would need to be provided by the 1,000 dwelling and the primary school/secondary school would also need to be completed in the early phases (at a time to be agreed with WCC so as not to have empty schools having to be funded in the interim).

## 4.0 **Deliverability**

- 4.1 In order to assess the financial deliverability of the scheme, a high level indicative viability appraisal has been undertaken which uses a residual land value approach to test the overall feasibility of the scheme. This fully reflects the costs and values of the above proposed development, infrastructure and mitigation measures required to overcome constraints as understood currently (July 2014). It should be noted that as the masterplan evolves and detailed surveys are undertaken the assumptions herein may also evolve.

## **Development Appraisal Tool**

- 4.2 This Assessment uses the Homes and Communities Agency's Development Appraisal Tool (DAT) to assess the viability of the proposed development. This model has been developed to help test the level of planning obligations and affordable housing provision that would be deliverable on an individual development site. It is an "open source" cash flow model which is intended to enhance the collaborative approach by enabling all parties to understand the input data, computations and outputs.
- 4.3 The DAT is a Residual Land Value (RLV) model. This means that it identifies the Gross Development Value of the completed development and then subtracts all necessary development costs (including abnormal site and discretionary costs, s106 costs and profit), other than the cost of the land itself. The resultant figure is the Residual Land Value. This represents the amount of money that the scheme generates that will be used to purchase the land. It can be compared to the price paid for the site or a current valuation in order to assess whether the scheme is capable of generating an adequate amount to ensure its viability.
- 4.4 A summary of the key inputs and assumptions that have informed this assessment of development viability are set out below.

## **Viability Inputs and Assumptions**

- 4.5 The inputs, including value and cost assumptions have been provided by CALA Homes and the consultant team working on the Long Marston Airfield project or appropriately sourced to industry standards or published data. Where applicable, values have also been benchmarked or drawn across from the Peter Brett Associates (PBA) work on Strategic Site Deliverability undertaken on behalf of Stratford-upon-Avon District Council. These can be generally set against accepted norms and industry average figures for the purposes of comparison.

## Value Inputs

### Residential

- 4.6 Open market values for the indicative mix of houses have been identified based upon a review of house prices for new build homes within the area, as well as CALA Homes' recent experience of sale values for similar properties in similar locations. Average dwelling sizes are also based upon CALA house types in recently completed developments. Total £ per sq. m values vary between c.£2,300 for apartments to c.£3,300 for larger house types. This compares with a standard £ per sq. m value of £3,250 assumed by PBA for the central area of the district within the Viability and Deliverability of Strategic Sites (2014) work. These are set out in Table 4.1.

Table 4.1 Open Market Values and Sizes for House Types

Unit	Average Size (sqm)	Open Market Value	£ per SQM
1-bed Apartment (Market Only)	55	£130,000	£2,364
2-bed Apartment (Market Only)	70	£160,000	£2,286
1-bed Maisonette/Coach House	55	£130,000	£2,364
2-bed Maisonette/Coach House	70	£160,000	£2,286
1-bed Bungalow	60	£185,000	£3,083
2-bed Bungalow	75	£230,000	£3,067
2-bed House	70	£200,000	£2,857
3-bed House	80	£260,000	£3,250
4-bed House	125	£410,000	£3,280
5-bed House	155	£510,000	£3,290

Source: NLP Analysis / CALA Homes

- 4.7 In respect of affordable housing, this will be delivered in partnership with a registered provider. For the purposes of this high level viability assessment it is assumed that CALA Homes will receive a proportion of open market value as a return on the affordable housing element. This is set out within Table 4.2 and draws upon the same proportions as set out with the PBA work.

Table 4.2 Return on Affordable Housing

	Social Rented	Affordable Rented	Intermediate (S/O)
% of OMV Return	45%	55%	65%

Source: PBA Strategic Sites Viability Assessment (2014)

### Commercial

- 4.8 The commercial elements of the scheme, including retail and offices, have been valued based on a capitalisation of an open market rent. These values have been provided by commercial property agents Bruton Knowles and are based upon recently achieved rents and yields within the area.



Table 4.3 Retail and Office Values and Yields

	Rent (£ per sq. m)	Yield
Retail (Blended A1-A5)	£161	6.50%
Commercial (B1 Offices)	£172	7.50%

Source: Bruton Knowles

## Cost Inputs

### Build Costs

- 4.9 CALA Homes' is a national housebuilder and has a purchasing power which means that it is capable of achieving competitive build costs, particularly on a project of this scale. Drawing upon build cost estimates for the scheme, an equivalent average build cost figure of £1,031 per sq. m has been applied for the residential element of this development. This takes account of the costs of the construction and fit out of the dwellings, together with the provision of roads, landscaping, services, site preparation and on-site overheads and the achievement of CSH Level 4 and lifetime homes as well as other externals. This is comparable to the c.£1,000 per sq. m utilised in the PBA work.

Table 4.4 Build Costs, Professional Fees and Contingency

	Cost per sqm (Gross)	Design & professional Fees	Contingency
Residential	£1,031	12.00%	5.00%
Retail (Blended A1-A5)	£1,000	12.00%	5.00%
Commercial (B1 Offices)	£1,238	12.00%	5.00%

Source: Residential: CALA Homes - Commercial: Bruton Knowles

- 4.10 On top of these build costs a 12% allowance has been made for professional fees to cover surveys, architects, quantity surveyors and other professional services, as well as a 5% contingency based upon industry standards. CALA Homes has also included a £4m allowance for abnormals associated with the work to the gas main which crosses the site.

### Project Fees and Other Costs

- 4.11 A range of other fees and costs have been incorporated into the assessment to reflect costs for sales and marketing, Stamp Duty Land Tax (SDLT), legal fees, agent fees and finance costs. These draw upon industry standards for fees, or in the case of SDLT the prescribed rate by HMRC. Each of these rates are comparable to fees used in the PBA work.
- 4.12 For the purposes of this appraisal and testing viability a standard assumption that the project is debt financed is assumed, with the cashflow utilising a finance rate based upon current market rates of interest. However, CALA Homes is backed and owned by joint venture between Legal & General and Patron Capital Partners, providing it alternative access to finance rather than borrowing on the open market. This secure financial platform will allow lower

finance costs than typical. This appraisal, therefore, still adopts an assumption on debt financing, but assumes a lower interest rate of 5% than the 7% assumed in the PBA work.

Table 4.5 Project Fees and Other Costs

Fee/Cost	%
<b>Residential</b>	
Sales and Marketing Costs (% of Value)	3.00%
<b>Commercial (B1 Offices)</b>	
Sales Costs incl. SDLT, Agent Fees, Rent Free, Disposal etc. (% of Value)	5.75%
Lettings & Advertising Fees (% of Rent)	4.75%
<b>Retail (Blended A1-A5)</b>	
Sales Costs incl. SDLT, Agent Fees, Rent Free, Disposal etc. (% of Value)	5.75%
Lettings & Advertising Fees (% of Rent)	4.75%
<b>Other Misc Costs</b>	
Site Purchase Costs: Agents Fees (% of site cost)	1.00%
Site Purchase Costs: Legal Fees (% of site cost)	0.75%
Site Purchase Costs: Stamp Duty (% of site cost)	4.00%
Finance Costs: Interest Rate	4.50%
Finance Costs: Credit Balance Reinvestment	4.50%

Source: PBA / Bruton Knowles / CALA Homes

### Infrastructure, S106 and CIL

4.13

Section 2.0 of this report sets out all the necessary infrastructure and mitigation necessary to make the development acceptable. The overall costs associated with each item of infrastructure are set out, with a total infrastructure package of £120m associated with the Long Marston Airfield new settlement proposals. Table 4.6 sets out the range of on-site, off-site and transport infrastructure included within the appraisal. Each of these is costed inclusive of all fees and costs.

Table 4.6 Infrastructure, s106 and CIL Costs

Infrastructure Item	Cost
<b>Infrastructure On-site</b>	
Schools (2 x Primary & 1 x Secondary)	£30,000,000
Library & community buildings	£1,900,000
Police Post	£100,000
<b>Other Infrastructure Off-Site</b>	
CIL Residential (£60 per sqm gross development)	£11,691,900
CIL Retail (£120 per sqm gross development)	£1,035,000
Off-site 6th Form	£1,700,000
Rail contribution (or other)	£17,000,000
<b>Transport</b>	
Off-site Highway junctions (Campden Road & Stratford)	£7,200,000
Public Transport (e.g. Bus)	£2,800,000
2 Roundabouts (Site Entrances)	£1,000,000
Travel Plan	£300,000
Walking and cycling enhancements	£1,200,000
Western Relief Road (WRR)	£29,000,000
WRR Land Costs (all inclusive)	£15,000,000
<b>Total</b>	<b>£119,926,900</b>

Source: CALA Homes

## Profit

- 4.14 CALA Homes are assuming a 20% developer profit across the whole scheme. This is comparable to the profit margins utilised within the PBA work and represents a 'normal' level of developer's profit margin, reflecting the development risk for a project of this scale, and having regard to the profit requirements of the providers of development finance for this scheme.

## Viability Assessment

- 4.15 Bringing together the above assumptions within the HCA Development Appraisal Toolkit, provides a residual appraisal. The headline outputs of this is included in the following tables whilst a full output is included in Appendix 1.

Table 4.7 Total Value

Element	Input/Output	Value
<b>VALUES</b>		
Open Market Dwellings	No. Dwellings	2,275
	Total Floor Area (sqm) – Net / Gross	189,000 / 194,865
	<b>Total Market Residential Value (GDV)</b>	<b>£570,160,000</b>
	<i>Average Value (/sqm) – Net / Gross</i>	<i>£3,017 / £2,926</i>
	<i>Average Value (/unit)</i>	<i>£250,620</i>
Affordable Dwellings	No. Dwellings	1,225
	Total Floor Area (sqm) – Net / Gross	100,067 / 103,442
	<b>Total Affordable Residential Value (GDV)</b>	<b>£175,381,250</b>
Retail and Commercial	Retail Floorspace (sqm) – Net / Gross	7,500 / 8,625
	Retail GDV	£17,566,830
	Office Floorspace (sqm) – Net / Gross	50,000 / 57,500
	Office GDV	£108,431,836
	<b>Total Commercial Value (GDV)</b>	<b>£125,998,666</b>
<b>Total</b>	<b>Total GDV</b>	<b>£871,539,916</b>

Source: NLP Analysis using HCA DAT

Table 4.8 Total Direct Costs

Element	Input/Output	Value
<b>COSTS</b>		
Residential Dwellings	Construction Cost Residential	£307,554,881
	<i>Build Cost (/sqm)- Net / Gross</i>	<i>£1,064 / £1,031</i>
	<i>Built Cost (/unit)</i>	<i>£87,873</i>
	Abnormals	£4,000,000
	Fees	£38,751,915
	Contingencies	£15,377,744
	<b>Total Residential Build Cost</b>	<b>£365,684,540</b>
Retail and Commercial	Construction Cost Retail	£9,056,250
	Fees Retail	£1,430,395
	Construction Cost Office	£74,744,250
	Fees Office	£11,124,867
	<b>Total Commercial Build Cost</b>	<b>£96,355,762</b>
Other	Infrastructure / Section 106 / CIL	£119,926,900
	Marketing	£17,104,800
	<b>Total Other Costs</b>	<b>£137,031,700</b>
<b>Total</b>	<b>Total Direct Costs</b>	<b>£599,072,002</b>

Source: NLP Analysis using HCA DAT

Table 4.9 Indirect Costs

Element	Input/Output	Value
<b>INDIRECT COSTS</b>		
Finance	Finance/Interest	£34,568,036
	<b>Total Finance</b>	<b>£34,568,036</b>
Profit	Profit on Open Market Residential	£114,032,000
	Profit on Affordable Residential	£22,396,304
	Profit on Commercial	£25,199,733
	<b>Total Profit</b>	<b>£161,628,037</b>
Acquisition Costs	Agent Fees	£721,247
	Legal Fees	£540,935
	Stamp Duty Land Tax	£2,884,987
	<b>Total Acquisition Costs</b>	<b>£4,147,169</b>
<b>Total</b>	<b>Total Indirect Costs</b>	<b>£200,343,242</b>

Source: NLP Analysis using HCA DAT

Table 4.10 Residual Land Value

Element	Input/Output	Value
<b>RESIDUAL LAND VALUATION</b>		
RLV For Land	<b>Residual</b>	<b>£72,124,673</b>
	RLV per ha (Gross – 205ha)	£351,828
	RLV per ha (Net Developable – 127.5ha)	£613,827
	RLV per ha (Net Residential – 100ha)	£721,247
<b>Total</b>	<b>Residual</b>	<b>£72,124,673</b>

Source: NLP Analysis using HCA DAT

- 4.16 The appraisal shows a residual land value for the airfield of £72,124,673, equivalent to £351,828 per hectare for the whole 205ha site. This is significantly above Existing Use Value for the airfield. The PBA Viability and Deliverability of Strategic Sites study adopts a figure of £600,000 per net hectare as an appropriate benchmark to test viability, whilst providing a competitive return to a willing landowner. Based upon the 117.5ha net developable area of the site (residential and commercial land), the residual land value totals £613,827 per hectare, which significantly exceeds the benchmark.
- 4.17 Comparing the outcome of the above appraisal with that contained for Long Marston Airfield within the PBA report, it is clear that the outcomes are similar. The PBA report concludes a residual land value per net residential hectare for Long Marston Airfield of £923,550. This is predicated on a 2,100 dwelling scheme to be provided within the Core Strategy period. The scheme appraised above returns a lower £721,247 per net residential hectare, on the basis of a 3,500 dwelling scheme proposed over a longer period, however, this retains significant headroom against benchmark values.

## 5.0 Conclusions

- 5.1 The vision for a New Settlement at Long Marston Airfield is a viable, deliverable and self-financing prospect. Fundamentally, the proposal is feasible and could deliver housing to meet the acute needs of the housing market area within the short and long term. Whilst there are a range of identified constraints and infrastructure barriers to overcome, the suite of assessments produced by CALA Homes have presented viable and feasible solutions to mitigate the impacts of development. These have also, in many instances, been initially agreed through position statements with key technical stakeholders, in order to ensure that, were Long Marston Airfield to be brought forward for development of a new settlement, appropriate infrastructure provision or mitigation could come forward. These are initial technical assessments demonstrate that there are no fundamental barriers to the delivery of the site, and this feasibility assessment brings those factors together.
- 5.2 Furthermore, based upon CALA Homes' expectation of Gross Development Value for the site (i.e. how much return all of the homes and other buildings well generate) and making an appropriate allowance for costs, the scheme represents a financially viable proposition. Although infrastructure costs and mitigation works will be costly, with £120m put aside solely for the delivery of infrastructure necessary to support the new settlement and benefit the whole of Stratford-on-Avon, these are consistent with a financially viable development. This assessment continues to support the conclusion arrived at by Stratford-on-Avon District Council and PBA through the Strategic Sites Deliverability and Viability Study, in that LMA is deliverable. However, this assessment goes further to evidence the feasibility of key works necessary to mitigate impacts, demonstrating that workable solutions are available.
- 5.3 CALA Homes remains committed to delivering on its vision for creating a new community at Long Marston Airfield which invokes Garden City principles and delivers a superb place to live work and socialise. If Long Marston Airfield were to be allocated for this development CALA Homes consider there are no factors that might prevent the delivery of this vision.

# Appendix 1 Viability Assessment







## Long Marston Airfield : Feasibility Assessment

### Residential Building, Marketing & Section 106 Costs

Affordable Housing Build Costs	£106,649,066		per net sq meter	
Open Market Housing Build Costs	£200,905,815		£1,063	
		<b>£307,554,881</b>	£1,063	

#### Other site costs

Building Contingencies	5.0%	£15,377,744	per residential unit	£4,394
Fees and certification	12.0%	£38,751,915		£11,072
Other Acquisition Costs (£)		£0		

#### Site Abnormals (£)

Gas main		£4,000,000	per residential unit	£1,143
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<b>Total Building Costs inc Fees</b>		<b>£365,684,540</b>		<b>£104,481</b>
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#### Statutory 106 Costs (£)

Education		£31,700,000	per residential unit	£9,057
Western Relief Road		£44,000,000		£12,571
Social Infrastructure		£2,000,000		£571
Transport		£4,300,000		£1,229
Junction Improvements		£7,200,000		£2,057
Site Entrances		£1,000,000		£286
Community Infrastructure Levy		£11,691,900		£3,341
CIL on Retail		£1,035,000		£296
Contribution to Rail (or other)		£17,000,000		£4,857

<b>Statutory 106 costs</b>		<b>£119,926,900</b>		
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#### Marketing (Open Market Housing ONLY)

Sales/letting Fees	3.0%	£17,104,800	per OM unit	£7,519
Legal Fees (per Open Market unit):	£0	£0		

<b>Total Marketing Costs</b>		<b>£17,104,800</b>		
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### Non-Residential Building & Marketing Costs

#### Building Costs

Office	£74,744,250		
Retail	£9,056,250		
Industrial	£0		
Leisure	£0		
Community-use	£0	<b>£83,800,500</b>	

#### Professional Fees (Building, Letting & Sales)

Office	£11,124,867		
Retail	£1,430,395		
Industrial	£0		
Leisure	£0		
Community-use	£0	<b>£12,555,262</b>	

<b>Total Non-Residential Costs</b>		<b>£96,355,762</b>	
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<b>TOTAL DIRECT COSTS:</b>		<b>£599,072,002</b>	
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#### Finance and acquisition costs

Land Payment	£72,124,673	351,828	per Gross ha	721,247	per Net ha
Agents Fees	£721,247	31,703	per OM home	20,607	per home
Legal Fees	£540,935				
Stamp Duty	£2,884,987				
Total Interest Paid	£34,568,036				

<b>Total Finance and Acquisition Costs</b>		<b>£110,839,877</b>	
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#### Developer's return for risk and profit

##### Residential

Market Housing Return (inc OH) on Value	20.0%	£114,032,000	50,124 per OM unit
Affordable Housing Return on Cost	20.0%	£22,396,304	18,283 per affordable unit

##### Non-residential

Office	£21,686,367	
Retail	£3,513,366	
Industrial	£0	
Leisure	£0	
Community-use	£0	<b>£25,199,733</b>

<b>Total Operating Profit</b>		<b>£161,628,037</b>
(i.e. profit after deducting sales and site specific finance costs but before deducting developer overheads and taxation)		

<b>Surplus/(Deficit) at completion 1/1/2033</b>	<b>£0</b>
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<b>Present Value of Surplus (Deficit) at 1/1/2018</b>	<b>£0</b>	£0 per unit
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<b>Scheme Investment IRR</b>	<b>10.1%</b>	(before Developer's returns and interest to avoid double counting returns)
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#### Measures

Site Value as a Percentage of Total Scheme Value	8.3%
Site Value per hectare	£0

## Appendix 2 Report on Gas Main Options





# Hamer Associates

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Tom Broster  
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B95 5QR

Date 09 May 2014  
Your ref 0568-387  
Direct Dial 0121 212 0002

Email: [bencaldwell@hamer-associates.co.uk](mailto:bencaldwell@hamer-associates.co.uk)

Dear Tom

## **Long Marston Airfield Campden Road**

### **Introduction**

As requested we now provide our advice in relation to the high pressure gas pipeline crossing the site at Long Marston Airfield Campden Road.

The focus of this advice is based upon the scenario of the gas pipeline being diverted and reinforced on an alternative route allowing the maximum amount of units to be built on site.

We will address the following points;

- The extent of the works
- The budget cost for the works
- Timing for the works
- Constraints following the works

We now cover these points in turn.

### **1. The extent of the works**

The pipe in question is classified as R-rural and is comprised of a thin walled pipe (1200mm) with the clearances currently set out by HSE of:

Inner zone = 55 metres  
Middle zone = 170 metres  
Outer zone = 210 metres

During our discussions with National Grid we were informed that protecting the pipe would be insufficient in order to allow for residential development to occur in close proximity. As a result, reinforcement and diversion is the only option available to allow for residential development to be allowed in close proximity to the pipe.



By reinforcing and diverting the section of pipe crossing the site (including the stand off zone off site) with a thick walled pipe would enable residential development to take place to 3 metres from the pipeline. The practicalities of diverting the pipe were discussed at length and National Grid would look to use an outage season taking the pipe out of commission to facilitate the works. The pipe is classed as a dual feed pipeline so there is the possibility that the pipe could be shut down to allow for works to take place whilst the pipe is not operating at pressure. This option would need to be explored at the design feasibility phase. Should this option not be viable then National Grid can work on the pipeline whilst it remains operational and slowly reduce the pressure in the pipe to a manageable level and then start to divert the gas using their stopple method. This will allow for the section of pipe, which is to be diverted, to be removed whilst supply is maintained through the temporary measure. Once the pipe has been diverted, the gas can then be diverted back through the new reinforced pipe and pressure returned to normal operational capabilities.

## **2. Budget costs for the works**

We were provided with an indicative cost of £4,000,000 for the reinforcement and diversion works by National Grid.

## **3. Timing for the works**

During our discussions, National Grid informed Hamer Associates that indicative timescales for the works to be completed range from 3-5 years. However, National Grid did have indicated that should the design and procurement stages run smoothly there is the possibility the pipeline works could be completed within 2 years. Upon agreeing to a diversion, National Grid would commission a feasibility study (at a cost of approximately £70,000) and once complete (normally 8 months) the design and procurement process will begin. The main obstacle in the process is procurement. To be ordered is seen as a relatively short section of pipeline, and with there being only one manufacturer – Europipes in Germany of high grade steel at a minimum of 19.1mm thickness, this element of the works could bring about delays (due to the priority of Europipes being towards the larger scale pipes which are far more time consuming to manufacture). Once the pipe has been manufactured the construction phase can begin, described above, which would normally take 12-18 months depending on the level of excavation and reinstatement required.

The diversion of the pipeline will not impact on the delivery of the site and the timescales associated with the construction of the site. Over half of the development will be delivered prior to the diversion taking place.

## **4. Constraints following the works**

As the pipe would be reinforced and diverted through the development, constraints on developing up to the pipeline will be approximately 3 metres from the centre line of the pipe (which would be referred to within the easement the pipe would be held on).

Date 09 May 2014  
Your ref 0492-351  
Page 3

### **Conclusion**

After meeting and discussing our proposals with National Grid, they have confirmed that a diversion is agreed in principle. We understand that you are agreeable to a diversion through the site on the basis indicated and discussed with National Grid.

Kind Regards



Ben Caldwell

**Hamer Associates-Senior Surveyor**





## Appendix 3 Position Statement from Severn Trent Water on Wastewater Treatment





## **Position statement regarding foul sewerage options to accommodate strategic development proposals at Long Marston Airfield, Warwickshire.**

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### **Overview**

This document is intended to provide an overview of the foul sewerage provision to accommodate a strategic development option being proposed by Cala Homes at Long Marston Airfield, Warwickshire. It is understood this site could accommodate 3,500 residential units, schools and commercial development.

In terms of additional population this would equate to a population increase of 8,000.

It is understood that surface water from the development will not be connected to the public sewerage system but will be discharged to local water features.

### **Existing Catchment Overview** (Please refer to Appendix A).

The current Long Marston sewage treatment works serves an equivalent population of around 2400 people serving the village of Long Marston to the west and the villages on Lower and Upper Quinton to the south-east (pumped via Station Road SPS). At present the current treatment consent there is theoretical spare capacity at Long Marston STW to accommodate a further 1200 dwellings without significant improvements.

As the strategic development site is located immediately adjacent to Long Marston STW there would not be any impact on the existing sewerage system. Due to topography several pumping stations are expected as part of the new on-site drainage in order to connect to the treatment works.

### **Existing Planning Proposals**

Severn Trent is already aware that planning permissions have been submitted for 1000 or so residential units and commercial development within the Long Marston Storage Depot site as well as smaller developments within Long Marston village (approximately 50 dwellings). Consequently should these be approved there will be effectively no spare treatment capacity available to accommodate further strategic allocation on the Long Marston airfield site.

Irrespective of these planning permissions there would not be sufficient spare capacity to accommodate a further 3500 dwellings without significant upgrades to Long Marston STW and most likely complete replacement. There may also be volumetric and water quality constraints within the Gran Brook which may restrict the ability to discharge this increased treated effluent but at this stage these environmental constraints have not discussed this with the Environment Agency.

## **Capacity Options**

There basically two solutions, either to upgrade/replace Long Marston STW or to pump all flows away to an alternative treatment works with spare capacity. The nearest suitable treatment works with spare capacity to accommodate the transfer of flows from Long Marston STW and the additional developments would be Stratford (Milcote) STW, which lies around 4.7km to the north east.

At this stage we have not appraised either option but the option to retain/upsized Long Marston STW would be subject to discussions with the Environment Agency. The route of any rising main would need to be assessed in due course but to minimise impact to neighbouring landowners we would probably look to lay part of the route through the development site (and potentially follow the route of The Greenway).

## **Summary**

In summary, Long Marston STW currently has sufficient spare capacity to accommodate the existing planned development within the Long Marston Storage Depot site/Long Marston village but will not be able to accommodate any further development without significant upgrades (subject to being able to secure a new discharge consent) or by pumping flows direct to Stratford (Milcote) STW. At this stage the option to pump all flows to Stratford (Milcote) STW is envisaged to be the preferable solution should this development be approved.

## **Capacity Timescales**

Due to land and planning constraints, it is envisaged that it could take 3-4 years before long term capacity is available to accommodate major development on Long Marston airfield.

In the short term it is envisaged that the spare capacity at Long Marston STW would be sufficient to accommodate the initial phased build profile of developments across the catchment ahead of the long term solution being commissioned.

Assuming completion estimates as follows:

- Long Marston Depot – 100 Units per annum (Based on the 2 No. sales outlets at 50 units per year).
- Long Marston village – 25 Units per annum.
- Long Marston Airfield - 200 Units per annum (Based on 4 No. sales outlets at 50 units per year).

The below table summarises the cumulative residential completions and indicates that the spare capacity at Long Marston STW would not be reached capacity until 2018. This is expected to provide a sufficient window to allow the long term infrastructure to be commissioned (either provide additional treatment capacity or pump to Stratford STW).

<b>Residential Completions</b>							
	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>Long Marston Airfield</b>	0	0	200	200	200	200	200
<b>Long Marston Depot</b>	100	100	100	100	100	100	100
<b>Long Marston Village</b>	25	25	0	0	0	0	0
<b>Cumulative Completions</b>	<b>125</b>	<b>250</b>	<b>550</b>	<b>850</b>	<b>1150</b>	<b>1450</b>	<b>1750</b>

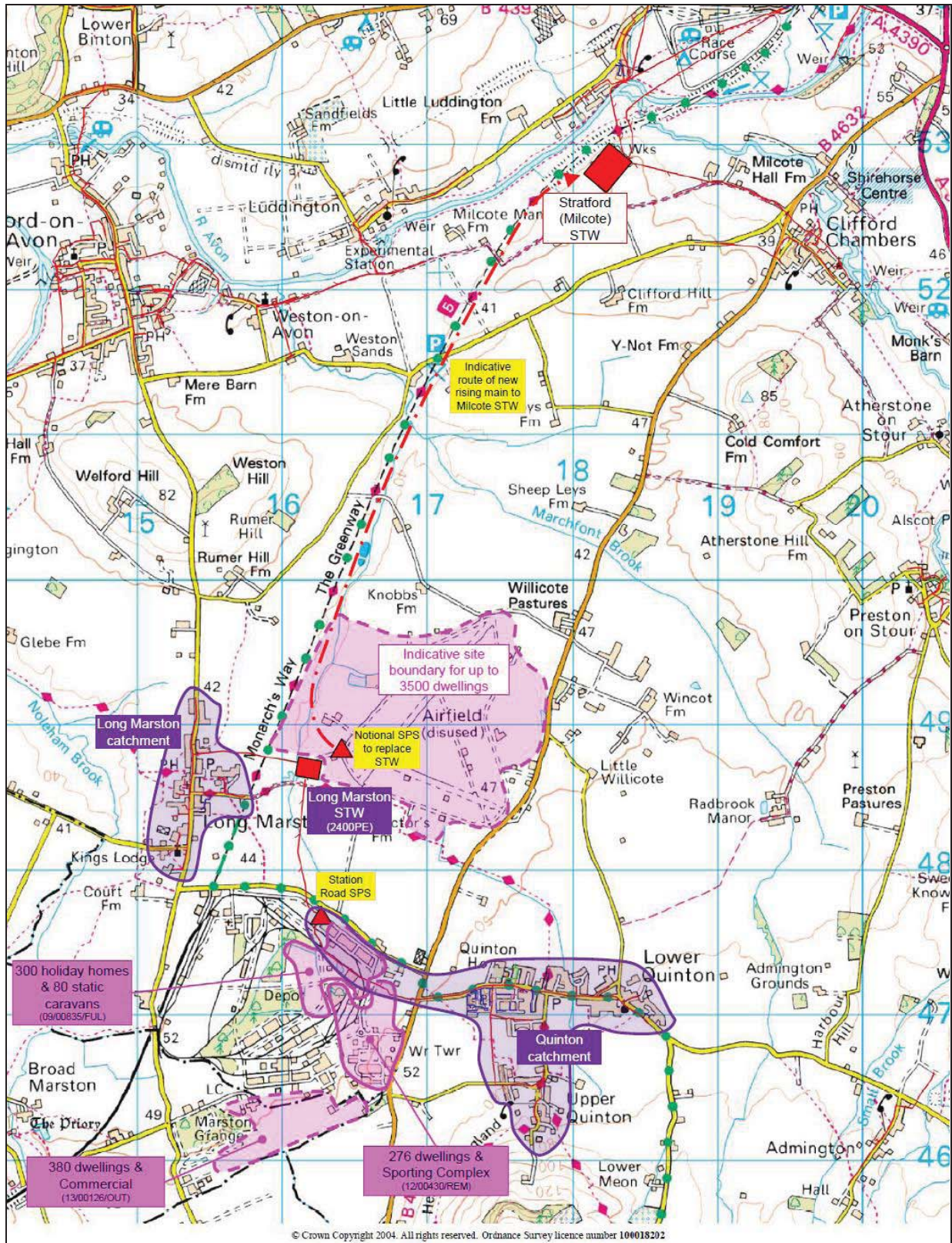
To avoid abortive expenditure clarification over the certainty of this development would be required as it is understood that Stratford on Avon District Council are considering the other alternative “strategic site options” across the Stratford district.

13 May 2014

Paul Hurcombe  
Severn Trent Water  
Waste Water Strategy



**Appendix A – Overview of development location in relation to the existing sewerage system**





## CALA HOMES

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