

HIGH SPEED RAIL (LONDON - WEST MIDLANDS)

Supplementary Environmental Statement and Additional Provision 2 Environmental Statement

Volume 5 | Technical appendices

Waste and material resources (WM-001-000)

July 2015

SES and AP2 ES 3.5.4



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1 Introduction

- 1.1.1 This appendix provides an addendum to appendix WM-001-000 Waste and material resources assessment from the main Environmental Statement (ES) published in November 2013. This appendix does not provide an update of the overall total quantities of waste per community forum area (CFA) that was provided within WM-001-000 of the main ES, but instead presents the increases or decreases in waste and material quantities, which were considered to be potentially significant, as a result of Supplementary Environmental Statement (SES) changes and Additional Provision 2 (AP2 ES) amendments.
- 1.1.2 However, for those CFAs, where changes to the waste and material quantities resulting from the AP2 revised scheme were considered to be non-significant, these are still included in the updated 'Annex 1 - CFA and regional waste and material resources reporting tables' attached to this appendix together with those design changes and amendments considered to be potentially significant (see SES and AP2 ES Volume 5, Appendix WM-001-000 Annex 1).
- 1.1.3 As with the main ES, an assessment of the likely significant environmental effects associated with the off-site disposal to landfill of solid waste generated during the construction and operation of the scheme has not been undertaken on a CFA basis. Therefore no such details have been provided within this appendix and have been considered on a route-wide basis (see Volume 3, Section 19 of this SES and AP2 ES).

2 Kilburn (Brent) to Old Oak Common (CFA4)

2.1 Construction

Forecast of material and waste quantities

Excavated material quantities

- 2.1.1 A forecast of the excavated material quantities that will be produced during the construction of the AP2 revised scheme in the Kilburn (Brent) to Old Oak Common area has been prepared and is presented in Table 1.
- 2.1.2 The quantity of surplus excavated material that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 1.
- 2.1.3 The estimated quantity of surplus excavated material for disposal only includes the quantity of unacceptable material classes U1B and U2, which is unsuitable for reuse within the scheme. The overall balance of excavated material is presented in Volume 3 along with the total quantity of surplus excavated material requiring off-site disposal to landfill and therefore it is not included in Table 1.

Table 1: Forecast excavated material quantities (the original scheme compared to the AP2 revised scheme)

Excavated material types	Estimated quantity of excavated material (tonnes) (original scheme)	Estimated quantity of excavated material (tonnes) (AP2 revised scheme)	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (original scheme) ¹	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (AP2 revised scheme)
Selected fill	0	0	N/A	N/A
General engineering fill	0	0	N/A	N/A
Environmental mitigation earthworks fill	3,028,910	3,028,910	N/A	N/A
Topsoil	0	0	N/A	N/A
Agricultural subsoil	0	0	N/A	N/A
Unacceptable material Class U1A	848,820	848,820	N/A	N/A
Unacceptable material Class U1B	803,247	826,395	0	140,594

¹ Only includes the quantity of unacceptable material classes U1B and U2, which is unsuitable for reuse with the scheme.

Excavated material types	Estimated quantity of excavated material (tonnes) (original scheme)	Estimated quantity of excavated material (tonnes) (AP2 revised scheme)	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (original scheme) ¹	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (AP2 revised scheme)
Unacceptable material Class U2	0	0	0	0
TOTAL	4,680,977	4,704,125	0	140,594

Demolition material and waste quantities

2.1.4 A forecast of the demolition material quantities that will be produced during the construction of the AP2 revised scheme in the Kilburn (Brent) to Old Oak Common area has been prepared and is presented in Table 2:.

2.1.5 The quantity of demolition waste that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 2:.

Table 2: Forecast demolition waste quantities to landfill (the original scheme compared to the AP2 revised scheme)

Type of structure	Estimated demolition material quantities (tonnes) (original scheme)	Estimated demolition material quantities (tonnes) (AP2 revised scheme)	Estimated demolition waste for off-site disposal to landfill (tonnes) (original scheme)	Estimated demolition waste for off-site disposal to landfill (tonnes) (AP2 revised scheme)
Utilities	6,728	6,880	673	688
Industrial units	127,924	236,324	12,792	23,632
Commercial property	26,703	85,968	2,670	8,597
Residential property	1,072	0	107	0
Community amenities	28	0	3	0
Railways	81,890	5,710	8,189	571
Highways	0	815	0	82
TOTAL	244,345	335,697	24,434	33,570

Construction waste quantities

2.1.6 A forecast of the construction material quantities that will be produced during the construction of the AP2 revised scheme in the Kilburn (Brent) to Old Oak Common area has been prepared and is presented in Table 3.

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2.1.7 The quantity of construction waste that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 3.

Table 3: Forecast construction waste quantities to landfill (the original scheme compared to the AP2 revised scheme)

Type of construction	Estimated construction waste quantities (tonnes) (original scheme)	Estimated construction waste quantities (tonnes) (AP2 revised scheme)	Estimated construction waste for disposal to landfill (tonnes) (original scheme)	Estimated construction waste for disposal to landfill (tonnes) (AP2 revised scheme)
Earthworks	0	0	0	0
Retaining walls	0	0	0	0
Bridges	8,731	0	873	0
Viaducts	0	0	0	0
Roadworks	0	0	0	0
Footpaths/tracks	0	0	0	0
Railworks	0	0	0	0
Watercourse diversions	0	0	0	0
Fencing	0	0	0	0
Drainage	0	0	0	0
Landscaping	0	0	0	0
Utilities	0	0	0	0
Construction compound	0	487,078	0	48,708
Tunnels	102,082	0	10,208	0
Ventilation shafts	7,173	0	717	0
Stations	215,328	0	21,533	0
Other structures	32,029	0	3,203	0
Railway systems waste	73,370	0	7,337	0
TOTAL	438,713	487,078	43,871	48,708

Worker accommodation site waste quantities

2.1.8 There will not be any worker accommodation sites in the Kilburn (Brent) to Old Oak Common area and therefore no waste will be generated from this source.

2.2 Operation

Forecast of waste quantities

2.2.1 A forecast of the operational waste quantities that will be produced annually during the course of the operation of the AP2 revised scheme in the Kilburn (Brent) to Old Oak Common area has been prepared and is shown in Table 4.

2.2.2 The quantity of operational waste that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 4.

Table 4: Operational waste forecast (the original scheme compared to the AP2 revised scheme)

Waste source	Estimated quantity of waste per annum (tonnes) (original scheme)	Estimated quantity of waste per annum (tonnes) (AP2 revised scheme)	Estimated quantity of waste for off-site disposal to landfill per annum (tonnes) (original scheme)	Estimated quantity of waste for off-site disposal to landfill per annum (tonnes) (AP2 revised scheme)
Railway stations and trains	595	595	238	238
Rolling stock maintenance	0	0	0	0
Track maintenance	118	118	18	18
Ancillary infrastructure	10	10	4	4
TOTAL	723	723	260	260

3 Dunsmore, Wendover and Halton (CFA10)

3.1 Construction

Forecast of material and waste quantities

Excavated material quantities

- 3.1.1 A forecast of the excavated material quantities that will be produced during the construction of the AP2 revised scheme in the Dunsmore, Wendover and Halton area have been prepared and are presented in Table 5:.
- 3.1.2 The quantity of surplus excavated material that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 5:.
- 3.1.3 The estimated quantity of surplus excavated material for disposal only includes the quantity of unacceptable material classes U1B and U2, which is unsuitable for reuse within the scheme. The overall balance of excavated material is presented in Volume 3 along with the total quantity of surplus excavated material requiring off-site disposal to landfill and therefore it is not included in Table 5:.

Table 5: Forecast excavated material quantities (the original scheme compared to the AP2 revised scheme)

Excavated material types	Estimated quantity of excavated material (tonnes) (original scheme)	Estimated quantity of excavated material (tonnes) (AP2 revised scheme)	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (original scheme) ²	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (AP2 revised scheme)
Selected fill	0	0	N/A	N/A
General engineering fill	4,329,030	4,329,030	N/A	N/A
Environmental mitigation earthworks fill	0	0	N/A	N/A
Topsoil	431,713	431,713	N/A	N/A
Agricultural subsoil	345,067	345,067	N/A	N/A
Unacceptable material Class U1A	0	0	N/A	N/A
Unacceptable material Class U1B	0	0	0	0

² Only includes the quantity of unacceptable material classes U1B and U2, which is unsuitable for reuse with the scheme.

Excavated material types	Estimated quantity of excavated material (tonnes) (original scheme)	Estimated quantity of excavated material (tonnes) (AP2 revised scheme)	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (original scheme) ²	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (AP2 revised scheme)
Unacceptable material Class U2	0	0	0	0
TOTAL	5,105,810	5,105,810	0	0

Demolition material and waste quantities

3.1.4 A forecast of the demolition material quantities that will be produced during the construction of the AP2 revised scheme in the Dunsmore, Wendover and Halton area has been prepared and is presented in Table 6:.

3.1.5 The quantity of demolition waste that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 6:.

Table 6: Forecast demolition waste quantities to landfill (the original scheme compared to the AP2 revised scheme)

Type of structure	Estimated demolition material quantities (tonnes) (original scheme)	Estimated demolition material quantities (tonnes) (AP2 revised scheme)	Estimated demolition waste for off-site disposal to landfill (tonnes) (original scheme)	Estimated demolition waste for off-site disposal to landfill (tonnes) (AP2 revised scheme)
Utilities	4,386	4,386	439	439
Industrial units	0	0	0	0
Commercial property	4,691	4,691	469	469
Residential property	1,880	1,880	188	188
Community amenities	225	225	22	22
Railways	455	455	46	46
Highways	0	0	0	0
TOTAL	11,637	11,637	1,164	1,164

Construction waste quantities

3.1.6 A forecast of the construction material quantities that will be produced during the construction of the AP2 revised scheme in the Dunsmore, Wendover and Halton area has been prepared and is presented in Table 7:.

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3.1.7 The quantity of construction waste that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 7:.

Table 7: Forecast construction waste quantities to landfill (the original scheme compared to the AP2 revised scheme)

Type of construction	Estimated construction waste quantities (tonnes) (original scheme)	Estimated construction waste quantities (tonnes) (AP2 revised scheme)	Estimated construction waste for disposal to landfill (tonnes) (original scheme)	Estimated construction waste for disposal to landfill (tonnes) (AP2 revised scheme)
Earthworks	7,353	7,353	735	737
Retaining walls	0		0	
Bridges	4,195	4,065	420	406
Viaducts	10,596	10,596	1,060	1,060
Roadworks	839	839	84	85
Footpaths/tracks	515	664	52	64
Railworks	0	0	0	0
Watercourse diversions	117	117	12	11
Fencing	0	0	0	0
Drainage	0	0	0	0
Landscaping	0	0	0	0
Utilities	0	0	0	0
Construction compound	0	0	0	0
Tunnels	17,771	17,771	1,777	1,777
Ventilation shafts	0	0	0	0
Stations	0	0	0	0
Other structures	0	0	0	0
Railway systems waste	220	220	22	22
TOTAL	41,606	41,606	4,161	4,161

Worker accommodation site waste quantities

3.1.8 The quantity of worker accommodation site waste that will be produced during the construction of the AP2 revised scheme requiring off-site disposal to landfill, compared to the original scheme, is shown in Table 8:.

Table 8: Forecast waste quantities from worker accommodation sites (the original scheme compared to the AP2 revised scheme)

Location	Worker numbers (original scheme)	Worker numbers (AP2 revised scheme)	Duration (months) (original scheme)	Duration (months) (AP2 revised scheme)	Estimated worker waste quantity (tonnes) (original scheme)	Estimated worker waste quantity (tonnes) (AP2 revised scheme)	Estimated worker waste for disposal to landfill (tonnes) (original scheme)	Estimated worker waste for disposal to landfill (tonnes) (AP2 revised scheme)
Small Dean Viaduct Main Compound (Average no. of workers)	168	168	51	51	266	266	133	133
Total	-	-	-	-	266	266	133	133

3.2 Operation

Forecast of waste quantities

3.2.1 A forecast of the operational waste quantities that will be produced annually during the course of the operation of the AP2 revised scheme in the Dunsmore, Wendover and Halton area has been prepared and is shown in Table 9:.

3.2.2 The quantity of operational waste that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 9:.

Table 9: Operational waste forecast (the original scheme compared to the AP2 revised scheme)

Waste source	Estimated quantity of waste per annum (tonnes) (original scheme)	Estimated quantity of waste per annum (tonnes) (AP2 revised scheme)	Estimated quantity of waste for off-site disposal to landfill per annum (tonnes) (original scheme)	Estimated quantity of waste for off-site disposal to landfill per annum (tonnes) (AP2 revised scheme)
Railway stations and trains	0	0	0	0
Rolling stock maintenance	0	0	0	0
Track maintenance	131	131	19	19
Ancillary infrastructure	11	11	4	4
TOTAL	142	142	23	23

4 Greatworth to Lower Boddington (CFA15)

4.1 Construction

Forecast of material and waste quantities

Excavated material quantities

- 4.1.1 A forecast of the excavated material quantities that will be produced during the construction of the AP2 revised scheme in the Greatworth to Lower Boddington area has been prepared and is presented in Table 10:.
- 4.1.2 The quantity of surplus excavated material that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 10:.
- 4.1.3 The estimated quantity of surplus excavated material for disposal only includes the quantity of unacceptable material classes U1B and U2, which is unsuitable for reuse within the scheme. The overall balance of excavated material is presented in Volume 3 along with the total quantity of surplus excavated material requiring off-site disposal to landfill and therefore it is not included in Table 10:.

Table 10: Forecast excavated material quantities (the original scheme compared to the AP2 revised scheme)

Excavated material types	Estimated quantity of excavated material (tonnes) (original scheme)	Estimated quantity of excavated material (tonnes) (AP2 revised scheme)	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (original scheme) ³	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (AP2 revised scheme)
Selected fill	3,820,098	3,820,098	N/A	N/A
General engineering fill	9,096,582	9,136,230	N/A	N/A
Environmental mitigation earthworks fill	0	1,110,679	N/A	N/A
Topsoil	1,058,252	1,169,873	N/A	N/A
Agricultural subsoil	963,564	963,564	N/A	N/A
Unacceptable material Class U1A	0	0	N/A	N/A

³ Only includes the quantity of unacceptable material classes U1B and U2, which is unsuitable for reuse with the scheme.

Excavated material types	Estimated quantity of excavated material (tonnes) (original scheme)	Estimated quantity of excavated material (tonnes) (AP2 revised scheme)	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (original scheme) ³	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (AP2 revised scheme)
Unacceptable material Class U1B	0	0	0	0
Unacceptable material Class U2	0	0	0	0
TOTAL	14,938,496	16,200,444	0	0

Demolition material and waste quantities

- 4.1.4 A forecast of the demolition material quantities that will be produced during the construction of the AP2 revised scheme in the Greatworth to Lower Boddington area has been prepared and is presented in Table 11:.
- 4.1.5 The quantity of demolition waste that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 11:.

Table 11: Forecast demolition waste quantities to landfill (the original scheme compared to the AP2 revised scheme)

Type of structure	Estimated demolition material quantities (tonnes) (original scheme)	Estimated demolition material quantities (tonnes) (AP2 revised scheme)	Estimated demolition waste for off-site disposal to landfill (tonnes) (original scheme)	Estimated demolition waste for off-site disposal to landfill (tonnes) (AP2 revised scheme)
Utilities	0	0	0	0
Industrial units	0	0	0	0
Commercial property	32,832	32,832	3,283	3,283
Residential property	6,386	6,386	639	639
Community amenities	0	0	0	0
Railways	0	0	0	0
Highways	0	0	0	0
TOTAL	39,218	39,218	3,922	3,922

Construction waste quantities

4.1.6 A forecast of the construction material quantities that will be produced during the construction of the AP2 revised scheme in the Greatworth to Lower Boddington area has been prepared and is presented in Table 12:.

4.1.7 The quantity of construction waste that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 12:.

Table 12: Forecast construction waste quantities to landfill (the original scheme compared to the AP2 revised scheme)

Type of construction	Estimated construction waste quantities (tonnes) (original scheme)	Estimated construction waste quantities (tonnes) (AP2 revised scheme)	Estimated construction waste for disposal to landfill (tonnes) (original scheme)	Estimated construction waste for disposal to landfill (tonnes) (AP2 revised scheme)
Earthworks	21,149	21,265	2,115	178
Retaining walls	2,965	2,965	296	296
Bridges	5,089	3,015	509	301
Viaducts	7,966	7,966	797	797
Roadworks	947	2,654	95	266
Footpaths/tracks	369	2,159	37	217
Railworks	0	0	0	0
Watercourse diversions	634	519	63	52
Fencing	0	0	0	0
Drainage	0	0	0	0
Landscaping	0	0	0	0
Utilities	0	0	0	0
Construction compound	0	0	0	0
Tunnels	73,075	73,075	7,307	7,307
Ventilation shafts	0	0	0	0
Stations	0	0	0	0

Type of construction	Estimated construction waste quantities (tonnes) (original scheme)	Estimated construction waste quantities (tonnes) (AP2 revised scheme)	Estimated construction waste for disposal to landfill (tonnes) (original scheme)	Estimated construction waste for disposal to landfill (tonnes) (AP2 revised scheme)
Other structures	0	0	0	0
Railway systems waste	410	410	41	41
TOTAL	112,604	114,028	11,260	11,403

Worker accommodation site waste quantities

4.1.8 The quantity of worker accommodation site waste that will be produced during the construction of the AP2 revised scheme requiring off-site disposal to landfill, compared to the original scheme, is shown in Table 13:.

Table 13: Forecast waste quantities from worker accommodation sites (the original scheme compared to the AP2 revised scheme)

Location	Worker numbers (original scheme)	Worker numbers (AP2 revised scheme)	Duration (months) (original scheme)	Duration (months) (AP2 revised scheme)	Estimated worker waste quantity (tonnes) (original scheme)	Estimated worker waste quantity (tonnes) (AP2 revised scheme)	Estimated worker waste for disposal to landfill (tonnes) (original scheme)	Estimated worker waste for disposal to landfill (tonnes) (AP2 revised scheme)
Chipping Warden Green Tunnel Main Compound (Average no. of workers)	109	109	63	63	213	213	107	107

4.2 Operation

Forecast of waste quantities

4.2.1 A forecast of the operational waste quantities that will be produced annually during the course of the operation of the AP2 revised scheme in the Greatworth to Lower Boddington area has been prepared and is shown in Table 14:.

4.2.2 The quantity of operational waste that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 14:.

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Table 14: Operational waste forecast (the original scheme compared to the AP2 revised scheme)

Waste source	Estimated quantity of waste per annum (tonnes) (original scheme)	Estimated quantity of waste per annum (tonnes) (AP2 revised scheme)	Estimated quantity of waste for off-site disposal to landfill per annum (tonnes) (original scheme)	Estimated quantity of waste for off-site disposal to landfill per annum (tonnes) (AP2 revised scheme)
Railway stations and trains	N/A	N/A	N/A	N/A
Rolling stock maintenance	0	0	0	0
Track maintenance	279	279	41	41
Ancillary infrastructure	23	23	9	9
TOTAL	302	302	50	50

5 Stoneleigh, Kenilworth and Burton Green (CFA18)

5.1 Construction

Forecast of material and waste quantities

Excavated material quantities

- 5.1.1 A forecast of the excavated material quantities that will be produced during the construction of the AP2 revised scheme in the Stoneleigh, Kenilworth and Burton Green area have been prepared and are presented in Table 15.
- 5.1.2 The quantity of surplus excavated material that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 15.
- 5.1.3 The estimated quantity of surplus excavated material for disposal only includes the quantity of unacceptable material classes U1B and U2, which is unsuitable for reuse within the scheme. The overall balance of excavated material is presented in Volume 3 along with the total quantity of surplus excavated material requiring off-site disposal to landfill and therefore it is not included in Table 15.

Table 15: Forecast excavated material quantities (the original scheme compared to the AP2 revised scheme)

Excavated material types	Estimated quantity of excavated material (tonnes) (original scheme)	Estimated quantity of excavated material (tonnes) (AP2 revised scheme)	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (original scheme) ⁴	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (AP2 revised scheme)
Selected fill	614,374	726,802	N/A	N/A
General engineering fill	5,577,318	6,148,424	N/A	N/A
Environmental mitigation earthworks fill	70,871	278,378	N/A	N/A
Topsoil	698,900	761,426	N/A	N/A
Agricultural subsoil	117,102	117,102	N/A	N/A
Unacceptable material Class U1A	39,910	30,454	N/A	N/A
Unacceptable material Class U1B	68,850	0	0	0

⁴ Only includes the quantity of unacceptable material classes U1B and U2, which is unsuitable for reuse with the Proposed Scheme.

Excavated material types	Estimated quantity of excavated material (tonnes) (original scheme)	Estimated quantity of excavated material (tonnes) (AP2 revised scheme)	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (original scheme) ⁴	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (AP2 revised scheme)
Unacceptable material Class U2	0	0	0	0
TOTAL	7,187,325	8,062,586	0	0

Demolition material and waste quantities

5.1.4 A forecast of the demolition material quantities that will be produced during the construction of the AP2 revised scheme in the Stoneleigh, Kenilworth and Burton Green area have been prepared and are presented in Table 16.

5.1.5 The quantity of demolition waste that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown Table 16.

Table 16: Forecast demolition waste quantities to landfill (the original scheme compared to the AP2 revised scheme)

Type of structure	Estimated demolition material quantities (tonnes) (original scheme)	Estimated demolition material quantities (tonnes) (AP2 revised scheme)	Estimated demolition waste for off-site disposal to landfill (tonnes) (original scheme)	Estimated demolition waste for off-site disposal to landfill (tonnes) (AP2 revised scheme)
Utilities	0	0	0	0
Industrial units	10,067	0	1,007	0
Commercial property		10,066		1,007
Residential property	8,078	8,078	808	808
Community amenities	1,254	733	125	73
Railways	N/A	N/A	N/A	N/A
Highways	460	0	46	0
Mixed use	N/A	N/A	N/A	N/A
Miscellaneous	N/A	982	N/A	98

Type of structure	Estimated demolition material quantities (tonnes) (original scheme)	Estimated demolition material quantities (tonnes) (AP2 revised scheme)	Estimated demolition waste for off-site disposal to landfill (tonnes) (original scheme)	Estimated demolition waste for off-site disposal to landfill (tonnes) (AP2 revised scheme)
TOTAL	19,859	19,859	1,986	1,986

Construction waste quantities

5.1.6 A forecast of the construction material quantities that will be produced during the construction of the AP2 revised scheme in the Stoneleigh, Kenilworth and Burton Green area have been prepared and are presented Table 17.

5.1.7 The quantity of construction waste that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 17.

Table 17: Forecast construction waste quantities to landfill (the original scheme compared to the AP2 revised scheme)

Type of construction	Estimated construction waste quantities (tonnes) (original scheme)	Estimated construction waste quantities (tonnes) (AP2 revised scheme)	Estimated construction waste for disposal to landfill (tonnes) (original scheme)	Estimated construction waste for disposal to landfill (tonnes) (AP2 revised scheme)
Earthworks	0	0	0	0
Retaining walls	21,398	20,070	2,140	2,007
Bridges	4,871	5,213	487	521
Viaducts	2,775	2,775	277	278
Roadworks	2,058	2,071	206	207
Footpaths/tracks	N/A	N/A	N/A	N/A
Railworks	N/A	N/A	N/A	N/A
Watercourse diversions	95	48	10	5
Fencing	0	0	0	0
Drainage	2,462	2,462	246	246
Landscaping	0	0	0	0
Utilities	320	N/A	32	N/A
Construction compound	N/A	300	N/A	30

Type of construction	Estimated construction waste quantities (tonnes) (original scheme)	Estimated construction waste quantities (tonnes) (AP2 revised scheme)	Estimated construction waste for disposal to landfill (tonnes) (original scheme)	Estimated construction waste for disposal to landfill (tonnes) (AP2 revised scheme)
Tunnels	7,631	8,672	763	867
Ventilation shafts	N/A	0	N/A	0
Stations	N/A	0	N/A	0
Other Structures	N/A	N/A	N/A	N/A
Railway systems waste	N/A	16,853	N/A	1,686
Ancillaries	2,621	2,621	262	262
Track equipment	612	0	61	0
TOTAL	44,843	61,085	4,484	6,109

Worker accommodation site waste quantities

5.1.8 The quantity of worker accommodation site waste that will be produced during the construction of the AP2 revised scheme requiring off-site disposal to landfill, compared to the original scheme, is shown in Table 18.

Table 18: Forecast waste quantities from worker accommodation sites (the original scheme compared to the AP2 revised scheme)

Location	Worker numbers (original scheme)	Worker numbers (AP2 revised scheme)	Duration (months) (original scheme)	Duration (months) (AP2 revised scheme)	Estimated worker waste quantity (tonnes) (original scheme)	Estimated worker waste quantity (tonnes) (AP2 revised scheme)	Estimated worker waste for disposal to landfill (tonnes) (original scheme)	Estimated worker waste for disposal to landfill (tonnes) (AP2 revised scheme)
Coventry Road Temporary Workers main compound	26	26	63	63	51	49	26	25
TOTAL	26	26	63	63	51	49	26	25

5.2 Operation

5.2.1 A forecast of the operational waste quantities that will be produced annually during the course of the operation of the AP2 revised scheme in the Stoneleigh, Kenilworth and Burton Green area have been prepared and are shown in Table 19.

5.2.2 The quantity of operational waste that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 19.

Table 19: Operational waste forecast (the original scheme compared to the AP2 revised scheme)

Waste source	Estimated quantity of waste per annum (tonnes) (original scheme)	Estimated quantity of waste per annum (tonnes) (AP2 revised scheme)	Estimated quantity of waste for off-site disposal to landfill per annum (tonnes) (original scheme)	Estimated quantity of waste for off-site disposal to landfill per annum (tonnes) (AP2 revised scheme)
Railway stations and trains	0	0	0	0
Rolling stock maintenance	0	0	0	0
Track maintenance	183	183	27	27
Ancillary infrastructure	15	15	6	6
TOTAL	198	198	33	33

6 Curdworth to Middleton (CFA20)

6.1 Construction

Forecast of material and waste quantities

Excavated material quantities

- 6.1.1 A forecast of the excavated material quantities that will be produced during the construction of the AP2 revised scheme in the Curdworth to Middleton area have been prepared and are presented in Table 20.
- 6.1.2 The quantity of surplus excavated material that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 20.
- 6.1.3 The estimated quantity of surplus excavated material for disposal only includes the quantity of unacceptable material classes U1B and U2, which is unsuitable for reuse within the scheme. The overall balance of excavated material is presented in Volume 3 along with the total quantity of surplus excavated material requiring off-site disposal to landfill and therefore it is not included in Table 20.

Table 20: Forecast excavated material quantities (the original scheme compared to the AP2 revised scheme)

Excavated material types	Estimated quantity of excavated material (tonnes) (original scheme)	Estimated quantity of excavated material (tonnes) (AP2 revised scheme)	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (original scheme) ⁵	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (AP2 revised scheme)
Selected fill	1,139,496	1,146,830	N/A	N/A
General engineering fill	973,254	1,038,549	N/A	N/A
Environmental mitigation earthworks fill	27,306	28,029	N/A	N/A
Topsoil	678,323	628,241	N/A	N/A
Agricultural subsoil	111,780	83,126	N/A	N/A
Unacceptable material Class U1A	45,245	33,603	N/A	N/A
Unacceptable material Class U1B	0	0	0	0
Unacceptable material Class U2	0	0	0	0

⁵ Only includes the quantity of unacceptable material classes U1B and U2, which is unsuitable for reuse with the Proposed Scheme.

Excavated material types	Estimated quantity of excavated material (tonnes) (original scheme)	Estimated quantity of excavated material (tonnes) (AP2 revised scheme)	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (original scheme) ⁵	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (AP2 revised scheme)
TOTAL	2,975,404	2,958,278	0	0

Demolition material and waste quantities

6.1.4 A forecast of the demolition material quantities that will be produced during the construction of the AP2 revised scheme in the Curdworth to Middleton area have been prepared and are presented in Table 21.

6.1.5 The quantity of demolition waste that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 21.

Table 21: Forecast demolition waste quantities to landfill (the original scheme compared to the AP2 revised scheme)

Type of structure	Estimated demolition material quantities (tonnes) (original scheme)	Estimated demolition material quantities (tonnes) (AP2 revised scheme)	Estimated demolition waste for off-site disposal to landfill (tonnes) (original scheme)	Estimated demolition waste for off-site disposal to landfill (tonnes) (AP2 revised scheme)
Utilities	0	0	0	0
Industrial units	18,574	0	1,857	0
Commercial property	0	15,851	0	1,585
Residential property	12,240	12,237	1,224	1,224
Community amenities	0	0	0	0
Railways	N/A	0	N/A	0
Highways	404	0	41	0
Mixed use	0	4,543	0	454
Miscellaneous	N/A	406	N/A	41
TOTAL	31,218	33,037	3,122	3,304

Construction waste quantities

6.1.6 A forecast of the construction material quantities that will be produced during the construction of the AP2 revised scheme in the Curdworth to Middleton area have been prepared and are presented in Table 22.

6.1.7 The quantity of construction waste that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 22.

Table 22: Forecast construction waste quantities to landfill (the original scheme compared to the AP2 revised scheme)

Type of construction	Estimated construction waste quantities (tonnes) (original scheme)	Estimated construction waste quantities (tonnes) (AP2 revised scheme)	Estimated construction waste for disposal to landfill (tonnes) (original scheme)	Estimated construction waste for disposal to landfill (tonnes) (AP2 revised scheme)
Earthworks	0	0	0	0
Retaining walls	0	0	0	0
Bridges	11,587	11,749	1,159	1,175
Viaducts	2,734	2,326	273	232
Roadworks	1,579	1,646	158	165
Footpaths/tracks	0	0	0	0
Railworks	N/A	N/A	N/A	N/A
Watercourse diversions	24	65	2	6
Fencing	0	0	0	0
Drainage	2,142	2,140	214	214
Landscaping	0	0	0	0
Utilities	310	310	31	31
Construction compound	N/A	N/A	N/A	N/A
Tunnels	0	0	0	0
Ventilation shafts	N/A	N/A	N/A	N/A
Stations	N/A	N/A	N/A	N/A
Other Structures	N/A	N/A	N/A	N/A

Type of construction	Estimated construction waste quantities (tonnes) (original scheme)	Estimated construction waste quantities (tonnes) (AP2 revised scheme)	Estimated construction waste for disposal to landfill (tonnes) (original scheme)	Estimated construction waste for disposal to landfill (tonnes) (AP2 revised scheme)
Box structures	2,589	2,585	259	259
Railway systems waste	N/A	12,493	N/A	1,249
Train line	2,905	0	291	0
Ancillaries	564	569	56	57
TOTAL	24,434	33,883	2,443	3,388

Worker accommodation site waste quantities

6.1.8 The quantity of worker accommodation site waste that will be produced during the construction of the AP2 revised scheme requiring off-site disposal to landfill, compared to the original scheme, is shown in Table 23.

Table 23: Forecast waste quantities from worker accommodation sites (the original scheme compared to the AP2 revised scheme)

Location	Worker numbers (original scheme)	Worker numbers (AP2 revised scheme)	Duration (months) (original scheme)	Duration (months) (AP2 revised scheme)	Estimated worker waste quantity (tonnes) (original scheme)	Estimated worker waste quantity (tonnes) (AP2 revised scheme)	Estimated worker waste for disposal to landfill (tonnes) (original scheme)	Estimated worker waste for disposal to landfill (tonnes) (AP2 revised scheme)
Kingsbury Road Overbridge Temporary construction compound	36	36	57	57	64	62	32	31
TOTAL	36	36	57	57	64	62	32	31

6.2 Operation

6.2.1 A forecast of the operational waste quantities that will be produced annually during the course of the operation of the AP2 revised scheme in the Curdworth to Middleton area have been prepared and are shown in Table 24.

6.2.2 The quantity of operational waste that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 24.

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Table 24: Operational waste forecast (the original scheme compared to the AP2 revised scheme)

Waste source	Estimated quantity of waste per annum (tonnes) (original scheme)	Estimated quantity of waste per annum (tonnes) (AP2 revised scheme)	Estimated quantity of waste for off-site disposal to landfill per annum (tonnes) (original scheme)	Estimated quantity of waste for off-site disposal to landfill per annum (tonnes) (AP2 revised scheme)
Railway stations and trains	0	0	0	0
Rolling stock maintenance	0	0	0	0
Track maintenance	179	179	27	27
Ancillary infrastructure	15	15	6	6
TOTAL	194	194	33	33

7 Whittington to Handsacre (CFA22)

7.1 Construction

Forecast of material and waste quantities

Excavated material quantities

- 7.1.1 A forecast of the excavated material quantities that will be produced during the construction of the AP2 revised scheme in the Whittington to Handsacre area have been prepared and are presented in Table 25.
- 7.1.2 The quantity of surplus excavated material that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 25.
- 7.1.3 The estimated quantity of surplus excavated material for disposal only includes the quantity of unacceptable material classes U1B and U2, which is unsuitable for reuse within the scheme. The overall balance of excavated material is presented in Volume 3 along with the total quantity of surplus excavated material requiring off-site disposal to landfill and therefore it is not included in Table 25.

Table 25: Forecast excavated material quantities (the original scheme compared to the AP2 revised scheme)

Excavated material types	Estimated quantity of excavated material (tonnes) (original scheme)	Estimated quantity of excavated material (tonnes) (AP2 revised scheme)	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (original scheme) ⁶	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (AP2 revised scheme)
Selected fill	311,991	376,584	N/A	N/A
General engineering fill	988,987	1,239,138	N/A	N/A
Environmental mitigation earthworks fill	13,149	17,203	N/A	N/A
Topsoil	650,727	683,914	N/A	N/A
Agricultural subsoil	32,612	32,612	N/A	N/A
Unacceptable material Class U1A	29,109	87,344	N/A	N/A
Unacceptable material Class U1B	0	0	0	0
Unacceptable material Class U2	0	0	0	0

⁶ Only includes the quantity of unacceptable material classes U1B and U2, which is unsuitable for reuse with the Proposed Scheme.

Excavated material types	Estimated quantity of excavated material (tonnes) (original scheme)	Estimated quantity of excavated material (tonnes) (AP2 revised scheme)	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (original scheme) ⁶	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (AP2 revised scheme)
TOTAL	2,026,575	2,436,795	0	0

Demolition material and waste quantities

7.1.4 A forecast of the demolition material quantities that will be produced during the construction of the AP2 revised scheme in the Whittington to Handsacre area have been prepared and are presented in Table 26.

7.1.5 The quantity of demolition waste that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 26.

Table 26: Forecast demolition waste quantities to landfill (the original scheme compared to the AP2 revised scheme)

Type of structure	Estimated demolition material quantities (tonnes) (original scheme)	Estimated demolition material quantities (tonnes) (AP2 revised scheme)	Estimated demolition waste for off-site disposal to landfill (tonnes) (original scheme)	Estimated demolition waste for off-site disposal to landfill (tonnes) (AP2 revised scheme)
Utilities	0	0	0	0
Industrial units	7,952	0	795	0
Commercial property		3,946		394
Residential property	8,761	1,531	876	153
Community amenities	0	0	0	0
Railways	N/A	0	N/A	0
Highways	507	0	51	0
Mixed use	N/A	0	N/A	0
Miscellaneous	N/A	507	N/A	51
TOTAL	17,220	5,984	1,722	598

Construction waste quantities

7.1.6 A forecast of the construction material quantities that will be produced during the construction of the AP2 revised scheme in the Whittington to Handsacre area have been prepared and are presented in Table 27.

7.1.7 The quantity of construction waste that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 27.

Table 27: Forecast construction waste quantities to landfill (the original scheme compared to the AP2 revised scheme)

Type of construction	Estimated construction waste quantities (tonnes) (original scheme)	Estimated construction waste quantities (tonnes) (AP2 revised scheme)	Estimated construction waste for disposal to landfill (tonnes) (original scheme)	Estimated construction waste for disposal to landfill (tonnes) (AP2 revised scheme)
Earthworks	0	0	0	0
Retaining walls	671	111	67	11
Bridges	1,534	9,470	153	947
Viaducts	11,524	4,750	1,152	475
Roadworks	4,157	1,649	416	165
Footpaths/tracks	N/A	0	N/A	0
Railworks	N/A	0	N/A	0
Watercourse diversions	154	428	15	43
Fencing	0	0	0	0
Drainage	2,438	2,437	244	244
Landscaping	0	0	0	0
Utilities	230	0	23	0
Construction compound	N/A	273	N/A	27
Tunnels	259	0	26	0
Ventilation shafts	N/A	0	N/A	0
Stations	N/A	0	N/A	0
Other Structures	N/A	11,980	N/A	1,198

Type of construction	Estimated construction waste quantities (tonnes) (original scheme)	Estimated construction waste quantities (tonnes) (AP2 revised scheme)	Estimated construction waste for disposal to landfill (tonnes) (original scheme)	Estimated construction waste for disposal to landfill (tonnes) (AP2 revised scheme)
Railway systems waste	N/A	22,186	N/A	2,219
Train line	47,086	0	4,709	0
Ancillaries	1,475	1,475	148	147
TOTAL	69,528	54,759	6,953	5,476

Worker accommodation site waste quantities

7.1.8 The quantity of worker accommodation site waste that will be produced during the construction of the AP2 revised scheme requiring off-site disposal to landfill, compared to the original scheme, is shown in Table 28.

Table 28: Forecast waste quantities from worker accommodation sites (the original scheme compared to the AP2 revised scheme)

Location	Worker numbers (original scheme)	Worker numbers (AP2 revised scheme)	Duration (months) (original scheme)	Duration (months) (AP2 revised scheme)	Estimated worker waste quantity (tonnes) (original scheme)	Estimated worker waste quantity (tonnes) (AP2 revised scheme)	Estimated worker waste for disposal to landfill (tonnes) (original scheme)	Estimated worker waste for disposal to landfill (tonnes) (AP2 revised scheme)
Cappers Lane main compound	29	29	70	50	63	44	32	22
A515 Lichfield Road underbridge main compound	30	30	64	64	60	58	30	29
TOTAL	59	59	134	114	123	102	62	51

7.2 Operation

7.2.1 A forecast of the operational waste quantities that will be produced annually during the course of the operation of the AP2 revised scheme in the Whittington to Handsacre area have been prepared and are shown in Table 29.

7.2.2 The quantity of operational waste that will require off-site disposal to landfill of the original scheme compared to the AP2 revised scheme is also shown in Table 29.

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Table 29: Operational waste forecast (the original scheme compared to the AP2 revised scheme)

Waste source	Estimated quantity of waste per annum (tonnes) (original scheme)	Estimated quantity of waste per annum (tonnes) (AP2 revised scheme)	Estimated quantity of waste for off-site disposal to landfill per annum (tonnes) (original scheme)	Estimated quantity of waste for off-site disposal to landfill per annum (tonnes) (AP2 revised scheme)
Railway stations and trains	0	0	0	0
Rolling stock maintenance	0	0	0	0
Track maintenance	244	244	37	37
Ancillary infrastructure	20	20	8	8
TOTAL	264	264	45	45

Volume 5 Annex 1 - CFA and regional waste and material resources reporting tables

Annex 1 Table 1 - CFA waste and material resources^{1,2}

Table 1a: Forecast excavated material quantities (CFAs 1 - 26 and the relocation of the HEx Depot to Langley in Slough), 2017 - 2025

CFA		Forecast quantities of excavated material available before use (tonnes)									
No	Name	Selected fill (CL6)	General railway fill (CL1/3)	General railway fill (CL2)	General highway fill (CL2)	Environmental mitigation earthworks fill (CL4)	Unacceptable material (U1A)	Unacceptable material (U1B)	Unacceptable material (U1B) for disposal as non-hazardous waste	Unacceptable material (U2) for disposal as hazardous waste	Total
1	Euston – Station and Approach	0	0	0	1,787,653	188,645	0	65,777	0	799	2,042,873
2	Camden and HS1 Link	0	0	0	0	0	0	0	0	0	0
3	Primrose Hill to Kilburn (Camden)	0	0	0	0	202,858	903,732	0	2,049	0	1,108,638
4	Kilburn (Brent) to Old Oak Common	0	0	0	0	3,028,910	848,820	685,801	140,594	0	4,704,125
5	Northolt Corridor	0	0	0	0	1,827,313	1,088,787	6,950	56,500	0	2,979,550
6	South Ruislip to Ickenham	0	0	0	0	38,280	5,130,932	1,641	16,617	0	5,187,469
7	Colne Valley	182,234	1,002,717	0	707,716	0	0	0	0	0	1,892,666
8	The Chalfonts and	0	222,245	0	0	16,758	3,703,527	0	0	0	3,942,531

¹ Numbers may not sum to totals due to rounding.

² The removal of the HS1-HS2 link from the AP2 revised scheme is included in the forecast balance of excavated material quantities. Updates to the waste and material resources topic relating to changes in construction, demolition, worker accommodation site waste and operational waste resulting from the removal of the HS1-HS2 link will be reported in a future supplementary environmental statement.

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CFA		Forecast quantities of excavated material available before use (tonnes)									
No	Name	Selected fill (CL6)	General railway fill (CL1/3)	General railway fill (CL2)	General highway fill (CL2)	Environmental mitigation earthworks fill (CL4)	Unacceptable material (U1A)	Unacceptable material (U1B)	Unacceptable material (U1B) for disposal as non-hazardous waste	Unacceptable material (U2) for disposal as hazardous waste	Total
	Amersham										
9	Central Chilterns	0	3,191,292	0	2,556,006	0	613,081	0	0	0	6,360,379
10	Dunsmore, Wendover and Halton	0	2,457,703	0	1,871,327	0	0	0	0	0	4,329,030
11	Stoke Mandeville and Aylesbury	156,366	0	0	1,787,998	0	0	0	0	22,163	1,966,527
12	Waddesdon and Quainton	0	0	0	2,398,426	0	0	0	0	0	2,398,426
13	Calvert, Steeple Claydon, Twyford and Chetwode	132,964	0	0	5,047,230	0	0	0	0	14,772	5,194,967
14	Newton Purcell to Brackley	6,174,723	0	0	2,410,833	0	0	0	0	152,627	8,738,183
15	Greatworth to Lower Boddington	3,820,098	0	0	9,136,230	1,110,679	0	0	0	0	14,067,008
16	Ladbroke and Southam	0	49,914	1,300,282	696,304	5,431,081	33,241	41,711	0	0	7,552,532
17	Offchurch and Cubbington	799,508	58,931	2,589,267	1,750,757	192,745	118,511	66,634	0	0	5,576,353
18	Stoneleigh, Kenilworth	726,802	4,525,738	1,257,824	364,862	278,378	30,454	0	0	0	7,184,058

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CFA		Forecast quantities of excavated material available before use (tonnes)									
No	Name	Selected fill (CL6)	General railway fill (CL1/3)	General railway fill (CL2)	General highway fill (CL2)	Environmental mitigation earthworks fill (CL4)	Unacceptable material (U1A)	Unacceptable material (U1B)	Unacceptable material (U1B) for disposal as non- hazardous waste	Unacceptable material (U2) for disposal as hazardous waste	Total
	and Burton Green										
19	Coleshill Junction	379,104	0	3,970,067	2,453,210	1,347,482	48,429	0	0	0	8,198,292
20	Curdworth to Middleton	1,146,830	0	827,154	211,395	28,029	33,603	0	0	0	2,247,011
21	Drayton Bassett, Hints and Weeford	604,636	2,583,578	1,637,302	714,212	122,845	2,756	0	0	0	5,665,329
22	Whittington to Handsacre	376,584	1,123,472	80,972	34,694	17,203	87,344	0	0	0	1,720,268
23	Balsall Common and Hampton-in-Arden	338,089	226,288	542,320	12,524	504,659	62,556	35,789	0	1,593	1,723,818
24	Birmingham Interchange and Chelmsley Wood	361,294	544,214	124,278	152,730	466,607	34,343	83,604	133,503	2,372	1,902,944
25	Castle Bromwich and Bromford	0	0	0	167,602	648,435	818,089	88,983	39,343	2,126	1,764,577
26	Washwood Heath to Curzon Street	0	0	0	849,986	780,724	192,985	1,805,581	28,254	108,445	3,765,975
Off- route	HEx Langley Depot	0	0	0	0	0	0	0	22,639	164,639	187,278

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CFA		Forecast quantities of excavated material available before use (tonnes)									
No	Name	Selected fill (CL6)	General railway fill (CL1/3)	General railway fill (CL2)	General highway fill (CL2)	Environmental mitigation earthworks fill (CL4)	Unacceptable material (U1A)	Unacceptable material (U1B)	Unacceptable material (U1B) for disposal as non- hazardous waste	Unacceptable material (U2) for disposal as hazardous waste	Total
	Total	15,199,234	15,986,092	12,329,464	35,111,694	16,231,629	13,751,189	2,882,470	439,498	469,537	112,400,808

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Table 1b: Forecast engineering and environmental mitigation earthworks fill requirements (CFAs 1 - 26 and the relocation of the HEx Depot to Langley in Slough), 2017 - 2025

CFA		Forecast quantities of fill required (tonnes) ³							
No	Name	Backfill (CL1/3/6)	Selected fill (CL6)	General railway fill (CL1/3)	General railway fill (CL2)	General highway fill (CL2)	Environmental mitigation bund fill (CL2)	Environmental mitigation earthworks fill (CL4)	Total
1	Euston – Station and Approach	0	0	0	0	0	0	0	0
2	Camden and HS1 Link	0	0	0	0	0	0	0	0
3	Primrose Hill to Kilburn (Camden)	0	0	0	0	0	0	0	0
4	Kilburn (Brent) to Old Oak Common	0	0	23,778	0	0	0	0	23,778
5	Northolt Corridor	0	0	0	0	0	0	0	0
6	South Ruislip to Ickenham	0	0	697,662	0	8,232	0	0	705,894
7	Colne Valley	0	73,995	543,226	132,171	19,598	0	4,972,210	5,741,201
8	The Chalfonts and Amersham	0	0	0	0	5,343	0	130,119	135,462

³ The abbreviations for excavated material refer to soil classifications outlined in the Department for Transport 'Manual of Contract Documents for Highway Works, Volume 1 - Specification for Highway Works' (http://www.dft.gov.uk/ha/standards/mchw/vol1/pdfs/series_o600.pdf).

CL1 Class 1
 CL2 Class 2
 CL3 Class 3
 CL4 Class 4
 CL5 Class 5
 CL6 Class 6
 U1A Unacceptable Material Class U1A
 U1B Unacceptable Material Class U1B
 U2 Unacceptable Material Class U2

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CFA		Forecast quantities of fill required (tonnes) ³							
No	Name	Backfill (CL1/3/6)	Selected fill (CL6)	General railway fill (CL1/3)	General railway fill (CL2)	General highway fill (CL2)	Environmental mitigation bund fill (CL2)	Environmental mitigation earthworks fill (CL4)	Total
9	Central Chilterns	0	367,890	8,407	0	41,419	623,555	1,233,436	2,274,708
10	Dunsmore, Wendover and Halton	23,338	577,473	498,639	249,849	209,050	189,280	3,618,936	5,366,565
11	Stoke Mandeville and Aylesbury	192,536	225,355	632,098	0	556,514	838,557	1,882,496	4,327,556
12	Waddesdon and Quainton	211,984	372,043	288,079	0	861,545	1,134,940	491,395	3,359,986
13	Calvert, Steeple Claydon, Twyford and Chetwode	255,377	256,200	513,687	0	2,384,504	386,846	1,578,506	5,375,121
14	Newton Purcell to Brackley	16,312	243,760	346,501	74,777	549,593	0	2,305,415	3,536,358
15	Greatworth to Lower Boddington	285,737	2,195,291	738,594	103,970	422,477	4,260,181	6,730,196	14,736,446
16	Ladbroke and Southam	889,583	130,758	723,565	228,088	281,695	0	5,759,168	8,012,856
17	Offchurch and Cubbington	319,334	75,899	455,101	120,451	278,755	0	2,219,142	3,468,681
18	Stoneleigh, Kenilworth and Burton Green	143,152	213,446	239,314	87,875	971,008	0	2,453,140	4,107,935
19	Coleshill Junction	560,291	137,116	2,505,306	3,134,435	61,291	763,312	3,042,084	10,203,835
20	Curdworth to Middleton	862,286	51,022	807,785	384,218	3,070,600	0	2,012,211	7,188,121
21	Drayton Bassett, Hints	110,276	120,065	246,868	0	630,076	0	1,351,247	2,458,532

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CFA		Forecast quantities of fill required (tonnes) ³							
No	Name	Backfill (CL1/3/6)	Selected fill (CL6)	General railway fill (CL1/3)	General railway fill (CL2)	General highway fill (CL2)	Environmental mitigation bund fill (CL2)	Environmental mitigation earthworks fill (CL4)	Total
	and Weeford								
22	Whittington to Handsacre	218,944	85,112	1,388,195	1,057,351	375,254	0	1,014,098	4,138,954
23	Balsall Common and Hampton-in-Arden	134,517	193,408	719,172	383,033	1,243,746	476,357	939,803	4,090,036
24	Birmingham Interchange and Chelmsley Wood	222,213	288,541	782,312	374,242	1,992,051	0	647,151	4,306,511
25	Castle Bromwich and Bromford	42,527	27,139	93,557	0	74,909	0	0	238,132
26	Washwood Heath to Curzon Street	134,630	114,038	9,821	76,099	759,336	0	0	1,093,924
Off-route	HEx Langley Depot	0	0	360,973	0	0	0	0	360,973
	Total	4,623,037	5,748,552	12,622,640	6,406,560	14,796,995	8,673,029	42,380,751	95,251,565

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Table 1c: Forecast topsoil and agricultural subsoil quantities available and required (CFAs 1 - 26 and the relocation of the HEx Depot to Langley in Slough), 2017 - 2025

CFA		Topsoil and agricultural subsoil available (tonnes)			Topsoil and agricultural subsoil required (tonnes)		
No	Name	Topsoil for engineering	Topsoil for environmental mitigation	Agricultural subsoil for environmental mitigation	Topsoil for engineering	Topsoil for environmental mitigation	Agricultural subsoil for environmental mitigation
1	Euston – Station and Approach	0	0	0	0	0	0
2	Camden and HS1 Link	0	0	0	0	0	0
3	Primrose Hill to Kilburn (Camden)	0	0	0	0	0	0
4	Kilburn (Brent) to Old Oak Common	0	0	0	0	0	0
5	Northolt Corridor	0	0	0	0	0	0
6	South Ruislip to Ickenham	185,220	0	0	0	0	0
7	Colne Valley	89,469	286,646	424,660	18,396	357,720	424,660
8	The Chalfonts and Amersham	0	0	0	0	0	0
9	Central Chilterns	157,410	176,830	282,341	47,663	286,577	282,341
10	Dunsmore, Wendover and Halton	214,793	216,919	345,067	87,251	344,460	345,067
11	Stoke Mandeville and Aylesbury	230,107	309,766	335,151	57,515	482,364	335,151
12	Waddesdon and Quainton	206,845	239,619	0	63,555	382,909	0
13	Calvert, Steeple Claydon, Twyford and Chetwode	649,569	290,328	237,543	403,216	536,681	237,543
14	Newton Purcell to Brackley	402,232	316,418	456,608	135,884	582,766	456,608
15	Greatworth to Lower Boddington	476,272	693,602	963,564	220,756	881,909	963,564
16	Ladbroke and Southam	476,979	445,052	562,995	142,304	421,686	511,478
17	Offchurch and Cubbington	300,123	289,039	331,839	95,680	274,822	301,187

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CFA		Topsoil and agricultural subsoil available (tonnes)			Topsoil and agricultural subsoil required (tonnes)		
No	Name	Topsoil for engineering	Topsoil for environmental mitigation	Agricultural subsoil for environmental mitigation	Topsoil for engineering	Topsoil for environmental mitigation	Agricultural subsoil for environmental mitigation
18	Stoneleigh, Kenilworth and Burton Green	451,194	310,232	117,102	145,674	292,666	102,236
19	Coleshill Junction	702,352	202,525	46,651	247,071	160,123	54,737
20	Curdworth to Middleton	386,599	241,642	83,126	109,211	127,453	70,515
21	Drayton Bassett, Hints and Weeford	354,959	224,867	113,045	115,050	106,048	101,956
22	Whittington to Handsacre	456,789	227,125	32,612	81,387	131,478	50,801
23	Balsall Common and Hampton-in-Arden	382,863	116,577	105,197	132,447	127,732	105,197
24	Birmingham Interchange and Chelmsley Wood	624,609	34,290	1,852	191,207	29,243	1,852
25	Castle Bromwich and Bromford	143,283	0	0	140,576	0	0
26	Washwood Heath to Curzon Street	31,889	0	0	33,943	0	0
Off-route	HEx Langley Depot	0	0	0	0	0	0
	Total	6,923,556	4,621,476	4,439,353	2,468,786	5,526,636	4,344,893

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Table 1d: Balance of excavated material (CFAs 1 to 26 and the relocation of the HEx Depot to Langley in Slough), 2017 to 2025

CFA		Balance of excavated material ⁴ (tonnes)							
No	Name	Selected fill (CL6)	General railway fill (CL1/3)	General railway fill (CL2)	General highway fill (CL2)	Environmental mitigation earthworks fill (CL4) including 15% bulking	Topsoil	Agricultural subsoil	Total ⁵
1	Euston – Station and Approach	0	0	0	1,787,653	254,421	0	0	2,042,074
2	Camden and HS1 Link	0	0	0	0	0	0	0	0
3	Primrose Hill to Kilburn (Camden)	0	0	0	0	1,106,589	0	0	1,106,589
4	Kilburn (Brent) to Old Oak Common	0	-23,778	0	0	4,563,531	0	0	4,539,753
5	Northolt Corridor	0	0	0	0	2,923,050	0	0	2,923,050
6	South Ruislip to Ickenham	0	-697,662	0	-8,232	5,170,852	185,220	0	4,650,178
7	Colne Valley	108,238	459,491	-132,171	688,118	-4,972,210	0	0	-3,848,534
8	The Chalfonts and Amersham	0	222,245	0	-5,343	3,590,166	0	0	3,807,068
9	Central Chilterns	-367,890	3,182,885	0	1,891,032	-620,356	0	0	4,085,671
10	Dunsmore, Wendover and Halton	-600,810	1,959,064	-249,849	1,472,997	-3,618,936	2	0	-1,037,532

⁴ Positive numbers indicate a local excess of excavated material and negative numbers indicate a local shortfall of excavated material in a given community forum area.

⁵ The total quantity presented here are not directly comparable with the quantities reported as surplus excavated material in the route-wide assessment in the SES and AP2 ES Volume 3, Section 19. In the route-wide assessment, it has been assumed that all excavated topsoil and agricultural subsoil will be reused, whilst it is included in the balance presented here. In addition, this balance does not include the quantities of U1B and U2 unacceptable material. However, these quantities have been included in the surplus excavated material calculations used in the route-wide assessment.

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CFA		Balance of excavated material ⁴ (tonnes)							
No	Name	Selected fill (CL6)	General railway fill (CL1/3)	General railway fill (CL2)	General highway fill (CL2)	Environmental mitigation earthworks fill (CL4) including 15% bulking	Topsoil	Agricultural subsoil	Total ⁵
11	Stoke Mandeville and Aylesbury	-261,525	-632,098	0	392,927	-1,882,496	-6	0	-2,383,198
12	Waddesdon and Quainton	-584,027	-288,079	0	401,942	-491,395	0	0	-961,559
13	Calvert, Steeple Claydon, Twyford and Chetwode	-378,613	-513,687	0	2,275,880	-1,578,506	0	0	-194,926
14	Newton Purcell to Brackley	5,914,652	-346,502	-74,777	1,861,240	-2,305,415	0	0	5,049,198
15	Greatworth to Lower Boddington	1,339,071	-738,594	-103,970	4,453,572	-5,619,517	67,209	0	-602,229
16	Ladbroke and Southam	-1,020,341	-673,650	1,072,194	414,609	-253,135	358,040	51,517	-50,766
17	Offchurch and Cubbington	404,276	-396,170	2,468,816	1,472,002	-1,841,251	218,660	30,652	2,356,985
18	Stoneleigh, Kenilworth and Burton Green	370,204	4,286,424	1,169,949	-606,146	-2,144,308	323,086	14,866	3,414,075
19	Coleshill Junction	-318,303	-2,505,306	835,631	1,628,607	-1,646,172	497,684	-8,086	-1,515,945
20	Curdworth to Middleton	233,523	-807,785	442,936	-2,859,205	-1,950,578	391,576	12,611	-4,536,922
21	Drayton Bassett, Hints and Weeford	374,296	2,336,710	1,637,302	84,137	-1,225,647	358,728	11,089	3,576,615
22	Whittington to Handsacre	72,528	-264,723	-976,379	-340,560	-909,551	471,048	-18,189	-1,965,826
23	Balsall Common and Hampton-in-Arden	10,164	-492,884	159,287	-1,707,579	-336,800	239,262	0	-2,128,550

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CFA		Balance of excavated material ⁴ (tonnes)							
No	Name	Selected fill (CL6)	General railway fill (CL1/3)	General railway fill (CL2)	General highway fill (CL2)	Environmental mitigation earthworks fill (CL4) including 15% bulking	Topsoil	Agricultural subsoil	Total ⁵
24	Birmingham Interchange and Chelmsley Wood	-149,460	-238,099	-249,964	-1,839,321	-62,597	438,450	0	-2,100,991
25	Castle Bromwich and Bromford	-69,666	-93,557	0	92,692	1,555,507	2,707	0	1,487,683
26	Washwood Heath to Curzon Street	-248,668	-9,821	-76,099	90,650	2,779,290	-2,054	0	2,533,298
Off- route	HEx Langley Depot	0	-360,973	0	0	0	0	0	-360,973
	Total	4,827,649	3,363,451	5,922,906	11,641,672	-9,515,464	3,549,612	94,460	19,884,286

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Table 1e: Forecast demolition and construction material and waste quantities (CFAs 1 - 26 and the relocation of the HEx Depot to Langley in Slough), 2017 - 2025

CFA		Demolition			Construction		
No	Name	Estimated demolition material quantities (tonnes)	Estimated demolition waste for off-site disposal to landfill (tonnes)	Estimated demolition waste diverted from landfill (tonnes)	Estimated construction waste quantities (tonnes)	Estimated construction waste for off-site disposal to landfill (tonnes)	Estimated construction waste diverted from landfill (tonnes)
1	Euston – Station and Approach	306,925	30,693	276,233	465,520	46,552	418,968
2	Camden and HS1 Link	12,059	1,206	10,853	53,410	5,341	48,069
3	Primrose Hill to Kilburn (Camden)	3,310	331	2,979	72,091	7,209	64,882
4	Kilburn (Brent) to Old Oak Common	335,697	33,570	302,127	487,078	48,708	438,370
5	Northolt Corridor	13,986	1,399	12,587	120,902	12,090	108,812
6	South Ruislip to Ickenham	15,768	1,577	14,191	136,666	13,667	122,999
7	Colne Valley	9,088	909	8,179	53,012	5,301	47,711
8	The Chalfonts and Amersham	335	34	302	173,647	17,365	156,282
9	Central Chilterns	9,246	925	8,321	40,337	4,034	36,303
10	Dunsmore, Wendover and Halton	11,637	1,164	10,473	41,606	4,161	37,445
11	Stoke Mandeville and Aylesbury	3,251	325	2,926	33,843	3,384	30,459
12	Waddesdon and Quainton	11,689	1,169	10,520	46,684	4,668	42,016
13	Calvert, Steeple Claydon, Twyford and Chetwode	25,363	2,536	22,827	98,287	9,829	88,458
14	Newton Purcell to Brackley	16,643	1,664	14,978	44,682	4,468	40,214
15	Greatworth to Lower Boddington	39,218	3,922	35,296	114,028	11,403	102,625
16	Ladbroke and Southam	16,892	1,689	15,203	58,513	5,851	52,662

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CFA		Demolition			Construction		
No	Name	Estimated demolition material quantities (tonnes)	Estimated demolition waste for off-site disposal to landfill (tonnes)	Estimated demolition waste diverted from landfill (tonnes)	Estimated construction waste quantities (tonnes)	Estimated construction waste for off-site disposal to landfill (tonnes)	Estimated construction waste diverted from landfill (tonnes)
17	Offchurch and Cubbington	0	0	0	28,094	2,809	25,285
18	Stoneleigh, Kenilworth and Burton Green	19,859	1,986	17,873	61,085	6,109	54,977
19	Coleshill Junction	43,415	4,342	39,074	106,656	10,666	95,990
20	Curdworth to Middleton	33,037	3,304	29,733	33,883	3,388	30,495
21	Drayton Bassett, Hints and Weeford	46,605	4,661	41,945	24,852	2,485	22,367
22	Whittington to Handsacre	5,984	598	5,386	54,759	5,476	49,283
23	Balsall Common and Hampton-in-Arden	4,405	441	3,965	39,140	3,914	35,226
24	Birmingham Interchange and Chelmsley Wood	11,450	1,145	10,305	123,917	12,392	111,525
25	Castle Bromwich and Bromford	67,552	6,755	60,797	69,156	6,916	62,240
26	Washwood Heath to Curzon Street	631,192	63,119	568,073	288,279	28,828	259,451
Off-route	HEx Langley Depot	2,188	219	1,969	11,924	1,192	10,732
	Total	1,696,794	169,679	1,527,114	2,882,051	288,205	2,593,845

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Table 1f: Worker accommodation site waste quantities (CFAs 1 - 26 and the relocation of the HEx Depot to Langley in Slough), 2017 to 2025

CFA		Worker accommodation site waste				
No	Name	Average No of workers in accommodation site	Duration of accommodation site (months) ⁶	Estimated worker accommodation site waste quantity (tonnes)	Estimated worker accommodation site waste for off-site disposal to landfill (tonnes)	Estimated worker accommodation site waste diverted from landfill (tonnes)
1	Euston – Station and Approach	0	0	0	0	0
2	Camden and HS1 Link	0	0	0	0	0
3	Primrose Hill to Kilburn (Camden)	0	0	0	0	0
4	Kilburn (Brent) to Old Oak Common	0	0	0	0	0
5	Northolt Corridor	0	0	0	0	0
6	South Ruislip to Ickenham	0	0	0	0	0
7	Colne Valley	135	125	259	130	130
8	The Chalfonts and Amersham	0	0	0	0	0
9	Central Chilterns	0	0	0	0	0
10	Dunsmore, Wendover and Halton	168	51	266	133	133
11	Stoke Mandeville and Aylesbury	62	42	78	39	39
12	Waddesdon and Quainton	0	0	0	0	0
13	Calvert, Steeple Claydon, Twyford and Chetwode	65	81	163	82	82

⁶ Where there is more than one worker accommodation site in a CFA the durations have been totalled. For a detailed breakdown of the duration for each site see individual SES and AP2 ES Volume 5 CFA reports.

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CFA		Worker accommodation site waste				
No	Name	Average No of workers in accommodation site	Duration of accommodation site (months) ⁶	Estimated worker accommodation site waste quantity (tonnes)	Estimated worker accommodation site waste for off-site disposal to landfill (tonnes)	Estimated worker accommodation site waste diverted from landfill (tonnes)
14	Newton Purcell to Brackley	105	66	215	108	108
15	Greatworth to Lower Boddington	109	63	213	107	107
16	Ladbroke and Southam	63	108	103	52	52
17	Offchurch and Cubbington	23	62	43	22	22
18	Stoneleigh, Kenilworth and Burton Green	26	63	49	25	25
19	Coleshill Junction	40	61	73	37	37
20	Curdworth to Middleton	36	57	62	31	31
21	Drayton Bassett, Hints and Weeford	0	0	0	0	0
22	Whittington to Handsacre	59	114	102	51	51
23	Balsall Common and Hampton-in-Arden	51	42	91	45	45
24	Birmingham Interchange and Chelmsley Wood	50	109	169	84	84
25	Castle Bromwich and Bromford	0	0	0	0	0
26	Washwood Heath to Curzon Street	0	0	0	0	0
Off-	HEX Langley Depot	0	0	0	0	0

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CFA		Worker accommodation site waste				
No	Name	Average No of workers in accommodation site	Duration of accommodation site (months) ⁶	Estimated worker accommodation site waste quantity (tonnes)	Estimated worker accommodation site waste for off-site disposal to landfill (tonnes)	Estimated worker accommodation site waste diverted from landfill (tonnes)
route						
	Total	992	1,044	1,886	943	943

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Table 1g: Railway station and train, and rolling stock maintenance waste (CFAs 1 - 26 and the relocation of the HEx Depot to Langley in Slough), 2026

CFA		Railway stations and trains			Rolling stock maintenance		
No	Name	Estimated quantity of waste per annum (tonnes)	Estimated waste for off-site disposal to landfill per annum (tonnes)	Estimated waste diverted from landfill per annum (tonnes)	Estimated quantity of waste per annum (tonnes)	Estimated waste for off-site disposal to landfill per annum (tonnes)	Estimated waste diverted from landfill per annum (tonnes)
1	Euston – Station and Approach	1,193	477	716	0	0	0
2	Camden and HS1 Link	0	0	0	0	0	0
3	Primrose Hill to Kilburn (Camden)	0	0	0	0	0	0
4	Kilburn (Brent) to Old Oak Common	595	238	357	0	0	0
5	Northolt Corridor	0	0	0	0	0	0
6	South Ruislip to Ickenham	0	0	0	0	0	0
7	Colne Valley	0	0	0	0	0	0
8	The Chalfonts and Amersham	0	0	0	0	0	0
9	Central Chilterns	0	0	0	0	0	0
10	Dunsmore, Wendover and Halton	0	0	0	0	0	0
11	Stoke Mandeville and Aylesbury	0	0	0	0	0	0
12	Waddesdon and Quainton	0	0	0	0	0	0
13	Calvert, Steeple Claydon, Twyford and Chetwode	0	0	0	0	0	0
14	Newton Purcell to Brackley	0	0	0	0	0	0
15	Greatworth to Lower Boddington	0	0	0	0	0	0
16	Ladbroke and Southam	0	0	0	0	0	0
17	Offchurch and Cubbington	0	0	0	0	0	0

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CFA		Railway stations and trains			Rolling stock maintenance		
No	Name	Estimated quantity of waste per annum (tonnes)	Estimated waste for off-site disposal to landfill per annum (tonnes)	Estimated waste diverted from landfill per annum (tonnes)	Estimated quantity of waste per annum (tonnes)	Estimated waste for off-site disposal to landfill per annum (tonnes)	Estimated waste diverted from landfill per annum (tonnes)
18	Stoneleigh, Kenilworth and Burton Green	0	0	0	0	0	0
19	Coleshill Junction	0	0	0	0	0	0
20	Curdworth to Middleton	0	0	0	0	0	0
21	Drayton Bassett, Hints and Weeford	0	0	0	0	0	0
22	Whittington to Handsacre	0	0	0	0	0	0
23	Balsall Common and Hampton-in-Arden	0	0	0	0	0	0
24	Birmingham Interchange and Chelmsley Wood	660	264	396	675	135	540
25	Castle Bromwich and Bromford	0	0	0	0	0	0
26	Washwood Heath to Curzon Street	836	334	502	10,023	2,005	8,018
Off-route	HEx Langley Depot	0	0	0	0	0	0
	Total	3,284	1,314	1,970	10,698	2,140	8,558

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Table 1h: Track maintenance and ancillary infrastructure waste quantities (CFAs 1 - 26 and the relocation of the HEx Depot to Langley in Slough), 2026

CFA		Track maintenance			Ancillary infrastructure		
No	Name	Estimated quantity of waste per annum (tonnes)	Estimated waste for off-site disposal to landfill per annum (tonnes)	Estimated waste diverted from landfill per annum (tonnes)	Estimated quantity of waste per annum (tonnes)	Estimated waste for off-site disposal to landfill per annum (tonnes)	Estimated waste diverted from landfill per annum (tonnes)
1	Euston – Station and Approach	23	3	20	2	1	1
2	Camden and HS1 Link	19	3	16	2	1	1
3	Primrose Hill to Kilburn (Camden)	83	12	71	7	3	4
4	Kilburn (Brent) to Old Oak Common	118	18	100	10	4	6
5	Northolt Corridor	143	21	122	12	5	7
6	South Ruislip to Ickenham	110	17	94	9	4	5
7	Colne Valley	92	14	78	8	3	5
8	The Chalfonts and Amersham	185	28	157	16	6	10
9	Central Chilterns	99	15	84	8	3	5
10	Dunsmore, Wendover and Halton	131	20	111	11	4	7
11	Stoke Mandeville and Aylesbury	173	26	147	15	6	9
12	Waddesdon and Quainton	166	25	141	14	6	8
13	Calvert, Steeple Claydon, Twyford and Chetwode	167	25	142	14	6	8
14	Newton Purcell to Brackley	195	29	166	16	6	10
15	Greatworth to Lower Boddington	279	42	237	23	9	14
16	Ladbroke and Southam	259	39	220	22	9	13
17	Offchurch and Cubbington	123	18	105	10	4	6

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CFA		Track maintenance			Ancillary infrastructure		
No	Name	Estimated quantity of waste per annum (tonnes)	Estimated waste for off-site disposal to landfill per annum (tonnes)	Estimated waste diverted from landfill per annum (tonnes)	Estimated quantity of waste per annum (tonnes)	Estimated waste for off-site disposal to landfill per annum (tonnes)	Estimated waste diverted from landfill per annum (tonnes)
18	Stoneleigh, Kenilworth and Burton Green	183	27	156	15	6	9
19	Coleshill Junction	305	46	259	26	10	16
20	Curdworth to Middleton	179	27	152	15	6	9
21	Drayton Bassett, Hints and Weeford	144	22	122	12	5	7
22	Whittington to Handsacre	244	37	207	20	8	12
23	Balsall Common and Hampton-in-Arden	128	19	109	11	4	7
24	Birmingham Interchange and Chelmsley Wood	72	11	61	6	2	4
25	Castle Bromwich and Bromford	84	13	71	7	3	4
26	Washwood Heath to Curzon Street	94	14	80	8	3	5
Off-route	HEx Langley Depot	0	0	0	0	0	0
	Total	3,798	571	3,228	319	128	191

Annex 1 Table 2 - Regional waste and material resources⁷

Table 2a: Forecast excavated material quantities (by region), 2017 - 2025

Former English planning regions ⁸	Forecast quantities of excavated material available before use (tonnes)									
	Name	Selected fill (CL6)	General railway fill (CL1/3)	General railway fill (CL2)	General highway fill (CL2)	Environmental mitigation earthworks fill (CL4)	Unacceptable material (U1A)	Unacceptable material (U1B)	Unacceptable material (U1B) for disposal as non-hazardous waste	Unacceptable material (U2) for disposal as hazardous waste
Greater London	94,615	520,605	0	2,155,095	5,286,005	7,972,270	760,168	215,760	799	17,005,317
South East	4,560,583	6,079,951	0	15,461,134	16,758	4,316,608	0	22,639	306,214	30,763,886
East England	49,688	273,402	0	192,966	0	0	0	0	0	516,056
East Midlands	5,761,501	0	0	9,894,223	1,110,679	0	0	0	47,988	16,814,390
West Midlands	4,732,848	9,112,134	12,329,464	7,408,275	9,818,187	1,462,311	2,122,301	201,100	114,537	47,301,159
Total	15,199,234	15,986,092	12,329,467	35,111,694	16,231,629	13,751,189	2,882,470	439,498	469,537	112,400,808

⁷ Numbers may not sum to totals due to rounding.

⁸ Details of the former planning regions can be found at the Local Government Boundary Commission (see www.lgbce.org.uk).

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Table 2b: Forecast engineering and environmental mitigation earthworks fill requirements (by region), 2017 - 2025

Former English planning regions	Forecast quantities of fill required (tonnes)							
	Name	Backfill (CL1/3/6)	Selected fill (CL6)	General railway fill (CL1/3)	General railway fill (CL2)	General highway fill (CL2)	Environmental mitigation bund fill (CL2)	Environmental mitigation earthworks fill (CL4)
Greater London	0	38,418	1,003,480	68,622	18,407	0	2,581,543	3,710,471
South East	694,419	1,981,482	2,652,510	328,627	4,439,248	3,173,179	11,550,394	24,819,858
East England	0	20,176	148,116	36,038	5,344	0	1,355,727	1,565,401
East Midlands	290,865	2,271,932	847,537	127,481	595,275	4,260,181	7,455,044	15,848,316
West Midlands	3,637,753	1,436,544	7,970,996	5,845,792	9,738,721	1,239,669	19,438,043	49,307,518
Total	4,623,037	5,748,552	12,622,640	6,406,560	14,796,995	8,673,029	42,380,751	95,251,564

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Table 2c: Forecast topsoil and agricultural subsoil quantities available and required (by region), 2017 - 2025

Former English planning regions	Topsoil and agricultural subsoil available (tonnes)			Topsoil and agricultural subsoil required (tonnes)		
	Name	Topsoil for engineering	Topsoil for environmental mitigation	Agricultural subsoil for environmental mitigation	Topsoil for engineering	Topsoil for environmental mitigation
Greater London	231,672	148,825	220,481	9,551	185,726	220,481
South East	1,753,113	1,510,059	1,601,539	756,189	2,506,986	1,601,539
East England	24,395	78,157	115,788	5,016	97,536	115,788
East Midlands	602,738	793,087	1,107,127	263,479	1,065,137	1,107,127
West Midlands	4,311,638	2,091,348	1,394,418	1,434,550	1,671,251	1,299,959
Total	6,923,556	4,621,476	4,439,353	2,468,786	5,526,636	4,344,893

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Table 2d: Balance of excavated material (by region), 2017 - 2025

Former English planning regions	Balance of excavated material (tonnes) ⁹							
	Name	Selected fill (CL6)	General railway fill (CL1/3)	General railway fill (CL2)	General highway fill (CL2)	Environmental mitigation earthworks fill (CL4) including 15% bulking	Topsoil	Agricultural subsoil
Greater London	56,197	-482,875	-68,622	2,136,688	11,436,900	185,220	0	13,263,508
South East	1,884,683	3,427,440	-328,626	7,848,708	-7,217,030	-4	0	5,615,171
East England	29,512	125,285	-36,038	187,623	-1,355,727	0	0	-1,049,345
East Midlands	3,198,704	-847,538	-127,481	5,038,767	-6,344,365	67,209	0	985,296
West Midlands	-341,447	1,141,139	6,483,673	-3,570,114	-6,035,242	3,297,187	94,460	1,069,656
Total	4,827,649	3,363,451	5,922,906	11,641,672	-9,515,464	3,549,612	94,460	19,884,286

⁹ Positive numbers indicate a local excess of excavated material and negative numbers indicate a local shortfall of excavated material.

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Table 2e: Forecast demolition and construction (by region), 2017 - 2025

Former English planning regions	Demolition waste			Construction waste		
	Estimated demolition material quantities (tonnes)	Estimated demolition waste for off-site disposal to landfill (tonnes)	Estimated demolition waste diverted from landfill (tonnes)	Estimated construction waste quantities (tonnes)	Estimated construction waste for off-site disposal to landfill (tonnes)	Estimated construction waste diverted from landfill (tonnes)
Greater London	692,464	69,246	623,218	1,388,482	138,848	1,249,633
South East	77,010	7,701	69,309	491,067	49,107	441,960
East England	2,478	248	2,230	112	11	101
East Midlands	44,451	4,445	40,006	114,056	11,406	102,650
West Midlands	880,391	88,039	792,352	888,334	88,833	799,501
Total	1,696,794	169,679	1,527,114	2,882,051	288,205	2,593,845

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Table 2f: Forecast worker accommodation site waste (by region), 2017 - 2025

Former English planning regions	Worker accommodation site waste		
Name	Estimated worker accommodation site waste quantity (tonnes)	Estimated worker accommodation site waste for off-site disposal to landfill (tonnes)	Estimated worker accommodation site waste diverted from landfill (tonnes)
Greater London	134	67	67
South East	708	354	354
East England	71	36	36
East Midlands	281	141	141
West Midlands	692	346	346
Total	1,886	943	943

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Table 2g: Forecast railway station, train and rolling stock maintenance waste quantities (by region), 2026

Former English planning regions	Railway stations and trains			Rolling stock maintenance		
Name	Estimated quantity of waste per annum (tonnes)	Estimated waste for off-site disposal to landfill per annum (tonnes)	Estimated waste quantity diverted from landfill per annum (tonnes)	Estimated quantity of waste per annum (tonnes)	Estimated waste for off-site disposal to landfill per annum (tonnes)	Estimated waste quantity diverted from landfill per annum (tonnes)
Greater London	1,788	715	1,073	0	0	0
South East	0	0	0	0	0	0
East England	0	0	0	0	0	0
East Midlands	0	0	0	0	0	0
West Midlands	1,496	598	898	10,698	2,140	8,558
Total	3,284	1,314	1,970	10,698	2,140	8,558

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Table 2h: Forecast track maintenance and ancillary infrastructure waste quantities (by region), 2026

Former English planning regions	Track maintenance			Ancillary infrastructure		
	Estimated quantity of waste per annum (tonnes)	Estimated waste for off-site disposal to landfill per annum (tonnes)	Estimated waste quantity diverted from landfill per annum (tonnes)	Estimated quantity of waste per annum (tonnes)	Estimated waste for off-site disposal to landfill per annum (tonnes)	Estimated waste quantity diverted from landfill per annum (tonnes)
Greater London	544	81	463	46	19	27
South East	1,074	161	913	91	36	55
East England	25	4	21	2	1	1
East Midlands	340	51	289	28	11	17
West Midlands	1,815	272	1,543	152	60	92
Total	3,798	569	3,229	319	127	192

SES and AP2 ES Appendix WM-002-000

Environmental topic:	Waste and material resources	WM
Appendix name:	Volume 3 supporting information	002
Community forum area:	Routewide	000

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1 Introduction

- 1.1.1 The purpose of this waste and material resources appendix is to provide information to support the route-wide waste and material resources assessment in SES and AP2 ES Volume 3, Section 19.
- 1.1.2 Section 2 of this appendix provides a description of the local policy framework applicable to the waste generation and management associated with the SES scheme and AP2 revised scheme. Local policy is defined as that which has been adopted by London borough councils and county councils along the route of the SES scheme and AP2 revised scheme. This information supports the national and regional policy framework summaries provided in SES and AP2 ES Volume 3, Section 19.
- 1.1.3 Section 3 of this appendix provides detailed information concerning the environmental baseline, namely:
- the types, quantities and management routes of waste generated in London boroughs and in counties along the route of the SES scheme and AP2 revised scheme;
 - waste infrastructure capacity data for London boroughs and counties along the route of the SES scheme and AP2 revised scheme; and
 - source data, which has been used to inform the future baseline with respect to the quantity of landfill capacity projected to be available during the period 2017 to 2025 (construction period) and the year 2026 (first year of operation).
- 1.1.4 Section 4 of this appendix provides a schedule of developments that have been included in the cumulative effects assessment detailed in SES and AP2 ES Volume 3, Section 19.

2 Local policy framework

2.1 Overview

- 2.1.1 The local policy framework in the boroughs and counties through which the SES scheme and AP2 revised scheme will pass are materially unchanged.

2.2 Greater London

General

- 2.2.1 The SES scheme and AP2 revised scheme will be subject to policy provisions applicable to the City of Westminster, the Royal Borough of Kensington and Chelsea, and the London boroughs of Camden, Brent, Hammersmith & Fulham, Ealing and Hillingdon.
- 2.2.2 Applicable policy provisions are not discussed at length as part of the introduction to this assessment is in SES and AP2 ES Volume 3, Section 19. This is due to the existence of overarching regional policy for Greater London and the requirement for local development framework documents to be in general conformity with the London Plan and other statutory Mayoral strategies.

London Borough of Camden

- 2.2.3 Policy CS18 (Dealing with our waste and encouraging recycling) of the Camden Core Strategy 2010-2025¹ sets out proposals to make Camden a 'low-waste' borough.
- 2.2.4 The North London Waste Plan², which will set out the planning framework for managing waste in several London boroughs, including Camden, is undergoing preparation and is due for adoption in May 2017.
- 2.2.5 Both documents form part of the London Borough of Camden's Local Development Framework for planning.

City of Westminster

- 2.2.6 Policy CS27 (Design) of the City of Westminster Core Strategy, Adopted January 2011³, requires developments to ensure reduction, reuse and recycling of waste and aggregates. Policy CS43 (Sustainable Waste Management) requires application of the waste hierarchy and sets out provisions for waste management infrastructure. The adopted Core Strategy has been subject to a National Planning Policy Framework (NPPF) Revision, known as Westminster's City Plan: Strategic Policies, Adopted November 2013⁴. A second City Management Plan Revision is to follow, which will provide more detailed development management policies to existing strategic policies.

¹ Camden Council (2010), *Camden Core Strategy 2010-2025*.

² North London Waste Plan (2011), *North London Waste Plan, Proposed Submission Version May 2011*.

³ Westminster City Council (2011), *Core Strategy, Adopted January 2011*.

⁴ Westminster City Council (2013), *Westminster's City Plan: Strategic Policies, Adopted November 2013*.

Royal Borough of Kensington and Chelsea

- 2.2.7 Policy CE3 of the Core Strategy for the Royal Borough of Kensington and Chelsea, Adopted 8 December 2010⁵ sets out provisions to ensure that waste is managed in accordance with the waste hierarchy. This includes use of rail and waterways for the transport of waste and a requirement for major developments to prepare and implement a Site Waste Management Plan.
- 2.2.8 The Royal Borough of Kensington and Chelsea has undertaken a partial review of the Core Strategy and the policies relating to Conservation and Design and Miscellaneous Matters were adopted in a Full Council meeting on 3 December 2014.
- 2.2.9 Policy PU14 of the Unitary Development Plan, Adopted 25 May 2002: Extant Policies⁶ also seeks to encourage reuse of construction materials in development schemes.

London Borough of Hammersmith & Fulham

- 2.2.10 Strategic Policy CC3 (Waste Management) of the Hammersmith and Fulham Core Strategy, October 2011⁷ provides overarching waste planning policy for the borough. This includes aims to promote sustainable waste behaviour, including sustainable demolition in new developments, and the transport of waste using existing waterways.

London Borough of Brent

- 2.2.11 Strategic Objective 11 of the London Borough of Brent Core Strategy, Adopted 12 July 2010⁸ requires a system of integrated waste management to ensure that waste is treated as a resource. Saved policies W8 (Construction, Demolition and Commercial Waste) and W9 (Construction and Movement of Spoil) of the Brent Unitary Development Plan, Adopted 14 January 2004⁹ are also of direct relevance to the SES scheme and AP2 revised scheme.

London Borough of Ealing

- 2.2.12 The London Borough of Ealing's Development Strategy, Adopted 3 April 2012¹⁰ does not contain any specific policies on waste and material resources although reference to these is made within several other policies. Generally, these references focus on the need to provide adequate waste management capacity, safeguard existing sites and promote the use of non-road transport of waste. This is with the overall aim of the London Borough of Ealing being as self-sufficient as possible in the management of its waste.
- 2.2.13 Specific development policies for the London Borough of Ealing are contained within the West London Waste Plan¹¹, a joint waste development plan document that also forms part of the Local Development Frameworks for the London boroughs of Brent and Hillingdon (amongst others). The West London Waste Plan provides a framework for managing

⁵ Kensington and Chelsea Borough Council (2010), *Core Strategy for the Royal Borough of Kensington and Chelsea, Adopted 8 December 2010*.

⁶ Kensington and Chelsea Borough Council (2002), *Unitary Development Plan, Adopted 25 May 2002: Extant Policies*.

⁷ Hammersmith and Fulham Council (2011), *Hammersmith and Fulham Core Strategy: Local Development Strategy, October 2011*.

⁸ Brent Council (2010), *London Borough of Brent Core Strategy, Adopted 12 July 2010*.

⁹ Brent Council (2004), *Unitary Development Plan - 2004, Adopted 14 January 2004*.

¹⁰ Ealing Council (2012), *Development Strategy 2026, Adopted 3 April 2012*.

¹¹ West London Waste Plan (2014) *West London Waste Plan, Submission Version July 2014*.

municipal and commercial and industrial (C&I) waste arisings in West London over a 15 year period to 2026.

London Borough of Hillingdon

- 2.2.14 A Vision for 2026 - Local Plan: Part 1, Strategic Policies, Adopted November 2012¹², contains several policies of relevance to waste and material resources. Strategic Objective SO13 (Support Objectives of Sustainable Waste Management) and related Policy EM11 (Sustainable Waste Management) identify the need to minimise waste. Reference is made to the waste hierarchy and the need to address sustainable waste management at all stages of development from design and construction to end-use. Policy EM1 (Climate Change Adaptation and Mitigation) is also relevant in that encourages use of land remediation techniques to reduce need for landfill. Policy BE1 (Built Environment) requires new development to utilise sustainable design and construction techniques to reduce waste to landfill and maximise reuse and recycling of construction, demolition and excavation waste (CDEW).

2.3 Buckinghamshire

- 2.3.1 The Buckinghamshire Minerals and Waste Core Strategy Development Plan Document, Adopted November 2012¹³ provides the strategic policy framework and provisions for waste planning within Buckinghamshire until 2026. It contains six Strategic Objectives for Waste of which Strategic Objective SO2 (Improving the Sustainability of Waste Management) is of key importance to this assessment.
- 2.3.2 Supported by a series of policies, Strategic Objective SO2 encourages waste prevention and re-use in line with the waste hierarchy and recovery of energy from waste that cannot be recycled. Targets to recycle 70% of CDEW by 2020 and to recycle and compost 65% of C&I waste by 2026 have been adopted.

2.4 Oxfordshire

- 2.4.1 The Oxfordshire Minerals and Waste Plan: Core Strategy, Consultation Draft February 2014¹⁴ sets out the waste planning strategy for the period to 2030. It provides overarching waste planning policy for Oxfordshire to help manage and use the waste generated by existing and new developments in the most effective and sustainable way possible as well as reach net self-sufficiency by 2030. The strategy is likely to be adopted by April 2016.
- 2.4.2 Key themes for Oxfordshire County Council's vision for waste by 2030 are to increase reuse, recycling and composting of waste, treat all residual waste that cannot be recycled or composted send only the minimum amount necessary to landfill. This is supported by targets set out in Policy W3 (Diversion of waste from landfill) that require an overall landfill diversion performance (via recycling) for CDEW of 65% by 2025 and 70% by 2030. An

¹² Hillingdon Council (2012), *A Vision for 2026 - Local Plan: Part 1, Strategic Policies, Adopted November 2012*.

¹³ Buckinghamshire County Council (2012), *Buckinghamshire Minerals and Waste Core Strategy Development Plan Document, Adopted November 2012*.

¹⁴ Oxfordshire County Council (2014), *Oxfordshire Minerals and Waste Local Plan: Core Strategy, Consultation Draft February 2014*.

overall landfill diversion performance of 70%¹⁵ for C&I waste is required by 2015, rising to 90%¹⁶ by 2020 and again to 95%¹⁷ by 2025 and beyond to 2030.

- 2.4.3 Also of relevance to this assessment is the key objective to promote sustainable waste management methods in construction and demolition. This is based on the principles of the waste hierarchy (specifically waste prevention and recycling), on-site management of waste and appropriate design within new development to facilitate segregation of materials for recovery.

2.5 Hertfordshire

- 2.5.1 The Hertfordshire Waste Core Strategy and Development Management Policies Development Plan Document 2011 to 2026, Adopted November 2012¹⁸ sets out the County's strategic vision and overall spatial strategy for waste planning in Hertfordshire. It also contains detailed development management policies that will be used to make decisions on waste planning applications and inform determination of applications for other local developments that will have waste implications.
- 2.5.2 Policies Two (Waste Prevention and Reduction), Three (Energy and Heat Recovery) and Four (Landfill and Landraise) support waste prevention and reduction, along with energy recovery from residual wastes and a move away from over-reliance on landfill. Targets are also set to achieve an overall landfill diversion rate of 90% of CDEW and 60% of C&I waste by 2026.

2.6 Northamptonshire

- 2.6.1 The Northamptonshire Minerals and Waste Local Plan, adopted in October 2014¹⁹ provides the land use planning strategy for minerals and waste-related development in the County.
- 2.6.2 Policy 30 (Sustainable Design and Use of Resources) of the Northamptonshire Minerals and Waste Local Plan supports waste prevention and reuse and seeks to ensure the efficient use of resources in both construction and operation. Measures are encouraged to minimise the use of primary aggregates and maximise use of materials made from secondary and recycled sources. It also contains provisions that support construction and demolition methods that minimise waste and implement the waste hierarchy.
- 2.6.3 The Minerals and Waste Development Framework: Development and Implementation Principles Supplementary Planning Document, Adopted September 2011²⁰ accompanies the Local Plan and provides guidance and standards on waste minimisation and management in all forms of development.

¹⁵ Comprising of 60% recycling, composting and food waste treatment and 15% treatment of residual waste.

¹⁶ Comprising of 65% recycling, composting and food waste treatment and 25% treatment of residual waste.

¹⁷ Comprising of 70% recycling, composting and food waste treatment and 25% treatment of residual waste.

¹⁸ Hertfordshire County Council (2012), *Waste Core Strategy and Development Management Policies Development Plan Document 2011 to 2026, Adopted November 2012*.

¹⁹ Northamptonshire County Council (2014), *Northamptonshire Minerals and Waste Local Plan, Plan for Adoption September 2014*.

²⁰ Northamptonshire County Council (2010), *Northamptonshire Minerals and Waste Development Framework: Development and Implementation Principles Supplementary Planning Document, Adopted September 2010*.

2.7 Warwickshire

- 2.7.1 Warwickshire County Councils' Waste Core Strategy, Adopted Version July 2013²¹ sets out the spatial strategy, vision, objectives and policies for managing waste for a 15 year plan period to 2027/28. It contains eight objectives with an overall theme of delivering sustainable waste management. This includes managing waste as a resource, moving up the waste hierarchy, achieving self-sufficiency in waste management and recovering the value from waste without adverse impact on the environment. Objectives are supported by a series of core strategy and development management policies for waste development.
- 2.7.2 Whilst no specific targets have been set, the Waste Core Strategy makes reference to the Waste and Resources Action Plan's (WRAP) halving waste to landfill commitment in construction and the European Union (EU) Waste Framework Directive (2008/98/EC)²² to reuse, recycle and recover 70% of non-hazardous construction and demolition waste by 2020.

West Midlands metropolitan area

- 2.7.3 Within the West Midlands metropolitan area, Solihull Metropolitan Borough Council and Birmingham City Council provide the strategic planning framework for the SES scheme and AP2 revised scheme.

Solihull metropolitan area

- 2.7.4 The Solihull Local Plan²³, which has replaced the Unitary Development Plan 2006²⁴ since the issue of the main ES, is the current development plan for Solihull.
- 2.7.5 The Solihull Draft Local Plan contains a key objective to move waste up the hierarchy and manage waste as a resource. This is supported primarily by Policy 12 (Resource Management) and Policy 13 (Minerals). Measures include promotion of waste minimisation and use of recycled aggregates in new development.
- 2.7.6 One Planet - Our Future: Waste Management Strategy for Solihull, 2010-2020²⁵ provides the strategy for municipal waste management in Solihull. Whilst it does not contain any direct policies, some reference is made to commercial waste and the synergies that can be achieved by managing this in conjunction with municipal waste.

Birmingham

- 2.7.7 The Birmingham Plan: Birmingham Unitary Development Plan, Adopted 11 October 2005²⁶ is the current statutory development plan for Birmingham.

²¹ Warwickshire County Council (2013), *Waste Core Strategy, Adopted Version July 2013*.

²² *Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on Waste and Repealing Certain Directives. Strasbourg, European Parliament and European Council.*

²³ Solihull Metropolitan Borough Council (2013), *Solihull Local Plan: Shaping a Sustainable Future, December 2013*.

²⁴ Solihull Metropolitan Borough Council (2006), *Solihull Unitary Development Plan 2006: Written Statement*.

²⁵ Solihull Metropolitan Borough Council (2010), *One Planet - Our Future: Waste Management Strategy for Solihull 2010-2020*.

²⁶ Birmingham City Council (2005), *The Birmingham Plan: Birmingham Unitary Development Plan, Adopted 11 October 2005*.

- 2.7.8 Policy 3.64A sets out Birmingham City Council's sustainable approach to waste management that takes into account regional self-sufficiency, the proximity principle and the waste hierarchy.
- 2.7.9 Other saved policies of relevance to this assessment include:
- Policy 3.66 (Waste Recycling Facilities), which identifies that there is a market for recycled and secondary aggregates in Birmingham;
 - Policy 3.67 (Energy from Waste Plants) acknowledges that whilst energy from waste facilities can reduce the amount of waste for landfill disposal, reuse and recycling of waste is preferred;
 - Policy 3.68 (Landfill Sites), which identifies that there is unlikely to be scope for large-scale landfill operations in Birmingham in the foreseeable future;
 - Policy 3.70A (New Development and Waste) requires major new development to include a comprehensive scheme for dealing with waste arising from construction and during the life of the development; and
 - Policy ENV7 (Sustainable Development – 'Places for the Future') identifies that future planning guidance will support more sustainable forms of development, including waste minimisation.
- 2.7.10 Emerging policy is provided by the Birmingham Development Plan: Planning for Birmingham's Growing Population, Options Consultation, October 2012²⁷. The key objective is to minimise waste and supporting policies will eventually replace those in the Birmingham Unitary Development Plan 2005.
- 2.7.11 Options for achieving the aim of zero waste to landfill for municipal waste, C&I waste and CDEW are provided by the Birmingham Total Waste Strategy: Final Report²⁸.

2.8 Staffordshire

- 2.8.1 The Staffordshire and Stoke-on-Trent Joint Waste Local Plan 2010-2026, Adopted March 2013²⁹ sets out the vision, objectives and spatial strategy for waste management and the development of waste management facilities up to 2026.
- 2.8.2 Strategic Objective 1 supports new waste development that reduces the effects of greenhouse gas emissions and climate change impacts, helps to maximise waste as a resource, increases diversion from landfill and supports renewable energy supplies where recycling is not viable.
- 2.8.3 Policy 1.2 (Waste as a Resource: Make Better Use of Waste Associated with Non-Waste Development) places an emphasis on developers to incorporate sustainable design techniques and demonstrate resource efficiency to minimise waste and use of raw

²⁷ Birmingham City Council (2012), *Birmingham Development Plan: Planning for Birmingham's Growing Population, Options Consultation, October 2012*.

²⁸ SKM Enviro (2011), *Birmingham Total Waste Strategy: Final Report, 4 January 2011*, Birmingham City Council, Birmingham.

²⁹ Staffordshire County Council (2013), *Staffordshire and Stoke-on-Trent Joint Waste Local Plan 2010-2026, Adopted March 2013*.

materials. Building design should take into account end-of-life management to facilitate ease of reuse and recycling and include provision for appropriate waste segregation and storage when in use. CDEW recovery should also be maximised and be supported by a site waste management plan.

- 2.8.4 Policy 1.3 (Construction, Demolition and Excavation Waste) supports CDEW recycling and favours the use of inert waste for restoration purposes over landfill and landraising proposals. Proposals for landfill or landraise will generally not be permitted unless in accordance with the criteria set out within Policy 1.6 (Landfill or Landraise).
- 2.8.5 Where inert waste is to be used for landscaping, screening and engineering purposes and/or for the improvement of agricultural or forestry land, proposals must comply with criteria set out within Policy 1.4 (Use of Waste for Landscaping, Screening, Engineering Purposes or for the Improvement of Agricultural or Forestry Land).
- 2.8.6 Landfill diversion targets for set out for both CDEW and C&I waste in Policy 2.1 (Landfill Diversion Targets). These targets include:
- 70% landfill diversion of CDEW by 2020/21; and
 - 95% landfill diversion of C&I waste by 2015/16 rising to 100% by 2020/21.

3 Environmental baseline

3.1 Local waste arisings and management

Construction, demolition and excavation waste

- 3.1.1 CDEW arisings and waste management methods for the local areas within the defined study area are shown in Table 1 for the year 2015 (baseline) and in Table 2 for the period 2017 to 2025 (future baseline).
- 3.1.2 Future baseline arisings for CDEW shown in Table 2 are shown as the sum of annual projections for each year within the proposed construction period of 2017 to 2025. This presentation method allows for direct comparison of the total quantity of CDEW that will be generated by the SES scheme and AP2 revised scheme during this period.
- 3.1.3 Waste management performance (shown as overall diversion from landfill and disposal to landfill) is also based on data for each year within the period 2017 to 2025 (future baseline).
- 3.1.4 Latest available information published by waste planning authorities has been used to inform the local baseline and future baseline for CDEW arisings at local level. Details of the sources of information used are provided further within this section.

Table 1: Baseline (2015) CDEW arisings and management methods by local area

Regional area	Local area	Total arisings (tonnes)	Overall diversion from landfill		Disposal to landfill	
			Tonnes	Proportion	Tonnes	Proportion
Greater London	London Borough of Camden	270,000	241,875	90%	28,125	10%
	London Borough of Brent	372,000	333,250	90%	38,750	10%
	London Borough of Hammersmith & Fulham	235,000	210,521	90%	24,479	10%
	Royal Borough of Kensington and Chelsea	223,000	199,771	90%	23,229	10%
	City of Westminster	277,000	248,146	90%	28,854	10%
	London Borough of Ealing	411,000	368,188	90%	42,813	10%
	London Borough of Hillingdon	328,000	293,833	90%	34,167	10%
	<i>Total</i>	<i>2,116,000</i>	<i>1,895,584</i>	<i>90%</i>	<i>220,417</i>	<i>10%</i>
South East	Buckinghamshire	1,032,000	619,200	60%	412,800	40%

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Regional area	Local area	Total arisings (tonnes)	Overall diversion from landfill		Disposal to landfill	
			Tonnes	Proportion	Tonnes	Proportion
	Oxfordshire	1,650,000	825,000	50%	825,000	50%
	<i>Total</i>	<i>2,682,000</i>	<i>1,444,200</i>	<i>54%</i>	<i>1,237,800</i>	<i>46%</i>
	East of England	Hertfordshire	2,029,000	1,538,918	76%	490,082
East Midlands	Northamptonshire	1,500,000	1,000,000	67%	500,000	33%
West Midlands	Warwickshire	1,334,491	934,144	70%	400,347	30%
	Solihull metropolitan area	287,691	201,384	70%	86,307	30%
	Birmingham metropolitan area	1,664,380	1,348,895	81%	315,485	19%
	Staffordshire	1,369,700	959,250	70%	410,450	30%
	<i>Total</i>	<i>4,656,262</i>	<i>3,443,673</i>	<i>74%</i>	<i>1,212,589</i>	<i>26%</i>

Table 2: Future baseline (2017 to 2025) CDEW arisings and management methods by local area

Regional area	Local area	Total arisings (tonnes)	Overall diversion from landfill		Disposal to landfill	
			Tonnes	Proportion	Tonnes	Proportion
Greater London	London Borough of Camden	2,529,000	2,384,718	94%	144,282	6%
	London Borough of Brent	3,433,000	3,236,856	94%	196,144	6%
	London Borough of Hammersmith and Fulham	2,199,000	2,073,493	94%	125,507	6%
	Royal Borough of Kensington and Chelsea	2,035,000	1,918,658	94%	116,343	6%
	City of Westminster	2,542,000	2,396,722	94%	145,278	6%
	London Borough of Ealing	3,762,000	3,546,947	94%	215,053	6%
	London Borough of Hillingdon	3,052,000	2,877,668	94%	174,332	6%
	<i>Total</i>	<i>19,552,000</i>	<i>18,435,062</i>	<i>94%</i>	<i>1,116,938</i>	<i>6%</i>

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Regional area	Local area	Total arisings (tonnes)	Overall diversion from landfill		Disposal to landfill	
			Tonnes	Proportion	Tonnes	Proportion
South East	Buckinghamshire	9,288,000	6,377,760	69%	2,910,240	31%
	Oxfordshire	18,360,000	10,929,600	60%	7,430,400	40%
	<i>Total</i>	<i>27,648,000</i>	<i>17,307,360</i>	<i>63%</i>	<i>10,340,640</i>	<i>37%</i>
East of England	Hertfordshire	20,261,000	16,461,644	81%	3,799,359	19%
East Midlands	Northamptonshire	13,500,000	9,000,000	67%	4,500,000	33%
West Midlands	Warwickshire	11,853,993	8,297,795	70%	3,556,198	30%
	Solihull metropolitan area	2,555,493	1,788,845	70%	766,648	30%
	Birmingham metropolitan area	16,518,800	13,375,025	81%	3,143,775	19%
	Staffordshire	11,958,000	8,372,400	70%	3,585,600	30%
	<i>Total</i>	<i>42,886,286</i>	<i>31,834,065</i>	<i>74%</i>	<i>11,052,221</i>	<i>26%</i>

Greater London

- 3.1.5 Table 1 and Table 2 present baseline and future baseline CDEW arisings and management methods for the Royal Borough of Kensington and Chelsea, City of Westminster and London boroughs of Camden, Brent, Hammersmith & Fulham, Ealing and Hillingdon.
- 3.1.6 Total CDEW arisings are projections for the year 2015 (baseline) and the period 2017 to 2025 (future baseline) as taken from information presented in Future Waste Arisings in London 2010-2031: A Summary Note³⁰.
- 3.1.7 Waste management performance information (shown as overall diversion from landfill) for the year 2015 (baseline) and for each year within the period 2017 to 2025 (future baseline) has been extrapolated linearly between the estimated CDEW landfill diversion performance for Greater London in 2008 (82%) and CDEW landfill diversion targets for 2020 and beyond (95%) as reported by Making Sense of Business Waste: The Mayor's Business Waste Management Strategy for London³¹.

Buckinghamshire

- 3.1.8 Total CDEW arisings for Buckinghamshire are projections for the year 2015 (baseline) and the period 2017 to 2025 (future baseline) as described in Pre-Submission Advice on Minerals and Waste Core Strategy Preferred Options: Task B Verification of the Plan

³⁰ Greater London Authority (2010), *Future Waste Arisings in London 2010-2031: A Summary Note*, March 2010.

³¹ Greater London Authority (2011), *Making Business Sense of Waste: The Mayor's Business Waste Strategy for London*, November 2011.

Provision³² and confirmed within Buckinghamshire County Council's Minerals and Waste Development Framework Annual Monitoring Report 2010/11³³.

- 3.1.9 According to the Pre-Submission Advice on Minerals and Waste Core Strategy Preferred Options: Task B Verification of the Plan Provision, no increase in CDEW arisings in Buckinghamshire is predicted between 2015 and the end of the construction period in 2025.
- 3.1.10 Waste management performance for the year 2015 (baseline) and for each year within the period 2017 to 2025 (future baseline) has been extrapolated linearly between the estimated CDEW landfill diversion performance for Buckinghamshire in 2010 (50%) and CDEW landfill diversion targets for 2020 and beyond (70%) in line with the EU Waste Framework Directive target as reported in the Buckinghamshire Minerals and Waste Local Development Framework: Core Strategy Development Plan Document, Adopted November 2012³⁴.

Oxfordshire

- 3.1.11 Total CDEW waste arisings for Oxfordshire of approximately 1,650,000 tonnes for the year 2015 (baseline) are based on projections taken from the Oxfordshire Minerals and Waste Local Plan: Core Strategy, Consultation Draft February 2014³⁵.
- 3.1.12 Waste management performance for Oxfordshire in the year 2015 (baseline) is based on Oxfordshire County Council's waste management targets of 50% recycling and 50% landfill or landfill restoration for the years between 2010 and 2015. Total CDEW waste arisings for Oxfordshire of approximately 18,360,000 tonnes for the period 2017 to 2025 (future baseline) is based on the sum of annual projections for each year within this period of approximately 1,200,000 tonnes per annum. This is reported by the Oxfordshire Minerals and Waste Local Plan: Core Strategy, which states that projections of CDEW arisings are based expected future rates of house building; and policy, legislation and standards pushing the sector to more sustainable approaches. Growth is assumed to be 5% per annum from 2015 to 2020 but zero thereafter to 2030.
- 3.1.13 Waste management performance for Oxfordshire in the period 2017 to 2025 (future baseline) is based on an overall recycling target of 60% and an overall landfill or landfill restoration target of 40%. These targets have been calculated based on Oxfordshire County Council's waste management targets of: 50% recycling and 50% landfill or landfill restoration for the year 2015; 60% recycling and 40% landfill or landfill restoration for the year 2020; and 65% recycling and 35% landfill or landfill restoration for the year 2025. Recycling targets and landfill or landfill restoration targets have been linearly extrapolated for the intervening years.

³² Jacobs (2009), *Buckinghamshire County Council - Pre-Submission Advice on Minerals and Waste Core Strategy Preferred Options: Task B Verification of the Plan Provision (Overall Report, Final November 2009)*. Buckinghamshire County Council, Buckinghamshire.

³³ Buckinghamshire County Council (2011), *Minerals and Waste Development Framework Annual Monitoring Report 2010/11*.

³⁴ Buckinghamshire County Council (2012), *Buckinghamshire Minerals and Waste Local Development Framework: Core Strategy Development Plan Document, Adopted November 2012*.

³⁵ Oxfordshire County Council (2014), *Oxfordshire Minerals and Waste Local Plan: Core Strategy, Consultation Draft February 2014*.

Hertfordshire

- 3.1.14 Total CDEW arisings data for Hertfordshire are projections for the year 2015 (baseline) and the period 2017 to 2025 (future baseline) as described in Hertfordshire's Establishment of Waste Forecasts and Targets at 2026, October 2010³⁶.
- 3.1.15 The quantities of CDEW projected by Hertfordshire County Council to be diverted from landfill via recycling, composting and recovery in the year 2015 (baseline) and for each year during the period 2017 to 2025 (future baseline) have been used to inform CDEW waste management performance. This is equivalent to an overall landfill diversion rate of 76% for the year 2015 (baseline) and of 81% for the period 2017 to 2025.

Northamptonshire

- 3.1.16 Annual CDEW arisings for Northamptonshire are projected to remain constant at 1,500,000 tonnes for the period 2011 to 2031 by the Northamptonshire Minerals and Waste Local Plan, Plan for Adoption September 2014³⁷. Economic and population growth will tend to lead to increases in waste arisings, as increased activity will produce wastes. However, Northamptonshire County Council believe that increases in landfill tax, Aggregates Levy and producer responsibility measures such as the Packaging, End of Life Vehicles and Batteries Directives, as well as changes to the Landfill Regulations, will break the link between growth and waste arisings.
- 3.1.17 Total CDEW arisings for Northamptonshire of approximately 13,500,000 tonnes for the period 2017 to 2025 (future baseline) are based on the sum of annual projections for each year within this period.
- 3.1.18 Waste management performance for Northamptonshire is projected by the Northamptonshire Minerals and Waste Local Plan to remain constant for the period 2011 to 2031 with 65% of annual CDEW arisings diverted from landfill via reuse, recycling or recovery. Total diversion of CDEW arisings in 2015 (baseline) would amount to 1,000,000 tonnes and total diversion of CDEW arisings for the period 2017 to 2025 (future baseline) would amount to 9,000,000 tonnes.

Warwickshire

- 3.1.19 Total CDEW arisings for Warwickshire are projections for the year 2015 (baseline) and the period 2017 to 2025 (future baseline) taken from the West Midlands Landfill Capacity Study 2009 Update³⁸. The projections used include Scenario 1 datasets for both Warwickshire and Coventry in order to provide a full picture of CDEW arisings for the County.
- 3.1.20 Scenario 1 datasets, which provide the same projections as Scenario 2 and Scenario 3, have been used since this is the preferred approach used by Warwickshire County Council

³⁶ SLR Global Environmental Solutions (2010), *Hertfordshire's Establishment of Waste Forecasts and Targets at 2026, October 2010 (Rev 1)*. Hertfordshire County Council, Hertfordshire.

³⁷ Northamptonshire County Council (2014), *Northamptonshire Minerals and Waste Local Plan, Plan for Adoption September 2014*.

³⁸ Scott Wilson (2009), *West Midlands Landfill Capacity Study Update 2009, Study Report June 2009*. West Midlands Regional Assembly.

to make CDEW projections in its Waste Background Technical Document³⁹. Warwickshire County Council considers Scenario 1 to provide the most robust methodology and up-to-date baseline data on which to make projections.

- 3.1.21 Warwickshire County Council's Waste Core Strategy, Adopted July 2013⁴⁰ provides limited information in relation to management of CDEW but does make reference to meeting the EU Waste Framework Directive target to reuse, recycle and recover 70% of non-hazardous construction and demolition waste by 2020. A landfill diversion rate of 70% has thus been assumed to apply to projected CDEW arisings for each year within the future baseline period 2017 to 2025. This has also been assumed for the year 2015 (baseline) in the absence of other data.

Solihull metropolitan area

- 3.1.22 Total CDEW arisings for the Solihull metropolitan area are projections for the year 2015 (baseline) and the period 2017 to 2025 (future baseline) taken from the West Midlands Landfill Capacity Study 2009 Update⁴¹, which has been used by Solihull Metropolitan Borough Council as part of its Local Development Framework Evidence Base⁴².
- 3.1.23 The projections used are taken from the Scenario 1 dataset following the approach used by Warwickshire County Council. Annual projections are greater than the annual CDEW arisings estimate provided by Solihull Metropolitan Borough Council (approximately 180,000 tonnes per year)⁴³ but supporting information for this figure is limited and so has not been used.
- 3.1.24 Waste management performance for the year 2015 (baseline) and the period 2017 to 2025 (future baseline) has been assumed as for Warwickshire on account on the evidence base used for projected CDEW arisings and reference to EU Waste Framework Directive targets.

Birmingham metropolitan area

- 3.1.25 Total CDEW arisings for the Birmingham metropolitan area are projections for the year 2015 (baseline) and the period 2017 to 2025 (future baseline) based on latest available information taken from the Birmingham City Council Update to Waste Capacity Study (Addendum), June 2014⁴⁴. The projections used are taken from the high growth projection scenario.
- 3.1.26 Annual projections have been extrapolated using estimated CDEW arisings for 2014/15 (1,641,400 tonnes), 2019/20 (1,794,600 tonnes), 2025/26 (1,943,000 tonnes) and 2030/31 (2,042,100) to provide arisings data for the year 2015 (baseline) and the period 2017 to 2025 (future baseline).

³⁹ Warwickshire County Council (Undated), *Waste Core Strategy: Waste Background Technical Document*.

⁴⁰ Warwickshire County Council (2013), *Waste Core Strategy Adopted Version July 2013*.

⁴¹ Scott Wilson (2009), *West Midlands Landfill Capacity Study Update 2009, Study Report June 2009*. West Midlands Regional Assembly.

⁴² Solihull Metropolitan Borough Council; *The LDF Evidence Base*; <http://www.solihull.gov.uk/ldf/15498.htm>; Accessed 12 September 2013.

⁴³ Solihull Metropolitan Borough Council (2010), *One Planet - Our Future: Waste Management Strategy for Solihull 2010-2020*.

⁴⁴ Jacobs (2014), *Update to Waste Capacity Study (Final Addendum)*, 25 June 2014. Birmingham City Council.

- 3.1.27 The arisings projections used are less than those reported for the Birmingham metropolitan area by the West Midlands Landfill Capacity Study 2009 Update⁴⁵. For comparison, the latter provides estimates of approximately 1,835,485 tonnes for the year 2015 (baseline) and a total of approximately 16,304,217 tonnes for the period 2017 to 2025 (future baseline). However, the evidence base used to inform the Birmingham City Council Update to Waste Capacity Study (Addendum) was commissioned by Birmingham City Council to inform its emerging Birmingham Development Plan and provides more recent information than the West Midlands Landfill Capacity Study 2009 Update.
- 3.1.28 Waste management performance information for the year 2015 (baseline) and for the period 2017 to 2025 (future baseline) has been extrapolated linearly between the projected CDEW landfill diversion performance for the maximum landfill scenario in 2014/15 (47%), 2019/20 (46%), 2025/26 (45%) and 2030/31 (43%).

Staffordshire

- 3.1.29 Total CDEW waste arisings for Staffordshire for the year 2015 (baseline) and the period 2017 to 2025 (future baseline) are based on information taken from the Staffordshire and Stoke-on-Trent Joint Waste Local Plan 2010-2026 - Appendix 6: Waste Data Tables, Adopted March 2013⁴⁶.
- 3.1.30 Annual projections have been extrapolated using published CDEW arisings for 2010/11 (1,839,000 tonnes) and projections for 2015/16 (1,345,000 tonnes), 2020/21 (1,330,000 tonnes) and 2025/26 (1,318,000 tonnes) to provide arisings data for the year 2015 (baseline) and the period 2017 to 2025 (future baseline). Estimated CDEW arisings provided by the Staffordshire and Stoke-on-Trent Joint Waste Local Plan 2010-2026 are broadly consistent with the combined dataset projections (Scenario 1) for Staffordshire and Stoke-on-Trent as reported by the West Midlands Landfill Capacity Study 2009 Update⁴⁷, i.e. approximately 1.3 million tonnes per annum.
- 3.1.31 Waste management performance for Staffordshire in the year 2015 (baseline) and the period 2017 to 2025 (future baseline) is based on Staffordshire County Council's application of the European Waste Framework Directive (2008/98/EC) target to reuse, recycle and recover 70% of non-hazardous construction and demolition waste by 2020. This target applies across the Staffordshire and Stoke-on-Trent Joint Waste Local Plan period of 2010 to 2026.

Commercial and industrial waste arisings and management

- 3.1.32 C&I waste arisings and waste management methods for the local areas within the defined study area are shown in Table 3 for the year 2015 (baseline), Table 4 for the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and Table 5 for the year 2026 (future baseline for operation).

⁴⁵ Scott Wilson (2009), *West Midlands Landfill Capacity Study Update 2009, Study Report June 2009*. West Midlands Regional Assembly.

⁴⁶ Staffordshire County Council (2013), *Staffordshire and Stoke-on-Trent Joint Waste Local Plan 2010-2026 - Appendix 6: Waste Data Tables, Adopted March 2013*.

⁴⁷ Scott Wilson (2009), *West Midlands Landfill Capacity Study Update 2009, Study Report June 2009*. West Midlands Regional Assembly.

3.1.33 Future baseline arisings for C&I waste shown in Table 4 are shown as the sum of annual projections for each year within the proposed construction period of 2017 to 2025. This presentation method allows for direct comparison of the total quantity of C&I waste that will be generated by the SES scheme and AP2 revised scheme during this period. Waste management performance (shown as recycling and composting, other diversion from landfill and disposal to landfill) is also based on data for each year within the period 2017 to 2025 (future baseline).

3.1.34 Latest available information published by the waste planning authorities has been used to inform the local baseline and future baseline for C&I waste arisings. Details of the sources of information used are provided further within this section.

Table 3: Baseline (2015) C&I waste arisings and management methods by local area

Regional area	Local area	Total arisings (tonnes)	Recycling and composting		Other diversion from landfill ⁴⁸		Disposal to landfill	
			Tonnes	Proportion	Tonnes	Proportion	Tonnes	Proportion
Greater London	London Borough of Camden	405,000	253,125	60%	121,500	30%	28,350	10%
	London Borough of Brent	200,000	125,000	60%	60,000	30%	14,000	10%
	London Borough of Hammersmith and Fulham	185,000	115,625	60%	55,500	30%	12,950	10%
	Royal Borough of Kensington and Chelsea	151,000	94,375	60%	45,300	30%	10,570	10%
	City of Westminster	745,000	465,625	60%	223,500	30%	52,150	10%
	London Borough of Ealing	221,000	138,125	60%	66,300	30%	15,470	10%
	London Borough of Hillingdon	335,000	209,375	60%	100,500	30%	23,450	10%
	Total	2,242,000	1,401,250	60%	672,600	30%	156,940	10%
South East	Buckinghamshire	795,824	435,216	55%	47,447	6%	313,161	39%
	Oxfordshire	730,000	438,000	60%	109,500	15%	182,500	25%
	Total	1,525,824	873,216	57%	156,947	10%	495,661	32%
East of England	Hertfordshire	1,051,833	535,333	51%	59,833	6%	456,667	43%

⁴⁸ Through other waste recovery methods such as thermal treatment.

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Regional area	Local area	Total arisings (tonnes)	Recycling and composting		Other diversion from landfill ⁴⁸		Disposal to landfill	
			Tonnes	Proportion	Tonnes	Proportion	Tonnes	Proportion
East Midlands	Northamptonshire	1,178,000	210,000	18%	550,000	47%	418,000	35%
West Midlands	Warwickshire	590,796	418,264	71%	-	-	172,532	29%
	Solihull metropolitan area	176,818	125,181	71%	-	-	51,637	29%
	Birmingham metropolitan area	945,920	417,680	44%	113,530	12%	414,710	44%
	Staffordshire	1,743,150	1,640,813	94%	-	-	102,338	6%
	Total	3,456,684	2,601,938	75%	113,530	3%	741,217	22%

Table 4: Future baseline (2017 to 2025) C&I waste arisings and management methods by local area

Regional area	Local area	Total arisings (tonnes)	Recycling and composting		Other diversion from landfill ⁴⁹		Disposal to landfill	
			Tonnes	Proportion	Tonnes	Proportion	Tonnes	Proportion
Greater London	London Borough of Camden	3,690,000	2,550,550	69%	1,107,000	30%	32,450	1%
	London Borough of Brent	1,787,000	1,234,900	69%	536,100	30%	16,000	1%
	London Borough of Hammersmith and Fulham	1,705,000	1,178,580	69%	511,500	30%	14,920	1%
	Royal Borough of Kensington and Chelsea	1,391,000	961,490	69%	417,300	30%	12,210	1%
	City of Westminster	6,804,000	4,702,860	69%	2,041,200	30%	59,940	1%
	London Borough of Ealing	1,909,000	1,319,030	69%	572,700	30%	17,270	1%
	London Borough of Hillingdon	3,041,000	2,101,850	69%	912,300	30%	26,850	1%
	Total	20,327,000	14,049,260	69%	6,098,100	30%	179,640	1%
South East	Buckinghamshire	7,835,824	4,732,996	60%	1,036,691	13%	2,066,136	27%
	Oxfordshire	6,756,000	4,460,560	66%	1,600,120	24%	695,320	10%

⁴⁹ Through other waste recovery methods such as thermal treatment.

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Regional area	Local area	Total arisings (tonnes)	Recycling and composting		Other diversion from landfill ⁴⁹		Disposal to landfill	
			Tonnes	Proportion	Tonnes	Proportion	Tonnes	Proportion
	<i>Total</i>	14,591,824	9,193,556	63%	2,636,811	18%	2,761,456	19%
East of England	Hertfordshire	9,572,000	5,050,000	53%	1,664,	17%	2,858,000	30%
East Midlands	Northamptonshire	10,850,000	1,960,000	18%	5,130,000	47%	3,760,000	35%
West Midlands	Warwickshire	5,807,065	4,333,389	75%	-	-	1,473,677	25%
	Solihull metropolitan area	2,083,932	1,555,723	75%	-	-	528,209	25%
	Birmingham metropolitan area	9,082,675	4,148,750	46%	1,089,250	12%	3,844,675	42%
	Staffordshire	19,225,000	19,049,500	99%	-	-	175,500	1%
	<i>Total</i>	36,198,672	29,087,362	80%	1,089,250	3%	6,022,061	17%

Table 5: Future baseline (2026) C&I waste arisings and management methods by local area

Regional area	Local area	Total arisings (tonnes)	Recycling and composting		Other diversion from landfill ⁵⁰		Disposal to landfill	
			Tonnes	Proportion	Tonnes	Proportion	Tonnes	Proportion
Greater London	London Borough of Camden	417,000	291,900	70%	125,100	30%	-	0%
	London Borough of Brent	196,000	137,200	70%	58,800	30%	-	0%
	London Borough of Hammersmith and Fulham	195,000	136,500	70%	58,500	30%	-	0%
	Royal Borough of Kensington and Chelsea	155,000	108,500	70%	46,500	30%	-	0%
	City of Westminster	767,000	536,900	70%	230,100	30%	-	0%
	London Borough of Ealing	209,000	146,300	70%	62,700	30%	-	0%
	London Borough of Hillingdon	341,000	238,700	70%	102,300	30%	-	0%

⁵⁰ Through other waste recovery methods such as thermal treatment.

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Regional area	Local area	Total arisings (tonnes)	Recycling and composting		Other diversion from landfill ⁵⁰		Disposal to landfill	
			Tonnes	Proportion	Tonnes	Proportion	Tonnes	Proportion
	<i>Total</i>	2,280,000	1,596,000	70%	684,000	30%	-	0%
South East	Buckinghamshire	933,000	606,450	65%	178,000	19%	148,550	16%
	Oxfordshire	762,000	533,400	70%	190,500	25%	38,100	5%
	<i>Total</i>	1,695,000	1,139,850	67%	368,500	22%	186,650	11%
East of England	Hertfordshire	1,062,000	578,000	54%	303,000	29%	181,000	17%
East Midlands	Northamptonshire	1,220,000	220,000	18%	580,000	48%	420,000	34%
West Midlands	Warwickshire	695,560	521,670	75%	-	-	173,890	25%
	Solihull metropolitan area	243,694	182,771	75%	-	-	60,923	25%
	Birmingham metropolitan area	1,061,790	502,335	47%	127,360	12%	432,095	41%
	Staffordshire	2,245,000	2,245,000	100%	-	-	-	0%
	<i>Total</i>	4,246,044	3,451,776	81%	127,360	3%	666,908	16%

Greater London

- 3.1.35 Table 3, Table 4 and Table 5 present baseline C&I waste arisings and management methods for the Royal Borough of Kensington and Chelsea, City of Westminster and London boroughs of Camden, Brent, Hammersmith & Fulham, Ealing and Hillingdon
- 3.1.36 Total C&I waste arisings data relates to projections for the year 2015 (baseline), the period 2017 to 2025 (future baseline for worker accommodation site waste during construction)⁵¹ and the year 2026 (future baseline for operation) as taken from information presented in Future Waste Arisings in London 2010-2031: A Summary Note⁵².
- 3.1.37 C&I waste management performance data (shown as recycling and composting and other diversion from landfill) for the year 2015 (baseline), the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation) has been extrapolated linearly between the estimated C&I waste landfill diversion performance for Greater London in 2008 (52% recycling and composting, 6% incineration and 24% other treatment) and C&I recycling and composting

⁵¹ Based on the sum of annual projections of C&I waste arisings for each year during the period 2017 to 2025.

⁵² Greater London Authority (2010), *Future Waste Arisings in London 2010-2031: A Summary Note, March 2010*.

targets for 2020 and beyond (70%) as reported by Making Sense of Business Waste: The Mayor's Business Waste Management Strategy for London⁵³.

- 3.1.38 It has been assumed, as part of this extrapolation, that increases in recycling and composting result in a corresponding reduction in landfill (i.e. incineration and other treatment rates remain constant in the absence of any projected data for these waste management methods).

Buckinghamshire

- 3.1.39 Total C&I waste arisings data for Buckinghamshire are projections for the year 2015 (baseline), the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation) as described in the Buckinghamshire Minerals and Waste Core Strategy Development Plan Document, Adopted November 2012⁵⁴.

- 3.1.40 Waste management performance for Buckinghamshire in the year 2015 (baseline) has been extrapolated linearly between the estimated C&I waste landfill diversion performance in 2010 (50% recycling and composting; and 0% energy recovery in the absence of information) and C&I waste landfill diversion targets for 2020 (65% recycling and composting; and 19% energy recovery) as reported by the Buckinghamshire Minerals and Waste Core Strategy Development Plan Document.

- 3.1.41 For the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation), it has been assumed that the waste management performance targets for 2020 will apply through to the future baseline year of 2026 in the absence of any target-specific data for subsequent years.

Oxfordshire

- 3.1.42 Total C&I waste arisings for Oxfordshire are projections for the year 2015 (baseline), the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation) as described in the Oxfordshire Minerals and Waste Local Plan: Core Strategy, Consultation Draft February 2014⁵⁵.

- 3.1.43 Oxfordshire County Council's arisings are based on 2012 data (710,000 tonnes) and projections for the year 2015 (730,000 tonnes), 2020 (750,000 tonnes), 2025 (760,000 tonnes) and 2030 (770 tonnes). Waste arisings for each year in between have been linearly extrapolated.

- 3.1.44 Waste management performance for Oxfordshire in the year 2015 (baseline) is based on Oxfordshire County Council's waste management targets of 60% recycling and composting, 15% recovery and 25% landfill for the year 2015.

⁵³ Greater London Authority (2011), *Making Business Sense of Waste: The Mayor's Business Waste Strategy for London*, November 2011.

⁵⁴ Buckinghamshire County Council (2012), *Buckinghamshire Minerals and Waste Core Strategy Development Plan Document*, Adopted November 2012. Buckinghamshire County Council.

⁵⁵ Oxfordshire County Council (2014), *Oxfordshire Minerals and Waste Local Plan: Core Strategy, Consultation Draft February 2014*. Oxfordshire County Council.

3.1.45 Waste management performance for each year within the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) has been extrapolated using Oxfordshire County Council's published waste management targets of:

- 65% recycling and composting, 25% recovery and 10% landfill for the year 2020; and
- 70% recycling and composting, 25% recovery and 5% landfill for the year 2025.

3.1.46 For the year 2026 (future baseline for operation), it has been assumed that the waste management performance targets for 2020 will apply through to the future baseline year of 2026 in the absence of any target-specific data for subsequent years.

Hertfordshire

3.1.47 Total C&I waste arisings data for Hertfordshire are projections for the year 2015 (baseline), the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation) as described in Hertfordshire Waste Development Framework: Waste Core Strategy & Development Management Policies - Development Plan Document 2011-2026⁵⁶.

3.1.48 Hertfordshire County Council's arisings are based on 2010 data (1,016,000 tonnes) and projections for the year 2016 (1,059,000 tonnes), 2021 (1,066,000 tonnes) and 2026 (1,062,000 tonnes). Waste arisings for each year in between have been linearly extrapolated.

3.1.49 Waste management performance targets for the year 2015 (baseline), for each year within the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation) have been extrapolated based on Hertfordshire County Council's minimum landfill diversion rates in order to achieve their zero to landfill target by 2031.

Northamptonshire

3.1.50 Total C&I waste arisings for Northamptonshire of approximately 1,178,000 tonnes for the year 2015 (baseline) are based on projections taken from the Northamptonshire Minerals and Waste Local Plan, Plan for Adoption September 2014⁵⁷. The figure has been calculated as a linear extrapolation between estimated C&I waste arisings for 2011 (1,170,000 tonnes) and projected C&I waste arisings for 2016 (1,180,000 tonnes).

3.1.51 Waste management performance for Northamptonshire in the year 2015 (baseline) is based on an extrapolated projection for the total quantity of C&I waste to be recycled and treated by biological processes such as composting and anaerobic digestion. This figure of approximately 210,000 tonnes is equivalent to 18% of total C&I waste arisings. An additional quantity of approximately 550,000 tonnes is projected to be recovered by advanced treatment processes equivalent to a further 47% of total waste arisings.

⁵⁶ Hertfordshire County Council (2012), *Hertfordshire Waste Development Framework: Waste Core Strategy & Development Management Policies - Development Plan Document 2011-2026*, Adopted November 2012.

⁵⁷ Northamptonshire County Council (2014), *Northamptonshire Minerals and Waste Local Plan, Plan for Adoption September 2014*.

- 3.1.52 Total C&I waste arisings for Northamptonshire of approximately 10,850,000 tonnes for the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and approximately 1,220,000 tonnes for the year 2026 (future baseline) are based on the sum of annual projections for each year within this period. Annual projections have been extrapolated using the estimated C&I waste arisings for 2016 (1,180,000 tonnes), 2021 (1,210,000 tonnes) and 2026 (1,220,000 tonnes) as reported by the Northamptonshire Minerals and Waste Local Plan, Plan for Adoption September 2014.
- 3.1.53 Waste management performance for each year within the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) has been extrapolated based on projected landfill diversion performance information published by Northamptonshire County Council for the years 2016, 2021 and 2026. The landfill diversion performance remains relatively constant at 65% for the period 2015 to 2026.

Warwickshire

- 3.1.54 Total C&I waste arisings for Warwickshire of approximately 590,796 tonnes for the year 2015 (baseline), approximately 5,807,065 tonnes for the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and approximately 695,560 tonnes for the year 2026 (future baseline for operation) are based on information taken from Waste Core Strategy, Adopted Version July 2013⁵⁸. These figures have been extrapolated from Warwickshire County Council's projections for the years 2014/15 (584,323 tonnes), 2019/20 (627,477 tonnes), 2024/25 (676,540 tonnes) and 2027/28 (709,146 tonnes).
- 3.1.55 Information from the Waste Core Strategy Adopted Version July 2013 provides more recent data than the West Midlands Landfill Capacity Study 2009 Update⁵⁹ and hence has been used to inform C&I waste arisings for Warwickshire for this assessment.
- 3.1.56 Waste management performance targets for the year 2015 (baseline), for each year within the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation) have been extrapolated based on Warwickshire County Council's minimum landfill diversion targets of 70% for 2014/15 and 75% for 2019/20, 2024/25 and 2027/28 as reported by the Waste Core Strategy, Adopted Version July 2013.

Solihull metropolitan area

- 3.1.57 Total C&I waste arisings for the Solihull metropolitan area are projections for the year 2015 (baseline), the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation) taken from the West Midlands Landfill Capacity Study 2009 Update⁶⁰. This has been used by Solihull

⁵⁸ Warwickshire County Council (2013), *Waste Core Strategy, Adopted Version July 2013*.

⁵⁹ Scott Wilson (2009), *West Midlands Landfill Capacity Study Update 2009, Study Report June 2009*. West Midlands Regional Assembly.

⁶⁰ Scott Wilson (2009), *West Midlands Landfill Capacity Study Update 2009, Study Report June 2009*. West Midlands Regional Assembly.

Metropolitan Borough Council as part of its Local Development Framework Evidence Base⁶¹.

- 3.1.58 The projections used are taken from the Scenario 1 dataset following the approach used in this assessment to derive baseline and future baseline CDEW arisings for the Solihull metropolitan area. The Scenario 1 dataset figure of approximately 176,818 tonnes for the year 2015 (baseline) is also consistent with the approximate annual C&I waste arisings figure of 160,000 tonnes reported by Solihull Metropolitan Borough Council in the document titled One Planet - Our Future: Waste Management Strategy for Solihull 2010-2020⁶².
- 3.1.59 One Planet - Our Future: Waste Management Strategy for Solihull 2010-2020 is focused primarily on municipal solid waste management and contains little information with respect to management of C&I waste. Waste management performance for the year 2013 (baseline), the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation), therefore, has been assumed as for the neighbouring county of Warwickshire following the approach adopted to estimate CDEW waste management performance.

Birmingham metropolitan area

- 3.1.60 Total C&I waste arisings for the Birmingham metropolitan area are projections for the year 2015 (baseline), the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation) based on latest available information taken from the Birmingham City Council Update to Waste Capacity Study, Addendum June 2014⁶³.
- 3.1.61 The projections used - approximately 945,920 tonnes for the year 2015 (baseline), approximately 9,082,675 tonnes in total for the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and approximately 1,061,790 tonnes for the year 2026 (future baseline for operation) - are broadly consistent with the lower C&I waste projections (Scenarios 1, 2 and 3) reported by the West Midlands Landfill Capacity Study 2009 Update⁶⁴ and the ADAS Study into Commercial and Industrial Waste Arisings⁶⁵. Waste management performance targets for the year 2015 (baseline), for each year within the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation) have been extrapolated based on Birmingham City Council's minimum landfill diversion rates of 56% for 2014/15, 57% for 2019/20, 59% for 2025/26 and 61% for 2030/31.

⁶¹ Solihull Metropolitan Borough Council; *The LDF Evidence Base*; <http://www.solihull.gov.uk/Resident/Planning/appealsenforcement/planmaking/ldf/evidencebase>; Accessed 30 April 2013.

⁶² Solihull Metropolitan Borough Council (2010), *One Planet - Our Future: Waste Management Strategy for Solihull 2010-2020*.

⁶³ Jacobs (2014), *Update to Waste Capacity Study, Addendum June 2014*, Birmingham City Council, Birmingham.

⁶⁴ Scott Wilson (2009), *West Midlands Landfill Capacity Study Update 2009, Study Report June 2009*. West Midlands Regional Assembly.

⁶⁵ ADAS (2009), *Study into Commercial and Industrial Waste Arisings, April 2009*. East of England Regional Assembly.

Staffordshire

- 3.1.62 Total C&I waste arisings for Staffordshire for the year 2015 (baseline), the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation) are based on information taken from the Staffordshire and Stoke-on-Trent Joint Waste Local Plan 2010-2026 - Appendix 6: Waste Data Tables, Adopted March 2013⁶⁶.
- 3.1.63 The annual projection (approximately 1,743,150 tonnes) for the year 2015 (baseline) has been extrapolated between estimated C&I waste arisings reported for 2010/11 (1,518,000 tonnes) and 2015/16 (1,755,000 tonnes). An overall landfill diversion rate of 94% has been applied equivalent to approximately 1,640,813 tonnes, based on extrapolation between Staffordshire County Council's reported minimum landfill diversion rates of 75% for 2010/11 and 95% for 2015/16.
- 3.1.64 Total C&I waste arisings for the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) are based on annual projections for each year within that period. These projections have been extrapolated using reported C&I waste arisings for the years 2010/11 (1,518,000 tonnes), 2015/16 (1,755,000 tonnes), 2020/21 (2,245,000 tonnes) and 2025/26 (2,245,000 tonnes). Waste management performance for each year has been extrapolated in the same way based on published minimum landfill diversion targets of 75% for 2010/11, 95% for 2025/16 and 100% for both 2020/21 and 2025/26.
- 3.1.65 The annual projection (approximately 2,245,000 tonnes) for the year 2026 (future baseline for operation) has been taken directly from the Staffordshire and Stoke-on-Trent Joint Waste Local Plan 2010-2026 - Appendix 6: Waste Data Tables, Adopted March 2013 for the year 2025/26 (assumed to apply to the 2026/27 reporting year in the absence of published, projected arisings data beyond 2025/26). Staffordshire County Council assumes a minimum 100% landfill diversion by 2026.

⁶⁶ Staffordshire County Council (2013), *Staffordshire and Stoke-on-Trent Joint Waste Local Plan 2010-2026, Adopted March 2013*.

3.2 Baseline waste infrastructure capacity

Greater London

3.2.1 Table 6 provides baseline waste infrastructure capacity data for Greater London and the sub-regional areas through which the SES scheme and AP2 revised scheme will pass. These sub-regional areas are referred to as:

- North West London Waste Authority (in relation to London Borough of Camden);
- Central London (in relation to the City of Westminster);
- Western Riverside (in relation to the London Borough of Hammersmith & Fulham and the Royal Borough of Kensington and Chelsea); and
- West London Waste Authority (in relation to the London boroughs of Brent, Ealing and Hillingdon).

Table 6: Baseline waste infrastructure capacity by sub-regional area and region in 2013 (Greater London)⁶⁷

Facility type	North London Waste Authority	Central London	Western Riverside	West London Waste Authority	Sub-regional total	Greater London
	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)
Inert waste landfill	0	0	0	788,595	788,595	2,413,137
Non-hazardous waste landfill	0	0	0	0	0	4,360,857
Hazardous waste landfill	0	0	0	0	0	325,734
<i>Total landfill</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>788,595</i>	<i>788,595</i>	<i>7,099,728</i>
Municipal solid waste, C&I waste incineration	675,000	0	0	0	675,000	1,863,000
Other incineration	75,000	0	0	8,000	83,000	227,000
<i>Total incineration</i>	<i>750,000</i>	<i>0</i>	<i>0</i>	<i>8,000</i>	<i>758,000</i>	<i>2,090,000</i>
Waste transfer	1,307,134	187,741	581,783	1,759,921	3,836,579	7,325,907
Waste treatment	526,428	920	508,038	805,736	1,841,122	4,783,250
Metal recycling	299,248	0	163,880	166,686	629,814	1,102,782
<i>Total treatment and waste transfer</i>	<i>2,132,810</i>	<i>188,661</i>	<i>1,253,702</i>	<i>2,732,343</i>	<i>6,307,515</i>	<i>13,211,938</i>

⁶⁷ Environment Agency; Waste Management for England 2013 - Waste Management 2013 in London: data tables; <https://www.gov.uk/government/statistics/waste-management-for-england-2013>; Accessed 29 April 2015.

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Facility type	North London Waste Authority	Central London	Western Riverside	West London Waste Authority	Sub-regional total	Greater London
	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)
Total	2,882,810	188,661	1,253,702	3,528,938	7,854,110	22,401,665

South East

3.2.2 Table 7 provides baseline waste infrastructure capacity data for Buckinghamshire, Oxfordshire and overall for the South East region.

Table 7: Baseline waste infrastructure capacity by county and region in 2013 (South East)⁶⁸

Facility type	Buckinghamshire	Oxfordshire	Sub-regional total	South East
	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)
Inert waste landfill	270,000	5,361,524	5,631,524	28,503,510
Non-hazardous waste landfill	29,679,435	6,593,531	36,272,966	47,164,513
Hazardous waste landfill	0	0	0	1,297,680
<i>Total landfill</i>	<i>29,949,435</i>	<i>11,955,054</i>	<i>41,904,490</i>	<i>76,965,703</i>
Municipal solid waste, C&I waste incineration	0	0	0	1,762,350
Other incineration	0	0	0	668,590
<i>Total incineration</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>2,430,940</i>
Waste transfer	382,897	320,090	720,987	6,803,958
Waste treatment	528,408	1,084,843	1,613,251	7,505,492
Metal recycling	140,603	38,678	179,281	1,948,759
<i>Total treatment and waste transfer</i>	<i>1,051,908</i>	<i>1,443,610</i>	<i>2,495,519</i>	<i>16,258,208</i>
Total	31,001,344	13,398,665	44,400,009	95,654,851

⁶⁸ Environment Agency; Waste Management for England 2013 - Waste Management 2013 in south east England: data tables; <https://www.gov.uk/government/statistics/waste-management-for-england-2013>; Accessed 29 April 2015.

East of England

3.2.3 Table 8 provides baseline waste infrastructure capacity data for Hertfordshire and overall for the East of England region. The sub-regional data shown relates solely to Hertfordshire but is duplicated within Table 8 for ease of comparison with other data tables.

Table 8: Baseline waste infrastructure capacity by county and region in 2013 (East of England)⁶⁹

Facility type	Hertfordshire	Sub-regional total	East of England
	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)
Inert waste landfill	12,683,457	12,683,457	24,161,018
Non-hazardous waste landfill	2,702,480	2,702,480	38,276,158
Hazardous waste landfill	0	0	0
<i>Total landfill</i>	<i>15,385,955</i>	<i>15,385,955</i>	<i>62,437,175</i>
Municipal solid waste, C&I waste incineration	0	0	0
Other incineration	0	0	1,061,000
<i>Total incineration</i>	<i>0</i>	<i>0</i>	<i>1,061,000</i>
Waste transfer	562,322	562,322	4,562,872
Waste treatment	731,118	731,118	5,136,981
Metal recycling	330,483	330,483	2,176,072
<i>Total treatment and waste transfer</i>	<i>1,623,923</i>	<i>1,623,923</i>	<i>11,875,924</i>
Total	17,009,878	17,009,878	75,374,099

⁶⁹ Environment Agency; *Waste Management for England 2013 - Waste Management 2013 in east of England: data tables*; <https://www.gov.uk/government/statistics/waste-management-for-england-2013>; Accessed 29 April 2015.

East Midlands

3.2.4 Table 9 provides baseline waste infrastructure capacity data for Northamptonshire and overall for the East Midlands region. The sub-regional data shown relates solely to Northamptonshire but is duplicated within Table 9 for ease of comparison with other data tables.

Table 9: Baseline waste infrastructure capacity by county and region in 2013 (East Midlands)⁷⁰

Facility type	Northamptonshire	Sub-regional total	East Midlands
	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)
Inert waste landfill	2,924,720	2,924,720	40,026,045
Non-hazardous waste landfill	3,647,184	3,647,184	39,375,422
Hazardous waste landfill	374,505	374,505	385,176
<i>Total landfill</i>	<i>6,946,408</i>	<i>6,946,408</i>	<i>79,786,643</i>
Municipal solid waste, C&I waste incineration	0	0	414,000
Other incineration	0	0	723,443
<i>Total incineration</i>	<i>0</i>	<i>0</i>	<i>1,137,443</i>
Waste transfer	700,201	700,201	3,285,232
Waste treatment	906,393	906,393	4,637,407
Metal recycling	46,924	46,924	1,118,150
<i>Total treatment and waste transfer</i>	<i>1,653,518</i>	<i>1,653,518</i>	<i>9,040,789</i>
Total	8,599,926	8,599,926	89,964,875

⁷⁰ Environment Agency; *Waste Management for England 2013 - Waste Management 2013 in east Midlands: data tables*; <https://www.gov.uk/government/statistics/waste-management-for-england-2013>; Accessed 29 April 2015.

West Midlands

3.2.5 Table 10 provides baseline waste infrastructure capacity data for Warwickshire, the West Midlands Metropolitan District (including the Solihull and Birmingham metropolitan areas), Staffordshire and overall for the West Midlands region.

Table 10: Baseline waste infrastructure capacity county and region in 2013 (West Midlands)⁷¹

Facility type	Warwickshire	West Midlands and Metropolitan District	Staffordshire	Sub-regional total	West Midlands
	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)
Inert waste landfill	9,693,176	3,881,892	4,339,359	17,914,427	23,922,977
Non-hazardous waste landfill	9,056,641	14,039,750	9,333,688	32,430,079	40,313,994
Hazardous waste landfill	510,000	292,572	195,000	997,572	997,572
<i>Total landfill</i>	<i>19,259,817</i>	<i>18,214,214</i>	<i>13,868,047</i>	<i>51,342,077</i>	<i>65,234,542</i>
Municipal solid waste, C&I waste incineration	0	930,000	510,000	1,440,000	1,440,000
Other incineration	289,080	6,880	120,000	415,960	425,960
<i>Total incineration</i>	<i>289,080</i>	<i>936,880</i>	<i>630,000</i>	<i>1,855,960</i>	<i>1,865,960</i>
Waste transfer	276,405	2,232,478	548,753	3,057,636	3,992,592
Waste treatment	771,678	1,395,379	896,490	3,063,547	3,837,934
Metal recycling	106,012	1,208,186	46,705	1,360,903	1,585,624
<i>Total treatment and waste transfer</i>	<i>1,154,095</i>	<i>4,836,043</i>	<i>1,491,948</i>	<i>7,482,086</i>	<i>9,416,150</i>
Total	20,702,992	23,987,137	15,989,995	60,680,123	76,516,652

3.2.6 In relation to the information presented in Table 6 through to Table 10, landfill capacity information is provided by the Environment Agency as cubic metres but has been converted to tonnes using the following volume to mass density conversion factors:

- 1.5 tonnes per cubic metre for hazardous waste landfill;
- 0.83 tonnes per cubic metre for non-hazardous waste landfill; and

⁷¹ Environment Agency; *Waste Management for England 2013 - Waste Management 2013 in west Midlands: data tables*; <https://www.gov.uk/government/statistics/waste-management-for-england-2013>; Accessed 29 April 2015.

- 1.5 tonnes per cubic metre for inert waste landfill⁷².

3.2.7 In relation to the information presented in Table 6 through to Table 10, the capacity of waste transfer, waste treatment and metal recycling facilities is based on the annual input rates provided by the Environment Agency as separate capacity information is not provided (i.e. capacity assumed to be at least equivalent to the input rates specified by the Environment Agency).

3.3 Future baseline waste infrastructure capacity

General

- 3.3.1 This section presents the source data that has been used to inform the future baseline with respect to the quantity of landfill capacity projected to be available during the period 2017 to 2025 and the year 2026.
- 3.3.2 Permitted capacity data published by the Environment Agency has been used to provide data for each class of landfill as defined by Council Directive 1999/31/EC (the 'Landfill Directive'⁷³), i.e. for inert, non-hazardous and hazardous waste landfills.
- 3.3.3 Projected landfill capacity is based on the average percentage change in permitted landfill capacity for the years 2004 to 2013 (for inert and non-hazardous waste landfill)⁷⁴ and for the years 2006 to 2013 (for hazardous waste landfill)⁷⁵ as reported by the Environment Agency⁷⁶. The average percentage change has then been applied to the reported 2013 permitted landfill capacity and projected forward to 2026.
- 3.3.4 This method assumes that the average percentage change in permitted capacity for each class of landfill remains constant. Use of an average value taken from historical data also provides a reasonable allowance for potential future increases in permitted capacity for each class of landfill.
- 3.3.5 This approach is considered to provide a reasonable scenario with respect to future landfill capacity within the aggregated five regions and which takes into account future draw-down and increases in permitted capacity, as well as government policy measures to divert waste from landfill and the requirement for waste planning authorities to provide for future landfill capacity needs.

Inert waste landfill capacity

Historic landfill capacity trend data

- 3.3.6 Table 11 presents permitted inert waste landfill capacity data published by the Environment Agency for the period 2004 to 2013 (latest available published data).

⁷² As used to inform significance criteria for this assessment.

⁷³ Official Journal of the European Communities (1999), Council Directive 1999/31/EC on the landfill of waste.

⁷⁴ Based on latest available historic datasets published by the Environment Agency.

⁷⁵ Due to changes in legislation concerning hazardous waste landfill in 2005, historic data for permitted hazardous landfill capacity pre-2006 has not been used (i.e. it is not comparable to that published since 2006).

⁷⁶ Environment Agency; *Waste Data and Information*; <http://www.environment-agency.gov.uk/research/library/data/34169.aspx>; Accessed 12 August 2013.

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3.3.7 Inert waste landfill capacity is shown in thousands of cubic metres as published by the Environment Agency. Data for 'national' inert waste landfill capacity relates to England only.

Table 11: National and regional inert waste landfill capacity trends, 2004 to 2013 ('000 cubic metres)

Regional area	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Greater London	1,986	1,322	1,125	403	471	289	1,109	749	1,267	1,609
South East	24,275	13,812	15,026	23,034	28,378	29,077	29,228	27,888	22,200	19,002
East of England	5,586	5,542	9,954	10,879	10,342	8,204	7,155	7,670	6,482	16,107
East Midlands	13,023	10,675	10,037	34,467	19,510	24,357	22,671	22,754	21,166	26,684
West Midlands	15,219	15,064	13,756	11,673	11,241	12,888	11,550	10,431	10,012	15,949
<i>Total of five regions</i>	<i>60,089</i>	<i>46,413</i>	<i>49,899</i>	<i>80,455</i>	<i>69,942</i>	<i>74,814</i>	<i>71,712</i>	<i>69,492</i>	<i>61,127</i>	<i>79,352</i>
England	96,772	79,445	95,730	119,512	109,069	123,700	117,828	121,316	111,412	131,060

3.3.8 Table 12 presents the annual percentage change in inert waste landfill capacity and the average percentage change for the period 2004 to 2013.

Table 12: National and regional inert waste landfill capacity trends, 2004 to 2013 (% change)

Regional area	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Average capacity change, 2004 to 2013
Greater London	-	-50%	-18%	-179%	14%	-63%	74%	-48%	41%	21%	-23%
South East	-	-76%	8%	35%	19%	2%	1%	-5%	-26%	-17%	-6%
East of England	-	-1%	44%	8%	-5%	-26%	-15%	7%	-18%	60%	6%
East Midlands	-	-22%	-6%	71%	-77%	20%	-7%	0%	-8%	21%	-1%
West Midlands	-	-1%	-10%	-18%	-4%	13%	-12%	-11%	-4%	37%	-1%
<i>Total of five</i>	<i>-</i>	<i>-29%</i>	<i>7%</i>	<i>38%</i>	<i>-15%</i>	<i>7%</i>	<i>-4%</i>	<i>-3%</i>	<i>-14%</i>	<i>23%</i>	<i>1%</i>

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Regional area	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Average capacity change, 2004 to 2013
<i>regions</i>											
England	-	-22%	17%	20%	-10%	12%	-5%	3%	-9%	15%	2%

Landfill capacity projections

- 3.3.9 Table 13 presents permitted inert waste landfill capacity projections to 2026 based on latest available published data for 2013.
- 3.3.10 Projections have been derived by applying the average capacity change 2004 to 2013 (shown in Table 12) to the published inert waste landfill capacity for 2013 and for each year beyond to 2026.
- 3.3.11 In Table 13, the published inert waste landfill capacity for 2013 has been converted to tonnes using an inert waste landfill density conversion factor of 1.5 tonnes per cubic metre.⁷⁷ The purpose of this is to provide comparable information for use in this assessment (i.e. landfill void space and quantity of waste requiring off-site disposal to landfill are both expressed in tonnes).
- 3.3.12 For ease of reference, inert waste landfill capacity projections are shown for:
- 2013 (latest available published data converted to tonnes);
 - 2015, 2020 and 2025 (five year intervals and end of construction in 2025);
 - 2017 (start of construction); and
 - 2026 (first year of operation).

Table 13: National and regional inert waste landfill capacity projections to 2026 (tonnes)

Regional area	2013	2015	2017	2020	2025	2026
Greater London	2,413,137	1,428,979	846,193	385,599	104,051	80,069
South East	28,503,510	24,923,630	21,793,363	17,819,425	12,740,195	11,913,313
East of England	24,161,018	27,161,899	30,535,501	36,397,573	48,773,589	51,713,886
East Midlands	40,026,045	39,306,136	38,599,175	37,562,503	35,896,219	35,571,939
West Midlands	23,922,977	23,461,688	23,009,294	22,347,007	21,285,285	21,079,072
<i>Total of five regions</i>	119,026,686	116,282,332	114,783,527	114,512,107	118,799,339	120,358,280

⁷⁷ As used to inform significance criteria for this assessment set out in Section 16 and supporting annexes of the Scope and Methodology Report (SMR) Addendum (Volume 5: Appendix CT-001-00/2).

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Regional area	2013	2015	2017	2020	2025	2026
England	196,589,835	206,026,470	215,916,078	231,647,665	260,455,080	266,632,948

Non-hazardous waste landfill capacity

Historic landfill capacity trend data

3.3.13 Table 14 presents permitted non-hazardous waste landfill capacity data published by the Environment Agency for the period 2004 to 2013 (latest available published data).

Non-hazardous waste landfill capacity is shown in thousands of cubic metres as published by the Environment Agency. Data for 'national' non-hazardous waste landfill capacity relates to England only. Table 14: National and regional non-hazardous waste landfill capacity trends, 2004 to 2013 ('000 cubic metres)

Regional area	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Greater London	11,627	9,896	8,580	8,258	5,525	4,152	7,994	8,775	5,878	5,254
South East	96,787	95,221	79,962	76,771	77,297	63,611	72,041	66,892	62,020	56,825
East of England	61,734	59,629	60,373	56,550	64,083	59,220	55,195	51,154	48,679	46,116
East Midlands	56,189	57,685	55,527	52,225	49,313	42,631	45,733	41,888	39,410	47,440
West Midlands	61,607	66,957	70,510	71,644	67,483	55,237	53,682	50,696	49,147	48,571
Total of five regions	287,944	289,387	274,951	265,448	263,700	224,852	234,646	219,404	205,134	204,206
England	528,956	549,895	544,361	504,928	484,812	431,108	429,143	407,667	376,266	361,040

3.3.14 Table 15 presents the annual percentage change in non-hazardous waste landfill capacity and the average percentage change for the period 2004 to 2013.

Table 15: National and regional non-hazardous waste landfill capacity trends, 2004 to 2013 (% change)

Regional area	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Average capacity change, 2004 to 2013
Greater London	-	-17%	-15%	-4%	-49%	-33%	48%	9%	-49%	-12%	-14%
South East	-	-2%	-19%	-4%	1%	-22%	12%	-8%	-8%	-9%	-7%
East of England	-	-4%	1%	-7%	12%	-8%	-7%	-8%	-5%	-6%	-3%

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Regional area	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Average capacity change, 2004 to 2013
East Midlands	-	3%	-4%	-6%	-6%	-16%	7%	-9%	-6%	17%	-2%
West Midlands	-	8%	5%	2%	-6%	-22%	-3%	-6%	-3%	-1%	-3%
Total of five regions	-	0%	-5%	-4%	-1%	-17%	4%	-7%	-7%	0%	-4%
England	-	4%	-1%	-8%	-4%	-12%	0%	-5%	-8%	-4%	-4%

Landfill capacity projections

- 3.3.15 Table 16 presents non-hazardous waste landfill capacity projections to 2026 based on latest available published data for 2013.
- 3.3.16 Projections have been derived by applying the average capacity change 2004 to 2013 (shown in Table 15) to the published non-hazardous waste landfill capacity for 2013 and for each year beyond to 2026.
- 3.3.17 In Table 16, the published non-hazardous waste landfill capacity for 2013 has been converted to tonnes using a non-hazardous waste landfill density conversion factor of 0.83 tonnes per cubic metre⁷⁸. The purpose of this is to provide comparable information for use in this assessment (i.e. landfill void space and quantity of waste requiring off-site disposal to landfill are both expressed in tonnes).
- 3.3.18 For ease of reference, non-hazardous landfill capacity projections are shown for:
- 2013 (latest available published data converted to tonnes);
 - 2015, 2020 and 2025 (five year intervals and end of construction in 2025);
 - 2017 (start of construction); and
 - 2026 (first year of operation).

Table 16: National and regional non-hazardous waste landfill capacity projections to 2026 (tonnes)

Regional area	2013	2015	2017	2020	2025	2026
Greater London	4,360,857	3,246,526	2,416,941	1,552,519	742,429	640,587
South East	47,164,513	41,211,593	36,010,027	29,412,336	20,991,315	19,621,928
East of England	38,276,158	35,656,082	33,215,355	29,863,920	25,012,667	24,141,411

⁷⁸ As used to inform significance criteria for this assessment set out in Section 16 and supporting annexes of the SMR Addendum (Volume 5: Appendix CT-001-00/2).

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Regional area	2013	2015	2017	2020	2025	2026
East Midlands	39,375,422	37,563,465	35,834,889	33,390,022	29,680,265	28,989,317
West Midlands	40,313,994	37,944,655	35,714,567	32,612,760	28,030,091	27,193,925
<i>Total of five regions</i>	169,490,943	155,622,320	143,191,779	126,831,557	104,456,766	100,587,167
England	299,662,826	273,673,034	249,937,339	218,137,256	173,871,213	166,160,294

Hazardous waste landfill capacity

Historic landfill capacity trend data

3.3.19 Table 17 presents national permitted hazardous waste landfill capacity data published by the Environment Agency⁷⁹ for the period 2006 to 2013 (latest available published data).

Table 17: National and regional hazardous waste landfill capacity trends, 2006 to 2013 ('000 cubic metres)

Regional area	2006	2007	2008	2009	2010	2011	2012	2013
Greater London	350	325	290	242	227	217	216	217
South East	1,018	712	632	561	774	1,253	893	865
East of England	0	0	0	0	0	0	0	0
East Midlands	801	702	693	693	494	241	342	257
West Midlands	337	327	130	470	470	470	665	665
<i>Total of five regions</i>	2,506	2,065	1,745	1,966	1,965	2,179	2,116	2,004
England	15,656	18,752	18,929	18,128	17,398	17,823	17,760	19,031

3.3.20 Table 18 presents the annual percentage change in hazardous waste landfill capacity and the average percentage change for the period 2006 to 2013.

⁷⁹ Hazardous waste landfill capacity is shown in thousands of cubic metres as published by the Environment Agency. Data for 'national' hazardous waste landfill capacity relates to England only.

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Table 18: National and regional non-hazardous waste landfill capacity trends, 2006 to 2013 (% change)

Regional area	2006	2007	2008	2009	2010	2011	2012	2013	Average capacity change, 2004 to 2013
Greater London	-	-8%	-12%	-20%	-7%	-5%	0%	1%	-7%
South East	-	-43%	-13%	-13%	28%	38%	-40%	-3%	-7%
East of England	-	0%	0%	0%	0%	0%	0%	0%	0%
East Midlands	-	-14%	-1%	0%	-40%	-105%	30%	-33%	-24%
West Midlands	-	-3%	-152%	72%	0%	0%	29%	0%	-8%
<i>Total of five regions</i>	-	-21%	-18%	11%	0%	10%	-3%	-6%	-4%
England	-	17%	1%	-4%	-4%	2%	0%	7%	3%

Landfill capacity projections

- 3.3.21 Table 19 presents hazardous waste landfill capacity projections to 2026 based on latest available published data for 2013.
- 3.3.22 Projections have been derived by applying the average capacity change 2006 to 2013 (shown in Table 18) to the published hazardous waste landfill capacity for 2013 and for each year beyond to 2026.
- 3.3.23 In Table 19, the published hazardous waste landfill capacity for 2013 has been converted to tonnes using a hazardous waste landfill density conversion factor of 1.5 tonnes per cubic metre⁸⁰. The purpose of this is to provide comparable information for use in this assessment (i.e. landfill void space and quantity of waste requiring off-site disposal to landfill are both expressed in tonnes).
- 3.3.24 For ease of reference, hazardous waste landfill capacity projections are shown for:
- 2013 (latest available published data converted to tonnes);
 - 2015, 2020 and 2025 (five year intervals and end of construction in 2025);

⁸⁰ As used to inform significance criteria for this assessment set out in Section 16 and supporting annexes of the SMR Addendum (Volume 5: Appendix CT-001-00/2).

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- 2017 (start of construction); and
- 2026 (first year of operation).

Table 19: National and regional hazardous waste landfill capacity projections to 2026 (tonnes)

Regional area	2013	2015	2017	2020	2025	2026
Greater London	325,734	280,220	241,066	192,349	132,033	122,462
South East	1,297,680	1,132,557	988,446	805,920	573,487	535,759
East of England	0	0	0	0	0	0
East Midlands	385,176	225,348	131,841	58,999	15,447	11,815
West Midlands	997,572	852,426	728,398	575,357	388,345	358,983
<i>Total of five regions</i>	3,006,162	2,490,552	2,089,751	1,632,625	1,109,312	1,029,019
England	28,546,125	29,994,451	31,516,260	33,944,961	38,415,784	39,378,266

4 Schedule of developments

- 4.1.1 A qualitative assessment has been undertaken to establish the cumulative effects associated with the off-site disposal to landfill of solid waste that will be generated by construction and operation of the SES scheme and AP2 revised scheme and other developments along its route.
- 4.1.2 The cumulative effects assessment takes into account:
- developments that are likely to be under construction (in whole or in part for phased development) at the same time as the SES scheme and AP2 revised scheme (2017 to 2025) and will thus have a simultaneous requirement for landfill of any CDEW generated during this timeframe; and
 - developments that are assumed to become operational at the same time as the SES scheme and AP2 revised scheme (i.e. in the year 2026) and will thus have a simultaneous requirement for landfill of any operational waste generated during that year.
- 4.1.3 Table 20 provides a schedule of developments that have been included in the cumulative effects assessment in accordance with the aforementioned criteria.
- 4.1.4 The variety of schemes presented in Table 20 includes residential, mixed use, industrial and commercial development.
- 4.1.5 Construction and operation of these developments will produce CDEW, C&I waste and municipal solid waste, a proportion of which will require disposal to landfill.
- 4.1.6 No developments have been identified within either the East of England or East Midlands region for consideration within the cumulative effects assessment.

Table 20: Schedule of developments included in cumulative assessment

Regional area	Type of development	Location	Local planning authority and/or reference
Greater London	Residential extension	836 Harrow Road, London, NW10 5JU	London Borough of Brent 13/1064
	Leisure development	Lower ground unit, Ebbett Court, Victoria Road, Acton, W3 6BW	London Borough of Ealing PP/2013/0826
	Residential redevelopment	Tollgate Gardens Estate, Oxford Road, London, NW6 5SG	City of Westminster 33 Related applications: 13/05695/COFUL
	Commercial extension	49, 51 and 53-57 Kilburn High Road, London, NW6 5SB	London Borough of Brent 14/0239

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Regional area	Type of development	Location	Local planning authority and/or reference
	Educational development	Harlesden Primary School, Acton Lane, London, NW10 8UT	London Borough of Brent 13/2829
	Mixed use	Boden House 114 Victoria Road, Park Royal, NW10 6NY	London Borough of Ealing PP/2014/2361
	Residential redevelopment	Development site at 346-352 Ladbroke Grove and 26-28 St. John's Terrace London, W10 4RB	CoW 12/06405/COFUL
	Residential redevelopment	111 Oliphant Street London, W10 4EE	City of Westminster 14/02180/COFUL
	Mixed use redevelopment	Metalion, North Acton Road, Park Royal, London	London Borough of Ealing P/2007/5239
	Industrial development	The Royal London Estate 29-35 North Acton Road, Park Royal, London, NW10 6PE	London Borough of Ealing P/2010/1237
	Industrial extension	Units 1 and 2, Powergate Business Park, Volt Avenue, Park Royal, NW10 6PW	London Borough of Ealing PP/2010/3463
	Residential redevelopment	Garages Adjacent To 6A, Munro Mews, London	Royal Borough of Kensington and Chelsea (RBKC) PP/14/01279
	Mixed use redevelopment	253-259 Kensal Road and 5 and 6 Middle Row, London, W10	RBKC PP/13/06196
	Mixed use redevelopment	77-79 Southern Row, London, W11	RBKC PP/13/05416
	Community use	Open space at junction of Harrow Road and Elgin Avenue London, W9	City of Westminster 13/05069/COFUL
	Mixed use development	Park Royal, W3	London Borough of Ealing OIS1 Related applications: P/2012/2339; P/2011/4250
	Residential development	Western Avenue sites south of railway	London Borough of Ealing OIS4
	Mixed use development	Westway Estate, Telford Way and Brunel Road, Acton	RBKC PP/2014/2942

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Regional area	Type of development	Location	Local planning authority and/or reference
	Residential development	1-3, Canterbury House, Canterbury Road, London	London Borough of Brent 14/1764
	Nationally Significant Infrastructure Project (Thames Tideway Tunnel)	Runs through multiple locations	The Planning Inspectorate WW010001
	Residential redevelopment	Jubilee Sports Centre, Caird Street, London	City of Westminster 13/12250/COFUL
	Industrial redevelopment	49 53, Gorst Road, Park Royal, London, NW10 6LS	London Borough of Ealing PAN/2014/3571
	Residential redevelopment	1-3, Canterbury House, Canterbury Road, London, NW6 5ST	London Borough of Brent 14/3141
	Residential development	756 Harrow Road, London, NW10 5LE	London Borough of Brent 14/4144 and 14/4143
	Residential development	Chandelier Building, 8 Scrubs Lane London, NW10 6RB	LBHF 2014/05825/PD56
	Residential redevelopment	95A, Wells House Road, Park Royal, London, NW10 6EA	London Borough of Ealing PP/2015/0221
	Residential redevelopment	95A Boundary Road London, NW8 0RG	City of Westminster 14/10897/FULL
	Residential redevelopment	21 Noko, 3-6 Banister Road, London, W10 4AR	London Borough of Brent 12/2160
	Mixed use redevelopment	904 Harrow Road, London, NW10 5JU	London Borough of Brent 13/0224
	Mixed use redevelopment	Moberley Sports and Education Centre, Kilburn Lane, North Kensington, London, W10 4AH	London Borough of Ealing 13/3682
	Residential redevelopment	Durham Court and Garages, Kilburn Park Road, London, NW6 and Gloucester House and Garages, Cambridge Road, London, NW6	London Borough of Brent 14/1896
	Transport and Works Act Order (Proposed London Underground Northern Line Extension)	Main work sites include Battersea Power Station, Nine Elms adjacent to Wandsworth Road and Pascal Street, Kennington Green, and Kennington Park	Department for Transport (DfT) TWA 3/1/415

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Regional area	Type of development	Location	Local planning authority and/or reference
	Act of Parliament (Crossrail 1)	Crossrail east to west London rail from Maidenhead to Shenfield	UK Parliament
	Railway infrastructure extension	Euston, Camden Carriage Sidings, West Hampstead Station, Willesden Traction Maintenance Depot as well as railway land in the Willesden area for additional stabling – most likely to be Willesden South West Sidings	London Borough of Camden (LBC)
	Underground station upgrade	Holborn station	LBC
	Underground station upgrade	Camden Town station	LBC
	Residential redevelopment	Tollgate Gardens Estate Oxford Road London, NW6 5SN	City of Westminster 13/05695/COFUL
	Mixed use development	Old Oak Common	Greater London Authority (GLA)
	Mixed use development	Park Royal	Greater London Authority (GLA)
	Commercial redevelopment	Park Royal Hotel Site, Hanger Green/Connell Crescent, Ealing W5 3BQ	London Borough of Ealing PP/2012/3475 Related applications: PP/2012/3477 PP/2014/5918
	Mixed used development	12 Wadsworth Road, Perivale, UB6 7JD	London Borough of Ealing PP/2013/1008
	Residential redevelopment	Smiths Farm, Kensington Road, Northolt UB5 6AH	London Borough of Ealing PP/2012/4910
	Mixed use redevelopment	Former GSK Site, Greenford Road, Greenford, UB6 oHE	London Borough of Brent 13/3413
	Commercial development	Acton Western Avenue, south of Park View to the north of the railway line	London Borough of Ealing OIS3 Related applications: P/2003/2959 P/2010/3670 P/2004/4242, P/2003/5189

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Regional area	Type of development	Location	Local planning authority and/or reference
			P/2004/0883
	Residential development	Western Avenue, Park View	London Borough of Ealing Development Site OIS2
	Mixed use development	Oldfield Lane, North/Oldfield Lane/Greenford Road/Rockware Avenue, Greenford, UB6	London Borough of Ealing Development Site OIS7
	Mixed use redevelopment	Acton Goods Yard Off Horn Lane, Noel Road Bridge and railway land either side of Noel Road, Acton, London, W3 0BP	London Borough of Ealing Development Site ACT6 Related applications: P/2012/1933
	Mixed use development	Mount Pleasant/Beresford Avenue, Alperton, HA0	London Borough of Brent Site Specific Allocation A7
	Industrial and commercial development	Former Central Middlesex Hospital, Acton Lane, NW10	London Borough of Brent Site Specific Allocation PR3 Related applications: 08/1043 10/0140 13/0162
	Residential development	Brentfield, NW10	London Borough of Brent Site Specific Allocation 19
	Mixed use development	North Circular Road, NW10	London Borough of Brent Site Specific Allocation 20
	Mixed use redevelopment	Harrow Road, HA9	London Borough of Brent Site Specific Allocation 24
	Residential development	61 Gorst Road, Park Royal	London Borough of Ealing PAN/2014/3571
	Residential development	Unit 9 Manhattan Business Park, West Gate, Ealing	London Borough of Ealing PAN/2014/2624
	Commercial development	Land at former Nuffield Arms, corner of Alperton Land and Western Avenue, Perivale	London Borough of Ealing P/2013/5028
	Commercial development	Wembley Point, 1 Harrow Road, Wembley	London Borough of Brent 12/2686

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Regional area	Type of development	Location	Local planning authority and/or reference
			Related applications: 13/2605 14/2372
	Residential development	Mercury House, Heather Park Drive, Wembley	London Borough of Brent 14/2732
	Residential development	Land Adjacent To 400 Western Avenue, Acton, W3 oPL	London Borough of Ealing PP/2014/4427
	Mixed use development	The Plough Inn, Mandeville Road, Northolt, UB5 5HG	London Borough of Ealing PP/2014/4407
	Residential redevelopment	362 Western Avenue, Acton, W3 oPL	London Borough of Ealing PP/2013/1673
	Road works	Acton Goods Yard, Off Horn Lane, Noel Road Bridge and railway land either side of Noel Road, Acton, London, W3 oBP	London Borough of Ealing P/2012/1933
	Commercial development	Land at Coronation Road Park Royal, NW10	London Borough of Ealing PP/2012/4545 Related applications: 12/2861
	Community development	Astral House, The Runway, Ruislip	London Borough of Hillingdon 42570/APP/2012/2734
	Residential development	Former Royal Air Force (RAF) West Ruislip High Road, Ickenham	London Borough of Hillingdon 38402/APP/2013/2685
	Residential redevelopment	Formerly The Bridge & Early Years Centres, Acol Crescent Ruislip, HA4 6QP	London Borough of Hillingdon 65847/APP/2014/427
	Residential development	Great Central House, Great Central Avenue, HA4 6TT	London Borough of Hillingdon 3969/APP/2014/384
	Residential development	Eagle House, The Runway, Ruislip,	London Borough of Hillingdon 2342/APP/2014/3625
	Residential development	439 Victoria Road, Ruislip, HA4 oEG	London Borough of Hillingdon 67990/APP/2014/3376

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Regional area	Type of development	Location	Local planning authority and/or reference
	Residential development	Astral House ,The Runway Ruislip	London Borough of Hillingdon 42570/APP/2014/4341
	Commercial redevelopment	Former Arla Dairy, Victoria Road, South Ruislip, HA4 oHF	London Borough of Hillingdon 66819/APP/2014/1600
	Transport and Works Act Order (Proposed London Underground Metropolitan Line Extension)	Croxley, to Watford Junction via Watford High Street via the disused Croxley Green Branch	DfT TWA/12/APP/01
South East	Quarry works	New Denham Quarry, Denham Road, Denham, Buckinghamshire, UB9 4EH	Buckinghamshire County Council CM/32/14 Related applications: AOC/71/14 AOC/11/01460/CM(2) AOC/11/01460/CM
	Quarry works	Land adjacent to Uxbridge Road, George Green, Slough	Buckinghamshire County Council 13/00575/CC Related applications: AOC/58/14 AOC/03/15 AOC/55/14
	Quarry works	The Lea Quarry, Denham Court Drive, Denham, Uxbridge, Buckinghamshire	Buckinghamshire County Council 13/00005/CC
	Quarry works	The Lea Quarry, Denham Court Drive, Denham, Uxbridge Buckinghamshire	Buckinghamshire County Council 13/00006/CC
	Land remediation	Land Adjacent To Hollybush Lane, Tatling End, Denham, Buckinghamshire	Buckinghamshire County Council CM/43/14 Related applications: AOC/04/15 AOC/05/15
	Residential redevelopment	Eleanor House & Hampshire House National Society For Epilepsy, Chesham Lane, Chalfont St Peter, Buckinghamshire	Chiltern District Council CH/2013/1172/FA

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Regional area	Type of development	Location	Local planning authority and/or reference
	Residential extension	Chapel Farm, Hyde Lane, Hyde End, Buckinghamshire, HP16 0RF	Chiltern District Council CH/2012/1730/FA
	Education redevelopment	The Misbourne School, Misbourne Drive, Great Missenden, Buckinghamshire, HP16 0BN	Buckinghamshire County Council CC/28/13 Related applications: AOC/50/14
	Residential redevelopment	Winterton House 8 Hale Road Wendover Buckinghamshire HP22 6NE	Aylesbury Vale District Council 13/02899/APP
	Waste management infrastructure extension	Chiltern View Nurseries Wendover Road Stoke Mandeville Aylesbury Buckinghamshire HP22 5GX	Aylesbury Vale District Council 13/20003/AWD
	Residential development	Land off Isis Close and Oat Close, Aylesbury Buckinghamshire	Aylesbury Vale District Council 12/01394/AOP
	Industrial development	Manor Farm, Lower Road, Stoke Mandeville, Buckinghamshire, HP22 5XB	Aylesbury Vale District Council 13/01281/APP Related applications: 15/00148/APP
	Residential redevelopment	Littleton Manor Farm, Bicester Road, Waddesdon, Buckinghamshire	Aylesbury Vale District Council 13/01840/APP
	Residential development	Land rear of 23 Anstey Close, Waddesdon, Buckinghamshire	Aylesbury Vale District Council 13/01866/APP
	Solar panel installation	Oatleys Farm, Oatleys Road, Turweston, Buckinghamshire	Aylesbury Vale District Council 13/01561/APP
	Community redevelopment	Westbury Sports and Community Association, The Pavillion, Brackley Road, Westbury, Buckinghamshire, NN13 5JN	Aylesbury Vale District Council 14/01570/APP
East of England	Commercial redevelopment	SAE Logistics Coppermill Court, Coppermill Lane, West Hyde, Hertfordshire, WD3 9XS	Three Rivers District Council 13/0351/FUL
	Education development	Frognall Farm and adjoining land	Three Rivers District Council Site Allocation Reference S(a)
	Commercial and industrial development	Land north of Maple Lodge Farm	Three Rivers District Council Site Allocation Reference E(d)

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Regional area	Type of development	Location	Local planning authority and/or reference
	Proposals for infilling or redevelopment	Maple Lodge Wastewater Treatment Works	Three Rivers District Council Policy SA8
East Midlands	Solar panel installation	Land at Hill Farm Brackley	South Northamptonshire District Council <i>S/2013/1228/MAF</i>
	Residential development	Land at The Old Glebe, Radstone Road, Brackley	South Northamptonshire District Council <i>S/2013/1506/MAF</i>
	Mixed use development	Land off Northampton Road and Turweston Road Brackley	South Northamptonshire District Council <i>S/2013/0149/MAF</i>
	Site infrastructure installation	Land off Northampton Road and Turweston Road, Brackley	South Northamptonshire District Council <i>S/2013/0150/MAF</i>
	Residential development	Land south of Turweston Road, Brackley	South Northamptonshire District Council <i>S/2011/0141/MAO</i>
	Residential development	Foxhill Brackley North Off Northampton Road Brackley NN13 5SZ	South Northamptonshire District Council <i>S/2012/1557/MAO</i>
	Site layout amendments and maintenance	Brackley Connect, Northampton Road, Brackley, NN13 5SZ	South Northamptonshire District Council <i>S/2014/1776/FUL</i>
	Mixed use development	Land at Radstone Fields, Brackley	South Northamptonshire District Council Policy B3 Related applications: <i>S/2010/0995/MAO</i> <i>S/2012/1557/MAO</i> <i>S/2013/1096/MAR</i> <i>14/00070/CCDFUL</i>
	Mixed use development	Land to the east of Brackley	South Northamptonshire District Council Policy B2

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Regional area	Type of development	Location	Local planning authority and/or reference
	Residential redevelopment	Former Bronnley Soap Works, Radstone Road, Brackley	South Northamptonshire District Council S/2013/1263/MAO
	Residential development	Former Brackley Sawmills, Northampton Road, Brackley	South Northamptonshire District Council S/2014/0557/MAF
	Agricultural development	Westhill Farm Culworth	South Northamptonshire District Council S/2013/1473/FUL
	Railway infrastructure maintenance	Overhead lines between Eydon and Culworth Mill	South Northamptonshire District Council South Northamptonshire District CouncilS/2013/1330/PE
West Midlands	Mixed use development	Southam College, Welsh Road West, Southam, CV47 0JW	Stratford Upon Avon District Council 14/00543/FUL
	Lake infrastructure	Dallas Burston Polo Grounds, Stoneythorpe, Southam, CV47 2DL	Stratford Upon Avon District Council 13/03161/FUL
	Industrial redevelopment	Harp Farm, Banbury Road, Southam, CV47 2BL	Stratford Upon Avon District Council 12/02437/FUL
	Commercial development	Dallas Burston Polo Grounds, Stoneythorpe Estate, Stoneythorpe, Southam, Warwickshire CV47 2DL	Stratford Upon Avon District Council 09/00873/OUT
	Commercial development	Dallas Burston Polo Grounds, Stoneythorpe, Southam, CV47 2DL	Stratford Upon Avon District Council 13/00822/FUL
	Commercial development	Dallas Burston Polo Grounds, Stoneythorpe, Southam, CV47 2DL	Stratford Upon Avon District Council 13/01259/FUL
	Commercial development	Dallas Burston Polo Grounds, Stoneythorpe, Southam, CV47 2DL	Stratford Upon Avon District Council 13/01558/FUL
	Mixed use redevelopment	Lower Farm, Stoneythorpe, Southam, CV47 2DL	Stratford Upon Avon District Council 12/00749/OUT
	Lawful development certificate	Le Van, Red Lane, Kenilworth, CV8 1PE	Warwick District Council W/13/0876
	Commercial redevelopment	Comptons Garage, Rugby Road, Cubbington, Leamington Spa, CV32 7HY	Warwick District Council W/14/1863

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Regional area	Type of development	Location	Local planning authority and/or reference
	Residential development	Land north of Common Lane, Kenilworth (Crackley Triangle)	Warwick District Council W/14/1340
	Residential development	Land adjacent to Pinehurst, Cubbington, Leamington Spa, CV32 7JY	Warwick District Council W/14/1442
	Camping license renewal	Caravan Park, National Agricultural Centre, Stoneleigh Park, Kenilworth, CV8 2LZ	Warwick District Council W/14/1159
	Anaerobic digester	Land at Coleshill Sewage Treatment Works, Coleshill, Warwickshire, B46 1DA	Warwickshire County Council NWB/13CM021
	Commercial development extension	Lea Farm Lichfield Road, Wishaw, Sutton Coldfield, Warwickshire, B76 9PL	North Warwickshire Borough Council PAP/2014/0170
	Commercial development	The Old Barn Guest House, Birmingham Road, Coleshill, Warwickshire B46 1DP	North Warwickshire Borough Council PAP/2012/0501
	Industrial development extension	International Automotive Components, Highway Point Gorsey Lane, B46 1JU	North Warwickshire Borough Council PAP/2012/0045
	Industrial redevelopment	Mallard Lodge Site, Marsh Lane, Water Orton Warwickshire B46 1NS	North Warwickshire Borough Council PAP/2013/0211
	Site infrastructure installation	The Coleshill, School Coventry Road, Coleshill South, Coleshill, Warwickshire, B46 3EX	North Warwickshire Borough Council PAP/2013/0426
	Residential redevelopment	The Lodge, Cuttle Mill Fisheries, Cuttle Mill Lane, Curdworth B76 9Pu	North Warwickshire Borough Council PAP/2010/0491
	Industrial development	Newlands Farm, Faraday Avenue, near Curdworth, Warwickshire, B76 0BE	North Warwickshire Borough Council PAP/2013/0364
	Residential development	Gilson Cottage, Gilson Road, Coleshill, Warwickshire, B46 1LL	North Warwickshire Borough Council PAP/2012/0592
	Residential development extension	21 Birchwood Road, Lichfield Staffordshire, WS14 9UN	Lichfield District Council 14/00482/FUL
	Residential development extension	39 Netherbridge Avenue, Lichfield, Staffordshire, WS14 9UF	Lichfield District Council 14/00281/FUL

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Regional area	Type of development	Location	Local planning authority and/or reference
	Agricultural development extension	Field at Lysways Lane, Lysways Lane, Hanch, Lichfield, Staffordshire	Lichfield District Council 14/00530/FUL
	Residential redevelopment	Hill Farm Ash, Tree Lane, Lichfield, Staffordshire, WS13 8ND	Lichfield District Council 14/00056/COU
	Industrial development	Roxane UK Limited Hanger, 5 Fradley Airfield, Wood End Lane, Fradley, Lichfield, Staffordshire, WS13 8EL	Lichfield District Council 14/00875/FULM
	Pond infrastructure installation	Land at Gorse Lane, Fradley, Lichfield, Staffordshire	Lichfield District Council 14/00898/FULM
	Residential redevelopment	Buck's Head Farmhouse, Watling Street, Weeford, Lichfield Staffordshire WS14 0PJ	Lichfield District Council 13/00025/COU
	Listed building demolition	Streethay House Farm, Burton Road, Streethay, Lichfield, Staffordshire WS13 8LT	Lichfield District Council 12/00747/LBC
	Mixed use redevelopment	Land north of Burton Road and northeast of the West Coast Mainline, Streethay, Lichfield, Staffordshire	Lichfield District Council 12/00746/OUTMEI
	Industrial redevelopment	UK Pallet Express Delivery, Fradley Business Centre, Wood End Lane, Fradley, Lichfield, Staffordshire WS13 8NF	Lichfield District Council 13/00162/FULM
	Mixed use redevelopment	Land At Fradley Park, Halifax Avenue, Fradley, Lichfield, Staffordshire	Lichfield District Council 10/01498/OUTMEI
	Industrial development extension	Hanger 5, Fradley Airfield, Wood End Lane, Fradley, Lichfield, Staffordshire WS13 8EL	Lichfield District Council 11/01305/FULM
	Industrial development extension	Hanger 5, Fradley Airfield, Wood End Lane, Fradley, Lichfield, Staffordshire WS13 8EL	Lichfield District Council 12/00418/FUL
	Agricultural development	17 Flats Lane, Whittington Heath, Lichfield, Staffordshire, WS14 9QQ	Lichfield District Council 13/00182/FUL
	Solar panel installation	17 Flats Lane Whittington Heath Lichfield Staffordshire WS14 9QQ	Lichfield District Council 13/00430/FUL
	Commercial development	Land at Lichfield South (Business Park), Birmingham Road, Wall, Lichfield, Staffordshire, WS14 0PQ	Lichfield District Council 14/00395/OUTMEI

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Regional area	Type of development	Location	Local planning authority and/or reference
	Industrial development	Fairfields Raikes Lane Lichfield Staffordshire WS14 0EL	Lichfield District Council 14/00392/FULMEI
	Access road	Land to the east of the A38 and north of the West Coast Mainline (WCML), Lichfield, Staffordshire	Lichfield District Council 14/00974/FUL
	Industrial development	Arden Brickworks, Coventry Road, Bickenhill	Solihull Metropolitan Borough Council 2011/1189
	Mineral site safeguard	Large strategic site to the east and south of Balsall Common, stretching north to Meriden	Solihull Metropolitan Borough Council Minerals Safeguarding Area for Coal
	Residential development	Riddings Hill, Balsall Common	Solihull Metropolitan Borough Council Allocated Housing Site 19
	Mineral site safeguard	Land between Berkswell, Hampton and Meriden	Solihull Metropolitan Borough Council Mineral Safeguarding Area/Area of Search
	Mineral site safeguard	Hornbrook Farm, Cornets End Lane	Solihull Metropolitan Borough Council Preferred Area for Mineral Extraction 34
	Mineral site safeguard	Berkswell Quarry West	Solihull Metropolitan Borough Council Preferred Area for Mineral Extraction 33
	Mineral site safeguard	Berkswell Quarry West	Solihull Metropolitan Borough Council Preferred Area for Mineral Extraction 32
	Waste management infrastructure site safeguard	Meriden Quarry and Composting Facilities in Berkswell	Solihull Metropolitan Borough Council Strategic Waste Management Site
	Mineral extraction	Park Farm Quarry, Mercote Hall Lane, Berkswell	Solihull Metropolitan Borough Council 2003/1480
	Mineral extraction	Meriden Quarry, Cornets End Lane, Meriden	Solihull Metropolitan Borough Council 2012/64
	Waste management infrastructure development	Meriden Quarry, Cornets End Lane, Meriden	Solihull Metropolitan Borough Council 2012/1201
	Waste management infrastructure site safeguard	To the west of Meriden	Solihull Metropolitan Borough Council Area of Search for Waste Management Facilities

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Regional area	Type of development	Location	Local planning authority and/or reference
	Mineral site safeguard	Land to the east of the NEC	Solihull Metropolitan Borough Council Mineral Safeguarding Area/Area of Search
	Leisure development extension	Balsall and Berkswell Football Club, Lavender Hall Lane, Berkswell, CV7 7BN	Solihull Metropolitan Borough Council 2013/1716
	Industrial development	Patrick Farm Barns, Meriden Road, Hampton in Arden, B92 0LT	Solihull Metropolitan Borough Council 2013/2137
	Industrial development	Land at Berkswell Quarry, Cornets End Lane, CV7 7LH	Solihull Metropolitan Borough Council 2013/2028
	Residential development	205 Dugging Lane, Berkswell, CV4 9GP	Solihull Metropolitan Borough Council 2013/2050
	Waste management infrastructure development	Arden Brickworks, Coventry Road, Bickenhill, B92 0DY	Solihull Metropolitan Borough Council 2012/1953
	Mineral extraction	Land surrounding Park Farm, Chester Road, Middle Bickenhill	Solihull Metropolitan Borough Council 2011/1959
	Airport extension	Birmingham International Airport, B26 3QJ	Solihull Metropolitan Borough Council 2008/22
	Mixed use development	NEC site, North and East of Pendigo Way, Solihull	Solihull Metropolitan Borough Council 2011/1159
	Industrial development	Plot 5000 (Land south of Solihull Parkway and north of Blackfirs Lane), Solihull Parkway, Birmingham Business Park, Solihull, B37 7YN	Solihull Metropolitan Borough Council 2013/57 Related applications: 2010/458 2012/471
	Commercial development extension	Express by Holiday Inn, Bickenhill Parkway, Bickenhill, B40 1QA	Solihull Metropolitan Borough Council 2012/1701
	Biomass energy centre	East Car Parks 2 and 3, Pendigo Way, NEC, B40 1NT	Solihull Metropolitan Borough Council 2012/1480 Related applications: 2012/1480/S SMBC2013/1434

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Regional area	Type of development	Location	Local planning authority and/or reference
	Anaerobic digester	Packington AD Plant, Packington Lane Landfill Site, Packington Lane, Little Packington, Meriden	Warwickshire County Council DECC Project NWB/12CM001
	Commercial development	Birmingham Business Park	Solihull Metropolitan Borough Council Policy E1/1
	Residential development	Land off Fillingham Close, Crompton Croft, B37 7TE	Solihull Metropolitan Borough Council 2010/841
	Village centre redevelopment	Land between Craig Croft and Hedingham Grove, B37 7TR	Solihull Metropolitan Borough Council 2012/507
	Educational development	Coleshill Heath Primary (Formerly Alcott Hall Junior and Infant) School, Lime Grove, Chelmsley Wood B37 7PY	Solihull Metropolitan Borough Council 2013/378
	Educational and community development	Craig Croft, Birmingham, B37 7TR	Solihull Metropolitan Borough Council 2011/67
	Residential development	Former Bluebell public house, Yorkminster Drive, Chelmsley Wood	Solihull Metropolitan Borough Council 2012/109
	Residential development	Solihull College (Chelmsley campus)	Solihull Metropolitan Borough Council Policy H1/1.17
	Transport interchange	Transport Interchange Airport/NEC	Solihull Metropolitan Borough Council Transport Interchange Airport/NEC
	Industrial development	Site adjacent to WH Smith Building, Elmdon Trading Estate, B37 7HE	Solihull Metropolitan Borough Council 2013/1790
	Residential development	Bishop Wilson C of E Junior & Infant School Pike Drive, Chelmsley Wood, B37 7US	Solihull Metropolitan Borough Council 2013/1726
	Car park refurbishment	Pendigo Way, NEC, B40 1NT	Solihull Metropolitan Borough Council 2014/651
	Residential development	Land off Fillingham Close, Chelmsley Wood, B27	Solihull Metropolitan Borough Council 2014/230
	Commercial refurbishment	Toby Carvery, Coventry Road, Meriden, CV7 7H	Solihull Metropolitan Borough Council 2013/1618
	Commercial and industrial development site safeguard	Land at Bickenhill Lane, Adjacent NEC	Solihull Metropolitan Borough Council Proposed Employment Site 28

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Regional area	Type of development	Location	Local planning authority and/or reference
	Commercial and industrial development site safeguard	Land north of Clock Interchange, Bickenhill	Solihull Metropolitan Borough Council Proposed Employment Site 29
	Commercial and industrial development site safeguard	Land adjacent Birmingham Business Park	Solihull Metropolitan Borough Council Proposed Employment Site 31
	Commercial and industrial development	Plot 6500, Solihull Parkway, Bickenhill, B37 7YN	Solihull Metropolitan Borough Council 2014/763
	Industrial development	Myrtle Cottage Farm, Middle Bickenhill Lane, Hampton-In-Arden Solihull B92 0HJ	Solihull Metropolitan Borough Council 2014/642
	Industrial development	Myrtle Cottage Farm, Middle Bickenhill Lane, Hampton-In-Arden, Solihull B92 0HJ	Solihull Metropolitan Borough Council 2014/1827
	Mineral processing	Site office, Coventry road, Meriden Coventry CV7 7HL	Solihull Metropolitan Borough Council 2014/976
	Residential development	Junction of Birmingham Road / Auckland Drive Kingshurst B36 0NB	Solihull Metropolitan Borough Council 2014/1901
	Residential development	Land off Chelmsley Road, B27 7SW	Solihull Metropolitan Borough Council 2014/1897
	Residential development	Land off Pike Drive, Chelmsley Wood, Solihull, B37 7UL	Solihull Metropolitan Borough Council 2014/2229
	Residential development	Land at Lanchester Way, Castle Bromwich, B36	Solihull Metropolitan Borough Council 2014/959
	Industrial development	Plot 5, Prologis Park, Midpoint, Former Minworth Sewage Works, Minworth, Sutton Coldfield	Birmingham City Council 2012/06220/PA
	Residential development	Former Amber Windows Site, Bromford Lane, Ward End, Birmingham	Birmingham City Council 2011/05335/PA
	Access road	Prologis Park, Midpoint, Minworth Sutton Coldfield	Birmingham City Council 2013/08948/PA
	Mixed use development	Former Bromford Inn Public House, Bromford Lane/Bromford Road, Washwood Heath, Birmingham, B8 2SD	Birmingham City Council 2014/02025/PA
	Industrial development	Park Lane, Minworth	Birmingham City Council 2014/02484/PA

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Regional area	Type of development	Location	Local planning authority and/or reference
	Industrial development	Unit C1 Castle Bromwich Business Park, Tameside Drive, B25 7AG	Birmingham City Council 2014/02403/PA
	Industrial refurbishment	DC4 Prologis Park Midpoint Way Sutton Coldfield Birmingham B76 9EH	Birmingham City Council 2014/09509/PA
	Anaerobic digester	Washwood Heath Freight Yard, North of Common Lane, Washwood Heath,	Birmingham City Council 2012/05409/PA
	Training centre development	Unit 3 Pennine Way, Saltley, Birmingham, B8 1JW	Birmingham City Council 2012/07971/PA
	Car park extension	Mercedes Benz Lawley Middleway Birmingham B4 7XH	Birmingham City Council 2011/00665/PA
	Mixed use redevelopment	Jennens Road, Lawley Middleway Curzon Street, Cardigan Street Land bounded by "Eastside Locks" Eastside, Birmingham B4 7RD	Birmingham City Council 2008/02942/PA
	Mixed use redevelopment	Land bounded by Gopsal Street, Cardigan Street, Curzon Street and Digbeth Branch Canal Eastside	Birmingham City Council 2012/04578/PA
	Educational development	Cardigan Street Land Adjoining Millennium Point Eastside, Birmingham B4 7RJ	Birmingham City Council 2011/00453/PA
	Exhibition centre development	Curzon Street Station New Canal Street Birmingham	Birmingham City Council 2012/04817/PA
	Public house refurbishment	The Woodman PH, 106 Albert Street, Digbeth, Birmingham, B5 5LG	Birmingham City Council 2013/01277/PA
	Mixed use development	Jennens Court, 250 Jennens Road, Birmingham, B5 5JR	Birmingham City Council 2012/07306/PA
	Mixed use development	Former Central Fire Station Corporation Street/Aston Street/Potter Street Junction of Birmingham B4 7DD	Birmingham City Council 2012/06883/PA
	Mixed use development	Bordesley Street, Typhoo Wharf, Digbeth, Birmingham	Birmingham City Council 2012/03227/PA
	Mixed use development	Masshouse Plot 7 (Land bounded by Dale End, Chapel Street Moor Street Queensway and Priory Queensway)	Birmingham City Council 2007/01816/PA

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Regional area	Type of development	Location	Local planning authority and/or reference
	Residential development	2 Masshouse Plaza, Birmingham, B5 5JE	Birmingham City Council 2013/01181/PA
	Communal heating facility	Land Between Manton and Reynolds Tower Block, Newbury Road, Newtown, Birmingham	Birmingham City Council 2011/02285/PA
	Commercial development extension	123-134 Digbeth 91-93 Allison Street and Land off Orwell Passage Digbeth Birmingham	Birmingham City Council 2012/02104/PA Related applications: 2009/00295/PA
	Metro extension	The Midland Metro (Birmingham City Centre Extension)	Birmingham City Council 2011/08706/PA Related applications: TWA/03/APP/04
	Commercial development	1 Martineau Place, Corporation Street, Birmingham, B2 4UW	Birmingham City Council 2011/07906/PA
	Commercial development refurbishment	106-110 Fazeley Street, Junction Works, Nechells, B5 5RT	Birmingham City Council 2013/06073/PA
	Industrial development	Nechells Business Centre Unit 3, Dollman Street, Birmingham	Birmingham City Council 2013/07786/PA
	Access road	SITA UK Ltd, Landor Street, Nechells, Birmingham	Birmingham City Council 2013/06924/PA
	Industrial development	SITA UK Ltd, Landor Street, Nechells, Birmingham	Birmingham City Council 2014/00332/PA
	Commercial refurbishment	110 Fazeley Street Birmingham, B5 5RS	Birmingham City Council 2013/06092/PA
	Waste management infrastructure development	Units A5 and A6, Heartlands Park, Heartlands Parkway, Washwood Heath, Birmingham, B8 2UW	Birmingham City Council 2013/07484/PA
	Mixed use development	Eastside Locks (Building 5) Plot C, Land at Cardigan Street/Belmont Row, Birmingham, B4 7RJ	Birmingham City Council 2013/08194/PA

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Regional area	Type of development	Location	Local planning authority and/or reference
	Mixed use development	Unit 3, 80 Dollman Street, Nechells, Birmingham	Birmingham City Council 2013/07916/PA
	Data centre development	Palmer Street/Great Barr Street, Digbeth, Birmingham, B9 4AY	Birmingham City Council 2013/09236/PA
	Mixed use development	Land bounded by Lawley Middleway, Curzon Street, Pitt Street and Digbeth Branch Canal, Eastside, Birmingham	Birmingham City Council 2013/09485/PA
	Industrial development	Land at Watery Lane/Boulton Street Bordesley, Birmingham	Birmingham City Council 2013/09280/PA
	Residential development	Hayes House, 28-34 Albert Street, B4 7UD	Birmingham City Council 2013/08662/PA
	Mixed use development	123-134 Digbeth, 91-93 Alison Street and Land off Orwell Passage, Digbeth	Birmingham City Council 2014/00322/PA Related applications: 2009/00295/PA 2012/02104/PA 2013/04135/PA
	Mixed use development	Masshouse Plot 3, Masshouse Plaza, B5	Birmingham City Council 2014/02950/PA
	Commercial development	Mercedes-Benz Birmingham Central, Lawley Middleway, Bordesley, B1 7XH	Birmingham City Council 2014/02812/PA
	Commercial refurbishment	111 Fazeley Street, B5 5RR	Birmingham City Council 2014/02719/PA
	Commercial use	22-42 Washwood Heath Road, Unit 1, B8 1RB	Birmingham City Council 2014/02774/PA
	Recreational development	The Torque Project, Park Street, Birmingham, B5 5JD	Birmingham City Council 2014/03401/PA
	Commercial use	280 Watery Lane Middleway, Bordesley, Birmingham B9 4HF	Birmingham City Council 2014/08385/PA
	Educational development	Hillgate House, KoolKidz, 39-41 Washwood Heath Road, Saltley, Birmingham, B8 1RS	Birmingham City Council 2014/06599/PA

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Regional area	Type of development	Location	Local planning authority and/or reference
	Road works	Land at Cardigan Street/Belmont Row/Gospel Street, Birmingham, B4 7RJ	Birmingham City Council 2014/05637/PA
	Healthcare development	Heartlands Parkway, A47, Birmingham, B7 5AH	Birmingham City Council 2014/05334/PA
	Commercial development extension	28-35 Bordesley Street, Digbeth City Centre, Birmingham, B5 5BL	Birmingham City Council 2014/03647/PA
	Musical training centre development	Land at Jennens Road, Adjacent Millennium Point, Birmingham	Birmingham City Council 2014/08615/PA
	Residential development	296 Washwood Heath Road, Saltley, Birmingham, B8 2UL	Birmingham City Council 2014/08699/PA

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