

HATFIELD AERODROME

SUPPLEMENTARY PLANNING GUIDANCE
ADOPTED NOVEMBER 1999

**WELWYN HATFIELD COUNCIL
AND
ST ALBANS CITY AND DISTRICT COUNCIL**

HATFIELD AERODROME

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SECTION 1

**DEVELOPMENT
PRINCIPLES**

1. INTRODUCTION

Purpose of Supplementary Planning Guidance

- 1.1 This Supplementary Planning Guidance (SPG) has been produced to guide the formulation of development proposals for the redevelopment of the former British Aerospace (BAe) site at Hatfield pursuant to adopted Local Plan policies. It was adopted by the City and District Council of St Albans on 12 October 1999 and by Welwyn Hatfield Council on 2 November 1999.
- 1.2 This SPG will be a material consideration against which any planning applications submitted in respect of land covered by this guidance will be determined. It is recognised, however, that circumstances may change over time and that as a consequence there may be a need for some flexibility. The Council's will need to consider such changes on their individual merits.
- 1.3 This guidance has been prepared by Welwyn Hatfield Council, Hertfordshire County Council and St Albans City and District Council in consultation with the landowners and with the Government Office for the Eastern Region, the Highways Agency and other relevant bodies and agencies.
- 1.4 This Supplementary Planning Guidance comprises two Sections.

Section 1 sets out the key development strategies and principles for the site.

Section 2 contains a series of Area Planning Briefs, setting out development guidance for different parts of the site.

- 1.5 The SPG has been prepared in accordance with the advice contained in 'Planning and Development Briefs: A Guide to Better Practice' published in 1998.
- 1.6 This SPG represents the 'Masterplan' referred to in the policies of the BAe Inset of the Welwyn Hatfield District Plan. Appendix 2 sets out the Sustainability Tests and Principles of the Sustainability Appraisal which should be read in conjunction with this SPG.

The Preparation of the SPG

- 1.7 The preparation of development proposals for the BAe site commenced following the adoption of the Welwyn Hatfield District Plan in March 1998. Policy BAe 3 of that Plan requires that a Masterplan should be approved for the site. Two stages of work have led to this SPG.
- 1.8 Stage 1 was developed in the summer of 1998 and involved the production of an initial Masterplan which set out in very broad terms the approximate location and quantum of uses for the site. This process also took into account the results from a public consultation exercise involving workshops and an exhibition. Stage 2 has built on this framework, involved further public consultation and represents the conclusion of the final stage in the preparation.

Objectives of this SPG

1.9 The SPG :

- Clarifies the potential content (quantum and use) of each area of the site.
- Ensures that the site is designed in a cohesive and comprehensive manner and where necessary identifies those elements of the development that will be required to be brought forward on a phased basis.
- Sets out the key design principles which will set the quality of the environment to be created and more specifically guide the form of the development in the various areas.
- Identifies those matters for which development contributions are sought.

Development Principles

1.10 The key development principles that should be taken into account in the development of the site and which have themselves been taken into account in the development of this SPG were initially derived from the BAe chapter of the Welwyn Hatfield District Plan. These were refined and clarified during the preparation of this Masterplan . Set out below is a summary of the key elements :

- The development is to be sustainable.
- The development should provide for a mix of uses including: employment, housing, a site for the University of Hertfordshire and a central area where a range of leisure and community facilities together with a local shopping centre can be provided.
- The Green Belt part of the site should be enhanced and made more accessible to the general public for passive recreation.
- Proposals for mineral extraction and after use should be consistent with the Minerals Local Plan.
- The development should be served by an integrated transportation package that encourages travel by means other than the car.
- The provision of an aviation heritage facility will be encouraged.

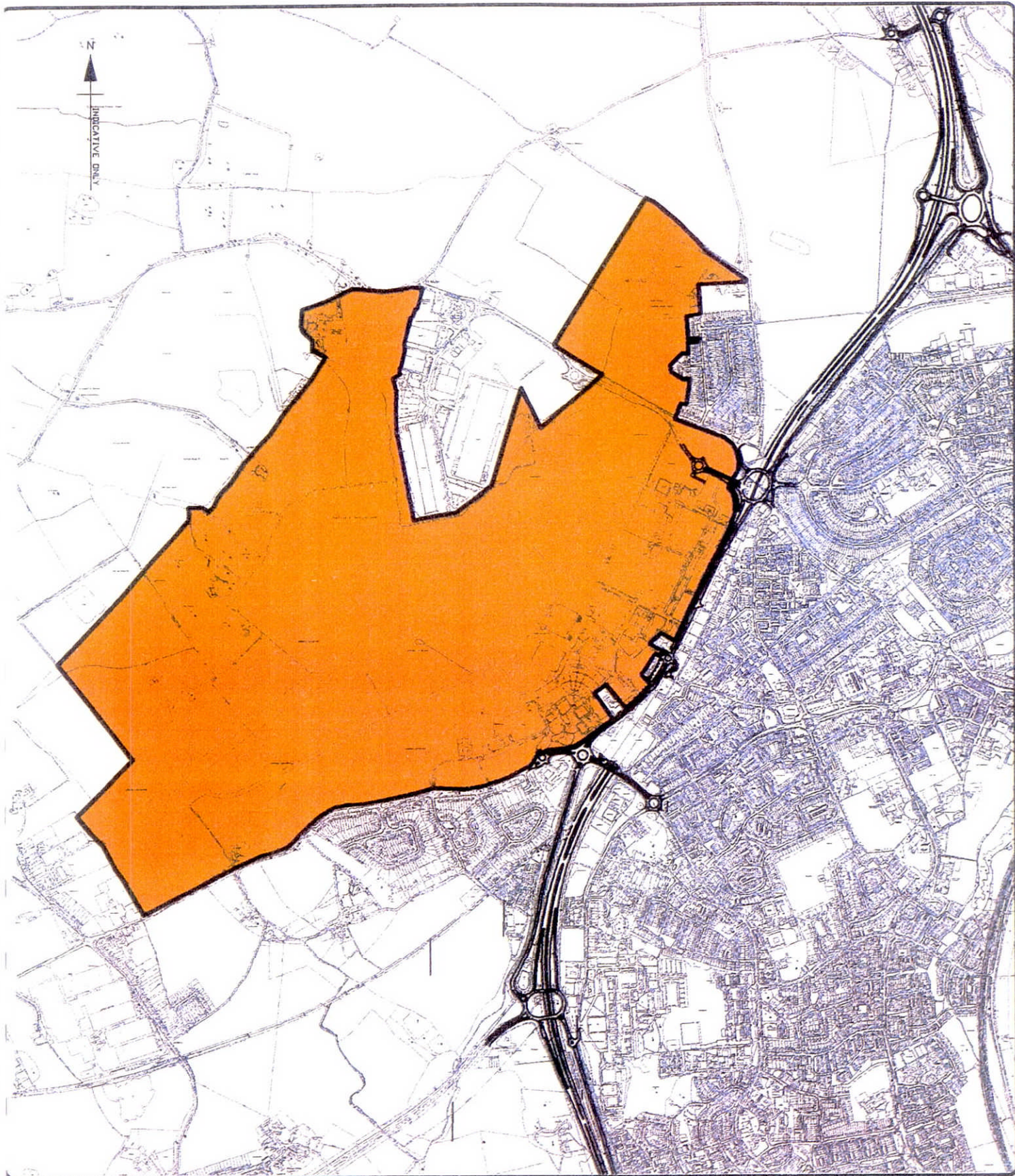
Review of the Supplementary Planning Guidance

- 1.11 This SPG will be incorporated into the review of the Welwyn Hatfield District Plan which will cover the period 2001-2011. Any major reviews of the SPG will be incorporated as subsequent revisions of the District Plan.**
- 1.12 During the development of this site, minor variations of the Masterplan may be required as a consequence of a change in the circumstances which prevailed when the Masterplan was originally prepared. In exceptional circumstances, variations or alterations of a minor nature may be allowed at the discretion of the relevant local planning authorities. However, should the Masterplan not be flexible enough to deal with such changing circumstances, there will be a need to carry out a formal review of the Masterplan.**

2. THE SITE

- 2.1 The site is shown in Figure 1. It is located west of the A1 (M), approximately 600 metres north west of Hatfield Town Centre. For the purposes of presenting the proposals for the future development of the site, it is called Hatfield Aerodrome in this SPG.
- 2.2 The site as defined in this SPG accords with the District Plan BAe Inset boundaries. In addition, an area to the north which was formerly the Smurfit factory has been incorporated as has the Green Belt area to the north of Hatfield Avenue, and together these form the Masterplan area covered by this SPG. The Masterplan Area extends to some 322 hectares (800 acres). The site boundaries are indicated in Figure 2.
- 2.3 The majority of the site lies within Welwyn Hatfield District. However the southern end falls within St. Albans District and extends to 56 hectares (140 acres). The recently developed areas of Hatfield Business Park and Bishop Square border the site to the north-west and south-east respectively. That part of the site to the north of Hatfield Avenue comprises open land currently used for informal recreation and a playing field. This land also incorporates the sports ground of the former Smurfit factory.
- 2.4 Relief on the site is generally level in nature, with significant areas of vegetation on the northern edge at Home Covert. This is an area of Ancient Woodland and High Nature Conservation Value. Two watercourses known as Ellenbrook and Nasthyde Brook cross the site from north to south, both of which are partially concealed in culverts beneath the former airfield.
- 2.5 Apart from the Green Belt area, all the land to the south of Hatfield Avenue is previously developed land ('brownfield'). The eastern area of the site contains a large number of buildings which were formerly associated with the British Aerospace Works and which are now vacant. The Smurfit factory site was recently used for employment purposes and is also a brownfield site.
- 2.6 A number of the buildings within the Masterplan site are of Architectural or Historic interest and are Grade II Listed:
 - A group of three buildings in the main complex including the Administration Building, Canteen and Gatehouse.
 - Astwick Manor on the northern boundary of the site.
 - Popefield Farm near the southern boundary of the site.
 - The Flight Test Hangar. This was listed Grade II* in September 1998.
- 2.7 The site has three existing access points from Comet Way (two points from the southern car park and the Main Gate) and can also be reached from the Hatfield Avenue and the Bishop Square development. Secondary access also exists from Coopers Green Lane, Green Lanes, Great Braitch Lane and St Albans Road. There are no Public Rights of Way across the site, although a public footpath lies adjacent to the southern boundary.

- 2.8 The southern half of Hatfield Aerodrome lies within designated Green Belt. The majority of this area has been identified in the Hertfordshire County Council Minerals Local Plan as a preferred area for mineral extraction. It is also part of the Watling Chase Community Forest as defined within the Welwyn Hatfield District Plan and the Community Forest Plan.



HATFIELD AEROSPACE - THE SITE

0 100 500
(Scale in metres)

FIGURE 2

3. PLANNING CONTEXT

Development Plan Framework

3.1 The Development Plan framework which is applicable to the Masterplan site consists of the following plans:

- Hertfordshire Structure Plan Review 1991 - 2011, adopted in April 1998.
- Welwyn Hatfield District Plan Alterations No 1, adopted on 2 March 1998. The plan period runs until 2001.
- City and District of St Albans District Local Plan Review, adopted in November 1994. The plan period ran until 1996.
- Hertfordshire Minerals Local Plan 1991 - 2006, adopted in July 1998.
- Hertfordshire Waste Local Plan 1995 - 2005, adopted in January 1999.

Welwyn Hatfield District Plan - BAe Inset

3.2 The key thrust of the Development Plan framework in respect of the former BAe Inset site is summarised in a specific chapter of the Welwyn Hatfield District Plan. The chapter sets out objectives for the redevelopment of the BAe site and puts forward a number of policies to guide that development, dealing with, *inter alia*, sustainability, phasing and release of land, economic and employment issues, housing issues, additional transport issues, aviation heritage, community facilities/public open space, energy efficiency, public art, and Green Belt. The BAe Inset policies are set out in full in Appendix 1.

National Planning Guidance

3.3 Advice within Planning Policy Guidance Notes (PPGs) prepared by the Department of Environment, Transport and Regions (formerly the Department of Environment) also relates to the site, in particular the following:

- PPG 1 General Policies and Principles
- PPG 2 Green Belts
- PPG 3 Housing
- PPG 4 Industrial and Commercial Development and Small Firms
- PPG 6 Town Centres and Retail Development
- PPG 9 Nature Conservation
- PPG 12 Development Plans and Regional Planning Guidance
- PPG 13 Transport
- PPG 15 Planning and the Historic Environment
- PPG 16 Archaeology and Planning
- PPG 17 Sport and Recreation

Also relevant are other statements of planning and transportation policy including the Transport White Paper entitled 'A New Deal for Transport'; Hertfordshire's Local Transport Plan; Regional Planning Guidance Note (RPG) 9 'Regional Planning Guidance for the South East'; and Minerals Planning Guidance Note (MPG) 2 'Applications, Permissions and Conditions'.

3.4 Any planning application submitted in respect of land the subject of this SPG must have regard to all of the relevant policies of the above Structure and Local Plans together with any other relevant policy advice and/or guidance.

4.0 RESUME OF DEVELOPMENT PROPOSALS

Objectives

- 4.1 The main objectives for the site in terms of establishing an overall approach and achieving sustainability are set out in the District Plan. This SPG has been developed with those objectives in mind, together with a recognition that the framework must allow for a scheme that is workable and capable of implementation.
- 4.2 The following principles have been incorporated in formulating a particular mix and disposition of uses :
- Promoting a mix of uses on the site and a close integration of the primary uses on the site, which are the District Centre, the University, residential and business parks .
 - Achieving a good integration of the development with Hatfield and surrounding towns with good pedestrian, cycle and passenger transport links. The improvement of links between Hatfield's existing town centre, the Galleria, the new District Centre and the residential area is a key element of the SPG strategy.
 - Promoting passenger transport, pedestrian and cycling as alternatives to the car.
 - Promoting energy efficiency and energy conservation.
 - Creating a 'sense of place' for the Masterplan area as a whole, which will be achieved through a combination of careful urban design, provision of facilities for the community and the incorporation of landscape principles which will serve to link the elements of the Masterplan. The development will also need to reflect an overall high quality of design throughout.
 - Providing high standards of environment, open space and leisure facilities.
 - Retaining and providing a range of social and community facilities.
 - Providing scope for the presence of the University of Hertfordshire.
 - Enhancing the Green Belt and making the area more accessible to the public.
 - Retaining the current Green Belt boundary, whilst softening the edge of the new development area where possible.

Disposition of Uses

- 4.3 Figure 11 establishes a Land Use Plan which sets out the distribution of land uses and strategic infrastructure.

4.4 The Masterplan comprises the following key elements:

Land Use	Area (Acres)	Area (Hectares)	Quantum
Residential Area (north – includes Smurfitt Factory)	45.1	18.3	660 dwellings
Residential Area (South)	57.6	23.3	870 dwellings
Residential Area (District Centre)	7.0	2.8	130 dwellings
Employment	115.0	46.5	191,000M ²
District Centre (including Listed Hanger)	24.1	9.8	
Primary School	6.0	2.4	
University	30.0	12.1	
Budget Hotel	2.0	0.8	
Business Hotel	6.0	2.4	
Aviation Heritage Centre (Comet Way Listed Buildings and curtilage)	2.55	1.0	
Infrastructure and strategic landscaping	25.9	10.5	
Green Belt (north)	18.5	7.5	
Green Belt (south)	444.0	179.7	
Bishop Square	15.8	6.4	
Total	800.0	323.8	

4.5 The broad disposition of land uses, and the quantum of development proposed for each land use, is summarised below.

- **District Centre.** Located adjacent to the Galleria to maximise the potential for synergy with the Galleria and Hatfield's town centre beyond. The quantum of development envisaged on the 24.5 acre site, which includes the Flight Test hangar comprises approximately:

Health/medicine centre	2,000 sq.ft.(186M ²)
Day nursery/crèche	0.5 acre(0.2Ha)
Convenience retail store	12,000 sq.ft (1115M ²)[Maximum net].
Unit shops	6,000 sq.ft (557M ²)[Maximum net]
Family Entertainment Centre	55,000 sq.ft (5110M ²).
Health & Fitness Club	40,000 - 45,000 sq.ft.(3716 – 4180M ²)
Lifestyle Club	Only if it involves the use of Listed Hanger and incorporates the health and fitness club above
Themed Family restaurants	6,000 - 7,000 sq.ft.(557 – 650M ²)
Drive-thru restaurant	3,500 sq.ft - 5,000 sq ft.(325 – 465M ²)
Business Innovation Centre	75,000 sq.ft.(6968M ²)
Residential units	Dependent on detailed layout / design

- **University** A 30 acre (12.1Ha) site is reserved for the University in accordance with the District Plan's policies. It is sited adjacent to the Green Belt to allow for the incorporation of playing fields, and at the southern part of the Masterplan site to minimise distance between this site and the University's campus to the south. The quantum of development envisaged on this site subject to further consideration by the University is approximately:

Two new academic faculties	12,000M ² sq.ft.
Learning Resource Centre	7,000 M ² .
Student Residences	Approx. 1,600 students
Indoor sports facilities	9500M ²
Outdoor sports facilities	2 rugby pitches
	3 football pitches
	1 synthetic pitch
	6 tennis courts
	1 cricket square
	Pavilion/changing rooms

- **Business Park.** This is located to maximise frontage onto the A1001 and the proposed Spine Road through the site. The location in respect of the District Centre will help to reduce the need for future employees to travel to gain access to services and facilities. The shared boundary with the former Dynamics site, which has already been redeveloped for employment use, reduces the potential for any amenity conflicts to arise from the employment activity. The quantum of development envisaged comprises the following area for each use class (in acres and square feet of gross external area):

Use Class	Area (Acres)	Area(Hectares)	Floorspace(ft ²)	Floorspace(M ²)
B1 a/b	57.0	23.1	1,036,600	96,300
B1 (c) /B2	20.0	8.1	348,075	32,400
B8	28.0	11.3	488,075	45,342
Sui Generis	10.0	4.1	182,500	16,954
Totals	115	46.5	2,055,250	190,996

*The 28.0 acres(11.3Ha) shown as B8 uses include 8 acres required for future expansion of ComputaCenter. That area is assumed to be, but not restricted to, B8 uses. Should this area not be used for B 8, the allocation will be 20.0 acres (8.1Ha)

- **Residential.** Two principal housing areas are proposed. The southern sector is located between the Green Belt and the District Centre, which will also benefit from the amenities which will be provided in the District Centre. The location of the housing area adjacent to the Green Belt allows the potential for a sensitive 'softening' of an otherwise hard urban edge to the Green Belt to be achieved. The northern sector is to act as an extension to the Hatfield Garden Village, and offers similar potential to provide a 'softened' urban edge to the Green Belt. A third area of residential is located to the south of the District Centre to provide an opportunity for living next to the District Centre's amenities. The quantum of development envisaged for each of the principal housing areas (based on 15 units per acre gross – 37 units per hectare) comprises :

Northern Sector	660 dwellings
Southern Sector	870 dwellings
Adjacent to District Centre	130 dwellings
Total	1,660 dwellings

- **Hotels.** Two sites are indicated for hotels. A 4 star hotel is located at the northern end of the site, designed to serve the Business Park, and to benefit from the A1(M) motorway junction location. It also serves to act as a buffer between the existing residential area to the north and the proposed employment area to the south. The second site is adjacent to the existing hotel to the south of the District Centre, fronting onto the A1001. This site is identified as offering potential for a budget hotel operator.
- **Primary School.** The County Council has identified a requirement for a new 2-form entry Primary School with nursery class within the Masterplan area. A 6 acre (2.4Ha) site (or as otherwise agreed with the Councils) is identified. The proposed site is close to the District Centre to allow for the potential of multi-purpose trips. This site is also to the north-eastern edge of the North Ellenbrook housing area in order to be as close as possible to the northern sector housing. The possibility of including community hall and day care provision on this site, will be investigated.
- **Secondary School Facilities.** In addition to primary school provision, the development will generate the need for additional secondary school facilities. It is proposed that any such facilities are provided off site at existing Secondary Schools in Hatfield.

- 4.6 Further details of the land uses, and the principles which should govern their development, are elaborated in the individual Area Briefs.

Planning Obligations

- 4.7 The development will add substantially to the employment opportunities and housing available in the area. Whilst there are many positive aspects to this, it is inevitable that development on this scale will place additional pressure on infrastructure, facilities and services such as roads, schools and community provision. Provision of community facilities on site will add to the sense of place and add to the opportunities for building a community in the broadest sense.

- 4.8 In accordance with local plan policy IMP1 the council expects proposals for development:

- i. To make provision for the necessary infrastructure required as a consequence of the development and,
- ii. To ensure that any development proposals will not have significant adverse impacts on existing community provision.

A substantial number of provisions are required to enable the site to be developed. Developers will be required to provide, finance or contribute to the cost of these. The provisions will be secured through planning obligations and will include:

Transport

- Off-site highway works
- Traffic management measures
- Pedestrian facilities
- Cycling facilities
- Parking controls and enforcement

- Provision of passenger transport infrastructure and contribution to services
- Green transport plan
- Monitoring of phasing/modal split targets
- Commuted sum for maintenance of additional width of Spine Road

Education

- New 2 form entry primary and nursery school
- Temporary expansion of facilities at existing primary school in Hatfield
- Bus services from site to existing primary school
- Provision of temporary classrooms at new school site
- Expansion of secondary school provision in Hatfield

Community Facilities

- Library facility on site and contribution to the improvement of Hatfield library
- Childcare provision
- Community Hall, including youth facilities
- Health facilities

Affordable housing, including special needs housing

Fire hydrants

Waste facilities for source separation and recycling

Materials recovery facility

Small business units

Training programmes

Aviation heritage centre

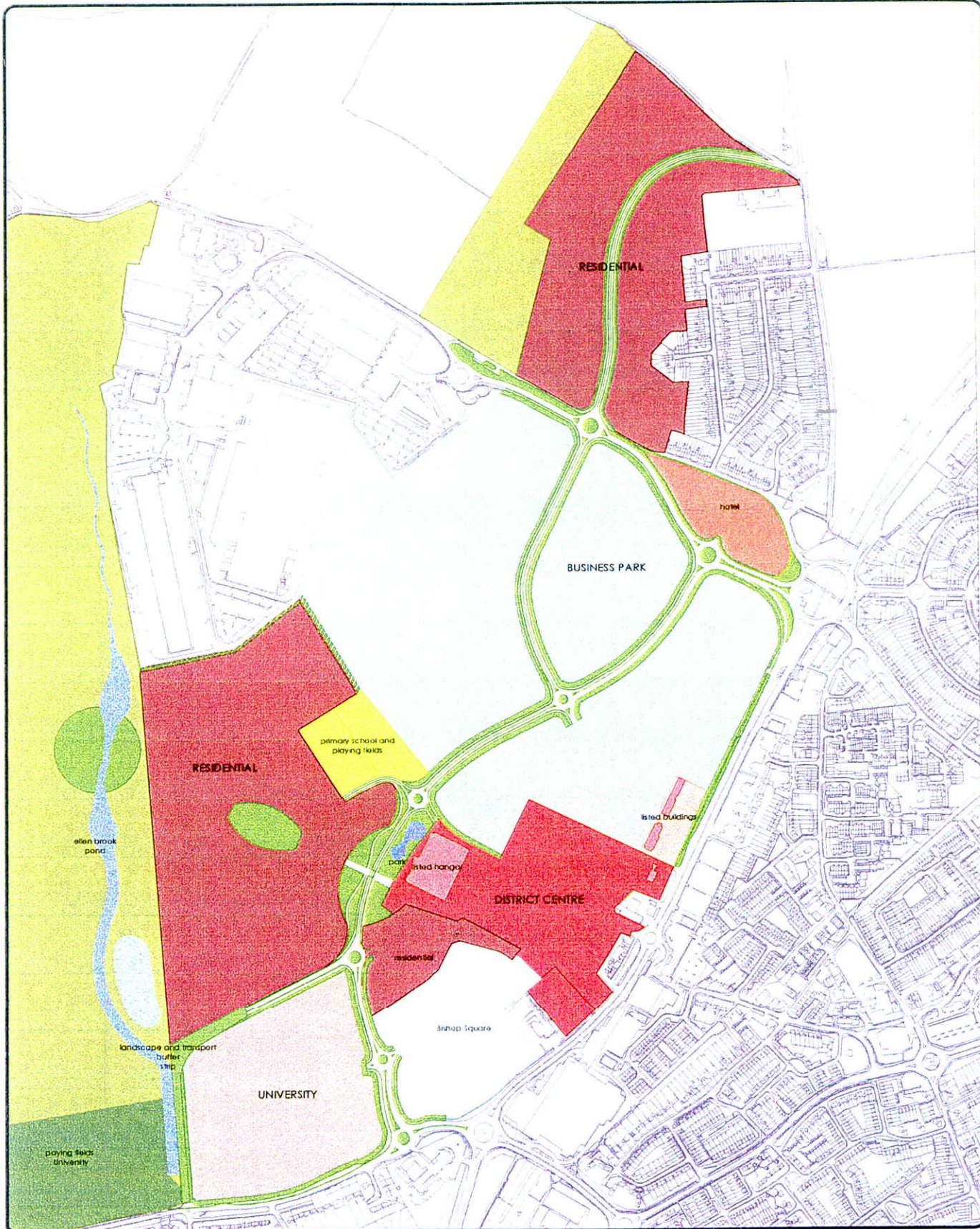
Green space creation and maintenance, including the Green Belt

Archaeology

Play space provision and maintenance

Dual use of university campus

This list is not exhaustive as other issues may be identified as detailed negotiations take place.



JOB TITLE:
HATFIELD AERODROME

DRAWING TITLE:
LAND USE PLAN

DRAWING NUMBER:
FIGURE 11

5. OVERALL SUSTAINABILITY STRATEGY AND PRINCIPLES

- 5.1 The Councils consider the application of sustainable objectives to be a fundamental principle which should be taken into account, not only in the preparation of the Masterplan and this SPG, but also in the formulation and implementation of more detailed development proposals as the scheme progresses.
- 5.2 The BAe Inset of the Welwyn Hatfield District Plan contains a specific policy (BAe 2) on sustainability which is as follows:

" The development of the whole Inset site will be based on the principles of sustainability. This will apply to all aspects of the development including layout, mix of uses, orientation and design of buildings, energy efficiency and the need to provide an integrated transport planning system".

- 5.3 The strategy for sustainability adopted by the Councils has two main elements.
- 5.4 Firstly, the preparation of this SPG has been informed through a comprehensive Sustainability Appraisal of the proposals as they have emerged. The Sustainability Appraisal is a separate document to this SPG but should be read in conjunction with it.

The second strand of the strategy has been to develop key Sustainability Principles and Tests which will guide subsequent planning applications that are submitted in respect of the site. These Tests are found in the Sustainability Appraisal and are set out in Appendix 2 to this SPG, which identifies the four Key Areas to which the Tests should apply. In addition, within each section of this SPG under the heading 'sustainability principles' a broad indication of the key areas that need to be addressed in the preparation and consideration of planning applications is identified. The local planning authorities will need to be satisfied that the relevant sustainability issues have been appropriately addressed by the applicant before planning permission is granted.

The principles and tests cover the following 12 key areas:

- | | |
|------------------------------|-------------------------|
| 1. Optimum Use of Resources | 7. Habitat and Species |
| 2. Pollution Minimisation | 8. Urban Design Quality |
| 3. Water Resource Management | 9. Community Provision |
| 4. Waste Management | 10. Accessibility |
| 5. Energy Efficiency | 11. The Economy |
| 6. Landscape Quality | 12. Health and Safety |

6 ECONOMIC APPRAISAL

- 6.1 The site is identified as one of six Key Employment Sites in the Hertfordshire Structure Plan Review (policy 15) to:

"play a major long term role in the Hertfordshire economy, where employment generating activities will be encouraged and where co-ordinated activity and investment programmes are required to realise their full potential".

- 6.2 To assist in the preparation of the SPG background research has been undertaken to assess the economic implications arising from the proposed development. The impact on Welwyn Hatfield was assessed; and other locations which had experienced a similar degree of growth were sought in order to provide a comparison of indicators such as employment structure. Comparator locations, principally within the South East, were identified which suggests that the level of development proposed could be accommodated within the regional economy.
- 6.3 The research highlighted that the greater the expectancy that new jobs would be filled by people living in Welwyn Hatfield, the greater the uncertainty of satisfactorily achieving the development. Therefore, while the development is feasible, management of the impact will be important. Further, more in-depth analysis has been undertaken on the nature and extent of these constraints. It concludes that the proposed redevelopment of the site will generate a significant level of economic activity in the district of Welwyn Hatfield, and the County as a whole. It is estimated that approximately 8000 direct jobs will be created by the development as a whole together with a further 1200 indirect and 'induced' jobs. Approximately 90% of the employment generated by the site is expected by 2009/2010.
- 6.4 Such a high anticipated demand for employment requires a strategy for maximising labour supply. This is particularly important in view of current levels of unemployment (1.4% in Welwyn Hatfield and 1.9% in Hertfordshire as a whole). This current situation, however, should be placed in the context of a 10-15 year development period which may see at least one more economic cycle. As the site may become the largest key employment site in the County, it is likely, therefore, to draw labour from a wider catchment area. Three principle sources of labour can be identified:
- The local resident workforce.
 - Employees who currently commute out of the County.
 - Employees within companies relocating to the site.
- 6.5 Within the context of current labour market conditions, these sources of labour should be maximised. To achieve this, co-ordinated action is required to implement the following measures:
- Within the mixed use development the opportunity for people to live and work on the site should be maximised and achieved through some phasing of housing and employment. This will assist in securing a local source of new labour and support the economic sustainability of the site.
 - The provision of childcare facilities on the site accessible to those living and working at the site, including lower cost provision and possibly run by the local authority, will encourage returners to the labour market.
 - Initiatives to stimulate new firm formulation and help local businesses to grow. This will help generate local demand for labour and should include the provision of small business units. Initiatives should also maximise the opportunity for

linkages and the transfer of technology presented by the juxtaposition of the University, the proposed Innovation Centre, the District Centre and small business units within the employment area. This should involve agencies such as Hertfordshire TEC, Business Link, the local authorities, the University of Hertfordshire and the East of England Development Agency.

- The introduction of local training and job brokerage initiatives to secure the appropriate skills related to the key sectors and occupations likely to be attracted to the site. These should be developed in partnership with other organisations such as Hertfordshire TEC to encourage and enable returners and first time employees to work on the site.
- Initiatives to reduce out-commuting and attract the large supply of out commuters in higher order occupations.

7. OVERALL TRANSPORT STRATEGY AND PRINCIPLES

Introduction

- 7.1 The transport strategy for the Masterplan site focuses on four primary transport modes: walking, cycling, passenger transport and private vehicles.
- 7.2 In accordance with sustainability objectives, a reduction in private car usage will be sought through the introduction of quality passenger transport services, facilities for cyclists and pedestrians, and Green Transport Plans. There will also be restrictions in the level of car parking provided. Access by cars and other vehicular traffic required for essential servicing will also be provided.

Transportation Objectives

- 7.3 The transport strategy is based on Government policies, including the 'New Deal for Transport' White Paper published in July 1998, together with the strategic transport objectives of the County Council, which are set out in the adopted Structure Plan and the Local Transport Plan. The main policy aims for transport provision are :
- To be environmentally led with the aim of reducing the damage caused by any new transport provision, and to make the best of existing resources, where possible they should improve existing conditions.
 - To be integrated with land use planning in order to minimise the need for travel, especially car journeys.
 - To be specifically aimed at reducing the dependence on car use, especially during peak periods.
 - To encourage a shift of mode from car to passenger transport, walking and cycling, as well as encourage measures which reduce the need for journeys to be made at all, and promote a more healthy lifestyle.
 - The reduction in death and injury caused by road accidents will continue to have a high priority.
- 7.4 To allow the development of this Key Employment Site to its full potential there are significant constraints to be overcome on the surrounding transportation network. To achieve this in the light of Central Government and the County Council's sustainable transportation policies a strategy to promote the use of sustainable transport to reach the site is required. The elements of the strategy that has been devised to meet these aims and to take account of the need of future occupiers are set out below.
- 7.5 The principal objectives of the transportation strategy for the site within that context are:
- To bring forward a sustainable transportation framework.
 - To fully integrate the site with the rest of Hatfield.
 - To reduce single occupant car commuting to the site.
 - Maximise the number of employees on the site who choose to walk, cycle or use passenger transport to and from the site.
 - Maximise travel to and from the new residential area, District Centre, leisure facilities and the university by non-car travel modes.
 - Facilitate the promotion of a strategic passenger transport facility such as the Central Herts Passenger Transport System (CHPTS).
 - Integrate the on-site pedestrian, cycle and passenger transport routes with those in the adjacent urban areas.

- Minimise the impact of the additional transport demands generated on the transport infrastructure and services surrounding the site.
- Minimise the impact of traffic on the surrounding road network.

7.6 Within this context, a package of transportation measures has been identified to provide an overall strategy to mitigate the impact of traffic associated with the proposed development. The key elements are:

- Walking and cycling
- Passenger transport
- Green Transport Plans
- On-site highways
- Off-site highways improvements
- Parking restraint
- Phasing

7.7 The transport strategy is designed to achieve an overall modal split between car drivers and other modes of 70:30 for the whole site.

Provision of Pedestrian and Cycle Facilities

7.8 In order to create an attractive and sustainable development, the infrastructure in and around the site will need to encourage walking and cycling. It will be particularly important to reduce the barrier imposed by the A1001 between Hatfield and the site.

7.9 Facilities provided will seek to ensure that:

- The journey is safe and easy to undertake, avoiding existing barriers to travel.
- Bicycles and other equipment can be safely stored at the workplace.
- Cycling and walking are seen as attractive options to the car.

7.10 This will require:

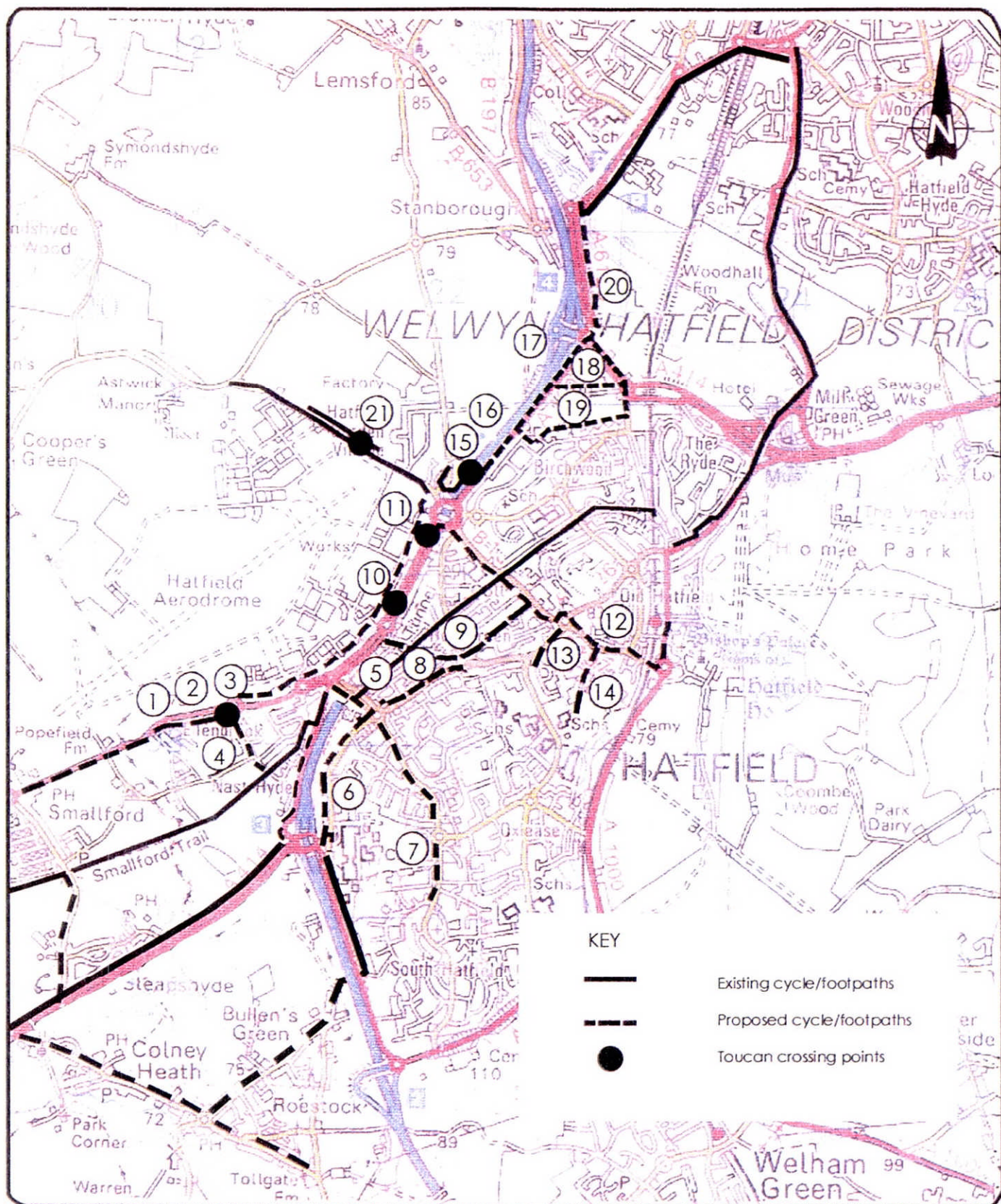
- Provision of dedicated pedestrian and cycle rights of way.
- Safe and attractive crossing facilities on and off site.
- Facilities at the destination to provide for washing and changing for cyclists.
- Secure storage areas for bicycles and related equipment.

Crossing Facilities

7.11 Safe crossing facilities will be provided and existing facilities improved at a number of locations including across Comet Way, Hatfield Road and within the site. These are shown on Figure 3. All the off-site highway improvements described below will incorporate facilities for pedestrians and cyclists.

Off-site Facilities

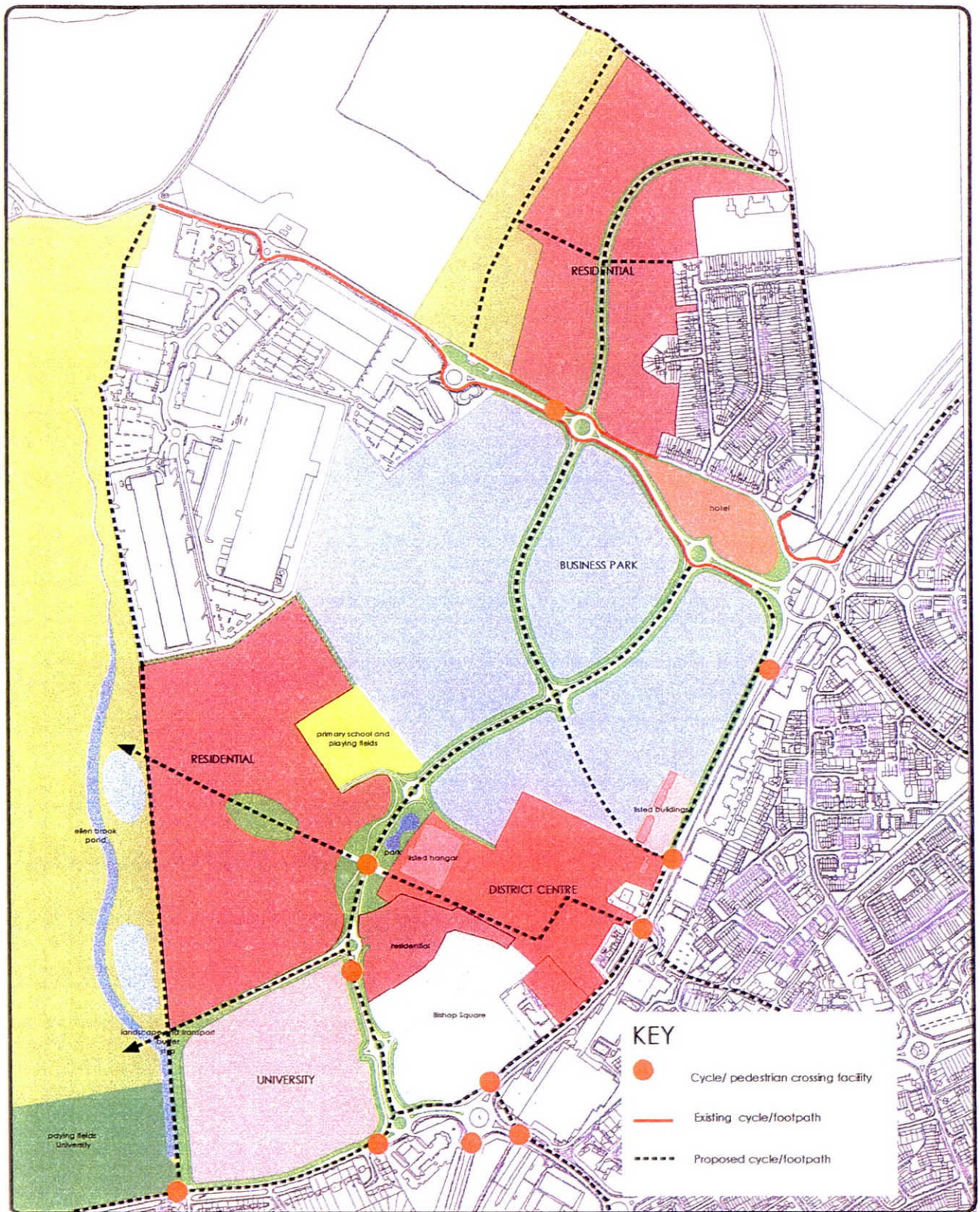
7.12 To cater for the increased cycle movements, a number of links will be needed to connect the site to existing cycle facilities. These are indicated in Figure 3. These links will connect the site to key locations in Hatfield (including the Town Centre, Station, Secondary Schools and University) and to St Albans and Welwyn Garden City. The links will complement the Welwyn Hatfield cycling strategy.



JOB TITLE:
HATFIELD AERODROME

DRAWING TITLE:
**LOCATION OF EXTERNAL
CYCLE AND PEDESTRIAN FACILITIES**

DRAWING NUMBER:
FIGURE 3



JOB TITLE:
HATFIELD AERODROME

DRAWING TITLE:
LOCATION OF INTERNAL
CYCLE AND PEDESTRIAN FACILITIES

DRAWING NUMBER:
FIGURE 4

- 7.13 Segregated cycle and footpaths will be provided where possible; although where constraints exist the cyclepaths will be provided on the basis of shared use footpaths/ cyclepaths within the existing pedestrian rights of way or as indicative cyclepaths on the highway. Improved signing and markings as well as surface treatments and kerb modifications at crossings along these defined routes will also be required.

On-site Facilities

- 7.14 Figure 4 identifies the core pedestrian and cycle route network to be provided as an integrated part of the development's transport infrastructure. The network shown is indicative as the exact alignment and locations of the network may vary when the detailed planning and design is undertaken.
- 7.15 In addition to the core network identified in Figure 4 the road network in the residential and employment areas will provide ample opportunities to provide further facilities for pedestrians and cyclists.
- 7.16 The cycle and pedestrian routes will be designed to Hertfordshire County Council Standards and national government guidance. Cycleways will be 2.5m wide (min) and footpaths 1.8m wide (min). Both will be suitable for two-way operation. Combined cycleways and footpaths will be 3m wide (min). Where it is envisaged that there will be considerable demand to cross major roads, Zebra, Pelican or Toucan crossings will be provided. The likely locations are indicated in Figure 4.

Other cycle facilities

- 7.17 In the employment areas, District Centre and University, facilities for cycle storage and washing and changing facilities will be provided as part of each building. Cycle parking will be conveniently located to give easy access for staff, whilst retaining a high degree of cycle security and will be based on the standards set out in the County Council's Draft SPG on car parking. The cycle storage should be fitted with secure, well designed cycle racks, which can be either wall loops or floor mounted stands. Where storage is not possible or the number of staff is too small for a cycle store to be viable, undercover cycle racks, a secure room or a lockable area within a building may be provided.

Passenger Transport

- 7.18 The provision and improvement of passenger transport to the site is an essential element of the overall transport strategy. The objectives are to improve both the perception and provision of passenger transport to make people more likely to use the services on a frequent and regular basis.
- 7.19 The principles of design to ensure passenger transport is encouraged to and from the site are:
- Provision of a high quality passenger transport system.
 - Easy access to passenger transport services.
 - Readily available information on the services available.
 - Good linkages between the main parts of the development.

7.20 The key facilities which will be provided to fulfil these principles are:

- The provision of a strategic passenger transport route at an early stage of development from Ellenbrook Roundabout to the Galleria roundabout on the A1001, including priority measures at the Galleria roundabout.
- A passenger transport interchange facility.
- A passenger transport link for buses through the District Centre.
- The safeguarding of a route and associated facilities for the CHPTS through the site.
- Re-routing of existing bus services and/or the provision of new services into and through the site.
- Provision of additional services to link the site to the surrounding town.
- A contribution towards improved interchange facilities at Hatfield Station and/or at Hatfield Town Centre for buses may be sought.

7.21 The passenger transport interchange facility will be located within the District Centre providing kerbside bus stops for a number of buses and CHPTS, operating in both directions. The interchange should include information and ticket sales services. High quality bus shelters will be provided and allow for the provision of real time passenger information at a later date. Consideration should be given to a covered walkway to link the interchange to the District Centre.

7.22 Re-routed or new services will be provided to serve the site. At peak times the frequency will be at least 10 - 15 minutes. These will provide direct links through the site and link to major sites within the town and to the main residential concentrations outside Hatfield. The main towns that will be served by these high quality services are listed below:

- Hatfield (including the Town Centre and Station)
- Welwyn Garden City
- St Albans
- Stevenage

7.23 The routing of the services through Hatfield will follow one of a number of alternative routes depending on feasibility. Figure 5 indicates the potential routes for the services to link the town centre, by way of improved bus provision. The preferred route is from the District Centre via the Galleria and St Albans Road West to the Town Centre.

7.24 Within the site the nature and location of bus stops will be important to ensure high levels of accessibility to the services provided. Bus stops will need to be provided at kerbsides with bus cages. Locations will meet the objective that all of the development is within a maximum walking distance of 400m of a stop unless otherwise agreed, with 200m being the ideal maximum distance. Easy access kerbs and bus shelters will be provided at all stops which will provide bus timetable information and be designed to allow for real time passenger information in the future.

7.25 It is not appropriate to identify the exact locations for bus stops at this stage. However, they will be located to ensure that the criteria set out above are achieved, and that they will be linked to pedestrian network and crossing points.

7.26 To allow for the future provision of CHPTS, a strategic passenger transport corridor will be constructed for buses. This will allow the CHPTS services to run along the corridor marked on Figure 11. The route may be either a dedicated passenger transport route

or a shared right of way with other vehicles. Along this route land will be made available for the future provision of suitable passenger stops at both the University and the District Centre.

Green Transport Plans

Principles

7.27 Green Transport Plans (GTP) identify a package of facilities and measures required to encourage the use of more sustainable forms of transport to and from the workplace. The key objectives are:

- Reducing unnecessary commuting to and from the site in single occupant cars.
- Maximising the number of people choosing to walk, cycle or travel by passenger transport to work, the shops or education facilities.
- Minimising where possible the use of cars for journeys undertaken in the course of the working day.

7.28 The individual occupiers of the site will be required to produce a GTP to identify the needs of its employees and to encourage sustainable transport within the broad framework set out below.

Target Mode Shares

7.29 The individual occupier GTPs should aim, within the broader site-wide framework, to meet an overall modal split of 70% car drivers, 30% other modes for employment-related trips. In an unrestrained travel environment, some 90% of peak period travel to and from places of employment are normally by car, with the remaining 10% of trips being by foot, cycle or passenger transport. The targets set for employment-related trips aim to reduce the trips by car drivers over the life of the development by 20%.

Promotion of Alternative Modes

7.30 The GTPs will aim to encourage and promote a variety of alternative travel choices which may include:

- walking
- cycling
- passenger transport
- telecommuting/home working
- car sharing

7.31 The GTPs will need to be produced within the framework of the wider passenger transport provision, pedestrian/cycle facilities and car parking restraint and management identified within the SPG.

Walking and Cycling

7.32 To facilitate interest in cycling to and from the site, a Bicycle User Group will be formed which would provide information and assistance for those wishing to cycle to the site. It is also envisaged that a possible travel news sheet could be prepared to give information on passenger transport, and to provide information and advertising to promote travel by bicycle.

- 7.33 Individual employers on the site will make provision for cyclists by the provision of shower and changing facilities and secure storage arrangements for cycles and cycle clothing and equipment. Employers will be encouraged to consider loans at attractive rates to employees for the purchase of cycles or cycling equipment.
- 7.34 Flexible working hours and relaxations in dress code might also be considered to encourage cycling and walking.

Passenger Transport

- 7.35 Employers will provide high quality passenger transport information in a readily useable form to all those employed on the site. This is one of the keys to promoting travel by passenger transport. Individual occupiers will also be encouraged to provide season ticket loans and subsidised travel for employees and clients.

Telecommuting/Homeworking

- 7.36 Telecommuting provides the ability for staff to work from home on a regular basis, thereby reducing commuting trips, the need for office space, parking space and time spent travelling for the employee. Employers will be encouraged to facilitate this form of working by discussing options with staff and identifying those people/functions that could be undertaken from the home on a regular basis.

Car Sharing

- 7.37 Car sharing will be encouraged on a corporate and site-wide basis. A car sharing database will be set up and could be published on some form of internet/intranet facility. A fundamental component of car sharing is that if, for any valid unforeseen reason, an individual who had entered into a sharing arrangement is unable to get home via their normal 'lift' then their employer would assist with a user friendly method of ensuring a ride home.

Employers will be encouraged to give car sharers priority parking space within their car parks close to the main entrances to the buildings on the site. Employers on the site will also be encouraged to consider financial incentives for staff who do not require a parking space or who would be prepared not to park at their place of employment.

Operational/Visitor Travel

- 7.38 Individual GTPs will encourage business practices that establish policies for minimising travel for operational trips and visitors by car. This can be achieved by maximising the use of technology and by the promotion and encouragement of the use of passenger transport for travel to and from the site. To facilitate this, detailed passenger transport travel information can be made readily available about the high quality and frequent passenger transport services that will be provided to other major urban areas and to Hatfield Station.

Management of the Green Transport Plans

- 7.39 The developer will be responsible for preparing a GTP for the site and for encouraging subsequent site operators to implement and monitor their own Plans. For this purpose a Steering Group or forum will be established comprising senior representation of the developers and major employers, with assistance and input from the Councils. The developer will appoint an overall travel co-ordinator for the site. The purpose of this appointment would be to administer the overall site Green Transport Plan and provide

the interface between the Steering Group and the site operators. In addition, the co-ordinator will liaise between individual companies as appropriate, who will be encouraged to appoint their own transport co-ordinators.

User Group Plans

- 7.40 Additional plans may be developed to target particular elements of travel to and from the site. Such plans could include a Commuting Action Plan and a Business Travel Plan.

A 'Commuting Action Plan' would provide detailed information on travel by cycle, and by passenger transport and would promote car sharing.

A 'Business Travel Plan' in which the policies for travel for operational/business purposes are amplified and co-ordinated between different operators on the site. Such a plan would cover the use of hire, company and employees own cars, the provision of travel advice and visitor directions, the issue of bus, coach and rail tickets and the investigation of the use of new technology to reduce potentially unnecessary journeys.

Monitoring

- 7.41 There will need to be regular monitoring of the modal split of people coming to the site to cover all of the proposed land uses. The purpose of the monitoring will be to ensure that progress is being made towards the required modal split target of 70% car drivers. The nature of the monitoring and its frequency will be agreed between the Council and the landowners and will be influenced by the pace of development.
- 7.42 Based on the results of the monitoring there will be a review at least every 5 years of the transportation strategy generally. The frequency of reviews will depend on the pace of development. In particular the review(s) will consider :
- i. The extent of which modal shift targets have been achieved.
 - ii. The context and implementation of the policies of the Local Transport Plan
 - iii. Current Government policy.
 - iv. The extent of development on the site.

This review will not hold up development and will be used to consider whether changes are necessary to the strategy requiring the reallocation of previously committed funding.

Vehicular Access

Site Access Points

- 7.43 The principal vehicular access for the site will be provided off new or improved junctions as follows:
- Access to/from the north via two roundabouts on Hatfield Avenue off the A1001 Comet Way/Hatfield Avenue junction.
 - Access to/from the south from the A1057 St Albans Road West via the Bishop Square roundabout.
 - Access to/from the proposed District Centre off the A1001 Comet Way at the old BAe Gatehouse junction

The two main access points will be designed to ensure that the best use is made of existing infrastructure. The majority of traffic from the employment area will be encouraged to use the northern access.

In addition it will not be acceptable for traffic travelling to/from St Albans and beyond to be encouraged to use St Albans Road West.

- 7.44 Secondary access points will be from Comet Way including via the Galleria roundabout, Coopers Green Lane, Great Braitch Lane and Green Lanes.

While an existing access point exists from the site onto Coopers Green Lane, the transportation strategy has been developed to try to minimise any additional traffic using this access. It would be unacceptable if a significant number of vehicles were encouraged to use this route. Measures to ensure that no heavy goods vehicles use this access point will be required.

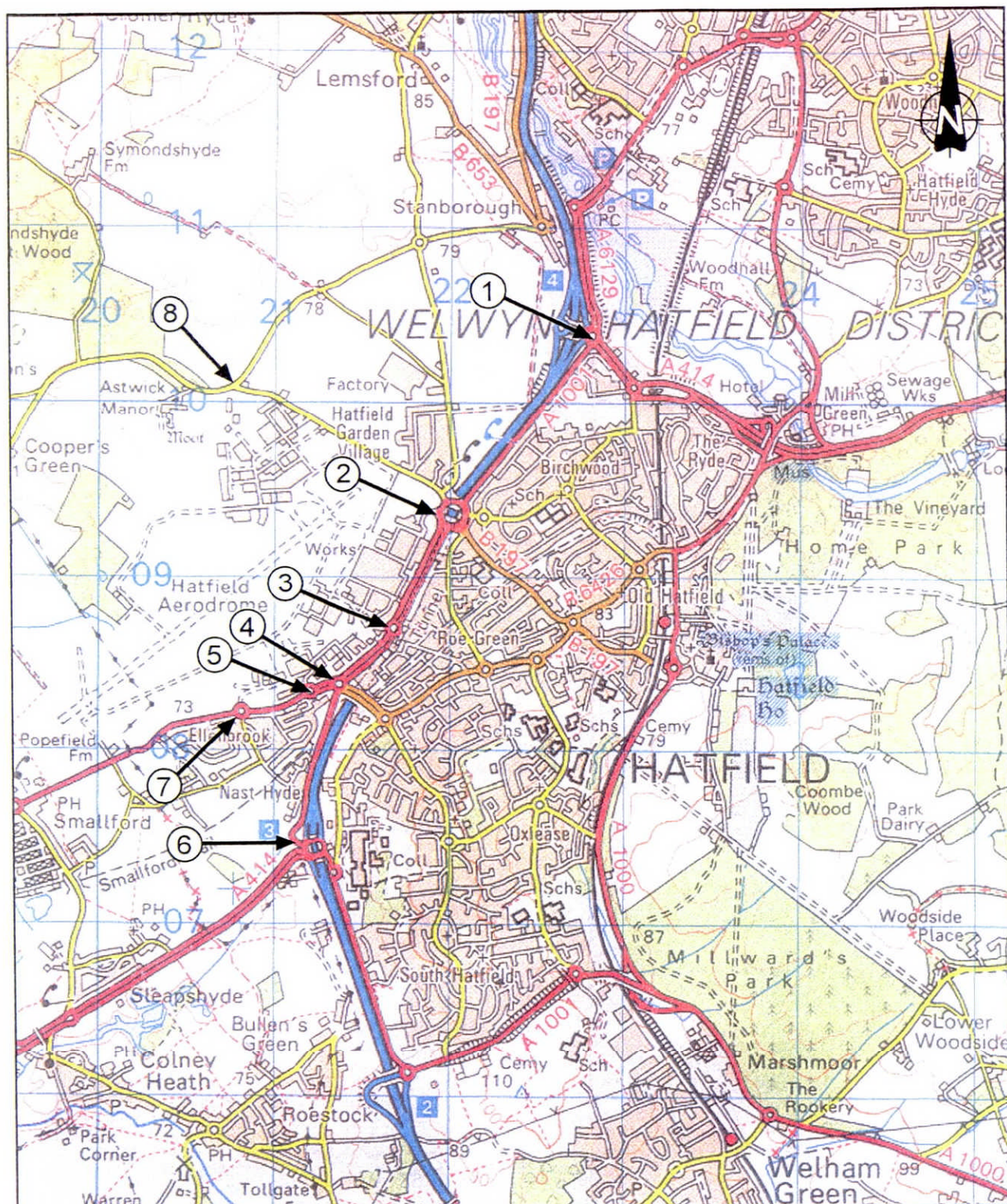
The access to the Ellenbrook Roundabout is part of the key strategic passenger transport route and will only provide access for non-car modes.

On-site Highway Infrastructure

General Design Principles

- 7.45 The roads and cycle/pedestrian facilities will generally be designed to Hertfordshire County Council Standards as set out in 'Roads In Hertfordshire, A Design Guide' and any subsequent amendments. Following these standards ensures that the Highway Authority will be able to adopt the roads and other facilities.

In accordance with the principle of sustainable transport provision, the main highway infrastructure will be designed to provide adequate highway capacity to deal with the likely demands placed upon it, once the impact of a shift to sustainable modes has been taken into account.



Key

- | | |
|-----------------------|----------------------------|
| ① Jack Oldings | ⑤ Bishop Square Roundabout |
| ② Green Lanes | ⑥ Roehyde Roundabout |
| ③ Galleria Roundabout | ⑦ Ellenbrook Roundabout |
| ④ Comet Roundabout | ⑧ Coopers Green Junction |

Drawing Title

Location of Junctions

Client

Figure 6

Drawing Ref: K: Hatfield figures

Spine Road

- 7.46** The Spine Road will run from the northern end of the site at Green Lanes Roundabout to the southern end at Bishop Square roundabout, and will have a width of 10 metres, except as referred to below where it will narrow to 7.3 metres. The following elements will be incorporated in to the Spine Road and secondary main road in the employment area designs :
- Minor accesses will be priority junctions with ghost right turn islands.
 - Between the right turn lanes central hatching will be used to reduce the running carriageways to 3.65m.
 - Splitter islands will be placed at suitable intervals along the spine road to allow pedestrians to cross the road.
 - Bus stop facilities will be in the form of bus cages on the carriageway .
 - Segregated pedestrian and cycle facilities will run parallel to the Spine Road.
 - The Spine Road will not be a signed through route.
- 7.47** Where the Spine Road and secondary main road is greater than 7.3 metres wide a commuted sum for maintenance will be payable before the road is adopted to cover the area of additional carriageway. The Spine Road running between the District Centre and the residential area will be narrowed to 7.3m to ensure that priority is given to pedestrians and cyclists over motor vehicles. The main pedestrian and cycle route will cross this part of the Spine Road. This will be in the form of a Toucan crossing to allow cyclists to cross without dismounting. The crossing will be a maximum of 6.75m wide subject to detailed design.
- 7.48** The main junctions along the Spine Road will be roundabouts. Consistent with the policy of sustainability the junctions will be designed to provide adequate capacity. The roundabouts will be designed in detail once site allocations are determined. However, it is envisaged that roundabouts will have diameters of between 36m and 40m subject to detailed traffic analysis.
- 7.49** In view of the number of residential units proposed for the northern housing area, two vehicle access points will be necessary. The principal access will be via the proposed new roundabout on Hatfield Avenue. The main Loop Road through the housing areas should start as a 6.75m carriageway but taper to 6.1m maximum to connect with Great Braitch Lane and Green Lanes. At the junction with Great Braitch Lane, the Loop Road will take priority. Limited frontage access will be permitted via shared driveways with junctions as small roundabouts or priority junctions.
- 7.50** This standard of road is not normally permitted in the County Council's Roads in Hertfordshire Design Guide, but is considered acceptable by the Councils in this case to allow for bus services to access the whole site but avoid the need to construct a main distributor road. The appropriate standards in the Design Guide will apply to other new roads.
- 7.51** Bus stops will be provided on the Loop Road to serve the housing area. Ideally all of the houses will be within 200m walking distance of a bus stop. The minimum requirement is 400 metres from a bus stop. The bus stops will be to agreed standards and should include waiting and access facilities and information.
- 7.52** Pedestrian and cycle routes will be provided through the area to link Hatfield Avenue and the Green Belt.

7.53 Due to the character of Great Braitch Lane measures will be introduced to avoid additional traffic generation across to Coopers Green Lane. This could be by way of a closure order to impose restrictions on the western end. It is also considered necessary to ensure additional traffic does not use Green Lanes, and to discourage further rat-running. Bus-friendly traffic calming should be incorporated. This could include:

- The strengthening of the impact of the existing gateway feature.
- The provision of a new gateway feature north of Manor Road/ Green Lanes junction; and/ or
- The construction of kerb build outs along Green Lane.

The measures required will be finalised after public consultation with local residents.

Off-site Highway Infrastructure

Principles

7.54 The off-site highway infrastructure will be designed with the same sustainability criteria as the on-site infrastructure. Where possible the principle of *nil detriment* will be applied, although there may be exceptions to this where overdesign or safety issues may result.

7.55 There are a number of locations where highway improvements will be required. The location of these improvements are shown on Figure 6 at :

- Jack Oldings roundabout
- Roehyde roundabout
- Galleria roundabout
- Green Lanes roundabout
- Comet Way roundabout
- Bishop Square roundabout

7.56 Future planning applications will need to contain layout, junction and other highway improvements designs, for the approval of Hertfordshire County Council and the Highways Agency.

7.57 All junction and other improvements should take account of the need to provide appropriate and safe provision for pedestrians and cyclists. Figure 3 indicates where these crossing points are required.

Traffic Management

- 7.58 There are a number of existing rat-runs through Hatfield which would be affected by the development of this site. These include the Birchwood Estate, Woods Avenue, Travellers Lane and Bishops Rise. On all of these routes some traffic calming/management measures have been implemented to various levels. This is also true of Green Lane as it passes through Hatfield Garden Village. Further measures will need to be provided along these routes. These cannot be specifically identified at present as there will need to be detailed consultation with the local residents along the routes about the type of features to be used.

Parking

Principles

- 7.59 Parking Standards need to reflect the requirement to encourage a shift to sustainable modes. The limitation of parking provision over a period of time, with the introduction of an improved passenger transportation network will facilitate a reduction in reliance on the private car. There will be a need to manage on-site parking demand, to ensure that there is no overflow into residential and other areas both within and outside the site. Parking standards for this site have been developed in the light of the County Council's emerging parking SPG and Policy 25 of the adopted Structure Plan.
- 7.60 Parking standards for both the start and final phase of the development with an overall limit on parking provision have been set. The standards will reduce over time, encouraging increased use of non-car modes. The reduction in these standards will be co-ordinated with improvements in passenger transport provision, development of the footpath and cycle network and measures incorporated in the GTPs.

On-site Parking

- 7.61 For on-site parking the final standards are listed in Tables 7.1 and 7.2 below. These standards may be subject to change, as part of a variation in planning permission, should there be a change in the thrust of Government policy or as otherwise agreed by the local authorities.

Table 7.1 Maximum Parking Provision at Start and End of Development: Employment

Land Use	Provision (Start)	Provision (End)	Provision (Average)
Class B1 (Business)	1:25 m ²	1:40 m ²	1:35 m ²
Class B2 (General Industrial)	1:35 m ²	1:60 m ²	1:45 m ²
Class B8 (Storage and Distribution)	1:35 m ²	1:100 m ²	1:60 m ²

Table 7.2 Maximum Parking Provision: Other Uses

Land Use	Provision
1 bed dwelling	1.5:dwelling
2-3 bed dwelling	2:dwelling
4+ bed dwelling	3:dwelling
2 bed flat	2:dwelling
Student residence	-
Academic Buildings	1:40 m ²
Class A1 (Foodstore)	1:15 m ²
Class A1 (Non-food retail)	1:30 m ²
Class A2 (financial and professional services plus retail)	1:30 m ²
Class A3 (food and drink)	1:30 m ²
Hot food takeaway	1:6 m ²
Hotel	1:bedroom + 1:5 m ² dining + 1:3 m ² bar + 3:4 staff
Community Centre	1:9 m ² public area + 1:1 staff
Surgeries and Clinics	3:consulting room + 1:ancillary staff
Clubs and Club House	1:30 m ²
Sports and Leisure	1:25 m ²
Entertainment	1:15 m ²
Bowling	1:25 m ²
Motor Repair Garage	3:4 staff + 1:10 cars displayed (3)

- Notes:
- 1 - Figures shown are in spaces per unit (e.g. 1:5 m² = 1 space per 5 m²)
 - 2 - Figures are based on gross external area
 - 3 - Additional requirements included in District Plan Alteration 1 pp180-181
 - 4 - Standards based on employment area mix as referred to within this document
 - 5 - Disabled Parking standards as set out in Draft Parking SPG
 - 6 - No standard is shown for parking for the University residential accommodation. This will be restricted to disabled parking and 15 spaces for visitor parking
 - 7 - Maximum standards for housing should also incorporate visitor parking at the rate of 0.25 spaces per dwelling

7.62 All standards except those for B1, B2 and B8 will remain constant throughout the period of the development. The standards for these three land use classes will reduce over time on the basis of quantum of development. Tables 7.3 to 7.5 below indicate how the standards will vary through the development.

Table 7.3 B1 Parking: Standard Phasing

Phase	%	Standard (per sq. m)
1	20%	25
2	20%	36
3	60%	40
Overall	100%	35

An initial maximum car parking standard for B1 of 1 space per 22.5 sq m GFA may be acceptable for the first 10% of floorspace providing the standard for the next 10% of floorspace is 1 space per 28 sq. m.

Table 7.4 B2 Parking: Standard Phasing

Phase	%	Standard (per sq. m)
1	25%	35
2	25%	41
3	25%	52
4	25%	60
Overall	100%	45

Table 7.5 B8 Parking: Standard Phasing

Phase	%	Standard (per sq. m)
1	25%	35
2	25%	64
3	25%	80
4	25%	100
Overall	100%	60

Parking Management

- 7.63 In the District Centre, a management strategy will be developed and implemented with the objective to ensure that overspill parking from the employment area does not occur. This will allow combined use of the car parking provided for all the uses proposed in the District Centre. This will mean that certain spaces are controlled by different methods to meet the needs of different user groups.
- 7.64 Parking management will also be needed on the University Campus to ensure that students living on the campus do not bring cars on to the campus as no parking will be provided for them. Parking for staff and visiting students will therefore need to be controlled to prevent residential students parking in these areas.

Off-site Parking

- 7.65 To ensure that parking demand does not spill over into the surrounding residential areas, in particular, parking related to the new University campus in Ellenbrook and to the employment area adjacent to Hatfield Garden Village, schemes of parking controls will be developed in consultation with local residents. These will be implemented at an early stage of the occupation of the development and it is intended to implement a scheme in Ellenbrook prior to the University campus opening .

In the new residential areas the opportunity for on-street parking will be minimised by design, but further restrictions may prove necessary and will be implemented as part of the development of these areas.

The necessary Traffic Regulation Orders, implementation costs and a contribution towards enforcement will be required from the developer of the site.

Phasing

- 7.66 Infrastructure and services will be phased in as the occupation of the site - and hence total traffic generation from the development - increases. The aim of this phasing will be to produce a gradually increasing shift to sustainable modes whilst improving highway infrastructure to meet increasing demand.

Construction Traffic

- 7.67 During the development of the site(s) all construction traffic will access directly to/from the A1001 either through existing accesses or those to be constructed. It will not be acceptable for any construction traffic to pass through existing residential areas.

In the northern housing area a construction access may be acceptable on to Great Braithe Lane providing that all traffic accesses the site via Great Braithe Lane to the east and Green Lanes to reach Coopers Green Lane to the north. It will not be acceptable for construction traffic to use either Great Braithe Lane from Coopers Green Lane or Green Lanes from Manor Road.

Sustainability Principles

- 7.68 As indicated in Section 5 of this SPG, the accompanying Sustainability Appraisal details a number of sustainability principles which should be considered as detailed proposals emerge. Indeed, many of these sustainability principles have been brought to bear on the Transport Strategy and Principles set out above.
- 7.69 Whilst many of these principles will apply to the overall Transport Strategy and Principles, particular emphasis is laid on the following tests which will ensure that a sustainable development is achieved in due course: pollution minimisation, energy efficiency, accessibility and health and safety.
- 7.70 A full list of all the Sustainable Development Tests and Principles is included at Appendix 2 to this SPG.

8. LANDSCAPE MASTERPLAN FRAMEWORK AND STRATEGY

Overall Landscape Framework and Strategy

8.1 The landscape design objectives all arise from the following fundamental goals:

- To contribute towards a *Genius Loci* - a spirit of place - which provides an attractive, distinct and forward looking environment appropriate for work, housing and recreation which embraces the landscape character of this part of Hertfordshire.
- To ensure that within this overall spirit of place, each neighbourhood and transport corridor should have its own particular sense of place contributing in turn to a richness of quality from the strategic to the local level.

8.2 To achieve these goals the Landscape Masterplan (Figure 7) sets out the following 10 objectives :

- (i) A series of attractive green corridors which unite the new development areas, some associated with principal roadways, others being independent of this and which provide links to the surrounding areas.
- (ii) The continuation of links through the new development areas into the Green Belt ensuring easy access for the public and drawing the qualities of this landscape into the town. These links extend into the open countryside beyond and will also allow the movement of wildlife.
- (iii) Landscape Nodes, or areas of enhanced landscape, centred on main transport intersections and along principal landscape corridors. These will include:
 - 'Gateways' to neighbourhoods
 - 'Principal Parks' including town parks and nature parks
 - 'Pocket Parks'
 - 'Playing Fields'
- (iv) Landscape buffer zones providing attractive and functional boundaries between different landscape zones, providing noise and visual screening wherever possible.
- (v) Contributions to the uplift in character of the A1057 and Comet Way by means of improvements to their frontages.
- (vi) A framework for the enhancement of the attractive existing woodland/grassland character of the Green Belt. This should both allow for the extraction of minerals and restoration of these areas within a framework of protective landscape buffers and ensure that its after-use contributes to improving aesthetic quality and public accessibility.
- (vii) An arrangement of the landscape within the development areas, which ensures early and attractive year-round interest.
- (viii) Promote biodiversity by using predominantly native species and appropriate habitat management.

- (ix) The establishment of management frameworks for the landscape of the site to ensure a more intense, high quality appearance appropriate to Town Park and Business Park quality.
 - (x) Management of the southern Green Belt areas following Country Park or Community Woodland principles.
- 8.3 More specific guidance on landscape themes, such as general planting styles, use of earthworks, sculpture icons and materials is developed further within the specific Area Briefs where appropriate.

Landscape Themes

- 8.4 The open airfield site and disused buildings present challenges in building a landscape theme to suit the new uses intended for the site. However, after an analysis of the wider landscape and history of the site and Hatfield, it is possible to identify a number of pointers towards a number of local and sustainable themes, such as :
- The fine native trees of the countryside of Hertfordshire as a whole.
 - The parkland and avenues of Hatfield House to the east.
 - The pattern of the existing adjacent countryside, including woodlands, fields, hedgerows and open grassland.
 - The history of the airfield and the name of de Havilland.
 - The existing high quality landscape of Bishop Square and Hatfield Avenue.
 - The mature trees along Comet Way and St. Albans Way.
 - The attractive contribution which large numbers of mature trees make to residential areas such as Ellenbrook.
- 8.5 In assimilating these indicators into a thematic framework within the Landscape Masterplan, a number of considerations have been taken into account, including :
- sustainability
 - the different characteristics of the uses of the site - for instance, the residential areas will have different characteristics and requirements than the Business Parks
 - feasibility of maintenance
 - securing year-round interest and a smart appearance
- 8.6 The essence of the approach can therefore be summarised as promoting a new landscape incorporating the best qualities of the Hertfordshire countryside, applying it to the Green Belt and penetrating into the town itself. It seeks to re-establish the natural pattern of landscape in the Green Belt areas and significantly improve its biodiversity. It draws some of the qualities and components of the countryside into the development areas and splices it with more formal parkland and avenue landscape such as that found at Hatfield House and Bishop Square.
- 8.7 The main elements of each theme which should be considered within future detailed landscape proposals are described below.

The 'Trees of Hertfordshire' Theme

- 8.8 Particularly fine trees can be found in Hertfordshire. Due to its former airfield uses, trees were not permitted on the BAe site other than outside the margins of flying areas. A major opportunity exists to provide a new framework of trees which will help allow

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Figure 7
macgregor • smith

the site to become an important part of the landscape framework of Hertfordshire again. The palette of trees chosen for the development should be drawn from the following:

- The native trees of the Hertfordshire countryside

Oak
Hornbeam
Ash
Wild Cherry
Beech

- The parkland areas of Hatfield House

Lime
Oak
Beech

- The mature trees of Comet Way and St Albans Road

Scots Pine
Lime
Beech

The 'Natural Landscape' Theme

- 8.9 Opportunities exist to increase the biodiversity of the site through landscape treatments which promote wildlife habitats. It is recognised that the function of a particular area will have a strong influence on the landscape treatment. For example the Green Belt areas are entirely appropriate for this treatment, whereas Business Parks generally require a high degree of smart presentation throughout the year where the use of mown lawns and ornamental trees and shrubs are considered desirable.
- 8.10 Nevertheless, even within the more managed landscapes, opportunities still exist for sustainable habitat creation and opportunity should be taken to achieve such habitats where possible within the built development.
- 8.11 The principal opportunities for habitat creation are :
- planting of tree and shrub species native to this part of Hertfordshire
 - use of water to create aquatic and marginal habitats
 - linear wildlife corridors
 - the encouragement of natural grasslands
 - the development of management and maintenance systems which will promote biodiversity

The 'Celebration of the Air' Theme

- 8.12 This theme should develop a further *genius loci* for the site and provide echoes of its importance in the history of aviation. The opportunities which should be explored include:
- themed sculpture

- the design of the street furniture
- planting design
- street and park names

Public Access

- 8.13 Use will be made of the landscape corridors for cycleways and footpaths. These will be required to be designed to ensure safe and attractive access for all. Pedestrian and cycle priority will be a feature of the development.

The Green Belt

- 8.14 Opportunities will exist to create a greatly improved natural landscape whilst having regard to the positive elements of the current landscape. This should be arranged with a mosaic of copses, tree belts, hedgerows and naturally-shaped bodies of water (subject to appropriate hydrological conditions), all to be woven into the pattern of the wider landscape to create a seamless whole. It will be a visually attractive landscape and has the potential to introduce significant improvements to the site's biodiversity. The development of this landscape will be co-ordinated and facilitated by any future mineral extraction.

The Ellenbrook Nature Park

- 8.15 An element of the landscape strategy is the creation of a linear nature park which should be arranged around the re-routed and de-culverted Ellenbrook stream. The opportunity to create off-line pools which will accommodate drainage from the development areas will be investigated. The Park will also act as a buffer zone between the residential areas and any future mineral extraction works. The new landscape should comprise of a combination of water, wetland, copses and rolling grassland.

The Landscape Axis

- 8.16 The landscape strategy proposes an axis which runs through and between the District Centre and the residential area and extends out into the Green Belt. The purpose of this axis is to create a strong green link from and through the built up areas to the Green Belt beyond. A feature of this link will be the creation of significant areas of open space, the two main elements of which will comprise Central Park adjoining the District Centre and an area of open space of strategic significance within the North Ellenbrook residential area. Figure 21 indicates this concept schematically. In this way, elements of the existing Hertfordshire countryside are drawn along the axis into the heart of the development. Stands of native trees should permeate through the axis.
- 8.17 Similarly, in the area to the north of Hatfield Avenue it is important to ensure that there is a clearly defined green linkage between the existing residential development, the proposed housing and the Green Belt beyond. It is intended to create a pedestrian/cycle link on an east-west axis which will help to achieve this aim.

The Principal Thoroughfares

- 8.18 Wide boulevards, as illustrated on Figure 8, should pass through the development with the potential for avenues of native trees echoing the tree stands of Hatfield House. In

order to address some of the requirements of a sustainable landscape, native trees and shrubs will be used, although the importance of year-round interest and smart appearance should be recognised by the introduction of evergreen shrubs and trees and lawns and formal open spaces.

8.19 The landscape principles that should be adopted are summarised as follows:

- Boulevard landscape providing a strong, attractive unifying element through the development.
- Landscaped gateways at intersections to emphasise arrival and to make a statement of quality and theme.
- A hierarchy of routes in landscape terms.

8.20 Two principal gateways of enhanced landscape should be incorporated into layout designs, with water features and large semi-mature trees to mark the entrance to the development.

8.21 The sequence of the gateways and thoroughfares and the Central Park provide an opportunity to reflect the history of the Aerodrome. At key intersections, and in the setting to the Flight Test hangar, it is possible to create a series of icon-sculptures which reflect this history.

Sustainability Principles

8.22 As indicated in Section 5 of this SPG, the accompanying Sustainability Appraisal details a number of sustainability principles which must be considered as detailed proposals emerge. Many of these sustainability principles have been directly brought to bear on the Landscape Framework and Strategy set out above.

8.23 Whilst many of these principles will apply to the overall Landscape Strategy, particular emphasis is laid on the following tests which will ensure that a sustainable development is achieved in due course: optimum use of resources, water resource management, landscape quality, habitats and species, urban design quality and community provision. The Key Area entitled 'Non-Built Development' in the Sustainability Appraisal is particularly relevant to the Landscape Strategy and Framework.

8.24 A full list of all the Sustainable Development Tests and Principles is included at Appendix 2 to this SPG.

9. OVERALL GREEN BELT AND MINERALS STRATEGY

Introduction

9.1 Two areas of Green Belt are included within the Masterplan area:

- The principal area, which is to the west of the FDL.
- A smaller area west of the northern housing area and north of Hatfield Avenue.

9.2 The Welwyn Hatfield District Plan and the St Albans District Local Plan Review contain policies for Green Belt which set out policies for controlling development and which largely reflects the advice in PPG 2.

9.3 Paragraph 11.48 of the District Plan sets out the following objectives in respect of the BAe Inset Green Belt:

- To maintain the current Green Belt boundary.
- To secure public access to the Green Belt.
- To provide opportunities for outdoor sport and recreational uses.
- To improve the landscape where necessary.
- To improve the nature conservation interest of the land as and where appropriate.

SPG Objectives for the Green Belt Land

9.4 The objectives for the Green Belt areas are set out as follows:

- To encourage open uses and informal recreation.
- To phase in public access.
- To improve environmental quality and landscape character.
- To encourage community forest planting.
- To enhance ecological/nature value.
- The Green Belt boundary is to remain largely fixed, although minor changes will be permitted where justified to incorporate a sensitively designed edge to the Green Belt in respect of the southern FDL/Green Belt boundary and also the land north of Hatfield Avenue/Green Belt boundary to prevent the creation of a 'hard' urban edge.

A Vision for the Green Belt

9.5 It is recognised that the nature and character of the two areas of the Green Belt differ. The Green Belt area to the north of Hatfield Avenue lies outside the defined boundaries of the BAe Inset but is nevertheless included within the Masterplan area. In the case of the land to the north of Hatfield Avenue, it is considered that the area should provide open space and informal recreation opportunities for the existing and proposed residential areas and will help meet the objectives as set out above. It is expected that as part of any future proposals for housing development on the adjoining land the role and function of the Green Belt will be fully considered, together with its future management. Further detail is set out in the Area Brief in Section 13.

- 9.6 The remainder of this section is concerned with the Green Belt to the west of the FDL. The vision sought is of mixed natural landscape of grassland and open areas with woodland focus points, which reflect the openness of the landscape. It is anticipated that within this framework a range of watercourses could be created by possible future mineral extraction to provide natural habitats and certain leisure/recreation uses. The ultimate objective is for open access to be possible to the Green Belt areas, although it is recognised that this will need to be carefully managed to protect sensitive areas. The management of the Green Belt in both the short and the long term is important for the maintenance of the areas.
- 9.7 It is considered important, particularly in respect of the principle of the Green Belt area that proposals for mineral extraction are seen as part of a wider process relating to landscape/habitat creation, recreation and open space uses. This should be achieved by "joined up thinking" in dealing with the various issues during formalisation and implementation of the development proposals.

Biodiversity

- 9.8 The creation of new habitats is a key objective and should take into account the Biodiversity Action Plan for Hertfordshire. Subject to the need for hydrological data to determine the potential, it is expected that new habitats should include water features, which will be created following mineral extraction, and also running water, as discussed in the Landscape Strategy section of this SPG.
- 9.9 In particular, the possibility of establishing new nature reserves should be explored further, which could include:
- Open water - comprising both deep and shallow expanses with a careful control of water levels.
 - Running water - investigation as to whether a 'natural stream' is viable should be pursued.
 - Ponds - a series of ponds, in addition to the larger bodies of water, should be created to encourage aquatic life .
 - Reedbed/marsh - the margins of open water offer the opportunity to create reedbeds of some significance.
- 9.10 Other types of habitat should include woodland, hedgerows, grassland and heathland.

Potential Land Uses

- 9.11 The landscape proposals should provide links through to the developed part of the site, with more formal areas located adjacent to the FDL boundary. More details of the principles to be applied are set out later in this section where the FDL/Green Belt boundary buffer is considered.
- 9.12 Further away from the built up area, the landscape should become more natural.
- 9.13 The objective of the Watling Chase Community Forest to increase woodland to 30% cover over the De Havilland Plateau should be considered. However, this should also be balanced by the need to retain some of the openness of the site and views across the wider landscape. It is therefore proposed that the approximate division of types of land use should be within the following ranges :
- | | |
|--|---------|
| • Woodland | 20%-30% |
| • Heathland, grassland, open space for leisure | 70%-80% |

- including water features
- Small scale facilities e.g. sailing, interpretation centre 2% (max)
- Footpaths/bridleways etc. 5% (max)

Leisure Uses

- 9.14 The need is for primarily informal recreation on the Green Belt land, although the possibility for non-motorised water sports after mineral extraction also may exist pending a hydrological survey. If larger bodies of water were to be created, there would be an associated requirement for facilities for the water sports, although these should be small scale, sympathetic to their surroundings and appropriate within the Green Belt.
- 9.15 There is also an opportunity to provide a small scale interpretation centre on the site. This would assist in interpreting the natural environment of the site and provide guidance for local residents, visiting groups, schools and students. There may also be possibilities of developing links with the University.
- 9.16 With regard to the longer term, a key objective is to encourage other modes of transport other than the car for people visiting this Green Belt area. This should be encouraged by incorporating linkages to the surrounding areas. Within the site, a network of paths, nature trails, bridleways and cycleways should be provided to link areas of interest.
- 9.17 It is acknowledged that a recreational resource of this type could result in the site becoming an attraction over a wider area, and such demands should be carefully managed. In these circumstances, some limited provision for car parking should be made on the margins of the site on a small scale.
- 9.18 Within the green belt 18 acres (7.3Ha) has been allocated for playing pitches for the University of Hertfordshire in association with its proposed development to the south of the site. It is envisaged that these playing fields will contain the following sports facilities :
- 2 full size rugby pitches
 - 3 full size football pitches
 - 1 full size synthetic pitch
 - A cricket square
 - 6 hard court tennis courts

Minerals Extraction

- 9.19 Whilst the extraction of minerals does not form part of the current development proposals, in order to make proper provision for the extraction of minerals in due course and also in the interests of achieving a sustainable approach towards the long term development of the site, this SPG sets out key principles in respect of future minerals extraction and restoration on the site.
- 9.19 Reference should be made to the Hertfordshire Minerals Local Plan 1991-2006 for the relevant policies that will apply to future mineral extraction.
- 9.20 This SPG sets out key principles to be taken into account in the future development of the site with respect to minerals based on relevant Development Plan policies. It also incorporates subsequent analysis and assessments which have been undertaken since the adoption of the Minerals Local Plan in 1998.

9.21 The principles for minerals extraction for the site are considered in two distinct parts:

- The Future Development Land (FDL) which is not part of a Preferred Area for mineral extraction.
- The Green Belt land, which is part of a Preferred Area for mineral extraction.

Future Development Land Mineral Extraction Principles

9.22 This part of the site was excluded from the Preferred Area for Mineral Extraction within the Minerals Local Plan as its inclusion would have been contrary to Policy MPG 1.

9.23 Nevertheless, in the interests of sustainable development, future proposals should encourage wherever practical, the use of reserves arising from development on the site.

9.24 Two main situations exist, where the arisings from development can be utilised to best effect:

- Material arising from the creation of particular features incorporated within the development, such as lakes.
- Opportunistic use of in-situ minerals as part of the construction process.

9.25 Contractors, and future development generally, will therefore be encouraged where practical to utilise materials arising from construction within their programme and on site. This could introduce savings and it will be important to make those involved in future construction projects aware of the potential benefits.

Southern Green Belt Land Mineral Extraction Principles

9.26 The Green Belt land falls within a Preferred Area for Mineral Extraction as the area is generally underlain with minerals. The most economically viable reserves are located primarily towards the southern part of the site.

9.27 This SPG needs to ensure that the surface development proposals do not unreasonably affect the future extraction of minerals from the Preferred Area and that the amenity of the future development proposals will not be unreasonably affected in the event that minerals are extracted. In determining future minerals applications, the County Council will need to strike a balance between:

- Maximising the use of mineral resource.
- Protecting the amenity of existing residents at Ellenbrook and Smallford and other existing occupiers/users.
- Protecting the amenity of existing and proposed development on the FDL.

9.28 To assist in the planning of the extraction of the minerals reserve in the future, it is considered appropriate to set out the following principles which should be taken into account in any future mineral extraction from the Green Belt land:

- Appropriate buffer zones, normally of at least 60 metres in width, should be provided on all boundaries where adjoining land uses would be adversely affected.
- The boundary between the FDL and the Green Belt should generally be in the form shown in Figure 9, which should incorporate the introduction of landscape planting and contouring prior to the extraction of any minerals. The design will be sufficient to protect the amenity of existing and potential occupiers on the

FDL from minerals extraction in the Green Belt. Opportunity for mineral extraction during the process should be optimised, having regard to existing or proposed land uses.

- The mineral reserve, when extracted, should generally be worked at a reasonable rate to avoid a prolonged period of extraction but equally to allow restoration to keep pace. It is likely that reserves at the eastern part of the preferred area should be worked first.
- The access will be located to provide as direct a route as possible to the trunk road network and to minimise disturbance to local residents. Opportunities will need to be explored for haul routes and access arrangements as part of the consideration of development phasing. A haul route to provide access to Hatfield Road would be acceptable if suitable controls to ensure all vehicles travel to/from the east are also provided, and subject to such proposals satisfying any other requirements of the Minerals Local Plan.
- It is recognised that the extent of the processing plant is a matter for separate consideration; but is likely to be significant in terms of its size. Any processing plant should be sited in a location which generally accords with the relevant Minerals Local Plan policies and in particular will:
 - (a) be well screened visually
 - (b) be well screened aurally
 - (c) minimise dust emissions
 - (d) minimise impact on sensitive surrounding occupiers, through careful attention to details of siting, design and hours of operation
- The setting of the Grade II listed buildings at Astwick Manor and Popefield Farm should be respected and safeguarded in considering future detailed proposals for mineral extraction.
- Areas of environmental sensitivity in the Green Belt, including areas of archaeological importance and ecologically valuable sites, should be respected and safeguarded where appropriate in considering future detailed proposals for mineral extraction.

Landscape Principles concerning Extraction of Minerals

9.29 The landscape strategy that will accompany a future minerals application should reflect the position set out above and the vision for the Green Belt. It will:

- Indicate an overall scheme for the after use of the mineral extraction areas to ensure that this area will make a positive contribution to the visual amenity of this part of Hertfordshire.
- Make provision for appropriate buffer zones and in particular in relation to existing housing and other uses at Ellenbrook and Smallford.
- Incorporate the appropriate guidelines to ensure that the phased extraction operations include appropriate measures during extraction, and that complete restoration is achieved within the context of the overall landscape plan for the area.

Mineral Extraction Area Landscape Principles

9.30 After minerals extraction, the following landscape principles should be followed in the Green Belt:

- An area characterised by woodland and open grassland is incorporated to reflect the pattern of landscape found bordering the north of the site in those areas where mineral extraction has either not been undertaken or where resultant voids have been completely restored (as illustrated in Figure 7). This is to be phased in with increased public access. There may also be the possibility of retaining some of the land in agricultural use.
- The nature of the mineral extraction techniques may leave residual water bodies which should be integrated into the pattern of this new landscape. The principles set out in the Watling Chase Community Forest Project should be drawn upon in designing detailed landscape responses.
- A rich ecology should be promoted in the layout, planting styles and design of any water features.
- A network of footpaths and cycleways should link into the existing public footpath system, housing areas and the new development areas in the FDL.
- the overall approach should ensure that this area will play a positive role in promoting improvements to the visual quality of the landscape, its biodiversity and a public amenity resource.

FDL/Green Belt Buffer Zone Landscape Principles

9.31 Figure 10 illustrates the main principles which should be incorporated into a landscaped buffer zone between the FDL and the Green Belt. It indicates:

- Good quality of landscaping and planting to deliver an attractive visual amenity and also the creation of new ecological habitats.
- A buffer area which will permit public access as an informal recreation area for the benefit of existing and future occupiers in the locality.
- That the buffer is to be contoured and landscaped prior to the commencement of any consented mineral extraction.
- That the buffer area is to be designed to allow a full and seamless visual integration in the pattern of the wider landscape which emerges after Mineral Extraction.

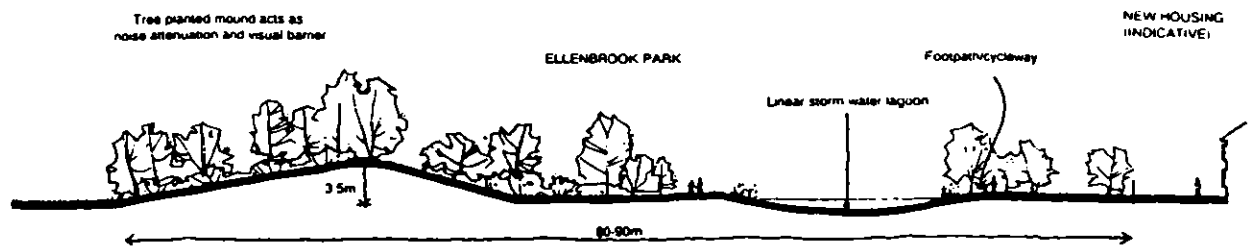
9.32 A management strategy for the Green Belt area of the site will be drawn up prior to development commencing. This strategy will set out how the Green Belt area will be managed prior to, during and after mineral extraction and restoration. The key issues to be addressed at each stage are as follows:

Prior to mineral extraction:

- The provision of public access to selected areas of the site such as the Ellenbrook park.
- The establishment of key pedestrian and cycle links, in particular linking to existing footpaths.
- The interim management of other areas e.g. mowing of open land etc.

During mineral extraction:

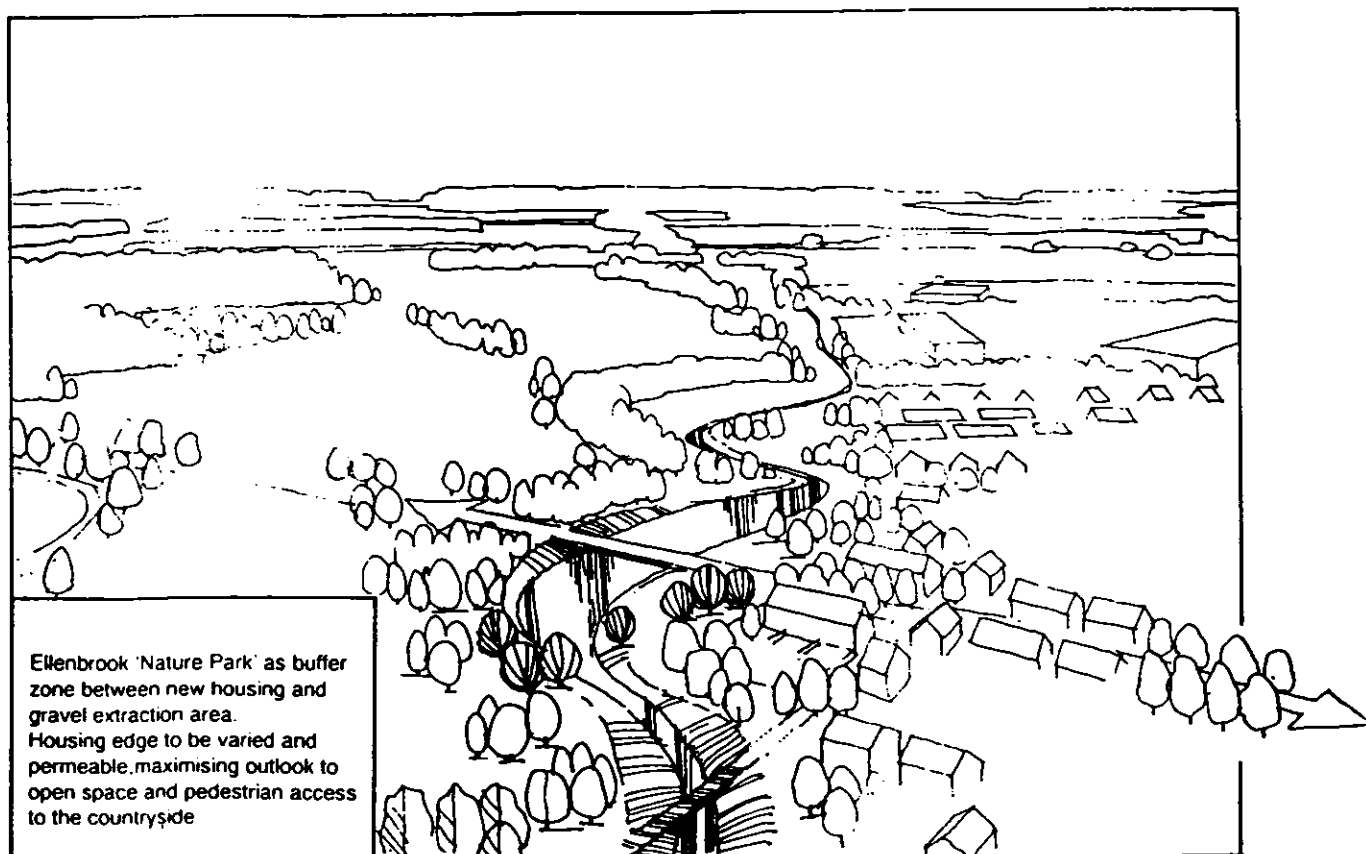
- Landscaping and provision of buffers in order to mitigate the effects of the mineral extraction.
- The selective opening up of areas to public access, as mineral restoration is completed and suitable periods of aftercare undertaken.



MINERAL EXTRACTION INTERFACE

Section 10

FRONTAGE OF HOUSING WITH GREEN BELT



- Exploiting opportunities for the development of interpretation facilities in association with the mineral extraction.
- The establishment of a community based charitable management trust, to take over the maintenance and management of the open areas.

After mineral extraction:

- The phased handover of the land and facilities to the Management Trust.
- The establishment of an endowment to facilitate the long term financial viability of the Trust.
- The completion of pedestrian and cycle links and opening up of remaining areas to public access.

In some cases public rights of way or other public access may not be established on a permanent basis until either mineral extraction has taken place and the land has been restored or agreement has been reached between the local authorities and the landowner that minerals will not be extracted from a particular area. Prior to minerals extraction public rights of way or other public access may be possible on a temporary basis.

Sustainability Principles

- 9.33 As indicated in Section 5 of this SPG, the accompanying Sustainability Appraisal details a number of sustainability principles which should be considered as detailed proposals emerge. Indeed, many of the sustainability principles have been directly brought to bear on the Green Belt and Minerals Strategy above.
- 9.34 Whilst many of these principles will apply to the overall Green Belt and Minerals Strategy, particular emphasis is laid on the following tests which will ensure that a sustainable development is achieved in due course: optimum use of resources, pollution minimisation, water resource management, waste management, energy efficiency, landscape quality, habitats and species, accessibility, the economy, and health and safety. The Key Area entitled 'The Green Belt' in the Sustainability Appraisal is particularly relevant to the Green Belt and Minerals Strategy.
- 9.35 A full list of all the Sustainable Development Tests and Principles is included at Appendix 2 to this SPG.

Archaeology

- 9.36 A desk study and walkover survey have recently been completed. The principal purpose was to provide the preliminary information necessary to devise a strategy for further investigations of the archaeological resource in accordance with Planning Policy Guidance note 16 'Archaeology and Planning'.
- 9.37 Part of the land to the north of Hatfield Avenue and at Astwick Manor are identified in the Sites and Monuments Records as being 'Areas of Archaeological Significance'. In addition, the desk study and survey revealed the following within the Future Development Land:
- Iron Age pottery recorded during the building of the de Havilland factory.
 - The site of Harpsfield Hall Manor House.
 - Disturbance to the land now occupied by the existing Aerodrome buildings and associated infrastructure.

- 9.38 These features and the presence of other significant features near to the site have indicated that there may be features of archaeological significance in the FDL which have yet to be discovered and which may be in a good state of preservation. Accordingly, an investigation has been undertaken which will inform the appropriate planning conditions for the treatment of archaeological remains in the context of the development proposals.

10. WASTE AND ENERGY STRATEGY

Introduction

- 10.1 The Development Plan policy framework is summarised at Section 3 of this SPG. The policies which will apply to matters concerning waste and recycling are contained in the County Minerals Local Plan and the County Waste Local Plan.

Principles for a Waste Strategy

- 10.2 This SPG sets out principles to be taken into account in the future development of the site in terms of waste, which are based on the Waste Local Plan policies. These are that:
- The runways and other areas of hardstanding will be recycled, where appropriate, for use either on the site or in the local area.
 - Materials derived from the demolition of the existing buildings will be recycled or re-used/ reclaimed on site, where appropriate, for use either on the site or in the local area.
 - Excavated materials are to be used for landscaping works and will be recycled or re-used/ reclaimed on site, where appropriate, within either the FDL or the Green Belt.
 - Excavated materials may also be used for restoration purposes at either the existing mineral site (Hatfield Quarry) or future mineral workings in the Preferred Area of mineral extraction in the Green Belt.
- 10.3 With regard to provision of a materials recovery facility, Waste Policy 12 identifies the BAe site as an area of search. The importance of the BAe site in terms of economic regeneration of the Hatfield area is recognised, and any proposals for waste management facilities will need to be considered within the overall context and economic redevelopment of the area to ensure that this key objective is not prejudiced.

Combined Heat and Power

- 10.4 Policy BAE 12 refers to the possibility of incorporating a Combined Heat and Power plant (CHP) within the Masterplan site.
- 10.5 The redevelopment proposals will generate significant demand for electricity requiring an upgrade of the services currently available to the site.
- 10.6 Accordingly it will be necessary to quantify the demand for electricity in the future in order that an appropriate level and source of electricity supply can be provided. At this stage, however, there is a relatively broad range of options which could be pursued, due to the varying permutations of uses and occupancy, particularly in respect of the Business Park and District Centre. Also, the present uncertainty in the electricity supply market, which is centred on the embargo on certain forms of gas fired generation, may also have been clarified by that time. The evaluation of electricity supply and demand options should therefore be undertaken as part of the detailed development proposals.

Waste Recycling

- 10.7 The Waste Local Plan is based on the waste hierarchy principle. This encourages as a first priority the reduction of waste, then re-use, then reclamation of used materials for recycling, and then the recovery of energy from waste before disposal as the final option. This hierarchy is based on encouraging the most sustainable approach to waste recycling.
- 10.8 This hierarchy should be followed in terms of the waste produced during construction and the treatment of waste which is eventually generated by the development. In particular, the development will be expected to provide in its layout and design sufficient space for the storage and collection of waste, and the provision of suitable 'bring' systems such as bottle banks.
- 10.9 Different solutions for storage and recycling of waste will be appropriate for different elements of the site. More specific guidance on the appropriate provision is contained in the Area Briefs.

Energy Efficiency

- 10.10 The following principles should be taken into account in achieving a sustainable approach to energy efficiency:
- The site should be structured on a predominantly east to west grid to maximise solar gain.
 - Buildings should be orientated towards the south where possible, making allowance for passive solar gain without compromising active frontages. For example, this could include:
 - increased fenestration on south facing aspects and reduced fenestration on north facing aspects;
 - overshadowing of buildings should be limited by ensuring there is sufficient space between buildings; and
 - appropriately designing rooflines to allow for adequate solar gain at all times of the year.
 - Consideration should be given to the use of natural ventilation systems and heat recovery. Similarly efficient and responsive heating and lighting systems should be provided.
 - Encouragement will be given to the use of low energy construction materials. Typically, a low energy material will be one that is nearby, naturally occurring and/or a by product of a local activity. Generally, construction materials should have low embodied energy;
 - be produced using renewable resources; and
 - be produced using an environmentally benign process.

Sustainability Principles

- 10.11 As indicated in Section 5 of this SPG, the accompanying Sustainability Appraisal details a number of sustainability principles which should be considered as detailed proposals emerge, and many of the principles have been directly brought to bear on the Waste and Energy Strategy set out above.

- 10.12 Whilst many of these principles will apply to the overall Waste and Energy Strategy, particular emphasis is laid on the following tests which will ensure that a sustainable development is achieved in due course: waste management, energy efficiency, and health and safety.
- 10.13 A full list of all the Sustainable Development Tests and Principles is included at Appendix 2 to this SPG.

11. OVERALL INFRASTRUCTURE STRATEGY AND PRINCIPLES

Introduction

- 11.1 The proposed infrastructure strategy for the site establishes a target framework to accommodate the overall development quantum, within which flexibility and innovation will be essential to meet the defined sustainability objectives and also the precise phasing requirements in due course.
- 11.2 The scale of the site dictates that simultaneous development will be necessary in different areas, of the masterplan site, set within the context of an overall phasing plan.
- 11.3 There are existing occupiers/neighbours who are dependent on existing infrastructure in and around the development site at present. Their service provision will need to be managed with regard to maintaining the level and quality of infrastructure enjoyed by these users at present.

Target Infrastructure Framework

- 11.4 The objective is to provide those new infrastructure services, drainage and highways required to satisfy the broad development quantum contained in this SPG.
- 11.5 The infrastructure needs to be robust in capacity, yet flexible with regard to routing and implementation. The Masterplan identifies the potential to implement 'primary' infrastructure that can incorporate flexibility when considering phased 'secondary' infrastructure, as follows:
 - The Spine Road should provide the route and linkages for the primary infrastructure linking the proposed residential area north of Manor Road, as well as the development areas within the FDL.
 - The secondary infrastructure is to be implemented to suit the particular development zones together with both overall phasing and zonal phasing.

Infrastructure Strategy Principles

- 11.6 The development of site infrastructure should initially concentrate on the Spine Road. Its completion will enable simultaneous development throughout the site.
- 11.7 In order to deliver this primary infrastructure route, a number of matters should be addressed as follows:
 - Demolition of all non-listed buildings (excluding the Social Club), structures and external areas to provide re-useable materials for incorporation in the physical works, and also some of the land necessary to construct the infrastructure.
 - Maintaining the integrity of existing infrastructure necessary for those occupiers/neighbours adjoining the development.
 - Off-site service linkages, and reinforcement as appropriate, to suit phasing and development quantum.

- 11.8 The strategy should be capable of incorporating temporary solutions for all infrastructure services to suit implementation and phasing of both the permanent infrastructure works and individual areas of development.

Infrastructure Strategy for Services

- 11.9 The strategy for each service is set out below. It first examines the current situation and then considers the requirements necessary to implement the Masterplan. Any subsequent planning application that establishes the principle of development on any part of the site will need to embrace a clearly defined strategy for each of these services.

Water Supply

Current Situation

- 11.10 There are two sources of water supply for the development:
- a public mains supply, which has insufficient capacity to serve the whole development in the immediate network; and
 - a private artesian supply via two boreholes, that are part of an Abstraction License issued by the Environment Agency.
- 11.11 Borehole A is located close to Hatfield Avenue, and is already linked to the irrigation system on the Business Park. Borehole B is located close to Comet Way and is linked to the irrigation system for Bishop Square. There is sufficient capacity to supply an irrigation system for the whole of the proposed development from these boreholes.

Requirements for Future Development

- 11.12 The public water supply has trunk mains on the opposite side of the A1(M). A link should be made to the trunk mains via a thrustbore below the A1(M) to the north of Green Lanes roundabout. The water main from the thrustbore should connect into the existing local infrastructure near Green Lanes Roundabout.
- 11.13 A suitably sized water main should be installed along the Spine Road linking into the existing infrastructure at St Albans Road and Green Lanes Roundabout.
- 11.14 A network of secondary infrastructure water mains should be installed predominantly alongside highways but also within service zone easements where appropriate. Linkages should be made with existing water mains on Comet Way and Hatfield Business Park.
- 11.15 The residential development to the north of the Hatfield Avenue should where necessary also have provision of infrastructure linked to the development network from Hatfield Avenue.
- 11.16 The installation of water mains should follow the phasing of infrastructure and development, which may require temporary linkages to existing mains until permanent mains are available. The artesian supplies should continue to be used for present purposes. The overall phasing of development will dictate the removal of the existing pipe networks within the development site.

- 11.17 Local diversions will be necessary to suit physical infrastructure requirements, highway improvements or realignments.

Gas Supply

Current Situation

- 11.18 There are significant sources of gas supply along the Comet Way/St Albans Road frontage. The supply network within the Comet Way site should be purged and removed having regard to progress on demolition and overall phasing.

Requirements for Future Development

- 11.19 The Spine Road should provide the route for primary distribution gas mains at medium and low pressure. Off-site linkages should be made at both Green Lanes Roundabout and St Albans Road.
- 11.20 Secondary distribution infrastructure should be installed to suit development zones, linking with Hatfield Business Park and Comet Way.
- 11.21 Local diversions will be necessary to suit physical infrastructure requirements, highway improvements or realignment.

Telecommunications

Current Situation

- 11.22 British Telecom is the main provider of telecommunications services locally, with cable-based companies continuing to expand into the area. There are high levels of telecoms capacity in the Comet Way/St Albans Road frontage, together with the BT exchange building on Hatfield Avenue. It is envisaged to provide a facility for one provider with scope for other operators.

Requirements for Future Development

- 11.23 The primary infrastructure corridor for telecommunications should be the Spine Road. Ductways should be installed along both sides of the highway with further road crossings to promote flexibility. Ductways should also be installed for use by other telecom providers.
- 11.24 The secondary infrastructure ductways should be installed to suit development zones, phasing and provide links to Hatfield Business Park and the Comet Way frontage. Temporary links will also be utilised to suit development where implemented before permanent infrastructure.
- 11.25 Local diversions will be necessary to suit physical infrastructure requirements, highway improvements or realignments.

Electricity

Current Situation

- 11.26 Hatfield Tunnel primary substation is located within the Comet Way frontage of the site. This source of electricity serves the former BAe facility, Hatfield Business Park, businesses along Comet Way and some of the existing residential areas. High Voltage (HV) cabling is routed throughout the area and across the site to the north of Hatfield Avenue.
- 11.27 Demolition and phasing will dictate the removal of supply network ready for redevelopment.

Requirements for Future Development

- 11.28 A small area of land (150 sq m) should be made available adjacent to the Hatfield Tunnel Primary Substation for future expansion, which may be required to enhance capacity. This land is within the control of the principal owner of the Masterplan site.
- 11.29 The development will probably require a potential electrical demand in excess of that currently available. However the 11 KV network can be enhanced to 24 Megawatts (so doubling the existing capacity) by the incorporation of an additional primary transformer. This provides sufficient capacity to serve the whole of the development.
- 11.30 A link should be made from the Tunnel Primary to the Spine Road with new HV cabling within the existing cable route.
- 11.31 High voltage cables should be installed as the primary distribution network, linking with cables at Green Lanes Roundabout, Hatfield Avenue, St Albans Road and the land north of Hatfield Avenue.
- 11.32 Secondary distribution infrastructure should be laid to suit phasing and development zones.
- 11.33 Substations should be placed at strategic locations to provide Low Voltage (LV) supplies to individual businesses/occupiers which do not require a direct HV supply.

Foul Drainage

Current Situation

- 11.34 There are three outfalls from the development area:
- Outfall 1 - Hatfield Garden Village, which is a public system receiving pumped discharge from Hatfield Business Park (Manor Road).
 - Outfall 2 - St Albans Road, receiving discharge from part of the Comet Way site.
 - Outfall 3 - St Albans Road, receiving discharge from Bishops Square and part of the Comet Way site.

Requirements for Future Development

- 11.35 The existing outfalls should be utilised to share the discharge from the proposed development.
- 11.36 The receiving sewers should be utilised up to available capacity and analysed against detailed design discharge for any further requirements.
- 11.37 There will be temporary solutions to suit phasing and development until permanent infrastructure sewers are available.
- 11.38 The Spine Road will incorporate foul sewers with distribution to the proposed outfalls as part of the primary infrastructure.
- 11.39 Secondary infrastructure foul sewers should be installed to suit development zones and phasing.
- 11.40 The residential development to the north of Hatfield Avenue should be included in the primary infrastructure strategy.
- 11.41 All infrastructure foul drainage systems should be constructed to the adoption standards required by Thames Water.

Storm Drainage

Current Situation

- 11.42 The main outfall for the whole site is in Ellenbrook at St Albans Road which has a discharge limit set by the Environment Agency. The route of Ellenbrook watercourse is part open, part culvert and receives all surface water discharge via tributary sewers, channels and land drainage.
- 11.43 The topography of the area is generally flat within an historic drainage shallow.
- 11.44 Hatfield Business Park (Manor Road) has an outfall at a pumping station which has a piped discharge to Ellenbrook. Bishop Square has a similar arrangement. The residential development to the north has a ditch into which limited discharge is possible.

Requirements for Future Development

- 11.45 Ellenbrook is proposed to be diverted through the Green Belt thus opening the watercourse and removing the culverted sections. This will provide outfalls along the Green Belt boundary together with balancing ponds to suit discharge requirements. The proposed balancing ponds will be provided off line, with flow limiting devices to control the discharge to the receiving watercourse or as agreed by the Environment Agency.
- 11.46 The existing occupiers/neighbours will require temporary/permanent linkages into storm sewers, to suit development and infrastructure phasing.
- 11.47 The primary infrastructure storm sewers should be routed in the Spine Road corridor and easements.

- 11.48 The secondary infrastructure storm sewers will be implemented to suit development zones and phasing.
- 11.49 All infrastructure storm drainage systems should be constructed to the adoption standards required by Thames Water.

Sustainability Principles

- 11.50 As indicated in Section 5 of this SPG, the accompanying Sustainability Appraisal details a number of sustainability principles which should be considered as detailed proposals emerge. Indeed, many of the sustainability principles have been directly brought to bear on the Infrastructure Strategy and Principles set out above.
- 11.51 Whilst many of these principles will apply to the overall Infrastructure Strategy and Principles, particular emphasis is laid on the following tests which will ensure that a sustainable development is achieved in due course: optimum use of resources, pollution minimisation, water resource management and energy efficiency.
- 11.52 A full list of all the Sustainable Development Tests and Principles is included at Appendix 2 to this SPG.

SECTION 2
AREA PLANNING BRIEFS

12. AREA BRIEF: DISTRICT CENTRE

Area Brief Objectives

- 12.1 The creation of a District Centre is a key component of the overall development. It is intended that this area will become the heart of the scheme creating a sense of place within a high quality, safe environment. The District Centre will combine a range of uses, which will serve the incoming residents, students and employees together with the existing community. This will be achieved through the combination of uses that will include leisure, entertainment, business and local services including retail and community facilities.
- 12.2 In order to create a genuine sense of place, the Councils will seek creative and innovative design solutions utilising high quality materials set in a quality landscape.
- 12.3 The specific objectives for the District Centre are:
- To achieve a lively and viable centre that will complement and not result in an adverse impact on Hatfield's town centre or the Galleria.
 - To make the District Centre readily accessible to modes of transport other than the car.
 - To create an exciting 'sense of place'.
 - To achieve a mixed use centre of retail, community and leisure uses.
 - To achieve a high quality of design.

Sustainability Principles

- 12.4 As indicated in Section 5 of this SPG, the accompanying Sustainability Appraisal details a number of sustainability principles which should be considered as detailed proposals emerge. These are summarised at Appendix 2 to this SPG.
- 12.5 Whilst many of these principles will apply to the District Centre, particular emphasis is laid on the following tests which will ensure that a sustainable development is achieved in due course: optimum use of resources, pollution minimisation, waste management, energy efficiency, urban design quality, community provision, accessibility, the economy and health and safety.

Type and Mix of Uses

- 12.6 Amongst the uses that are to be considered to be acceptable within the District Centre are the following, together with an indication of the scale of facility proposed. Variation in the mix below can, if necessary and appropriate, be considered in due course :

Community

- Health/medicine centre (2,000 sq.ft [186M². on 2 floors).
- Day nursery/creche (0.5 acre –[0.2Ha]).
- Library facility to complement the Hatfield Town Centre Library
- Convenience retail store (12,000 sq.ft[1115M²] net max) and unit shops (6,000 sq.ft.[557M²] net max).

- Quality open space and landscaping for passive recreation activities.

Leisure and Entertainment

- Family Entertainment Centre, to incorporate a range of social and entertainment activities, which could include, for example, themed bars and restaurant, ten-pin bowling and video/interactive games (up to 55,000 sq.ft [5110M²] on 2 floors).
- Health and Fitness Club, possibly with swimming pool, gym, aerobics/dance studios and social areas (40,000 - 45,000 sq.ft [3716 - 4180M²]).
- Life Style Club with 6-8 tennis courts indoors and an additional 4-6 courts outdoors (8-10 acres). The Health and Fitness Club above would be incorporated into this facility, which would make use of the existing Flight Test Hangar.
- themed family restaurants (6,000 - 7,000 sq.ft – [557-650M²]), coffee bars and two public houses.
- drive-thru restaurant (3,500 - 5,000 sq.ft – [325 – 465M²].)

Commercial

- Budget hotel (2 acres – 0.8Ha).
- Business and Innovation Centre (75,000 sq.ft – 6968M²).
- Residential development, to take advantage of the close proximity of the social, retail and leisure amenities.

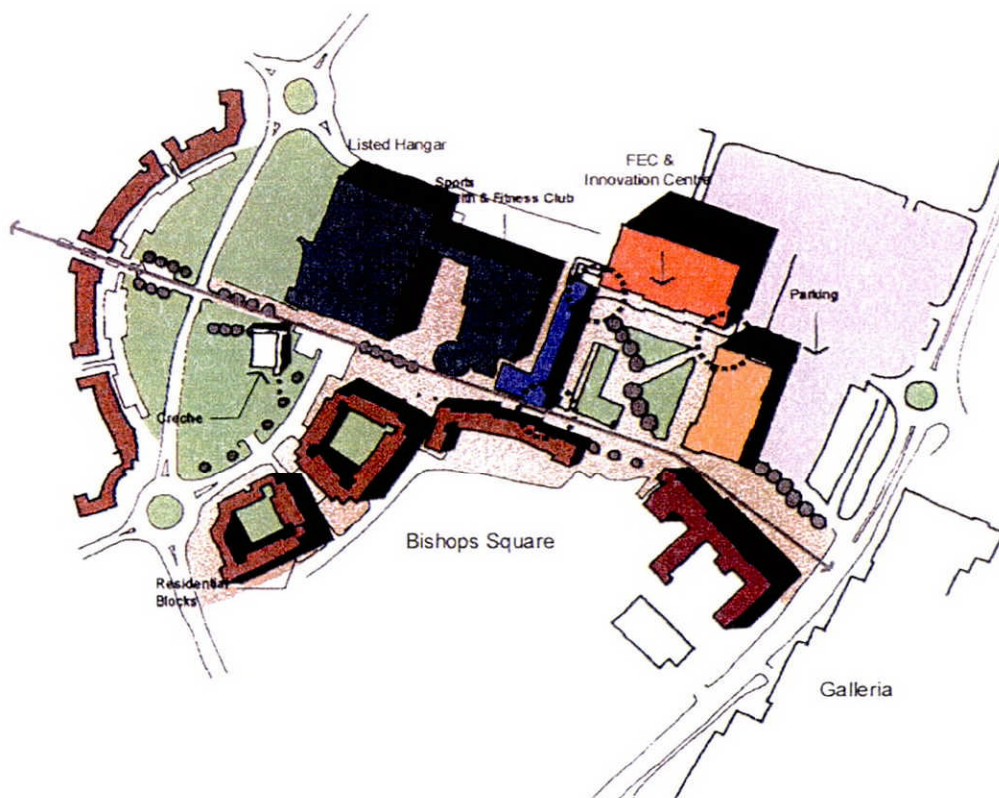
- 12.7 Figure 12 illustrates how the principal components of the District Centre should be laid out. Further details of the design principles are contained in the Urban Design section below.

Linkages to the Galleria and Hatfield

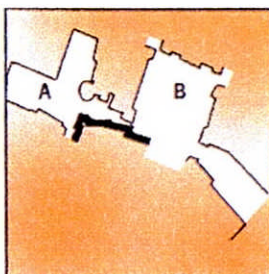
- 12.8 Achieving integration with the Galleria and Hatfield's town centre is an important objective for the District Centre. It is envisaged that closer integration will be facilitated by a combination of the following measures:
- Street level crossing of A1001 for pedestrians and cyclists to encourage movements across the road.
 - Improved passenger transport links to the town centre, utilising either a new link through the Galleria car park or an alternative routes to access the town centre.

Flight Test Hangar

- 12.9 This is a Grade 2* Listed Building and the Local Planning Authority wishes to ensure its retention. In considering future development options for the re-use, the following principles should be applied:
- The proposed use must be sympathetic to the hangar's fabric and setting.
 - The proposed use should facilitate the long-term future of the building.
 - The proposed use must have regard to neighbouring development or land uses.
 - English Heritage should be consulted on development proposals at an early stage.

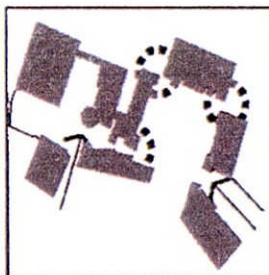


District Centre Layout



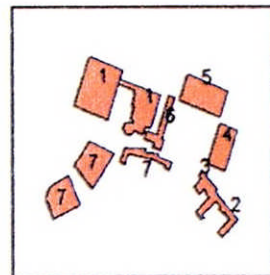
Edges - Squares

Two squares of distinct character
are arranged along a defining edge
A: a formal square
B: a functional open air room



Nodes

Leisure square with strong
entrance approach and definition
of space



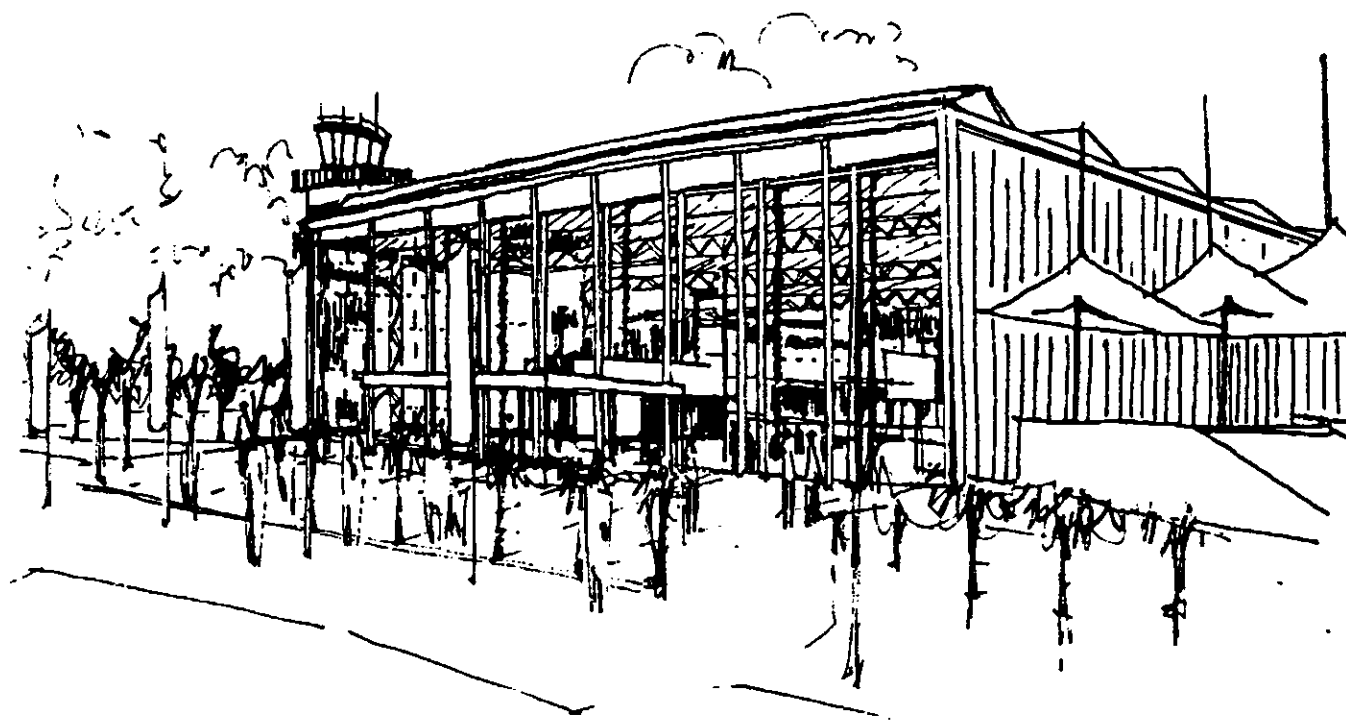
Viable Mixed Use

1: Commercial/Leisure
2: Hotel
3: Restaurant
4: Family Entertainment Centre
5: Innovation Centre
6: Medical Centre/retail
7: Residential

JOB TITLE:
HATFIELD AERODROME
DISTRICT CENTRE

DRAWING TITLE:
URBAN DESIGN PRINCIPLES
ILLUSTRATIVE LAYOUT

DRAWING NUMBER:
FIGURE 12



Sketch view of possible design treatment of the listed Hangar

JOB TITLE:
**HATFIELD AERODROME
DISTRICT CENTRE**

DRAWING TITLE:
URBAN DESIGN PRINCIPLES

DRAWING NUMBER:
FIGURE 13

- 12.10 Figure 13 illustrates how the hangar could be visually integrated into the street scene and make a positive contribution to the character of the District Centre. It is recognised that until further detailed work has been completed the proposals cannot be fully assessed. The need for flexibility in the consideration of potential uses and necessary alteration and additions is also recognised.

Urban Design Principles

- 12.11 The District Centre is seen to represent a key element within the Master Plan and that its design and layout should reflect the capacity to form the 'heart' of the development. The key principles to be incorporated within the design should respond to the opportunities created through use of paths, nodes, edges, districts and landmarks (see Figure 12). It is anticipated that through this approach it is possible to create attractive, lively and enduring spaces with orderly links between the spaces and buildings. The overriding objective is to create a well defined 'sense of place' and an area that people will wish to visit.
- 12.12 In addition to meeting the design objectives for the layout, care is also necessary for the design of the buildings within the Centre. In this respect, while this SPG does not seek to set a particular architectural style, there are key elements that should be respected. The buildings, and associated spaces, should be designed to make the most of the opportunity to create a powerful urban form, which is uplifting, with vitality reflected in the uses, the design and materials. In short it should promote civic well being.
- 12.13 The scale of the buildings need to respond to the spaces and create the appropriate framework and presence. It is anticipated that the buildings will be a minimum of 2-3 storeys in height. The designs will need to achieve the definition of spaces in an elegant and articulate manner through the use of architectural language that responds to the human scale and ensures interest is created at street level. Designs need to have regard to the objective for individual buildings as well as the objective for the Centre as a whole. The principles that will need to be taken into account are:
- Overall the design of the District Centre will need to demonstrate a comprehensive approach to layout, with careful consideration given to forms the alignment for a pedestrian/ passenger transport corridor linking to the Galleria via the existing roundabout on Comet Way. Along this alignment is sited a transport interchange in close proximity to the Central Square and the leisure activities. This location would also effectively serve the Business Park. Servicing of the retail and leisure uses should also be taken off this route.
 - Good access to modes of transport other than the car should be designed into the layout.
 - Public art and landscaping should be encouraged as an integral part of the design of the District Centre.
 - A carefully designed treatment of the rear areas will be required to provide a positive aspect to the elevations facing the car parking and servicing areas. The incorporation of a 'dual frontage' to building design should be explored.
 - The layout design should seek to create a cohesive whole from its

constituent parts to ensure a planned approach to the District Centre.

- The proposed car parking and servicing areas will be designed to reflect the overall landscape strategy. Careful consideration should be given to landscaping within the car park areas in order to ensure that the sense of place created by the District Centre prevails.
- Consideration should be given to the potential for segregated waste collection. Sites for recycling facilities for paper, glass etc should be incorporated into the layout for the centre.

- 12.14 Figure 15 shows sketch views along the District Centre axis illustrating how these principles could be applied.

Landscape Principles

- 12.15 The main flow of the public spaces associated with the District Centre will be along a north west/south east axis linking the Galleria on Comet Way to the Central Park. Beyond the Central Park this axis projects through the residential area to the Green Belt.

- 12.16 Figure 16 shows how a sequence of space should be incorporated into the detailed design to develop a 'street' townscape, widening into small squares providing variety and interest and finally opening into the Central Park which is the green focus of the Masterplan.

- 12.17 The treatment which should be adopted for the 'Street Landscape' and the 'Central Park' are described below.

Street Landscape

- 12.18 The character of the spaces should be strongly influenced by the building designs and the shape of the spaces they enclose. It is also inevitable that there will be variety in the elevational designs of the buildings. The treatment of the street landscape should therefore serve to provide the unifying factor.

Paving and Street Furniture

- 12.19 In general the palette of materials should be limited in extent and colour, involving simple arrangements to avoid visual clutter.
- 12.20 A family of street furniture should be developed to include lighting, seating, litter bins, railings, paving, tree guards and grills. There is also an opportunity to customise furniture along a particular theme, and introduce colour.
- 12.21 It should provide a safe environment, segregating vehicles from pedestrians and cyclists where possible, and allowing proper access for disabled people.

Landscape

- 12.22 Street trees should generally be planted at a semi-mature scale (a minimum of 20/25 cm girth) and should be deciduous. Careful attention should be paid

in ensuring adequate soil pits to allow healthy growth, with adequate drainage provision.

- 12.23 Street trees should be chosen to be consistent with the general approach of reflecting tree species native to Hertfordshire. In this urban area, cultivators of the various native families of trees may also be employed. Examples of suitable species include:

- Oak
- Lime
- Whitebeam
- Wild Cherry

Central Park

- 12.24 It is proposed that between the southern residential area and the District Centre, a landscape amenity area should be provided. This is referred to as 'Central Park' in this SPG. The Park is a key focal point in the overall green space arrangement. It contains a significant public recreational facility, contributes to the setting of the Flight Test hangar and occupies a position at an intersection of two principal green corridors. Its specific design objectives should therefore be :

- To provide informal recreational facilities.
- To incorporate the 'Trees of Hertfordshire' planting theme.
- To provide a suitable setting for the Hangar.
- To provide attractive and safe routes for pedestrians and cyclists.
- To provide 'year round' visual interest and colour.
- To provide a safe and attractive framework for the important pedestrian and cyclist road crossing from the District Centre to the residential area.

- 12.25 One way of achieving these objectives is illustrated in Figure 17. The overall layout incorporates the following principles:

- the Park should emphasise the continuation of the NW/SE landscape axis
- The layout should ensure that the Spine Road is absorbed into the Park. The road provides an important link in the presentation of the overall development and views should be encouraged from the road across the Park and to the buildings beyond. Nevertheless, quiet areas free from views of passing traffic should also be provided.
- The Park is to provide a frontage to the Hangar and provides an opportunity to present an interesting setting to the building. The setting should reflect the history of this part of Hatfield and draw upon the name of de Havilland.
- Avenues and groups of trees should be incorporated and laid out to reflect the theme of the 'Trees of Hertfordshire'.
- Some areas should be introduced which promote nature conservation. For example, if a small lake is included, this will add a further opportunity for habitat creation.
- Should the drainage design of the overall development area indicate a need for a balancing function for surface water run-off in this area, the opportunity should be taken to turn the lagoon into a landscaped lake. Surface water running into the lake should first be cleaned by interceptors



Sketch View of the Square

JOB TITLE:
**HATFIELD AERODROME
DISTRICT CENTRE**

DRAWING TITLE:
URBAN DESIGN PRINCIPLES

DRAWING NUMBER:
FIGURE 14

and the introduction of landscaped swales and reed beds which can clean the water further whilst providing additional wildlife habitat is to be encouraged.

- 12.26 The design of the Park should draw all of these components together into a coherent and attractive whole.

Car Parking Standards

- 12.27 As set out in Section 7 above.

Phasing of Development

- 12.28 The District Centre provides facilities and amenities for the whole range of uses on the Masterplan site. Its early implementation will therefore be encouraged. It will also be expected that development will take place within an agreed framework in order to ensure that the design and layout objectives of the District Centre can be achieved and avoid a piecemeal approach.



Path from the District Centre to Comet Way

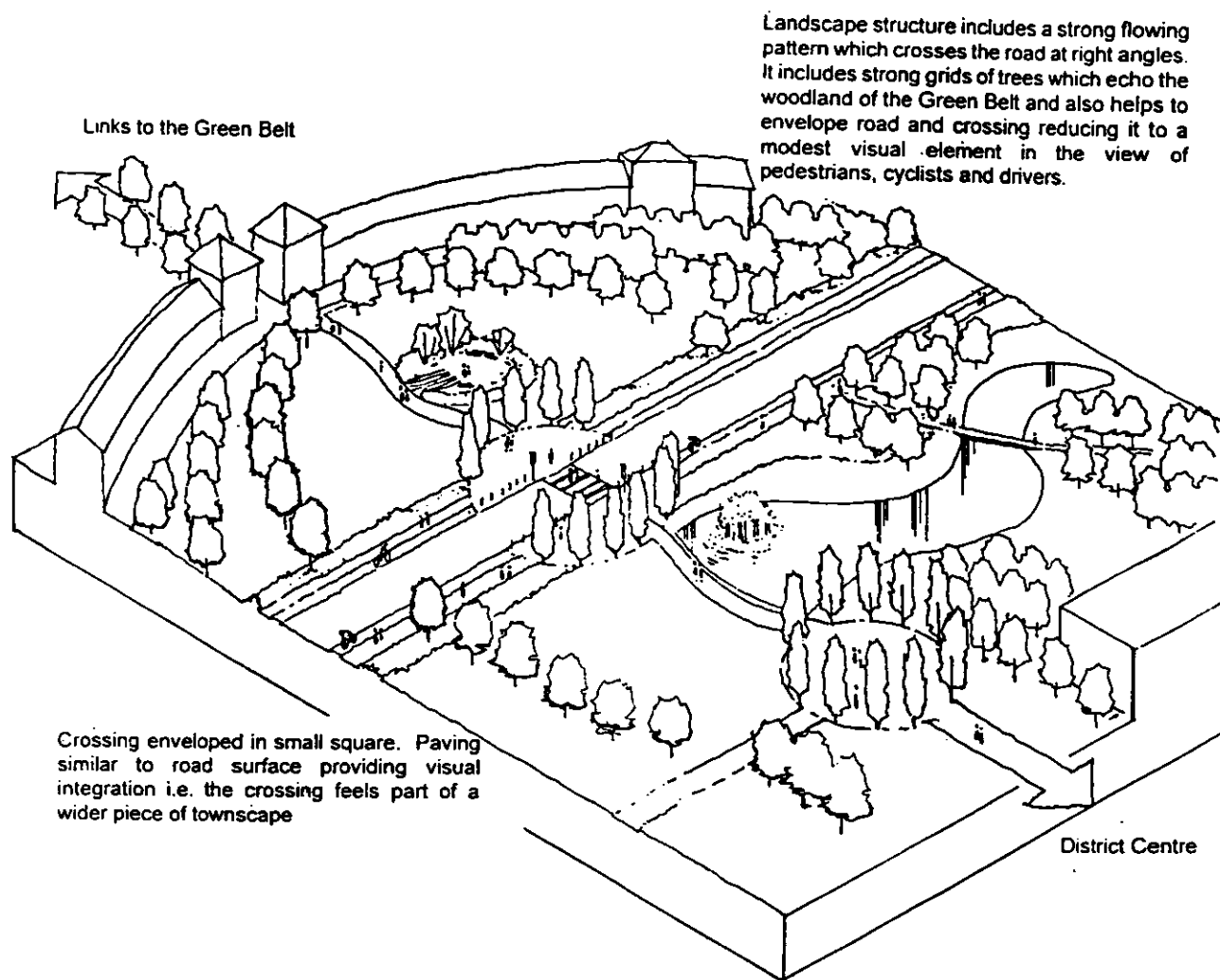
Active Frontage - Western side of the square



JOB TITLE:
**HATFIELD AERODROME
DISTRICT CENTRE**

DRAWING TITLE:
URBAN DESIGN PRINCIPLES

DRAWING NUMBER:
FIGURE 15



13. AREA BRIEF: RESIDENTIAL

Area Brief Objectives

- 13.1 This Area Brief covers all of the proposed residential development. Its specific objectives are :
- To encourage a high quality residential development including a new primary school.
 - To establish a framework to enable the future determination of specific development proposals.

Overall Quantum of Housing Development

- 13.2 For the period to 2011, the District Plan's BAe Inset site (excluding the Smurfit factory) is expected to provide a minimum of 1,440 dwellings.
- 13.3 In addition to this capacity, the former Smurfit factory site provides an additional 6.09 ha (15.05 acres) of land which, at a density of 15 dwellings per acre, will provide approximately a further 220 dwellings, also for the period 2011.
- 13.4 The Land Use Plan indicates the following principal areas of residential development:

Northern sector	660 dwellings capacity
Southern sector	870 dwellings capacity
Adjacent to District Centre	130 dwellings capacity
Total	1660 dwellings capacity

- 13.5 In addition to these principal areas, further opportunities for residential development may arise in the District Centre with scope for dwellings within the mixed use centre. Up to 50 dwellings could be accommodated in this location. Should more dwellings be proposed in this location, there may be a need to review the infrastructure requirements for the Site.

Sustainability Principles

- 13.6 As indicated in Section 5 of this SPG, the accompanying Sustainability Appraisal details a number of sustainability principles which should be considered as detailed proposals emerge. These are summarised at Appendix 2 to this SPG.
- 13.7 Whilst many of these principles will apply to the residential areas, particular emphasis is laid on the following tests which will ensure that a sustainable development is achieved in due course: optimum use of resources, pollution minimisation, water resource management, waste management, energy efficiency, landscape quality, habitats and species, urban design quality, community provision, accessibility, and health and safety.

Mix of House Types

- 13.8 The existing housing mix in Welwyn Hatfield District has been assessed by the District Council as:

Detached houses	20%
Semi-detached houses	20%
Terraced houses	43%
Flats	17%

Proposed Mix

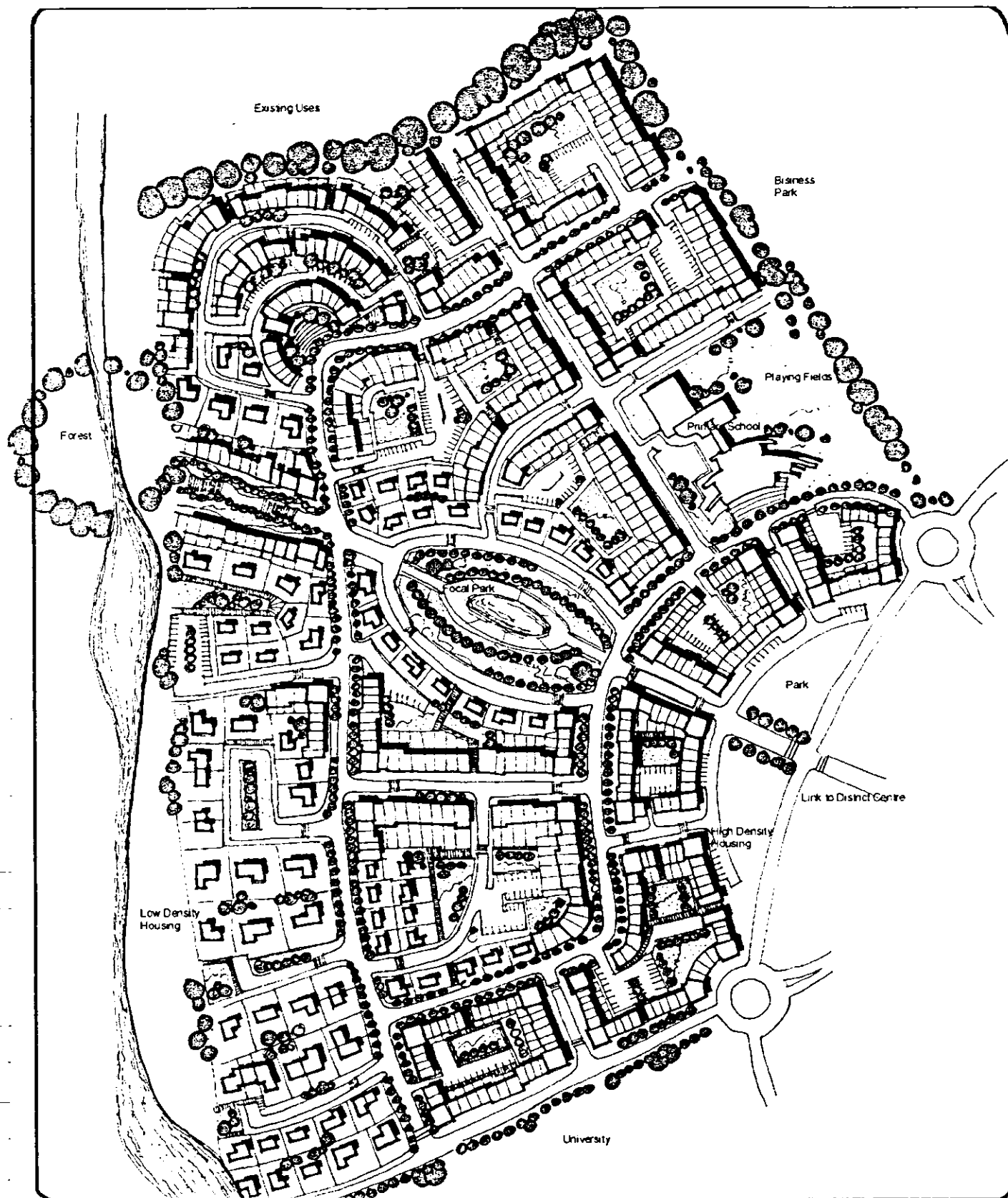
- 13.9 The housing mix across the whole site and including all tenures should be within the following ranges:

1-2 bed	25% - 35%
3 bed	30% - 40%
4 bed	20% - 30%
5 bed +	0% - 10%

- 13.10 For affordable housing, the required mix will be slightly different, in order to meet the specific needs of those being housed. In particular, there will be a need for a higher proportion of smaller units, together with some larger 4 bed plus units. There will also be a need to accommodate some special needs units within this affordable housing element. The details of the housing mix required for individual affordable housing schemes, should be confirmed with the Council's Housing Development Officer.

Affordable Housing

- 13.11 An Assessment of Housing Needs has been undertaken on behalf of the Council and on the basis of these surveys the Local Authority has concluded that it will require 30% of all dwellings built within the Master Plan area to be affordable. By affordable, the Council means housing that is provided with a subsidy for local people who are unable to resolve their housing needs in the private sector because of the relationship between housing costs and income. The 1999 Housing Need Survey sets out both the justification for this level of provision, together with data that demonstrates that to meet the vast majority of the identified need in the District, the housing provided will have to be rented accommodation provided in conjunction with a Registered Social Landlord. Prospective housebuilders should be aware that the availability of Local Authority Social Housing Grant to achieve this housing cannot be assumed.
- 13.12 The Survey also highlights the need for low cost market housing, in addition to the subsidised affordable housing, clearly demonstrating that there is a shortage of such accommodation in the District.
- 13.13 In line with Government policy, the affordable housing should be provided in an integrated fashion and be of similar appearance and quality to open market housing. The creation of large concentrations of affordable housing in one location should be avoided.



JOB TITLE:
**HATFIELD AERODROME
RESIDENTIAL AREA**

DRAWING TITLE:
**URBAN DESIGN PRINCIPLES
ILLUSTRATIVE LAYOUT**

DRAWING NUMBER:
FIGURE 18

Accessible Housing

- 13.14 The provision of housing which is capable of being accessed or adapted for people with disabilities will be encouraged. The 1999 Housing Needs Study demonstrates that there are a large number of people with disabilities living in unadapted accommodation, and there is a large potential demand for accommodation which is designed to be capable of adaption.
- 13.15 The proportion of fully accessible wheelchair standard dwellings will need to be addressed at the Building Regulations approval state of scheme development, in line with new legislation.

Phasing

- 13.16 The proposed housing forms part of the Council's strategic housing requirement for the period 1991-2011. The quantum of proposed housing is a significant contribution to that requirement, and in order to ensure that housing provision comes forward throughout the remainder of this period the Council will seek to agree a phasing programme with the landowner. An additional benefit of such phasing will be the maximisation of opportunity for future employees on the site to be able to live nearby, thereby reducing the need to travel.

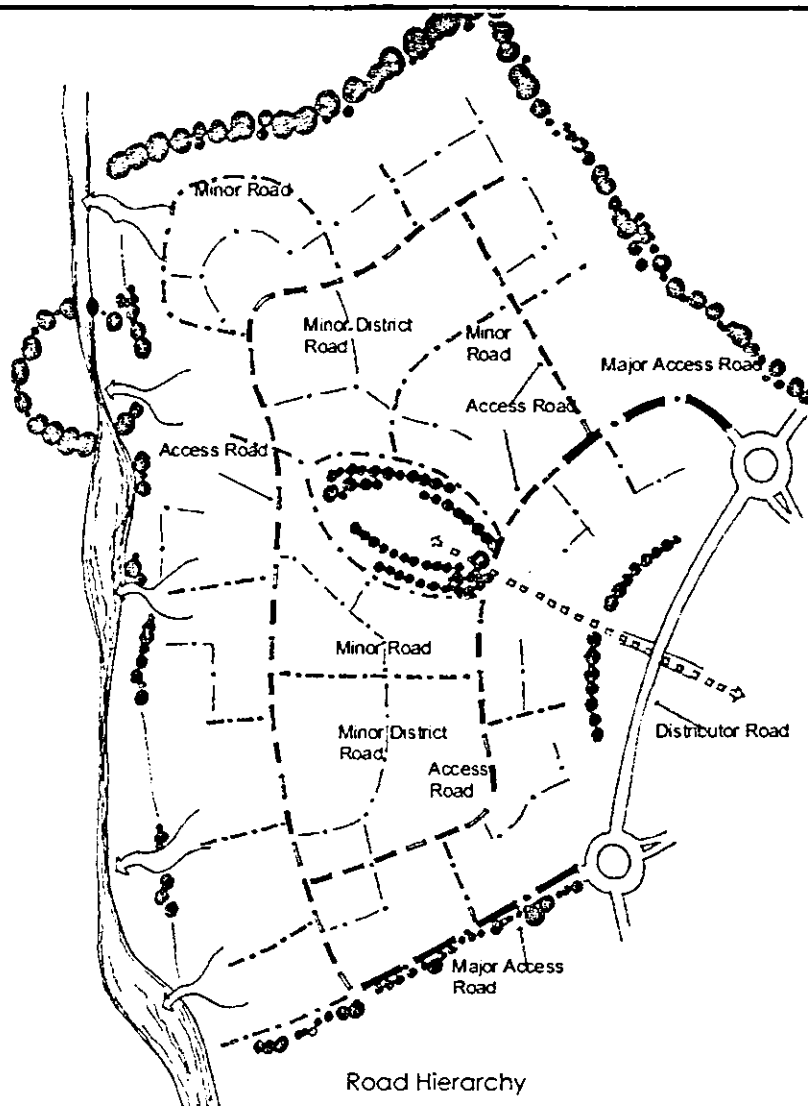
Urban Design Objectives

- 13.17 The following objectives in respect of urban design should be incorporated in all future development proposals (see figure 18):
- Promote a development that is 'people friendly'.
 - Achieve a consistently high standard of layout and design which takes account of the location of the Masterplan site and nearby uses.
 - Promote cycle and pedestrian uses and protect people from vehicles.
 - Encourage passenger transport use and ensure bus stops are easily accessible by pedestrians.
 - Create a built form that utilises buildings, trees, hedgerows and walls to enclose identifiable spaces of a human scale and local character.
 - Define spatial ownership to enhance security.
 - Reduce the impact of the car on the urban environment, whilst achieving the highway design and parking standards as set out elsewhere in the SPG.

Urban Design Principles

13.18 General Design Matters

- **Frontage.** Public spaces, including roads, should be fronted by buildings, with doors and windows overlooking the street. A consistent approach to the enclosure of land along street frontages should be applied, and that approach should reflect the character of the individual housing developments. The use of hedges will be encouraged.
- **Enclosure and definition.** There should be clear building lines which positively address the public realm. All streets, squares and open spaces should be defined by appropriately scaled buildings and/or landscaping.



Access Road



Major Access Road

JOB TITLE:
HATFIELD AERODROME
RESIDENTIAL AREA

DRAWING TITLE:
INDICATIVE - ROAD HIERARCHY

DRAWING NUMBER:
FIGURE 20

- **Focus on the edge.** Frontages should be made as active as possible, with windows, doors, balconies, bays, and porches used to enliven facades. Blank walls, especially end gables and garage blocks, should not face onto the public realm.
- **Perimeter blocks.** Where appropriate the terraced form is to be used to define "edges" of perimeter blocks, which will enclose a courtyard. This adoption of a "perimeter block" urban form where the block sizes are relatively small e.g. 80m x 80m "cells" - is designed to increase the accessibility and permeability and thereby the sense of community.

13.19 **Legibility/Identity**

- **Legibility.** Designs will be expected to pay careful attention to buildings which terminate vistas and which articulate changes in grid direction. Entrances to the residential areas, both from the Green Belt and other parts of the Masterplan site, should be defined by the use of distinctive architectural design, site layout, landscape and infrastructure details.
- **Use of landscaping/natural features.** Landscape provision should complement the proposed urban form. There should be a clear structure of open spaces which offer a range of landscape experiences. All proposals must identify how existing vegetation and landscaping can be incorporated into layouts.
- **Landmark sites/ turning the corner.** Corner sites are visually prominent and provide the opportunity to create identity. The landmark status of corner buildings should be recognised with prominent entrances/windows.
- **Variety.** An overemphasis on a single vernacular or architectural style should be avoided by injections of contrasting styles with a high design quality to generate vitality and variety. Rhythm and hierarchy should dictate the variety, whilst maintaining continuity through roofscape and pattern of layout.
- **Skyline.** The creation of distinctive skylines should also be considered as a way of adding visual interest, whilst also conveying particular activities and concentrations of uses. This aspect of design will potentially be significant given the flat topography of the Masterplan site. However where new development adjoins existing residential development regard will have to be paid to the existing roofscape.
- **Public art and street furniture.** These features can aid the creation of identities for particular areas. The design quality of street furniture will be assessed on both its aesthetic merits and its durability.
- **Materials.** Good quality materials and features with references to a local palette of materials should be used to provide a visual theme to the development.

13.20 **Movement**

- **'Pedestrians First'.** All residential schemes should be designed in a manner which prioritises the needs of the pedestrians, people with disabilities, cyclists and passenger transport users ahead of private motor vehicles. The design of streets and squares should follow a logic which is defined by the form and function of spaces, buildings and people movement patterns. All routes should be designed as through routes for pedestrians and cyclists. Bus stops must be located to give easy access for pedestrians and should be by main pedestrian routes and crossing points
- **Permeability.** Each residential development will need to emphasise pedestrian permeability, particularly allowing ease of access to the proposed primary school, recreation areas, bus stops, the District Centre and the employment areas.
- **Streets not roads.** The emphasis in design should be in creating high quality streets and squares within which motor vehicles are accommodated, following the principles set out in 'Places, Streets and Movement: a Companion Guide to DB32' (DETR 1998). The overall objective should be the creation of a network of spaces rather than a hierarchy of roads; a layout of development in which roads play their part but are not dominant.
- **Designs for space.** The arrangement of buildings and enclosure should be considered first, followed by highway engineering requirements. Traffic calming measures that work by affecting drivers' perception of the street environment should be used in preference to physical measures such as speed bumps or chicanes. Such measures could include trees, fences, railings and bollards to visually reduce road widths; tight turning radii at corners and junctions; and buildings positioned close to pavement edges.
- **Tracking.** Highway design requirements should not be the starting point for layout design. Instead, as promoted in 'Places, Streets and Movement' the arrangements of buildings and enclosures should be considered first, then checked against the highway engineering needs.
- **Car Parking.** Parking facilities should be designed to reduce the visual impact of the car. Some limited on-street parking within a well designed environment may be appropriate. Forecourt parking in front of buildings will generally be discouraged because of its effect on the vitality of the street scene and its visual intrusion.

13.21 **Density and Diversity**

- **Variable densities.** Density, height and massing should vary according to the different character of the housing areas. The greatest building concentrations should be encouraged around the District Centre, around public open spaces, squares and public transport routes. Within this general pattern, taller buildings will be expected at corners and nodes.

- **Tenure not discernible.** Social housing and market housing is to be incorporated throughout the development. The matter of affordable housing provision is dealt with earlier in this Area Brief.
- **Flexibility.** Buildings should be designed with sufficient flexibility to enable appropriate changes of uses to take place. This aspect should particularly be the case in close proximity to the district Centre, where mixing of uses, horizontally and vertically, could be encouraged.

13.22 **Security and Comfort**

- **Natural surveillance.** Internal layouts and design of fenestration should enable residents to see activities taking place in the street, footpaths and in adjacent parks and squares. Any rear courtyard parking areas should be sufficiently overlooked, secure and capable of easy maintenance.
- **Clearly defined public/private realms.** Buildings and open spaces should be arranged to provide the clear definition of public fronts and private backs. The relationship between dwellings should ensure that sufficient levels of privacy and adequate levels of sunlight and daylight can be obtained.
- **Safe pedestrian/cyclist routes.** Within residential areas, street design should seek to reduce vehicle speeds to a maximum of 20 mph to create a safe and attractive environment for pedestrians and cyclists
- **Cyclist's requirements.** The needs of cyclists should be incorporated into the residential layout, which should include the following measures:
 - A network which permeates all parts of the development and links beyond.
 - Segregated cycle paths on busier roads.
 - Secure cycle parking at appropriate locations.
 - Safe routes should be provided to the primary school to minimise car trips.
- **Pedestrian's requirements.** The needs of pedestrians should be incorporated into the layout, which should include the following measures:
 - A network of routes which are safe, secure and attractive
 - Routes which are as direct as possible and avoid tortuous diversions
 - Crossing points on desire lines should have dropped kerbs or raised road surfaces
 - Safe routes should be provided to the primary school to encourage non-car trips
- **Lighting.** Lighting design can be used to create quality and character in an area, helping to provide a more secure environment. Creative solutions to lighting should be considered, which go beyond the more basic approach of highway lighting.

13.23 **Sustainable Design**

- **Solar gain/Energy Efficiency.** The principles which should apply to energy conservation are set out in Section 10 of this SPG.

- **Reduction of environmental impact.** The environmental impact of new housing should be minimised with reference to the Building Research Establishment Environmental Assessment Method (BREEAM), which takes account of such matters as :
 - CO2 emissions
 - use of sustainable materials
 - water conservation
 - avoidance of materials which are harmful or emit CFCs and HCFCs
 - thermal insulation
- **Water Conservation.** Water consumption in new dwellings could be significantly reduced with the adoption of a number of conservation measures, such as:
 - Water efficient fixtures and appliances, including the provision of showers etc.
 - Water recycling schemes, including reed bed recycling and 'grey water'.
 - Rainwater storage in the garden for watering plants.
 - Rainwater recovery tanks in the roof space.
- **Recycling.** Consideration should be given to the potential for segregated waste collection. Sites for recycling facilities for paper, glass etc. should be incorporated into the design of residential areas. Wherever possible, domestic refuse should be contained in purpose built enclosures, designed as discrete but integral features of buildings, large enough to allow for waste sorting.

Landscape and Open Space Principles: General

Open Space Requirements

- 13.24 The National Playing Fields Association (NPFA) minimum standards for open space provision published in 1992 are summarised as follows:
- | | |
|---------------------------|-------------------------------|
| overall provision | 2.4 ha per 1,000 people |
| outdoor sports facilities | 1.6 - 1.8 ha per 1,000 people |
| children's play space | 0.6 - 0.8 ha per 1,000 people |
- 13.25 Figures 21 and 22 illustrate how these standards can be incorporated. It may be possible to accommodate some of the playing field requirements within the University's and school's provision.
- 13.26 Childrens' play space should be provided within the development, in line with the standards set down by the NPFA and reflected in Policy HC16 of the Welwyn Hatfield District Plan. The residential areas of the development will be designed to respond to the needs of pedestrians and safety; as such it may be more appropriate to provide the play facilities in a less dispersed manner. Thus rather than incorporating a dispersed hierarchy of Local Areas for Play (LAPS) and Neighbourhood Equipped Areas for Play (NEAPS), consideration could be given to combine the facilities.

- 13.27 These areas should relate to pedestrian and cycle routes and be well related to open space areas as part of the development. It will also be necessary to ensure the areas are overlooked without causing unnecessary disturbance to nearby residential areas. In addition to the equipped play areas, consideration should be given to the needs of older children in the design of public spaces. The proximity and opportunity of the Green Belt areas should be considered within this context.

Pocket Parks

- 13.28 These are small scale, strategically placed, local parks designed to maximise the attractiveness of urban spaces and to fulfil open space requirements. They should form part of this pattern of green space and are likely to incorporate local play facilities, as illustrated in Figure 21.

Local Gateways

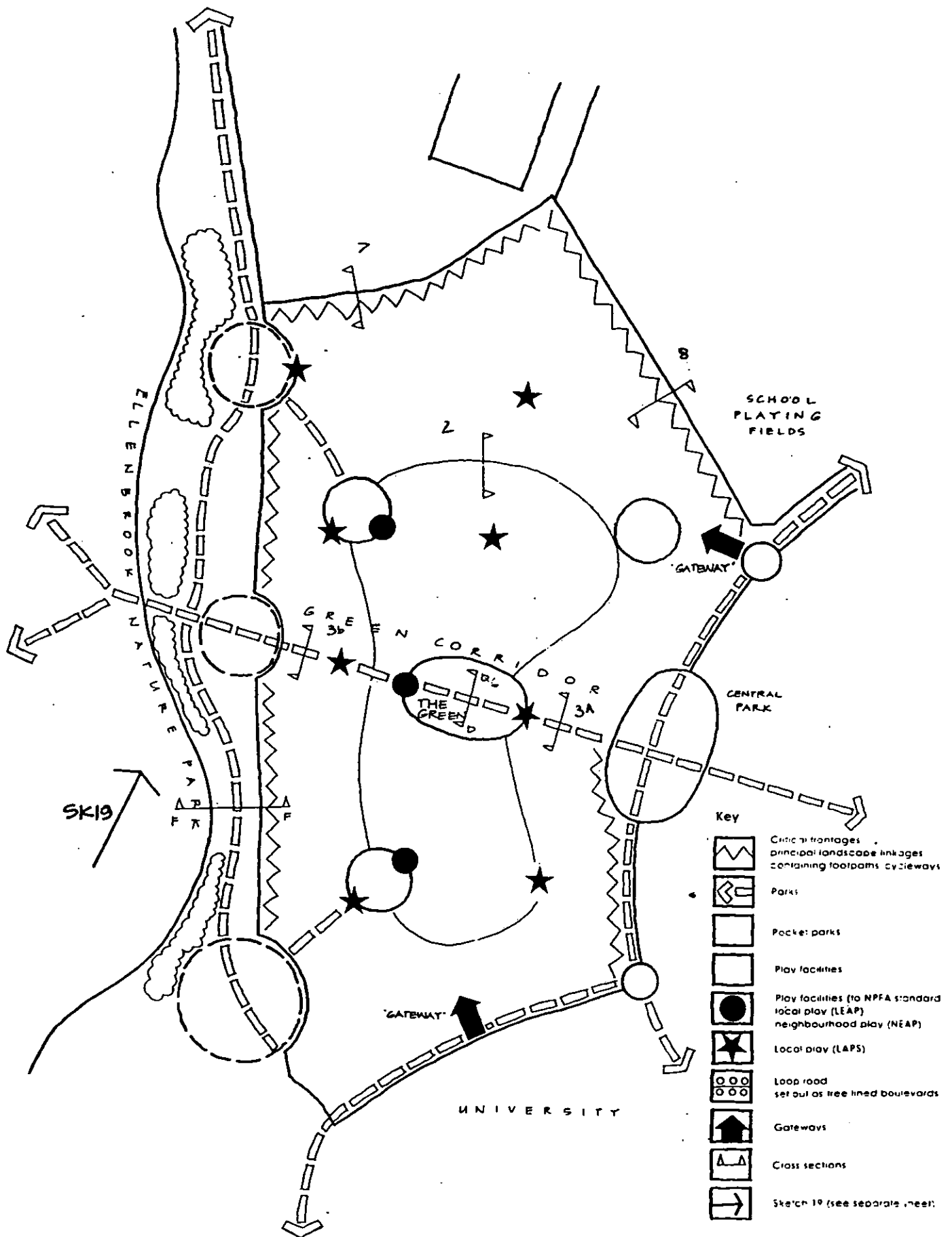
- 13.29 Efforts should be made to enhance the main road entrances to the residential development whilst signalling to vehicles that they are entering a residential area and reduce speed accordingly. This enhancement could be achieved by planting, widening of footpaths, the use of verges, entry features etc. in order to

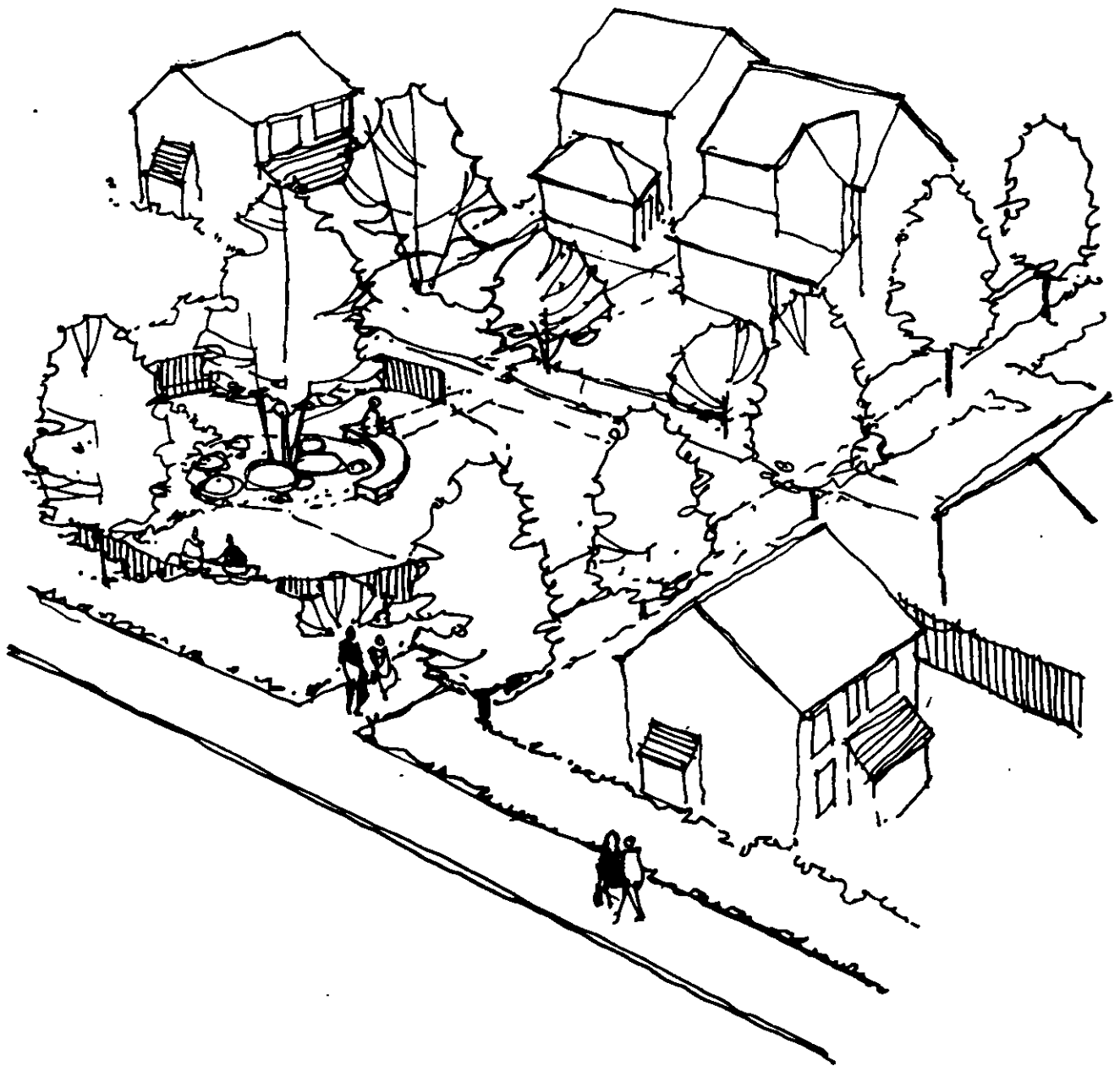
- create a sense of place
- provide landmarks
- enhance the landscape framework

- 13.30 An indicative treatment is illustrated in Figure 24.

Landscape and Open Space Principles: Southern Sector

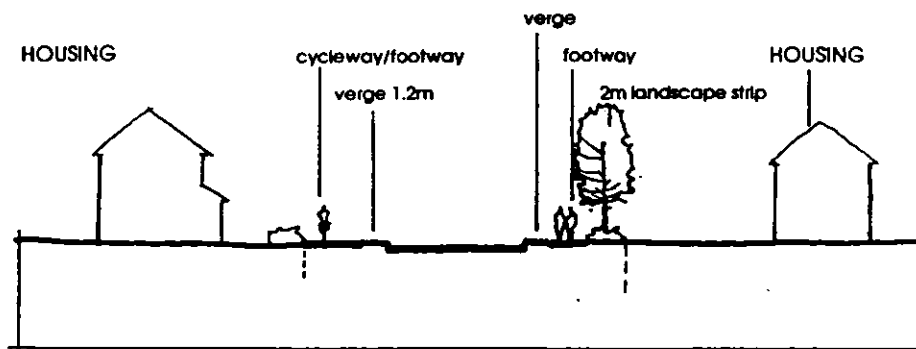
- 13.31 The main landscape spaces within this residential area should lie along the pedestrian/cycleway axis linking the Green Belt with the District Centre. These should appear as wider areas of planting along a green corridor, tying the theme of planting along the proposed Ellenbrook Nature Park with the Central Park and with the District Centre. A key feature of this axis as it runs through the housing development will be the creation of the area of open space of strategic significance referred to in Section 8.16 of this SPG. This open area should be provided in a form that enables it to help meet local needs and provide a focal point in terms of design, layout and activities as well as satisfy the wider objectives as set out in the landscape strategy. The illustrative design principles are contained within Figure 21.
- 13.32 The principal design objectives for the landscape strategy for the residential development are summarised as follows:
- An attractive interface between town and open country.
 - Optimisation of the aspect to green space and enhance views from the Green Belt, to create a fragmented edge to the development.
 - An ability to permeate the built development with clear, safe and attractive footpath and cycle linkages.
 - An opportunity to ensure an appropriate separation between the residential development and future mineral extraction, and from the



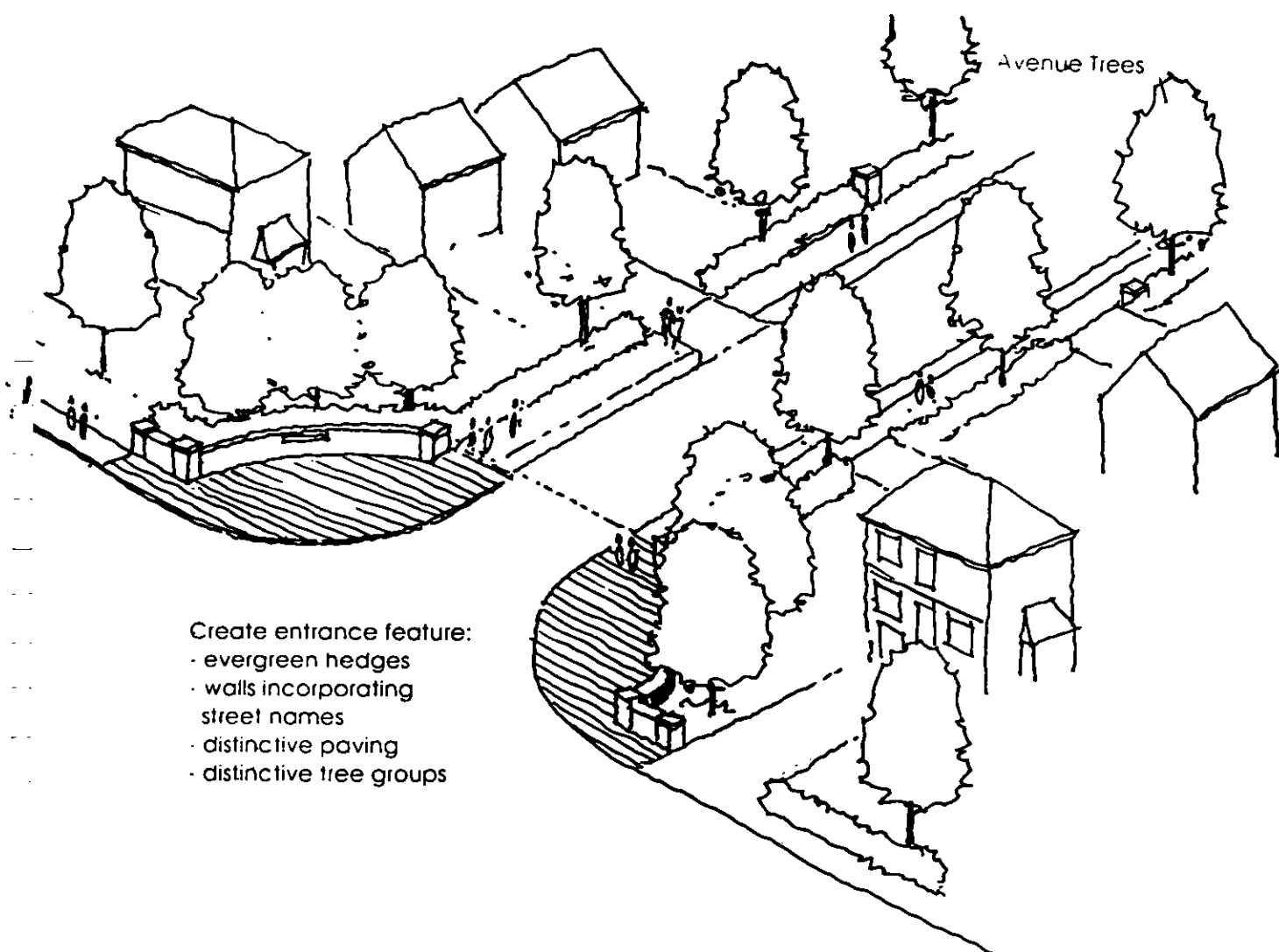


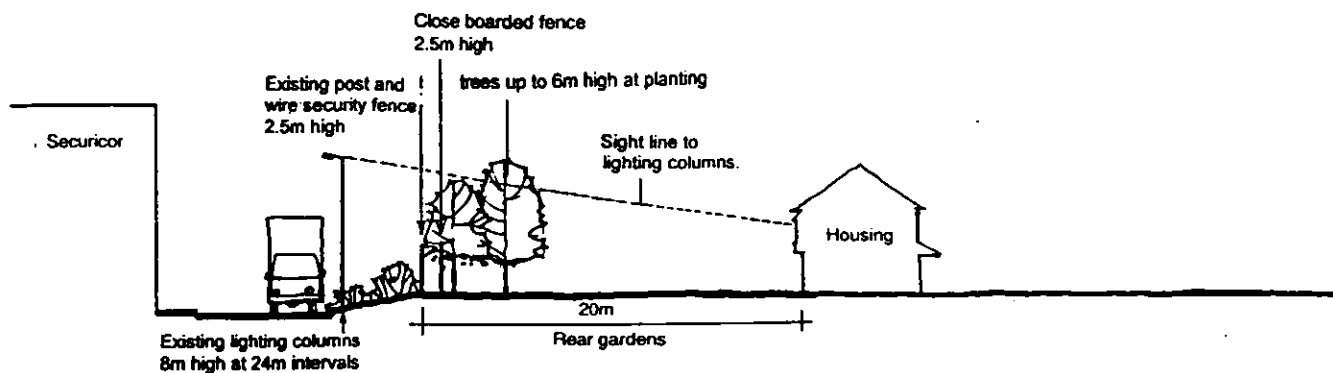
HATFIELD • RESIDENTIAL • POCKET PARK • **FIGURE 23**

May 1999 • Macgregor • Smith

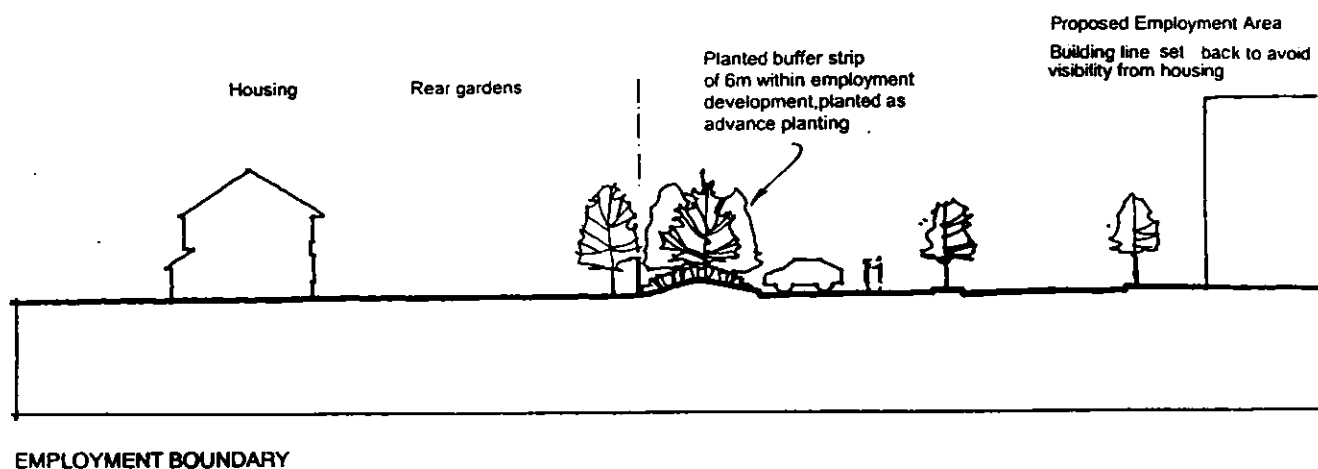


Section 2





Section 7.



Section 8

existing and the proposed business park.

Buffer Zone with the Green Belt

- 13.33 The development of the re-routed Ellenbrook as a linear park will provide a natural buffer between the Green Belt and housing. The footpath/cycleway network should also allow access to the wider context of Green Belt land. This is shown in Figure 8.

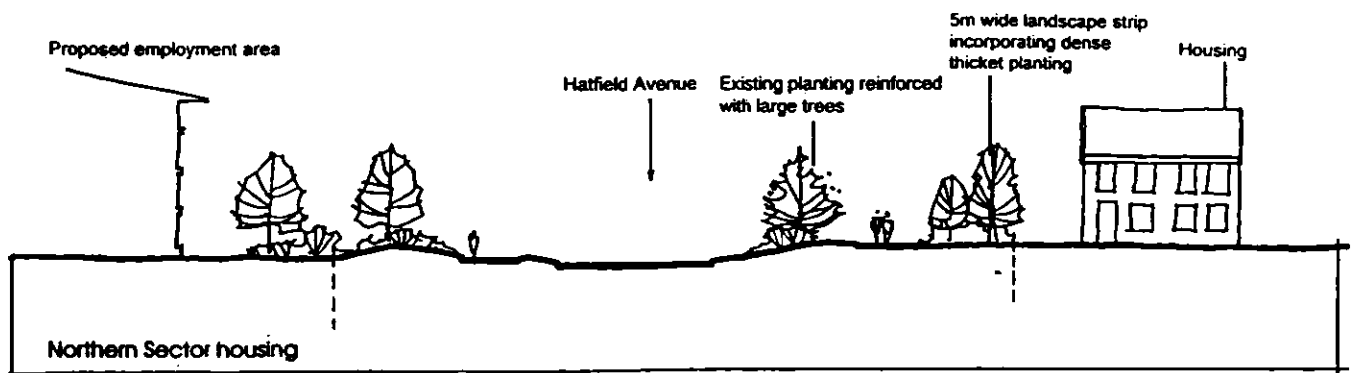
Buffer Zone with the Employment Sector

- 13.34 Studies have been carried out to assess whether the existing warehousing development on the Business Park is likely to cause material impact in terms of light and noise intrusion in respect of the proposed residential areas. Those studies have demonstrated that noise levels do not occur at the boundary of the site that would cause nuisance. In the case of the external lighting, detailed assessment has demonstrated that light from the existing buildings is considerably lower than 5 lux at a distance of 15 metres or more from the boundary. The International Commission on illumination recommends in these circumstances light levels to be no greater than 5 lux. The boundary treatment should consider the visual impact in respect of the surrounding buildings. This is shown on Figure 25.

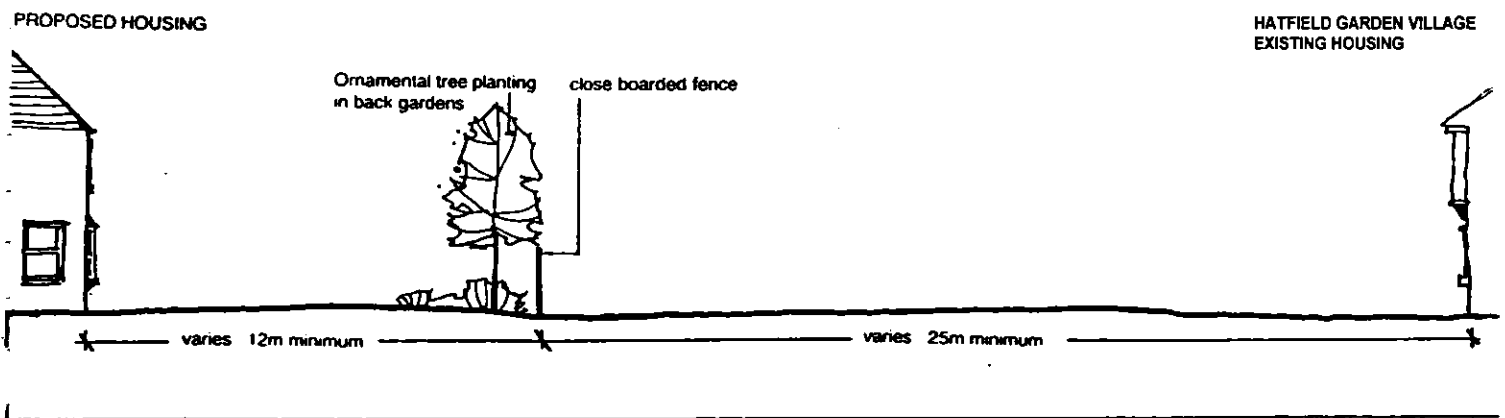
Urban Design Principles: Southern Sector

- 13.35 Urban design principles that should also be taken into account in this area of housing are set out below (see Figures 18 and 19).

- The frontage to the park and distributor road is considered an important urban design element forming a defined edge and presenting a potentially prestige image. Buildings in keeping with this frontage could be introduced either side of the axis route to create an entrance Gateway to the residential areas behind. A crescent form could be considered to heighten the formality and sense of spatial definition to the Central Park area. In order for this edge to have scale and significance, it should be three storey in height .
- A site has been selected for a primary school which benefits from a location that is close to the District Centre so that multiuse can be made of a community/school hall. In addition the siting is on the north eastern edge of the southern sector and therefore as close as possible to the northern sector housing, which will be linked to the school by good quality pedestrian and cycle routes. The school will be an important building with a significant community focus. Comments on the general design principles are found at the end of this section.
- With the primary axis passing through the residential area and building on the landscape concept, "nodes" have been illustrated which emphasise intersection points where roads and pedestrian routes meet.
- Open space requirements should be met with the allocation of a centrally positioned "village green", with other smaller play areas and pocket parks distributed within the housing area.
- A range and mix of housing types and sizes will be provided, with building densities generally decreasing towards the Green Belt.
- A sensitive approach is required on the Green Belt boundary with a softened definition to the edge/interface. Development in this area should



Section 4



Section 5

- be designed to enable easy access to the Green Belt by all residents.
- A service corridor buffer landscaping strip and public transport route are shown between the southern housing and the University campus.
- The proposed dwellings will generally be 2 storeys in height, particularly where the scheme abuts the Green Belt. Opportunity should be taken to increase the height to three storeys at major nodes where appropriate. In addition, three/four storey dwellings are likely to be appropriate on that part of the development that adjoins the central park.
- Careful attention must be paid to layout and design of those areas of housing which will adjoin either the existing or proposed employment areas or the University campus to ensure that future residents retain a high standard of residential amenity consistent with the rest of the development.

Landscape and Open Space Principles: Northern Sector

13.36 Landscape principles which relate to this area of housing are as follows:

- Development of a tree lined spine road running north-south, connecting Hatfield Avenue to Great Braitch Lane.
- The provision of two east-west footpath/cycleway routes, connecting Hatfield Garden Village with landscape spaces and the Green Belt which will be the focus for play areas and other informal open space. These should take the form of green landscaped corridors.
- The creation of a landscaped and fully accessible open area in the Green Belt adjacent to the proposed new housing to provide for habitat creation and more formal recreation activities. A scheme to provide for the future use of this land should be submitted with the initial planning application.
- Improved landscape frontage to Hatfield Avenue.
- Creation of a planted interface with Hatfield Garden Village, avoiding continuous back-to-back gardens.

13.37 These principles are illustrated in Figure 22.

Boundary of Housing with the Green Belt

13.38 Existing hedgerows define these boundaries and should be retained and enhanced to ensure that visual impact of the urban edge is minimised. It should be noted that the hedgerow on the south side of Great Braitch Lane, which runs to the west of the former main entrance to the Smurfitt factory, is considered to be of sufficient interest to merit protection under the provision of the Hedgerow Regulations. Footpath/cycleways penetrate the edge of two points and provide opportunities for 'green fingers' to penetrate the built development. Similarly, housing along the northern part of this edge should allow for tree planting groups and break up the distant view of housing from the Green Belt.

Boundary of Housing with Hatfield Garden Village

13.39 A continuous back to back garden approach should be avoided. A sensitive approach to this edge will be required in both design and landscaping terms, including the provision of planting in both the public and private areas of the new development.

Proposed emp

Northern

Section

POSED HOUSING

Boundary of Housing with Hatfield Avenue

- 13.40 There is existing planting and a cycleway on the north side of Hatfield Avenue. To date, this has been kept as low planting due to the former use of the Aerodrome. However, opportunities to refurbish this planting should be explored to incorporate some thicket planting and large trees as shown in Figure 26.

Urban Design Principles: Northern Sector

- 13.41 The generic design principles are set out above. However there are a number of key elements which should be taken into account in the design of the residential schemes on this part of the site.
- The dwellings should be predominantly two storey in height, particularly where new development adjoins the existing residential development of Hatfield Garden Village. The use of three storey dwellings in limited locations (such as in the centre of the site and/or at the entrance of nodal points on the main access road) may be acceptable
 - The treatment of the frontage to Hatfield Avenue is considered to be an important element of the design of this part of the housing development and opportunity should be taken to create a frontage of distinction.
 - The use of distinctive roofscapes will be encouraged, particularly at the key frontages and access points into the site.
 - A sensitive approach is required with regard to the housing adjoining the Green Belt boundary. The layout of the development should be designed to ensure that a hard urban edge to the Green Belt is avoided and that it enables easy access to it by all residents.
 - The orientation of the proposed dwellings should avoid a continuous back-to-back relationship with the existing properties in Hatfield Garden Village. The layout of the proposed dwellings in this part of the site should also reflect the landscaping approach referred to in the Landscape section of this Area Brief.

Community Facilities

- 13.42 The new communities created by the residential developments on this site will generate a need for community facilities. In line with the policies of the adopted District Plan, it will be expected that the developers of new housing should make provision for new or improved facilities to meet the demands generated by their developments.
- 13.43 The standards of provision for open space and play areas are set out elsewhere in this SPG. The requirement for contributions towards education provision is also highlighted. In addition, it will be expected that a contribution will be made to the provision of appropriate multi purpose community meeting places within the development. In the northern residential area this could be provided as part of any pavilion or changing room facility, which supports the use of the relocated playing fields. In the southern residential area, it may be most appropriate to provide the facility as part of an enhanced dual use facility, as part of the new primary school.
- 13.44 As part of this community facility provision, consideration should be given to meeting the religious needs of the new community. Any community hall

facility built as part of the school, should be designed in such a way as to be capable of use for religious worship if required.

14. AREA BRIEF: BUSINESS PARK

Area Brief Objectives

- 14.1 The specific objectives for the commercial areas of the Business Park are:
- To achieve a high quality business park environment.
 - To establish a Masterplan framework to enable the future determination of specific development proposals.
 - To create a high quality landscape where year round interest is ensured.

Quantum of Employment Development

- 14.2 A broad quantum of 115 acres (46.5Ha) of employment land is proposed in the Land Use Plan in Figure 11.

Sustainability Principles

- 14.3 As indicated in Section 5 of this SPG, the accompanying Sustainability Appraisal details a number of sustainability principles which should be considered as detailed proposals emerge. These are summarised at Appendix 3 to this SPG.
- 14.4 Whilst many of these principles will apply to the employment areas, particular emphasis is laid on the following tests which will ensure that a sustainable development is achieved in due course: optimum use of resources, pollution minimisation, water resource management, waste management, energy efficiency, landscape quality, habitats and species, urban design quality, accessibility, the economy and health and safety.

Mix of Uses

- 14.5 The mix of uses proposed within the Business Park, including principal uses, and anticipated floorspace is summarised in Section 4.
- 14.6 The proportion of uses referred to will be reviewed every 5 years after the commencement of development.

The reviews will include the following:

- The prevailing economic climate.
 - Labour supply.
 - Market demand and take up rates.
 - Environmental and sustainable considerations.
 - The possibility of alternative uses.
- 14.7 Any changes arising from the review will need to be taken in account in relation to the reviewing the transportation strategy referred to in Section 7.
- 14.8 A small proportion of the employment area may be developed for 'sui generis' uses, such as car related uses. The proportion of such sui generis uses should not exceed more than 10 acres (4.1Ha) of the Business Park site area.

In addition the County Council is seeking a materials recovery facility which could be based in the Employment Area.

Urban Design Principles

14.9 The following urban design principles should be incorporated in developing detailed proposals:

- The Business Park should embrace a high quality environment, with buildings set out in landscaped parkland.
- The setting and layout of the buildings and associated structures should allow for the creation of appropriate landscaped areas to be created adjacent to the principal road network.
- Views to the frontages and building entrances should be encouraged.
- Careful treatment of any plot boundary fences and enclosing walls will be required to ensure that it is appropriate to the Business Park's setting.
- Provision for pedestrians, cyclists and bus passengers will be incorporated.
- A co-ordinated approach to signage and graphics in the Business Park will be encouraged, to ensure that the overall setting and environmental quality of the Business Park is not prejudiced.
- The treatment of the common boundary with the new residential area is addressed in the Residential Area Brief in Section 13 of this SPG.
- A range of building heights and massing for uses falling within the Class B1 (a) and (b) will be acceptable with the majority of buildings expected to be 3-4 storeys in height. In relation to uses falling within the Class B1(c), B2 and B8 building heights will need to take particular account of the sensitive frontages of the Hatfield Avenue and proposed North Ellenbrook housing area.
- Buildings should be located to encourage cycling and the use of buses with only visitor and disabled parking close to main entrances. Cycle parking should be visible and located close to main entrances. Direct and convenient pedestrian links should be provided to the nearest bus stops from the building entrances, especially the main entrances.
- Facilities for the storage/collection of materials for recycling should be incorporated into the design of individual sites.

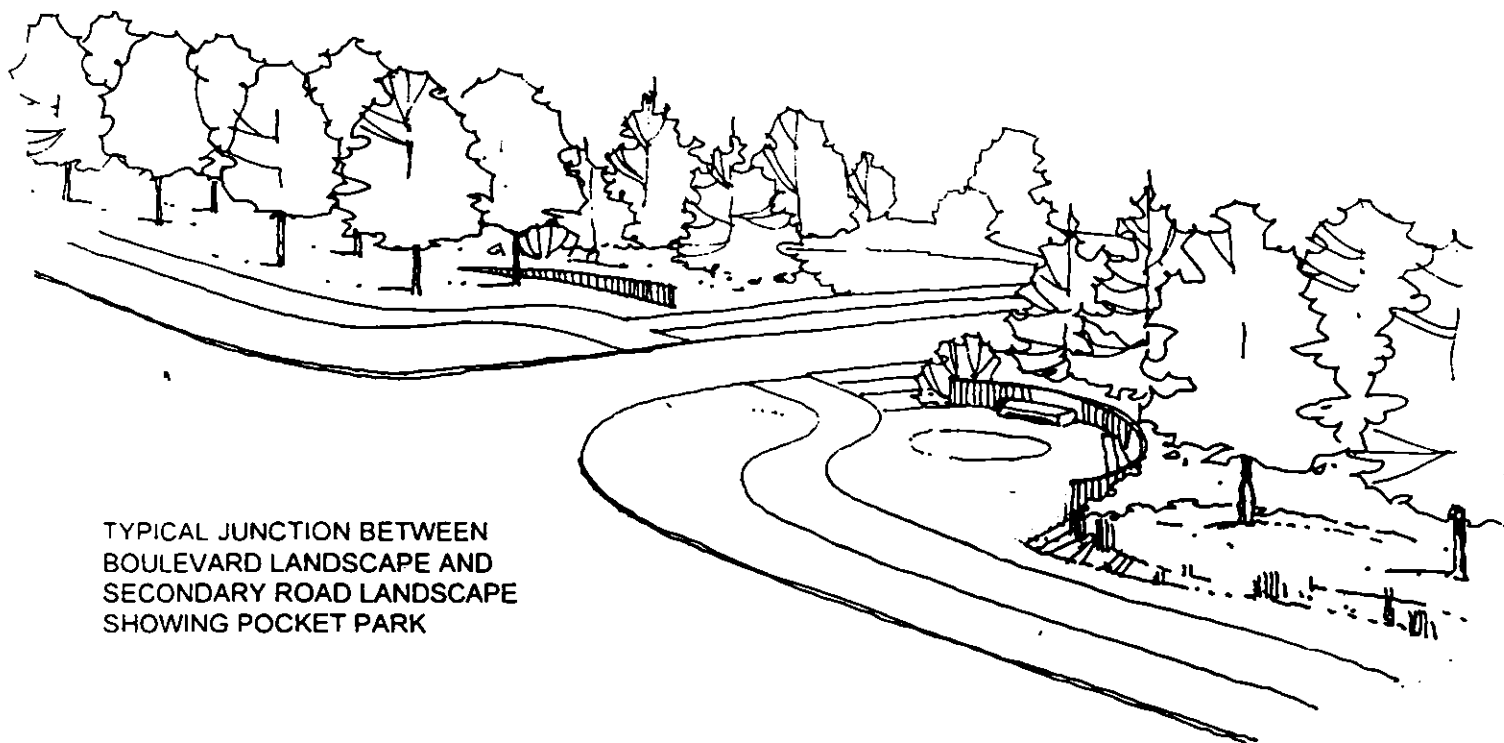
Landscape Strategy

14.10 The landscape character will be provided by a framework of infrastructure landscape of gateways, roadside landscape and pocket parks. Each development plot will be provided with its own landscape.

14.11 The landscape style will contain a number of the key main landscape components provided elsewhere in the development, such as found in the 'Trees of Hertfordshire' theme. However because of the particular need to ensure all year round interest and a high standard of presentation it will need a higher degree of ornamental and evergreen shrubs and conifer species than proposed elsewhere on the development.

14.12 The landscape should include :

- A Boulevard landscape, as described in Section 8.



TYPICAL JUNCTION BETWEEN
BOULEVARD LANDSCAPE AND
SECONDARY ROAD LANDSCAPE
SHOWING POCKET PARK

CONIFER GROUPS USED AT GATEWAYS,
JUNCTIONS AND POCKET PARKS



TYPICAL JUNCTION BETWEEN
BOULEVARD LANDSCAPE AND
SECONDARY ROAD LANDSCAPE
SHOWING LANDSCAPE GATEWAY

- Gateways. These should be similar in scale to the residential gateways and provide a contrast with the deciduous avenues of the boulevard providing a backcloth for signage and a clear statement of quality. This is illustrated in Figure 27.
- Secondary Roadside Landscape. This should be laid out to contrast with the avenues of the Boulevard landscape and should contain at least 60% evergreen shrub varieties.
- Pocket parks. These should be considered on minor road intersections and are to be arranged so as to contribute to the overall presentation of the Business Park but with discrete areas of garden scale with seating. This is illustrated in Figure 27.
- Plot Landscape. This should:
 - complement the style of infrastructure landscape covering approximately 15% of the external surface area;
 - be high quality with semi-mature trees and a minimum of 60% evergreen material,
 - place particular attention at entrance areas with landform and planting being able to accommodate plot signage in a coherent design arrangement; and
 - soften the appearance of car parks by screening views from Business Park roads, using mounding planting and a landscape framework within the paved areas.
 - The structural landscaping should be at least 6m from the boundary of the development plots fronting the principal spine road
 - 3m from secondary estate roads
 - 3m from adjoining plots

Phasing of Development

- 14.13 The Business Park element of the scheme is one of the important economic drivers of the scheme and its early implementation will be encouraged.
- 14.14 The take-up of the Business Park will be governed by market demand.

15. AREA BRIEF: UNIVERSITY

Area Brief Objectives

15.1 The specific objectives for the University campus are:

- To provide a high standard of new academic facilities for the consolidation of the University of Hertfordshire in Hatfield.
- To create a new university campus on the Aerodrome site integrated with the overall site developments and with the existing College Lane campus by optimising the possibility of pedestrian and cycle linkages.
- To provide sustainable and innovative architecture for the academic residential and sports facilities, within a high quality landscape setting. To accommodate the requirements of the de Havilland Sports and Social Club within the University facility.

Quantum of Development

15.2 A 30 acre (12.1 Ha) site is reserved for a University campus.

15.3 A detailed master plan is being prepared for the new campus to accommodate the following university uses :

- **Academic Accommodation**

Academic accommodation totaling 30,000sq.m of which the first phase accommodation comprises a learning resource centre of 7,000sq.m and faculty accommodation of 12,000sq.m. Future expansion to include further faculty accommodation and the University's administration.

- **Residential**

Accommodation for approximately 1,600 students.

- **Sports Facilities**

New indoor facilities will include

- 12 court badminton/ multi purpose sports hall
- Ancillary Hall
- Fitness Centre
- Swimming pool
- Squash courts
- Climbing wall
- Associated changing, catering and support facilities giving a total area of 9,500sq.m.

It will be the intention that wherever possible the dual use of the sports facilities by local people will be facilitated. The Sports facilities proposed for the Green Belt section of the University's Site, are listed in Section 9 of this SPG.

Sustainability Principles

- 15.4 As indicated in Section 5 of this SPG, the accompanying Sustainability Appraisal sets out a number of sustainability principles which should be considered as detailed proposals emerge. These are summarised at Appendix 2 to this SPG.
- 15.5 Whilst many of these principles will apply to the University, particular emphasis is laid on the following principles to ensure that a sustainable development is achieved in due course: optimum use of resources, pollution minimisation, water resource management, waste management, energy efficiency, landscape quality, urban design quality, community provision, accessibility, the economy and health and safety.

Mix of Uses

- 15.6 The mix of uses which will be acceptable on the campus are academic, residential accommodation related to the accommodation requirements of the University, and sport activities.

Urban Design Principles

- 15.7 The following principles have been adopted as part of the Masterplan development proposals:
- The landscape themes identified in Section 8 of the SPG.
 - The height of the buildings on the campus should be a maximum of four storeys.
 - An overall concept should be agreed with the Council and individual buildings within the campus should reflect that concept.
 - The buildings should be grouped to provide capacity for growth and flexibility within a campus landscape ensuring that the campus is integrated with the rest of development and open to the public realm.
 - The campus, layout and design should make a positive contribution as a Gateway feature at one of the principal access points, particularly from the entrance to the new Spine Road.
 - The design of that part of the campus sited adjacent to the proposed north Ellenbrook residential area shall ensure the siting and scale of buildings and/or the juxtaposition of uses do not prejudice the amenities of local residents

Car Parking Standards

- 15.8 In respect of the academic facilities, a design standard of 1 space per 40 sq.m. will be appropriate.
- 15.9 In respect of the residential accommodation, students living on the site will be required not to bring or keep vehicles on site or in Hatfield itself.
- 15.10 The sports facilities should use the academic car park out of academic hours. A dedicated car park of approximately 100 spaces for the sports centre will be appropriate for the quantum of development outlined previously.

- 15.11 Parking for the de Havilland Sports and Social Club will be expected to utilise the parking for the sports facilities.

Landscape Principles

Campus Landscape

- 15.12 The landscape principles should generally follow and develop those already established at Bishop Square, which can be summarised as follows:

- Informal parkland landscape of lawns and trees will form part of the Gateway design standard.
- Structural landscape to emphasise principal footpath/cycleway routes.
- Critical frontage to St. Albans Road to retain mature trees as a visual screen.
- Frontage to Ellenbrook should continue the 'park edge' characteristics of the residential edge i.e. a fragmented edge with fingers of open space penetrating the development

- 15.13 These principles are illustrated in Figure 28.

Landscape Character

- 15.14 The scale of the buildings will demand a strong and clear structure for the landscape character. The existing mature trees on the St. Albans Road frontage and within the site provide an established setting for the development and need to be qualitatively assessed before development commences in order that the most appropriate specimens can be retained.

- 15.15 The landscape components should include :

- Quality paving and detailing, exhibiting a continuity in style with other routes in the District Centre.
- Groups and avenues of semi-mature trees reflecting the 'Trees of Hertfordshire' theme.
- A gently undulating landform, to frame views to and from buildings
- Clear and informal pedestrian circulation , incorporating sitting and meeting spaces at appropriate locations.
- Use of water features, sculptures etc. to highlight focal points.
- Planting along the boulevard frontage should be consistent with the thoroughfare approach described in Section 8 of this SPG.

Southern Gateway

- 15.16 The entrance to the new development area from the south is an important Gateway, and there is an opportunity to create landmark buildings and landscaping at this point. This should reflect and enhance the effect already achieved at Bishop Square and is described further in Section 8 of the SPG.

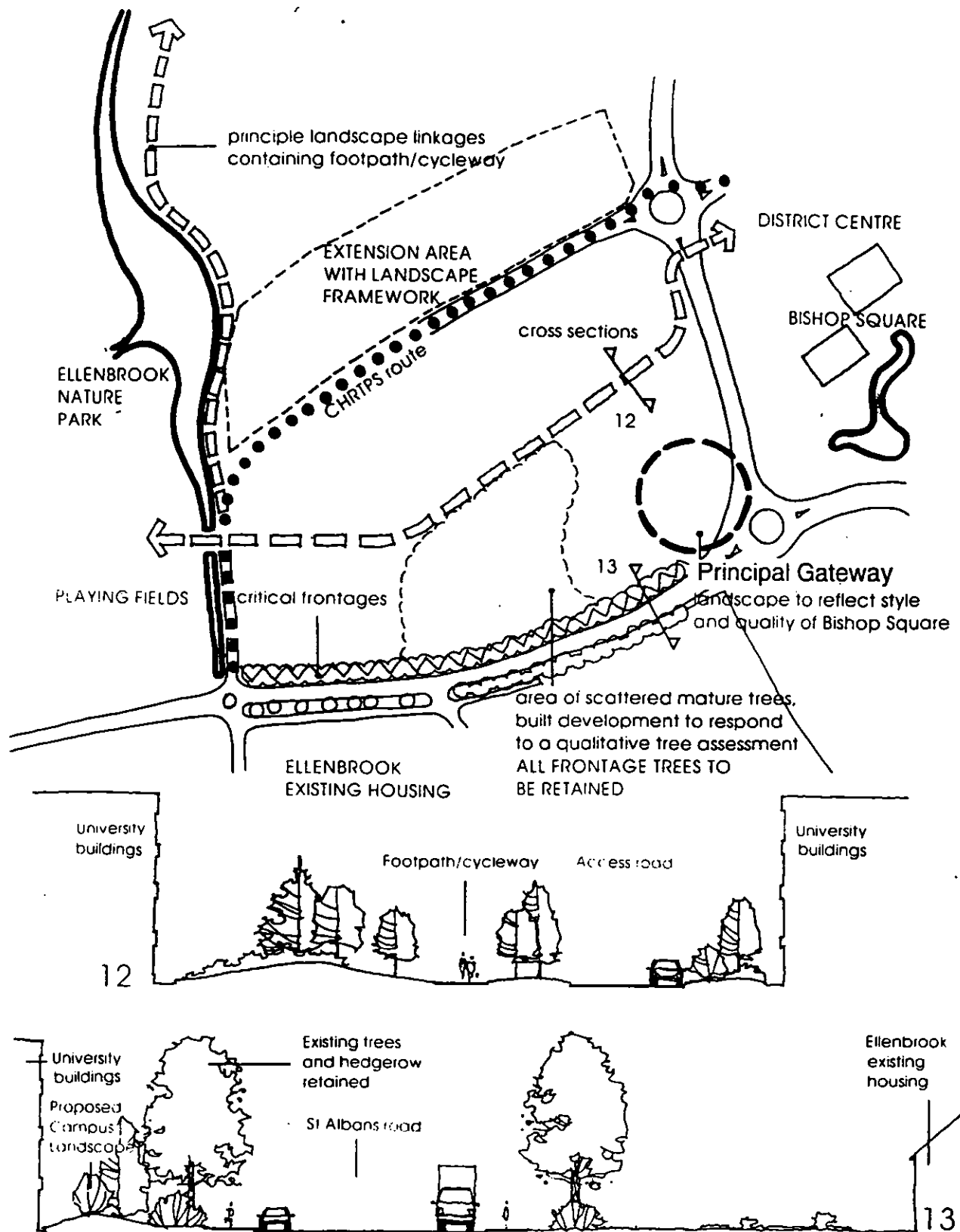
Phasing of Development

- 15.17 The University of Hertfordshire wishes to bring forward their new campus as early as possible, which will comprise a part of the overall development of the

Masterplan area. The precise timing will depend upon the outcome of the University's procurement proposals.

Infrastructure Requirements

- 15.18 There are no specific infrastructure requirements over and above those that would be required for the Aerodrome site as a whole.



16. AREA BRIEF: AVIATION HERITAGE CENTRE

Area Brief Objectives

- 16.1 The specific objectives for the accommodation of a possible aviation heritage centre within the Masterplan site are:
- To support the principle of an aviation heritage facility within the Masterplan site.
 - To recognise the Aerodrome site's aviation heritage and to continue its association with its past.
 - To make suitable provision for a viable and attractive aviation centre.

Sustainability Principles

- 16.2 As indicated in Section 5 of this SPG, the accompanying Sustainability Appraisal details a number of sustainability principles which should be considered as detailed proposals emerge. These are summarised at Appendix 2 to this SPG.
- 16.3 Whilst many of these principles will apply to the Aviation Heritage Centre, particular emphasis is laid on the following principles to ensure that a sustainable development is achieved in due course: optimum use of resources, pollution minimisation, energy efficiency, urban design quality, community provision, accessibility, and the economy.

Aviation Heritage Facility Principles

- 16.4 Jura Consultants and Campbell & Co. were jointly appointed by Welwyn Hatfield Council, Hertfordshire County Council and the de Havilland Trust during Spring 1999 to examine how best to achieve an aviation themed visitor attraction for the Masterplan site. This was on the basis that for such a facility to be accommodated on the site, it needed to be viable and also in keeping with the high quality proposals for the site.
- 16.5 The consultants considered and rejected a number of possible options, including use of the Flight Test Hangar, after taking into account each option's strategic location, ease of access and the costs of development.
- 16.6 The consultants' preferred location for the visitor attraction was the Grade II listed Administration Block on Comet Way frontage, together with an associated parking and exhibition area. However, the consultants work made it clear that even in this preferred location, funding from third party sources will be required to make the scheme viable.
- 16.7 Whilst there are still significant funding issues to be addressed, it is possible to establish certain key principles which should apply in considering a possible aviation heritage centre, as follows:
- The Administration Block is identified as the location for an aviation heritage facility, in the event that an appropriate operator can bring forward a viable scheme.
 - Any conversion of the Administration Block to provide an aviation themed visitor attraction will require detailed planning and listed building consent

applications in due course. Internal and external alterations, and signage, should respect the character of the listed buildings and not adversely affect their setting.

- Any display compound associated with the facility should also complement the character and setting of the listed buildings. This display area may be covered, if appropriate.
- Good pedestrian links between the District Centre and this facility should be encouraged.
- The parking for the facility should be shared with the parking areas proposed for the District Centre.
- Vehicular access to the facility should be shared with the District Centre, not taken direct from the Business Park roads.

16.8 It is recognised that it is essential that an appropriately qualified and experienced operator for the Centre is identified and for the Administration Block and adjoining land not to remain derelict in the meantime. In the event that no operator is so identified, within a period of 5 years, from the grant of planning permission on the site, alternative uses for this building may be considered.

17 HOTEL SITE

Area Brief Objectives

- 17.1** This area brief deals with the proposed Hotel scheme at the northern end of the Site adjacent Manor Road. The objectives of the area brief are to :
- Ensure the provision of high quality hotel accommodation, together with associated facilities, to support the activities of the Business Park and the University
 - Contribute to the creation of a high quality gateway to the northern end of the Hatfield Aerodrome Site
 - Ensure that development in this sensitive location respects the amenity of existing housing in Hatfield Garden Village.

Urban Design Principles

- 17.2** The hotel development zone is located in a very prominent and at the same time sensitive location. The six acre site will form one of the two gateways to the development, and therefore its design must be considered in terms of the function of the hotel and its immediate surroundings, and also in terms of providing a high quality image for the overall development. The creation of a strong frontage to the development will therefore be essential.
- 17.3** Buildings in general should be pulled as far away from the existing residential frontages as possible and in the vicinity of the existing houses should be two storey in height. Elsewhere on the Site, and particularly on the southern and south eastern part of the site, development of three storeys will be appropriate.
- 17.4** Similarly, facilities such as function rooms, restaurants etc should be located away from the existing residential areas, both in terms of providing the opportunity for more exciting elevations and building forms on the southern and eastern frontages, but also to safeguard the residential amenity of Hatfield Garden Village Residents.
- 17.5** The main access point to the hotel development will be from the existing roundabout on Hatfield Avenue. No access points will be allowed from Manor Road. If a secondary access point is required it should be provided between the Green Lanes roundabout and the Manor Parade mini roundabout. Consideration should be given to providing good pedestrian and cycle access facilities particularly for staff members.
- 17.6** In terms of providing a high quality environment, the treatment of parking areas will need to be carefully considered. Whilst access to the major entrance of the hotel will be a key consideration in its disposition, there will be a need to provide a high quality landscaped setting for parking, which is also pedestrian friendly.

- 17.7 Should the hotel development not require all of the reserved site area, opportunities for developing the landscaped setting of both the hotel and the entrance to the development should be explored, in line with the landscape strategy for gateways on the Site.

Sustainability Principles

- 17.8 As indicated in Section 5 of this SPG, the accompanying Sustainability Appraisal sets out a number of sustainability principles, which should be considered as detailed proposals emerge. These are summarised at Appendix 2 to this SPG.

Whilst many of these principles will apply to the Hotel development, particular emphasis is laid on the following principles to ensure that a sustainable development is achieved in due course: optimum use of resources, pollution minimisation, water resources management, waste management, energy efficiency, landscape quality, urban design quality, accessibility and health and safety.

Car Parking Standards

- 17.9 The car parking standards for hotel development are set out in detail in Table 7.2 of this guidance.

Landscape Principles

- 17.10 The landscape strategy for the hotel site will be based on the following main principles:
- Establishment of an informal parkland landscape, in line with the Gateway design standard
 - A landscape structure giving emphasis to safe and attractive pedestrian and cycle routes and corridors
 - The maintenance and enhancement of a strong visual screen between the hotel development and the existing housing area north of Manor Road.
- 17.11 The existing landscape features of the site are primarily a strongly landscaped bund in the south western corner of the site; some attractive semi mature trees in the south eastern corner of the site; and a very strong line of very mature poplar trees which run parallel to Manor Road.

The principle features in the southern part of the Site are capable of being incorporated and enhanced as any comprehensive landscape strategy for the Site. On the northern boundary of the Site adjacent Manor Road, there is a more complex problem to overcome. Whilst the establishment of a very strong landscape buffer in this area is vitally important, and the existing line of trees are a very important landmark in the area, it is apparent that some of these trees are nearing the end of their lives. Any scheme in this area will have to take account of this factor, and build in a strategy for enhancing and replacing these trees over time.

The principle components of the landscaping should be as follows:

- Use of groups of semi mature trees in line with the identified planting themes
- The achievement of a gently undulating landform, particularly in the grassed areas
- The use of planting and landform to frame views to and from the building
- Clear and informal pedestrian circulation, incorporating sitting and meeting spaces at appropriate locations
- The use of water features, and sculptures to highlight focal points
- Planting alongside the boulevard frontage should be consistent with the thoroughfare approach set out in Section 8 of this SPG.

APPENDIX 1

RELEVANT DEVELOPMENT PLAN POLICIES

APPENDIX 1: RELEVANT DEVELOPMENT PLAN POLICIES

POLICIES FROM THE WELWYN HATFIELD DISTRICT PLAN ALTERATIONS NO. 1: BAE INSET

BAE1 DEVELOPMENT MIX

The redevelopment of the British Aerospace Inset Site outside the Green Belt should provide a variety of land uses. The principal uses of the site will be for employment, housing and educational purposes but it is recognised that other uses, including heritage, community facilities and public open space may form an integral part of the development. The strategic nature of the site is also recognised (see Policy BAe 3).

BAE2 SUSTAINABILITY

The development of the whole Inset Site will be based on the principles of sustainability. This will apply to all aspects of the development including layout, mix of uses, orientation and design of buildings, energy efficiency and the need to provide an integrated transport system.

BAE3 PHASING AND RELEASE OF LAND

The area known as Future Development Land as shown on the Proposals Map will be reserved for future development. The release of such land for development purposes will be only permitted in accordance with the approved Masterplan, to meet the needs of the District and the wider strategic requirements of the County.

BAE4 ELEMENTS OF THE MASTERPLAN

The phasing of the site should be in accord with the Masterplan which will expand on the objectives, policies and proposals of the plan in great detail. It will be subject to public consultation in its initial preparation. Subsequent alterations of a minor nature may be allowed at the discretion of the Local Planning Authority. Major reviews will be incorporated as subsequent revisions of the District Plan. The Masterplan will contain the following elements:

- (i) Confirmation of the policies and proposals contained specifically in this inset.
- (ii) Confirmation that the policies of the District Plan apply to the Masterplan.
- (iii) Specific indications of land use including the amount of floorspace for employment purposes and areas for other uses.
- (iv) The means of pedestrian, public transport and vehicular access to and within the site, which will be consistent with the Council's intention to promote the comprehensive re-development of the whole site.
- (v) Proposals for providing pedestrian and cycle links throughout the site, linking if possible to the existing public footpath and cycleway network.
- (vi) An identification of the full on and off-site infrastructure required to serve the proposed development, and the development thresholds related thereto.
- (vii) Appropriate mechanisms for bringing forward the necessary infrastructure before development starts, and/or as development progresses.
- (viii) The phasing of development in relation to on and off-site infrastructure provision, and in relation to the provision of other proposed uses within the site.
- (ix) The phasing of development in relation to the capacity of the local economy

and housing market to absorb the scale of development proposed during the anticipated period of its implementation, without conflict with other strategic objectives.

- (x) A commitment to providing an element of public open space within the BAe Inset Site both within the Green Belt and in the rest of the area.
- (xi) A detailed landscape and design strategy, incorporating the public open space, nature conservation elements, public art and townscape design including utilities, public transport facilities, listed buildings and buildings in general.
- (xii) An acknowledgement that the site will provide an element of strategic housing needs and indications of where such housing is likely to be located.
- (xiii) The provisional reservation of a public transport corridor through the site.
- (xiv) The provision of a local centre which will be a focus for the whole development and include an element of retail use strictly for local needs only; there will be no significant element of retail use elsewhere on the Inset Site.
- (xi) Details of the treatment of the Green Belt area and how the objectives listed in section 11.47/48 of this inset can be achieved. This section of the Masterplan will be prepared in conjunction with St. Albans District Council.
- (xvi) The provision of a site for the de Havilland Sports and Social Club.
- (xvii) Support for the principle of mineral extraction provided the overall economic regeneration of the site is not prejudiced and that safeguards are put in place to ensure the proper restoration of the landscape.

BAE5 EMPLOYMENT USES

The British Aerospace Inset Site should provide at least 125 415 sqm (1.35 million sq ft) of floorspace for employment uses up to the year 2001 in the following locations (as shown on the Proposals Map):

BAe(D)	Dynamics Site uses	89,422 sqm (962,562 sq ft) of B1, B2 & B8
BAe(BS)	Bishop's Square	22, 482 sqm (242,000 sq ft) B1 office blocks
BAe(SG)	Sports Ground	13, 935 sqm (150,000 sq ft) B1 use and hotel

Note: these figures include development already carried out at these locations.

BAE6 UNIVERSITY OF HERTFORDSHIRE

Provision should be made on the BAe Inset Site for an allocation of land for educational purposes, specifically for the University of Hertfordshire. An allocation of 12 ha (30 acres) is shown on the Proposals Map for this purpose. Details regarding design, access and infrastructure requirements will be subject to the provisions of the Masterplan.

BAE7 EMPLOYMENT UNITS

Within the employment area(s) allocated for the site provision should be made for the development of a range of units, including starter units, of a size and amount to be agreed with the local planning authority.

BAE8 TRANSPORT LINKS

Provision should be made for a series of permanent pedestrian, cycle and public transport links between the BAe Site, Hatfield and surrounding towns.

BAE9 AERO-RELATED HERITAGE PROJECT

Provision should be made for the creation of an aero-related heritage project on the site, preferably as a working museum through the provision of a grass airstrip. This facility should also be extended to encompass leisure flight activities.

BAE10 PUBLIC OPEN SPACE

Any development of the BAe Site should include an appropriate level of public open space in accordance with policy HC18 of this plan. This would be in addition to any provision which may be made for recreation within the Green Belt.

BAE11 LANDSCAPED CORRIDOR

Provision should be made for a landscaped area of open space (a 'green corridor') within the Future Development Land. The exact dimensions and location of this corridor will be formulated as part of the Masterplan (Policy BAe4). Consideration should be given to basing this on the de-culverting of Ellen Brook.

BAE12 ENERGY

The development of the BAe Inset Site should make provision for a local source of power generation. This could take the form of a combined heat and power plant utilising, if possible, renewable sources of energy.

BAE13 DESIGN AND PUBLIC ART

As part of the development of the BAe Inset Site, in order to secure a high level of design and interest encouragement will be given to schemes which incorporate elements of public art. The form and content of such works will be decided following an appropriate period of public consultation.

BAE14 GREEN BELT

The Green Belt area of the BAe Inset will provide for a variety of recreational and other land uses commensurate with its Green Belt status. The existing Green Belt boundary will remain unaltered. Mineral extraction will only be supported provided that the restoration of the site is of an acceptable standard; it achieves the objectives and uses listed in 11.48; and that the economic development of the Inset Site is not prejudiced. It will be subject to the provisions of the Masterplan as set out in policy BAe4.

APPENDIX 2

SUSTAINABILITY TESTS AND PRINCIPLES

APPENDIX 2: SUSTAINABILITY TESTS AND PRINCIPLES

KEY AREA A: BUILT DEVELOPMENT

Test 1: Optimum Use of Resources

Land : Effective use will be made of the FDL and land north of Hatfield Avenue for built development purposes, whilst allowing for amenity, recreation and other uses.

Brownfields : Reclamation of all previously-used and brownfield land will take place within the FDL.

Minerals : Sand and gravel will not be extracted outside the Green Belt unless it does not conflict with the phasing of development within the FDL or with environmental objectives.

Buildings : All non-listed and vacant or unsafe buildings will be cleared.

Infrastructure : All existing infrastructure connections to and within the site will be re-used where feasible.

Archaeology : All sites of archaeological or historic importance and their artefacts will be investigated and preserved in situ, or recorded and presented, or accommodated within the proposals for the site as appropriate and in accordance with Government guidance.

Listings : All listed buildings will be conserved, and new viable uses found for those which are situated within the FDL.

Settings : The settings of known sites and features of historic archaeological interest will be considered and enhanced wherever possible.

Test 2: Pollution Minimisation

Noise : All buildings and structures will be constructed to minimise noise impact on their neighbours (particularly sensitive receptors) and to conform to acceptable standards.

Vibration : Vibration levels from buildings and structures will be controlled to acceptable standards.

Vehicles : The impact of emissions from vehicles will be minimised by means of encouragement of non-polluting modes of transport, and the concentration of vehicular movements away from sensitive receptors.

Emissions : Aerial emissions from buildings and plant, including greenhouse gases and ozone-damaging chemicals, will be controlled by a combination of insulation, appropriate housing and storage, and reduction of usage at source.

Odours : Odours from buildings and plant will be minimised by selection of appropriate reduction or screening measures.

Dust : Dust and particulate from car parks, vent stacks and other sources will

be suppressed by appropriate interception or management measures.

Contamination : Contamination of the ground will be prevented by safe removal of contaminated materials.

Water (Pollution) : Pollution of surface water or ground water including the aquifer will be prevented by separating the potential source of pollution from its pathway.

Test 3: Water Resource Management

Supply : The FDL and land north of Hatfield Avenue will be provided with an adequate supply of potable and non-potable water for the purposes proposed.

Source : Water will be extracted from local sources wherever available in sufficient quantity.

Quality : Ground and surface water quality standards will be maintained and enhanced wherever possible.

Consumption (Water) : Water consumption will be minimised wherever possible in order to conserve resources through the use of water efficient fixtures and appliances, reed bed systems, rainwater storage and recovery and 'grey water' re-use wherever feasible.

Runoff : Runoff from hard surfaces (car parks, roofs etc) will be managed by means of retention, swales, open water areas, permeable pavements and other forms of runoff management.

Flooding : Flood risks will be minimised by providing for high levels of flow into and through the site and other forms of control.

Sewerage : Sufficient sewerage infrastructure will be supplied to accommodate on-site demand within the FDL and land to the north of Hatfield Avenue.

Test 4: Waste Management

Production : Waste production from residential, commercial and other premises will be minimised at source wherever possible.

Recycling : Recycling of domestic, commercial and other materials will be encouraged.

Disposal : Disposal of solid waste materials will be by the most appropriate means, with landfill as the least favoured option.

Distances : Where waste is to be disposed of off-site, distances travelled for disposal of that waste should be minimised.

Energy : There will be no provision of energy generated from waste created on site.

Test 5: Energy Efficiency

Trips : Vehicle trips will be minimised by a combination of providing alternative modes of transport, reducing internal and external trip lengths, and creating employment and other forms of trip demand in close proximity to housing areas.

Flows : Traffic flows will be managed in order to discourage congestion, excessive speed and attendant energy consumption.

Modes : Energy efficient modes of transport will be encouraged, principally walking, cycling and buses.

Efficiency : Buildings will be designed to minimise heat loss, by means of appropriate orientation and aspect, maximisation of solar gain and insulation.

Consumption (Energy): Thermally-efficient forms of energy consumption will be encouraged in all plant and buildings.

Power : Power will be provided from local suppliers wherever possible, with minimal new access to supply networks.

Renewables : Renewable forms of energy, such as wind or solar power, will be encouraged.

Test 6: Landscape Quality

Lightspill : Lightspill from new car parks, roads and buildings will be minimised to protect the amenity of residential areas.

Views : Interesting new views and vistas of high visual quality will be created within the FDL.

Test 7: Habitats and Species

Because of the nature of the ecological resource and the need to avoid double-counting, Test 7 test results are combined in Non-Built Development test results.

Test 8: Urban Design Quality

Townscape : All new and existing, refurbished buildings will make a positive contribution to the exiting or proposed townscape.

Integration : Site uses will be integrated with each other and the connecting transportation infrastructure.

Separation : Incompatible functions and uses will be contained by means of physical separation.

Mix : The mix of uses will be appropriate for local, district and regional demand for those uses.

Scale : The scale of development, including densities, height and mass, and land area of each structure or form of development, will be selected to

enhance overall design quality.

Spaces (Civic) : The design quality of all civic spaces including the District Centre and all transport corridors will be high.

Distinctiveness : Designs for different parts of the FDL and land to the north of Hatfield Avenue will encourage an individual 'sense of place', including the encouragement of local distinctiveness.

Domain : There will be a suitable balance between land within both the public and private domain.

Art : Art and sculpture within the public domain will be encouraged and resources set aside for artistic projects.

Materials : The quality of all building materials selected will be of high quality.

Life : Buildings will be designed in such a way and constructed of suitable materials in order to ensure a long life for those buildings.

Maintenance : Sites in the public domain will be maintained to a high standard.

Test 9: Community Provision

Involvement : The local community will be involved in the development of proposals for the site in the period leading up to each full planning application.

Health : Appropriate health and childcare facilities will be provided to satisfy local demand.

Education : Appropriate education facilities will be provided including a new primary school and the relocation of part of the University of Hertfordshire.

Leisure : A range of sport, leisure and entertainment facilities will be provided in the District Centre and the FDL as a whole.

Shopping : A range of shopping and eating and drinking facilities will be provided which are complementary to the other facilities provided in the District Centre.

Housing : Low cost housing will be provided in all residential areas in accordance with current Government guidance.

Benefits : Community provision will be geared towards benefiting all social, economic and minority groups alike.

Contributions : Off-site transportation and infrastructure contributions will be provided.

Test 10: Accessibility

Buses : Bus routes through the site will be provided, principally the proposed Central Herts Passenger Transport System.

Rail : Access to local rail services will be made available by bus, footpath and cycleway connections.

Pedestrians : Pedestrian access to and within the site will be maximised.

Cycle Routes : Dedicated cycle routes will be provided to and within the FDL.

Disabled : Access provision will be made for all disabled groups to all buildings and at junctions and kerbs.

Interchanges : Bus stops and other forms of transport interchange as appropriate will be provided at areas of local demand.

Servicing : Appropriate emergency and servicing arrangements will be made in both residential and non-residential areas.

Priority (Passenger Transport) : Passenger transport will be given priority over private transport modes.

Priority (Other) : Footpaths and cycleways will be given priority over private transport modes.

Greenplans : Every new business will prepare and implement an approved Green Transport Plan.

Linkages : All physical links to the Galleria and eastern side of Comet Way will be provided by means of both pedestrian crossings and light-controlled crossings.

Signage : High quality signs catering for all modes of transport will be provided at all junctions.

Test 11: The Economy

Regeneration : The site will be regenerated in fulfilment of local economic and social objectives, with an additional aim of encouraging the regeneration of the surrounding areas.

Employment : Commercial and District Centre businesses will seek to encourage local employment generation; and also regional and national employment wherever possible.

Opportunities : A range of employment opportunities for local people will be provided.

Income : Commercial and District Centre businesses will seek to encourage local income generation; and also regional and national income generation wherever possible.

Investment : Inward investment will be encouraged by the introduction of appropriate new businesses.

Diversification : New businesses will be introduced which will add diversity to and not unnecessarily duplicate existing businesses to the advantage of the local economy.

Vacancies : The development will seek to minimise local business premises vacancy rates by encouraging inward investment to the area.

Test 12: Health and Safety

Safety : Buildings, civic spaces and transport corridors will be designed to prevent safety hazards arising.

Crime : Layouts of buildings and spaces will be designed to minimise opportunities for crime, in accordance with Government guidance.

Speed : Vehicle speeds will be reduced by traffic calming and regulatory measures.

Crossings : Safe crossing points will be provided within and into the site for all user groups.

Segregation : Vehicles will be physically segregated from all other modes of transport wherever possible, such as footpaths, cycleways and bus routes; and footpaths and cycleways will be separated by physical means or appropriate signage.

Technologies : Use of clean, hazard-free technologies for plant and building operation and maintenance will be encouraged.

Storage : All potentially-hazardous materials (gases, chemicals and others) will be stored safely in accordance with Government regulations.

KEY AREA B: NON-BUILT DEVELOPMENT

Test 1: Optimum Use of Resources

Land : Opportunities will be taken to use all land within the FDL and land to the north of Hatfield Avenue for open space, amenity or recreation or nature conservation purposes where these do not conflict with built development objectives.

Soils : Topsoil and subsoil will be stripped and stored for subsequent re-use in landscape and amenity designs.

Materials : Existing vegetation will be retained and re-used within landscape designs wherever possible.

Archaeology : All sites of archaeological or historic importance and their artefacts will be investigated and preserved in situ, or recorded and presented, or accommodated within the proposals for the site as appropriate and in accordance with Government guidance.

Test 2: Pollution Minimisation

Carbon : Carbon fixing will be encouraged by means of providing substantial areas of new planting.

Organics : Use of organic materials rather than artificial chemicals will be

encouraged in ground preparation and maintenance.

Test 4: Waste Management

Recycling : Recycling of organic materials generated on site will be encouraged.

Test 6: Landscape Quality

Topography : Topographical variation will be encouraged wherever suitable, such as by combining screening and amenity features in the form of bunds.

Vegetation : Vegetation cover will be extended throughout the FDL and land north of Hatfield Avenue, with high densities in areas where amenity, nature conservation or screening uses predominate.

Planting : New planting will predominantly comprise mixes native to Hertfordshire with varieties and formality/informality to suit each location.

Water : All surface water bodies will be utilised for amenity and nature conservation purposes in addition to their other functions (drainage, flood prevention etc).

Boundaries : Appropriate boundary treatments will be selected to suit prevailing circumstances, such as to reduce noise levels or visual intrusion, but will be expected to enhance landscape quality within and surrounding the site.

Management (Landscape) : Management practices will be adopted which will conserve the landscape quality of public areas within the FDL and land north of Hatfield Avenue.

Test 7: Habitats and Species

Species : Protected species will be conserved where they are found, or translocated as appropriate, with new habitats provided to encourage species development.

Areas : Areas of particular nature conservation interest will be conserved and enhanced wherever possible.

Diversity : The diversity of existing habitats will be maintained and increased wherever possible by provision of wildlife corridors and networks.

Habitats : The extent and quality of existing habitats will be enhanced wherever possible by provision of new habitats or extensions to existing habitats.

Linkages : Opportunities will be taken to create linkages between existing and new habitats within the built up area wherever possible, and wildlife corridors will be created.

Management (Habitat) : Habitats will be managed to sustain existing or new areas or species of nature conservation interest.

Population : Species populations will be encouraged wherever appropriate by habitat creation or management regimes.

Natives : Native species will be selected or otherwise encouraged in appropriate locations, in preference to non-native species.

Test 9: Community Provision

Spaces (Amenity) : Amenity spaces and publicly-available open space, including children's play areas and pocket parks, will be provided in residential and commercial areas.

Test 12: Health and Safety

Safety : All landscape designs for public areas will be designed to minimise accidents.

Crime : All landscape designs for public areas will be designed to prevent crime.

KEY AREA C: THE GREEN BELT

Test 1: Optimum Use of Resources

Land : Green Belt land will be used in the most effective manner by weighing up and resolving the competing claims of mineral extraction, leisure and amenity and environmental conservation.

Soils : If mineral extraction occurs, topsoils and subsoils will be stripped and stored for interim mitigation purposes and eventual re-use.

Minerals : Workable mineral reserves will be extracted from land in the Green Belt subject to the completion of: economic, environmental and other studies; consideration of regional supply and demand for sand and gravel; and the evaluation of recycled aggregates as an alternative to primary extraction.

Archaeology : All sites of archaeological or historic importance and their artefacts will be investigated and preserved in situ, or recorded and presented, or accommodated within the proposals for the Green Belt as appropriate, in accordance with Government guidance.

Listings : All listed buildings within the Green Belt will be conserved and will retain their current use.

Settings : The settings of known sites and features of historic or archaeological interest will be conserved and enhanced wherever possible.

Test 2: Pollution Minimisation

Noise : Noise levels from mineral extraction, processing and transportation activities will conform to acceptable standards.

Vibration : Vibration levels from mineral extraction, processing and transportation will conform to acceptable standards.

Vehicles : The impact of emissions from vehicles involved in mineral extraction will be minimised by management measures and appropriate routing of haul roads.

Emissions : Aerial emissions from plant and machinery will be controlled by a combination of insulation, appropriate housing and storage, and reduction of usage at source.

Dust : Dust and particulates from mineral extraction areas, haul roads or other sources will be suppressed by spraying or other appropriate management measures.

Water (Pollution) : Pollution of surface water or groundwater will be prevented by interception of suspended solids and other forms of control of polluted runoff.

Organics : Use of organic materials in restoration will be encouraged.

Test 3: Water Resource Management

Supply : Water supplies will be protected from drawdown and source depletion wherever possible during mineral extraction.

Quality : The quality of ground and surface water will be protected from sediment loading during mineral extraction by means of employing settling facilities.

Runoff : Run off from mineral extraction areas will be controlled by means of retention ponds, creation of open water bodies and other forms of temporary runoff management.

Test 4: Waste Management

Production : Waste production from mineral extraction activity will be minimised at source wherever possible.

Disposal : Unused minerals and overburden will be disposed of within the mineral void.

Test 5: Energy Efficiency

Trips : Vehicle trips for mineral extraction purposes outside the Green Belt will be minimised by a combination of maximising loads and shortening haulage distances wherever possible.

Test 6: Landscape Quality

Designations : The landscape quality of Watling Chase Community Forest, Landscape Conservation Areas and Landscape Development Areas will be conserved and enhanced wherever possible.

Features : All significant landscape features, including woodlands and open water areas, will be protected and enhanced wherever possible.

Topography : Topographical variation will be introduced wherever appropriate as a restoration feature.

Planting : Appropriate planting proposals including tree planting in accordance with Community Forest objectives will be put forward as part of site restoration proposals.

Water (Features) : Restoration of mineral voids may include creation of open water bodies as appropriate for amenity, recreation, nature conservation and drainage attenuation purposes.

Boundaries : Appropriate boundary treatments will be selected to suit short term and long term purposes, including bunds and barriers to mitigate mineral extraction activities and sports facilities, and planting for visual and amenity reasons following site restoration.

Lightspill : Lightspill from mineral extraction operations and sports facilities will be minimised to protect the amenity of residential areas.

Management (Landscape) : Following restoration, the landscape will be managed for amenity, recreation and other landscape enhancement purposes.

Test 7: Habitats and Species

Species : Protected species will be conserved where they are found, or translocated as appropriate, with new habitats provided to encourage species development.

Areas : Areas of particular nature conservation interest will be conserved and enhanced wherever possible.

Diversity : The diversity of existing habitats will be maintained and enhanced wherever possible following restoration, by introduction of a variety of new habitats, wildlife corridors and networks.

Habitats : Following restoration, the extent and quality of existing habitats will be enhanced wherever possible by provision of new habitats or extensions to remaining habitats.

Linkages : Opportunities will be taken to create linkages between existing and new habitats throughout the Green Belt, and wildlife corridors will be created.

Management (Habitat) : Management regimes will be introduced to positively encourage and sustain species populations and diversity within the Green Belt.

Populations : Species populations will be encouraged wherever appropriate by habitat creation or management regimes.

Natives : Native species will be selected or otherwise encouraged in appropriate locations, with a range of new habitats providing the opportunity for the introduction of an increased number of native species.

Test 9: Community Provision

Spaces (Amenity) : Amenity areas, including publicly-available open space and University playing fields, will be provided around the area of potential mineral extraction in the medium term, and following restoration of mineral extraction in the longer term, in accordance with recommendations for Watling Chase Community Forest.

Test 10: Accessibility

Pedestrians : Pedestrian access to and within the Green Belt will be increased following mineral site restoration.

Cycleroutes : Dedicated cycle routes and bridleways will be provided within the Green Belt.

Disabled : Access provision will be made for all disabled groups.

Signage : Appropriate signage will be provided for all recreational routes

within the Green Belt.

Test 12: Health and Safety

Safety : All landscape designs for public areas will be designed to minimise accidents.

KEY AREA D: THE CONSTRUCTION PERIOD

Test 1: Optimum Use of Resources

Land : Effective use of available land within the whole site will be made for construction compounds, access roads etc, in order to avoid using off-site land for these purposes.

Minerals : Wherever feasible, sand and gravel from mineral extraction in the Green Belt will be used for construction purposes within the rest of the site.

Materials : Materials available on site will be re-used wherever possible, such as building rubble or runway materials.

Archaeology : All sites of archaeological or historic importance and their artefacts will be investigated and preserved in situ, or recorded and preserved, or accommodated within the proposals for the site as appropriate and in accordance with Government guidance.

Test 2: Pollution Minimisation

Noise : Measures will be taken during the construction period to ensure that noise levels remain within acceptable levels, particularly during mornings and at weekends.

Vibration : Construction-related vibration will be minimised by use of suitable plant and suppression equipment.

Vehicles : The impact of emissions from construction vehicles will be minimised by means of routing vehicular movements away from sensitive receptors wherever possible.

Emissions : Aerial emissions from construction plant and machinery, including greenhouse gases and ozone-damaging chemicals, will be controlled by means of appropriate housing and storage and reduction of usage at source.

Dust : Dust and particulates from construction activities will be suppressed by appropriate interception or management measures.

Contamination : Contamination of the ground during construction or demolition activity will be prevented by controlled removal of buildings and structures as appropriate.

Water (Pollution) : Pollution of surface water or groundwater during the construction period will be prevented by separating the potential source of pollution from its pathway.

Test 3: Water Resource Management

Source : Water for construction-related activity will be extracted from local sources wherever possible.

Consumption (Water): Water consumption for construction purposes will be minimised wherever possible in order to conserve resources.

Runoff : Runoff from construction compounds and temporary hard surfaces will be managed in order to minimise the possibility of accidental pollution incidents.

Test 4: Waste Management

Recycling : Construction waste will be minimised by recycling of materials on site wherever feasible.

Distances : Where construction waste is to be disposed of to off-site locations, distances travelled for disposal of that waste will be minimised.

Test 5: Energy Efficiency

Trips : Construction-related vehicle trips will be minimised by means of optimising internal and external trip lengths.

Consumption (Energy): Consumption of energy during construction-related activity will be minimised by adoption of best practice measures for the operation of plant and machinery.

Test 6: Landscape Quality

Features : All vegetation and other landscape features which are to remain post-development will be protected during the construction period from accidental damage.

Boundaries : Temporary boundary fences or screens as appropriate will be erected to prevent visual intrusion from construction activity, particularly adjacent to sensitive receptors.

Lightspill : Lightspill from construction workings will be minimised wherever possible to protect the amenity of residential areas.

Test 10: Accessibility

Pedestrians : During the Construction Period, pedestrian access to and within the site will be maintained wherever user safety permits, with temporary footpath diversions created wherever it is necessary to retain pedestrian access.

Test 11: The Economy

Employment : Opportunities for local employment will be made available during the construction period, with additional regional employment opportunities also arising.

Incomes : Opportunities for local income generation from construction-related businesses will be made available.

Test 12: Health and Safety

Safety : Construction related activities will conform to prevailing health and safety standards.

Speed : Construction vehicle speeds will be kept low in order to reduce accident risk.

Crossings : Safe crossings will be provided during the construction period at appropriate locations.

Technologies : Use of clean, hazard-free technologies for construction plant and machinery operation will be encouraged.

Storage : All potentially-hazardous materials (gases, chemicals and others) used in construction will be stored safely in accordance with Government regulations.