8 DELIVERING THE MOVEMENT FRAMEWORK

Introduction
8.1 The purpose of this section of the design code is to orchestrate the delivery of essential road infrastructure highlighted in the masterplan and movement framework.
8.2 Design codes in the section establish broad parameters to enable the construction of these necessary highways works. They have been framed in order to provide sufficient flexibility and room for manoeuvre to stakeholders involved in the delivery of this development on the ground. They are sufficiently precise so as to fulfil the requirements for the discharge of planning permissions and ensure that infrastructure is delivered in an appropriate manner.

New movement infrastructure
8.3 The masterplan identifies a range of movement routes and new junctions which are critical to achieving a fully accessible and connected development. These items of road infrastructure are essential in order to:

- connect the site to the local and strategic highway network;
- ensure efficient connections are made through the site to allow land parcels in different ownership to be released for development; and
- facilitate the provision of efficient and direct bus and cycle routes which can plug into Harlow’s existing public transport network.

Relationship to planning permissions granted in the LDO
8.4 These items of infrastructure are granted planning permission in Schedule C of the London Road North LDO and defined in Appendix D of the LDO (see map to the right). This chapter needs to be read in conjunction with Schedule C and Appendix D of the LDO (see map right).

Other highways consent requirements
8.5 Although planning consent is provided through the LDO and Design Code, landowners and developers are advised that will need to pursue other forms of consent associated with the Highways Act. The Council’s intention is for these broad parameters to work alongside the street and frontage design standards set out in chapter 5 and...
any adoption or other legal requirements undertaken in accordance with the Highways Act.

**Structure of this section**

8.6 This chapter contains seven design codes. The first four design codes enable the provision of new junctions. The final three design codes in this chapter establish requirements for the construction of the three main movement routes through the enterprise zone. These new routes will connect up these junctions, providing access to development parcels within the LDO area, helping to plug the site into the surrounding urban area.

**New Junctions**

8.7 Codes C1, C4, C5 and C7 establish parameters to guide the delivery of new junctions constructed under class 1, class 4, class 5 and class 7 of Schedule C of the LDO.

**New Movement Routes**

8.8 Codes M1, M2 and M3 establish a framework for delivering the three main vehicle movement routes through the zone under classes 2, 3, 6 and 8 of Schedule C of the LDO.

**How to use this section of the code**

- This section contains design codes and additional guidance.
- The design codes highlight mandatory requirements and are shown in dark and sky blue boxes.
- Supporting definitions and maps are provided for clarity.
- Additional guidance is provided in the grey boxes with blue headers. These boxes inform stakeholders of issues and, in some instances, explain the reasoning behind parameters.
Parameters for new junctions

C1 - New junction on the A414 connecting to an Urban Boulevard (Link Road)

The centre line of the Urban Boulevard (Link Road) must connect to a signalised T-junction on the A414 between 60m north and 60m south of reference point A.

8.11 Reference point A is defined as the most south eastern corner of the allotment gardens adjacent to the A414. Point A is shown on map 1.

8.12 The centre line of the Urban Boulevard (Link Road) is defined as the delineator strip between inward and outward lanes of traffic (as shown on map 2).

8.13 The parameters set by code C1 establish a wide scope for the delivery of the new junction on the A414. The area of search is shown on map 3. An example of a successful outcome is demonstrated on map 4.

Guidance C1: Criteria for establishing a new junction on the A414

The precise location of the new junction on the A414 should be guided by the following criteria:

a) The junction and additional lanes on the A414 should be positioned in order to avoid allotment land. Any affected or displaced allotment land will need to be re-provided in accordance with separate statutory requirements set out in the Allotments Act.

b) The junction and additional lanes should be located in order to avoid land safeguarded for the proposed electricity sub-station, unless a like-for-like facility can be provided in an appropriate location elsewhere within or outside the LDO boundary.

c) The new junction and additional lanes on the A414 should be positioned so as to not jeopardise the delivery of the Urban Boulevard (Link Road) in the nature explained below in code M1.
The centre line of the Main Employment Avenue (Feeder Road) must connect to a junction on the Urban Boulevard (Link Road) at a point at least 160m from the A414 and at least 120m from London Road.

8.14 **The centre line** of the Main Employment Avenue is illustrated on map 5.

8.15 The potential area of search for the provision of this new junction is shown on map 6.

**Guidance C4: Criteria for establishing a new junction on the Urban Boulevard (Link Road) connecting to the Main Employment Avenue (Feeder Road)**

The precise location and design of junction C4 will need to be guided by the following criteria:

a) The junction will need to be situated sufficiently far to the east to ensure that the required number of queuing lanes for vehicles can be provided in both directions to ensure congestion is minimised at key junctions, particularly at the A414.

b) The junction will need to be situated so that it provides direct access to a Main Employment Avenue (Feeder Road).

c) The junction’s location will need to be appropriately located so as to not prejudice the delivery of the kinked section of the Urban Boulevard (Link Road). This section of the road requires a change in slight change in direction and character in the manner described in M1.

Illustrative example of how the Urban Boulevard / Main Avenue junction is expected to function and be located.
8 DELIVERING THE MOVEMENT FRAMEWORK

C5 - New junction on London Road connecting to the Urban Boulevard (Link Road)

The centre line of the Urban Boulevard (Link Road) must:

a) connect to a junction on London Road between 90m and 170m north of reference point B; and

b) connect to Newhall Primary Road Network (proposed bus route).

8.16 Reference point B is shown on map G below and is defined as the northern boundary of Newhall Cottages and is shown on map 7.

8.17 The centre line of the Main Employment Avenue is illustrated on map 8.

8.18 The parameters set by code C5 establish a wide scope for the delivery of the new junction. The area of search is shown on map 9.

Guidance: Criteria for establishing a new junction on London Road connecting to Urban Boulevard (Link Road)

The precise location and design of the new junction on the A414 will need to be guided by the following criteria:

a) the location of the junction and the link road approach will need to avoid the existing water pumping station – safeguarded infrastructure.

b) the junction will need to be located sufficiently south of the existing water pumping station in order to accommodate 3 to 4 storey buildings which turn/ wrap the corner.

c) the location of the junction and the Urban Boulevard along Newhall Approach Character Area will need to allow the Urban Boulevard to join Newhall Primary Road Network (proposed bus route) and flow through Newhall neighbourhood centre at this location.
8 DELIVERING THE MOVEMENT FRAMEWORK

**C7 - New junction on London Road connecting to Main Employment Avenue (Feeder Road)**

The centre line of the Main Employment Avenue should connect to a new junction with London Road to the south at some point at least 80m from reference point C and at least 60m from reference point D.

8.19 **Reference point C** is defined as the centre point of the roundabout at London Road / The Chase junction and is shown on map 9.

8.20 **Reference point D** is defined as the centre line of the upgraded Bridleway which runs south of Newhall Phase 1 where it meets London Road. Reference point D is shown on map 10.

8.21 **The centreline** of the Main Employment Avenue (Feeder Road) is illustrated on map 11.

8.22 The parameters set by code C7 establish a wide scope for the delivery of the new junction. The area of search is shown on map 12. An example of a successful outcome is demonstrated on map 13.

8.23 The parameters for delivering this new junction have been influenced by ensuring that any new junction at this location does not conflict with residential traffic using the existing junctions provided for Newhall residential traffic which are shown at reference points C and D. Parameters ensure any new junction to serve employment traffic would be sufficiently spaced from these junctions.
Parameters for new routes:

**M1 - Urban Boulevard (Link Road)**

The Urban Boulevard (Link Road) must:

- a) connect a new junction on the A414 (C1) with a new junction with London Road and Newhall Phase 2 (C5);
- b) provide a direct and continuous road connection between the A414 (C1) and the Newhall Primary Road Network (proposed bus route) (C5);
- c) be designed in accordance with the street specification standards set out in table 5B and table 5C of chapter 5 of this design code unless otherwise agreed with the Local Planning Authority, in consultation with the Highway Authority.

Guidance M1: Criteria for establishing the Urban Boulevard (Link Road)

The precise route and design of the Urban Boulevard (Link Road) will need to be guided by the following criteria:

- a) The Urban Boulevard should be located sufficiently far south to result in a development parcel to the north (parcel A) which provides sufficient space for buildings within the targeted sectors with associated parking and loading areas to the rear. Parcel A will need a sufficient depth to accommodate 3-4 storey frontage buildings in B1a (office) or B1b (R&D) use or buildings in B1c (light industrial) use with varying depth requirements.

- b) The Urban Boulevard should be located sufficiently far south to ensure that the delineation of the road avoids the existing water pumping station – safeguarded infrastructure – unless a like-for-like replacement facility can be provided elsewhere.

- c) The Urban Boulevard should be designed to provide a slight change in direction. This will be achieved by either kinking or curving to the north. A change in the direction of the road is essential for the following reasons:
  
  i. To ensure that the route of the road avoids the water pumping station (as explained in point b).
  
  ii. To create more sufficient space to the rear of buildings (as explained in point a).
  
  iii. To create an appropriate point of transition between a 4 lane dual
carriageway (11m-15m) road and a single lane carriageway (6.75m) road.

iv. To prepare (slow down) vehicles before entering Newhall residential area and neighbourhood centre / shared space area at London Road.

v. To create the opportunity for a landmark/ marker building on the corner of the Urban Boulevard / Main Employment Avenue junction. This landmark/ marker building will terminate westbound views along the Urban Boulevard and along the Primary Road Network Route through Newhall Phase 2 and from the proposed neighbourhood centre.

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M2 - Main Employment Avenue (Feeder Road)

The Main Employment Avenue (Feeder Road) must:

a) connect junctions C4 and C7.

b) provide a direct and continuous road connection between the Urban Boulevard (Link Road) and London Road to the south.

c) be designed in accordance with the street specification standards set out in table 5D of chapter 5 unless otherwise agreed with the Local Planning Authority, in consultation with the Highway Authority.

d) At points chosen in consultation with the Highway Authority and Local Planning Authority provide suitable places for bus stops, shelters and telematics.

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Illustration of proposed Urban Boulevard (Link Road) viewed from Newhall Phase 2 neighbourhood centre towards the A414. Bringing the Link Road further south provides a development parcel suitable for B1 buildings with associated parking. It also ensures that the development can wrap around and avoid the water pumping station and connect with the Newhall Phase 2 masterplan and primary road network. Kinking the Urban Boulevard will ensure traffic is calmed and slowed down as it enters the proposed neighbourhood centre.

Illustrative example of how bus stops could be integrated into SUDs corridor provided along the Main Employment Avenue.
**Guidance M2: Criteria for establishing a Main Employment Avenue (Feeder Road)**

The Main Employment Avenue (Feeder Road) will need to run through the central landscaping belt of TPO trees which runs through the centre of the site. However, it should run through the middle of this tree corridor in order to preserve the more mature and dense tree areas to the east and west of this central tree belt.

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**M3 – Access Road aligned adjacent to the existing Public Right of Way**

A new Access Road must:

- a) be constructed to the west of a new junction connecting it with the Main Employment Avenue (Feeder Road);
- b) be constructed so that its centre line is within 15m north and 15m south of the existing Public Right of Way;
- c) run broadly adjacent or parallel with the defined Public Right of Way; and
- d) be designed in accordance with the street specification standards set out in table 5E of chapter 5 unless otherwise agreed with the Local Planning Authority, in consultation with the Highway Authority.

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Illustrative example of the Main Employment Avenue showing how street should run through the centre of the LDO site and cut through the middle of the tree belt thereby preserving the more mature trees located here and ensuring this landscaping asset is retained and enhanced as an integral feature of the masterplan.

Illustrative example of Access Road aligned adjacent to the right of way
Introduction

9.1 The purpose of this section of the design code is to provide broad parameters to enable to discharge of planning permission for site access from the highway. This is provided for in Classes 1.3 and 2.3 of Schedule A and 1.3 of Schedule B of the LDO.

9.2 In some instances the standards presented in this chapter differ slightly from the standards for major industrial roads in the Essex County Council Development Construction Manual (2012). This is principally to reflect areas of land in different ownership within the LDO area and site constraints such as the existing public right of way and landscape areas. All junction spacing standards are consistent with visibility splays set out in chapter 5.

Highways Act consents

9.3 Developers and landowners are advised that the grant of planning permission through the LDO and design code does not remove the need to obtain highways consent from the County Council and any associated legal agreements under Section 38, Section 184 or Section 278 of the Highways Act.

9.4 Any junction adopted through a Section 38 Agreement will benefit from planning permission, even where this does not accord with the broad parameters provided in this section.

9.5 The aim of this section of the design code is to demonstrate that the movement and highways implications of the masterplan have been fully considered and understood. It also aims to draw the attention of stakeholders to some of the highways and access implications for development parcels.

Development parcels

9.6 The London Road Masterplan creates eight indicative development parcels. These development parcels are likely to emerge following the delivery of the necessary items road infrastructure needed to connect the site to the highway network and integrate it with surrounding areas. The creation of the overall movement framework and indicative development parcels has been guided by the areas of different land ownership within the site.

9.7 The development at the Enterprise Zone in addition to the Newhall housing development will generate significant additional traffic flow. Consequently, site access points along the Urban Boulevard (Link Road) must be...
appropriately spaced to ensure that traffic flows expediently off the A414, into the Link Road and into Newhall and the potential for queuing traffic causing delays back up the A414 at peak periods is avoided.

**Indicative site access to development parcel A**

![Map showing site access and junction spacing](image)

**Implications**

- Site access points and some internal circulation roads will need to be shared between different sites as a result.
- To cater for this requirement a shared private access road may be provided to the rear of frontage development sites (as shown on illustrative map to the right).
- Private slip roads may need to be provided along development frontages adjacent to the Urban Boulevard (Link Road) and A414 to enable vehicular access, circulation and limited parking close building frontages and avoid impact on the highways.

**Site Access A**

- Indicative site access A may need to be converted to in-only status at a later stage of the development phase once the Link Road to Newhall / London Road has been constructed in its entirety to ensure safe vehicle movement. This would involve vehicles exiting development parcel A from Junction B.
- Any temporary site access arrangements will need to be agreed in writing with the Highways Authority through the necessary legal provisions contained in the Highways Act and are not therefore stipulated in any way in the LDO or design code.

### Table 9A – Development Parcel A site access and junction spacing requirements

<table>
<thead>
<tr>
<th>Site access to development parcel A</th>
<th>A maximum of two site access points are permitted to development parcel A from the Urban Boulevard (Link Road). This is to ensure efficient traffic flow along Link Road and at A414 junction and in the interests of highways safety.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicative site access A</td>
<td>The centre line of site access should be at least 70m from westbound stop line of the Urban Boulevard (Link Road) on A414 to allow for sufficient forward visibility splays and to avoid queuing traffic from backing up into the A414.</td>
</tr>
<tr>
<td>Indicative site access B</td>
<td>Site access B should be positioned an appropriate distance from Urban Boulevard (Link Road) / Main Employment Avenue (Feeder Road) junction and Urban Boulevard (Link Road) / London Road junction.</td>
</tr>
</tbody>
</table>
Indicative site access to development parcel B

**Table 9B - Development Parcel B site access and junction spacing requirements**

<table>
<thead>
<tr>
<th>Site Access to Parcel B</th>
<th>The main long-term access points intended to serve development parcel B are off the Main Employment Avenue (Feeder Road) or Access Road. A temporary site access to parcel B from the Urban Boulevard may be permitted as an interim arrangement (see right).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicative site access A</td>
<td>The centre line of the ‘interim’ site access A should be at least 60m from the A414 / Urban Boulevard (Link Road) junction.</td>
</tr>
<tr>
<td>Indicative site access Bs and C</td>
<td>Minimum distances between centre lines of site access on Main Employment Avenue (Feeder Road) and Access Road are set out in Table 9D.</td>
</tr>
</tbody>
</table>

**Implications**

- Private slip roads and some shared internal circulation are likely to be required in order to provide access to frontage buildings along A414 and Urban Boulevard (Link Road).
- Prior to the construction of the Main Employment Avenue (Feeder Road), a temporary access point will be needed to provide access development parcel B from the Link Road.

**Temporary site access arrangements for Parcel B from Link Road:**

- Once the Urban Boulevard (Link Road) is provided in its entirety this access point will need to be either stopped-up or converted to egress (out) only to ensure that the Link Road approaches to the A414 junction function appropriately.
- Any temporary arrangements will need to be agreed in writing with the Highways Authority through the necessary legal provisions contained in the Highways Act and are not therefore stipulated in any way in the LDO or design code.

**Indicative site access C**

- Access either via Access Road or Main Employment Avenue (Feeder Road) will need to provide statutory undertakers with access to the proposed electricity substation.
Indicative site access to development parcel C

<table>
<thead>
<tr>
<th>Site Access to Parcel C</th>
<th>Minimum distances between centre lines of site access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicular access to parcel C shall be from the Main Employment Avenue (Feeder Road) unless otherwise agreed with the Highways Authority.</td>
<td>Minimum distances between centre lines of site access on Main Employment Avenue (Feeder Road) – see Table 9D.</td>
</tr>
</tbody>
</table>

* Note – The junction spacing standards in this chapter are lower than those contained for major industrial roads in the Essex County Council Development Construction Manual (2012) and this is principally to reflect the areas of land in different land ownership.

The Access Road is considered to be a ‘minor industrial road’ in accordance with page 144 of the ECC Development Construction Manual (2012)
10 RESIDENTIAL IMPACT

Introduction

10.1 Two residential properties are located next to the LDO boundary:
- to the south, Maypole Cottages adjoins both the London Road North LDO boundary and the London Road South LDO boundary; and
- to the east of the LDO area, adjacent to the Public Right of Way is New Hall Cottages.

10.2 The rear and side boundaries of these properties lie immediately adjacent to the LDO boundary. It is therefore fundamentally important to ensure that these properties are not negatively impacted by development within the LDO area.

Purpose

10.3 The purpose of this chapter of the design code is to establish standards for business and industrial development in close proximity to the boundaries of these residential properties.

10.4 The intention behind this section of the design code is to provide certainty to private investors and businesses about the form, layout, height and orientation of development and extensions permitted through the LDO in areas close to residential properties. Clear standards are intended to avoid ambiguity and uncertainty and speed up the development process. They also provide assurance to residents who could potentially be negatively impacted by development within the LDO area.

Background

10.5 The design code standards presented in this chapter are based on a thorough appraisal of the potential for a range of environmental impacts affecting these properties. This appraisal has taken into account the particular economic activities targeted by the LDO and the specific context of the site and its existing boundaries.
Design Objectives

10.6 The site analysis and appraisal process led to the following design objectives and priorities which have informed the design codes contained in this chapter:

a) To provide residential properties with sufficient landscape screening in order to provide an appropriate visual and acoustic buffer for properties from enterprise zone activities.

b) To minimise the potential for noise, airborne or light pollution.

c) To provide sufficient privacy for households and prevent overlooking from nearby office and employment buildings.

d) To prevent any significant loss of daylight or sunlight.

e) To ensure development does not have an overburdening or detrimental visual impact on the outlook from a home and garden.

f) To prevent negative impacts associated with large vehicles manoeuvring and loading in close proximity to residential dwellings, particularly in relation to noise, disturbance and exhaust emissions.
10 RESIDENTIAL IMPACT

R1 - Landscape screening adjacent to a residential boundary

A 10m deep landscape screening strip shall be provided around the perimeter of a residential boundary where the Local Development Order Boundary adjoins a residential boundary.

R2 - Landscape screening adjacent to a Public Right of Way and a residential boundary

Where a residential boundary runs immediately adjacent to a Public Right of Way (PROW), a 10m deep landscape screening strip shall be provided south of this PROW.

This landscape screening strip shall run parallel to the PROW and residential boundary wall or fence. As a minimum, the landscape screening strip shall be as long as the residential boundary wall or fence it runs parallel to.
GUIDANCE – Principles guiding the design and maintenance of landscape screening strips adjacent to a residential boundary

10.7 The design and choice of planting in landscape screening strips adjoining residential boundaries will need to be guided by consideration of:

- the proposed adjacent employment use and its associated impacts;
- the degree of screening provided by the existing residential boundary;
- the orientation of a residential building and garden in relation to the direction of daylight and sunlight;
- the location of habitable rooms and windows within a residential property and their distance from the proposed development; and
- surrounding landscape features and any potential opportunities to enhance existing green / biodiversity corridors within the site.

10.8 Any landscape screening shall be designed and planted in consultation with the Local Planning Authority and their appointed arborist. This is required by LDO condition E3 (Detailed Landscaping Schemes).

10.9 A landscape screening strip should contain a mixture of deciduous and non-deciduous trees and vegetation of varying heights in order to provide effective visual and acoustic screening all year round.

10.10 Trees within a landscape screening strip should be selected and maintained so that they do not cause significant impacts to the residential properties in terms of overshadowing, loss of light. This will be a significant factor where landscape screening strips adjoin south facing gardens or are close to the windows of habitable rooms within residential buildings.

10.11 Generally, trees should be staggered so that taller trees are provided between 5m and 10m of a residential boundary (as illustrated on the image below).

10.12 Trees planted within a landscape screening strip should be selected and maintained so that they do not exceed 10m in height.

10.13 Any landscape screening strip shall be maintained in accordance with the relevant planning conditions attached to permitted development granted by classes of the LDO.
R3 - Industrial buildings adjacent to a residential property

Industrial buildings shall not be erected within 20m of any residential building or within 10m of any boundary of a residential dwelling house.

R4 – Maximum height of industrial buildings in relation to a residential boundary

The maximum height of an industrial building in relation to the boundary of a residential dwelling house is as follows:

<table>
<thead>
<tr>
<th>Distance from boundary of a residential dwelling house</th>
<th>Maximum height of light industrial or warehouse building</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 10m</td>
<td>No Development</td>
</tr>
<tr>
<td>10m – 20m</td>
<td>6m</td>
</tr>
<tr>
<td>20 – 30m</td>
<td>9m</td>
</tr>
<tr>
<td>30m – 40m</td>
<td>12m</td>
</tr>
</tbody>
</table>
**R5 – Large vehicle loading/unloading and turning areas in relation to a residential boundary**

Any designated bays for the parking, loading or unloading large vehicles and areas of hard standing intended for the turning and manoeuvring of large vehicles shall be located at least 25m from a residential boundary.

A large vehicle bay is defined as any bay (not including disabled bays) which are greater than 7m in length.¹

¹ *Guidance* - The preferred approach is to use a building to screen residential properties from noise arising from vehicle movements within a site (as shown in the above illustration).
R6 - Orientation of industrial buildings in relation to a residential boundary

Industrial buildings located within a distance of 50m of the boundary of a residential dwelling house must be orientated so that any building façade likely to receive loading or unloading activities should not face directly towards a boundary of a residential dwelling house, unless it is screened by another forward facing building (as shown in Illustration D).

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Illustration A: Orientation not permitted due to likelihood of loading and turning within 25m of a residential boundary.

Illustration B: Orientation acceptable if loading areas are 25m from residential boundary.

Illustration C: Optimum arrangement: Buildings shielding residential properties from employment activities.

Illustration D: Optimum arrangement: Loading and turning areas enclosed and residential properties buffered from noise and disturbance by buildings.
R7 – Office, R&D or ancillary buildings in relation to a residential boundary

No office, laboratory or ancillary buildings shall be erected within 10m of any boundary of a residential dwelling house.

R8 – Maximum height of any office, R&D or ancillary buildings in relation to a residential boundary

The maximum height of any office, R&D or ancillary buildings in relation to the boundary of a residential dwelling house is as follows:

<table>
<thead>
<tr>
<th>Distance to Boundary of a Residential Dwelling House</th>
<th>Maximum Height of any office, R&amp;D or ancillary buildings</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 10m</td>
<td>No Development Permitted</td>
</tr>
<tr>
<td>10m – 20m</td>
<td>6m</td>
</tr>
<tr>
<td>20m – 30m</td>
<td>9m</td>
</tr>
<tr>
<td>30m – 40m</td>
<td>12m</td>
</tr>
<tr>
<td>40m – 50m</td>
<td>15m</td>
</tr>
</tbody>
</table>

* Maximum building height standards will take precedence when applicable (see Table 4A, page 22)

> 50m

Maximum building height standards apply (see Table 4A, page 22)
10 RESIDENTIAL IMPACT

R9 - Internal private access roads in relation to a residential boundary
Any internal private access road within an employment site shall be provided at least 15m from a residential boundary.

R10 - Refuse areas in relation to a residential boundary
All refuse storage and collection facilities shall be located at least 20m from a residential boundary.
R11 - Staff parking bays adjacent to a residential boundary

Any staff parking bays provided within 15m of a residential boundary shall be provided head in, at 90 degrees, in order to buffer a residential property from noise generated by turning vehicles accessing parking spaces.

R12 – Design of lighting in relation to a residential boundary

Any lighting devices located within 50m of a residential boundary shall be designed to prevent light spillage, trespass or direct upward light. Useful light directed to appropriate locations is encouraged.
Introduction

11.1 This chapter sets out the parking standards for new development both in terms of provision, dimension and design.

11.2 The following parking standards are presented:
  - Maximum and minimum car parking requirements.
  - Minimum standards for disabled parking, cycle parking and powered two wheeler parking.
  - Permitted design and dimensions for parking bays and turning spaces in car parking and private frontage slip road areas.
  - Cycle parking design standards.

Relationship to the LDO

11.3 Planning condition P1 – Parking Standards for New Development – is attached to all classes of permitted development within Schedule A (Building Development), Schedule B (Extensions and Alterations) and Schedule D (Change of Use) of the London Road North LDO. This condition states that development shall not be occupied until the adequate parking provision has been provided, in accordance with the standards set out in this chapter.

Variations to parking requirements

11.4 Requested variations to the parking standards set out in this chapter are not encouraged. However, there is a standard procedure for any applicant wishing to remove or vary a planning condition which is established in Section 73 of the Town and Country Planning Act 1990.

Background to parking standards

11.5 The parking standards contained in this chapter mirror the adopted Essex Parking Standards (2009). Additional parking requirements have been added to these adopted standards. This is to ensure that minimum staff parking standards are applied for business and industrial uses.

The need for minimum vehicle parking standards

11.6 The adopted Essex Parking Standards only contains maximum parking standards for B1 and B2 uses and does not set any minimum threshold for staff parking provision. This was because national planning policy which existed at the time of the document’s preparation precluded the use of minimum parking standards.

11.7 The LDO site is adjacent to a number of residential and commercial areas. Therefore, inadequate provision of on site parking within the area could potentially lead an overflow of parking in to the adjacent residential areas. To avoid this spill over effect, it is considered to be essential that adequate parking provision is provided for new developments in the LDO area.

The basis of minimum vehicle parking standards

11.8 The minimum parking standards presented in this chapter have been devised to cater for 50% the expected members of staff generated by different business and industrial land uses. As there is a significant difference in the number of employees generated by office (B1a), research and development (B1b), light industrial (B1c) and industrial (B2) uses, the minimum parking standards in this chapter are set to reflect these variations.

11.9 In estimating the likely number of employees generated by business and industrial land uses, the design code has
11 PARKING STANDARDS & DESIGN

drawn on published guidance for calculating employment densities.¹

11.10 In preparing these standards the Council has aimed to balance the need to:

a) ensure sufficient parking is provided within the development site in order to prevent the overspill of staff parking onto nearby residential areas; and

b) ensure that the provisions within the Framework Travel Plan aims for reducing private car use and increasing the uptake of sustainable modes of work-based travel.

11.11 Minimum parking standards effectively set thresholds to ensure that issues relating to parking spill over are addressed. Maximum standards ensure that there is not an over provision of parking and ensure that travel planning, sustainability and traffic management objectives for the enterprise zone can be delivered.

11.12 An alternative considered was to require the provision of the existing adopted Essex County Council maximum standards as a minimum. However this idea was rejected for three key reasons:

- this could lead to an overprovision of parking and inhibit travel planning measures on the site; and
- this could negatively affect the viability of development, particularly on large, complex schemes; and
- because existing maximum standards do not adequately differentiate between the varying employment densities of office, R&D and light industrial B1 business class uses.

11.13 Having explored this issue in full, the Local Planning Authority has concluded that a framework of maximum and minimum standards provides the optimum degree of control and responsiveness on this issue.

### Minimum Parking Standards for Use Class D1: Conference Facilities

<table>
<thead>
<tr>
<th>Use</th>
<th>Vehicle</th>
<th>Cycle</th>
<th>Powered Two Wheeler</th>
<th>Disabled</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1 - Conference Facilities</td>
<td>1 space per 5 conference seats</td>
<td>1 space per 4 members of staff plus visitor parking on individual merits.</td>
<td>1 space, + 1 space per 20 car spaces.</td>
<td>2 bays or 5% of total capacity, whichever is greater.</td>
</tr>
</tbody>
</table>

All requirements are calculated by Gross Floor Area (GFA) of D1 Conference Centre use.

### Minimum Parking Standards for Use Class D1: Education and Training

<table>
<thead>
<tr>
<th>Use</th>
<th>Vehicle</th>
<th>Cycle</th>
<th>Powered Two Wheeler</th>
<th>Disabled</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1 - Education and Training</td>
<td>1 space per 15 students for staff + 1 space per 15 students for student parking.</td>
<td>1 space per 5 staff plus 1 space per 3 students.</td>
<td>1 space, + 1 space per 20 car spaces.</td>
<td>1 bay or 5% of total capacity, whichever is greater.</td>
</tr>
</tbody>
</table>

All requirements are calculated by Gross Floor Area (GFA) of D1 education and training use.

### Minimum Parking Standards for Use Class D1: Crèche, child care, day nursery

<table>
<thead>
<tr>
<th>Use</th>
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<th>Cycle</th>
<th>Powered Two Wheeler</th>
<th>Disabled</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1 - Crèche, child care, day nursery</td>
<td>1 space per full-time equivalent staff + drop off/ pick up facilities</td>
<td>1 space per 4 members of staff plus 1 space per 10 child places.</td>
<td>1 space, + 1 space per 20 car spaces.</td>
<td>1 bay or 5% of total capacity, whichever is greater.</td>
</tr>
</tbody>
</table>

All requirements are calculated by Gross Floor Area (GFA) of D1 crèche, childcare, day nursery use.

### Minimum Parking Standards for Use Class D2: Gym / Swimming Pool

<table>
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<tr>
<th>Use</th>
<th>Vehicle</th>
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<th>Powered Two Wheeler</th>
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</tr>
</thead>
<tbody>
<tr>
<td>D2 : Gym / Swimming Pool</td>
<td>1 space per 10 sqm of public area</td>
<td>10 spaces plus 1 space per 10 vehicle spaces.</td>
<td>1 space, + 1 space per 20 car spaces.</td>
<td>3 bays or 6% of total capacity, whichever is greater.</td>
</tr>
</tbody>
</table>

All requirements are calculated by Gross Floor Area (GFA) of D2 gym / pool use.
Minimum Parking Standards for Use Class A1: Retail

<table>
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<th>Powered Two Wheeler</th>
<th>Disabled</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 (excluding food stores)</td>
<td>1 space per 20 sqm</td>
<td>1 space per 400 sqm and 1 space per 400 sqm for customers</td>
<td>1 space, + 1 space per 20 car spaces (for 1st 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)</td>
<td>3 bays or 6% of total capacity, whichever is greater.</td>
</tr>
<tr>
<td>A1 (Food store)</td>
<td>1 space per 14 sqm</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All requirements are calculated by Gross Floor Area (GFA) of A1 retail use

Minimum Parking Standards for Use Class A3: Restaurants and Cafes

<table>
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<th>Disabled</th>
</tr>
</thead>
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<tr>
<td>A3 – Restaurant / Cafe</td>
<td>1 space per 5 sqm</td>
<td>1 space per 100 sqm and 1 space per 100 sqm for customers</td>
<td>1 space, + 1 space per 20 car spaces</td>
<td>3 bays or 6% of total capacity, whichever is greater.</td>
</tr>
</tbody>
</table>

All requirements are calculated by Gross Floor Area (GFA) of A3 restaurant and café use

Minimum Parking Standards for Use Class A5: Hot Food Takeways

<table>
<thead>
<tr>
<th>Use</th>
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<th>Cycle</th>
<th>Powered Two Wheeler</th>
<th>Disabled</th>
</tr>
</thead>
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<td>A5 - Hot Food Takeways</td>
<td>1 space per 20 sqm</td>
<td>1 space per 100 sqm and 1 space per 100 sqm for customers</td>
<td>1 space, + 1 space per 20 car spaces</td>
<td>3 bays or 6% of total capacity, whichever is greater.</td>
</tr>
</tbody>
</table>

All requirements are calculated by Gross Floor Area (GFA) of A5 hot food takeaway use
Calculating parking requirements

11.14 All parking requirements are worked out by the gross floor area of a building. The gross floor area of a building refers to the total covered floor area inside the building envelope, including the external walls of the building.

11.15 Where a building comprises a number of floors, the total gross floor area is multiplied by the number of floors, minus any void areas to take account of inconsistencies in the gross floor area of different floors.

11.16 Where industrial buildings include ancillary office space, parking requirements are calculated by reference to the total amount of gross floor area in B2 (industrial) and B1a (office) as shown below.

Calculating parking requirements in mixed use buildings

11.17 Where mixed use buildings are proposed with different ground floor land uses, parking requirements are calculated by measuring the total area of covered floor space in each ground floor unit. Individual units should be measured along the centre line of party walls – see example shown to the right:

Example of a mixed use building within the Newhall Approach Character Area

Illustrative Example - mixed use building

Example shows the floor area in each use class must be calculated by measuring gross floor area (the total covered floor area inside a building envelope including the external walls of the building). The gross floor area of different ground floor uses within the same building shall be measured along the centre line of party walls. Parking requirements shall then be calculated by dividing the total floor area in each use by the relevant standard. Each requirement will be added together to derive a cumulative requirement for the whole building.
Shared parking areas

11.18 The masterplanning process undertaken for London Road North has indicated that, within certain development parcels, there may be a need to share parking provision between a number of buildings. Where this is the case, parking requirements must be based on the cumulative total floor area of all buildings within a development site in which staff will be using shared parking areas.

Parking bay sizes

11.19 Parking and disabled parking bays of at least the minimum dimensions shown must be provided in all instances.
11 PARKING STANDARDS & DESIGN

Permitted car park bay arrangements

11.20 The following illustrations provide turning space standards for parking bays provided within car parks with development sites.

Frontage parking options

11.21 Frontage parking is permitted by the design code, providing it accords with:

- the design parameters for turning space set out in this section;
- the building frontage and set back parameters in chapter 5 (see tables 5A to 5G); and
- design code B2 in chapter 7.

11.22 Within frontage parking areas adjacent to the highway parking bays may be positioned adjacent to the highway or adjacent to a building, providing the requirements of design code B2 are met in terms of the landscape screening of cars within parking bays.

Example of frontage parking

11.23 The options presented in this section provide the potential for one or two-way slip roads. Where one-way slip roads are provided separate vehicle access and egress points must be available and must be clearly signed and restricted.

Frontage Parking Option 1
Parking bays at 90 degrees
- Minimum 6m turning space required.

Frontage Parking Option 2
Parking bays at 45 degrees
- Minimum 3.6m turning space required for one-way access route.
- Minimum 5.4m required for two-way access route.

Frontage Parking Option 3
Parking Bays at 60 degrees
- Min 4.2m turning space required for one-way access route
- Min 5.4m required for two-way access route

Frontage Parking Option 4
Parallel parking bays
- Min 3.6m turning space required when one-way vehicle access
- Min 4.8m turning space required when two-way vehicle access
(a single line of parking bays may be provided along a development frontage)

Frontage parking options not permitted adjacent to a relevant highway

11.24 The following frontage parking options are not permitted adjacent to a relevant highway (as defined in chapter 6). This is to prevent parked vehicles from having a dominant and detrimental impact on the quality, character and legibility of the public realm along these key movement routes. Building set back standards for frontage buildings set out in chapter 5 and design code RH3 also restrict these practices.

11.25 Greater depths of frontage parking than those permitted in the above section will need to be catered for behind frontage buildings or with a development site.

Rationale:
The majority of parking placed behind a frontage building and only limited parking permitted along a development frontage. This ensures that parking areas do not dominate the character of the public realm. It also enhances the legibility of the area and increases the potential for natural surveillance.

Rationale:
Large areas of staff parking between a building and the public highway is not permitted as very easily dominates the character of the street and also significantly reduces the potential for natural surveillance.
Cycle parking design

11.26 Providing well-located, safe and secure cycle parking is a key factor in encouraging people to cycle as an alternative to using the private car. Businesses should provide a mix of short and long-stay depending on the nature of a business. The following design standards must be met for all new cycle parking:

<table>
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<th>CP1 - Design principles for cycle parking</th>
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<tr>
<td>a) <strong>Staff cycle parking</strong> provision should:</td>
</tr>
<tr>
<td>i. be secure and covered;</td>
</tr>
<tr>
<td>ii. benefit from natural surveillance or CCTV;</td>
</tr>
<tr>
<td>iii. be well lit; and</td>
</tr>
<tr>
<td>iv. be located close to building entrances.</td>
</tr>
<tr>
<td>b) <strong>Long stay staff cycle parking</strong> should be located in a secure (locked) covered area to prevent theft or tampering.</td>
</tr>
<tr>
<td>c) <strong>Short stay cycle parking for visitors</strong> should preferably be covered and situated as close to building entrances as possible in order to benefit from natural surveillance and overlooking.</td>
</tr>
<tr>
<td>d) <strong>Cycle parking stands</strong> must be designed to ensure that both the front and back wheels of a bicycle can be locked to the stand. Stands that grip only one wheel do not provide adequate support or security. To ensure this is possible cycle stands must be at least 700mm long from bar to bar. Stands should be either bolted or embedded to the ground.</td>
</tr>
</tbody>
</table>
11.27 The Sheffield stand designs presented below provide additional guidance on the design and spacing of cycle parking stands.

Lorry parking and turning

11.28 The extent to which a business may need to park lorries can only be determined by that business. Consequently, there are no specific requirements for the number of lorry parking spaces for land uses.

11.29 It is important to ensure that lorry parking does not result in the obstruction of the highway and developers must ensure that sufficient turning and parking space is allocated within a development site to facilitate off-road parking and manoeuvring of lorries.

11.30 LDO conditions P2 and P3 require loading, unloading and turning to be undertaken within a development site. They also ensure bays and turning spaces are provided prior to occupation and are sufficient to ensure that vehicles can enter and exit a site in a forward gear (in order to not obstruct the highway).
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<td>Gates, fences, railings or walls adjacent to a public highway within the Main Employment Avenue and Fringe Character Area</td>
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<td>Gates, fences, railings or walls not adjacent to a public highway on any side and rear boundary in any character area</td>
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Documents which the code has had regard to

12.1 This design code has had regard for the following documents:

- Adopted Harlow Replacement Local Plan, 2006
- The Essex Design Guide and Urban Place Supplement
- Manual for Streets 2: Wider Application of the Principles
- Design Manual for Roads and Bridges
- Essex Parking Standards Design and Good Practice, 2009
- New Hall Phase 1 and 2 Masterplan and Design and Access Statements
- Harlow Area Investment and Renewal Framework, 2006
- Harlow Area Study: Masterplanning Principles and Sustainability Criteria, 2005
- HM Government, The Building Regulations, Approved Documents A to P