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# 1. Introduction

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## 1.1 Background to study

The development trajectories set out in the Government's Communities Plan for 200,000 new homes in the South-East by 2016 presents potential challenges for the affordability and availability of flood insurance in the growth areas.

- Many of the homes will be located in the Thames Estuary floodplain (up to 120,000), potentially vulnerable to a large-scale storm surge event.
- Ashford in Kent, and parts of the Milton Keynes and Stansted-Cambridge corridors, are vulnerable to inland flooding risk.
- The high housing densities proposed could increase sewer flooding, if the capacity of the existing drainage system is compromised.

The Barker report also recently recommended that house-building rates would need to almost double to supply an additional 120,000 homes each year to stabilise house price increases. Furthermore, the Thames Gateway London Partnership (TGLP) Board have already recommended that London should aim for an additional 30,000 homes above their current allocation to alleviate the extreme housing shortage in the city.

## 1.2 Scope of work

In August 2004, Entec was commissioned by the Association of British Insurers (ABI) to undertake a study to evaluate four key objectives relating to the future flood risk of housing and commercial development within the four main growth areas.

The scope of work to be undertaken by Entec was:

- **Review the current and proposed development situation in the growth areas** (including Thames Gateway) using published strategic level planning documents. This review considers documents including: the Barker Report; ODPM Sustainable Communities Plan; Regional Strategic Framework (formerly Regional Structure Plans); Middlesex study on Gateway/Strategic Flood Risk Assessments; the draft London; Flooding in London Report, 2002 by the Greater London Authority, Environment Agency Thames Estuary 2100 reports and the Office of Science and Technology Foresight reports of future projections of flood risk. The main purpose of this review was to evaluate the spatial locations of future development and the relative flood threat within each area.
- **Map the current and proposed development situation in the growth areas** along with standards and positions of defences, the condition of defences, and local topography. This concentrated on the first wave of development in the growth

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areas to 2016, but also considered the level and potential spatial location of development to 2030 and beyond (e.g., Barker Review).

- **Examine the impacts of these developments on flood risk** (probability and consequences), in terms of both insured and total economic losses (where possible). This was compared to the costs of other development options and some of the broader economic benefits of the development.
- **Evaluate different options for reducing flood risk**, and compare their impacts on both the probability and consequences of flooding in the form of a cost benefit analysis. This included consideration of: standards of river and coastal defence; different kinds of defence; locations of developments in relation to position of s and flood-resilient property construction methods.
- **Appraise these options by considering their costs, their net consequences for flood risk, and the policy levers** required to bring these options into practical action on the ground, such as identifiable associated benefits (e.g., biodiversity), and legislation (e.g., Water Framework Directive).
- **Recommendations** on how sustainable flood management should be incorporated into delivery of the Government's Communities Plan; information to enrich ABI's guidance on strategic planning for flood risk in the growth areas and an outline of the policy options necessary to bring about these changes

## 1.3 Report Structure

The remainder of this interim report is split into fifteen chapters covering the following topics:

### **Chapter 2 Review of National and Regional Planning Framework**

Review of the national drivers for development (including Sustainable Communities Plan and the Barker Review) within the four main growth areas. This focuses on recently completed regional growth area reports, current development timescales and key implementation requirements.

### **Chapter 3 Ashford Growth Area**

This chapter provides a more detailed review of the current development plans for the Ashford growth areas. This focuses specifically on recently completed studies conducted by Urban Initiatives (Urban Masterplan) and Black and Veatch (flood risk assessment).

### **Chapter 4 M11 Corridor Growth Area**

This chapter reviews the key growth areas of Harlow, Stevenage, Cambridge and Peterborough highlighting a number of key sites with potential inland flood related issues.

### **Chapter 5 South Midlands Growth Area**

This chapter reviews the key growth areas of Aylesbury, Bedford, Milton Keynes, Northampton and Wellingborough and highlights inland flood related issues for specific sites.

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## **Chapter 6 Thames Gateway Growth Area**

Overview of the development and flood related areas within the Thames Gateway, including the London Gateway, Kent Thameside, South Essex, Medway and Grain; and Sheerness/Sittingbourne. The review focuses on the relation of proposed sites to both coastal and inland flood vulnerability and highlights current plans to mitigate potential flood losses.

## **Chapter 7 - Analysis methods and datasets**

This chapter reviews the various datasets (NaFRA flood probability maps and National Property Dataset) and techniques (Average Annual Damages) used to assess flood losses within this study. This provides the background understanding for the interpretation and assessment of the various results and relationships presented in the remaining chapters of the study.

## **Chapter 8 - Baseline and future development flood loss analysis**

This chapter uses the datasets and methods considered in Chapter 7 to assess the current (baseline) flood risk across the growth areas and considers the potential future consequences of development to 2016. The analysis is presented in a number of different forms, including number and percentage of residential and commercial properties at different flood probabilities and evaluation of Annual Average Damage (AAD) losses across each of the main growth areas.

## **Chapter 9 - Analysis of flood damages from other sources**

In addition to the assessment of fluvial and coastal flood losses, this chapter considers the important contribution of intra-urban (i.e. sewer, overland flow and blocked gutters) flooding within the growth areas. This uses a number of nationally available information sources (OFWAT statistics) and relationships established in earlier research projects (i.e. OST Foresight).

## **Chapter 10 - Flood avoidance – planning measures**

This chapter considers the role of effective land-use planning to reduce flood damages by minimising exposure to flooding. This considers the costs savings generated by various scenarios designed to concentrate development densities in (a) non-floodplain areas, and (b) low flood probability areas. Cost savings are assessed in relation to the AAD damages values presented in Chapters 8 and 9.

## **Chapter 11 - Reducing vulnerability – building design and flood resilience**

This chapter considers the costs and benefits of using building design (i.e. not building at ground level) to minimise flood damages across the growth area. This includes costs estimates for constructing further storeys and relative savings from damage avoidance. The chapter also considers the relative costs and benefits of installing flood resilience measures within newly built homes (i.e. electrics installed above ground level, flood resistant wall materials)

## **Chapter 12 - Flood alleviation measures**

Within this chapter, a variety of flood alleviation measures (flood defences, flood compartments, land raising, flood storage SuDS) relevant to the mitigation of flood losses are reviewed. The review highlights potential cost and savings (per home) generated by each measure and evaluates their appropriateness across each of the growth areas.

**Chapter 13 - Flood risk and socio-economic change beyond 2016**

To assess true sustainability of flood management options, it is also necessary to consider the impacts of further future pressures on flood risk across the growth areas - (a) higher housing levels (Barker Review) and (b) impacts of climate change. The chapter considers the potential impact of these factors upon future losses and also highlights possible considerations for future management of flood risk within the currently defined growth areas.

**Chapter 14 - Conclusions**

This chapter summarises the main conclusions of the study and provides the necessary background for the development of the recommendations outlined in Chapter 15.

**Chapter 15 - Recommendations**

The final chapter in the report summarises the outcomes of the analysis presented in the earlier chapters and details a number of key recommendations for the sustainable development of development sites across the current growth areas.

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## 2. Review of national planning and housing framework

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### 2.1 Introduction

In February 2003, the Deputy Prime Minister launched the Communities Plan (Sustainable Communities: Building for the Future) which set out a long-term programme of action for delivering sustainable communities in both urban and rural areas. This included plans to build a significant number of additional homes by 2016 and identified four growth areas - Thames Gateway, London-Stansted-Cambridge-Peterborough corridor, Ashford and Milton Keynes-South Midlands.

In addition, the Chancellor of the Exchequer and Deputy Prime Minister set up in April 2003, the Barker Review, with the objective of conducting a review of the issues underlying the lack of supply and responsiveness of housing in the UK. One of the primary conclusions of the final report published in March 2004 was that UK economic well-being could be improved by increasing the supply of housing.

In late January 2005, the government also released its five year housing strategy - Homes for All. This strategy involves a number of key policies including: enabling buyers the opportunity to buy a stake in low cost home ownership; the development of low cost housing on land held by English Partnerships, Defence Estates and other government departments; and the commitment to providing 1.1 million new homes across the wider South East by 2016. This includes the 200,000 extra homes planned for the four government existing growth areas and housing allocations of 900,000 homes within local plans. A fifth growth area of south Hampshire, between Portsmouth and Southampton has also been added to the four areas considered within the remainder of this report.

The background to these important government drivers for future house building (and ultimately potential flood risk/losses) is outlined below and provides the basis for the consideration of the four growth areas in Chapters 2 to 4 of this report.

### 2.2 Creating Sustainable Communities

In his statement to Parliament on the 18<sup>th</sup> July 2002, the Deputy Prime Minister identified that “all Governments have failed to meet housing needs of our people”. In order to address this issue the Government concluded that increased housing supply was a national priority especially as a means to reducing housing market volatility.

The method for overcoming this problem is contained within the Governments *Sustainable Communities: building for the future* (launched in February 2003) which outlines a commitment to accommodate the economic success of the south east while detailing action for areas of low demand and market failure around the midlands and the north.

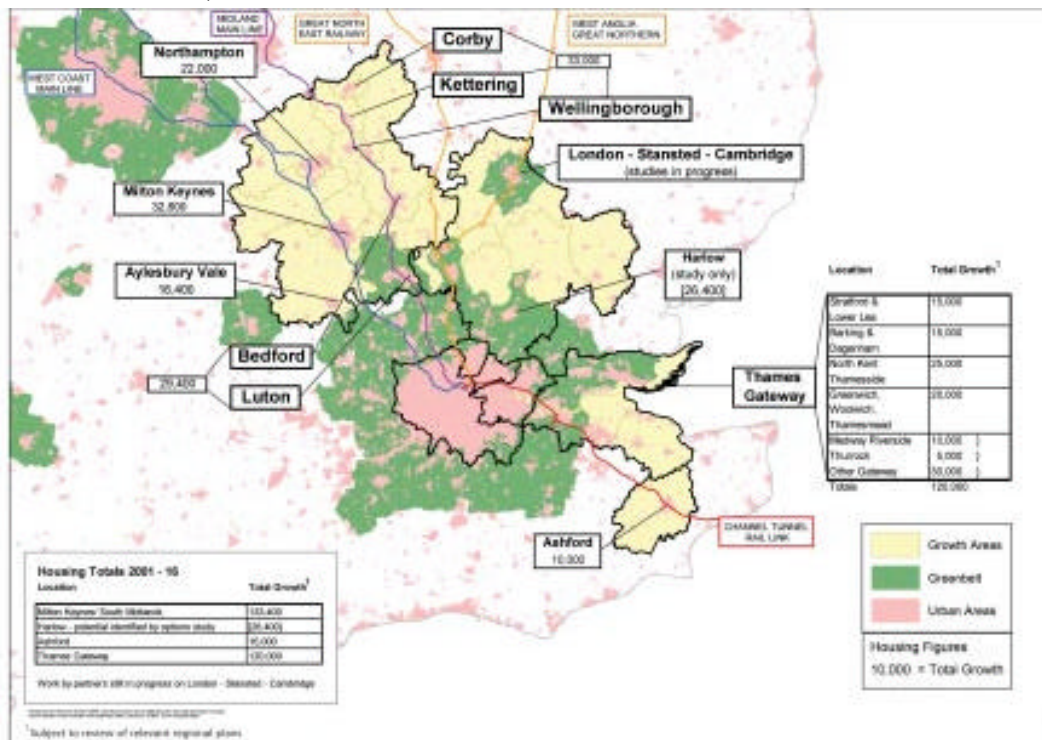
The Sustainable Communities Plan sets out a long-term programme of action for delivering sustainable communities in both rural and urban areas. The key focus of the Plan is to deliver

sustainable communities for all. It also recognises the need for buildings which can meet different needs over time and that minimise the use of resources. The Plan also introduced a new approach to how and what we build. Key themes are:

- strengthening regional and local economies;
- meeting people's social needs - promoting better health, housing and access to services and recreation;
- improving local surroundings - revitalising town centres, tackling degraded urban environments, and ensuring that development respects the character of our countryside;
- reducing crime and the fear of crime;
- addressing problems of poverty and social exclusion in the most deprived communities;
- making it easier for people to get involved in their communities; and
- co-ordinating policies to bring these objectives together.

In order to accommodate the required growth in the south, the Government have identified that £610 million will be made available to assist with the development of four growth areas, Ashford; Milton Keynes/South Midlands; London - Stansted - Cambridge - Peterborough (M11 Corridor) and Thames Gateway. These areas are shown in Plate 2.1.

**Plate 2.1 Key growth areas and housing projection 2001-2016 (Source: ODPM, 2003)**



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These proposed growth areas have been identified as being able to provide around 200,000 homes above existing allocations. This level of housing development is planned to come forward in association with new schools, healthcare facilities, public transport and employment provision to ensure the creation of sustainable communities.

With the exception of the Thames Gateway, the above growth areas were first identified within the context of Regional Planning Guidance for the South East (RPG9). This has been replaced by the Sustainable Communities Plan (ODPM, 2004). Each of the growth areas is at different stages of development in terms of defining the extent of the growth area and provision for future growth. The following provides a brief overview of each of the growth areas:

### **Ashford**

The Ashford Growth Area is centred on the town of Ashford and is wholly contained within the Borough of Ashford. The Ashford area was identified as a regional growth point due as a result of its “*Gateway to Europe*” status by the Government through RPG9. The spatial strategy for Ashford is to concentrate development in, or close to the existing urban area, with an emphasis placed on the integration of land use transport. Over the next 30 years, the growth area is expected to yield 31 000 new dwellings, with the Borough being identified as having sufficient employment land to accommodate growth until 2016.

The current development strategy for Ashford area is discussed fully in Chapter 3.

### **London - Stansted - Cambridge - Peterborough (M11 Corridor)**

The concept of developing a growth area around Stansted Airport was first identified in 2000 and included within Regional Planning Guidance for the South East in 2001. This concept has been expanded and is now based around the principle of creating a sustainable community around the M11. The framework to guide development for the creation of this growth area was to be through a new Regional Planning Guidance for the East of England (RPG14) which will emerge as a Regional Spatial Strategy under the new planning legislation. This new Region would combine the relevant elements of RPG6 (East Anglia) and RPG9 (South East). The preparation of this document was ‘banked’ in February 2004 pending the completion of further studies into the extent and nature of the growth area.

At present there is no definitive guide to the extent of this growth area with various options explored by a series of studies which will inform the finalisation of the banked RPG14. The option assessed within this report is based around the main urban areas (excluding potential London Boroughs) and on studies carried out by Entec for East of England Development Agency (EEDA).

The current development strategy for the London - Stansted - Cambridge - Peterborough (M11 Corridor) area is discussed fully in Chapter 4.

### **Milton Keynes / South Midlands**

Regional Planning Guidance for the South East (RPG9) identified the general area of Milton Keynes and the South Midlands (MKSM) as a potential major growth area. A study was commissioned by Central Government in July 2001 which concluded that the area has the potential for significant levels of growth over the next 30 years. A sub-regional strategy was prepared by the East of England Regional Assembly, East Midlands Assembly and South East of England Regional Assembly which identified Milton Keynes and large areas of

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Buckinghamshire, Bedfordshire and Northamptonshire as being suitable for sustainable economic development (EEDA, 2003).

The MKSM strategy will provide a strategic vision for the sub-region to 2031 and provide guidance on the scale, location and timing of development. The draft strategy has identified that the growth area is capable of accommodating 366,000 new dwellings and 293,000 new jobs by 2031. The draft strategy has been subject to a public examination (published in August 2004) which broadly endorsed the concept of the growth area. The recommendations made by the Inspector are with Central Government for consideration. It is anticipated that a revised strategy will be published by late October, early November 2004. This strategy will eventually provide the Regional Spatial Strategy for this growth area. This strategy will inform the preparation of Local Development Documents (LDDs) in accordance with new planning legislation.

The current development strategy for the Milton Keynes/South Midlands area is discussed fully in Chapter 5.

### **Thames Gateway**

The concept for the Thames Gateway emerged from a Government commissioned report by Llewelyn Davies in 1991 to identify the development capacity of the East Thames Corridor. The report, which was published in 1993, confirmed the area's growth potential. In response the Government published the Thames Gateway Planning Framework as a supplement to Regional Planning Guidance for the South East (RPG9).

In 1998, RPG9a was published as sub-regional planning guidance providing the context for the revision of development plans by local authorities. RPG9a identified that the Thames Gateway was capable of delivering 120,000 new dwellings within London of which 60,000 would be developed in London in the period 2003-2016. The growth area extends from Tower Hamlets in the east of London (includes the Corporation of London) eastwards out to Kent and Essex.

The Thames Gateway London Partnership (TGLP) with responsibility for delivery has identified that there is sufficient land to accommodate 120,000 new homes within London over this timescale. Over the same period the Mayor of London's Plan has identified that the East of London should plan for 250,000 new jobs over the same timescale. The majority of all this development will take place on brownfield land. A significant level of development will also take place within the Thames Estuary and work is being carried out in co-operation with the Environment Agency to identify suitable flood risk mitigation measures.

The current development strategy for the Thames Gateway area is discussed fully in Chapter 6.

## **2.3 Barker Review of Housing Requirements**

In addition to the Sustainable Communities initiative, the Chancellor of the Exchequer and Deputy Prime Minister set up a study (led by Kate Barker) to review of the issues underlying the lack of supply and responsiveness of housing in the UK. This study is now commonly referred to as the Barker Review. An final report of this review was published in March 2004.

The overall objectives for the Review were:

- improvements in housing affordability in the market sector;
- a more stable housing market;



- location of housing supply which supported patterns of economic development; and
- an adequate supply of publicly-funded housing for those who need it.

One of objectives of the Barker report was an assessment of the additional housing required to reduce the growth in real house prices. To evaluate this important issue, the report identified three scenarios:

- **Government plans** : this scenario covers the Communities Plan which proposes an additional 200,000 houses in the four growth areas. This implies an annual increase of 20,000 houses and would equate to a increase of house prices of 2.4% p.a;
- **Reducing the long term trend** : this scenario reduces the house price trend to 1.8% through an annual increase of 70,000 private sector houses;
- **Improving the housing market** : this scenario reduces the price trend to 1.1% through an annual increase of 120,000 private sector houses.

The report also identifies a zero price inflation scenario requiring an annual increase of 200,000 private sector houses. However this option has largely been dismissed as not being desirable or achievable.

The additional dwellings envisaged under each scenario are additional to a baseline which for 2002/2003 was 125,000 gross completions (140,000 private sector gross starts).

Table 2.1 presents a summary of the number of dwellings under each scenario.

**Table 2.1 Future Housing Scenarios**

Scenario	Real Price Trend (1)	2002/2003 Baseline (2)	Additional Private Sector Housing p.a.	Additional Social Housing p.a. (3)	Total Additional Housing p.a. (4)
1 Government Plans	2.4%	125 000	20 000	0	20 000
2 Reducing LT trend	1.8%	125 000	70 000	17 000	87 000
3 Improving Housing Market	1.1%	125 000	120 000	21 000	141 000
4 Zero Price Inflation	0%	125 000	200 000	23 000	223 000

Notes:

Source : Barker Review paras 1.25 - 1.42 and Table 1.1

1 Trend in house prices - % p.a.

2 Baseline - 125,000 gross completions in England 2002/2003 (compare 140,000 private sector gross starts)

3 Additional houses required to 2011

4 Excludes baseline

As well as the additional private sector houses, the report identifies levels of additional social housing under each of the scenarios.

Using these scenarios, the Barker Review outlines a number of important conclusions regarding current and future housing supply in the UK.

One of the primary conclusions of the final report is that UK economic well-being could be improved by increasing the supply of housing. According to the Barker Report there is considerable evidence of an inadequate supply of housing in the UK, and in particular the South East. One of the clearest indications of this is seen to be the long-term upward trend in house prices - over the last thirty years UK house prices have risen in real terms by around 2.5% a year, which is in contrast to other countries in Europe, where real house prices have remained broadly constant or even declined.

The rise in real house prices creates significant impacts both on national economic well-being and individual welfare. It is also a significant issue in terms of the UK's membership of Economic and Monetary Union.

However the review acknowledges that there are associated social and environmental impacts associated with increasing the supply of housing (depending in part on the location, density, construction methods and sustainability in use of the additional housing). These are wide ranging in nature and include effects on water, **flood risk**, energy demand, landscape and biodiversity issues. It is important that the social and environmental issues are fully explored and given sufficient weight amongst other Government policy objectives.

In summary, Kate Barker's final report includes 37 specific recommendations to help ensure that greater stability in the housing market can be achieved and how housing can be made more affordable for more people. The Review also sets out a challenging set of reform proposals for central and local government and the house-building industry to deliver increased housing supply. The report was welcomed by the Chancellor of the Exchequer and the Deputy Prime Minister who stated that the Government accepts the need for reform and intends to implement a programme of change as recommended in the Review.

In conclusion, the three key Barker scenarios (Government Plan; Reducing LT trend and Improving Housing Market) provide the latest indication of future housing trends to 2021 on potentially beyond. The importance of possible higher levels of housing development and hence possible increased future flood losses will be considered in detail in Chapters 8, 9 and 10 of this report.

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## 3. Ashford Growth Area

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### 3.1 Future development plans

A detailed study of the town's potential for development, looking up to 30 years ahead was first undertaken in 2001/02 by a consultancy consortium led by Halcrow and partners (Ashford's Future, December 2002). The Study was managed by a steering group of representatives from the Government Office for the South East, regional agencies including the South East England Regional Assembly and the relevant local authorities.

The study concluded that Ashford had potential for substantial growth both in the medium and longer term, especially as it is located in the major communities' corridor between London, the rest of England and continental Europe. However the study also acknowledged a number of key constraints, including water supply water treatment, land constraints and notably flood risk.

These general plans were reinforced by the Sustainable Communities Plan (ODPM, 2002) which identified the potential Ashford Growth Area to deliver 13,100 dwellings over the period 2001-2016, of which up to 30% should be affordable. Recent studies also suggest the potential for up to 31 000 new homes over the next 30 years. New development in the growth area will be delivered through urban intensification and the development of new sustainable urban extensions integrated with the provision of new and enhanced bus-based public transport and interchanges.

At present, there is sufficient planned employment land supply to meet forecast demand to 2016. In addition, key elements of local transport infrastructure will require improvement or provision by 2016. These include:

- Upgrade of Junction 10 of the M20;
- Frequent domestic services on the new CTRL, with links to East Kent;
- Improvements to the Ashford-Hastings railway line;
- A south Ashford orbital road linking the A28 to the A2070;
- Quality bus corridors;
- A new central bus interchange;
- Park and ride facilities.

During 2004, funding was provided by OPDM for the development of a masterplan of the Ashford growth area. This plan is being developed by Urban Initiatives in parallel with a Water Catchment Management study being conducted by Black & Veatch. The current version of the Masterplan is expected to be completed by the end of 2004 and has comprised three main phases.

The first phase, which was completed in April 2004, addressed the development of the concept model. Three possible models were considered:

- dispersed growth (low density);
- two centres around the town (low density); and
- compact model with lesser use of the land (high density, less green field intake).

The “compact model” was preferred by the council as it allowed more integration and most adequately fulfilled the requirements of the sustainable community paper (i.e. shorter commuter distances, better public transport, etc.).

The second phase, which is on-going is to define in more detail the development framework (number of houses, transport issues, flooding issues, etc.). This will consider as an integral part the results of the Black and Veatch water catchment study. The final third phase will then address the statutory planning issues, defining detailed proposal for developments and more detailed masterplans for key areas.

At present, the current development option defines twelve different housing and three employment zones many of which are adjacent to the existing Ashford development. One of the most distinctive aspects of the current scheme is the development of a Canal District, close to the town centre between the East Stour and the Whitewater catchments. However options relating to the whole scheme are still being tested and have yet to be finalised

It is understood that more technical work is to be carried out during Winter 2004 and Spring 2005 in order to develop the preferred model. This will be followed by a development of a detailed Strategic Flood Risk Assessment (in collaboration with the Environment Agency) in Spring 2005. The main flooding issues across Ashford are discussed below.

## 3.2 Flooding issues

Runoff from the surrounding higher land converges into Ashford via the East Stour, the Great Stour and associated watercourses. As a result, Ashford has historically been prone to severe flooding. Notable floods occurred in 1973, 1970, 1985, 1988. However, flooding has been alleviated following the construction of the Hothfield (1991) and Aldington (1990) flood storage reservoirs on the Great Stour and East Stour respectively. These schemes retain flood waters upstream of Ashford during flood flows, thereby reducing peak flows through Ashford.

Canterbury and Ashford experienced high flows on the Great Stour during the heavy rains of November 2000. The principal source of high flows was the volume of rain falling over short periods onto already wet and saturated catchments. Levels did not reach the point where emergency evacuation was necessary in these urban areas. However, the overspill resulted in 12 cubic metres per second being discharged over the spillway at Aldington Reservoir. The reservoir had only partially emptied following a previous event. Both minor watercourses and main rivers overspilled their banks in places. The overtopping resulted in flooding at Mersham in the East Stour, upstream of Ashford.

The EA reports that approximately 300 properties are protected from flooding from the Great Stour by means of the on-line flood storage reservoirs at Aldington and Hothfield. The Aldington and Hothfield storage areas have been designed for a 1 in 100 year flood event based on a single theoretical storm and have not been designed for a series of storm events. The cumulative nature of the storm events was the main reason why the Aldington storage area

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overtopped during the October 2000 floods. Furthermore, the retention schemes do not alleviate the effects of intense local events occurring downstream.

### 3.3 Future management of flood risk

In order to assess the current status of development plans for Ashford, a joint meeting was held on the 10 September 2004 with representatives from Ashford Borough Council and the Environment Agency. In addition, detailed reports by Halcrow (2002), PBA (2003), HR Wallingford (2004), Black & Veatch (2004) have been reviewed to understand the extent of flooding and potential flood alleviation options.

At present, future development in Ashford is not considered appropriate in areas which are in the 'significant' flood risk zone. This follows current Environment Agency advice. The main principle adopted by the Ashford Council is that the flood situation could not be made worse than at present. The new properties are to be developed with a good standard of protection and the effect of climate change would need to be taken into account.

Development is likely to involve moving 25 ha of floodplain away from its current location by constructing some flood storage upstream of the development area. The testing of the compact model is attempting to get as much of the development as possible into existing brownfield/undeveloped sites within Ashford and issues such as flood risk, mitigation and housing densities are being discussed.

Ashford is currently very fragmented and the compact development model will provide more integration. For developments taking place on new greenfield sites, the results of the Section 105 Flood Mapping - 100 year envelope (work carried out by PBA) is considered to be the absolute constraint.

As an integral part of the masterplan development, ABC has also commissioned a separate study by Black & Veatch report (2004) to identify different strategies for flood alleviation. This includes options to:

- use Sustainable Urban Drainage Schemes (SUDs) wherever possible;
- improve conveyance system within the study area (and possible diversion of peak flows to the sea via Romney Marshes);
- raise defences within Ashford;
- provide additional flood storage in various ways including: enlargement/re-provision of the current flood plain and enhancement of the existing online flood storage upstream of Ashford;
- combine the above strategies adopting elements of conveyance improvement and storage provision.

On the basis of these assessments the study concluded that:

- The geology around Ashford is not generally favourable for infiltration to be considered as part of SuDS, which, in the majority of the proposed development areas, will therefore be limited to SuDS flood detention techniques;

- Notwithstanding, the application of SuDS will assist in the reduction of peak flows and should be adopted in all new developments;
- None of the options considered, on its own, will reduce design (100-year return frequency) flood levels resulting from the proposed development of Ashford, to the pre-development Section 105 defended flood map levels, though each would make a significant contribution to this objective;
- A combination of these options (for conveyance improvement and provision of additional storage) will broadly achieve this objective, and will reduce flood levels to those previously forecast without any new development (and without any allowance for the effects of climate change), whilst maintaining flows downstream of Ashford to those without urbanisation but including the impact of climate change;
- The effects of climate change on flood events (generally assumed to represent an increase of 25% in runoff) can be accommodated, in terms of control of maximum flood levels within Ashford, by adopting a combination of options. However, virtually all of the additional flow resulting from climate change will be passed downstream. Thus the lower river will experience increased flood risk whether or not Ashford is developed, and this should be considered in the development of Ashford's drainage strategy.

These important control measures will be assessed during the mitigation analysis discussed later in this report.

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## 4. London-Cambridge-Stansted-Peterborough (M11) Growth Area

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### 4.1 Introduction

The concept of developing a growth area around Stansted Airport was first identified in 2000 and included within Regional Planning Guidance for the South East in 2001. This concept has been expanded and is now based around the principle of creating a sustainable community around the M11. The framework to guide development for the creation of this growth area was to be through a new Regional Planning Guidance for the East of England (RPG14). This new Region would combine the relevant elements of RPG6 (East Anglia) and RPG9 (South East). The preparation of this document was 'banked' in February 2004 pending the completion of further studies into the extent and nature of the growth area.

There have been a series of studies carried out to assess various growth locations:

- Cambridge Sub-Region Study, this aimed to provide a vision and planning framework for the Sub-Region to formulate and accommodate projected growth in the sub region to 2016;
- London, Stansted, Cambridge Sub-Region, provided guidance on a sustainable framework for future strategic land use planning and transportation for the study area up to 2026;
- Harlow Options identified potential development options of a 6 mile radius of Harlow and parts of Epping Forest, East Hertfordshire and Broxbourne;
- Stansted / M11 Corridor Options aimed to identify the urbanisation impacts arising from growth at Stansted Airport through projecting future employment and housing demand for various airport growth scenarios;
- Peterborough Sub-Region study identified whether there is a coherent Peterborough sub-region, how it is spatially defined, the land use planning issues it faces and the required RPG policies needed to address them.

Each of the above studies have used different terms of reference and assessed the viability of growth in different local authority areas. Due to the lack of clarity over the extent of the growth area, the main focus of this study has been upon the major development planned for the following key urban areas

- Cambridge;
- Harlow;
- Peterborough;
- Stevenage.

The chapter also provides a summary of development plans (where available) for:

- Huntingdonshire;
- South Cambridgeshire;
- Epping Forest;
- East Hertfordshire;
- North Hertfordshire.

The above list is based partially upon those local authorities which formed the basis of the report prepared by Colin Buchanan and Partners & GVA Grimley for the ODPM “*A Study of the Relationship between Transport and Development in the London, Stansted, Cambridge, Peterborough Growth Area*” (ODPM, 2004).

The timetable adopted by Government Office for the East Midlands indicates that RPG14 will be launched in December 2004, subject to a Public Examination in 2005 and formally adopted early in 2006.

#### **4.1.1 Cambridge**

The vision for Cambridge is to create a compact, dynamic City with a thriving historic core surrounded by attractive and accessible green spaces. The Local Plan for Cambridge seeks to guide and facilitate growth in a sensitive and sustainable manner. The Spatial Strategy of the emerging Local Plan makes provision for the following developments:

##### **Regeneration of Station Road**

The Station Road area of the City is to be redeveloped with high density residential and commercial development which will provide transport improvements and improve this gateway feature to Cambridge. The plan makes provision for 650 dwellings associated with this redevelopment scheme.

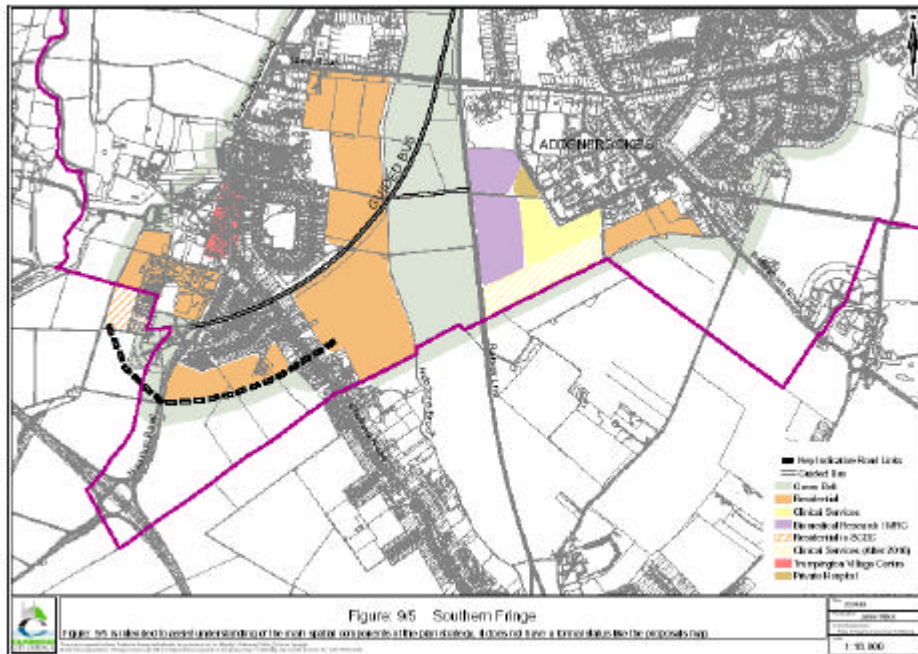
##### **Consolidation of Existing Peripheral Centres**

Four sites have been identified around the City Centre which are to the focus for new development. To the north of the City Centre, a high density mixed use proposal is proposed around the railway station. The proposal for this site is to provide around 34 ha for housing with an initial capacity of 2,300 dwellings.

To the south land is to be removed from the Green Belt to enable the expansion of Addenbrooke’s Hospital as a regional hospital an a centre of excellence. The plans also make provision for around 3,320 dwellings as shown in Plate 4.1.

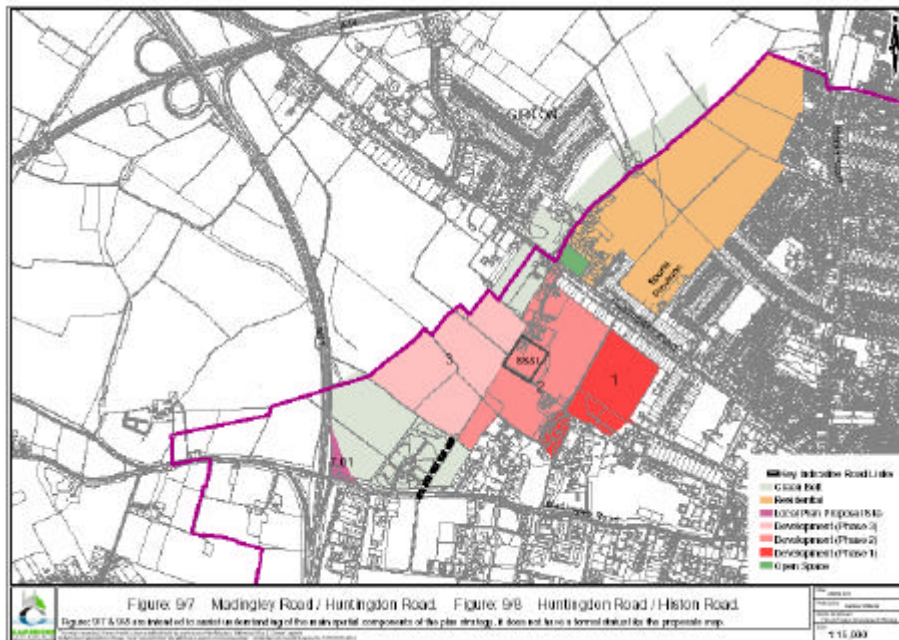


**Plate 4.1 Proposed southern development area, Cambridge**



On the west of Cambridge, there are proposals for the University to enlarge its West Cambridge site for teaching, research, sports and residential facilities. The current plans are shown in Plate 4.2.

**Plate 4.2 Proposed western development area, Cambridge**



To the east of the City, the Local Plan has allowed for the relocation of Cambridge Airport and the redevelopment of the airport site and adjoining land for a high density mixed use urban

extension (this includes land in South Cambridgeshire). This site will provide around 65 ha of land with an indicative capacity of 4,660 dwellings and 10 ha of employment land.

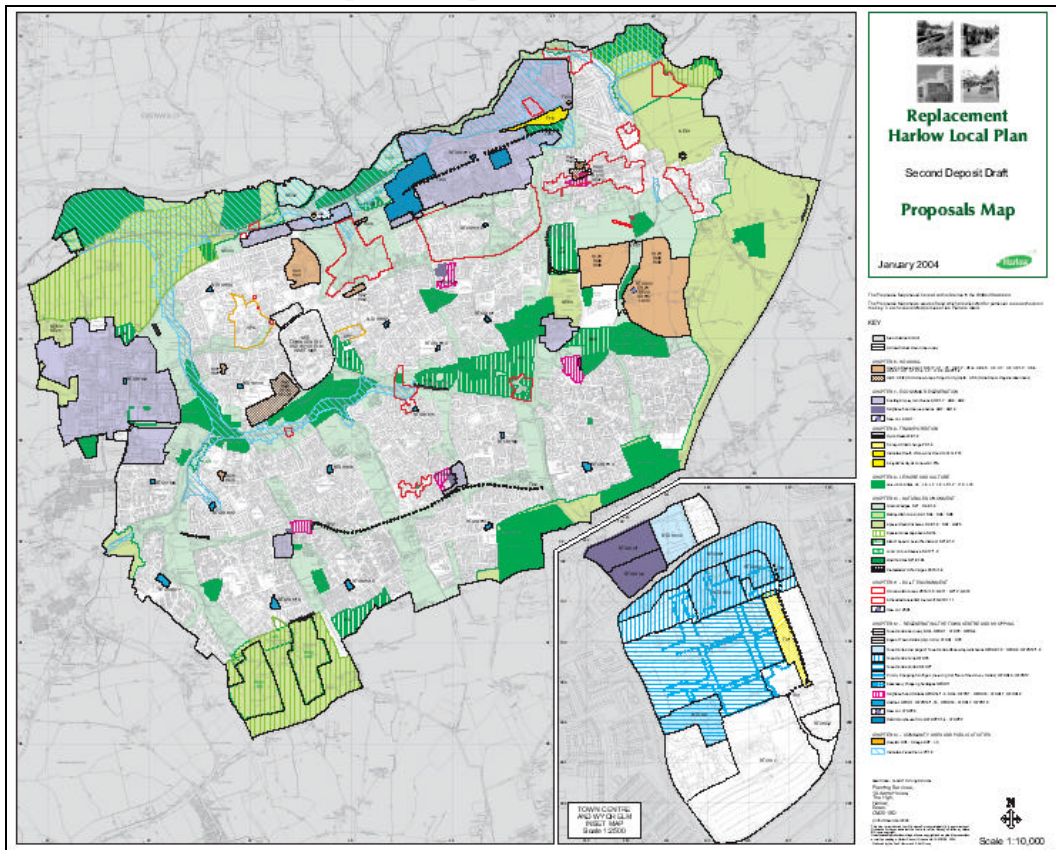
The emerging Cambridge Local Plan makes provision for an increase of 12,500 dwellings (net) over the period 1999-2016. This will comprise of 6,500 within the urban area and 6,000 in urban extensions.

A preliminary analysis of these sites has indicated that all of the identified housing and employment allocations are remote from the 'known' floodplain as defined by the latest Environment Agency flood map.

#### 4.1.2 Harlow

Harlow Council are currently reviewing their local plan having issued for consultation their Second Deposit Draft at the beginning of 2004 for consultation. The current proposals are shown in Plate 4.3.

**Plate 4.3 Harlow Proposals map - January 2004**



The Essex County Council Structure Plan has allocated 5,450 dwellings to Harlow up to 2011. Of this requirement, 2,758 have been completed with a further 651 committed (April 2003). Based on these figures there is a requirement for the plan to provide sufficient land for 2,041 dwellings between 2003 and 2011. Table 4.2 highlights the current sites identified as being suitable for housing development.

**Table 4.1 Harlow Housing Allocations**

Site	Area (ha)	Indicative Site Capacity (Gross)	Indicative Density
Harlow Sports Centre	11.4	456	40
Harlow Swimming Pool	1.3	60	45
Old Harlow Area of Opportunity	1.0	25	25
Faircroft Little Bays	0.6	27	45
Northbrooks Regeneration Area	10.5	420 (53 net)	40
Sherards House	0.4	18	40
Rye Croft Garage Site	0.4	16	40

With regard to employment provision, Harlow is identified as a Priority Area for Economic Regeneration (PAER). This designation arises from Harlow's high levels of social deprivation, low education, training and skill levels, decline of manufacturing and need for the renewal of the urban fabric.

The Structure Plan has proposed an additional 50ha of employment land for Harlow. The Council view that there is already a significant level of vacant and underused employment land and buildings in Harlow. As of April 2001, there was 26.1ha of employment land which has not been developed. Until these sites come forward, the Council do not intend to allocate further sites.

#### **4.1.3 Peterborough**

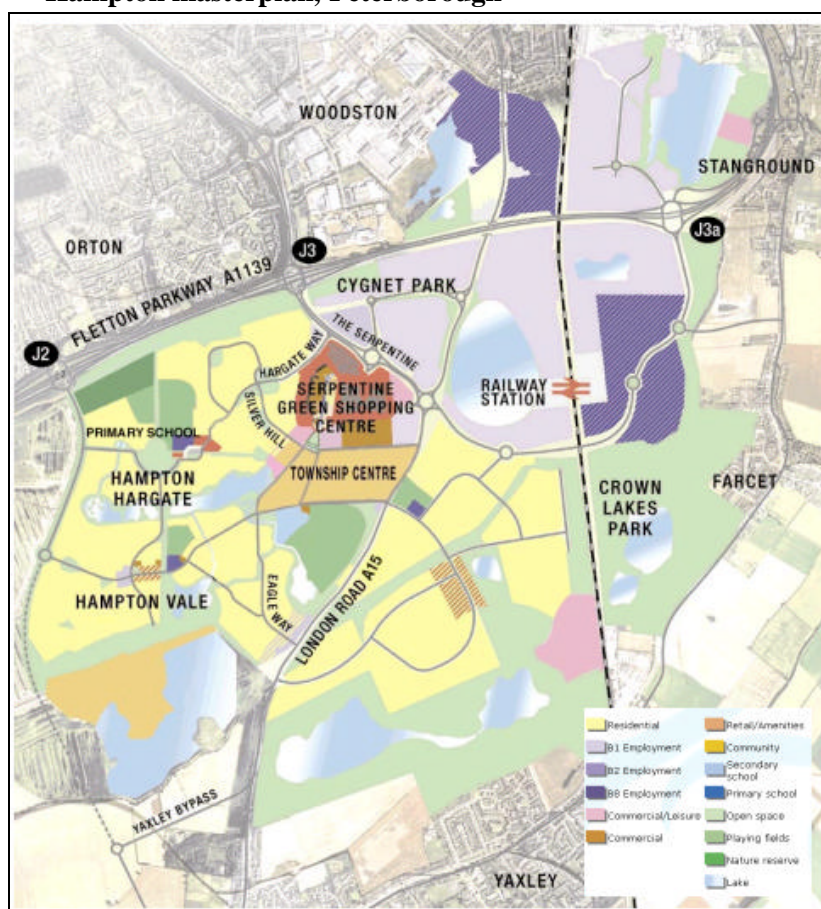
Peterborough have recently reviewed their Local Plan which was subject to a public inquiry during 2003. The Council aim to formally adopt this document by December 2004. The City of Peterborough has been a major growth point with Cambridgeshire since it was designated a New Town in 1971. The Cambridgeshire Structure Plan continues that growth strategy, allocating a housing requirement of 1000 units per year to 2006.

The plan allocates a total of 33 sites within the main urban area which will provide 3,345 dwellings between 1991 and 2006. Peterborough, in accordance with Cambridgeshire County Council have also identified the need to develop a urban extension to the south of Peterborough know as the Hampton Township Development Area.

#### **Hampton Township Development Area**

This urban extension is to be developed to provide 5,200 dwellings. The construction of the scheme is underway with 508 dwellings completed as of 2001. Although the figure of 5,200 units is consistent with the Structure and Local Plan it is considered that there is scope for a higher number of dwellings which could be delivered. This would have no impact upon the overall housing strategy since it would not be delivered before 2006. Associated with the housing development are proposals for a range of community facilities, employment provision and the creation of a country park.

The current development plans are shown in Plate 4.4.

**Plate 4.4 Hampton masterplan, Peterborough**

With regard to employment provision, the adopted local plan (1995) allocated 317 ha of land for employment use. Approximately 84 ha of land within Employment Areas was developed between 1991 and 2001. Due to low take up rates, many of the sites allocated have not been developed. As a result sufficient land remains to meet the Structure Plan requirement and provide a choice of investment sites. One new allocated site is the mixed-use proposal for London Road which is summarised below:

#### **London Road Opportunity Area**

29 ha of Land has been allocated on land either side of London Road for the development of housing to create a viable residential environment and provides a minimum of 10 ha of employment land. The housing on the site will need to provide a range of dwellings, local services and facilities to create a sustainable community. Housing is also to be developed at a density of at least 30dph. The site is brownfield and requires reclamation which is likely to result in the development being completed post 2006.

#### **4.1.4 Stevenage**

Stevenage Borough Council have undertaken a review of their adopted plan (1995) with the emerging plan having been subject to a public inquiry they aim to formally adopt the revised plan late in 2004. The emerging plan will provide the planning framework for the Borough between 1991-2011 in accordance with the Hertfordshire Structure Plan.

The Structure Plan has identified the requirement for the Borough Council to provide 5,700 additional dwellings between 1991 and 2011. As of April 2000, 3,399 dwellings had been built and land for a further 1,613 have planning consent or are allocated within the local plan. This leaves a further 688 dwellings to be identified for development to 2011.

A total of four sites have been 'rolled forward' from the previous local plan with capacity for 363 dwellings. A further 15 sites have been allocated with capacity for 491 units. Stevenage Borough have also identified a strategic allocation in the form of Stevenage West.

### **Stevenage West**

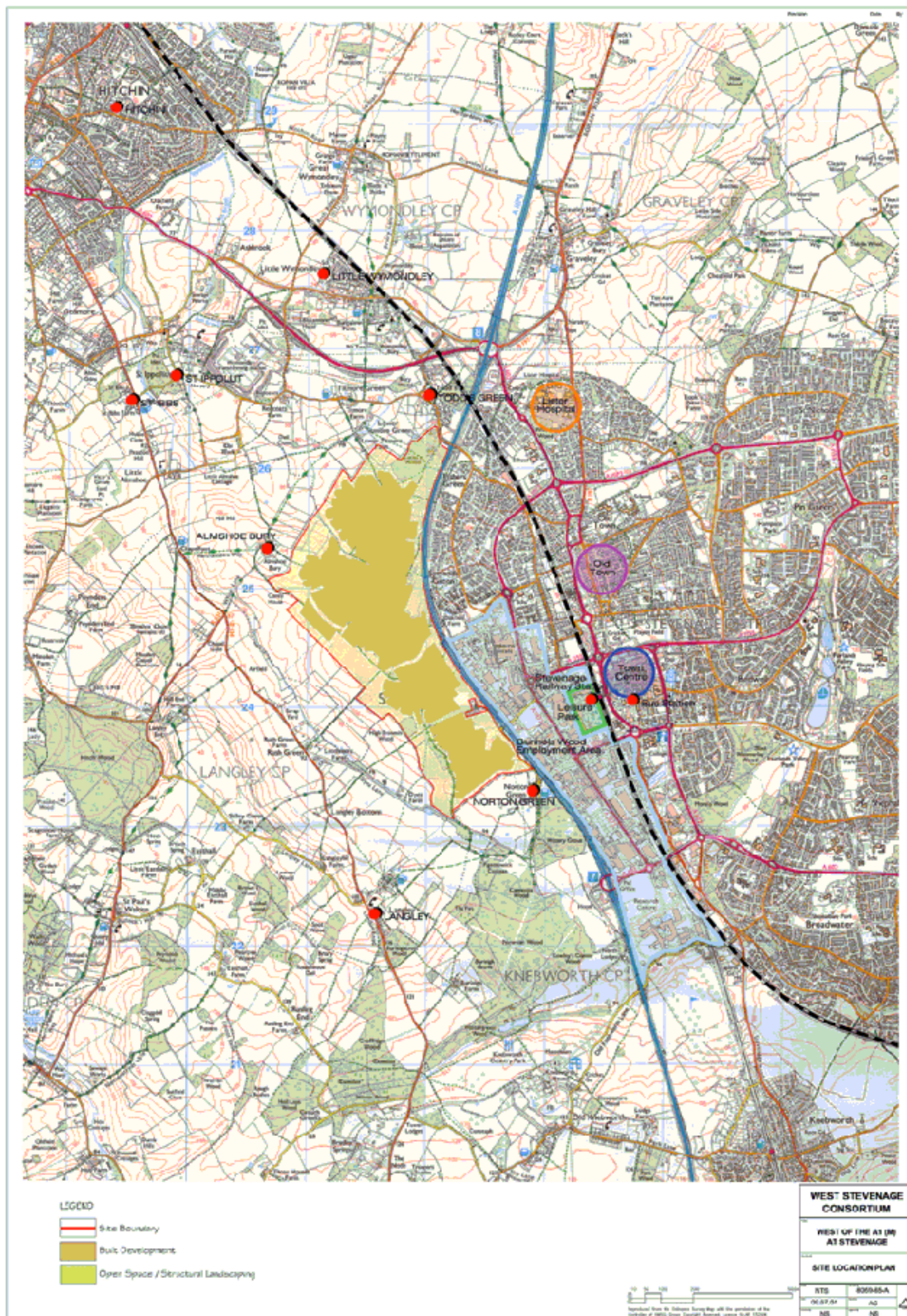
The Stevenage West Extension Area is identified within the emerging plan (revised deposit 2001). This development is shown in Plate 4.5. During the preparation of the Stevenage Local Plan there was recognised to be a shortfall of around 10,000 to 11,000 units identified which could meet the requirements of the Hertfordshire Structure Plan. Stevenage West was seen as a sustainable solution and able to accommodate further growth.

Two outline applications have been received by the Stevenage West Consortium to carry out development to the West of the A1(M) at Stevenage. The first application was for 5,000 dwellings and the second application for 3,600 dwellings. Each application also provides employment uses; shops; leisure and social and community facilities; open space and landscaping; provision of infrastructure; highways and public transport facilities; and ancillary facilities. The proposal was for housing of flats, terraces and semi-detached properties to be developed at a density of 36 dph. These applications are subject to a call in by the Secretary of State. The Public Inquiry closed at the end of August 2004 and a decision is pending.

With regard to employment land provision, Stevenage Borough Council have also identified that there is sufficient provision of employment floorspace to meet future needs, in quantitative terms.

In terms of flood risk, current development is not located on or near a mapped floodplain. However the development is located on sloping terrain and therefore effective surface drainage solutions /SUDS would need to be considered for development of the scheme.

Plate 4.5 Stevenage West extension area



Stevenage West. Part of the Development area is partially within North Hertfordshire.

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#### **4.1.5 East Hertfordshire**

The East Hertfordshire Local Plan was adopted in 1999 and covers the period between 1986 and 2001. The District Council are in the process of updating this plan to cover the period to 2011. In accordance with the Hertfordshire County Council Structure Plan 1991-2011, the District Council are required to identify sufficient land to allocate 11,100 dwellings. However taking into account completions and allocations with consent there is a residual requirement of only 2,200 dwellings. The District Council have identified that this provision will be built within or adjoining the main settlements of:

- Bishops Stortford, 701 dwellings;
- Hertford, 465 dwellings;
- Ware, 306 dwellings;
- Sawbridgeworth, 165 dwellings;
- Buntingford, 102 dwellings; and
- Stanstead Abbots 165 dwellings.

The outstanding requirement of 273 dwellings will be found in other settlements across the District.

The Structure Plan has concluded that there is sufficient land and floorspace currently in employment use and hence no new land allocations are currently required. The Structure Plan directs such development to existing allocated employment areas, which are to be identified in Local Plans.

#### **4.1.6 Epping Forest**

The Epping Forest Local Plan was adopted in January 1998 forming the development framework for the District to 2001. This plan which is out of date is now subject to a review with the District Council publishing their First Deposit Draft in June 2004.

Epping Forest is subject to constant demand for further housing due to its:

- Proximity to central London;
- Accessibility of the urban areas to the motorway and rail networks and to the London Underground;

The Replacement Essex and Southend-on-Sea Structure Plan has allocated a target of 2,400 (net) houses during the period 1996-2011. This target has already been substantially exceeded and as such no provision is made within the emerging Local Plan. All of the existing sites within the adopted Local Plan have been taken up and completed. This will be reviewed once the emerging RPG14 has been adopted.

#### **4.1.7 Huntingdonshire**

Huntingdonshire District Council adopted their local plan in 1995 to cover the period 1986 to 2001. As such their plan is out of date and was not prepared in accordance with Planning Policy

Guidance Note 3 (PPG3 Housing, 2000). The plan does provide a focus for development upon the main urban areas. This is shown in the 'current' local plan allocations outlined in Table 4.1

**Table 4.2 Huntingdonshire Housing Allocations**

	<b>Location</b>	<b>Number of Dwellings</b>
Major Centres, and Market Towns	Huntingdon, Godmanchester, Brampton and The Stukeleys	3 900
	St Neots	2 700
	St. Ives	800
	Ramsey	1 700
Rural Growth Centre	Yaxley	500
	Other rural growth villages	2 500
	Other towns and villages	4 100

The Adopted Cambridgeshire and Peterborough Structure Plan (2003) makes provision for the development of 9,500 dwellings in Huntingdonshire over the period 1999 and 2016. The Structure Plan also sets a target of securing 43% of new development on brownfield land and secure densities around 40 dph, but not less than 30 dph in accordance with PPG3.

#### **4.1.8 North Hertfordshire**

The current North Hertfordshire District Local Plan Alteration No.2 was Adopted in 1996 and covers the period 1986 to 2001. This plan was subject to a review with the District Council progressing alteration number 3. Following the publication of PPG3 (2000) the Council withdrew this emerging plan pending the completion of related work e.g. urban capacity study.

The decision to withdraw the Draft District Local Plan No 3 was met with an application for a judicial review on behalf of the developers of the West of the A1(M) (Stevenage West Proposal). This was heard at the high court in early July 2001 with the final judgement being made in favour of the Council. This means that the Draft Plan No 3 remains withdrawn and as such has no status. Consultants (Halcrow) were appointed to undertake an urban housing capacity study in accordance with the DETR Better Practice Guide "Tapping the Potential". The final report was received in August 2003. Receipt of this report has enabled the Council to review its housing policies in the new Local Development Documents in the light of the draft Regional Planning Guidance for the East of England (RSS 14) that will be launched in December 2004. North Hertfordshire are to review the adopted District Local Plan No 2 with Alterations in the form of the new Local Development Documents. This will be in conformity with the Draft Structure Plan Alterations 2016. First stage Deposit is anticipated in Spring 2005.

With regard to the West of the A1(M) development, Masterplanning principles have been agreed and adopted by North Hertfordshire District Council, Stevenage Borough Council and Hertfordshire County Council and work is currently progressing in relation to the S106 Agreement(s). Applications for planning permission were received in July and September 2001 by both North Hertfordshire District Council and Stevenage Borough Council. Although this



Council has withdrawn the Draft Local Plan No3, the West of the A1(M) remains as a strategic allocation in the current adopted County Structure Plan to 2011

#### **4.1.9 South Cambridgeshire**

South Cambridgeshire adopted their Local Plan in February 2004 and covers the period to 2006. The local plan has identified that in accordance with the Structure Plan it will make provision for approximately 11,300 new dwellings in the District from 1999 to 2006. Of that requirement 5,983 have been developed by mid-2001 with a further 2000 developed at Cambourne. Taking these figures and those unimplemented consents, there was a requirement only to identify sufficient land for a further 1,300 units.

The majority of the housing allocations contained within the Local Plan are contained within rural growth settlements. The largest allocation is a 33ha site able to accommodate 900 units on the northern fringe of Cambridge. Planning consent has been granted, subject to a S.106 Agreement for a mixed use development on this site. It is the policy of the Council that all residential developments are able to accommodate a mix of units providing accommodation in a range of types, sizes (including 1 and 2 bedroom).



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## 5. South Midlands/Milton Keynes Growth Area

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### 5.1 Introduction

Regional Planning Guidance for the South East (RPG9, March 2001) identified the general area of Milton Keynes and the South Midlands as one of the four potential growth areas in the wider South East. To examine the potential level and locations for future growth, a Sub-Regional Strategy (SRS) was prepared by the East of England Regional Assembly, East Midlands Assembly and South East England Regional Assembly. This document was published for consultation purposes in July 2003, performs the role of proposed alterations to Regional Planning Guidance covering:

- The East of England (Regional Spatial Strategy in preparation, RSS14);
- East Midlands Regional Planning Guidance (RPG8);
- South East Regional Planning Guidance (RPG9).

The purpose of the MKSM Sub-Regional Strategy is to:

- Provide a clear and agreed long term spatial vision for the sub-region towards the year 2031; and
- Provide guidance on the scale, location and timing of development and the associated transport, employment and social infrastructure, and the delivery mechanisms, over a shorter timescale, needed to achieve the Government's vision of sustainable communities.

The (draft) SRS was subject to a Public Examination during March and April 2004. The examination found largely in favour of the strategy agreeing that there is justification and a necessity for growth in this sub-region.

The key driver for the MKSM Growth Area is now the Government's Sustainable Communities Plan. This report will be updated to reflect the strategy as it emerges to become an adopted document forming the regional spatial framework which will inform the preparation of Local Development Documents (LDDs) required under the new planning legislation. The remainder of this chapter will serve to outline the latest position on each of the Local Planning Authorities within the growth area, the status of their development plans and outline the emerging growth targets identified during the public examination.

#### 5.1.1 Milton Keynes

The Milton Keynes Local Plan was adopted in 1995 and covers the period 1991 to 2001. This plan has been reviewed and subject to a public inquiry which closed during 2004.

Although Milton Keynes is a Unitary Authority, it is still obliged to produce a Local Plan rather than a Unitary Development Plan. The emerging Local Plan which is to be in accordance with

the Adopted Buckinghamshire Structure Plan, needs to make provision for 36,700 dwellings between 1991 and 2011. Information available from the Council shows that there were 16,743 dwellings built between 1991 and 2001.

The current version of the local plan identifies a total of eleven City Expansion Areas and Key sites with a provision for an identified 8970 - 9320 dwellings. A large proportion of this requirement will come forward by 2011 through three expansion areas, the Western, Eastern and Northern expansion areas. Further large scale development will also take place at the Oakgrove Millennium Community. Details of these four major developments are outlined below:

### **Western Expansion Area**

The Western Expansion Area (WEA) is the largest of the proposed expansion areas identified in the emerging local plan. The Council have identified that it is capable of accommodating between 5,050 to 5,550 houses, 10-20 ha of employment land, a local centre, secondary school, burial ground, community facilities and open space. The scheme will also need to include mitigation measures to reduce the risk of flooding in the Lower Weald.

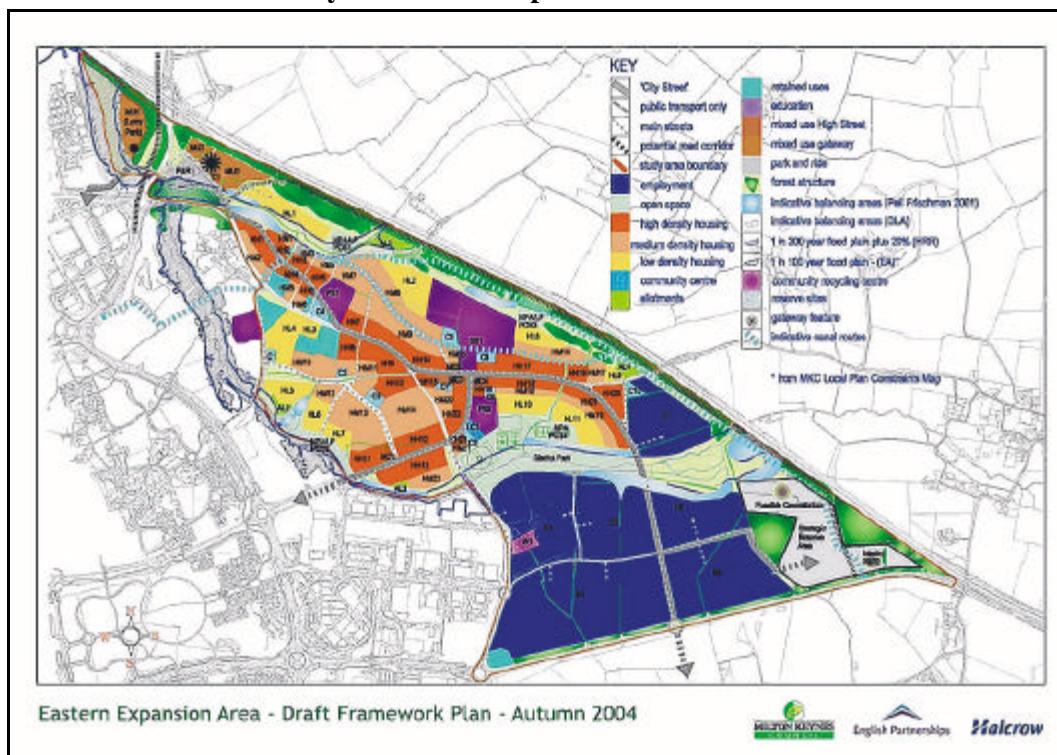
The Planning Inspector who led the Local Plan Public Inquiry has issued an interim report which largely supports the establishment of the WEA, but has raised objections to the boundaries of the site which in his view would impact upon an area of high landscape value. The Council will need to take into account this recommendation prior to formally adopting the Local Plan.

### **Eastern Expansion Area**

The Eastern Expansion Area (EEA) includes two main areas for development, Fen Farm for employment and Broughton Moor for housing. A third site has been identified as a strategic reserve.

The housing element covers a net area of 33 ha (gross area of 50 ha includes provision for ancillary features), with a capacity for a proposed 1,150 dwellings. The employment element of the scheme will comprise a 80 ha site. Again the principle of this expansion area has been afforded support in the Inspectors Interim Report.

**Plate 5.1 Milton Keynes Eastern Expansion Area**



### Northern Expansion Area

The Northern Expansion Area (NEA) is relatively small expansion area comprising 13ha for housing at 35 dph and approximately 7ha of employment provision. The site is primarily brownfield and is anticipated to be one of the first sites to be developed following the sequential test. The site is partially within the floodplain and developers are required to undertake a detailed survey to assess the implications of flooding for any future proposed development.

### Oakgrove Millennium Community

The Oakgrove Millennium Community is a 64 ha brownfield site owned by English Partnerships on the eastern side of the town centre. The site was previously a gravel pit, subsequently filled with inert material and has remained undeveloped. This Millennium Community site is one of seven such schemes identified in England and created as models of sustainable development. It is anticipated that the scheme will accommodate some 2000 dwellings, a secondary school, community facilities and a local centre. Crest Nicholson have been identified as the lead developer with a view to securing planning consent by 2006 and completing works by 2011.

Part of the site is on low-lying land either side of the River Ouzel which has been identified as being within the floodplain. To avoid properties within the Millennium Community site from being at risk from flooding, and to avoid any effect on the floodplains capacity to receive floodwaters, all development for the Oakgrove part of the development will be outside of the floodplain. The north end of the Middleton West site will be protected by a new flood bund currently being developed. To balance the effect of this new bund, flood compensation works are also being constructed on the Oakgrove site outside the development area.

**Plate 5.2 Oakgrove Millennium Community Area**



The development densities on this site are likely to be high, reflecting the patterns of development emerging on other Millennium Communities.

With regard to housing density on other sites across Milton Keynes, the Council have identified a number of indicative net densities for different zones. These are:

- Central Milton Keynes (including Campbell Park) 100 dph;
- Adjoining grid squares north and south of CMK, Bletchley, Kingston, Stony Stratford, Westcroft and Wolverton 40 dph;
- The rest of the City, City Expansion Areas, Newport Pagnell, Olney and Woburn Sands, 35 dph;
- The rest of the Borough, 20 dph.

Aside from the City Expansion Areas identified in the emerging Local Plan, the remaining housing required is likely to come forward from urban capacity sites within each of the grid squares and from the following allocations:

**Table 5.1 Milton Keynes Housing Allocations**

Reference	Grid Square	Location	Estimated Capacity
MK9	Bradville	Althorpe Crescent	20
MK10	New Bradwell	Townsend Grove	30
MK11	Stantonbury	West of Redbridge	85
MK12	Stony Stratford	London Road	30
MK19	Fenny Stratford	Reckitt & Coleman Site	115
MK20	Bletchley	Buckingham Road	15
	Wolverton	Railway Works	200
	Wolverton	West End	200

With regard to employment Milton Keynes is recognised in RPG9 as being one of the “powerhouses” of the South East Region. The focus for employment provision remains the designated employment areas identified during the inception of the New Town and the City Centre. Aside from the designated locations, employment provision has been made at each of the three expansion areas with 80 ha of employment land proposed for the Eastern Expansion Site.

### Projected Growth

The emphasis of the MKSM Sub Regional Strategy is to develop Milton Keynes as a major regional city. The vision for Milton Keynes is that it will be of City of 300,000 by 2031. To accommodate this level of growth the SRS proposes an additional 19,300 dwellings to be provided by 2016. This represents a 57% increase on current housing targets. The indicative assessment is that around 4,500 units will be found through urban intensification with 14,600 developed through urban extensions. The general growth locations have been identified as being around the western and southern edges of the urban area, as well as the eastern ‘strategic reserve area’ for development between 2016 and 2031. Rather than being simply a housing led scheme the SRS also makes provision for 44,900 new jobs in the urban area. The strategy does not identify specific locations for development but rather provides an indication of general locations e.g. Central Milton Keynes, Bletchley, Wolverton and Newport Pagnell.

### 5.1.2 Northampton

#### Review of planning situation

The Northampton Borough Council Local Plan was adopted in June 1997 and covers the period 1993 - 2006. The housing figures for the adopted plan are based upon the Structure Plan figures from 1988 (16,550) and 1992, (20,000) which covers the period 1988 - 2006. The Local Plan is currently being reviewed by the Council as they commence work on their Draft Local Development Scheme.

Subsequent to the adoption of the Local Plan, a revised Structure Plan was produced which identified the need to develop 15,000 dwellings and 320 ha of industrial land (of which 133.6 ha has been developed) in Northampton between 1996 and 2016. The extent of development

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proposed in the Structure Plan was subject to a Legal Challenge by South Northamptonshire. This challenge was upheld and subsequently all references identifying the level of development in Northampton, South Northamptonshire and Daventry were removed. As a result it is not possible to provide an indication of the levels of growth in Northampton beyond 2006.

Northampton Borough Council have produced in accordance with the Planning and Compulsory Purchase Act 2004 a Draft Local Development Scheme (LDF) which is the initial step to reviewing their Local Plan and preparing LDDs. The draft LDF identifies six areas which are existing allocations or subject to development proposals, these include:

- Ransome Road/Nunn Mills Development Area - Located to the south east of the town centre is expected to yield 2000 new homes;
- St. James Development Area will provide future employment land to contribute towards the anticipated requirement to provide 200ha between 2003-2016 (Report by Roger Tyms and Partners);
- Sixfields Development Area will provide around 80 to 90 dwellings as part of a much larger mixed use scheme;
- Kings Heath North West Extension which will provide up to 2,500 new homes;
- Town Centre Area will provide development through the conversion of existing buildings and intensification as part of a plan for the urban renaissance for the town centre; and
- South West District Urban Extension Area which will accommodate up to 6000 new homes on 500 ha. Provision is also made for 280,000 m<sup>2</sup> of employment land. Part of this site has come forward with assistance from English Partnerships. This element of the scheme covers 43ha which has the benefit of outline planning consent for 1,200 residential units and 1,000 m<sup>2</sup> of commercial floorspace. Shenley Lodge Developments have been selected as the preferred developer for the first 3.7ha development site which will bring forward 200 units in a mix of styles, townhouses, semi-detached and detached properties. Of the 200 units 22% will be affordable units. Surface drainage will be managed through a SuDs system across the site.

It should be noted that several of these sites are located, in part, upon the latest Environment Agency floodplain zones. This includes several areas of 'significant' risk (i.e. 1.33% annual probability of flooding.)

Discussions with the Borough Council have indicated that there is sufficient land within the South West and North West extensions to provide housing to 2016 in accordance with the draft SRS. Beyond 2021, there will be a requirement to look outside the Borough Boundaries to meet housing requirements. This is likely to have implications primarily for South Northamptonshire and Daventry.

### **Projected Growth**

The conclusion of the Inspector dealing with the SRS examination was that Northampton should continue to grow as an important regional centre with a key emphasis upon the renaissance of the town centre. The SRS only proposes an increase of 3,400 dwellings to the period 2021 above existing commitments. According to assessments made available during the public



examination, unimplemented permissions and allocations could provide 28,113 dwellings therefore the strategy would only require the provision of an additional 1,287 houses.

Beyond the development proposed for Northampton, the SRS has identified that growth will also be accommodated within Daventry which will grow to a population of about 40,000 by 2021. Housing development will be accommodated through intensification within the existing built-up area and greenfield development through one or two urban extensions. The exact location, nature and scale of growth will be determined by the Local Authority.

Similarly, growth will be required within South Northamptonshire with the settlements of Brackley and Towcester identified as suitable rural service centres, despite Towcester only having a current population of 5,000. Table 5.3 outlines the current recommendations for growth within each of these local authority areas.

**Table 5.2 Proposed Annual Rates of Completion for (South) Northamptonshire**

<b>District</b>	<b>2001-06</b>	<b>2006-11</b>	<b>2011-16</b>	<b>2016-21</b>
Northampton	1,200	1,600	1,750	1,750
Daventry	540	540	540	540
South Northamptonshire	480	480	330	330
<b>TOTAL</b>	<b>2,220</b>	<b>2,620</b>	<b>2,620</b>	<b>2,620</b>

### **5.1.3 Corby, Kettering and Wellingborough**

#### **Review of planning situation**

Corby, Kettering and Wellingborough have been identified together as a principal urban area within the draft Milton Keynes South Midlands Strategy. The current status of the Local Plans are identified below:

- Corby - Local Plan Adopted June 1997 with the Local Authority about to commence a review;
- Kettering - Local Plan Adopted 1995;
- Wellingborough - The Council are in the process of adopting their revised plan.

The current Corby Local Plan which covers the period to 2006 was prepared in accordance with Northamptonshire County Council Structure Plan Alteration No.1 (1992) and identifies provision for 6,000 new houses and 250 ha of employment land. Taking into account the level of existing development at the time of adoption of the local plan, there was only a requirement to identify a limited number of new housing sites. The settlement of Snatchill has accommodated the majority with 2,550 units, the local plan also made provision for 560 houses on land west of Stanion.

### Corby

Corby is subject to a significant level of investment as part of its Growth Area Status and its Regeneration Framework managed through Catalyst Corby. The levels of investment proposed will result in 100% increase in population by 2030 with 16,000 new dwellings to be built up to 2025. Of this 10,500 will need to be built outside the main urban area, as urban extensions and within rural villages. Subject to the formal adoption of the MKSM Strategy and subsequent identification of sites it may be necessary for these urban extensions to spread into the neighbouring authorities of Kettering and East Northamptonshire.

### Kettering

The Local Plan for Kettering was adopted in 1995 and covers the period to 2006. The plan was required to identify sufficient land for 7,250 dwellings and 200 ha of employment land. Discussions with the Borough Council have indicated that the land allocated to accommodate this level of development has all come forward in current plans.

### Wellingborough

The adopted Local Plan has been subject to a partial review to bring its Housing and Employment Chapters up to date and ensure the plan is in accordance with the Structure Plan which indicates the need to make provision for 6,500 dwellings between 1996 and 2016. The revised housing chapter identifies a total of 11 sites able to accommodate 4,744 houses. The remainder of sites shall be windfalls or are those sites with existing consents. The Council have identified the phasing of each of these sites and this is shown below in Table 5.3.

**Table 5.3 Phasing of Housing Development in Wellingborough**

Site	Phase 1: (2000-2006)	Phase 2: (2006-2011)	Phase 3: (2011-2016)	Total Dwellings
Leys Road/Highfield Road	40			40
St Johns Street		60		60
Burrow's Bush	125			125
Doddington Road	270			270
Rear 86-92 Finedon Road	50			50
Hardwick Park	100			100
Park Farm Way / Shelley Road		400	375	775
Redhill Farm	320			320
East of Wilby Way	29			29
Windsor Road	105			105
Wellinborough East	500	1 185	1 190	2 875

### Wellingborough East Extension

The Wellingborough East Urban Extension (WEAST) is a 361 ha site which will provide 2875 new homes and 110 ha of employment land. Associated with this development there will also be provision for a neighbourhood centre, 2 primary schools and a secondary school site and 150 ha of open space. An outline application for the development of this site has been submitted to the Council for consideration.

**Plate 5.3** Proposed Wellingborough East Extension



### Projected Growth

Corby, Kettering and Wellingborough have been identified within the sub-strategy as linked growth towns which effectively form a main urban area. In Corby, the draft SRS has identified that there will be a focus on regenerating the town and redevelopment of the town centre in accordance with the regeneration framework prepared by *Catalyst Corby*. Both Kettering and Wellingborough will grow in a sustainable manner which will release their potential.

Corby has been identified as a key growth location with proposals put forward to facilitate a level of housing development which would effectively double its population to 100,000 by 2021. Although there are no allocated locations for growth it is anticipated that this level of growth will be accommodated within the urban area through intensification, mixed use development and redevelopment of existing sites. This will be followed by growth to the north east, north west, south, south west and west of Corby.

Kettering has potentially fewer locations for further growth than the other linked towns, however locations to the east, west and south of the main urban area are anticipated to yield future development. In light of the Borough being more constrained the Inspector has conceded that the Borough should have a lower completion rate than identified in the draft SRS proposing 550 per annum for the period 2006-2011.

Wellingborough is already in a position to provide 'early gains' through the development of the Wellingborough Eastern Expansion for which planning work is progressing. The Borough Council are however largely against further westward expansion of the town and during the public examination made the case that urban extensions should provide no more than 8,500 dwellings rather than the 11,000 proposed in the draft SRS. It was suggested that East Northamptonshire could accommodate this difference within Rushden, Higham Ferrers and Irthlingborough which are proposed in the draft SRS as "urban hubs". Table 5.4 outlines the anticipated completion rates in the North Northamptonshire area.

**Table 5.4 Annual Rates of Completion for North Northamptonshire**

<b>District</b>	<b>2001-06</b>	<b>2006-11</b>	<b>2011-16</b>	<b>2016-21</b>
Corby	560	680	1 060	1 060
E. Northants	520	520	420	420
Kettering	550	810	630	630
Wellingborough	595	595	685	685
<b>TOTAL</b>	<b>2 225</b>	<b>2 605</b>	<b>2 795</b>	<b>2 795</b>

#### **5.1.4 Bedford, Kempston and Northern Marston Vale**

##### **Review of planning situation**

The Bedford Local Plan was Adopted in 2002 and covers the period to 2006. The Bedfordshire Structure Plan has identified the need for Bedford to provide sufficient land for 11,700 houses for the period 1991 and 2006. To meet some of this requirement the local plan has identified a total of 24 sites for housing. These are listed below in Table 5.5

**Table 5.5 Bedford Housing Sites**

<b>Ref</b>	<b>Site Name</b>	<b>Net Developable Area (ha)</b>	<b>Site Capacity</b>
<b>Urban Sites</b>			
H2	Britannia Iron Works	5.50	180
H3	Austin	0.85	25
H5	College Street	0.54	20
<b>Sites Adjoining Urban Area</b>			
H6	Biddenham Loop	N/a	1450
H7	Land west of Kempston	28.50	730
H8	Land north of Bromham Road	35.10	900
H9	Shortstown (west of A600)	6.59	170
	Shortstown (east of A600)		260
H10a	North of Brickhill	12.05	400
H10b	North of Norse Road	6.54	200
<b>Sites within the Strategic Corridor</b>			
H11	Land north of Fields Road, Wootton	17.50	450
H12	Land south of Fields Road, Wootton	17.50	340
H13	Stewartby	12.85	330
H14	Elstow Storage Depot	N/a	375
	Land at Cannons Close, Wootton	N/a	9
<b>Sites within First Order Villages</b>			
H15	Land at Northampton Road, Bromham	2	45
H16	Bromham Hospital	N/a	65
H17	Clapham Folly	6.66	170
H18	New Road Great Barford	1.16	25
H19	Yellnow Lane, Sharnbrook	1.16	45
H20	Clay Piece, Sharnbrook	2.00	45
H21	Luton Road, Wilstead	2.23	50
	Pavenham Road, Oakley		14
<b>Sites within Second Order Villages</b>			
H23	Various Village Sites	N/a	71

These sites are in addition to the capacity available in sites with planning permission and small urban capacity sites across Bedford.

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### **Biddenham Loop**

The Biddenham Loop proposal is the single largest housing allocation within the Borough. The site covers an area of 314 ha and will provide a total of 1450 units. The scheme will also partially fund the western bypass and other highway improvements, a park and ride facility, country park, golf course and playing fields.

The Biddenham Loop site is constrained on three sides by floodplain. Bedford Borough Council along with the Environment Agency have specified that there should be no built development within the floodplain and no ground raising or loss of flood storage associated with this development. Through Anglian Water the Council have also identified that the Bedford South Orbital Trunk Foul Sewer follows a route approximately parallel to the River Great Ouse through the western part of the site. Intended to serve the western part of the Bedford, it has been established that the sewer will have sufficient capacity to accommodate flows from the site.

In addition to meeting the housing requirement, the Borough Council have also identified 80ha of land for employment purposes. In accordance with the Structure Plan the main focus for development is along the South West Bedford Strategic Corridor with six sites accommodating 63.40 ha of the employment requirement.

### **Projected Growth**

The Draft SRS proposes growth for Bedford and the Northern Marston Vale totalling 19,000 dwellings over the period 2001-2021. The strategy provides for an urban renaissance at Bedford and Kempston along with increased delivery of housing, economic development and new jobs, the continued regeneration of Marston Vale.

Within Bedford the focus for development will be upon the town centre and in accordance with its designation as a Priority Area for Economic Regeneration. For housing development, Bedford is identified by the draft SRS Inspector as having sufficient land committed as a result of existing planning permissions and local plan allocations to meet the requirements identified up to 2021. These include opportunities within the urban area and urban extensions to the south west of Bedford and the in the northern part of Marston Vale.

Existing commitments also provide sufficient land to meet estimated employment development in quantitative terms. The Inspector has identified that the stock of employment land should be kept under review, so as to offer an appropriate range of employment land provision.

## **5.1.5 Luton, Dunstable and Houghton Regis**

### **Review of planning situation**

Although identified as three separate towns, Luton, Dunstable and Houghton Regis have coalesced into a single conurbation forming the largest urban area in Bedfordshire. Administratively they are split into Luton as a Urban Area with Dunstable and Houghton Regis forming part of South Bedfordshire.

Luton has a population of over 184,000 people (2001 Census) and 70,700 dwellings, all within a relatively small geographical area. With a population density of approximately 42 people per hectare it is one of the most densely populated urban areas in England.

The Local Plan was adopted in 1997 and is subject to a review with the Local Plan Inquiry commencing in October 2004. The emerging local plan has identified that of the Structure Plan

requirement to allocate sufficient land for 6200 dwellings to 2011, there is only a need a provide land for 1315 units. This is due to the level of existing completions and those sites with current planning permission. Luton Borough Council have identified 14 sites able to accommodate 562 dwellings, the remainder will come forward through small scale sites identified in the Urban Capacity Study and through windfalls.

Sites coming forward for housing development are expected to be developed at a net density of 40 dph or above. Sites within the central area and with good accessibility will be expected to be developed at a rate of 50 dph or above.

Luton's employment base remains strongly focused upon manufacturing and its unemployment rates are above the regional and national averages. As a result, the Borough has been identified as a Priority Area for Economic Regeneration (PAER). One of the key problems facing Luton is that due to the shortage of land within the Borough's boundaries there is significant pressure to release employment land for housing. Between 1991 and 2001, there was a net loss of employment land to housing. There still remains 66 ha of employment land which will be protected. The emerging Local Plan does not make provision for the allocation of any new employment sites.

Both Dunstable and Houghton Regis are within the administrative District of South Bedfordshire. The population of South Bedfordshire was a little under 46,000 in 1951. Since that time the District saw considerable population growth concentrated in Dunstable, Houghton Regis and Leighton Buzzard. Over this 50 year period the population has increased to 112,637. Over the same period the settlement of Dunstable experience high levels of growth with its population increasing from 15,000 to 33,805, effecting merging with Luton. Houghton Regis has developed from a small village with a population of 3,000 in 1951 to 16,970 in 2001.

The Bedfordshire Structure Plan has allocated 8,800 dwellings to the District between 2003-2011. Due to completions, assumed provision on small sites and existing allocations there is an oversupply of 1,472-1,697 dwellings. Of the remaining sites allocated within the local plan which have been 'rolled over' from the 1995 plan into the 2004 plan, 8 are within Dunstable. A summary is provided below in Table 5.6

**Table 5.6 South Bedfordshire Housing Allocations**

Site	Net Area (ha)	Indicative Net Capacity	Anticipated Phasing
Carter's Scrapyard, Fench's Avenue, Dunstable	1.49	72	Post 2006
Hatwell Trucks, Skimpot Road, Dunstable	1.863	100	Pre 2006
Balkan Cars, High Street, North Dunstable	0.69	28	Post 2006
Gas Works Site, North Station Way, Dunstable	0.95	46	Pre 2006
Regent Street / Manchester Place, Dunstable	0.48	29	Post 2006
Car Park - south end of Renault Site, Dunstable	2.22	87	Pre 2006
Hartwell Ford, Station Road, Dunstable	0.9	72	Pre 2006
Three Valleys Water Premises, High Street South, Dunstable	0.5	10	Post 2006
	<b>Total</b>	<b>444</b>	

With regard to identifying housing mix on the above sites, the adopted local plan includes a policy which requests that provision is made for the elderly, single and other small households. As a result the proportion of 1 or 2 bedrooms to be provided in residential development should not be less than 33% of the total dwelling provision.

In terms of employment, the South Bedfordshire economy is not typical of the south-east in that, like Luton, it retains a relatively high proportion of manufacturing jobs and a lower proportion of service jobs. The Dunstable, Houghton Regis and Luton conurbation has a population of 235,146 and a workforce in excess of 131,825 and is one of the largest manufacturing centres in the south-east outside of London.

The Bedfordshire Structure Plan 2011 sets out no requirement for a quantum of employment land for the County or its Districts. Following the preparation of an employment land audit has indicated that there is sufficient employment land in the District to meet local employment needs.

Dunstable and Houghton Regis are largely outside of the indicative floodplain. The Local plan does contain policies to ensure that new built development will not have an adverse effect upon the floodplain or reduce its capacity. New developments are also encouraged to include provision for sustainable drainage systems to deal with surface water run-off. With regard to sewerage and sewage disposal the planning authority have identified that the existing system is becoming increasingly overloaded. At present, there is a restriction on all developments likely to increase flows into the existing inadequate sewerage system serving the Dunstable and Houghton Regis area. This restriction will be lifted once the work to construct a new trunk sewer under the A5 is completed.

### Projected Growth

Although still perceived as three separate towns, Luton, Dunstable and Houghton Regis have coalesced into a single conurbation forming the largest urban area in Bedfordshire. Development should be based on the primary aim of securing urban renaissance and



regeneration to transform the main urban area. However, in order to accommodate growth, development will need to occur to the north, necessitating a review of existing Green Belt boundaries. The Green Belt around Leighton-Linsdale within North Hertfordshire will also be reviewed to enable the town to make a contribution to the SRS. The exact level will need to be determined through the preparation of a Local Development Document (LDD). Current estimates of total growth to the period 2001-2021 are outlined below in Table 5.7.

**Table 5.7 Proposed Annual Housing Completion Rates for Luton, Dunstable and Houghton Regis**

	2001-06	2006-11	2011-16	2016-21
Dwellings	3 000	6 000	7 500	7 800
Average per annum	600	1 200	1 500	1 560

For the purposes of Green Belt reviews land should be safeguarded for a total of a further 15,400 houses and 7,400 jobs in the period 2021-2031.

### 5.1.6 Aylesbury

#### Review of planning situation

Aylesbury is the county town of Buckinghamshire, in accordance with this the adopted local plan (2004) proposes that 65% of the Districts development be concentrated at Aylesbury. The Council has allocated land for the development of 3800 units within Aylesbury and 1000 within the rural area to 2011. Of this, within Aylesbury 1,100 houses will be developed on brownfield sites with the remaining on greenfield land. The greenfield development will come forward in the form of three major development areas. Two of these sites, Berryfields and Weedon Hill will provide mixed use development and Aston Clinton Road will be a employment park.

#### Berryfields Main Development Area (MDA)

The Berryfields MDA covers an area of around 195ha, straddling the A41 on the north-west edge of Aylesbury. This area is shown in Plate 5.4. The site is subject to a development consortium made up of George Wimpey UK Ltd, Martin Grant Homes Ltd, Keir Land Ltd and Banner Homes Ltd.

The extent of the MDA is constrained by physical boundaries, with its western extent limited by a railway line, the southern and eastern boundaries are formed by the floodplain of the River Thame and its tributaries. It is proposed that the site will be able to accommodate the development of some 3000 dwellings, provision of 70 ha of informal and 10 ha of formal recreation areas. The housing to be developed will be a mix of housing types and tenure and built to a density of around 35 dph as the periphery of the site and up to 50 dph in the central area. The site will also provide around 9 ha of employment land.

The development of the site is likely to be phased over a 10 year period with an anticipated start in 2005. No more than 1,850 dwellings will be required at Berryfields to meet the District's

housing requirements to 2011. A summary of the phasing of works is provided below in Table 5.8.

**Table 5.8 Phasing of Berryfields MDA**

<b>Phase</b>	<b>Period (Years)</b>	<b>Number of Units (cumulative total)</b>	<b>Other Elements of the Development</b>
Phase 1	1-4	700	<ul style="list-style-type: none"> <li>• Employment land;</li> <li>• Combined school;</li> <li>• Park and ride;</li> <li>• A41 improvements;</li> <li>• Commence local centre.</li> </ul>
Phase 2	5-7	1150 (1850)	<ul style="list-style-type: none"> <li>• Further employment;</li> <li>• Secondary / extended school;</li> <li>• Completion of local centre.</li> </ul>
Phase 3	8-10	1150 (3000)	<ul style="list-style-type: none"> <li>• Further employment;</li> <li>• Second combined school.</li> </ul>

The majority of the site is outside of the floodplain with no development proposed within this area. The Council have identified within their development brief scope for the consortium to provide compensatory flood provision and surface water balancing provision associated with this development.

**Plate 5.4 Berryfields MDA, Aylesbury**



#### **Weedon Hill MDA**

The Weedon Hill MDA is a 50 ha site allocated for mixed-use development, with provision for housing (22ha) to include a mix of housing and flats for 850 units, education, local centre and community facilities, park and ride and formal/informal recreation provision.

The site is located on the northern fringe of Aylesbury to the west of the A413, with the River Thames to the south. The flood plain for the River Thames separates the site from the existing urban area at Meadowcroft. All development will be outside of the mapped flood plain and surface water will be dealt with by means of SUDS/

#### **Projected Growth**

During the Public Examination, the Inspector has concluded that there is doubt as to whether Aylesbury belongs within the growth area with plans for its growth seen as being optimistic. The Inspector has identified that there is clearly substantial growth planned in the short and medium term there is no clear vision about the sustained growth or role for the town. There are also understood to be serious infrastructure issues concerning wastewater treatment as a result there has been a reduction in the rate of growth proposed.

Despite this the Inspector has recommended that Aylesbury should accommodate a total of 14,100 new dwellings over the period 2001-2021. Other parts of Aylesbury Vale should provide for a further 3,300 new dwellings in the period 2001-2016. The current recommended rates of growth are shown in Table 5.9.

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**Table 5.9 Proposed Completion Rates for Aylesbury**

	<b>2001-06</b>	<b>2006-11</b>	<b>2011-16</b>	<b>2016-21</b>
Dwellings	2,400	3,800	4,400	3,500
Average per annum	480	760	880	700