

**Councils Response to Stage 1 Matters, Issues, Questions Thursday 12<sup>th</sup> December 2019.**

**Matter 7 – The Broad Locations for Development – Specific Matters (Policy S6 (i) to (xi))**

**Main Issue**

**Whether the detailed policy for each broad location for development is justified, effective and consistent with national policy.**

**West of Chiswell Green S6 (x)**

**1. Question 1**

**Is the site suitable for housing and are there any specific constraints or requirements associated with it, or the need for mitigation measures?**

- 1.1 Yes, as demonstrated in the Councils strategic site evaluations work, the site is considered suitable for housing. Potential significant constraints, requirements and mitigations were directly considered in the Draft Strategic Site Selection Evaluation Outcomes methodology as set out Planning Policy Committee [March 2018](#).

*The evaluation uses the criteria below, based on the approach in PPC reports mentioned above (and as similarly set out in the Call for sites and Local Plan regulation 18 consultation background materials).*

**Stage 1**

1. *Green Belt Review evaluation will be undertaken on the basis of a judgement of impact on (i.e. 'damage' to) Green Belt purposes (taking account of the purposes defined in and considered in the relevant parcel assessment in the GBR). Sites are rated as 'higher impact', 'medium impact' or 'lower impact' (set out as Red Amber Green (RAG)). It is important to remember that the independent Green Belt Review set out that "All strategic parcels in the Green Belt, at least in part, clearly perform a key role". The assessment is a comparative one in the context of understanding relative impacts on the Green Belt. To achieve 'further consideration for development' the site must be evaluated as lower or medium impact (Green or Amber). Any Red rating (higher impact) will rule a site out for further consideration.*

**Stage 2**

2. *Suitability will set out as (Red Amber Green) if there are any issues which are overriding constraints to development – eg Access, Transport, Heritage, Biodiversity, Flood Risk. Any Red rating will rule a site out for further consideration.*
3. *Availability will set out as (Red Amber Green) if there are any issues which are overriding constraints to development in terms of land ownership, restrictive covenants etc. Any Red rating will rule a site out for further consideration.*

**Stage 3**

4. *Unique contribution to improve public services and facilities, e.g. public transport - (set out as Red Amber Green). Any Green rating is considered to be potentially significantly positive at a District wide (or even wider) scale.*
5. *Unique contribution to enhancing local high quality job opportunities and the aspirations of the Hertfordshire Local Economic Partnership / Hertfordshire EnviroTech Enterprise Zone - (set out as Green Amber Red). Any Green rating is considered to be potentially significantly positive at a District wide (or even wider) scale.*
6. *Unique contribution to other infrastructure provision or community benefits - (set out as Red Amber Green). Any Green rating is considered to be potentially significantly positive at a District wide (or even wider) scale*
7. *Deliverable / Achievable is there is a reasonable prospect that the development, including all key aspects (including viability) being assessed as part of the overall 'package' proposed, is viable and deliverable (set out as Red Amber Green). Any Red rating will rule a site out for further consideration. 8. An overall evaluation judgement will be recorded (set out as Red Amber Green) as how the site is evaluated for further consideration for development in the Plan."*

- 1.2 This methodology identified two levels of constraints in the site assessment;
  - Level 1: Overriding Constrains that would rule out sites as potentially 'suitable'.
  - Level 2: Constraints that would need specific requirements and mitigations.
- 1.3 There are not considered to be any overriding constraints that would make the site unsuitable, or significant specific constraints that require specific requirements and mitigations.

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**2. Question 2**

**What evidence is there to demonstrate that the broad location is capable of delivering 365 dwellings?**

- 2.1 The primary evidence is set out in Annex 1 of the draft Local Plan at page 98. This sets out all of the Broad Location area and Base Capacity Calculations in Hectares. For West of Chiswell Green this sets out;

<b>Broad Location (BL)</b>	<b>BL Wider Area (Ha) (Purple on Policies Map)</b>	<b>Broad Location Non-Green Belt Area (Ha) i.e. Area to be removed from GB</b>	<b>60/40 resi / non-resi split on BL Wider Area</b>	<b>60/40 resi / non-resi split on non-GB Area</b>	<b>New Education on Site in GB up to (Ha)</b>	<b>Net developable area when education sites are in Green Belt - 80% of Non-Green Belt area</b>	<b>SADC net developable area for capacity calculations x 40 dwellings per hectare =</b>
<i>Land West of Chiswell Green</i>	15.2	15.2	9.1/6.1	9.1/6.1			9.1x40= 365

- 2.2 In this instance, 60% of the area to be removed from the GB is used as a basis for the capacity. There is the accompanying assumption that 40% of the area to be removed from the Green Belt is infrastructure and open space. The reasoning for this has been set out as Strategic Local Plan Background Note: Residential Density October 2014 ([HOU 015](#));

*Gross density calculations can be used to estimate and illustrate the potential development capacity of a site. The Green Belt Review Part 2 (SKM Enviro Consultancy Study) used the approach that up to 60% of the Gross Development Area (GDA) would be developed (termed Net Development Area) and the remaining 40% would be required to provide infrastructure, main roads, open space and public facilities.*

Therefore 9.1 (developable area) x 40 (dwelling per hectare) = 365 dwellings.

- 2.3 The appropriate densities to use and areas to which they would be applied was addressed on several occasions at PPC, including in particular PPC report [January 2014](#), which sets out;

*It is considered that 40dph is a relatively 'safe', robust assumption which can be readily achieved in suburban location housing developments in the District, particularly with a dwelling mix similar to that indicated in the recent Strategic Housing Market Assessment (SHMA). This simple calculation makes no specific allowance for infrastructure and major open space in larger development areas...*

*Appendix 1 provides a summary of the "Strategic" Green Belt land releases as recommended by SKM. For these areas SKM identified potential development parcels and calculated a dwelling capacity range based on net densities of 30 – 50dph. It is recommended that Plan policies are developed on the basis of achieving a mid-range overall target minimum density*

of 40dph. This will necessitate some higher suburban density forms of development in some locations.

- 2.4 Furthermore, as set out in Strategic Local Plan Background Note: Residential Density October 2014 ([HOU 015](#)), a draft of which was presented to PPC [July 2014](#). This is included as M7xQ2 Appendix 1.

*Work on density assumptions in the draft Strategic Local Plan (SLP) is based on HCA research, in the form of a density matrix (Table 3.3 from the Homes and Communities Agency Urban Design Compendium – reference below). The matrix links typical residential densities to urban form ('creating urban structure'). It draws on examples of development across the UK and Europe. Average densities are based on case studies analysed as part of the Sustainable Residential Quality: Exploring the housing potential of large sites research. The matrix recommends that residential densities of 30 to 50 DPH (alongside related services) should be applied in suburban locations. This is considered to be relevant to the SKM identified sub areas assessed for the draft SLP, as they are located on the edges of existing settlements and exhibit suburban characteristics.*

- 2.5 The landowner / developer team have confirmed the capacity was appropriate, deliverable and supported as part of landowner / developer submissions summer 2018.
- 2.6 The landowner / developer team have also confirmed that the capacity was appropriate, deliverable and supported as part of their landowner / developer Local Plan Regulation 19 Publication formal representations in October 2018.
- 2.7 The early Masterplanning work by the landowner / developer team team (see other MIQs) also demonstrated that this Broad Location is capable of delivering 365 homes.
- 2.8 As addressed in response to other MIQs, it can also be noted that the Broad Location landowner/developer team (Alban Developments Limited & Adrian Irving (Trustee)) have agreed a Statement of Common Ground in December 2019. This includes their confirmation that they agree that the 365 figure is deliverable.

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**3. Question 3**

**Should the specific location for the primary school within the site be identified?**

- 3.1 No, the Council considers that the location of the primary school within the site should be identified at the Masterplanning stage alongside other Masterplanning considerations. The requirements for the size of school has been set out been identified in the Infrastructure Delivery Plan 2018/19 ([INFR 001](#)).

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**4. Question 4**

**What further infrastructure work needs to be undertaken, and is this appropriate to be left to the masterplanning stage?**

- 4.1 Yes, further infrastructure work is required to be undertaken, and this has been identified in the Infrastructure Delivery Plan 2018/19 ([INFR 001](#)). A list of infrastructure assessed for capacity is included in M7xQ4 Appendix 1. For West of Chiswell Green, this is summarised below;

<b>LOCATION</b>	<b>West of Chiswell Green Broad Location</b>
<b>Infrastructure</b>	
<b>Transport Infrastructure:</b>	
<b>Strategic - LTP4 major scheme</b>	
<b>Local highway - on &amp; off site</b>	Y
<b>Sustainable travel - public transport</b>	Y
<b>Sustainable travel - walking + cycling on &amp; off site</b>	Y
<b>Education:</b>	
<b>Primary (assumes £8.7m per new 2FE primary school or £12.4m per new 3FE primary school)</b>	1 x 2fe*
<b>Secondary (assumes £37.3m per new 8FE secondary school)</b>	
<b>Early years</b>	Y
<b>Green Infrastructure:</b>	CMO
<b>Strategic open space</b>	Y
<b>Local open space / play space</b>	Y
<b>Community Facilities:</b>	
<b>Health sq. m est floorspace provided onsite</b>	87
<b>Other community provision</b>	Y
<b>Neighbourhood Centre / Local Centre sq. m est net floorspace at groundfloor</b>	
<b>SUDS</b>	Y
<b>Energy Strategy / Renewable energy</b>	Y
<b>Digital Infrastructure</b>	Y

- 4.2 As set out in Policy S6 x), much of this infrastructure is set out as a policy requirement. As set out in the Council's response to M6 Q5, early progress has been made in respect of Masterplanning for the Broad Location at West of Chiswell Green. This has included co-operations with parties expected to deliver this infrastructure such as Hertfordshire County Council, NHS and developers, and the detail is considered to be appropriate and realistic for this stage of the process.

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**5. Question 5**

**Should the policy refer specifically to the provision of sports facilities?**

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- 5.1 No, as also set out in the Councils response to M7i Q11, the Council considers that there is no requirement to set out specifically the provision of sports facilities in the policy here. Appropriate sports facilities will be required, but will most appropriately be identified in detail and secured through the mechanisms that the draft Plan already contains. This includes at S6 (x):

*S6(x) – Requirement 1 - Masterplanned development led by the Council in collaboration with local communities, landowners and other stakeholders*

*S6 (x) Requirement 8 – Recreation space and public open space*

*S6 (x) Requirement 12 – Sufficient assets to provide sustainable management of community facilities, open spaces and parklands.*

- 5.2 This also includes at L22 ‘Community, Leisure and Sports Facilities’

*“the provision of new community, leisure and sports facilities will be concentrated in the following locations;*

*...*

- As part of new Local Centres within Broad Locations for development and in other major developments*
- As part of new educational development, where joint use facilities should be provided*

*...*

*The council will encourage new and enhanced sport and recreational facilities in appropriate and sustainable locations, including in particular:*

- “New local provision as part of major residential development at Broad Locations, including possible joint use of education and multi-purpose community buildings / halls or improvements to existing parish halls / centres near to the new housing areas”*

<b>Broad location</b>	<b>Priority provision</b>
<i>West of Chiswell Green</i>	<i>Strategic play Teenage areas Childrens Play Areas</i>

- 5.3 This also includes at policy L28 ‘Green Space Standards and New Green Space Provision’:

*Creation of new green space through development or other opportunities will be directed at meeting needs for the new development and also addressing identified needs and deficiencies in the host settlement.*

*Priority provision at the Broad Locations (excluding provision of country parks / wildlife habitat creation areas – Policy S6) is set out in the Table below:*

- 5.4 It is noted that there has been an objection received by Sports England in relation to a lack of specific sports provisions identified in the draft Local Plan, as well as concerns with the robustness of the Playing Pitch Strategy Update 2019 ([LCRT 002](#)). The Council has been working closely with Sports England in recent months and is in the process of developing a new Playing Pitch Strategy for the District that will meet Sport England's concerns about the current version. This new document will include identifying more directly in line with current guidance and best practice the current shortfall in existing sports facilities, as well as additional requirements from projected population growth from the Broad Locations.
- 5.5 The new Playing Pitch Strategy will, through the Masterplanning and subsequent Planning Application processes be used to secure on site provision and appropriate contributions from S106 agreements. This new work has included working with other bodies, such as Herts FA and services within the Council to identify areas for potential improvement.

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**6. Question 6**

**Has consideration been given to air quality and any mitigation measures?**

6.1 Yes, the Council has given consideration to air quality and mitigation measures.

6.2 The main references in the NPPF are:

*9. Promoting sustainable transport*

*103. The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.*

*15. Conserving and enhancing the natural environment*

*181. Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan.*

6.3 With regard to air quality, promoting sustainable transport and limiting the need to travel are key factors. Actively managing patterns of growth in support of these objectives has involved planning for sustainable communities, and it this approach which underpins the Local Plan. It should be noted that the Local Plan sits within a wider range of initiatives within the County and District which relate to air quality including: [Air Quality Action Plan](#), [Climate Change Action Plan 2016](#) and the [Green Travel Plan](#).

6.4 The main issues with regard to air quality in the District are transport related. The AQMAs for SADC are listed below. [LAQM Annual Status Report 2018](#) states 'This general trend in concentration reduction from 2013 to 2017 could be due to the continual commitment and progress made by the St Albans City and District Council to improve local air quality with the aim to revoke the declared AQMAs.' Please see extracts from the [LAQM Annual Status Report 2018](#) below. Table 2.2 which shows 'Progress on measures to improve air quality' can be found at M7xQ6 Appendix 1.

**Table 2.1 – Declared Air Quality Management Areas**

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	City / Town	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance (maximum monitored/modelled concentration at a location of relevant exposure)		Action Plan	
						At Declaration	Now	Name	Date of Publication
St Albans AQMA No. 1	Declared 02/11/2004, and amended in 08/07/2009	NO2 Annual Mean	St Albans	The area comprising of odd numbers 1-7 London Road, 1-11c Holywell Hill and even numbers 2-38 London Road, St Albans.	NO	61µg/m3	41.2µg/m3	Air Quality Action Plan for St Albans City and District Council	Dec-03
		PM10 24 Hour Mean				-	-		
St Albans AQMA No. 2	Declared 02/11/2004	NO2 Annual Mean	St Albans	The area comprising of Beechtree Cottages, Hemel Hempstead Road, St Albans (adjacent to junction of M1 (J7) and M10).	YES	52µg/m3	36µg/m3	Air Quality Action Plan for St Albans City and District Council	Dec-03
St Albans AQMA No. 7	Declared 21/09/2004	NO2 Annual Mean	St Albans	An area encompassing a number of domestic properties in Frogmore on Radlett Road and Colney Street in the vicinity of the M25.	NO	44µg/m3	36µg/m3	Air Quality Action Plan for St Albans City and District Council	Dec-03

### Conclusions and Priorities

The priorities for the coming year include continuing to work with the Air Quality Action Plan (AQAP) measures, implementing the actions that are ready for completion and working with separate departments within St Albans City and District Council on measures benefitting air quality within the Climate Change Action Plan 2016, the council Green Travel Plan and the Hertfordshire County Council Local Transport Plan 2011 – 2031. The good work already undertaken in relation to the reduction of vehicle idling and to explore new options for promotion and enforcement of anti-idling will continue.

- 6.5 HCC LTP4 includes the following policies which provides the context within which the Local Plan Policy L18 Transport Strategy sits. The GTPs provide further information about sustainable transport initiatives. LTP4 sets out:

**Policy 1: Transport User Hierarchy**

*To support the creation of built environments that encourage greater and safer use of sustainable transport modes, the county council will in the design of any scheme and development of any transport strategy consider in the following order:*

- *Opportunities to reduce travel demand and the need to travel*
- *Vulnerable road user needs (such as pedestrians and cyclists)*
- *Passenger transport user needs*
- *Powered two wheeler (mopeds and motorbikes) user needs*
- *Other motor vehicle user needs*

...

**Policy 19: Emissions reduction**

*The county council will reduce levels of harmful emissions by:*

- a) *Promoting a change in people's travel behaviour to encourage a modal shift in journeys from cars to walking, cycling and passenger transport.*
- b) *Addressing any barriers to and supporting the uptake of ULEVs in the county, particularly where this can positively affect areas with identified poor air quality....*

...

**Policy 20: Air Quality**

*The county council will seek to reduce the impact of poor Air Quality on human health, by:*

- a) *Investigating the use of Clean Air Zones.*
- b) *Working with district/borough councils to monitor and assess air pollution levels, and working in partnership with them to deliver any declared AQMA joint action plans.*
- c) *Implementing, monitoring and reviewing the county council's Air Quality Strategic Plan.*

**Outcomes**

*These policies in conjunction with other LTP4 policies seek to reduce Hertfordshire's contribution to greenhouse gas emissions and global climate change, and also reduce the contribution of transport to poor air quality which impacts human health, flora and fauna.*

**Relevant Supporting Documents**

- *Active Travel Strategy*
- *Intalink Bus Strategy*
- *Network Management Strategy*
- *Growth and Transport Plans*
- *Air Quality Strategy*

- 6.6 The District Local Plan Policy L18 Transport Strategy sits within the framework provided by LTP4 and embeds the LTP4 principles. Some extracts from Policy L18 overall approach is set out below together with reference to 'air quality' in the policy. It is considered that these broad principles provide the foundation of addressing air quality as it relates to transport.

**Overall Approach**

*The policies embedded throughout this Local Plan work in conjunction with HCC and HE led transport planning. Together, they will provide relevant sustainable transport infrastructure and approaches which promote sustainable modes and create a foundation for enabling significant changes in travel behaviour. They encourage and enable shorter journeys to be made by sustainable means, including by walking and cycling, given the wider community benefits of active travel...*

*The Broad Locations for Development (Policy S6) have been selected in part on the basis of their potential to offer opportunities to achieve sustainable travel outcomes. New school locations have also been selected in part on the basis of their potential to offer opportunities to achieve sustainable travel outcomes....*

Particular consideration will be given to planning for...

- reductions in transport-related emissions and improvement to air quality. This should include measures to improve air quality along major roads, including enabling the removal of Air Quality Management Area (AQMA) designations...

### **Transport impacts on air quality**

Planning for major development must include an assessment of air quality impacts from traffic (both from the development and on occupants of the development).

Development design and the transport measures associated with the development must include proposals to limit and mitigate impacts. This is particularly the case if there is an effect on a designated Air Quality Management Area (AQMA).

- 6.7 The SA Report includes SA Objective 7 seeks to 'Achieve Good Air Quality' and the related criteria is set out below:

#### **7. Achieve good air quality especially in urban areas**

*Criteria: To reduce the need to travel by car through planning settlement patterns and economic activity in a way that reduces dependence on the car and maintains access to work and essential services for non-car-owners*

- To integrate land use and transport planning by for instance:
  - Promoting Green Transport Plans, including car pools, car sharing as part of new developments
  - Ensuring services and facilities are accessible by sustainable modes of transport
  - To ensure that development proposals do not make existing air quality problems worse
- To address existing or potential air quality problems
- To avoid siting developments that would be sensitive to air quality issues in areas with poor air quality

- 6.8 With regard to air quality objective, the SA indicates that no significant effects have been identified. Please see extracts from the SA Report NTS ([CD 011](#)) set out below.

**Table 1: Framework of SA/SEA Objectives**

SA/SEA Objectives
...
7. Achieve good air quality, especially in urban areas

### **5.3.5 Air quality (SA Objective 7)**

Transport is a key source of air pollution. The provision of new housing and economic development, combined with that in neighbouring local authorities, will contribute to background emissions through an increase in vehicles on the road therefore having an adverse effect on air quality. However, similar to greenhouse gas emissions, focusing housing and economic development in the main settlements and making developments accessible should help to reduce the need to travel and the average distance travelled which should help to reduce growth in airborne emissions. In addition, as the overall vehicle fleet is replaced over time by new vehicle types with reduced levels of pollutant emissions, as well as electric vehicles, so air quality should improve accordingly.

*Encouraging the use of more sustainable modes of transport such as walking, cycling and passenger transport over the use of private car (Policy L18 Transport Strategy) as well as requirements to improve walking and cycling links at the .. broad locations should have a positive effect on reducing pollutants from transport.*

6.9 With regard to mitigation measures, the Chiswell Green area, is set to improve in terms of sustainable travel over the plan period. The improved sustainable transport infrastructure for the Chiswell Green area is expected to increase the proportion of journeys undertaken by sustainable travel and active travel.

- The South West Herts GTP ([INFR 001](#) IDP ref 78 on p169) has considered sustainable travel for Chiswell Green and has identified sustainable transport initiatives, including those related to active travel and internal trips. The initiatives are also listed in COMET LP4 SADC Analysis V4 Final ([INFR Oct 2019](#)). Please see extract below.
- The Chiswell Green community should benefit from improvements to the Abbey Line in policy S6xi (15).
- The A414 Corridor Strategy ([Public Consultation Draft 2018](#)) includes consideration of the Chiswell Green area. A number of initiatives have been identified for segment 5.

Location	Scheme Code	Scheme Details	Scheme Details	Indicative Commentary on Schemes from LP4
Chiswell Green Corridor Active Travel Improvements	SM200	B4630 Watford Road Improvements	Intervention to reduce traffic: Currently B road with highest flows in Hertfordshire. On road cycle lane in each direction (removing central hatched areas) and improved footways and crossing facilities around the shopping parades on both sides	LP4 indicates there are delays and congestion on all approaches to the Park Street Roundabout. Signalisation should be considered and linked to other signal junctions in the local area.
	SM177	A414 Park Street Roundabout Improvements	A414 Park Street Roundabout Improvements - An improvement to the existing roundabout layout with signal-control introduced to most if not all arms and some minor physical alterations to the junction's layout.	Junction delays remain similar to the Base Year. Delays are approximately 30 seconds at some arms. Congestion observed on A414 and A405 North Orbital arms of the junction.
	SM201	A405/B4630 Watford Road junction reconfiguration	Conversion of the existing roundabout to a signal-controlled crossroads with more priority given to the A405 arms. Improvements would need to ensure signal priority is given to bus services (e.g. 321) in terms of GPS / transponder technology. Any junction improvement needs to ensure that provision is made for the planned A405 cycle route (SW-SM20).	

- 1.1 In terms of mitigation, it is also considered that the addition of a new primary school will make the Broad Location more self-contained. The school would be accessible by active travel for residents.
- 1.2 With regard to West of Chiswell Green Broad Location, page 67 of St Albans Local Plan Sustainability Appraisal Report 2018 ([CD 009](#)) sets out:

*5.2.2.13 Policy S6 x) West of Chiswell Green Broad Location*

*Adverse effects were also identified for the 'greenhouse gas emissions' and 'air quality' objectives as the site is some distance from city/town centres which will result in additional vehicle trips, with associated greenhouse gas emissions and airborne emissions. However for the same objectives positive effects were also identified as the site is within walking distance of bus stops in Watford Road and the northern part of the area is close to the local shopping centre. This will help to reduce the need to use a private car, with subsequent benefits in terms of limiting the increase in greenhouse gas emissions.*

*Positive effects have been predicted for the social objectives ... For the 'sustainable locations' objective, whilst the site is some distance from the main city/town centres, it is within walking distance of bus stops in Watford Road and the northern part of the area is close to the local shopping centre.*

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**7. Question 7**

**How have heritage assets been considered and is a Heritage Impact Assessment required?**

7.1 The Council has directly considered heritage assets as part of the Strategic Site Selection process and the Sustainability Appraisal and in considering the draft Plan wording.

7.2 The Strategic Site Selection process set out a three stage process of selecting the broad locations, with stage 2 setting out;

*Stage 2*

2. *Suitability will set out as (Red Amber Green) if there are any issues which are overriding constraints to development – eg Access, Transport, Heritage, Biodiversity, Flood Risk. Any Red rating will rule a site out for further consideration.*

7.3 The Sustainability Appraisal, sets out as part of the SA/SEA Objectives;

10. *To identify, maintain and enhance the historic environment, heritage assets and their setting and cultural assets*

7.4 In consideration of the Broad Location S6 ix) it was set out in the Sustainability Appraisal that this had no significant relationship with historic assets.

7.5 Historic England has raised objections to the Plan, highlighting the lack of evidence to demonstrate that appropriate considerations have been given to the conservation and enhancement of the historic environment, together with a lack of policy criteria for the protection and enhancement of the historic environment in relation to these large sites. In the Councils response as set out in Regulation 22C;

*“Cross reference Policy L30 This supports conservation of heritage assets appropriate to their significance and seeks that development which may affect such assets is accompanied by a Heritage Statement. Such heritage assets form only a small proportion of the overall Broad Location, are acknowledged and will be treated appropriately as part of the Masterplanning / planning application processes.”*

7.6 A specific Heritage Impact Assessment is not considered to be required at this Plan-making stage. A Heritage Statement and a Heritage Impact Assessment will be required as part of the Masterplanning and planning application processes. These Heritage considerations have already and will continue to inform the ongoing Masterplanning being taken forward through the PPA process (see other MIQ responses).

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**West of Chiswell Green S6 (x)**

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# Strategic Local Plan Background Note

## Residential Density

October 2014

## **Background Note**

### **Residential Density**

An earlier version of this note was considered by the Council's Planning Policy Committee on 3 July 2014. This version provides additional examples. The purpose of this Note is to illustrate housing density on some well known sites across St Albans City and District and thus to give a range of comparators for typical residential layouts / designs.

Measuring housing density is a simple way of quantifying the intensity of residential development and efficiency in use of land for housing. The measurement also gives some insight into the environmental character of housing areas.

The Note gives local examples of:

#### **Relationship between gross and net density in recent major residential development**

1. Jersey Farm; 1980's
2. Hill End / Cell Barnes; 1990s
3. Napsbury; 1990 / 2000s

#### **Net density calculations**

1. New England Street area, St Albans
2. King Harry Lane (new development in progress), St Albans
3. Jersey Farm Estate, St Albans
4. Oaklands Smallford Campus (current housing application as proposed), St Albans
5. Former Oaklands College City Campus housing redevelopment, St Albans
6. Part of Marshalswick Estate, St Albans
7. Part of Chiswell Green
8. Luton Road area, Harpenden
9. Belmont Hill, St Albans
10. Elm Lawns Close, St Albans
11. Land Rear of Sandridge Road, St Albans
12. Waverley Road, St Albans
13. St Albans Hospital site
14. Station Road, Harpenden (a)
15. Station Road, Harpenden (b)
16. Redbourn Lane, Harpenden
17. Luton Road, Harpenden

### Calculation and interpretation of residential density

Decisions on what housing density is appropriate for a location are influenced by many different factors.

Building height, block size and housing typology are the main factors that influence the character of an area and perceptions of density.

However, higher density does not have to mean tall buildings with small apartments that fail to relate to local character. In fact, high buildings can be less effective in maximising the use of land, especially in terms of the relationship of developed and open areas.

Good design is crucial to achieve environmental quality. Each design scheme should establish the density appropriate for a particular location taking into consideration factors such as:

- Context - density appropriate to context and allowing respect for surrounding residential character
- Quality of public realm - a legible and stimulating public realm
- Outdoor space - high quality communal space
- Private and public space mix - ability to manage spaces
- Parking - adequate and appropriate car parking levels which do not dominate or detract from the external environment

Additional factors which might determine an appropriate density level include:

- Surrounding built form
- Housing types
- Need for different types of housing
- Need to create variety of densities – density mix
- Capacity of facilities for residents

It is important to remember that density is a product of design, not a determinant of it. Residential density should aim to support local infrastructure such as shops, schools, and local transport. Homes and Community Agency (HCA) “research has shown that there is no correlation between urban quality and density. Developments driven by average densities and shaped by blanket standards (relating to privacy, open space, parking and highway geometry, for example) stultify design and tend to produce lowest-common-denominator blandness.”

In the St Albans City and District Strategic Local Plan (SLP) the factors of what ‘housing types’ and the ‘need for different types of housing’ are particularly important. The draft SLP says: “All new housing development will contribute to a mix of different housing types in residential areas, taking into account the existing pattern of housing in the area, evidence of local need and site specific factors. It will in particular require the inclusion of more small and small to medium-sized housing, including one and two bedroom flats and 2

bedroom houses, in new development schemes in suitable locations, to increase the proportion of such sized units in the district housing stock, to widen choice and to provide more relatively low cost market housing available to buy. Floorspace, as well as room numbers and bedroom numbers, will be considered in judgments of relatively low cost market housing.

The Council requires the affordable housing size, type, and mix to broadly reflect that being provided for the market element of all development.

The Council seeks the provision of a reasonable proportion of housing designed to the lifetime homes standard that can be readily adapted to meet the needs of older people and people with disabilities.

Sheltered housing and extra care housing for older people and those with special needs will be encouraged on suitable sites in areas close to a range of services.

Further detail on requirements for appropriate housing size, type, mix and proportion of lifetime homes will be given in the DLP. “

### Measuring density

There are different ways of measuring density, each of which provides different information.

They include:

- Dwellings per hectare (DPH) – this a common measure to indicate residential density. However, apartments at 60dph may actually have smaller built volume than larger houses at 30dph with related garaging.
- Square meters per hectare – measuring amount of floorspace per hectare is another method to illustrate development intensity. It indicates more clearly how efficiently land is being used.
- Floor area ratio (FAR) or plot ratio – this measurement express the ratio between gross floor area and site area. It again indicates the intensity of land use and gives some indication of massing volumes.
- Bedspace per hectare – measuring bedspace per hectare indicates population capacity rather than actual use (as some dwellings may be under-occupied.)
- Habitable rooms per hectare – habitable room and bedspace densities give an indication of resident population and a calculation of population capacity. Calculating habitable rooms per hectare can be helpful in

determination of likely demand for amenities and services such as public transport.

For the purpose of this Note the simple dwellings per hectare has been adopted.

The first part of the Note illustrates how density is viewed at a gross level. It gives examples of the relationship between gross and net density calculations. Gross density calculations can be used to estimate and illustrate the potential development capacity of a site. The Green Belt Review Part 2 (SKM Enviro Consultancy Study) used the approach that up to 60% of the Gross Development Area (GDA) would be developed (termed Net Development Area) and the remaining 40% would be required to provide infrastructure, main roads, open space and public facilities.

The second part of the Note illustrates calculations of net density. A net density measurement includes access roads within the site, private garden spaces, car parking areas, incidental open space and landscape and children's play areas but normally excludes major distributor road, primary schools, open spaces serving a wider area and significant landscape buffer strips.

Net density is the measure of density used for the SKM recommended net development areas and thus is a comparable measure to that used in the illustrations in this Note.

Work on density assumptions in the draft Strategic Local Plan (SLP) is based on HCA research, in the form of a density matrix (Table 3.3 from the Homes and Communities Agency Urban Design Compendium – reference below). The matrix links typical residential densities to urban form ('creating urban structure'). It draws on examples of development across the UK and Europe. Average densities are based on case studies analysed as part of the *Sustainable Residential Quality: Exploring the housing potential of large sites* research. The matrix recommends that residential densities of 30 to 50 DPH (alongside related services) should be applied in suburban locations. This is considered to be relevant to the SKM identified sub areas assessed for the draft SLP, as they are located on the edges of existing settlements and exhibit suburban characteristics.

Illustrative areas analysed for the purpose of this study can be considered in the context of the Density Matrix.

The matrix is reproduced below:

		Option 1	Option 2	Option 3
Car Parking Provision		High 2-1.5 spaces per unit	Moderate 1.5-1 space per unit	Low less than 1 space per unit
Redominant Housing Type		Detached & linked houses	Terraced houses & flats	Mostly flats
Location	Setting			
Site within Town Centre 'Ped-Shed'	Central			240-1100 hr / ha 240-435 u / ha Ave. 2.7 hr / u
	Urban		200-450 hr / ha 55-175 u / ha Ave. 3.1 hr / u	450-700 hr / ha 165-275 u / ha Ave. 2.7 hr / u
	Suburban		240-250 hr / ha 35-60 u / ha Ave. 4.2 hr / u	250-350 hr / ha 80-120 u / ha Ave. 3.0 hr / u
Sites along Transport Corridors & Sites close to a Town Centre 'Ped-Shed'	Urban		200-300 hr / ha 50-110 u / ha Ave. 3.7 hr / u	300-450 hr / ha 100-150 u / ha Ave. 3.0 hr / u
	Suburban	150-200 hr / ha 30-50 u / ha Ave. 4.6 hr / u	200-250 hr / ha 50-80 u / ha Ave. 3.8 hr / u	
Currently Remote Sites	Suburban	150-200 hr / ha 30-65 u / ha Ave. 4.4 hr / u		

**Table 3.3 Density matrix**

Average densities are based on case studies analysed as part of the *Sustainable Residential Quality: Exploring the housing potential of large sites* research (LPAC, DETR, GOL, LT and HC, 2000)

(Note: This table is a direct extract from Homes and Community Agency Urban Design Compendium 1. Second row in column one should read 'predominant'.)

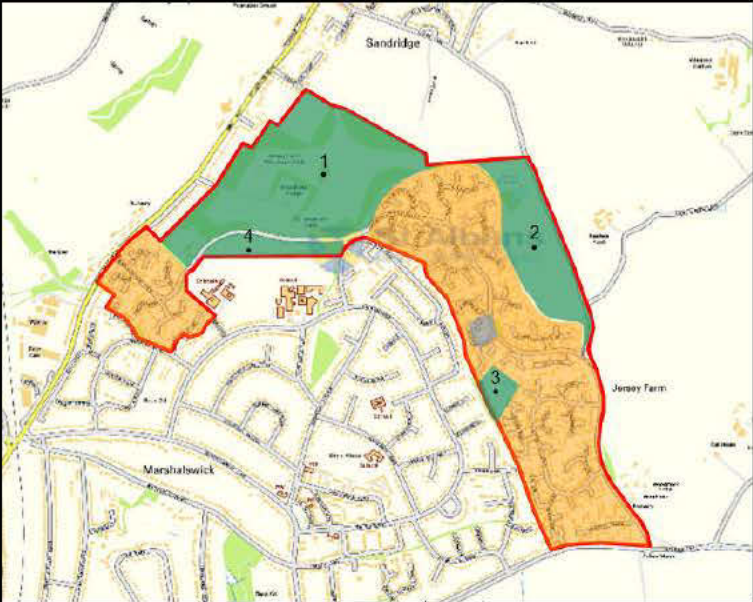
**Reference:**






Urban Design Compendium 2 (2007), *Delivering Quality Places* (2<sup>nd</sup> Ed), Homes and Community Agency

Relationship between gross and net density in recent major residential development – local examples

**All figures are estimated / rounded (details noted below)**


**1. Jersey Farm 1980s**

JERSEY FARM	Total area of development (Ha)	Area used for infrastructure (Ha)  (mainly large open spaces, distributor roads and school sites)	Remaining area for residential development (Ha)	Dwelling numbers	Notes on assumptions / estimates
	102 ha	44 (43%)	58 (57%)	1800	<ul style="list-style-type: none"> <li>• Infrastructure taken as including schools (see below), local centre (1 Ha) woodland park / schools (32 ha) eastern OS (9.5 Ha) local centre OS (1.5 ha)</li> <li>• Above area used for infrastructure includes approximately 25% of Wheatfields and Sandringham school sites to reflect use and expansion for the Jersey Farm estate (albeit this site</li> </ul>


 <p>  Site boundary          Developed area       </p> <p>  Undeveloped area       </p> <p>  Local Centre     </p> <p>       1. Woodland Park OS        2. Eastern OS        3. Central OS        4. Part of school site OS     </p>					<p>is pre existing and also serves Marshalswick)</p> <ul style="list-style-type: none"> <li>Area used for infrastructure is probably an underestimate as, for ease of calculation, parts of the distributor road corridor and Jersey Lane are not included because they would require micro level area measurement</li> <li>Dwelling numbers are estimated as Census super output lower level areas (SOAs 007C, 007B, 008A) and address point area adjustment. SOAs do not co-incide exactly with the estate to the NW corner. A cautious adjustment has been used</li> </ul>
Density calculations - dwellings per Ha (dph)	<b>Gross</b>  1800 dwellings on		<b>Net</b>  1800 dwellings on		

	102 Ha = <b>18</b> <b>DPH</b>		58 ha = <b>31</b> <b>DPH</b>		
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HILL END / CELL BARNES (HIGHFIELD)	Total area of development (Ha)	Area used for infrastructure (Ha)  (mainly large open spaces, distributor roads and school sites)	Remaining area for residential development (Ha)	Dwelling numbers	Notes on assumptions / estimates
<p>The map shows Highfield Park with several labeled areas: Recreation Ground, Nursery, School, Leisure Centre, and Winchfield Wood OS. A scale bar indicates 100m.</p>	78 ha	46 ha <b>59 (%)</b>	32 ha <b>41 (%)</b>	800	<ul style="list-style-type: none"> <li>Infrastructure taken as including local centre (1.8 Ha), Highfield Park recreation areas (26 Ha) and Winchfield Wood OS (13.4 Ha). Full map of the Highfield Park facilities can be found <a href="#">here</a>. The remainder is general open space and community facilities.</li> <li>Dwelling numbers are estimated from Census super output lower level areas (SAOs) 015A and 015B and address point data</li> </ul>





 <div data-bbox="56 877 873 1061"> <div> <div></div> <div>Site boundary</div> </div> <div> <div></div> <div>Developed Area</div> </div> <div> <div></div> <div>Undeveloped Area</div> </div> <div> <div></div> <div>Local Centre</div> </div> </div>					<p>adjustment. SAO 15B covers Tyttenhanger Village and parts of Colney Heath Lane schools.</p>
<p>Density calculations - dwellings per Ha (dph)</p>	<p><b>Gross</b></p> <p>800 dwellings on 78 Ha = <b>10 DPH</b></p>		<p><b>Net</b></p> <p>800 dwellings on 32 ha = <b>25 DPH</b></p>		






M7xQ2 Appendix 1  
**3. Napsbury 1990 / 2000s**






NAPS BURY	Total area of development (Ha)	Area used for infrastructure (Ha)  (mainly large open spaces, distributor roads and school sites)	Remaining area for residential development (Ha)	Dwelling numbers	Notes on assumptions / estimates
	60 ha	37 ha <b>62 (%)</b>	23 ha <b>38 (%)</b>	620	<ul style="list-style-type: none"> <li>• Infrastructure taken as all large blocks of open space forming the setting for the residential development (37 Ha in all). These include distributor road and some small scale recreation facilities.</li> <li>• Area residentially developed is quite low and includes considerable additional integral amenity open space. This is due to the special character of this historic psychiatric hospital site; recognised in its conservation area designation. The</li> </ul>

<div></div> <div><div><div></div>Site boundary</div><div><div></div>Developed area</div><div><div></div>Undeveloped Area</div></div>					design context set was in the importance of maintaining the extensive parkland setting
Density calculations - dwellings per Ha (dph)	<b>Gross</b>  620 dwellings on 60 Ha = <b>10 DPH</b>		<b>Net</b>  620 dwellings on 23 ha = <b>27 DPH</b>		

Net density calculations – local examples

1. New England Street area, St Albans	Map and Aerial Photographs	Photographs	Density Calculations	Notes
<p>Land enclosed by New England Street to the West, Verulam Road to the North and College Street to the South, St Albans</p> <p>This is a residential area with primarily 2 storey cottage terraced houses built in the 19<sup>th</sup> Century. Additional residential development took place at the beginning of 20<sup>th</sup> Century along Verulam Road.</p> <p>The site includes two commercial units and a social use with small pockets of open space.</p>		 <p>New England Street</p>  <p>Temperance Street</p>  <p>College Street</p>	<p>The site is 2.5 ha in area and there are 144 dwellings within the site.</p> <p>Net density of this site is <b>57 DPH</b>.</p>	<p>Some of the space adjoining New England Street has been included in the calculations to illustrate the density with a reflection of the character of the area including some public space.</p> <p>A major factor in high density is total reliance on-street parking.</p>

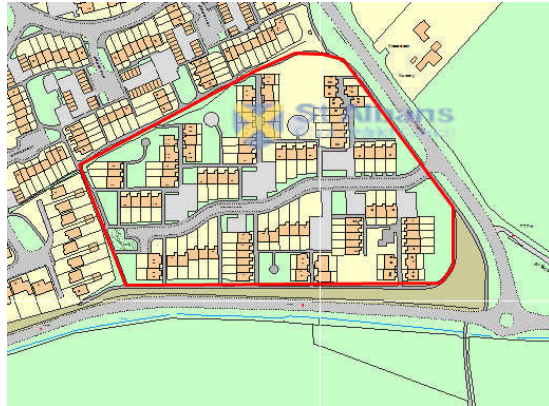
2. King Harry Lane (new development in progress), St Albans	Map and Aerial Photographs	Photographs	Density Calculations	Notes
<p>The development of this site is divided into two phases. Phase one (northern side) is a proposal for 126 dwellings (16 key worker units, 45 extra care/assisted living units and 65 units of accommodation for the over 55s).</p> <p>Outline planning permission for phase one development was granted on appeal in February 2008.</p> <p>Phase two (immediately to the south of phase one development) is a development of 150 dwellings (ranging from 2 – 2.5 storey houses) Permission for this development was granted on appeal in April 2010.</p>	 	 <p>Illustrative Masterplan for phase one development.</p>   <p>Mortimer Crescent (phase two)</p>	<p>The site is 7.8 ha in area the total number of proposed dwellings is 276.</p> <p>Based on these figures, net density for the whole site is <b>35 DPH</b>.</p>	<p>This is illustrative of a recently permitted development in a suburban location but including some open spaces.</p> <p>Each site has different ownership but both sites share access arrangements and a coordinated design led approach.</p>

3. Jersey Farm Estate, St Albans	Map and Aerial Photographs	Photographs	Density Calculations	Notes
<p>Various parts of Jersey Farm Estate.</p> <p>The development of the whole estate took place across 1970s and 80s.</p> <p><u>Area 1 – North – eastern part of Jersey Farm.</u></p> <p>Permission for development of this site was granted in early the early 1980s.</p>	 	 <p>Lincoln Close</p>  <p>Pirton Close</p>  <p>Sandringham Crescent</p>	<p>Area 1 The site is 6.8 ha in area and there are 156 houses within the site.</p> <p>Net density of this area is <b>23 DPH</b>.</p>	<p>The site consists of 2 storey detached houses. Average plot size is 300 to 350 m<sup>2</sup>.</p> <p>All the houses have garages and off street parking.</p>

Area 2 – Southern part of Jersey Farm

This part of Jersey Farm Estate development consists mainly of 2 storey terraced houses.

Permission was granted for the development of 118 Dwellings (60 flats and 58 homes) in the 1970s.



Newgate Close



Newgate Close



Newgate Close

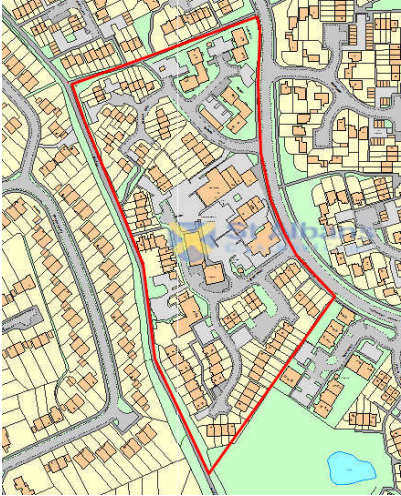




Area 2




The site is 2.8ha wide and there are 88 terraced houses within the site.




Net density for this site is **31 DPH**.





Houses are set back from the street and have relatively large front and back gardens.





There is a significant amount of designated resident parking space and pockets of green open space which explains the relatively low density for a development of terraced housing.





<p><u>Area 3 – Middle part of Jersey Farm</u></p> <p>This is a mixed use area which includes residential dwellings, commercial and community uses</p> <p>Permission for the commercial Village Centre Development was granted in the late 1970s followed by approval for adjoining residential development in the early 80s.</p>	 	 <p>Harvesters</p>  <p>Twyford Road</p>  <p>Commercial Centre</p>	<p>Area 3</p> <p>The site in total is 3.5 ha in area. Within the site there are 92 terraced houses, three blocks of flats (equivalent of 42 flats in total) and commercial centre (0.6 ha) which includes neighbourhood supermarket, five small retail units, public toilets, medical and community centre.</p> <p>After taking away the volume of commercial centre area and its parking, the net density for the site is <b>46 DPH.</b></p>	<p>This relatively high density can be explained by the high proportion of terraced housing and flats. Dwellings of this kind are often included in the design of a central area or local centre within a settlement and this will allow higher overall densities to be achieved. It also introduces variation in the character of the built environment.</p>
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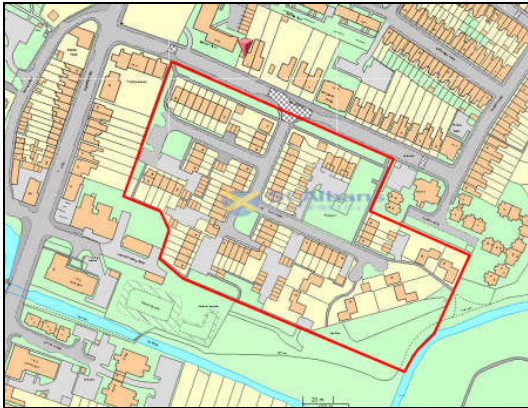




4 Oaklands Smallford Campus (current housing application as proposed), St Albans	Map and Aerial Photographs	Photographs	Density Calculations	Notes
<p>A full application for comprehensive redevelopment to provide new and refurbished College Buildings and residential development of 348 dwellings, car parking, associated access and landscaping was submitted in May 2013. The application is still under consultation.</p> <p>The area marked on the map is the area proposed by the applicant for residential development.</p>		<p>Landscape proposal</p>  <p>Proposed Residential Layout</p> 	<p>The site is 13.68 ha in area. The application proposes development of 348 residential dwellings.</p> <p>Within the design proposal there is a quite significant amount of structural open space in the northern part of the site and middle of the site.</p> <p>The overall density of the site is 26dph but after taking away the area of structural open space the net density for this development is <b>31 DPH.</b></p>	<p>The scheme proposes mainly 2 – 3 storey houses.</p> <p>Density of the site varies depending on character zones. Proposed 'Main Streets' will be lower in density in the range of 30dph. 'The lanes' will be medium density (35dph) and 'Mews Links' will be higher density ranging from 40 - 45dph.</p>





5. Former Oaklands College City Campus housing redevelopment, St Albans	Map and Aerial Photographs	Photographs	Density Calculations	Notes
<p>This is a former Oaklands College City Campus site.</p> <p>Permission for demolition of educational buildings, change of use from educational use to residential use of eight buildings, retention of two building as hall and gym and erection of 15 apartment blocks providing a total of 329 units was granted on an appeal in August 2006.</p> <p>The density calculation is for part of the development - the section now redeveloped.</p>	 <p>The top image is a map showing the site boundary in red, with various colored zones (green, orange, yellow) indicating different land uses or planning zones. The bottom image is an aerial photograph of the same site, showing the layout of buildings and surrounding greenery, with the site boundary also outlined in red.</p>	<p><b>Newsom Place</b></p>  <p><b>Lemsford Road</b></p> 	<p>The site in total is 3.3 ha in area. Within the site boundary there are 20 apartment blocks (equivalent of 281 dwellings), gym and hall.</p> <p>After taking away the area of the hall/gym buildings the net density for this development is <b>93 DPH</b>.</p>	<p>The scheme proposes mainly 3 – 4 storey apartment blocks.</p> <p>Parking is at reduced level due to proximity to City services and public transport. Some of the parking is underground. This high density development is appropriate to an urban site, but there is space for extensive landscaping.</p>






6. Part of Marshalswick Estate, St Albans	Map and Aerial Photographs	Photographs	Density Calculations	Notes
<p>Land along Sandpit Lane immediately to the north of current Oaklands application. Marshalswick, St Albans.</p>		 <p>Barnfield Road</p>  <p>Southfield Way</p>  <p>Ardens Way</p>	<p>The site is 8.4 ha in area and there are 170 dwellings within the site boundary.</p> <p>Net density for this area is <b>20 DPH</b>.</p>	<p>The area consists of 2 – 2.5 storey detached houses with garages/ off street parking and relatively large back gardens.</p>





7. Part of Chiswell Green	Map and Aerial Photographs	Photographs	Density Calculations	Notes
<p>Land enclosed by North Orbital Road to the East and Watford Road to the West, Chiswell Green</p>	 <p>The top image is a map showing the site boundary in red, located between North Orbital Road to the east and Watford Road to the west. The bottom image is an aerial photograph of the same area, also with the site boundary outlined in red.</p>	 <p>Manor Drive</p>  <p>Watford Drive</p>  <p>Forefield</p>	<p>The site is 9.7 ha in area and there are 145 dwellings within the site boundary.</p> <p>Net density for this area is <b>15 DPH</b>.</p>	<p>The site consists of a mixture of house types from 1 storey bungalows to 2.5 storey detached houses.</p>

8. Luton Road, Harpenden	Map and Aerial Photographs	Photographs	Density Calculations	Notes
<p>Land enclosed by Luton Road to the North and Tuffnells Way to the South, Harpenden</p>		 <p>Ridge Avenue</p>  <p>Wells Close</p>  <p>Tuffnells Way</p>	<p>The site is 10.8 ha in area and there are 190 dwellings within the site boundary.</p> <p>Net density for this for this site is <b>17 DPH.</b></p>	<p>There is a mixture of house types. From 1 storey bungalows to 2 – 2.5 storey terraced and detached houses.</p> <p>Plot sizes vary from 1100 m2 to 215 m2.</p> <p>Most gardens are substantial and there is generally ample off street parking.</p>

9. Belmont Hill, St Albans	Map and Aerial Photographs	Photographs	Density Calculations	Notes
De Tany Court at Belmont Hill, St Albans (former playing fields)	 	 <p>De Tany Ct and related open space (part of former playing field)</p>  <p>De Tany Ct</p>  <p>De Tany Ct</p>	<p>The site is 2.24 ha in total and there are 80 dwellings within the site.</p> <p>Main open spaces are 0.3 ha in total. These are retained parts of the former playing fields and can be regarded as more than amenity open space included in a net area.</p> <p>Density of this site is <b>35 DPH</b>.</p> <p>If calculated without play area and open space (south east of the site) the density of this site is <b>41 DPH</b>.</p>	<p>This is a residential area with a mix of 2-3 storey houses and maisonettes built in late 80s.</p> <p>The site includes a substantial play area and riverside open space serving the wider area and small pockets of integral open space.</p>

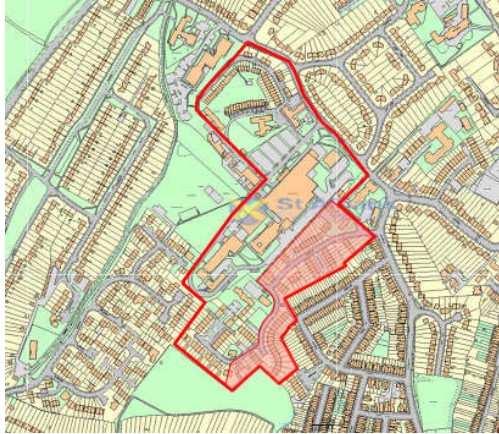
10. Elm Lawns Close, St Albans	Map and Aerial Photographs	Photographs	Density Calculations	Notes
<p>Elm Lawns Close, off Avenue Road, St Albans</p>	 	 <p>Elm Lawns Close</p>  <p>Avenue Road</p>	<p>The site is 0.4 ha in total and there are 24 dwellings within the site.</p> <p>Net density of this site is <b>60 DPH</b>.</p>	<p>This residential development is a mix of 2- 3 Storey houses</p> <p>This is a small site, but it illustrates higher density development with car parking in a cul de sac layout. It comprises housing in terraced form.</p>

11. Land Rear of Sandridge Road, St Albans	Map and Aerial Photographs	Photographs	Density Calculations	Notes
Archers Fields; R/O 168 Sandridge Road, St Albans	 	 <p>Sandridge Road</p>  <p>Archers Fields</p>  <p>Archers Fields</p>	<p>The site is an urban infill of 0.75 ha in total. There are 27 dwellings within the site.</p> <p>Net density of this site is <b>36 DPH</b>.</p>	<p>The site consists solely of 2 storey houses, with gardens. They are mainly terraced, but including some linked detached and detached. There is no integral / amenity open space. There is a substantial unused road frontage (south side of access road) which results in a lower density figure than the layout would achieve if the site were not urban infill, fitting into an existing urban layout.</p>

12. Waverley Road, St Albans	Map and Aerial Photographs	Photographs	Density Calculations	Notes
Pegasus Place off Waverley Road, St Albans	 	 <p>Pegasus Place</p>  <p>Waverley Road</p>	<p>The site is an urban infill development of 0.74 ha in total. There are 36 dwellings within the site.</p> <p>Net density of this site is <b>49 DPH</b>.</p>	<p>The site consists entirely of 2-3 storey terraced houses with associated parking and landscaping. The houses have small gardens. There is no integral amenity open space.</p>

13. St Albans Hospital Sites	Map and Aerial Photographs	Photographs	Density Calculations	Notes
<p>Land adjacent St Albans Hospital, Waverley Road, St Albans.</p>		 <p>Goldsmith Way</p>  <p>Newmarket Ct</p>  <p>Waverley Road with entrance to St Albans City Hospital</p>	<p>The overall site is 9.2 ha in total. The main hospital site (shaded in red) is 3.2 ha. There are approximately 290 dwellings within the remaining site (6 Ha).</p> <p>Net density for the overall site is <b>48 DPH</b>.</p>	<p>The area includes a wide range of dwelling types including some substantial blocks of small flats.</p> <p>The overall site calculation includes some significant areas of open space, the site of a hospice and other hospital related uses.</p> <p>Densities within the overall site vary greatly.</p> <p>Some sub areas where dwellings are predominantly 2 -3 storey houses are considered separately below.</p>

1. Goldsmith Way



Goldsmith Way








The site shaded in red is 2 ha in total and there are 71 dwellings within selected site.






Net density for this site is **35 DPH**





Dwellings are 2-3 storey houses. Within the site there are pockets of open space and significant amount of on-street and off-street parking.

<p>2. Newmarket Court</p>	 	<p>Newmarket Court</p>   	<p>The site shaded in red is 1.1 ha in total and there are 43 dwellings within selected site.</p> <p>Net density for this site is <b>39 DPH</b></p>	<p>The site is a mixture of houses and flats with significant amount of on and off street parking space.</p>
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14. Station Road, Harpenden (a)	Map and Aerial Photographs	Photographs	Density Calculations	Notes
Mallard Mews / Station Road / Waveney Road, Harpenden	 	 <p data-bbox="1010 499 1189 528">Mallard Mews</p>  <p data-bbox="1010 893 1211 922">Waveney Road</p>  <p data-bbox="1010 1249 1178 1278">Station Road</p>	<p data-bbox="1442 180 1727 312">The site is 0.25 ha in total and there are 15 dwellings within the site.</p> <p data-bbox="1442 352 1715 416">Density of this site is <b>60 DPH.</b></p>	<p data-bbox="1767 180 2074 448">This is an infill development with a mix of 2.5 – 3 storey flats and houses and apartments. This is a part cul de sac part street frontage development.</p>

15. Station Road, Harpenden (b)	Map and Aerial Photographs	Photographs	Density Calculations	Notes
<p>Station Road, Harpenden (flats)</p>	 	 <p>Station Road</p>  <p>Station Road</p>  <p>Station Road</p>	<p>The application site is 0.41 ha in total and there are 48 dwellings within the site.</p> <p>Net density of this site is <b>117 DPH</b>.</p>	<p>This development consists of 2-3 three storey blocks of flats with associated parking spaces to rear of blocks.</p>

16. Redbourn Lane, Harpenden	Map and Aerial Photographs	Photographs	Density Calculations	Notes
Former Central Science Laboratories, Redbourn Lane, Hatching Green, Harpenden	 	 <p data-bbox="999 475 1167 504">Manor Close</p>  <p data-bbox="999 850 1167 879">Manor Close</p>  <p data-bbox="999 1217 1417 1281">Hatching Green (road leading to the site)</p>	<p data-bbox="1444 180 1731 312">The overall site is 1.9 ha and there are 39 dwellings within the site.</p> <p data-bbox="1444 347 1731 416">Density of this site is <b>20 DPH.</b></p> <p data-bbox="1444 451 1731 687">If calculated without the surrounding open space (approx. 0.63 Ha) then the net density of this development is <b>32 DPH</b></p>	<p data-bbox="1767 180 2076 488">This residential development includes consists 2 storey housing with a mix of terraced, linked detached and detached forms. There is a mix of on-street and off-street parking.</p> <p data-bbox="1767 523 2076 727">There is a substantial setting of open space related to the overall character of the area. This more than integral amenity open space.</p>

17. Luton Road, Harpenden	Map and Aerial Photographs	Photographs	Density Calculations	Notes
40 Luton Road, Harpenden	 	 <p>View from Townsend Road</p>  <p>View from Luton Road</p>  <p>Luton Road</p>	<p>The site is 0.14 ha in total and there are 9 dwellings within the site.</p> <p>Density of this site is <b>64 DPH</b>.</p>	<p>This residential development consists of 9 apartments in a 3 storey building with accommodation in the roof space and undercroft parking.</p> <p>This is a small infill / redevelopment scheme, but it illustrates how higher density components within an overall area / scheme can contribute to character.</p>

## 8. Assessment of Infrastructure Capacity

**Table 2: Infrastructure to be assessed in the IDP**

Infrastructure Category	Sector	Infrastructure Type
<b>Social &amp; Community Infrastructure</b>	Health Infrastructure	<ul style="list-style-type: none"> <li>• GPs</li> <li>• Hospitals &amp; Acute Provision</li> </ul>
	Health and Community Services	<ul style="list-style-type: none"> <li>• Adult Care Services</li> <li>• Mental Health Care</li> </ul>
	Education Infrastructure	<ul style="list-style-type: none"> <li>• Primary Education</li> <li>• Secondary Education</li> <li>• Further Education</li> <li>• Early Education &amp; Child Care Provision</li> </ul>
	Emergency Services	<ul style="list-style-type: none"> <li>• Police Services</li> <li>• Fire &amp; Rescue Services</li> </ul>
	Leisure and Cultural Facilities	<ul style="list-style-type: none"> <li>• Sports &amp; Leisure Facilities</li> <li>• Cultural Services &amp; Public Realm</li> <li>• Libraries</li> <li>• Cemeteries</li> </ul>
<b>Green Infrastructure</b>	Strategic Green Infrastructure	<ul style="list-style-type: none"> <li>• Forests</li> <li>• Country Parks</li> <li>• Ecological Networks</li> <li>• Rights of Way</li> <li>• River Corridors</li> <li>• Flood risk</li> </ul>
	Local Green Infrastructure	<ul style="list-style-type: none"> <li>• Allotments</li> <li>• Amenity Green Space</li> <li>• Natural &amp; Semi-Natural Green Space</li> <li>• Parks &amp; Gardens</li> <li>• Playing Pitches</li> <li>• Children's Play Areas</li> <li>• Teenage Provision</li> </ul>
<b>Physical Infrastructure</b>	Strategic & Local Transport	<ul style="list-style-type: none"> <li>• Road Network</li> <li>• Public Transport</li> <li>• Walking &amp; Cycling Infrastructure</li> <li>• Parking</li> </ul>
<b>Utilities</b>	Water Infrastructure	<ul style="list-style-type: none"> <li>• Water Supply</li> <li>• Water Drainage &amp; Sewerage</li> </ul>
	Energy Distribution	<ul style="list-style-type: none"> <li>• Electricity Distribution</li> <li>• Electric Vehicle Charging</li> <li>• Gas Transmission &amp; Distribution</li> <li>• Onsite Energy Provision</li> </ul>
	Digital Infrastructure	<ul style="list-style-type: none"> <li>• Internet Access</li> </ul>
	Waste Infrastructure	<ul style="list-style-type: none"> <li>• Waste &amp; Recycling</li> </ul>

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	EU Category	EU Classification	Organisations involved and Funding Source	Planning Phase	Implementation Phase	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated Completion Date	Comments / Barrier to implementation
1	Investigate the status of on-street parking in the AQMA and determine if parking is contributing to traffic congestion at each junction. Investigate the provision of on-street loading facilities and co-ordinated timings of deliveries.	Traffic Management	Other	SADC/HCC	2017/18	2019	Parking restrictions in place	See note 1 at end of table	The Parking Team have been consulting on proposals to amend parking restrictions to improve traffic flows during 2019/20. Work on Belmont Hill has commenced. Loading restrictions are in place during peak traffic hours near the shops and these will continue to be enforced. This measure is within the ongoing work programme for new Traffic Regulation Orders being looked at annually.	2019/20	
2	SADC will assert comprehensive control over Part B/Part A2 processes for smaller scale industries under the environmental permitting (England & Wales) regulations 2007.	Environmental Permits	Other	SADC	NA	Annually	Number of inspection	See note 1 at end of table	All processes are risk rated annually and inspection frequency determined based upon risk. Programmed annual inspections to April 2018, are currently up to date. Processes operating without a permit are identified and appropriate enforcement action taken.	Continuous	
3	SADC will investigate complaints about nuisance (domestic and industrial emissions).	Public Information	Other	SADC	NA	On receipt	Time taken to resolve complaints	See note 1 at end of table	Complaints are investigated as and when received.	Continuous	
4	Continue to monitor air quality within the district and as necessary review the suitability of monitoring locations in line with DEFRA guidance TG16	Policy Guidance and Development Control	Other	SADC	2018	Continuous - Reviewed July 2018	Data capture	N/A	The details of diffusion tubes and continuous monitoring are recorded on <a href="http://www.stalbans.gov.uk/environmentandwaste/pollution/air-pollution/">http://www.stalbans.gov.uk/environmentandwaste/pollution/air-pollution/</a>	Continuous	
5	To increase bus patronage and encourage modal shift from the car to public transport.	Transport Planning and Infrastructure	Bus route improvements	SADC/HCC		2017-19	Service numbers	See note 1 at end of table	St Albans Bus Users Forum provides a platform for bus users, bus service operators and HCC Passenger Transport Team to discuss services and hear about service improvements	Ongoing Meets twice yearly.	

Measure No.	Measure	EU Category	EU Classification	Organisations involved and Funding Source	Planning Phase	Implementation Phase	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated Completion Date	Comments / Barrier to implementation
6	To investigate the feasibility of a Clean Air Zone	Promoting Low Emission Transport	Low Emission Zone (LEZ)	SADC / HCC	2018	NA	Vehicle counts	N/A	To investigate suitability and eligibility for funding for Clean Air Zones via DEFRA		An Air Quality Update report was considered at the CESSC meeting held on 6th September 2018. At this point DEFRA had not released their eligibility criteria, but advised that they would in October 2018. St Albans were eligible to apply and submitted a bid on 30th November 2018. Grant awards ought to be released by March 2019.
7	Pilot the Station Travel Plan.	Promoting Travel Alternatives	Other	HCC	2010		Usage figures	See note 1 at end of table	Station Travel Plan – the travel plan documents are very limited in scope and it will require a Station Travel Plan working group to be established to take ownership of the plan and move towards achieving the objectives. It has been decided to wait until the station development is completed before setting up the working group.		
8	Community Rail Partnership (CRP) The Abbey Line.	Promoting Travel Alternatives	Promote use of rail and inland waterways	SADC/HCC	2010	2011-2016	Usage figures	See note 1 at end of table	Community Rail Partnership (The Abbey Line) – the shuttle bus was found not to be commercially viable so has been withdrawn. The CRP is working closely with the new operator LNR to find ways to engage with communities along the line. This includes a campaign to recruit more station adopters and a primary school engagement programme.		
9	Investigate possibility of road signs to discourage through traffic.	Traffic Management	Other	HCC	2017/18	2018/19	Traffic counts	See note 1 at end of table	Variable Message Signs to be activated during city centre events to inform motorists of delays and parking options.	Continuous	
10	Investigate introduction of additional electric charging at council car parks within the District	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	SADC	2019/20	2021/22	Usage figures	See note 1 at end of table	Further work on this measure is dependent on preferred service provision options arising from work on the procurement of the car parking contracts. Existing EV charge points in the District are owned and maintained by HCC. HCC is developing a strategy and guidance, together with a Framework to support local Councils proposing to extend existing capacity.	Continuous	

Measure No.	Measure	EU Category	EU Classification	Organisations involved and Funding Source	Planning Phase	Implementation Phase	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated Completion Date	Comments / Barrier to implementation
11	Consider requiring developers to install electric charging points in new developments under S106 agreements.	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	SADC	2018/19	Following implementation of SLP and subject to discussions with Planning Dept. for inclusion in the detailed Local Plan	Installation figures	See note 1 at end of table	We provided a response to the SLP consultation. Further discussions with the Planning Department regarding formulation of St Albans AQ Planning Policy Guidance to provide consistency of advice to developers across Herts & Beds are continuing.  Electric Vehicle Charge Points to be installed in new Harpenden Sports and Leisure Centre	2019/20	
12	Consider an increase in car parking charges with the view to making bus travel a more attractive alternative.	Promoting Travel Alternatives	Other	SADC`	2018/19	2019/20	Car park volume figures	See note 1 at end of table	Annual review undertaken. Potential price increase in car park charging is under negotiation.	Continuous	
13	Continue the Trees Against Pollution project and explore green wall/hedging opportunities	Transport Planning and Infrastructure	Other	SADC	2017/18	2018/19	Number of trees planted: 600,000	See note 1 at end of table	Heartwood Forest – this is a new mixed native woodland on private land owned by the Woodland Trust to the north of Sandridge village. The planting of 600,000 trees (mainly as whips or forestry transplants) on approximately 370 hectares commenced in 2009 and was completed in 2017/18, planted entirely by volunteers.  Woodland planting has been negotiated on BRE and Harperbury and we are in negotiation on the current Hanstead Wood Application.  SADC have an annual programme of tree planting within parks and open spaces (currently £6Kpa). In addition, a special tree planting project was set up to run 2016-2019, value £25K.	Continuous	

Measure No.	Measure	EU Category	EU Classification	Organisations involved and Funding Source	Planning Phase	Implementation Phase	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated Completion Date	Comments / Barrier to implementation
14	Cycling and walking strategy	Promoting Travel Alternatives	Promotion of cycling	SADC / HCC	2016/17	2018/19	Usage figures	See note 1 at end of table	<p>Cycling (2008) and Walking (2009) strategies in place. SADC Green Travel Plan sets out a range of actions to reduce emissions from staff travel.</p> <p>Staff cycle scheme to be relaunched in Spring 2019. Improvements and investments in cycling and walking infrastructure include;</p> <ul style="list-style-type: none"> <li>• Implementation of the St Albans Green Ring route project.</li> <li>• Production of revised St Albans Cycling map to be launched Spring 2019.</li> <li>• Construction of cycle and walking paths in Verulamium Park.</li> <li>• Provision of secure cycle parking racks within the city centre and at rail stations.</li> <li>• Upgrading and resurfacing of the Alban Way Leisure path.</li> <li>• Installation of Trixie mirrors at key junctions within the city centre</li> <li>• Installation of new section of shared footpath/cyclepath London Road, St Albans</li> <li>• Early cycle release traffic signals at Hatfield Road, St Albans</li> <li>• Improved access to Nickey Line in Harpenden.</li> <li>• New link from Alban Way to St Albans City Rail station.</li> <li>• Provision of way finding monoliths within the city centre.</li> </ul>	Continuous	
15	Taxi emissions.	Promoting Low Emission Transport	Taxi Licensing conditions	SADC	2017/18	2018/19	Certificate of Compliance data	See note 1 at end of table	<p>Emissions controlled through Certificate of Compliance at garage check.</p> <p>The frequency of checks is dependent upon the age of the vehicles;</p> <p>1 – 5 years old; annually 5 – 7 years old; every 6 months</p> <p>Over 7 years old; every 4 months</p> <p>Vehicle Licence Conditions amended to include the following;</p> <p>Any taxi driver can licence a fully electric vehicle as long as it complies with the hackney carriage and private hire vehicle licence conditions. This type of vehicle attracts a discount of £60</p> <p>The Licensing and Regulatory committee have commissioned a feasibility study into the infrastructure/technological and financial implications of supporting electric taxis across the district. A draft action plan from the feasibility study task and finish group is a Licensing and Regulatory committee agenda item for its January 2019 meeting following the submittal of the grant.</p>	Continuous	

Measure No.	Measure	EU Category	EU Classification	Organisations involved and Funding Source	Planning Phase	Implementation Phase	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated Completion Date	Comments / Barrier to implementation
16	Campaign to raise awareness of air quality and the impact on air quality, of idling engines (when parked)	Public Information	Via the Internet	SADC	2016/17	2018/19	Media coverage	See note 1 at end of table	The Anti-idling campaign was run during 2017 and 2018. This raised awareness of the issue and urged car, van, lorry, bus and taxi drivers to switch off their engine when parked or stationary for more than a minute. It included social media activities, letters, school engagement activities, market stalls, Idling Action St Albans events and information leaflets issued with resident car parking permits. The following numbers were spoken to as part of the campaign: School engagement total 1,700; Community engagement 696 In 2019 we are looking at the possibility of installing street signage to encourage drivers outside schools to turn off their engines when stationary.	2019	
17	Retrofitting of existing bus fleet to lower pollutant emissions	Promoting Low Emission Transport	Other	SADC/HCC		N/A	Number of buses retrofitted	See note 1 at end of table	St Albans were part of a Herts & Beds bid application to DEFRA to work with Arriva Southern Counties to retrofit all pre-Euro 6 buses operating on the bus routes running through the Hertfordshire AQMAs. Arriva Southern Counties operate bus routes through AQMAs within five Local Authority Areas within Hertfordshire: Dacorum Borough Council, East Hertfordshire District Council, North Hertfordshire District Council, St Albans City and District Council and Watford Borough Council. The bid was to retrofit approx. 90 buses costing approx. £1.4 million. Funding was not awarded.	Complete	
18	Freight Management Plan	Freight and Delivery Management	Other	SADC	2014/17	2018	Numbers of vehicles and routes taken	TBC	Project is on hold pending possibility of feeding into larger scale project (feasibility of CAZ) subject to funding stream being available. Outcome of bid application due by March 19.	Ongoing	
NOTE 1 - It is not possible to specifically quantify the impact of small scale projects that the Council are working on with partners. However individual & cumulative AQ measures which reduce emissions are beneficial to improving pollutant levels both AQMA's and the District generally.											