Chapter C
Site and Development Description

Milton Keynes East Environmental Statement

Chapter C: Site and Scheme Description

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Contents

C1.0 Introduction

C1.1 This Environmental Statement ('ES') Chapter describes the Development Site and its relationship to the wider area, provides a description of the proposed Milton Keynes East development, explains other scheme assumptions that have formed the basis of this Environmental Impact Assessment ('EIA'), and considers the design rationale underpinning the proposals.

C1.2 This chapter is divided up into the following key sections:

1 Section C2.0: Site Location and Description;

2 Section C3.0: Description of Development;

3 Section C4.0: Construction Methodology; and

4 Section C5.0: Consideration of Alternatives and Alternative Design

C1.3 This chapter includes the following appendices:

- Appendix C1 – Detailed Drawings
- Appendix C2 – Parameter Plans
- Appendix C3 - Illustrative Masterplan
- Appendix C4 – Preliminary Earthworks Strategy
- Appendix C5 - Lighting Assessment
- Appendix C6 – Arboricultural Survey

C2.0 Site Location and Surroundings

Site Location

C2.1 The Development Site encompasses an area of approximately 437 hectares. It is located to the east/north-east of Milton Keynes; with the majority of the site located on the eastern side of the M1 motorway. To the east of the site is open countryside and the village of Moulsoe, to the north is the town of Newport Pagnell.

C2.2 The Development Site boundary also extends beyond the M1 motorway to includes areas of road infrastructure and Pineham Nature Reserve; adjacent to the Willen residential area.

Figure C2.1 Aerial View Centred on the Development Site

Source: Google Earth; Lichfields, not to scale
Note: Red line indicates broad extent of site only. For full Development Site Boundary refer to Appendix A1, Volume 2 to this ES

C2.3 The majority of the site is in agricultural use. There is an existing 'Holiday Inn' hotel on London Road (outside of the Development Site boundary) and a travellers site on Willen Road. An area of land to the east of Willen Road and south of Caldecote Farm is currently used as a sand and gravel extraction site. There are small groups of dwellings existing and inset within the boundary. These include those around Caldecote Farm and Pyms Stables, as well as a number of isolated dwellings including Hermitage Farm on Newport Road.

C2.4 An area previously used for motocross is located in adjacent to the M1 motorway but this use is now abandoned.

C2.5 The River Ouzel is a major existing feature of the running south-north through the Development Site. Similarly, the A509 runs south to north linking with Milton Keynes at Junction 14 of the M1 and with the A422 to the north near Interchange Park on the edge of Newport Pagnell. The site is generally low-lying and gently slopes up, west-to-east from the River Ouzel towards Moulsoe.

C2.6 There are a number of areas of woodland within the site, including deciduous woodland priority habitats and lengths of hedgerow within the site.

Surroundings

C2.7 The built-up area of Milton Keynes lies to the south and west of the site. The residential areas of Willen and Brooklands are adjacent to the site, separated by the heavily trafficked M1.

C2.8 To the south also lies Cotton Valley Sewage Works at Pineham and the Tongwell employment area. At Pineham is the existing Anglian Water Cotton Valley Waste Sewage Works. The village of Moulsoe lies to the east of the site and has developed in a linear form along Newport Road.

C2.9 To the north-west of the site is Newport Pagnell. Land has been allocated for residential development on the eastern edge of the town to the north of North Crawley Road at Tickford Fields.

C2.10 To the south of the site is the Ouzel Valley linear park which provides recreation and flood attenuation for the whole of Milton Keynes and is a wildlife corridor of strategic ecological significance. To the north of the site the River Ouzel and associated floodplain continues through Newport Pagnell. Adjoining the southern edge of the site, adjacent to the M1, lies a triangle of land alongside the River Ouzel which is owned by the Park Trust. The land, which is part of the linear park, is managed as a nature reserve.

C2.11 Moulsoe Stream extends along field boundaries within the centre of the site and towards the east from the River Ouzel.

C2.12 There are existing bus routes through the site which run along Willen Road, London Road and Newport Road. These bus routes provide connections to Newport Pagnell, Central Milton Keynes and Cranfield. The Milton Keynes Coachway interchange which supports inner-city coach services, is located close to junction 14 of the M1.

Environmental Context

C2.13 The site contains no heritage assets. In terms of listed buildings the site surrounds on all sides the Grade II listed 'Moulsoe Buildings Farmhouse' (Holiday Inn hotel) on London Road (listing ref. 1212914). Other listed buildings within the surrounding area are located in Moulsoe (approximately 400m east of the site):

- First Thatch Cottage – Grade II listed (ref. 1289355); Hillcrest Cottage – Grade II listed (ref.1212919); Wisteria Cottage – Grade II listed (ref. 1212920); Church of St Mary – Grade I listed (ref. 1212922); Screen enclosing Carrington Graves to North East of Church of St Mary – Grade II listed (ref. 1212925); St Mary's Cottage – Grade II listed (ref. 1212921); The Rectory – Grade II listed (ref. 1212926).

C2.14 There are a cluster of listed buildings located in Willen (approximately 600m west of the site):

- The Hospice of Our Lady and St John – Grade II listed (ref. 1332332); Church of St Mary Magdalene – Grade I listed (ref. 1160998); Wall surrounding Church Yard with Gates at East and West Ends – Grade II listed (ref. 1125231); Brook Farmhouse – Grade II listed (ref. 1125232); Willen War Memorial Obelisk – Grade II listed (ref. 1458606); School House – Grade II listed (ref. 1161013).

C2.15 Approximately 1300m to the south of the site are the following listed buildings:

- Church of St Lawrence – Grade I listed (ref. 1332313); The Old Rectory – Grade II listed (ref. 1160062); K6 Telephone Kiosk – Grade II listed (ref. 1277068).

C2.16 The site is not located within a Conservation Area. The neighbouring settlements of Newport Pagnell, Broughton and Willen all have Conservation Areas which are the closest to the site.

C2.17 There are no Historic Parks or Gardens or Registered Battlefields adjacent or in the immediate vicinity of the site.

C2.18 There are no nationally designated archaeological assets within the site or in close proximity.

C2.19 The nearest designated archaeological assets to the site are over 1.5km from the site boundary to the north and the west. An Archaeological Briefing Note was prepared for the site in June 2018 by CGMS on behalf of the applicant. Previous archaeological assessment and works within the site has indicated that the site holds an archaeological potential, in particular associated with a number of specific sites recorded on the Milton Keynes Historic Environment Record, as well as a geoarchaeological potential associated with the alluvial deposits of the River Ouzel.

C2.20 According to the Environment Agency (EA) Flood Map for Planning (Rivers and Sea) the majority of the site is located in Flood Zone 1 (low probability of flooding). However, a large area in the centre and east of the site, is in Flood Zone 3 (land assessed as having a 1 in 100 or greater annual probability of flooding) with smaller pockets within Flood Zone 2 (land having between a 1 in 100 and 1 in 1000 probability of flooding). This reflects the pathway of the River Ouzel.

C3.0 Description of Development

General Description of Works

C3.1 The Proposed Development is being brought forward as a hybrid with both detailed and outline elements:-

- The detailed element comprises the key road infrastructure and supporting works that are being funded by the successful Government HIF bid. The works include new road and redway extensions; a new bridge over the M1 motorway; a new bridge over the River Ouzel; works to the Tongwell Street corridor between Tongwell roundabout and Pineham roundabout including new bridge over the River Ouzel; alignment alterations to A509 and Newport Road; and associated utilities, earthworks and drainage works; and
- The outline element includes other built elements of a large-scale mixed-use urban extension (creating a new community) comprising: residential development; employment including business, general industry and storage/distribution uses; a secondary school and primary schools; a community hub containing a range of commercial and community uses; a new linear park along the River Ouzel corridor; open space and linked amenities; new redways, access roads and associated highways improvements; associated infrastructure works; and demolition of existing structures.

C3.2 The form of the development is shown on a series of detailed plans provided at Appendix C1 (Volume 2 to this ES) and outline 'parameter' plans provided at Appendix C2 (Volume 2 to this ES).

Table C3.1 Detailed Infrastructure Drawings forming basis of assessment (Appendix C1, Volume 2 to this ES)

Drawing Number	Title	Scale	Revision
Highways			
MKE-WSP-ZZ-ZZ-C-DR-0010	Schematic Overview For Planning	1:5000	P02
MKE-WSP-ZZ-ZZ-C-DR-0011	General Arrangement For Planning Sheet 1	1:1250	P03
MKE-WSP-ZZ-ZZ-C-DR-0012	General Arrangement For Planning Sheet 2	1:1250	P03
MKE-WSP-ZZ-ZZ-C-DR-0013	General Arrangement For Planning Sheet 3	1:1250	P03
MKE-WSP-ZZ-ZZ-C-DR-0014	General Arrangement For Planning Sheet 4	1:1250	P03
MKE-WSP-ZZ-ZZ-C-DR-0015	General Arrangement For Planning Sheet 5	1:1250	P03
MKE-WSP-ZZ-ZZ-C-DR-0016	General Arrangement For Planning Sheet 6	1:1250	P03
MKE-WSP-ZZ-ZZ-C-DR-0017	General Arrangement For Planning Sheet 7	1:1250	P03
MKE-WSP-ZZ-ZZ-C-DR-0018	General Arrangement For Planning Sheet 8	1:1250	P03
MKE-WSP-ZZ-ZZ-C-DR-0019	General Arrangement For Planning Sheet 9	1:1250	P03
MKE-WSP-ZZ-ZZ-C-DR-0020	General Arrangement For Planning Sheet 10	1:1250	P03
MKE-WSP-ZZ-ZZ-C-SK-2801	Link 101 Long-Sections	1:500	P02
MKE-WSP-ZZ-ZZ-C-SK-2802	Link 102 Long-Sections	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2803	Link 103 Long-Sections Sheet 1 of 3	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2804	Link 103 Long-Sections Sheet 2 of 3	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2805	Link 103 Long-Sections Sheet 3 of 3	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2806	Link 104 Long-Sections	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2807	Link 105 Long-Sections Sheet 1 of 2	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2808	Link 105 Long-Sections Sheet 2 of 2	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2809	Link 106 Long-Sections Sheet 1 of 2	1:500	P04
MKE-WSP-ZZ-ZZ-C-SK-2810	Link 106 Long-Sections Sheet 2 of 2	1:500	P03

Drawing Number	Title	Scale	Revision
MKE-WSP-ZZ-ZZ-C-SK-2811	Link 107 Long-Sections Sheet 1 of 2	1:500	P02
MKE-WSP-ZZ-ZZ-C-SK-2812	Link 107 Long-Sections Sheet 2 of 2	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2813	Link 108 Long-Sections	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2815	Link 109 Long-Sections	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2816	Link 110 Long-Sections	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2817	Link 301 Long-Sections	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2818	Link 302 Long-Sections	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2819	Link 303 Long-Sections	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2820	Link 304 Long-Sections	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2821	Link 305 Long-Sections	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2823	Link 501 Long-Sections	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2824	Link 502 Long-Sections	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2825	Link 503 Long-Sections	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2826	Link 504 Long-Sections	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2827	Link 505 Long-Sections	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2828	Link 506 Long-Sections	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2829	Link 507 Long-Sections	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2830	Link 508 Long-Sections	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2831	Link 509 Long-Sections	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2832	Link 510 Long-Sections	1:500	P03
MKE-WSP-ZZ-ZZ-C-SK-2833	Link 511 Long-Sections	1:500	P02
MKE-WSP-ZZ-ZZ-C-SK-2834	Link 512 Long-Sections	1:500	P02
MKE-WSP-ZZ-ZZ-C-SK-2835	Link 601 Long-Sections	1:500	P02
MKE-WSP-ZZ-ZZ-C-SK-2836	BMX Track Private Access Long-Sections	1:500	P02
MKE-WSP-ZZ-ZZ-C-SK-2837	New Parks Trust Private Access Long-Sections	1:500	P02
MKE-WSP-ZZ-ZZ-C-SK-2838	Tongwell Street Car Park Access Long-Sections	1:500	P02
MKE-WSP-ZZ-ZZ-C-SK-2839	Carleton Gate Roundabout Long-Sections	1:500	P02
MKE-WSP-ZZ-ZZ-C-SK-2840	Willen Link Roundabout Long-Sections	1:500	P02
MKE-WSP-ZZ-ZZ-C-SK-2841	A509 Roundabout 1 Long-Sections	1:500	P02
MKE-WSP-ZZ-ZZ-C-SK-2842	Eastern link Roundabout 1 long-Sections	1:500	P02
MKE-WSP-ZZ-ZZ-C-SK-2843	A509 Roundabout 2 Long-Sections	1:500	P02
MKE-WSP-ZZ-ZZ-C-SK-2844	Eastern Link Roundabout 2 Long-Sections	1:500	P02
MKE-WSP-ZZ-ZZ-C-SK-2845	Cranfield Link Roundabout Long-Sections	1:500	P02
MKE-WSP-ZZ-ZZ-C-SK-2846	Eastern Link Roundabout 3 Long-Sections	1:500	P02
MKE-WSP-ZZ-ZZ-C-SK-2847	Eastern Link Roundabout 4 Long-Sections	1:500	P02
MKE-WSP-ZZ-ZZ-C-SK-2848	Existing Pumping Station Access Long-Sections	1:500	P02
MKE-WSP-ZZ-ZZ-C-SK-0101/2	Geometry Details of Indicative Cross Sections Sheets 1 and 2	1:250	P04
MKE-WSP-ZZ-ZZ-C-SK-0103/4	Geometry Details of Indicative Cross Sections Sheet 3 and 4	1:250	P02
MKE-WSP-ZZ-ZZ-C-SK-0105	Carriageway Construction Details	on plan	P02
MKE-WSP-ZZ-ZZ-C-SK-2849	Link 104 – A509 Long Section	1:500	P01
MKE-WSP-ZZ-ZZ-C-SK-2850	A509 Dual Carriageway Long-Sections	1:500	P01

Drawing Number	Title	Scale	Revision
MKE-WSP-ZZ-ZZ-C-SK-2851	A509 – Link 104 Long Sections	1:500	P01
Bridges and Highway Structures			
ZZ-DR-BR-002	Highway Structures Location Plan		P03
M1B-DR-BR-001	M1 Milton Keynes East Bridge Sheet 1		P05
M1B-DR-BR-002	M1 Milton Keynes East Bridge Sheet 2		P01
TSN-DR-BR-001	Tongwell Street Northbound Bridge		P05
ROF-DR-BR-001	River Ouzel Floodplain Bridge		P04
MSB-DR-BR-001	Moulsoe Stream Bridge		P02
SW1-DR-BR-001	MKE Subway 1		P02
SW2-DR-BR-001	MKE Subway 2		P01
SW457-DR-BR-001	MKE Subways 4, 5 &7 Sheet 1		P01
SW457-DR-BR-002	MKE Subways 4, 5 &7 Sheet 2		P01
FR-DR-BR-001	Flood Relief Culverts 1 & 2		P02
C3-DR-BR-001	MKE Culvert 3		P02
CGR-DR-BR-001	Carleton Gate Retaining Wall		P01
Drainage			
Headwall Type A	Headwall Type A	NTS	P01
Headwall Type B	Headwall Type B	NTS	P01
Headwall Type C	Headwall Type C	NTS	P01
Headwall Type D	Headwall Type D	NTS	P01
Headwall Type E	Headwall Type E	NTS	P01
Headwall Type F	Headwall Type F	NTS	P01
Headwall Type G	Headwall Type G	NTS	P01
Headwall Type H	Headwall Type H	NTS	P01
MCHW Construction Details	MCHW Construction Standard Details	NTS	P01
MKE-WSP-ZZ-ZZ-C-SK-0540	Pond 1 Long Sections	1:500	P01
MKE-WSP-ZZ-ZZ-C-SK-0542	Pond 2 Long Sections	1:500	P01
MKE-WSP-ZZ-ZZ-C-SK-0543	Pond 3 Long sections	1:500	P01
MKE-WSP-ZZ-ZZ-C-SK-0544	Pond 5 Long Sections	1:500	P01
MKE-WSP-ZZ-ZZ-C-SK-0545	Pond 9 Long Sections	1:500	P01
MKE-WSP-ZZ-ZZ-C-SK-0546	Pond 14 Long Sections	1:500	P01
MKE-WSP-ZZ-ZZ-C-SK-0547	Pond 15 Long Sections	1:500	P01
MKE-WSP-ZZ-ZZ-C-SK-0548	Pond 16 Long Sections	1:500	P01
MKE-WSP-ZZ-ZZ-C-SK-0549	Pond 18A-1 Long Sections	1:500	P01
MKE-WSP-ZZ-ZZ-C-SK-0550	Pond 18A-2 Long Sections	1:500	P01
MKE-WSP-ZZ-ZZ-C-SK-0551	Pond 18A-3 Long Sections	1:500	P01
MKE-WSP-ZZ-ZZ-C-SK-0552	Pond 22 Long Sections	1:500	P01
MKE-WSP-ZZ-ZZ-C-SK-0553	Pond 25 Long Sections	1:500	P01
MKE-WSP-ZZ-ZZ-C-SK-0554	Pond 26 Long Sections	1:500	P01
MKE-WSP-ZZ-ZZ-C-SK-0555	Pond 27A Long Sections	1:500	P01
MKE-WSP-ZZ-ZZ-C-SK-0556	Pond 27B Long Sections	1:500	P01
MKE-WSP-ZZ-ZZ-C-SK-0500	Tongwell Street Impermeable Area Plan	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0501	Drainage Plan sheet 1	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0502	Drainage Plan sheet 2	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0503	Drainage Plan sheet 3	1:500	P01

Drawing Number	Title	Scale	Revision
MKE-WSP-ZZ-ZZ-C-DR-0504	Drainage Plan sheet 4	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0505	Drainage Plan sheet 5	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0506	Drainage Plan sheet 6	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0507	Drainage Plan sheet 7	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0508	Drainage Plan sheet 8	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0509	Drainage Plan sheet 9	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0510	Drainage Plan sheet 10	1:500	P02
MKE-WSP-ZZ-ZZ-C-DR-0511	Drainage Plan sheet 11	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0512	Drainage Plan sheet 12	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0513	Drainage Plan sheet 13	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0514	Drainage Plan sheet 14	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0515	Drainage Plan sheet 15	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0516	Drainage Plan sheet 16	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0517	Drainage Plan sheet 17	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0518	Drainage Plan sheet 18	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0519	Drainage Plan sheet 19	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0520	Drainage Plan sheet 20	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0521	Drainage Plan sheet 21	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0522	Drainage Plan sheet 22	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0523	Drainage Plan sheet 23	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0524	Drainage Plan sheet 24	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0525	Drainage Plan sheet 25	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0526	Drainage Plan sheet 26	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0527	Drainage Plan sheet 27	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0528	Drainage Plan sheet 28	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0529	Drainage Plan sheet 29	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0530	Drainage Plan sheet 30	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0531	Drainage Plan sheet 31	1:500	P02
MKE-WSP-ZZ-ZZ-C-DR-0532	Drainage Plan sheet 32	1:500	P02
MKE-WSP-ZZ-ZZ-C-DR-0533	Drainage Plan sheet 33	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0534	Drainage Plan sheet 34	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0535	Drainage Plan sheet 35	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0536	Drainage Plan sheet 36	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0537	Drainage Plan sheet 37	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0538	Drainage Plan sheet 38	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0539	Drainage Plan sheet 39	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0540	Drainage Plan sheet 40	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0541	Drainage Plan sheet 41	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0542	Drainage Plan sheet 42	1:500	P01
MKE-WSP-ZZ-ZZ-C-DR-0594	Drainage Typical Cross Sections	NTS	P02
MKE-WSP-ZZ-ZZ-C-SK-0520-0530 -Sheet 1	Drainage Long Section – Sheet 1	NTS	P01
MKE-WSP-ZZ-ZZ-C-SK-0520-0530 -Sheet 2	Drainage Long Section – Sheet 2	NTS	P01

Drawing Number	Title	Scale	Revision
MKE-WSP-ZZ-ZZ-C-SK-0520-0530 -Sheet 3	Drainage Long Section – Sheet 3	NTS	P01
MKE-WSP-ZZ-ZZ-C-SK-0520-0530 -Sheet 4	Drainage Long Section – Sheet 4	NTS	P01
MKE-WSP-ZZ-ZZ-C-SK-0520-0530 -Sheet 5	Drainage Long Section – Sheet 5	NTS	P01
MKE-WSP-ZZ-ZZ-C-SK-0520-0530 -Sheet 6	Drainage Long Section – Sheet 6	NTS	P01
MKE-WSP-ZZ-ZZ-C-SK-0520-0530 -Sheet 7	Drainage Long Section – Sheet 7	NTS	P01
MKE-WSP-ZZ-ZZ-C-SK-0520-0530 -Sheet 8	Drainage Long Section – Sheet 8	NTS	P01
MKE-WSP-ZZ-ZZ-C-SK-0520-0530 -Sheet 9	Drainage Long Section – Sheet 9	NTS	P01
MKE-WSP-ZZ-ZZ-C-SK-0520-0530 -Sheet 10	Drainage Long Section – Sheet 10	NTS	P01
MKE-WSP-ZZ-ZZ-C-SK-0520-0530 -Sheet 11	Drainage Long Section – Sheet 11	NTS	P01
MKE-WSP-ZZ-ZZ-C-SK-0520-0530 -Sheet 12	Drainage Long Section – Sheet 12	NTS	P01
MKE-WSP-ZZ-ZZ-C-SK-0520-0530 -Sheet 13	Drainage Long Section – Sheet 13	NTS	P01
MKE-WSP-ZZ-ZZ-C-SK-0520-0530 -Sheet 14	Drainage Long Section – Sheet 14	NTS	P01
MKE-WSP-ZZ-ZZ-C-SK-0520-0530 -Sheet 15	Drainage Long Section – Sheet 15	NTS	P01
MKE-WSP-ZZ-ZZ-C-SK-0520-0530 -Sheet 16	Drainage Long Section – Sheet 16	NTS	P01
MKE-WSP-ZZ-ZZ-C-SK-0520-0530 -Sheet 17	Drainage Long Section – Sheet 17	NTS	P01
MKE-WSP-ZZ-ZZ-C-SK-0520-0530 -Sheet 18	Drainage Long Section – Sheet 18	NTS	P01
MKE-WSP-ZZ-ZZ-C-SK-0520-0530 -Sheet 19	Drainage Long Section – Sheet 19	NTS	P01
MKE-WSP-ZZ-ZZ-C-SK-0520-0530 -Sheet 20	Drainage Long Section – Sheet 20	NTS	P01
MKE-WSP-ZZ-ZZ-C-SK-0520-0530 -Sheet 21	Drainage Long Section – Sheet 21	NTS	P01

Outline

C3.3 For the outline element of the Proposed Development, a series of parameter plans have been prepared which allow the detailed design to be reserved for subsequent approval, whilst defining the key principles of the development in enough detail to allow the likely environmental effects of the development to be assessed. The parameter plans fix the various land use, maximum quantum, maximum building heights, access and circulation routes, and areas of public open space for the outline element of the Proposed Development. All matters will be reserved for subsequent approval in respect of the outline component of the development.

C3.4 The assessment of the maximum built 'envelope' defined by the parameter plans allows a worst case scenario to be identified and assessed within the EIA. If subsequent reserved matters applications are less than the maximum built envelope, it must be assumed that their impact would be no greater than that identified in this ES.

C3.5 The parameter plans assessed are as follows:-

Table C3.2 Outline Parameter Plans forming basis of assessment (Appendix C2, Volume 2 to this ES)

Drawing Number	Title	Scale	Revision
01312_PP_01	Land Use Parameter Plan	1:5000	P1
01312_PP_02	Movement and Access Parameter Plan	1:5000	P1
01312_PP_03	Green Infrastructure Parameter Plan	1:5000	P1
01312_PP_04	Building Heights Parameter Plan	1:5000	P1

C3.6 The parameter plans include a degree of geographical 'tolerance' regarding the location of certain key components of the Proposed Development. This means that whilst a notation on the plan may indicate a specific geographical location; that some flexibility has been built in to allow the detailed design to more precisely locate the relevant component identified. Table C3.3 below describes the tolerances defined:-

Table C3.3 Land Use Geographical Tolerances (as described on Parameter Plans, Appendix C2, Volume 2 of this ES)

Element	Relevant Parameter Plans	Tolerance/Deviation	Rationale/Description
All features (unless otherwise stated)	Land Use Movement and Access Green Infrastructure Building Heights	Lateral tolerance of +/-10m	To reflect scale of site and flexibility for detailed design at reserve matters stage
Area subject to detailed archaeological investigation	Land Use Movement and Access Green Infrastructure Building Heights	Options for use of parcel as either open space, residential or sports pitches	Detailed archaeological investigation to be undertaken which will determine presence of archaeology and whether it requires preservation in-situ or an alternative use (incl. residential development) is appropriate.
Parcels subject to Employment or Residential use	Land Use Building Heights	Options for use of parcel as either employment or residential. If residential an offset zone from the M1 is indicated	To allow for flexibility in how these parcels come forward in the future, depending on detailed design and future requirements. But with restrictions to mitigate potential amenity impacts.
Local centre	Land Use	Within zone identified	To allow flexibility for precise location of neighbourhood parade of shops (with amount controlled via condition) within identified zone.
Primary sub-station	Land Use	Within zone identified or alternatively within Employment Use area	To allow flexibility for design and precise location of primary sub-station necessary for development.

Element	Relevant Parameter Plans	Tolerance/Deviation	Rationale/Description
Community sports pavilion	Land Use Green Infrastructure Building Heights	Within zone identified	To allow flexibility for location of pavilion within sports field.
Community building/visitor centre	Land Use Green Infrastructure Building Heights	Within zone identified	To allow flexibility for location of community building for linear park within zone identified.
Primary street corridor and associated safeguarded route for Mass Rapid Transit	Land Use Movement and Access Green Infrastructure Building Heights	+/-30m deviation from centre line	To allow for minor alignment changes that may arise through detailed design stage.
Transport Interchange	Movement and Access	Within community hub parcel	To allow flexibility for precise location along primary street within Community Hub.
Highway corridor safeguarded for future Cranfield bypass link	Movement and Access	+/-30m deviation from centre line	To safeguard and allow for future identification of a corridor in line with future design of potential extension to Grid Road network.
Vehicular access to parcel from other roads, vehicular links across green corridors and vehicular access points to schools.	Movement and Access	+/-100m deviation from access point	To show principles for key access points to parcels, but allow for detailed design of street network via reserve matters and to allow flexibility to meet relevant standards.
Public routes (retained and/or diverted routes)	Movement and Access Green Infrastructure	+/-30m deviation from centre line	To allow for minor alignment changes to diverted public routes from those shown through detailed design.
New public routes	Movement and Access Green Infrastructure	+/-50m deviation from centre line	To show principles for public routes and key access points through the site, but allow flexibility for precise routes through detailed design, including paths through linear park.
Redways	Movement and Access Green Infrastructure	+/-30m deviation from centre line	To allow for minor alignment changes to redways from those shown through detailed design.
New foot/cycle crossing (bridges) and	Movement and Access Building Heights	+/-50m deviation along route (road corridor) shown	To allow for detailed design of new foot and cycle crossings to tie into footpath network.

Element	Relevant Parameter Plans	Tolerance/Deviation	Rationale/Description
new at grade crossings			
Tree Nursery	Green Infrastructure	Alternative locations shown	To allow for response to phasing and flexibility for where temporary tree nursery is sited.
Local Play Areas with incidental open space and Neighbourhood play areas	Green Infrastructure	+/-25m deviation from identified location	To show network of play areas but allow for flexibility in precise location of these for detailed design.
Surface water attenuation	Green Infrastructure	Indicative locations (with exception of those part of detailed element)	Ponds, basins and attenuation features are shown indicatively with locations within green space or development parcels to be identified as part of detailed design at reserve matters stage.
Alignment of 30m wide zone for diversion of existing watercourse and structural landscaping	Green Infrastructure	+/-150m deviation from centre line along route shown	Green corridor through employment parcel will be minimum 30m width, but with flexibility to limit of deviation on precise route through parcel to respond to detail design of employment area (n.b. 150m includes max extent of difference between existing and shown realigned watercourse in this location).
Maximum building heights	Building Heights	Existing ground levels +/-2m	To allow for further detailed topographical survey, ground levels and detailed design at reserve matters stage.
Employment maximum building heights	Building Heights	Max AOD heights +/-2m	To allow for further detailed topographical survey, ground levels and detailed design at reserve matters stage.
School built form	Building Heights	Zones within which school built form will be located	To ensure within larger school parcels, the built form of the development and school playing fields are appropriately arranged, with flexibility of where buildings fall within identified zone.
Noise barriers	Building Heights	+/-30m horizontal deviation from centre line along route shown	To allow for acoustic testing and appropriate location of noise barriers at detailed design stage.

C3.7 Some of the technical aspects have also had regard to potential effects at night, and a lighting assessment has been prepared establishing a framework for future lighting design at the site. This is provided at Appendix C5 (Volume 2 to this ES).

C3.8 In addition to this, an Illustrative Masterplan has been developed to show one way in which the parameters could be applied in practice. This has not been the subject of the EIA but has been referenced by authors where relevant as a useful demonstration as to how mitigation measures could be applied. The Illustrative Masterplan is provided at Appendix C3 (Volume 2 to this ES).

C3.9 A Design Code or series of Design Codes will be developed and submitted for approval to MKC for each phase or development plot within the site ahead or alongside the submission of applications for reserved matters approval. These will build upon but be consistent with the parameters established and also the general design principles described in the separate MKE Design and Access Statement which has been submitted alongside the planning application for MKE. That document establishes an overall vision for MKE as follows:-

"The new neighbourhood at MKE will be a thriving community where people want to live and spend time; a sustainable place that is fit and flexible for the 21st century. It will be a place that actively supports health and wellbeing, connects people and nature, encourages community spirit and a strong sense of belonging, building on the qualities that make Milton Keynes a special and unique place already.1

C3.10 The Design Code(s) will provide further detail on elements such as materials and appearance or character of each area of the site.

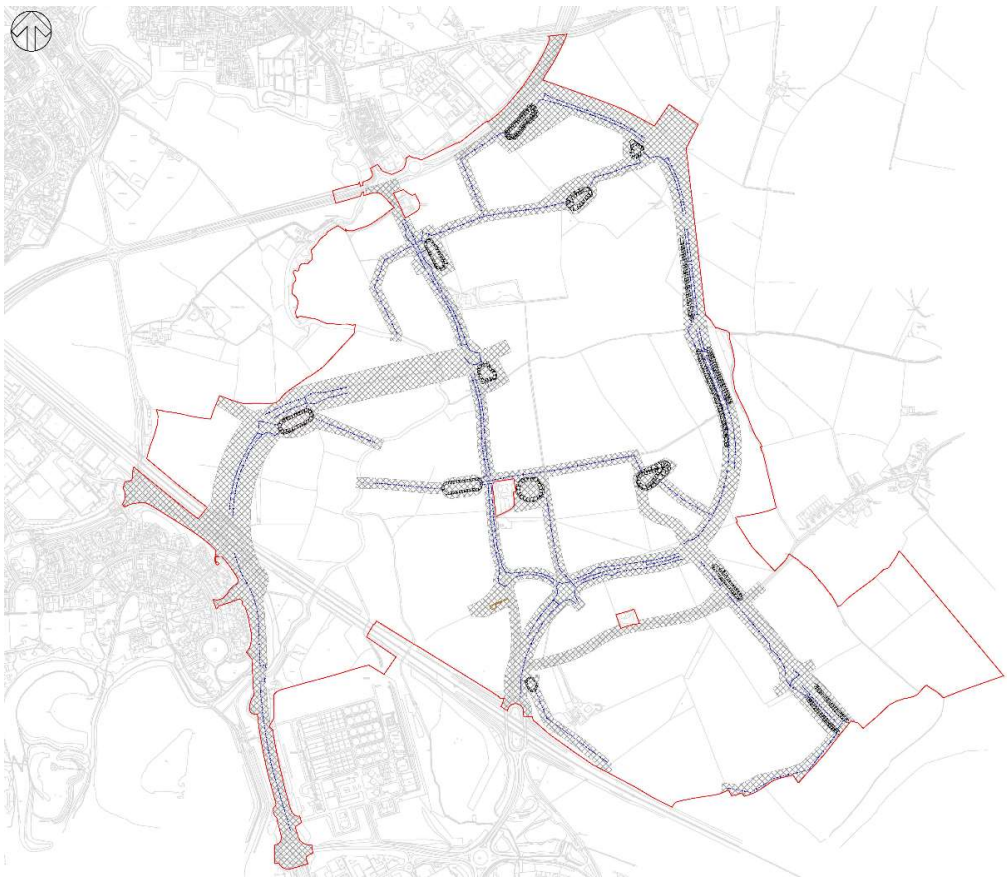
Delineation of Outline/Detailed Elements

C3.11 The outline and full elements are not delineated by area. There areas of overlap and where the full and outline elements will deliver sequentially different parts of the Proposed Development in the same areas at different periods of time. For example, whilst the detailed element will deliver the grid road corridors, some landscaping and pedestrian/cycle overbridges in these corridors will be delivered at a later date pursuant to reserved matters within the outline element of the scheme. These are distinguished and shown via the plans identified in Tables C3.1 and C3.2.

C3.12 In broad terms, the split between the outline and detailed elements is illustrated below:-

1 Design and Access Statement: Milton Keynes East, Page 4 (JTP, March 2021)

Figure C3.1 Illustrative Location of Outline and Detail Elements of Scheme



Notes: Outline (white) and Detail (hatched with highway related drainage works shown in blue); Source: WSP

Description of Detailed Infrastructure Works

C3.13 The detailed element of the Proposed Development comprises strategic highway infrastructure, including new grid roads, a motorway bridge over the M1 and a bridge over the River Ouzel. Detailed highway drawings set out site sections and finished levels and demonstrate how the new (or altered) roundabouts, roads and bridges will relate to the existing landscape.

Eastern Link Road – Grid Road

C3.14 The Eastern Link Road is proposed as a new 3.1 km part dual, part single carriageway Grid Road. The Eastern Link Road is proposed to connect the existing M1 J14 to a new junction of the A509 east of Interchange Park. This would follow the eastern boundary of the site. The works include a New Eastern Link Roundabout on A509 south of N. Crawley Rd overbridge.

C3.15 The Eastern Link Road works include stopping-up of part of the A509 and Newport Road (within the site), new arrangements linking with those roads, and 4 x new main roundabouts:

1 Four-arm north of M1 junction, with link-spur to new roundabout (A509 roundabout 2) to link into existing A509.

2 Four-arm with southern single carriageway Grid Road spur to link to Newport Road (realigned for T junctions) and further roundabout serving development parcels.

3 Three arm to service development parcels towards northern end; and

4 Three-arm tie in with A509 south of N. Crawley Road overbridge

C3.16 A new single span bridge over the Moulsoe Stream is also proposed. This is shown on the Moulsoe Stream bridge drawings MSB-DR-BR-001 (Rev 1), included at Appendix C1 (Volume 2 to this ES).

C3.17 The location of highway structures on the Eastern Link are to be provided as part of the outline. includes Subway 8 and foot/ cycle bridges (2, 3 and 4). The location of these highways structures is shown on the Highways Structures Location Plan ZZ-DR-BR-002 Rev P02, included at Appendix C2. This plan also shows the location of the Moulsoe Stream Bridge (B4).

C3.18 The Eastern Link Road includes Links 101-104, 110, 301-306, 501-505.

C3.19 Except where specifically indicated on plans (e.g. on sensitive parts of Eastern boundary, such as at 'Moulsoe New Wood'), the new green/landscape elements of all new grid road corridors will be soil and seeded in the interim. Structural landscaping/planting will then follow pursuant to the outline element as and when adjacent development parcels are delivered.

C3.20 The strategic grid road corridors will contain street lighting –generally 10m columns at 30m intervals, but in some areas there are 8-12m columns.

C3.21 Where the existing Newport Road from A509 eastwards is to be closed to vehicular through traffic, this is expected to be achieved either through a stopping up order or a Traffic Regulation Order.

Western Link Road – Grid Road

C3.22 The Western Link Road is proposed as a new 3.1 km predominantly dual carriageway Grid Road linking the V11 Tongwell Street from Pineham Roundabout, to the A509/A422 at Tickford Roundabout. including:

1 Dualling of part of existing Tongwell Street corridor (Link 105), with new overbridge;

2 New three-arm roundabout with Carleton Gate;

3 New dual carriageway overbridge over M1 motorway (Link 106) with associated embankment.

4 Downgrade of existing Tongwell Street north to Tongwell Roundabout to one way (north eastwards) running, with slip from new link before overbridge;

5 New four arm Willen Link roundabout within site with spurs development parcels and Bloor site link;

6 New embankment and viaduct bridge over River Ouzel valley (Link 107);

7 New four-arm roundabout (A509 roundabout 1) to tie in Grid Road to existing A509 alignment; and

8 Improvements to existing A509 from new roundabout northwards to Tickford Roundabout.

C3.23 The strategic grid road corridors will contain street lighting – this will generally by 10m columns at 30m intervals, but in some areas there will be 8-12m columns.

C3.24 The bridges and highway structures associated with the Western Link Road are show on M1 Milton Keynes bridge is shown on the Highways Structures Location Plan ZZ-DR-BR-002 Rev P02. It includes:

Bridges

- B1 Tongwell Street Northbound Bridge;
- B2 M1 Milton Keynes East Bridge (M1B) HE Structure; and

- B3 River Ouzel Flood Plain Bridge.

Subways

- S1. Subway 1;
- S2 Subway 2 HE Structure;
- S4. Subway 4;
- S5. Subway 5; and
- S7 Subway 7.

Culverts

- C1 Flood Relief Culvert 1 with pedestrian and cycle access
- C2. Flood Relief Culvert 2 with pedestrian and cycle access

Retaining wall

- R1. Carleton Gate Retaining Wall

C3.25 Detailed drawings of individual bridges and highway structures is provided in Appendix C1 (Volume 2 to this ES).

C3.26 The Tongwell Street bridge over River Ouzel is to run parallel and broadly match existing structure, parapets and heights of existing overbridge (which will become southward lanes of new dual carriageway).

C3.27 The M1 overbridge (Link 106) will have a maximum height of+ 70 m AOD at deck (c. +9m on M1 carriageway). The bridge has a deck span of 55.3 m and is 31.7 m in width.

C3.28 The River Ouzel valley viaduct (Link 107) will have a maximum height of +65m AOD at deck (c.+8.7m on valley).

C3.29 Except where specifically indicated on plans, the new green/landscape elements of all new grid road corridors will be soil and seeded in the interim. Structural landscaping/planting will then follow pursuant to the outline element (described below) as and when adjacent development parcels are delivered.

C3.30 Details of the Preliminary Earthworks Strategy for embankment details are provided at Appendix C5 (Volume 2 to this ES). In terms of Highway Embankments for the link (750m long, 35m top width, average 5m high with 1 in 3 slopes) between roundabouts, the Preliminary Earthworks Strategy estimates that the fill requirement for this feature will be circa 137,250 CuM.

Highways Drainage

C3.31 The drainage strategy for the site is provided on drawing: MKE-WSP-ZZ-ZZ-C-DR-0592 (RevP01). This shows the proposed surface water pipes, which broadly follows the siting of the East and West Link Road, which it is to run underneath. The plan also shows the location of proposed ponds for the full and outline planning.

C3.32 Highways drainage attenuation features will be as indicated in the General Arrangement for Planning drawings. These drawings are provided at Appendix C1 (Volume 2 to this ES).

Construction Area

C3.33 A construction working areas are also proposed. Locations are to be confirmed, however, the consolidation area within the site will be near to M1 overbridge working area.

Stopping up of highway and/or traffic regulation orders

C3.34 In order to deliver the strategic highway improvements, it is necessary to rearrange the existing highway network in several places which will require either the 'stopping-up' of existing public highway removing its status as a highway, road or footpath, or alternatively a 'traffic regulation order' (TRO) which retains its highway status but restricts or prohibits its use (e.g. closes it to vehicular traffic).

C3.35 The applicant intends to apply under Section 247 of the Town and Country Planning Act 1990, as amended, for the stopping up of any required highway in order to deliver the new highway infrastructure. In accordance with the legislation, this stopping up application will be made to be enacted pursuant to the receipt of planning permission for the Proposed Development (the application itself may be brought forward in parallel).

C3.36 During construction it is proposed that the following will need to be permanently stopped-up:

1 A section of the A509 London Road between the proposed Eastern Perimeter Road (Link 101) and the new roundabout on the A509 serving a new employment parcel.

2 A section of Newport Road between the proposed Eastern Perimeter Road (Link 101) and a new Cranfield Link road (Link 110).

C3.37 It is understood that the land to be stopped-up is controlled by MKC as highway land. The stopping-up is required to enable the construction of the new link road

C3.38 There are also proposed to be several locations where diversions of Pedestrian Rights of Way (PROWs) are proposed to occur. These, along with the above proposals to stop-up the highway are show on in Diagram 2.1 of the 'PRoW Strategy Note' TTN10 (this is appended to the Transport Assessment, see Appendix D1, Volume 2 to this ES).

Description of Outline Parameters

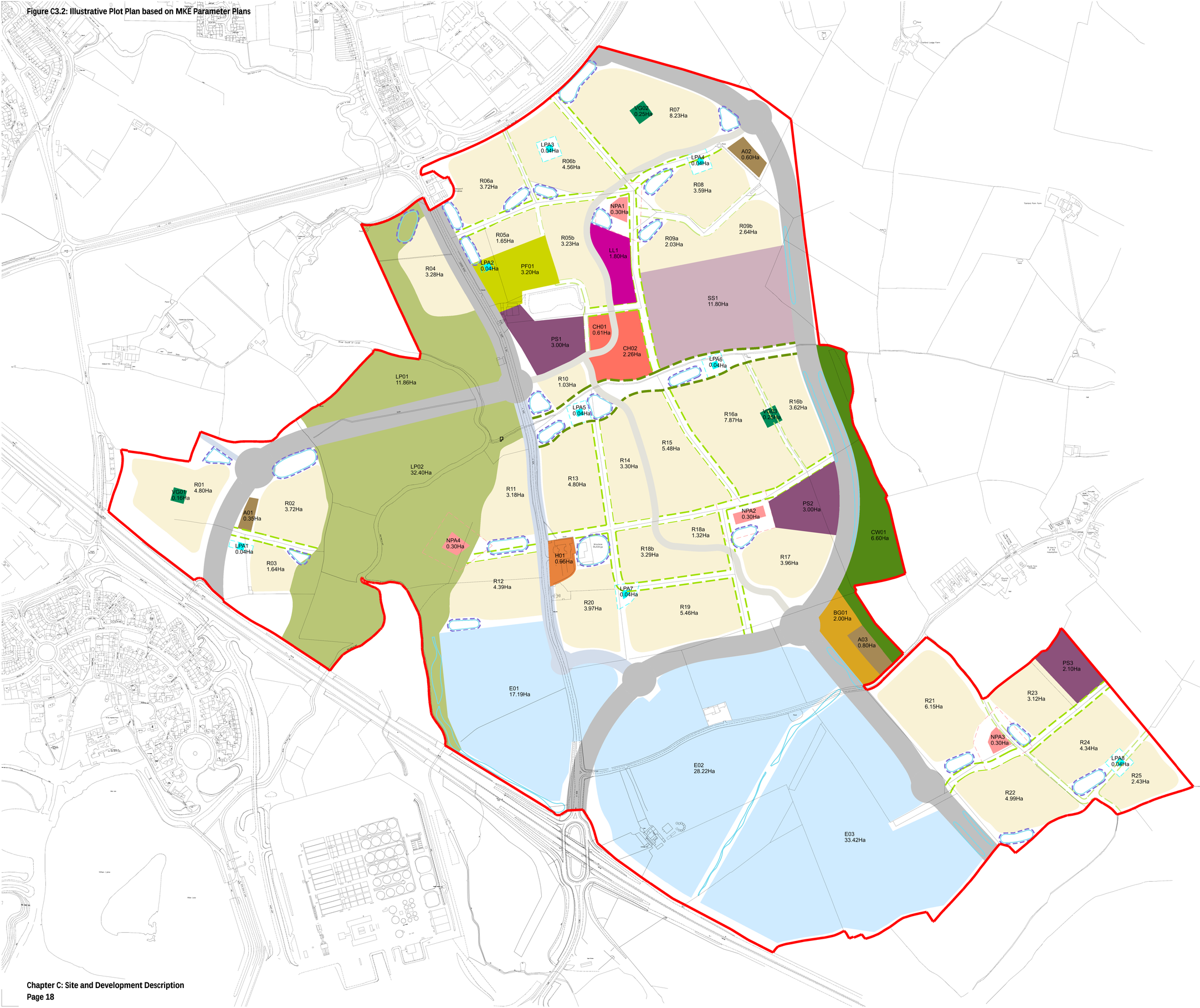
C3.39 The key components of the outline element of the Proposed Development are described below.

Layout

C3.40 The layout of the outline element is based on a landscape lattice and a modern interpretation of the Milton Keynes grid.

C3.41 For ease of reference, an illustrative plot plan has been prepared based on the parameter plans and which has been used by the team to assist in the describing particular geographically specific impacts within this large Development Site area. The layout and plot references are shown on the illustrative plot plan at Figure C3.2.

Figure C3.2: Illustrative Plot Plan based on MKE Parameter Plans



Notes:
Do not scale from this drawing.
All contractors must visit the site and be responsible for taking and checking Dimensions.
All construction information should be taken from figured dimensions only.
Any discrepancies between drawings, specifications and site conditions must be brought to the attention of the supervising officer.
This drawing and the works depicted are the copyright of JTP.

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- Redline Boundary
- Residential
- Employment
- Burial Ground / Remembrance Garden
- Existing Hotel
- Community Hub
- Homes for the Elderly (Later Living)
- Primary School
- Secondary School
- Playing Fields
- Local Play Area and Buffer
- Neighbourhood Play Area and Buffer
- Allotments
- River Ouzel Linear Park (floodplain)
- Community Woodlands
- Village Greens
- Grid Roads
- Primary Street
- Non-Grid Roads
- Primary Green Corridor
- Secondary Green Corridor
- Tertiary Green Corridor
- Attenuation Basin and Maintenance Access

Rev	Date	Description	Drawn	Chkd
P1	31.03.21	First Issue	LB	GP

Drawing Status
PLANNING

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Project
Milton Keynes East

Drawing Title
Illustrative Parcel Plan

Scale @ A1 1:5000 Job Ref. 01312
Drawing No. 01312 _LB_09 Revision P1
Scale Bar 0 50 100 150 200 250m

C3.43 Six key principles define the layout as follows:-

1 River Ouzel Linear Park – Running south-north through the western half of the site and connecting to Willen Lakes (to the south) along the River Ouzel corridor, this will comprise 63 hectares of parkland, new habitats and accommodating a network of footpaths and leisure routes;

2 Retaining landscape features – the layout has been designed to retain, where possible, existing hedgerows surrounding the current agricultural fields and clusters of trees and woodland, particularly along the eastern edge of the Development Site boundary. See Arboricultural Assessment at Appendix C6 (Volume 2 to this ES);

3 'Landscape Lattice' – a network of pedestrian and cycle routes criss-cross throughout the site using landscaping features as green corridors;

4 Connecting outside the site – building on the strategic infrastructure provided as part of the detailed element of the Proposed Development, new road links and connections have been designed to create permeable neighbourhoods with connections to the surrounding area. The Development Site boundary has been extended to ensure that necessary infrastructure improvements are incorporated;

5 Central Community Hub – located centrally within the development is a cluster of mixed uses and public transport facilities with a higher density of residential uses, a secondary and primary school, parkland and playing fields; and

6 Mix of uses – residential neighbourhoods and their associated uses are predominantly located away from the M1 motorway with employment land forming a buffer to the M1 motorway.

Amount and Land Use

C3.44 The Land Use Parameter Plan (Drawing No. 01312_PP_01 rev. P1), provided at Appendix C2 (Volume 2 to this ES), defines the land uses and quantum of development proposed.

C3.45 The outline element comprises the following land uses and site area/floorspace:-

Table C3.4 Proposed Land Uses and Site Area/ Floorspace

Land Use	Location(s) within the site	Use Class	Area	Maximum Parameter
Homes	Residential Parcels and Community Hub	Use Class C2/C3 – (includes any potential housing with care element)	C117.6 ha	4,600 homes (including houses, flats and specialist elderly accommodation with or without care).
Employment	Employment Areas: Zone A; West Parcel (E01) Zone B, Centre Parcel (E02) Zone C; East Parcel (E03)	Use Class B2/B8 Use Class E (Offices/Light Industrial)	80ha (net) A: 17.3ha B: 28.6ha C: 34.0ha Plus: R01/R02/R03 : 10.16 ha	403,650 sqm of which: - Maximum 37,160 sqm Class E offices/light industrial (within Zone R01/R02/R03) - Maximum 92,900 sqm Class B2 industrial - Maximum 403,650 sqm Class B8 warehousing (with ancillary offices)
	Potentially R01/R02/R03 (if not			**Maximum unit numbers:** Zone A: min 5 max 10 Zone B: min 2 max 12

Land Use	Location(s) within the site	Use Class	Area	Maximum Parameter
	developed for residential)			Zone C: min 2 max 13
Secondary School	SS1: Community Hub	Use Class F1	SS1: 11.8ha	SS1: 10 Form of Entry
Primary School (X3)	PS1: Community Hub PS2: Central South PS3: S. of Moulsoe	Use Class F1	PS1: 3.0ha PS2: 3.0ha PS3: 2.1ha	PS1: 3 Form of Entry PS2: 3 Form of Entry PS3: 2 Form of Entry
Commercial	Community Hub	Use Class E/Sui Generis including:- - Shops, restaurants, cafes, services (uses in Class E) and public house, takeaway (uses in Sui Generis class) - Health Centre - Early Years Nursery - Gymnasium - Offices (e.g. co-working hub, small flexible office uses	2.69 ha (net)	Maximum 10,000 sqm (gross) Class E/Sui Generis floorspace in community hub of which: - Maximum 4,000 sqm, broken down with maximums: -Convenience retail: 1,500 - Comparison retail: 2,000 - Food & beverage: 1,000 - Other non-retail service:1,000 Unit sizes: For retail element: a maximum unit size of 1,500sqm for convenience and 400 sqm for other uses - Maximum 2,000 sqm health - Maximum 2,000 sqm early years nursery - Maximum 1,000 sqm commercial gym - Maximum 2,000 sqm office (with maximum parameter of 37,160 sq m of offices/ light industrial across entire site).
	South of Moulsoe Local Parade	Use Class E/Sui Generis - shops, restaurants, cafes, services (uses in Class E) and takeaway (Sui Generis)	n/a	Maximum of 500 sqm (gross) Class E/Sui Generis floorspace, with maximums: - Convenience retail: 300 - Comparison retail: 200 - Food & beverage: 200 - Other non-retail service: 200 **Unit numbers:** min 4 max 6
Community Space		Use Class F1/F2 including: -Community services space -Community centre -Outdoor sports (e.g. pavilion) -Visitor centre	n/a	Community hub community hall or (e.g.) library space: max 400 sqm Class F1/F2 Sports field pavilion/clubhouse: max 600 sqm Class F2 District Park visitor centre: max 600 sqm Class F2

Land Use	Location(s) within the site	Use Class	Area	Maximum Parameter
Open Space		To include: - Local Play Areas - Neighbourhood Play Areas - District Park/Linear Park (River Ouzel through to Moulsoe New Wood) - Local Parks - Amenity Open Space (including pocket parks, village greens, green links, incidental open space etc.) -Allotments/ community orchards	at least 90 hectares	n/a – as per parameter plans
Burial Space		Burial Space	2 ha	n/a – as per parameter plans
Grid Road Green Overbridges		n/a	n/a	n/a – as per parameter plans
Tree Nursery (Temporary)		Agricultural / Forestry	to be defined	

C3.46 A primary sub-station is to be located within the outline element at one of two illustrative locations identified on the parameter plans.

Height

C3.47 Building heights are shown on parameter plan ref. 01312_PP_04-Rev P1 (see Appendix C2). The residential development is proposed to be no more than 6 storeys (26 m to ridge) in height in the Community Hub, 4 storeys (18 m to ridge) on the general residential areas and stepping down to a maximum of 2.5 storeys (12.5 m to ridge) in the more sensitive South of Moulsoe areas and parcels fronting the eastern perimeter. For employment uses no more than 29m from existing ground level is proposed for Zones B and C and 21 m for Zone A.

C3.48 Details of maximum height parameters are set out in Table C3.5.

Table C3.5 Proposed maximum heights

Land Use	Maximum Height Parameter Sought
Homes	Community Hub area: 6 storeys, 26m ridge General residential: 4 storeys, 18m ridge

Land Use		Maximum Height Parameter Sought
		S. of Moulsoe area and parcels fronting eastern perimeter: 2.5 storeys, 12.5m ridge.
Employment		Zones B & C: 29m ridge; max AOD +103m Zone A: 21m ridge; AOD +85 R01/R01/R03: 18m ridge
Secondary School		3 storey, 15m ridge
Primary School (X3)		PS1 & PS2: 2 storey, 10m ridge. PS3: 1 storey, 6m ridge.
Commercial	Community Hub	6 storeys, 26m ridge
	S. of Moulsoe Local Parade	N/A
Grid Road Green Overbridges		10m above carriageway

Access & Parking

C3.49 As shown on the Movement and Access Parameter Plan 01312_PP_02 (Rev P1) (see Appendix C2, Volume 2 to this ES), there are five main vehicular, pedestrian/ cycle access points to the overall site. The employment area itself has three main vehicular, pedestrian/ cycle access points.

C3.50 New Grid Roads are proposed to serve the new neighbourhood, these form part of the detailed proposals described above. The area of the detailed element, including the future grid roads, is shown as 'detailed application zone' on the parameter plans (Appendix C2, Volume 2 to this ES).

C3.51 Connecting to the Grid Roads, and shown as outline parameters, will be an internal road network will include a "primary street corridor" that runs through the site. Secondary routes and residential streets will then be created across the site as "secondary streets" to connect to this primary street creating a permeable network of routes.

C3.52 The intention is that a new 'mass rapid transit' scheme will be provided to connect the new Community Hub with Milton Keynes. This is shown on the parameter plans as "Route safeguarded for a possible Mass Rapid Transit (MRT) scheme'. This is simply a corridor within which any public transport prioritisation would occur (e.g. segregated route).

C3.53 The outline access parameters also show:

1 proposed redways, pedestrian cycle routes and path network;

2 location of new subway crossing, foot / cycle crossing and at grade crossing;

3 A new 'subway' through embankment/ viaduct across the floodplain crossing;

4 location of new flood culvert (to also function as a pedestrian/ cycle connection);

5 Bus facilities;

6 The existing public rights of way/ bridleway and the route of the proposed Public Rights of Way/Bridleway;

7 Potential for crossing of A509/ A422;

8 Location of roundabout junction to be upgraded.

C3.54 Car parking will be designed in at reserved matters stage at standards as per MK Parking Standards SPD relating to as follows:

- Employment – Car Parking Accessibility Zone 3

- Residential High Density (Community Hub and Central Area – 80 – 100 dwellings per hectare) – Car Parking Accessibility Zone 2
- Residential General (Primary Street, Riverside and General Area) – Car Parking Accessibility Zone 3
- Rural Edge – Car parking Accessibility Zone 4.

Landscaping and Amenity Space

C3.55 The development will incorporate green spaces and play areas within and between the proposed communities. The Linear Park will extend the River Ouzel linear park north and make connections to Newport Pagnell. Landscape lattice will create connections east/west along green and blue corridors for movement of people and wildlife, enhancing existing natural features.

C3.56 The Green Infrastructure Parameter Plan 01312_PP_03 (Rev P1) describes the location and scale of landscaping. The development will accommodate the following:-

1 Local Play Areas (c 3,200 sqm);

2 Neighbourhood Play Areas (c. 12,000 sq m));

3 District Park/Linear Park (River Ouzel through to Moulsoe New Wood) (84 ha);

4 Local Parks (4 ha);

5 Amenity Open Space (including pocket parks, village greens, green links, incidental open space etc.) (4 ha of pocket parks, other amenity space to be determined as part of reserved matters applications); and

6 Allotments/community orchards (1.7 ha).

C3.57 A 3.2ha sports pitch facilities is included, located centrally close to the Community Hub and residential areas.

C3.58 A temporary tree nursery will grow saplings for the site for a temporary period (up to 15 years) until that parcel is developed for permanent use.

C3.59 The distribution of open space will meet policy requirements in terms of quantity/accessibility.

C3.60 Structural landscaping for the infrastructure elements in detail (e.g. Grid Road corridors) are to be in outline and come forward as part of development on corresponding parcels (or as RMs for grid road corridors).

C3.61 A 'destination facility' is to be included within District Park illustratively forming a wildlife centre with café.

Energy, Sustainability and Climate Change

C3.62 The approach to energy, sustainability and climate change for MKE takes account of the extended delivery period in which MKE is to be constructed and operational during which technology is likely to rapidly change.

C3.63 The vision for MKE is for a sustainable, walkable neighbourhood with access to nature and diverse landscapes forming part of everyday life. The majority of new homes are to be built within 15 minutes walk from the new Community Hub.

C3.64 Hodkinson has prepared an Energy Statement, a Sustainability Statement, and an Overheating Mitigation Strategy for the outline scheme. These documents accompany the wider planning application submission. Chapter O Waste and Chapter N Climate Change and Resilience also provide details of commitments.

C3.65 These illustrate how the Proposed Development can be designed to comply with national and local policies related to sustainability, energy use and efficiency, water use and carbon dioxide (CO_2) emissions. The statements are intended to be high-level strategy documents and detailed options, particularly at the building design level, are intended to be refined and presented as part of each reserved matters application.

C3.66 In particular, the statements include the following:

1 **Reuse and recycle of materials:** There is limited demolition proposed as part of this scheme but demolition waste will be managed as per the principles set out in Section 9 of the Sustainability Statement as part of the 'circular economy' considerations. The earthworks strategy has also been designed such that the site will be 'balanced' not requiring substantive import or export of fill material to or from the site;

2 **Use of materials:** The Sustainability Statement (Section 10) details commitments to prioritise materials that have low embodied energy – from manufacture, transportation and operational stages, through to eventual demolition and disposal. Berkeley Group itself has committed to reducing the carbon impact of the materials and services it uses by 40% between 2019 and 2030.;

3 **Incorporation of green roofs/ walls:** As per the Sustainability Statement and in accordance with the Berkeley Group Sustainability Standards green roofs will be provided within the development. These will be shown as part of future reserved matters submissions;

4 **Recycling of building materials**: Consideration has been given to the Lifecyle of buildings including how materials can be recycled at the end of their lifetime. The Sustainability Statement (Section 9.0) sets out design principles relating to the 'circular economy' to manage, reduce, and enable the recycling of building materials used;

5 **Recycling of domestic and commercial waste:** Section 8 of the Sustainability Statement sets out the space to be provided in both residential and commercial developments to provision for waste and recycling. For example, in residential homes (in accordance with the Berkeley Group's Sustainability Standards) space for 30 litres of waste will be provided within 1- and 2-bedroom homes as well as 5 litres of space for food waste;

6 **Residential development standards:** Residential development will achieve and exceed the 19% carbon reduction over Part L (2013) as required by Policy SC1 (K1). From 2022, the residential development will need to meet the Interim Part L standard; a 31% reduction in carbon emissions over current Part L. From 2025 residential development will then need to meet the Future Homes Standard for a 75-80% reduction in carbon over current Part L.

In order to achieve the Future Homes Standards, a fabric first approach will be adopted to ensure compliance. Ultimately approaches could include mechanical ventilation, improved construction detailing for thermal bridging, and a focus on passive design (i.e. glazing orientations and external shading). This therefore follows the Energy Hierarchy approach as per Policy SC2 (H). There is also the potential to include solar panels to further reduce carbon emissions for residential development;

7 **Commercial development standards:** All commercial non-residential floorspace will target achieving a 'Very Good' rating as a minimum. Full BREEAM pre-assessments will provided alongside relevant reserved matters submissions;

8 **Mitigating overheating:** The Overheating Mitigation Strategy report that sets out a number of proposed design principles. For example, there will be use of the early-stage Good Homes Alliance overheating risk tool to identify key risk factors and constraints that

can restrict the use of natural ventilation. The report in total demonstrates that compliance with Policy SC1 (4-6) can be achieved.

9 **Water efficiency:** All residential development will target a minimum water efficiency standard of 105 litres/person/day. This is below the target of 110 litres/person/day in Policy SC1 (L);

10 **Air source heating pumps:** It is envisaged that all homes will be fitted with air source heat pumps for the provision of heating and hot water requirements.

C3.67 In addition to the above, there are a range of other energy and sustainability measures that will be explored throughout the build-period. For example, there is potential for a wind turbine to be installed within the site (away from residential uses) or the potential to collect biogas from sewage works.

Risks of Accidents and Disasters

C3.68 Schedule 4 of the updated EIA Regulations 2017 [Ref 1] include a requirement to provide: -

"a description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned."

C3.69 Table C3.6 provides an overview of how each of these issues have been considered within the ES, and other matters typical of a scheme of this nature are also briefly considered, in terms of traffic related accidents.

Table C3.6 Consideration of Risk of Accidents and Disasters within the MKE ES

Risk Area	Consideration of Risks of Accidents and Disasters
Vulnerability to climate change	Primarily relating to issues such as temperature increases and increased extreme weather events; many of these issues will be addressed through the detailed design of buildings within the site. Particularly key will be the integral design of buildings and their orientation including elements such as glazing and material choices.
Flood risk	Considered further in Chapter L of this ES, the development has been designed with regard to the potential for extreme events and to ensure that the risks to future occupants is as low as possible.
Construction	During the construction period, adoption of industry best practice methods, such as ensuring that site workers wear the appropriate PPE, will ensure that any risk of construction site related accidents is minimised. These methods will be included in the Construction Environmental Management Plan, which is explained further in Section C4.0 of this ES Chapter.
Contaminated land	Considered further in Chapter I of this ES, a range of mitigation measures have been identified to ensure that the risks to future occupants and workers from contaminated land is as low as possible.
Transport and Traffic	Considered further in Chapter D of this ES, a range of transport improvements have been designed to reduce the risks of traffic accidents as much as possible.

C4.0 Construction Methodology

C4.1 This section describes the key demolition and construction parameters that are identified for the purposes of assessment within this EIA. It is anticipated that a planning condition will require further details to be submitted and agreed by the contractor or contractors in due course and prior to the works (or phase of works) taking place. These will accord with the broad principles established below and assessed as part of the EIA.

C4.2 Chapter P (Cumulative Impact Assessment) identifies the relationship of the principles described below to the construction of the plots included within the MKE allocation but outside of the development site boundary which is the subject of this EIA (the Bloor site and the MKC site). Construction of those plots is assumed to be carried out independently to the works described in this section.

Programme of Works

C4.3 For the purpose of assessment, it has been assumed that construction of the development will take approximately 26 years. Works are assumed to commence in 2022 with the construction and delivery of key HIF funded infrastructure. Construction works would conclude by 2048.

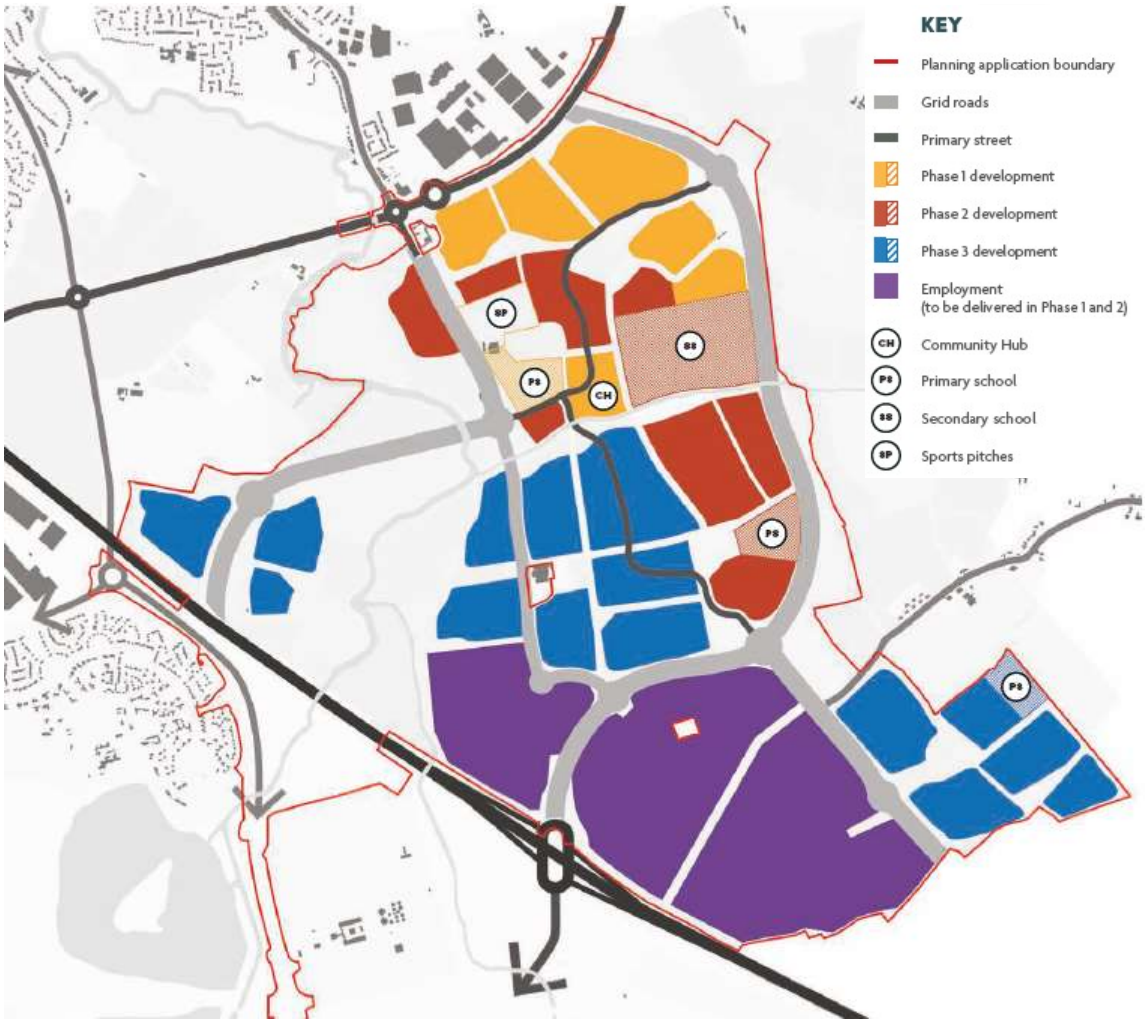
C4.4 The work has been divided into three key phases plus a period of initial enabling works as defined in Table C4.1:-

Table C4.1 Illustrative Phasing assumed for the purposes of assessment

Phase	Years	Residential Units	Commercial	Other
Enabling Works / Infrastructure	2022-2024	-	-	HIF Funded infrastructure
Phase 1	2025-2030	600	145,750 sqm	1 x primary school (2024) Community hub Health Hub (2024) River linear park, sports pitches Grid road and primary streets for Phase 1
Phase 2	2031-2037	1,100	257,900 sqm	1 x secondary school (2032) 1 x primary school (2038) Grid road and primary streets for Phase 2
Phase 3	2038-2048	2,900	-	1 x primary school (2047)
	TOTALS:	**4,600**	**403,650 sqm (80 hectares)**	

C4.5 An Illustrative Construction Phasing Plan has been prepared to identify how development is likely to proceed and has been assumed for the purposes of assessment.

Figure C4.1 Illustrative Phasing Plan: Milton Keynes East



Source: JTP

Description of Infrastructure Construction

C4.6 The Main HIF funded infrastructure to be delivered between 2022 and 2024 comprises:-

1 Eastern link (3.1 km) – existing M1 J14 to New Eastern Link roundabout on A509 south of N.Crawley Road overbridge and including:-

- a New dual carriageway Grid Road including stopping-up of part of A509 and Newport Road (within site), new arrangements linking with those roads, and 4 x new main roundabouts:
  - i Four-arm north of M1 junction, with link-spur to new roundabout (A509 roundabout 2) to link into existing A509.
  - ii Four-arm with southern single carriageway Grid Road spur to link to Newport Road (realigned for T-junctions) and further roundabout serving development parcels.
  - iii Four-arm to service development parcels towards northern end; and
  - iv Three-arm tie in with A509 south of N. Crawley Road overbridge
- b New single span bridge over the Moulsoe Stream

2 Western link (3.1km) – existing Pineham Roundabout (V11 Tongwell Street/H5 Portway (A509) to Existing Tickford Roundabout (A509/A422) and including:-

a New dual carriageway Grid Road including:

i Dualling of part of existing Tongwell Street corridor (Link 105), with new overbridge

ii New three-arm roundabout with Carleton Gate

iii New single carriageway overbridge over M1 motorway (Link 106) with associated embankment

iv Downgrade of existing Tongwell Street north to Tongwell Roundabout to one way (north eastwards) running, with slip from new link before overbridge

v New four arm Willen Link roundabout within site with spurs development parcels and Bloor site link

vi New embankment and viaduct bridge over River Ouzel valley (Link 107)

vii New four-arm roundabout (A509 roundabout 1) to tie in Grid Road to existing A509 alignment

viii Dualling existing A509 from new roundabout northwards to Tickford Roundabout.

C4.7 A specialist contractor will bring forward the detailed infrastructure works which are the first phase of the construction works. Whilst appointment of the contractor has not yet been made it is anticipated that the works are likely to proceed as follows:-

- Q3 2022 – creation of temporary access roads and haul routes; earthworks;
- Q4 2022 – demolition of M1 bridge; earthworks; main infrastructure connections to M1 Junction 14 and routes to north of southern commercial area;
- Q1 2023 – extension of infrastructure construction works towards Tongwell Street and to the north; earthworks;
- Q2 2023 – connection to north completed including noise bunds; Tongwell Street connections and routes to either side of new M1 bridge put in place; installation of new M1 bridge;
- Q3 2023 – continued extension of infrastructure works; earthworks;
- Q4 2023 – installation of bridge over River Ouzel, continued extension of infrastructure works; earthworks
- Q1 2024 – eastern link road; earthworks;
- Q2 2024 – completion of works.

C4.8 As described in the Earthworks strategy (Appendix C4, Volume 2 to this ES), a net balance is assumed to be achieved through the delivery of the works contained as part of this phase of development. The haul routes are likely to be created along the route of the eastern link road and to the east and west from the new infrastructure delivered during initial phases of the site.

C4.9 A series of site compounds are likely to be created throughout the site with the main compound located to the north of Junction 14 of the M1 motorway. Smaller compounds will be located close to areas of key works including close to the installation of bridges.

Description of other Construction Works (Residential/Commercial)

C4.10 Each stage of works can be broadly summarised as including the following works:

1 Site Preparation– site set-up, services diversions where applicable, utilities and site clearance, site hoarding and access routes/diversions of footways/roads (as required);

2 Enabling and ground works, and substructure works – including earthworks;

3 Civil works - foul & surface drainage etc;

4 Main construction works;

5 Highways works – cycle and access works;

6 landscaping.

C4.11 All normal best practice construction methods and health and safety requirements will be put in place by the contractor(s). The site will be registered with the Considerate Constructors Scheme and posters will contact details will be displayed in prominent locations.

1. Site Preparation and Demolition Works

C4.12 Prior to the commencement of construction works, risk assessments and necessary investigations will be undertaken in order to confirm the location of all watercourses, identify suitable temporary drainage systems (including pollution prevention devices), confirm timing of works, identify fully trained staff and confirm monitoring procedures.

C4.13 Site preparation works will include, as required, the installation of site construction and mitigation hoarding, safety and security lighting, and other associated setup requirements (e.g. welfare facilities), as to be defined in a CEMP (see below).

C4.14 It is assumed that all construction compounds will be within the development site boundary.

C4.15 Materials, plant and equipment will be stored in designated, signed areas and, where possible, close to the area in which they will be used.

C4.16 Demolition of the following buildings within the site will be carried out in accordance with best practice and to ground level. On site crushing and screening is not assumed to be carried out in association with the demolition works:-

Table C4.2 Planned Demolition Works

Buildings	Approximate area	Waste Materials
All existing buildings at Hermitage Farm, Newport Road	2,500 sqm	concrete hardstanding, metal frame, metal cladding, brick/timber buildings
All existing buildings (house + farm sheds) at Moulsoe Farm, London Road	2,000 sqm	concrete hardstanding, metal frame, metal cladding, brick/timber buildings
All existing buildings (house + adjacent farm sheds + farm shed on opposite side of road) at 27/29 London Road	2,000 sqm	concrete hardstanding, metal frame, metal cladding, brick/timber buildings

C4.17 An Ecological Clerk of Works will be appointed to oversee construction from the ecological point of view and to ensure that appropriate barriers are in place to protect retained habitats and trees / shrubs for that phase of the development.

C4.18 Where required, programmes of archaeological investigation, recording, post excavation and publication will be implemented prior to development groundworks taking place.

2. Enabling and Ground/Earth Works

C4.19 Detailed ground investigations will be conducted for each phase as required prior to the start of the construction works and will identify the presence or absence of contamination within shallow soils and groundwater. Any contamination will be subject to remediation as required. Remedial measures will include a clean cover layer in private gardens and landscaped areas, including the allotments and other measures required to ensure the ground is appropriate for end use.

C4.20 A further detailed Unexploded Ordnance risk assessment will be carried out if excavations are proposed in areas not already covered by previous Unexploded Ordnance assessments/surveys.

C4.21 Significant earthworks including cut and fill will be required across the site to create the development plots with total material moved within each phase estimated as follows:-

- Phase 1: 554,535 m^3
- Phase 2: -938 m^3 (deficit)
- Phase 3: 5,102 m^3

C4.22 For the purposes of assessment, it is assumed that no earth will be removed from site with surplus material (approximately 580,000m3 of material) to be used in the creation of noise bunds and embankments for routes across the floodplain. A consolidation centre may be required which would be located within the south-west corner of the site. Further details are provided in Chapter I (Ground Conditions) of this ES.

3. Civil Works

C4.23 The site drainage strategy is described in Chapter L (Water Environment) and Appendix L2 (Volume 2 to this ES).

4. Main Construction Works

C4.24 No unusual construction methods are anticipated to be required in construction of buildings. It has been assumed that piling will not be required.

5. Highway Works

C4.25 All other roads and infrastructure will be delivered through individual plots and phases.

C4.26 No unusual construction techniques will be required in the construction of roads and infrastructure.

6. Landscaping

C4.27 A tree nursery will be established during initial phases of development to ensure mature trees can be transplanted within the landscaped areas of the site. The nursery is envisaged to be place for a period of 15 years.

C4.28 Landscaping will be brought forward as plots are delivered across the development site.

Access and Deliveries

C4.29 Four construction site access points will be established:-

- M1 junction 14 onto the A509;

- A422 onto the A509;
- Tongwell Street; and
- Newport Road.

C4.30 Construction material deliveries will predominantly arrive at site via the A509, principally via J14 of the M1. Limited local traffic would arrive at site via the A422.

C4.31 It is assumed that no concrete batching plants will be installed on site. Concrete deliveries are assumed to arrive at site from nearby facilities including those at Bletchley (via the A509); at Breedon; and at Wolverton (via the A422).

C4.32 An average of 397 LGVs and 88 HGVs are estimated to be required during the construction period. Further details are provided in Chapter D: Transport.

C4.33 Where possible, deliveries will take place outside of peak periods.

Hours of Work

C4.34 During the initial enabling phase (2022-2024), construction works would generally take place between 08:00 – 17:30 Monday to Saturday. Any exceptions will be carried out in agreement with the local authority and the Highways Agency. Exceptions will include the installation of the M1 bridge which will require 24 hour working including short-term closures of the main motorway carriageway.

C4.35 During phases 1 to 3, works are planned to be undertaken during the following hours:

- 08:00 – 17:30 Monday – Saturday

C4.36 No works will be undertaken at night time, on Sundays or Bank Holidays without prior agreement with MKC.

Construction Environmental Management Plan

C4.37 The contractor(s) will be required to produce and agree a CEMP (incorporating any relevant environmental requirements) to address construction effects of the development or specific phases on the environment, existing surrounding communities, businesses and residents of the area. Further details of the scope of this document (or series of documents) are provided in Chapter L of this ES (Mitigation and Monitoring).

C4.38 The establishment of a CEMP that includes at least the following details is identifies as embedded mitigation that has been taken into account in the EIA:-

1 Location of the works and phases, including a site plan, showing construction site boundaries, position of plant and any sensitive receptors;

2 A description of the work to be undertaken;

3 A detailed programme of the construction activities, proposed dates and sequence of the works, details of proposed normal working hours;

4 Construction Vehicle Management, including allocated times for deliveries and unloading, and parking arrangements;

5 Construction travel plans, including proposals for shared travel, on-site car parking arrangements, use of public transport;

6 Method of delivery/removal of materials and plant and commitments regarding burning of materials;

7 Details of proposed site accommodation and location of site compounds;

8 Location of secure storage facilities for fuel, tools and equipment;

9 Details of temporary lighting which will address impact of lighting on the environment and surrounding communities. To avoid night time illumination of river corridors as far as is possible;

10 Prevention of the start up and run down of any vibratory rollers within a distance of 25metres of a sensitive receptor as defined by Chapter H (Noise and Vibration) of this ES;

11 Details of temporary physical barriers, such as Heras fencing, to protect retained and reinstated habitat where required including trees;

12 Measures to reduce the impacts to trees, in accordance with the Arboricultural Impact Assessment (Appendix C6, Volume 2 to this ES);

13 Workers should be fully briefed on ecologically sensitive habitats and construction activities should be conducted in accordance with the Environment Agency's Pollution Prevention Guidance;

14 Workers to be required to wear PPE to prevent dermal contact and inhalation or ingestion of contaminated materials where these are identified and appropriate site hygiene facilities to be put in place for the use of workers;

15 Measures for the management of waste arisings during the construction period and implementation of a system of procurement and consultation with selected suppliers to seek waste minimisation, recycling and improvements in environmental performance;

16 Details of mitigation for bats, badgers, otters, breeding birds, reptiles, Great Crested Newts and invertebrates as described in Chapter F (Ecology) of this ES;

17 Details of a Dust Management Plan, which will include measures for suppressing dust as outlined in Chapter G (Air Quality) and Chapter I (Ground Conditions and Soils) of this ES;

18 A Materials Management Plan detailing measures to control pollution, including the potential for run-off or pollutants entering watercourses and other wetland areas of the site. This would include measures adherence to Guidance for Pollution Prevention (GPP)[2] and the Contaminated Land: Applications in Real Environments (CL:AIRE) 'Definition of Waste: Development Industry Code of Practice';

19 Design and implementation of a temporary drainage strategy that captures waterborne pollution prior to entering the watercourses and other associated wetland habitats, incorporating settlement tanks and/or interceptors where necessary and also mitigates both flood risk and sediment loading to prevent an increase in surface water run off. Temporary drainage to be implemented prior to works taking place on the relevant phase of the site;

20 Secure measures to ensure that there is no construction storage within the flood plain and that an emergency flood management plan for any works within the floodplain (e.g. river crossing) are put in place. Construction areas required within the flood plain (e.g. for the river crossing) should be surrounded by earth bunds or similar to prevent floodwaters reaching the construction site;

21 Details of a construction noise assessment, including details of noise monitoring locations where required and the setting of noise action levels. Further details of measures that would be included within the CEMP in relation to noise and vibration is provided within Chapter H (Noise and Vibration) of this Environmental Statement;

2 Guidance for Pollution Prevention. Available online. http://www.netregs.org.uk/environmental-topics/pollution-prevention-guidelines-ppgs-and-replacement-series/guidance-for-pollution-prevention-gpps-full-list/ [Accessed September 2019]

22 Details of a stakeholder communication plan, which will include displaying details of the site manager and key contacts on the site boundary. The head or regional office contact information should also be displayed;

23 Details of suitable containment measures and procedures for the storage and handling of materials and waste to ensure that spills or contaminant releases do not enter the ground or surface water; and

24 Statutory Requirements including a list of appropriate environmental legislation and good practice, a list of specific objectives and targets that have been imposed by planning conditions and agreed in consultation.

Construction Logistics Plan

C4.39 A Construction Logistics Plan ('CLP')will be prepared to identify how traffic will be managed throughout the duration of the construction stage. The CLP will also outline how pedestrian and cycle traffic will be safely and effectively managed including those associated with the closure and/or diversions of footpaths, footways or cycle routes due to remediation/construction works within or outside the public highway. The implementation of the CLP is considered to be embedded mitigation and has been taken into account as part of this EIA.

C4.40 Liaison with the Local Authority and other relevant bodies will be required to ensure that deliveries of materials to site occur outside of highway peak hours, where practical, to minimise delay the impact to users of the local highway network during the construction period. Preferred routing of construction traffic will be identified and agreed with MKC in writing. This will be contained within the required construction phase health and safety plan, which should also include details for the suppression of air borne dust particles through best practice methods, methods for reducing the deposition of mud on the highway network through measures such as wheel washing facilities and the removal of deposits which do occur using road sweepers.

C4.41 Particular measures that will be incorporated into the CLP include:-

- construction vehicle routeing;
- proposed programme and duration;
- number of construction personnel including travel arrangements and mitigation;
- number of construction and delivery vehicles using the public highway; and
- traffic management.

C5.0 Consideration of Alternatives and Design Evolution

C5.1 Schedule 4(2) of the 2017 Regulations (as amended) [Ref 1] requires an identification of the reasonable alternatives that have been studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option including a comparison of the environmental effects. This section provides a review of those alternatives that have been studied.

C5.2 In addition, and with reference to Schedule 4(3) the ES also provides a brief review of the likely effects in the event that the development does not come forward (i.e. an outline of the likely evolution without implementation of the development). This is otherwise known as the 'no development' scenario. Further consideration of this scenario is also included within technical chapters D to O where relevant to the specific technical area under consideration.

C5.3 To comply with this requirement, this section provides a review of:

1 Likely effects in the event that the development does not come forward ('the 'no development' scenario');

2 Consideration of whether alternative locations would achieve the objectives of the current Proposed Development; and

3 Consideration of the evolution of the design of the scheme and whether alternative forms of development would achieve the same objectives

C5.4 The consideration of alternatives has been assessed and is explained below.

No Development

C5.5 In addition to the requirements of the 2017 EIA Regulations [Ref 1], guidance in carrying out an EIA suggests that it is good practice to consider the evolution of a site in the absence of the development proposed (in other words a 'do nothing' alternative). This also covered under the 'future baseline' requirements of the 2017 EIA Regulations [Ref 1] as specified in Chapter A of this ES.

C5.6 Each technical aspect chapter of this ES includes a section describing the future baseline relevant to the particular technical area. General consideration is also provided below.

C5.7 If no development was to come forward at the subject site, it is possible that the site would remain in its current condition, which is primarily agricultural land. In the 'no development scenario', the significant social, economic and housing benefits from the MKE development would not come forward at the site and in Milton Keynes.

C5.8 However, the allocation of the site within the MK:Plan (2019) considerably increases the likelihood that a similar development would be likely to be brought forward in due course on the site. Given the importance placed in local planning policy on the delivery of new homes within Milton Keynes, no further consideration has been given to the 'no development scenario' within this ES.

Consideration of Alternative Locations

C5.9 The scheme is a Sustainable Urban Extension with new residential and employment development to meet the long-term needs of Milton Keynes.

C5.10 As confirmed within the Scoping Request to MKC (Appendix B1), no other locations have been considered by the Applicant in respect of the development given that the MKE site has been the only site identified for the Proposed Development, the applicant has not given, and will not be giving consideration as part of the EIA to other sites for the development of a similar scale.

C5.11 No further consideration is therefore required in accordance with the 2017 EIA Regulations (as amended).

Influence of the EIA in Design Evolution

C5.12 The current form of Proposed development has emerged through an iterative process of design evolution between the design and EIA team. However it is important context that the immediate starting point for the design has been the Milton Keynes East Development Framework Supplementary Planning Document ('SPD')(MKC, March 2020). This established the overall vision, development principles and infrastructure requirements that would need to be included to ensure the delivery of MKE. The work between the design and EIA teams has therefore focused on ensuring that these key principles embed important environmental mitigation where at all possible at this stage. This ES then identifies other measures that will need to be brought forward through the detailed design process.

C5.13 The Design and Access Statement submitted with the planning application includes a detailed commentary on the evolution of the development and includes copies of two 'concept plans' which demonstrate how design based on the principles in the draft SPD were developed. The illustrative plans are shown below for reference:-

Figure 5.1 Concept Plans at October 2018 (prior to adoption of DPD)

Source: JTP

C5.14 The plans show that the key structural requirements for MKE define a particular framework that has been retained in its broad sense throughout the iteration of the Proposed Development scheme.

C5.15 However, the process has EIA has enabled further refinement of the overall principles and particular elements have been embedded into the detailed highways design and the parameters for the development. These elements are described in full in Chapters D to O of this ES but a summary has been provided below.

Transport

- The development and inclusion of the eastern perimeter road (realigned A509) which connects M1 J14 with the A509 in the north east corner of the site. The inclusion of the link

provides a strategic access for traffic to access the motorway network and provides an initial section of the future Cranfield link and connection to Moulsoe Village.

- The detailed highways design accords with national and local highway design geometry standards as appropriate and provides the appropriate level of road capacity needed to cater for predicted levels of traffic and in recognition its role within the wider infrastructure network.
- Design and location of roads has had regard to site topography and other key environmental aspects including ground conditions, archaeology, flood risk and ecology.
- Future proofing has been accommodated to allow for other potential changes which may occur over the coming years including the potential Mass Rapid Transit route through the Development Site.

Landscape and Views

- Significant design iteration with a focus on building heights, locations and landscaping has taken place with a particular focus on sensitive views from the east looking west towards MKE. This has led to changes to heights and landscaping across the site.
- A lighting assessment has been prepared (Appendix C5, Volume 2 to this ES). This identifies a number of site-specific or representative sensitive locations, which have the potential to be adversely affected by lighting and where consideration to how effects can be addressed in the detailed design stage.
- Other detailed embedded mitigation in respect of landscape and views is described in Chapter E of this ES.

Ecology

- The design process has been informed by a range of ecological survey work and the landscape strategy has been designed in response to these. It has sought to retain key habitats within the scheme including:
    a The River Ouzel and Broughton Brook will be retained in a corridor of semi-natural habitats including enhanced and extended areas of meadow grassland and newly created wetland habitats.
    b The network of treelines and hedgerows will be retained where possible to maintain opportunities for wildlife to move across the site. These will be complemented by new native hedgerow, tree and scrub planting.
    c A variety of new wetland habitats will be created across the site both as part of the surface water attenuation scheme and as stand-alone features, including ponds, reedbeds, ditches and swales.
    d Existing woodlands will be retained and complemented by new areas of woodland and orchard planting.
- The design process has been informed by a BS5837 Tree Survey to identify constraints in relation to trees (see Appendix C6, Volume 2 to this ES). This has been extended to an assessment of trees against criteria for the identification of veteran trees, to identify those requiring additional protection under Natural England and Forestry Commission Standing Advice. Subsequently, all veteran trees and the majority of other mature trees within the site will be retained and protected within the development scheme.
- Other detailed embedded mitigation in respect of ecology is described in Chapter F of this ES.

Air Quality

- Inputs have been provided to the orientation and location of different landuses; albeit other measures are identified for the detailed design stage and are described in Chapter G of this ES.

Noise

- With regards to the primary street corridors through the site, due consideration has been given to measures that when incorporated into the engineering design would minimise potential impacts. These measures include:-
  - e Horizontal alignment (moving routes away from sensitive receptors).
  - f Vertical alignment (keeping a route low within the natural topography to exploit any natural screening).
  - g Low noise surface (effective at reducing noise in the mid to high frequencies where tyre noise dominates, which typically is where speeds are in excess of 75 kph, or around 47 mph).
  - h Speed restrictions (all else remaining the same, lowering traffic speeds will serve to reduce road noise at source).
- Noise bunds have been identified for key areas around the site to ensure that future development can be brought forward including adjacent to the strategic infrastructure and adjacent to the M1 motorway.

Ground Conditions & Soils

- The Earthworks Strategy (Appendix C4, Volume 2 to this ES) has guided the location of key infrastructure and built development across the site.

Historic Built Environment

- Embedded mitigation is provided through the control of building heights and retention of key infrastructure in relation to areas of heritage sensitivity, as shown on the Building Heights and Green Infrastructure Parameter Plans.

Archaeology

- Consideration of the location of potential archaeological areas of greater significance have been taken into account in the location of development with an aim to retain any features of particular value in situ where at all possible.

Water Environment and Drainage

- The detailed design of bridges over key water features has been designed to ensure that the connection does not lead to increased flood risk
- Other measures are identified for the detailed design stage and are described in Chapter L of this ES.

Socio Economics

- Assessment has guided the number and mix of residential units, number and location of community facilities and open space and the floorspaces to be accommodated for retail, business and community uses across the site.

Climate Change and Resilience

- The location of buildings has been designed to avoid areas at risk of extreme flood events.
- Other measures are identified for the detailed design stage and are identified in Chapter N of this ES.

Waste

- The groundworks strategy has been designed to keep earth on site rather than disposing of this elsewhere.
- Other measures are identified for the detailed design stage and are identified in Chapter O of this ES.

C5.16 The EIA has therefore played an important role in the emergence of the detailed highways layout and the outline parameters for the Proposed Development. Further consideration of this is provided in Chapters D to O of this ES.

C6.0 Abbreviations & Definitions

1 EIA.- Environmental Impact Assessment

2 ES - Environmental Statement

3 MKE - Milton Keynes East

4 MKC - Milton Keynes Council

C7.0 References

1 Town and Country Planning (EIA) Regulations 2017