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Based on professional judgment, a school was considered to have surplus capacity where the overall net capacity exceeded 10 pupils. This figure was considered a suitable ‘tipping point’ for when additional school provision will need to be considered.

## 2.6 Access to open space

(+)	0	(-)
Site is located within 400m of existing publicly accessible open space, or there are proposals for new on-site open space provision as part of the development	Site is located 400-600m from existing publicly accessible open space	Site is more than 600m from existing publicly accessible open space

This assessment was undertaken in two stages. Initially, sites were assessed using quantitative GIS analysis. They were scored in line with the aforementioned criteria based on their distance from managed open spaces, informal recreation grounds, woodland, and children’s playgrounds, as identified in the Epping Forest District Open Space, Sport and Recreation Assessment (2012). Distance was calculated based on the network distance from the open space to the central point of the site. The distance thresholds for the assessment were established in line with the Open Space, Sport and Recreation Assessment and through contextual information provided by Council specialists.

Following this, a further qualitative assessment was undertaken to identify where new on-site public open space was proposed by landowners and developers as part of their developments. This assessment drew on additional information supplied through the survey, as well as contextual information in the Council’s SLAA database. Scores were adjusted as appropriate to reflect these proposals.

## 2.7 Health

(+)	0	(-)
Site is located within 1km of a GP surgery with capacity	Site is located within 1km of a doctors surgery with no capacity	Site is not located within 1km of doctors surgery

This assessment was undertaken using quantitative GIS analysis. It considered the distance of sites from GP surgeries, which included all surgeries within Epping Forest District and those located within 1km of the District boundary. Distance was calculated based on the network distance between the centre points of the GP surgeries and sites.

As the NHS do not provide national standards for GP to patient ratio, the calculation of surgery capacity was based on the ratio of GPs to patients versus the average ratio of GPs to patients across Essex (1 GP per 1,919 patients). Surgeries with a patient ratio exceeding this Essex-wide average were considered to have insufficient capacity. Data on the number of patients per surgery was obtained using the *Numbers of Patients Registered at a GP Practice* dataset (HSCIC, 2016), while the number of active GPs per surgery was sourced from NHS Choices GP search engine.

## 2.8 Impact on Minerals Deposits

(+)	0	(-)
None of the site is located within a minerals safeguarding area	Part of the site is located within a minerals safeguarding area, but possible impacts could be mitigated	Part of the site is located within a minerals safeguarding area and impacts could not be mitigated, or the whole of the site is within a minerals safeguarding area

Essex County Council are the competent authority for minerals and waste planning. Policy S8 of the County's Mineral and Waste Plan addresses mineral safeguarding. The policy requires a check to be undertaken of local authority proposed site allocations to identify whether the sites meet the safeguarding criteria and to establish whether a mineral resource assessment is required. All sites were sent to Essex County Council to enable them to undertake the safeguarding assessment. The scores attributed to sites were based on the conclusions of their assessment, which are presented in the proformas and the file note from Essex County Council at Appendix B1.6.3.

## 3 Cumulative achievability

In order to understand the potential cumulative impacts of development at a settlement scale, an assessment of cumulative achievability was undertaken. Rather than considering the impact of a potential allocation in isolation, this assessment took into account the wider impact of residential and traveller pitches growth on settlements for a series of infrastructure types: open space; primary and secondary schools; green infrastructure; sewage treatment; and the Central Line. These infrastructure types were considered as there is potential for cumulative growth within settlements to impact upon them.

Some aspects of the assessment of cumulative achievability required an estimation of the population by settlement at the end of the Plan period. This was estimated using the following approach:

- Ward-level and parish-level populations for 2011 were taken from the 2011 Census and applied to the settlements using a 'best fit' approach.
- To estimate the population growth in the period 2011-2016, additional population from completions was derived using the 2016 average household size taken from the 2014-based household projections, and added to the 2011 base. Settlement populations were then adjusted to be consistent with the 2014

Mid Year Estimate and 2014-based household projections for the District as a whole, which is the most up-to-date data available from the Office of National Statistics and Department of Communities and Local Government

- To estimate the population growth in the period 2016-2033, additional population from proposed site allocations, commitments and a likely level of windfall development<sup>11</sup> was derived using the forecast average household size taken from the 2014-based household projections, and added to the 2016 base.
- No average household sizes for traveller pitches is currently available. There is no official definition as to what constitutes a single traveller residential pitch; travellers require various sizes of accommodation, depending on the numbers of caravans per pitch which varies with different families living at different densities. The convention used in the site selection methodology is that a pitch accommodates a single household and typically contains enough space for one or two caravans. For the purposes of the assessment, an average of two caravans per pitch was assumed, and the forecast average household size taken from the 2014-based household projections was applied to *each* caravan (acknowledging that multiple caravans would still be considered to be a single household).

The impact of the strategic sites around Harlow have not been subject to cumulative assessment. These sites have been subject to additional, separate analysis by AECOM which is presented in their strategic sites assessment.

### 3.1 Impact on open space

(+)	0	(-)
There are no identified current deficiencies in the quantum of open space within the settlement. No open space is lost as a result of the proposed allocations in the settlement.	There are no identified current deficiencies in the quantum of open space within the settlement, however the cumulative impact of the proposed allocations would result in a reduction in land for open space.	There is a current deficiency in the quantum of open space within this settlement. The cumulative impact of the proposed allocations would result in a reduction in land for open space.

This assessment considered the cumulative impact of sites proposed for allocation on designated open space, based on the Council’s Open Space, Sport and Recreation Assessment (2012). Three types of open space have been considered as part of the assessment:

- Managed open space
- Informal recreation space
- Allotments

Information on existing deficits in open space within settlements was taken from Epping Forest Open Space, Sport and Recreation Assessment (2012), which

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<sup>11</sup> It is not possible to know where windfall development will occur in the future. For the purposes of the assessment, it has been assumed that approximately half of the windfall allowance will take place outside of the settlements as rural exception sites, with the rest of the allowance spread across the settlements.

updated an open space audit previously undertaken in 2009. A separate assessment of whether it would be reasonable for each allocated sites to meet their own open space needs on-site has been undertaken, which found that for the majority of sites the proportion of the site required is less than 10%. For the purposes of the assessment, it has therefore been assumed that all new development would be able to meet the newly-arising open space need resulting from the additional population.

The assessment was undertaken qualitatively, comprising a spatial comparison of existing open spaces and proposed sites to understand, at the settlement level, the level of open space that would be lost.

### 3.2 Impact on primary schools

(+)	0	(-)
<p>The proposed allocations in the settlement can be accommodated within the current primary school places in the Schools Planning Area.</p> <p>There is potential to accommodate growth by either expanding schools or identifying a new site</p>	<p>The proposed allocations in the settlement would lead to a shortage of current primary school places in the Schools Planning Area. There is potential to accommodate growth by either expanding schools or identifying a new site</p>	<p>The proposed allocations in the settlement would lead to a shortage of current primary school places in the Schools Planning Area. There is limited scope to further expand school provision due to site constraints</p>

This assessment considered the cumulative impact of the sites on primary schools. Existing capacities for primary school places within Schools Planning Areas was taken from the assessment of criteria 2.4b (see previous).

To assess the impact of future development, standards for primary school places were applied to the additional households expected through the proposed site allocations, commitments and windfall.<sup>12</sup> This additional demand was then compared with existing capacities.

The potential of the Schools Planning Areas to expand their capacity in the future (either through expansion of existing schools or the identification of a new school site) was also identified based on the assessment of criteria 2.4b.

### 3.3 Impact on secondary schools

(+)	0	(-)
<p>The proposed allocations in the settlement can be accommodated within the current secondary school places in the Schools Planning Area. There is potential to accommodate growth by either expanding schools or identifying a new site</p>	<p>The proposed allocations in the settlement would lead to a shortage of current secondary school places in the Schools Planning Area. There is potential to accommodate growth by either expanding schools or identifying a new site</p>	<p>The proposed allocations in the settlement would lead to a shortage of current secondary school places in the Schools Planning Area. There is limited scope to further expand school provision due to site constraints</p>

<sup>12</sup> Obtained from Essex County Council Developers’ Guide to Infrastructure Contributions (2016)

Assessment on the impact of secondary school places used the same approach as primary school places (see Section 3.2 **Error! Reference source not found.** above) and drew on the findings of assessment of criteria 2.5b.

### 3.4 Impact on Green Infrastructure (GI)

(+)	0	(-)
The proposed site allocations provide opportunities to enhance Green Infrastructure	The proposed site allocations generally provide opportunities to enhance GI; on some sites there is likely to be some loss of GI	The proposed site allocations do not provide opportunities to enhance Green Infrastructure

This assessment considered, at the settlement level, the possible impact (positive or negative) on the Green Infrastructure (GI) network in Epping Forest District.

A series of spatial and overarching GI objectives have been developed, which will inform the policies in the emerging Local Plan on Green Infrastructure, These are:

- Protect sites and their setting;
- Develop green links between wildlife / trees / hedgerow assets to better integrate the network (e.g. between Epping Forest and Lee Valley Regional Park);
- Improve accessibility to heritage/landscape/woodland-related assets;
- Protect key areas of open green space;
- Protect and enhance Green Lanes / Protected Lanes;
- Improve and extend the Public Rights of Way network to better link green infrastructure assets;
- Improve east west access to the Lee Valley Regional Park – more connections to get onto the north-south towpath route and better connections between the assets within the Park;
- Improve connections to and along the River Roding;
- Improve east-west access points to River Lee towpath.

Spatial data for the assets<sup>13</sup> in the District was used to qualitatively assess the impact of proposed site allocations within settlements, taking into account the aforementioned objectives. Sites were judged to either support the objectives (e.g. by providing opportunities to develop or strengthen links between assets), or restrict their fulfilment (e.g. by using the asset for development or truncating existing links between assets).

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<sup>13</sup> Green infrastructure assets were taken to be: SAC; SPA; Ramsar; SSSI; BAP Habitats; National Nature Reserves; Local Wildlife Site; Local Nature Reserves; Registered Parks and Gardens; Conservation Areas; Ancient Woodland; Ancient Trees; Epping Forest; Corporation of London Forest, Play Spaces, Playing Fields, Allotments, Cemeteries, Protected Lanes; Green Lanes; Managed Open Space; and Woodland Semi Natural Open space.

### 3.5 Impact on Sewage Treatment

(+)	0	(-)
Settlement is served by a Sewage Treatment Works which has known spare capacity or planned additional capacity	No known capacity issues, with further engagement with Thames Water to take place as part of the Infrastructure Delivery Plan	Settlement is served by a Sewage Treatment Works with known limited capacity

Engagement with Thames Water with regard to the impact of proposed levels of development on Sewage Treatment Works (STWs) is currently being undertaken as part of the emerging Infrastructure Delivery Plan. Where information on the current and future capacity of the STWs serving settlements was held, this information was used to undertake the assessment. Further engagement with Thames Water will continue to take place as the Local Plan progresses, including more detailed modelling of the impact of proposed allocations on sewage treatment.

### 3.6 Impact on Central Line Capacity

(+)	0	(-)
The proposed allocations in this settlement do not have a material impact on the current or expected forecast peak use of the Central Line stations within Epping Forest District	The proposed allocations in this settlement are expected to result in a minor increase in the expected forecast peak use of the Central Line stations within Epping Forest District, which will not affect the capacity of these stations	The proposed allocations in this settlement are expected to result in a moderate or major increase in the expected forecast peak use of the Central Line stations within Epping Forest District, which will affect the capacity of these stations

This assessment considered the cumulative impact of growth generated by sites on the capacity of the five ‘spur’ Central Line Stations in the District (Epping, Theydon Bois, Debden, Loughton and Buckhurst Hill), which are located on the main route of the Central Line. In addition, there are three stations located on the Central Line ‘loop’ (Roding Valley, Chigwell and Grange Hill); these stations have not been included in the assessment as data of their current capacity was not available. The assessment is therefore a ‘worst case’, as in reality it might be expected that additional population would be able to utilise any spare capacity on the ‘loop’ section of the Central Line.

The assessment does not assess the impact on individual stations; this is due to the complex usage patterns in the District where some commuters choose to use a station which is not geographically proximate in order to access parking, childcare facilities and other services. It also does not take into account capacity on other parts of the Central Line or wider Transport for London (TfL) network.

Data on current train peak AM (0800-0900) and PM (1700-1800) Central Line loading across the five ‘spur’ stations within the District was taken from TfL’s Rolling Origin and Destination Survey (2014).<sup>14</sup>

<sup>14</sup> <http://data.london.gov.uk/dataset/tfl-rolling-origin-and-destination-survey>

In order to calculate the additional number of commuters that might be expected to use the Central Line as a result of the proposed sites in each settlement, the following data sources and assumptions were used:

- Anticipated additional population from each allocation was calculated using the approach set out previously;
- Forecast working age population (16-74<sup>15</sup>) for the District at the end of the Plan period was taken from the 2014-based subnational population projections;
- The proportion of residents using London Underground as their main method of travel to work was taken from 2011 Census data<sup>16</sup> at ward level and applied to individual settlements. For the purposes of the assessment it has been assumed that these proportions will continue across the Plan period;
- TfL's London Travel Demand Survey (2014) highlights that whilst the highest flows are between 0800-0900 and 1700-1800, the AM and PM peaks extend beyond these hours (0700-1000 and 1600-1900 respectively). Using the reported findings of this survey as a basis, it has been assumed for the purposes of this assessment that one third of additional users would choose to travel outside 0800-0900 and 1700-1800.

These data sources and assumptions have been used to develop an estimate of the additional commuters using the Central Line.

At the settlement level, where proposed sites would result in an increase in eastbound or westbound peak hour travel of over 3%, it was judged that this would have a material impact on the expected peak use of the Central Line. Where an increase of over 10% was estimated, it was judged that this would impact upon the capacity of the stations to accommodate this growth.

As well as commuters, it is expected that growth in Epping Forest District would lead to other types of trip generation, e.g. travel into Central London for shopping or entertainment. These trips have not been modelled because they are likely to occur outside the peak times.

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<sup>15</sup> Working age population is often taken as 16-64. For the purposes of this study 16-74 has been used to be consistent with the ages used in the Method to travel to work data.

<sup>16</sup> QS701EW - Method of travel to work

### **B1.6.3 Mineral Safeguarding Assessment**

**26 August 2016**

#### **Assessment of proposed Epping Forest Local Plan site allocations**

ECC has assessed all sites proposed for allocation in the Draft Epping Forest Local Plan that have not already gained planning permission, for their impact on mineral resources. These sites include strategic growth locations and other development sites. The assessment was carried out to ensure that finite mineral resources are not needlessly sterilised by non-mineral development, in line with national planning policy requirements (NPPF para 143). The list of sites subject to the assessment includes all those supplied to the County Council on 29 July 2016 and 25 August 2016.

These strategic growth locations/other development sites proposed in the Draft Local Plan were assessed to understand whether the whole site or a proportion lies within a mineral safeguarding area; whether that proportion was over the minimum site size threshold identified in the Essex Mineral Local Plan (MLP) Policy S8, and what proportion of this potentially workable area was outside of 250m of the settlement boundary in Epping Forest, taken as the Green Belt boundary.

The assessment concluded that none of the sites proposed for allocation in the Epping Forest Local Plan are within the thresholds identified in MLP Policy S8. This means that a Mineral Resource Assessment is not required in relation to any of these sites, and therefore the County Council will not request the inclusion of references to mineral resource safeguarding within the site allocation policy in the Epping Forest Local Plan.

#### **Reference to Minerals and Waste matters in the Epping Forest Local Plan**

##### Minerals - General introductory text

The Essex Minerals Local Plan and Essex and Southend-on-Sea Waste Local Plan in Essex are part of the statutory Development Plan, and must be considered alongside the Epping Forest Local Plan. It is suggested that the Epping Forest Local Plan makes reference to the Minerals Local Plans - the following text may be of use:

*'Essex County Council is the Minerals Planning Authority for the District, and is responsible for preparing planning policies, and assessing applications for mineral development. The Essex Minerals Local Plan (2014) forms part of the statutory Development Plan and should be read alongside the Epping Forest Local Plan. The role of the Minerals Local Plan is to ensure a steady and adequate supply of mineral resources to facilitate development over the Plan period and beyond.'*

*Currently unworked sand and gravel deposits are subject to a Minerals Safeguarding policy within the Minerals Local Plan. The safeguarding policy requires the minerals planning authority – Essex County Council - to be consulted on development proposals covering 5 hectares or more within the sand and gravel minerals safeguarded area. The Mineral Safeguarding Areas within Epping Forest District are shown on the Policies Map. Regard should be had to the requirements of the Minerals Local Plan where a development falls within a Mineral Safeguarding Area.*

*The Minerals Local Plan also designates Mineral Consultation Areas at a distance of 250m around active quarries, mineral infrastructure and mineral deposits permitted for extraction. Essex County Council must be consulted on all non-mineral related development within these areas.'*

Reference to waste planning matters should be included in the introduction to the Epping Forest Local Plan and may also be necessary within the Policies and supporting text. It is considered that consideration of the draft Plan as a whole will be needed to inform this additional text. Therefore, this will be supplied by the County Council in response to consultation on the draft Plan, as necessary. If further discussion is needed in advance of the consultation, please contact the M&W Team.