

Lower Thames Crossing  
**Preliminary Environmental  
Information Report**  
Appendices

# Lower Thames Crossing

## Preliminary Environmental Information Report

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# Appendices

## Chapter 6.

### Air Quality

# CHAPTER 6: AIR QUALITY

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## Appendix A

### A.1 Air quality monitoring data

Table A.1 Local authority nitrogen dioxide diffusion tube monitoring and results for 2016

Site ID	Site description	Site type	Local authority	X OS grid ref	Y OS grid ref	2016 Annual mean NO2 (µg/m3)	2016 DC (%)
AS14	Nutley Close	Roadside	Ashford	601460	143509	23.8	83
AS15	Lees Road	(Other) Motorway	Ashford	603393	142073	32.8	100
AS18	Hill View nursing home, Canterbury Road	Suburban	Ashford	601321	143568	27.4	100
AS41	408 Hythe Road	Suburban	Ashford	603160	141971	21.6	100
AS44	Dovecote House, 73 The Street, Willesborough	Urban Background	Ashford	603800	141792	21.6	100
BAS 1	Pound Lane, Laindon A127	Roadside	Basildon	568654	189997	28.9	100
BAS 2	High Road North, Laindon	Roadside	Basildon	568115	190062	27.6	100
BAS 3	Honiley Avenue A127	Roadside	Basildon	575204	190963	35	100
BAS 6	The Meads, Pitsea A13	Roadside	Basildon	573194	187531	29.6	100
BAS 7	52 Merricks Lane, Pitsea A13	Facade	Basildon	572173	186916	29.8	100
BRW5	Telegraph pole at end of Brook Street	Urban Background	Brentwood	556887	192412	<b>45.9</b>	100
BRW6	Freeway Cottage, 63 Brook Street	Roadside	Brentwood	557014	192493	39.3	100
BRW7	13 Nags Head Lane - on fence trellis	Roadside	Brentwood	557118	191978	26.6	92
BRW16	24 Wingrove Crescent - rear boundary fence	Urban Background	Brentwood	557379	192900	29.1	100

Site ID	Site description	Site type	Local authority	X OS grid ref	Y OS grid ref	2016 Annual mean NO2 (µg/m3)	2016 DC (%)
BRW17	51 Spital Lane - side garden	Roadside	Brentwood	557632	193151	30.3	91.6
BRW18	46 Selwood Road - rear garden tree stump	Urban Background	Brentwood	557826	193333	25.4	100
BRW19	61 Warescot Road - front facade	Roadside	Brentwood	558769	194873	29.6	100
BRW20	76 Warescot Road - lamp-post	kerbside	Brentwood	558818	194913	39	100
BRW21	316 Ongar Road - side gatepost	Roadside	Brentwood	558681	194799	26.5	92
BRW22	339 Ongar Road - front facade	Roadside	Brentwood	558683	194894	35.1	100
BRW23	12 Hurstwood Avenue - front facade	Roadside	Brentwood	558742	194928	38.9	100
BRW25	65 Greenshaw - lamp-post	Urban Background	Brentwood	558482	194547	30.8	92
BRW26	289 Chelmsford Road - telegraph pole	Roadside	Brentwood	562278	196649	29.9	100
BRW28	Ingatestone Junior School, The Furlongs - playground pergola	Urban Background	Brentwood	564446	199509	25.5	92
BRW29	1 Trimble Close - lamp-post	Roadside	Brentwood	564617	199849	27.5	100
BRW30	8 Trimble Close - rear facade	Roadside	Brentwood	564654	199898	32.4	100
BRW31	New Road, Ingatestone - telegraph pole	Roadside	Brentwood	565186	200071	27.3	100
BRW32	The Poplars, Brook Street	Urban Background	Brentwood	556964	192288	33	100
BRW33	108 Dodinghurst Road - front facade	Urban Background	Brentwood	559139	195012	26	100
BRW34	La Clarentet, Talbrook - carport	Roadside	Brentwood	557719	193226	28.7	100
BRW37	Vicinity of A12 - railings at Hurstwood Avenue	Roadside	Brentwood	558800	194947	<b>86.1</b>	100
BRW38	58 Roman Road	Roadside	Brentwood	563659	198314	21.2	100

Site ID	Site description	Site type	Local authority	X OS grid ref	Y OS grid ref	2016 Annual mean NO2 (µg/m3)	2016 DC (%)
BRW39	Thorndon Avenue/A127	Roadside	Brentwood	562412	189153	38.3	100
CP13	No.646 High Rd.	Urban Background	Castle Point	576892	188395	24.1	100
CP14	2 Sadlers Villas, Clare Rd	Roadside	Castle Point	576379	188464	31	100
CP15	Tarpots	Roadside	Castle Point	576923	188481	<b>41.2</b>	83
CP28	2 Kingsley Lane	Urban Background	Castle Point	580091	189559	28.4	100
CP29	Cycle Sign	Kerbside	Castle Point	580120	189646	32.8	92
CP30	35 Rayleigh Rd.	Roadside	Castle Point	579695	189698	30.7	92
CP31	No.17 Rivenhall	Urban Background	Castle Point	579641	189684	22	100
CP32	The Smithy	Roadside	Castle Point	578346	190590	24.3	100
CP33	339 London Rd.	Urban Background	Castle Point	577852	188357	24	100
CP34	CPBC Offices	Roadside	Castle Point	579253	187887	34.1	100
CB27	Howe Green Interchange	Roadside	Chelmsford	574080	203469	35	92
DA10	DA 10 London Road	Roadside	Dartford	559189	174872	38.7	100
DA14	DA 14 Bow Arrow Lane	Industrial	Dartford	555484	174441	<b>56.1</b>	100
DA20	DA20 Elliot Road	Roadside	Dartford	555660	174863	<b>46</b>	100
DA21	DA21 Brentfield Road	Roadside	Dartford	555497	174025	36.1	100
DA22	DA22 Brent Way	Roadside	Dartford	555600	174030	<b>53</b>	100
DA24	DA24 Wayville Rd	Roadside	Dartford	555632	173558	38.6	100

Site ID	Site description	Site type	Local authority	X OS grid ref	Y OS grid ref	2016 Annual mean NO2 (µg/m3)	2016 DC (%)
DA25	DA25 Queens Gardens	Background	Dartford	555801	173194	37.1	100
DA34	DA34 The Brent II	Roadside	Dartford	555373	173763	<b>44.6</b>	100
DA38	DA38 London Road 3	Roadside	Dartford	558331	174596	39.9	100
DA39	DA39 Park Road	Roadside	Dartford	555129	173802	<b>41</b>	100
DA43	DA43 Overy Liberty	Roadside	Dartford	554580	173992	<b>58.2</b>	92
DA44	DA44 Brent Close	Roadside	Dartford	555656	174053	39.9	92
DA48	DA48 Hawley Road	Roadside	Dartford	555297	171327	38.7	100
DA49	DA49 St Albans Road	Roadside	Dartford	554902	173893	39.9	100
DA50	DA50 A2/Bridge	Roadside	Dartford	553783	172319	<b>47.6</b>	100
DA60	DA60 Burnham Road II	Roadside	Dartford	553895	174678	37.2	92
DA62	DA62 The Brent/London Rd	Roadside	Dartford	555796	173902	<b>44</b>	100
DA63	DA63 Churchill Close	Background	Dartford	555612	173210	34.4	100
DA67	DA67 Hill Rise	Roadside	Dartford	556900	171294	29	75
DA70	DA70 Hope Cottages	Roadside	Dartford	558687	172610	38.1	100
DA72	DA72 (A,B,C) Little Dale	Roadside	Dartford	556433	172124	<b>41.8</b>	100
DA75	DA75 Ightham Cottages 2	Roadside	Dartford	558593	172815	<b>44.5</b>	75
DA78	Burnham Road 3	Roadside	Dartford	553686	174905	37.7	100
DA81	Green Street	Roadside	Dartford	556368	172344	36.9	42
DA83	Byron Road	Background	Dartford	555617	175330	33.4	100
DA84	Brent Way 2	Roadside	Dartford	555574	174068	<b>51.2</b>	92
DA85	Mount Pleasant Road	Roadside	Dartford	554556	174034	31.6	92

Site ID	Site description	Site type	Local authority	X OS grid ref	Y OS grid ref	2016 Annual mean NO2 (µg/m3)	2016 DC (%)
DA86	Brent Close 2	Roadside	Dartford	555776	174053	35.8	100
DA87	No2 Ightham Cottages or Ightham Cottages (House)	Roadside	Dartford	558617	172779	<b>40.2</b>	100
DA89	Garden Place	Roadside	Dartford	553793	172261	32.2	92
DA90	Gothic Close	Roadside	Dartford	553957	172275	35.2	100
DA92	Pilgrims Road/London Road	Roadside	Dartford	560534	174877	<b>44.3</b>	100
DA94	Green Street Green Road (Park New)	Roadside	Dartford	556359	172374	36.6	42
DA96	The Bridge (Marsh Street)	Roadside	Dartford	555117	175718	<b>46.9</b>	100
3	Bell Vue	Roadside	Epping Forest	544928	201281	<b>46</b>	100
6	Canes Cottage	Urban Background	Epping Forest	547838	206819	26	100
16	13 The Elms	Urban Background	Epping Forest	541308	200037	34	100
17	15 The Elms	Urban Background	Epping Forest	541320	200020	31	100
22	Lodge Lane	Roadside	Epping Forest	538710	199860	35	100
23	Roundhills	Urban Background	Epping Forest	538954	199973	30	100
HAV47	Campion School	Roadside	Havering	554730	189487	<b>46.5</b>	100
HM60	Bell Lane London Colney (1 Council Cottages)	Roadside	Hertsmere	518585	202938	30.7	100
HM61	31 Blanche Lane South Mimms	Motorway	Hertsmere	522037	200670	<b>46.4</b>	100
HM63	27 Dove Lane Potters Bar	Motorway	Hertsmere	526078	200026	37.8	100
HM86	Charleston Paddocks South Mimms	Motorway	Hertsmere	522970	199958	<b>49.4</b>	83

Site ID	Site description	Site type	Local authority	X OS grid ref	Y OS grid ref	2016 Annual mean NO2 (µg/m3)	2016 DC (%)
HM111	9 Blanche Lane 1, South Mimms	Roadside	Hertsmere	521980	200567	28	100
Maid 03	Bridge Gytratory (Fairmeadow AQ Station)	Roadside	Maidstone	575758	155639	<b>44.3</b>	50
Maid 10	Grange Lane South	Motorway	Maidstone	575714	158504	31	100
Maid 11	Boarley Lane	Motorway	Maidstone	575718	158653	24.7	100
Maid 22	A20 London Road	Roadside	Maidstone	574109	156930	28.6	100
Maid 26	Drakes PH	Roadside	Maidstone	575782	155678	31	92
Maid 27	High Street (JPs Bar)	Roadside	Maidstone	575970	155688	36.4	92
Maid 36	37 High Street	Roadside	Maidstone	575865	155640	<b>40.7</b>	83
Maid 63	Facade 8 Harbourland Cottages	Roadside	Maidstone	577037	157739	34.9	92
Maid 71	Flowerpot PH, Sandling Road	Roadside	Maidstone	575738	156711	30.1	83
Maid 75	1 The Hampshires	Roadside	Maidstone	586308	152577	27.1	100
Maid 88	42 Downs View Road, Maidstone	Suburban	Maidstone	576596	157921	23	100
Maid 90	Pudding Lane, Medway Street, Maidstone	Kerbside	Maidstone	575918	155753	32.8	92
Maid 99	On metal post on left-hand side of road bridge which crosses M2 approached from south (Bredhurst). Triplicate site	Roadside	Maidstone	579258	162300	<b>41.7</b>	92
Maid 100	On wooden fence post adjacent to left hand side of M2 bridge by Bellvue residence at Westfield Sole	Roadside	Maidstone	577266	161515	<b>48.4</b>	50
Maid 101	On green fence post by sign for Kent Medical Campus development, accessed by Private Road for Newnham Court (Close to M20)	Other	Maidstone	578049	157248	33.1	92

Site ID	Site description	Site type	Local authority	X OS grid ref	Y OS grid ref	2016 Annual mean NO2 (µg/m3)	2016 DC (%)
Maid 102	On fence near public toilets as you enter EDF substation car park	Other	Maidstone	575753	155615	30.1	92
Maid 105	On wooden fence post down the slope towards Harp Farm Rd on right hand side of M2 bridge at Westfield Sole	Other	Maidstone	577289	161502	24.7	42
Maid 109	Cookes Cottages, Grane Lane, Boxley, Kent. ME14 3BX.	Other	Maidstone	576476	158231	17.5	33
Maid 110	Tonbridge Road (on lamp post near No 3)	Roadside	Maidstone	575540	155435	29	25
NAS7	86 Spire Way, Wainscott	Roadside	Medway	574999	170882	23.4	92
NAS9	1 Omaha Place, Wainscott	Roadside	Medway	575044	171351	27	100
DT12	Station Road (M25) Brasted	Roadside	Sevenoaks	546815	155850	<b>43.1</b>	83
DT13	Wested Lane, Swanley	Roadside	Sevenoaks	552504	167700	36.5	100
DT14	Ward Terrace, Button St Swanley	Roadside	Sevenoaks	553107	167868	32.6	100
DT26	Farningham Hill (A20)	Roadside	Sevenoaks	554217	167252	<b>45.8</b>	100
DT81	Farningham Hill Road, Swanley	Urban	Sevenoaks	553416	167615	32.9	100
TD31	Water Lane, Limpsfield	Roadside	Tandridge	540258	153783	22.1	100
TN5a	131 Hall Road, Aylesford	Roadside	Tonbridge and Malling	572611	158545	35.5	92
TN7a	15 Cygnet Close, Larkfield	Roadside	Tonbridge and Malling	570391	159032	38	92
TN12a	The Sycamores, London Road, Addington	Roadside	Tonbridge and Malling	572628	158566	38.1	100

Site ID	Site description	Site type	Local authority	X OS grid ref	Y OS grid ref	2016 Annual mean NO2 (µg/m3)	2016 DC (%)
TN29	Station Road, Aylesford	Roadside	Tonbridge and Malling	571607	158715	28	100
TN30	Teapot Lane, Aylesford	Roadside	Tonbridge and Malling	572035	158573	29.7	100
TN56	8c Pump Close, Leybourne	Roadside	Tonbridge and Malling	568714	158301	20.1	100
TN57, TN58, TN59	743 London Road, Larkfield	Roadside	Tonbridge and Malling	570467	158328	33.7	100
TN80a	220 Station Road, Aylesford	Roadside	Tonbridge and Malling	572124	158627	35	92
TN81	346 New Hythe Lane	Roadside	Tonbridge and Malling	570563	159463	30.7	92
TN82	345 New Hythe Lane	Roadside	Tonbridge and Malling	570549	159480	24	92
TN83	424 New Hythe Lane	Roadside	Tonbridge and Malling	570740	159667	35.8	100
TN84	389 New Hythe Lane	Roadside	Tonbridge and Malling	570715	159668	30.2	92
TN99	425 New Hythe Lane	Roadside	Tonbridge and Malling	570740	159667	35.8	100
TN100	351 Hermitage Lane	Roadside	Tonbridge and Malling	572976	157726	22.9	100
DF7, DF8, DF9	London Road (by Wealden Hall), Larkfield Bus stop (W-bound)	Roadside	Tonbridge and Malling	570386	158311	<b>41.8</b>	92



Site ID	Site description	Site type	Local authority	X OS grid ref	Y OS grid ref	2016 Annual mean NO2 (µg/m3)	2016 DC (%)
NAS2	A1306 (R)	Roadside	Thurrock	559720	179630	56	100
NAS3	Chestnut Avenue Grays (UB)	Urban Background	Thurrock	561830	179878	22	100
CR	Cromwell Road Grays (I)	Industrial	Thurrock	561572	178154	32.6	100
GDSO	Gatehope Drive (UB)	Urban Background	Thurrock	557595	181060	28.9	100
HR	Howard Road (R)	Roadside	Thurrock	559118	179462	31.5	100
IBIS	Ibis Hotel (UB)	Urban Background	Thurrock	557570	177789	49.1	100
JC	Jarrah Cottages (R)	Roadside	Thurrock	556701	177937	48.6	100
KCNO	Kemps Cottage (UB)	Urban Background	Thurrock	558148	183532	32.8	83
LT	Lakeside Tesco Roundabout (R)	Roadside	Thurrock	557981	178700	53.7	92
LRAR	London Road Arterial Road (R)	Roadside	Thurrock	555301	179438	62.5	100
LRG	London Road Grays (R)	Roadside	Thurrock	560624	177811	38.9	100
LRSS	London Road South Stifford (R)	Roadside	Thurrock	559785	177910	39.6	100
WT	London Road W Thurrock (R)	Roadside	Thurrock	558483	177678	41.1	100
PKSL	Park Road (R)	Roadside	Thurrock	567781	182400	29	100
PS	Poison Store AURN Site (UB)	Urban Background	Thurrock	561066	177894	25.7	100
PRS	Purfleet Rail Station (R)	Roadside	Thurrock	555389	178145	35	100
NAS1	Queensgate Centre Grays (R)	Roadside	Thurrock	561469	178063	33.5	100
WC	Watts Crescent (R)	Roadside	Thurrock	556314	178765	50.2	92

Site ID	Site description	Site type	Local authority	X OS grid ref	Y OS grid ref	2016 Annual mean NO2 (µg/m3)	2016 DC (%)
WES	William Edwards School (R)	Roadside	Thurrock	561958	180967	31.8	100
FRC	Francisco Close (Chafford Hundred) (I)	Industrial	Thurrock	559136	179084	33.2	100
PBP	Purfleet Bypass	Roadside	Thurrock	556257	178438	37.8	92
LYD	Lydden	Urban Background	Thurrock	560057	179873	30.8	100
DR	Devonshire Road	Roadside	Thurrock	560279	178944	30.1	100
LRARN	London Road Art Road (North)	Roadside	Thurrock	555286	179501	32	100
LRARS	London Road Art Road (South)	Roadside	Thurrock	555357	179362	31.1	100
LRARM N	London Road Art Road (Mid-North)	Roadside	Thurrock	555299	179453	<b>45.6</b>	100
LRARM S	London Road Art Road (Mid-South)	Roadside	Thurrock	555329	179397	<b>43.6</b>	100
PBPA	Purfleet Bypass	Roadside	Thurrock	556221	178461	34.7	100
GR08	Painters Ash School Northfleet, Northfleet	Roadside	Gravesham	562589	172076	30.6	100
GR69	Golf Driving Range, Thong Lane, Gravesend	Urban Background	Gravesham	567270	171925	20.3	100
GR92	1 Hall Road, Northfleet, Kent, DA11 8AW	Roadside	Gravesham	562323	172589	38	100
GR104	8 Roman Road (Downpipe), Northfleet	Roadside	Gravesham	562465	172153	34.4	100
GR110	Nells Café, Valley Drive, Gravesend	Roadside	Gravesham	566149	170436	34.5	100
GR107	46 Pepper Hill (Façade), Northfleet	Roadside	Gravesham	562272	172281	36.9	100
GR116	Saxon Close, Northfleet, Lamp post opposite No.38.	Roadside	Gravesham	562480	172225	34.7	100
GR117	Bembridge (façade), Watling Street	Background	Gravesham	564638	171130	23.3	100

Site ID	Site description	Site type	Local authority	X OS grid ref	Y OS grid ref	2016 Annual mean NO2 (µg/m3)	2016 DC (%)
UT008	Hallingbury	Roadside	Uttlesford	551189	217438	29.9	92
HAR16	Chalk Lane	Rural	Harlow	549466	211599	20.4	100
RO011	Rayleigh Weir	Roadside	Rochford	580233	189766	36.5	100
SOU24	Eastern Avenue	Roadside	Southend-on-Sea	588339	187425	33	100
SOU28	Prince Avenue 2	Roadside	Southend-on-Sea	584932	188249	31.9	100
SOU29	Abbotts Close	Roadside	Southend-on-Sea	584141	188238	23	100
SOU32	Victoria Avenue 2	Roadside	Southend-on-Sea	587393	187577	27.1	100
SOU33	Prince Avenue 1A	Roadside	Southend-on-Sea	586954	187841	<b>49.2</b>	100
KE1	Library, 1 Rayleigh Road, Leigh	Roadside	Southend-on-Sea	584843	188299	27.7	83
KE2	Health Centre, 1 Rayleigh Road, Leigh	Roadside	Southend-on-Sea	584834	188272	31	100
KE3	55 Broomfield Ave, Leigh	Roadside	Southend-on-Sea	584786	188183	23.6	100
KE4	332 Bridgewater Drive	Roadside	Southend-on-Sea	584864	188229	33.4	83
KE6	327 Bridgewater	Roadside	Southend-on-Sea	584903	188231	30.4	100
KE7	685 Prince Ave, Westcliff	Roadside	Southend-on-Sea	584952	188293	<b>41.5</b>	100

Site ID	Site description	Site type	Local authority	X OS grid ref	Y OS grid ref	2016 Annual mean NO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )	2016 DC (%)
KE8	Essex Auto Group Kent Elms Corner	Roadside	Southend-on-Sea	584892	188301	29.8	100

DC = Annual data capture (ie, proportion of year with data)  
Exceedances of Annual Mean NO<sub>2</sub> AQS objective (40  $\mu\text{g}/\text{m}^3$ ) in bold

**Table A.2 Highways England nitrogen dioxide diffusion tube monitoring and annualised results for 2016**

Site ID	X OS grid ref	Y OS grid Ref	Site description	Site type	2016 annualised NO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )	DC (%)
A2BN_001_0913	555592	173376	M25 J18/Oakwood Close	Roadside	53	92
A2BN_002_0913	555824	173363	M25/A296/J18	Roadside	<b>46.9</b>	100
A2BN_003_0913	556462	172137	Littledale (Off B260)	Roadside	<b>41.5</b>	100
A2BN_006_0913	558670	172652	B255/Bean Ln	Roadside	<b>44.6</b>	100
A2BN_008_0913	558425	174632	London Rd	Roadside	<b>42.9</b>	100
A2BN_009_0913	558468	174671	A206 Roundabout/London Rd	Roadside	<b>51</b>	100
A2BN_010_0913	556832	171333	Green Street Green Rd	Roadside	28.4	83
A2BN_012_0913	562219	172312	Pepper Hill	Roadside	<b>40.6</b>	100
A2BN_013_0913	562501	172126	Roman Rd / Painters Ash Lane	Roadside	36.1	100
A2BN_014_0913	562340	172686	Springhead Rd	Roadside	<b>42.7</b>	92
A2BN_015_0913	559260	171843	Southfleet Rd (B225)	Roadside	26.9	92
A2BN_017_0913	564633	170962	4m	Roadside	<b>40.4</b>	83
A2BN_018_0913	564633	170962	10m	Roadside	39	83

Site ID	X OS grid ref	Y OS grid Ref	Site description	Site type	2016 annualised NO <sub>2</sub> (µg/m <sup>3</sup> )	DC (%)
M20J3J5_001_0813	576961	157788	Harbourland Close	Roadside	36.9	92
M20J3J5_002_0813	576865	157737	Boxley Close	Roadside	30.9	100
M20J3J5_003_0813	576533	157935	Brookbank	Roadside	22.2	83
M20J3J5_004_0813	575692	158506	Grange Lane	Roadside	30.4	100
M20J3J5_005_0813	575706	158608	Boarley Lane	Roadside	26.7	83
M20J3J5_006_0813	575394	158793	Chatham Road	Roadside	34.3	100
M20J3J5_007_0813	575261	159440	Tolgate Road	Roadside	26.6	100
M20J3J5_008_0813	575489	157943	Castle Dene	Roadside	27.7	83
M20J3J5_010_0813	573173	158003	East Park Road	Roadside	24.7	92
M20J3J5_011_0813	573816	157257	Lamberhurst Road	Roadside	25.4	100
M20J3J5_012_0813	572627	158548	Hall Road North	Roadside	<b>41.3</b>	100
M20J3J5_013_0813	572590	158455	Hall Road South	Roadside	39	92
M20J3J5_014_0813	571802	158656	Trewin Close	Roadside	26.9	100
M20J3J5_015_0813	571659	158689	Station Road	Roadside	33.4	100
M20J3J5_016_0813	572164	158647	Station Road	Roadside	39.9	100
M20J3J5_017_0813	570824	158811	Bell Lane	Roadside	26.6	83
M20J3J5_018_0813	570368	159030	New Hythe Lane East	Roadside	<b>42</b>	75
M20J3J5_019_0813	570345	158965	New Hythe Lane West	Roadside	38.2	83
M20J3J5_020_0813	569957	159162	Thackeray Road	Roadside	<b>41</b>	92
M20J3J5_021_0813	569601	159124	Willow Road	Roadside	22.2	75
M20J3J5_022_0813	568949	159224	Park Road	Roadside	20.5	100

Site ID	X OS grid ref	Y OS grid Ref	Site description	Site type	2016 annualised NO <sub>2</sub> (µg/m <sup>3</sup> )	DC (%)
M20J3J5_023_0813	568850	158768	Castle Way	Roadside	25.2	100
M20J3J5_024_0813	569784	160569	Malling Road	Roadside	33.6	100
M20J3J5_025_0813	566751	159298	Roughetts Road South	Roadside	25.7	92
M20J3J5_026_0813	566593	159445	Roughetts Road North	Roadside	31.4	100
M20J3J5_027_0813	563560	158670	Ford Lane	Roadside	27.5	100
M20J3J5_028_0813	562774	158608	South of M20 London Road East	Roadside	39.8	100
M20J3J5_029_0813	562098	159049	South of M20 London Road West	Roadside	39.6	100
M20J3J5_030_0813	561316	159550	North of M20 London Road East	Roadside	36.2	100
M20J3J5_031_0813	560768	159699	Old Road	Roadside	21.9	100
M20J3J5_032_0813	560357	159945	Old Coach Road	Roadside	26	92
M20J3J5_033_0813	568642	158384	Pump Close	Roadside	21.5	100
M20J3J5_036_0813	575755	155645	Continuous Analyser Fairmeadow	Collocation	<b>40</b>	100
M20J3J5_037_0813	576193	158358	M20 Junction 7	Roadside	<b>49.9</b>	100
M25J30_002_0913	557611	181061	Gatehope Drive	Roadside	33.5	92
M25J30_005_0913	560046	179881	Clockhouse Ln	Kerbside	38.3	100
M25J30_006_0913	560604	180391	High Rd Jnc with Cuckoo Ln	Roadside	<b>41.1</b>	92
M25J30_007_0913	561036	180530	Stiffords Clays Rd	Roadside	34.4	100
M25J30_008_0913	559554	179546	Grifon Rd	Roadside	35.8	100
M25J30_009_0913	560347	179782	Arterial Rd	Roadside	<b>52.2</b>	92
M25J30_010_0913	561642	179407	Lodge Ln	Roadside	37.1	100
M25J30_013_0913	556794	178688	Gabion Ave/Bailey Cl	Roadside	31.7	100

Site ID	X OS grid ref	Y OS grid Ref	Site description	Site type	2016 annualised NO <sub>2</sub> (µg/m <sup>3</sup> )	DC (%)
M25J30_014_0913	559011	178966	Fleming Rd	Roadside	48.4	83
M25J30_015_0913	555643	174871	Masefield Rd	Roadside	41.7	100
M25J30_016_0913	555493	174441	Bow Arrow Ln (E)	Roadside	60	100
M25J30_017_0913	555432	174454	Bow Arrow Ln (W)	Roadside	45.4	100
A2EBB_002_0913	564235	171457	Wrotham Rd	Roadside	37.5	100
A2EBB_003_0913	564009	170312	Wrotham Rd (A227)	Roadside	29.9	100
A2EBB_004_0913	564233	171600	Wrotham Rd (nr Chalky Bank)	Roadside	36.9	92
A2EBB_010_0913	564788	171048	Watling St	Roadside	27.6	83
A2EBB_011_0913	565347	170778	Church Rd/Hever Court Rd	Roadside	31.1	100
A2EBB_013_0913	566125	170465	A2 Footpath nr Franklin Rd	Roadside	41.5	100
A2EBB_014_0913	566150	170290	Henhurst Rd	Roadside	24.9	100
A2EBB_015_0913	570584	169550	Old Watling St	Roadside	31.6	92
A2EBB_016_0913	570726	169411	Squires Cl	Roadside	33.8	92
A2EBB_017_0913	561290	171720	Dale Rd	Roadside	20.3	100
A2EBB_018_0913	561336	171966	Station Rd	Roadside	28.4	100
A12Chel_009_0116	574081	203468	Southend Rd	Roadside	37.8	50
A12Chel_010_0116	573232	202621	W Hanningfield Rd	Roadside	21.5	50
A12Chel_012_0116	570480	201746	Stock Rd	Roadside	27.3	50
A12Chel_016_0116	566809	202152	Writtle Rd, Margaretting	Roadside	27.2	50
A12Chel_017_0116	566776	201944	Pennys Lane Margaretting	Roadside	21	50
A12Chel_018_0116	564529	199891	Fryerning Lane, Ingatestone	Roadside	20.6	50

Site ID	X OS grid ref	Y OS grid Ref	Site description	Site type	2016 annualised NO <sub>2</sub> (µg/m <sup>3</sup> )	DC (%)
A12Chel_019_0116	565191	200077	New Rd, Ingatestone	Roadside	32.4	50
A12Chel_020_0116	563758	198337	Corner of Burnthouse Lane	Roadside	34	42
A12Chel_021_0116	563260	197561	Church Rd, Mountnessing	Roadside	30.2	50
A12Chel_022_0116	562596	196918	Close off Roman Rd, Mountnessing	Roadside	24.1	42
A12Chel_024_0116	558695	194891	Hurstwood Ave, Pilgrims Hatch	Roadside	<b>42.3</b>	42
M25J28I_001_0116	557030	192496	Brook Street	Roadside	<b>59.1</b>	50
M25J28I_003_0116	557043	191854	Nags Head Lane	Roadside	28.4	50
M25J28I_004_0116	557162	191987	Nags Head Lane	Roadside	28.7	50
M25J28I_008_0116	555057	194239	Wrightsbridge Road	Roadside	19.1	50
M25J28I_017_0116	557313	190348	Warley Rd	Roadside	36.4	42
M25J28I_019_0116	557744	190009	Beredens Lane	Roadside	25.3	50
M25J28I_021_0116	557693	193181	Talbrook	Roadside	30.2	50
M25J28I_022_0116	556933	192382	Brook Street	Roadside	<b>46.2</b>	50
M25J28I_023_0116	557416	192880	Wingrave Court	Roadside	31.2	42
M25J25Im_001_0116	534905	199938	Great Cambridge Road	Roadside	<b>50.2</b>	50
M25J25Im_003_0116	535116	199938	Bullsmoor Way	Roadside	35.6	42
M25J25Im_004_0116	535289	199963	Bullsmoor Way	Roadside	35.3	25
M25J25Im_005_0116	535361	199968	Holmesdale	Roadside	33.6	50
M25J25Im_006_0116	535642	200004	Holmesdale	Roadside	26	50
M25J25Im_007_0116	536049	199941	High Street	Roadside	36.7	50
M25J25Im_009_0116	535488	199863	Bullsmoor Lane	Roadside	<b>42.8</b>	50



Site ID	X OS grid ref	Y OS grid Ref	Site description	Site type	2016 annualised NO <sub>2</sub> (µg/m <sup>3</sup> )	DC (%)
M25J25Im_013_0116	536204	200037	Arlington Crescent	Roadside	<b>44.5</b>	50
M25J25Im_014_0116	535431	200090	Teresa Gardens	Roadside	29.4	50
M25J25Im_015_0116	535652	200176	Hurst Drive	Roadside	26.5	50
M25J25Im_023_0116	534883	199859	Great Cambridge Road	Roadside	<b>70.7</b>	50
M2J5_003_1215	581274	163419	Burnham Walk, ME8 8SH, LP SAQ12	Roadside	21.7	50
M2J5_004_1215	586086	162142	Oad Street ME9 8JX/at fencepost immediately after flyover	Roadside	26.4	50
M2J5_005_1215	587469	161377	Vigo Lane ME9 8BE/On footpath sign on north side of flyover	Roadside	18.3	42
M2J5_012_1215	588313	160896	End of Rookery Close ME9 8ED/on fencepost at end of Close southside	Roadside	19.8	50
M2J5_013_1215	583119	163599	Windmill Farm, Yaugher Lane (on bridge over M2) ME9 7XE, TP 138, opposite Oak Born Farm	Roadside	22.8	50
M2J5_015_1215	580522	163095	Deanwood Drive at the back of 17 Sedley Close ME8 9QY, LP DAJ23	Roadside	29.2	50
M2J5_016_1215	580022	163054	Wigmore Road, near roundabout with Maidstone Road ME8 0LU/On Metal pole opposite Wigmore Road (by fir tree)	Roadside	34.7	50
J23-27_001_0117	526079	200026	Dove Lane, Potters Bar	Roadside	<b>43.5</b>	100
J23-27_002_0117	535297	199994	Bullsmoor Way, Waltham Cross	Roadside	<b>43.4</b>	100
J23-27_003_0117	535431	200090	Theresa Gardens, Waltham Cross	Roadside	38.1	75

Site ID	X OS grid ref	Y OS grid Ref	Site description	Site type	2016 annualised NO <sub>2</sub> (µg/m <sup>3</sup> )	DC (%)
J23-27_004_0117	535640	200000	Holmesdale, Waltham Cross	Roadside	34.8	100
J23-27_005_0117	536204	200038	Arlington Crescent, Waltham Cross	Roadside	<b>54.6</b>	92
J23-27_006_0117	538709	199859	Lodge Lane, Waltham Abbey	Roadside	38.5	92
J23-27_007_0117	538923	199797	Lodge Lane, Waltham Abbey	Roadside	38.1	100
J23-27_008_0117	538890	199737	Beechfield Walk, Waltham Abbey	Roadside	35.4	100
J23-27_010_0117	545267	200963	Ivy Chimneys Rd, Epping	Roadside	<b>43.2</b>	100
J23-27_011_0117	545028	200951	Theydon Rd, Epping	Roadside	<b>43.1</b>	92
Dartford_001_0117	555664	174865	Eliot Road, Dartford	Roadside	<b>44</b>	100
Dartford_002_0117	555503	174707	Attlee Dr, Dartford	Roadside	<b>44.1</b>	100
Dartford_003_0117	555432	174454	Bow Arrow Ln, Dartford	Roadside	<b>43.7</b>	100
Dartford_004_0117	555464	174128	Finchley Cl, Dartford	Roadside	39.3	100
Dartford_005_0117	555632	173523	Wayville Rd, Dartford	Roadside	<b>41.7</b>	100
Dartford_006_0117	555600	173234	Churchill Cl, Dartford	Roadside	35.9	100
Dartford_008_0117	555802	173131	Queens Gardens, Dartford	Roadside	<b>40.8</b>	100
Dartford_009_0117	555864	173365	Princes Rd, Dartford	Roadside	<b>50.8</b>	100
Dartford_010_0117	555740	173678	Watling St, Dartford	Roadside	<b>55.2</b>	92
Dartford_012_0117	555519	174208	Osbourne Rd, Dartford	Roadside	<b>54.2</b>	100
Dartford_013_0117	555490	174439	Bow Arrow Ln, Dartford	Roadside	<b>60.9</b>	83
Dartford_015_0117	555648	175239	Cavell Crescent, Dartford	Roadside	33.3	92

Site ID	X OS grid ref	Y OS grid Ref	Site description	Site type	2016 annualised NO <sub>2</sub> (µg/m <sup>3</sup> )	DC (%)
Dartford_016_0117	558465	174671	Station Rd, Greenhithe	Roadside (Triplicate co-location)	<b>52.9</b>	83
Dartford_016_0117						
Dartford_018_0117						

DC = Data capture (ie, proportion of a full year with data)

Exceedances of Annual Mean NO<sub>2</sub> AQS objective (40 µg/m<sup>3</sup>) in bold

**Table A.3 Lower Thames Crossing nitrogen dioxide diffusion tube monitoring and annualised results for 2016**

Site ID	X OS grid ref	Y OS grid ref	Site type	2016 annualised NO <sub>2</sub> (µg/m <sup>3</sup> )	DC (%)
LTC_ECO_03	567820	173214	Roadside	24.3	58
LTC_ECO_04B	568197	173332	Urban Background	17.3	25
LTC_ECO_05	567357	169801	Roadside	26.8	58
LTC_ECO_06B	570964	168937	Roadside	38.5	33
LTC_ECO_07	570651	166134	Roadside	<b>53.9</b>	42
LTC_ECO_08	574377	162148	Roadside	19.3	58
LTC_ECO_09	574861	160601	Roadside	27.5	50
LTC_ECO_10	543670	154643	Roadside	28.4	58
LTC_ECO_11	568293	169699	Roadside	34.6	58
LTC_ECO_12	574892	161644	Urban Background	22.1	50
LTC_ECO_13	551671	181415	Roadside	<b>40.4</b>	50
LTC_ECO_14	561109	178885	Roadside	37.8	58
LTC_ECO_15	562992	179383	Roadside	34.8	50
LTC_ECO_1b	556414	172363	Urban Background	31.3	42
LTC_ECO_2b	558090	173100	Roadside	28.5	25
LTC01, LTC02, LTC03	556701	177937	Roadside	<b>44.8</b>	58
LTC04	557605	181062	Roadside	31.9	58
LTC05	557825	180612	Roadside	35.4	58
LTC06	561035	180529	Roadside	37.5	58
LTC07	563595	180196	Roadside	32.2	42
LTC08	563928	179673	Roadside	28.6	50

Site ID	X OS grid ref	Y OS grid ref	Site type	2016 annualised NO <sub>2</sub> (µg/m <sup>3</sup> )	DC (%)
LTC09	565297	179009	Roadside	25.9	42
LTC10	564000	178996	Roadside	28.9	58
LTC11	564470	177410	Roadside	33.0	58
LTC12	566744	177639	Rural	22.7	58
LTC13	565602	181268	Roadside	36.0	50
LTC14	565363	182248	Roadside	35.2	58
LTC15	562893	188439	Urban Background	23.6	50
LTC16	562408	189151	Roadside	<b>49.1</b>	58
LTC17	559448	188467	Roadside	36.4	58
LTC18	555245	189075	Roadside	28.9	58
LTC19	557473	192956	Urban Background	32.5	58
LTC20	560391	188790	Roadside	36.5	58
LTC21	569049	190038	Roadside	27.7	50
LTC22	572273	186967	Roadside	33.2	58
LTC23	574048	188044	Roadside	38.1	58
LTC24	576443	188427	Roadside	31.6	58
LTC25	576773	189583	Roadside	27.6	58
LTC26	578405	190585	Roadside	31.4	50
LTC27	577173	190776	Roadside	37.7	58
LTC28	555862	173363	Roadside	<b>43.7</b>	58
LTC29	555588	173351	Roadside	<b>46.2</b>	58
LTC30	555660	174865	Roadside	37.4	58

Site ID	X OS grid ref	Y OS grid ref	Site type	2016 annualised NO <sub>2</sub> (µg/m <sup>3</sup> )	DC (%)
LTC31	555431	174453	Roadside	37.2	58
LTC32	555507	174445	Roadside	<b>46.0</b>	50
LTC33	555264	171394	Roadside	33.0	50
LTC34, LTC35, LTC36	558622	172752	Roadside	<b>52</b>	58
LTC37	558665	172650	Roadside	<b>46.0</b>	58
LTC38	562218	172312	Roadside	38.7	58
LTC39	562431	172158	Roadside	<b>40.0</b>	58
LTC40	566108	170251	Roadside	25.0	42
LTC41	567254	170959	Roadside	17.9	50
LTC42	567151	171231	Roadside	20.5	58
LTC43	566451	173158	Roadside	32.6	58
LTC44	567081	172837	Roadside	32.9	58
LTC45	567755	172769	Roadside	23.6	8
LTC45B	567742	172845	Roadside	29.0	17
LTC45C	567574	172770	Roadside	25.5	17
LTC46	567800	173205	Roadside	23.0	58
LTC47	568787	172044	Roadside	27.5	58
LTC48	569392	171739	Roadside	21.0	50
LTC49	570746	171119	Roadside	30.0	58
LTC50	571202	170765	Roadside	29.7	58
LTC51	570515	169558	Roadside	27.7	33
LTC52	570726	169412	Roadside	38.3	50

Site ID	X OS grid ref	Y OS grid ref	Site type	2016 annualised NO <sub>2</sub> (µg/m <sup>3</sup> )	DC (%)
LTC53	571778	168082	Roadside	33.2	58
LTC54	572672	166727	Roadside	24.8	50
LTC55	572798	166596	Roadside	30.0	58
LTC56	574694	163008	Roadside	36.6	58
LTC57	574549	162467	Roadside	27.5	58
LTC58	574971	162355	Roadside	25.8	58
LTC59	572052	158657	Roadside	<b>41.1</b>	58
LTC60	571806	158643	Roadside	26.2	58
LTC61	570373	159030	Roadside	<b>40.8</b>	50
LTC62	569622	159142	Roadside	24.4	58
LTC63	569967	159184	Urban Background	34.9	50
LTC64	570620	161881	Urban Background	25.7	58
LTC65	570490	165810	Roadside	<b>47.1</b>	50
LTC66	560921	159598	Urban Background	21.3	58
LTC67	561061	158272	Roadside	25.7	58
LTC68	550964	157662	Roadside	36.8	58
LTC70	565342	176481	Roadside	29.9	50
LTC71	564900	176083	Roadside	29.2	42
LTC72	563554	180882	Roadside	37.4	33
LTC73	563571	180771	Roadside	32.4	33
LTC74	563405	181345	Roadside	29.9	33
LTC75	565080	179651	Roadside	35.9	33

Site ID	X OS grid ref	Y OS grid ref	Site type	2016 annualised NO <sub>2</sub> (µg/m <sup>3</sup> )	DC (%)
LTC76	558454	185123	Roadside	36.1	17
LTC77	558321	185101	Roadside	32.0	17

DC = Data capture (ie, proportion of a full year with data)

Exceedances of Annual Mean NO<sub>2</sub> AQS objective (40 µg/m<sup>3</sup>) in bold



## Appendix B

### B.1 Model verification

- B.1.1 The comparison of modelled concentrations with local monitored concentrations is a process termed 'verification'. Model verification identifies any discrepancies between modelled and measured concentrations, which can arise for a range of reasons. The following are examples of potential causes of such discrepancies:
- a. estimates of background pollutant concentrations.
  - b. meteorological data uncertainties.
  - c. traffic data uncertainties.
  - d. emission factor uncertainties.
  - e. model input parameters, such as 'roughness length'.
  - f. overall limitations of the ability of the dispersion model to model dispersion in a complex urban environment.
- B.1.2 The verification process involves a review of the modelled pollutant concentrations against corresponding monitoring data to determine how well the air quality model has performed. Depending on the outcome it may be considered that the model has performed adequately and that there is no need to adjust any of the modelled results.
- B.1.3 Alternatively, the model may perform poorly against the monitoring data (acceptable limits of model verification performance are set out in Defra's LAQM.TG(16)), and as a result there is a need to check all the input data to ensure that it is reasonable and accurately represented in the air quality modelling process. Where all input data, such as traffic data, emissions rates and background concentrations have been checked and considered reasonable, then the modelled results may require adjustment to best align them with the monitoring data. This may be either a single verification adjustment factor to be applied to the modelled concentrations across the study area or a range of different adjustment factors to account for different situations within the study area.

## B.2 Residual uncertainty and model performance

- B.2.1 Residual uncertainty may remain after systematic error or ‘overall model accuracy’ has been accounted for in the final predictions. Residual uncertainty may be considered synonymous with the ‘residual inaccuracies’ of the model predictions, ie, how wide the scatter or residual variability of the predicted values compare with the monitored ‘true value’, once systematic error has been allowed for. The quantification of final model accuracy provides an estimate of how the final predictions may deviate from the ‘true’ (monitored) values at the same location over the same period. It must though be recognised that some of the residual uncertainty will be down to uncertainties in the monitored values. This uncertainty is greater for monitoring using diffusion tubes than for automatic monitors.
- B.2.2 Suitable local monitoring data for the purpose of verification is available for concentrations of NO<sub>2</sub> at the locations shown in Table B.2. This monitoring data has been used to validate the dispersion model prediction and obtain adjustment factors which can be applied to predictions of pollutant concentrations in the base and future years.
- B.2.3 An evaluation of model performance has been undertaken to establish confidence in model results. LAQM.TG(16) (Defra, 2016) identifies several statistical procedures that are appropriate to evaluate model performance and assess the uncertainty. The statistical parameters used in this assessment are:
- a. root mean square error (RMSE)
  - b. fractional bias (FB)
  - c. correlation coefficient (CC)
- B.2.4 A brief for explanation of each statistic is provided in Table B.1, and further details can be found in LAQM.TG(16) Box 1.17.

**Table B.1 Statistical parameters used to estimate model performance**

Statistical parameter	Comments	Ideal value
<b>RMSE</b>	<p>RMSE is used to define the average error or uncertainty of the model. The units of RMSE are the same as the quantities compared.</p> <p>If the RMSE values are higher than 25% of the objective being assessed, it is recommended that the model inputs and verification should be revisited in order to make improvements.</p> <p>For example, if the model predictions are for the annual mean NO<sub>2</sub> objective of 40 µg/m<sup>3</sup>, if an RMSE of 10 µg/m<sup>3</sup> or above is determined for a model it is advised to revisit the model parameters and model verification.</p> <p>Ideally an RMSE within 10% of the air quality objective would be derived, which equates to ±4 µg/m<sup>3</sup> for the annual mean NO<sub>2</sub> objective.</p>	0.01
<b>Fractional Bias</b>	<p>It is used to identify if the model shows a systematic tendency to over- or under-predict.</p> <p>FB values vary between +2 and -2 and have an ideal value of zero. Negative values suggest a model over-prediction and positive values suggest a model under-prediction.</p>	0.00
<b>Correlation Coefficient</b>	<p>It is used to measure the linear relationship between predicted and observed data. A value of zero means no relationship and a value of 1 means absolute relationship.</p> <p>This statistic can be particularly useful when comparing a large number of model and observed data points.</p>	1.00

B.2.5 These parameters estimate how the model results agree or diverge from the observations. These calculations have been carried out prior to, and after, adjustment and provide information on the improvement of the model predictions because of the application of the verification adjustment factors.

## B.3 Air quality monitoring data

- B.3.1 The air quality monitoring data collected as part of this assessment and detailed in the baseline section was reviewed to determine the suitability of each of the monitoring locations for inclusion into the model verification process.
- B.3.2 The traffic base year was defined as 2016, therefore monitoring data representative of 2016 was acquired to inform the model verification process.
- B.3.3 Monitoring data was collated from 26 local authorities, Highways England and from the dedicated Project air quality monitoring survey. In total, a database of over 1,000 monitoring locations was assembled. The following criteria were used to determine the suitability of the collected monitoring data for inclusion into the verification exercise:
- a. within 50m of a road within the air quality study area
  - b. monitoring from diffusion tubes for 2016 was used in preference to other years where there was greater than 75% data capture
  - c. where there was less than 75% data capture from the diffusion tubes in 2016 but a greater level of data capture (greater than 75%) in other years (2017, 2015, 2014) the result from one of these other years was in preference but only after adjustment based on the ratio of annual mean results in the year of measurement to the annual mean in 2016, at a number of automatic roadside monitoring sites
  - d. automatic monitoring data was used where there was greater than 90% data capture
  - e. monitoring sites were discounted where there was less than 75% data capture in 2016 and poor data capture in other years
  - f. monitoring was excluded from verification if major sources were missing from the traffic model that may influence monitored concentrations but could not be included in the air quality modelling (such as large car parks, industrial stacks in close proximity etc)
  - g. sites where the location of the monitoring could not be confirmed to a satisfactory standard were omitted from the verification

## B.4 Verification methodology

- B.4.1 The verification method followed the process detailed in LAQM.TG(16) (Defra, 2016). The initial verification was undertaken by comparing the modelled versus monitored Road NO<sub>x</sub>. Road NO<sub>x</sub> measured at the diffusion tubes was calculated using a custom version of the latest Defra NO<sub>x</sub> to NO<sub>2</sub> calculator (v6.1.1), because diffusion tubes only measure NO<sub>2</sub> and do not directly measure NO<sub>x</sub>.
- B.4.2 Concentrations of road NO<sub>x</sub> recorded at automatic monitors were calculated by subtracting background concentrations of NO<sub>x</sub> (acquired from Defra background maps) from the total NO<sub>x</sub> recorded at the automatic site.
- B.4.3 Following the removal of the monitoring locations with low data capture and those locations where road sources were not fully represented in the traffic data, a total of 185 diffusion tube and automatic monitoring sites were used in the verification. A description of the sites is presented in Table B.2.

**Table B.2 Collated monitoring site information**

Site ID	X OS grid ref	Y OS grid ref	Data owner	Monitoring method	2016 monitored NO <sub>2</sub> (µg/m <sup>3</sup> )	Annualised to 2016?
BAS3	575204	190963	Basildon	Diffusion Tube	35.0	No
BAS6	573194	187531	Basildon	Diffusion Tube	29.6	No
BAS7	572173	186916	Basildon	Diffusion Tube	29.8	No
BRW17	557632	193151	Brentwood	Diffusion Tube	30.3	No
BRW19	558769	194873	Brentwood	Diffusion Tube	29.6	No
BRW20	558818	194913	Brentwood	Diffusion Tube	39.0	No
BRW21	558681	194799	Brentwood	Diffusion Tube	26.5	No
BRW22	558683	194894	Brentwood	Diffusion Tube	35.1	No
BRW23	558742	194928	Brentwood	Diffusion Tube	38.9	No
BRW26	562278	196649	Brentwood	Diffusion Tube	29.9	No
BRW29	564617	199849	Brentwood	Diffusion Tube	27.5	No
BRW30	564654	199898	Brentwood	Diffusion Tube	32.4	No
BRW31	565186	200071	Brentwood	Diffusion Tube	27.3	No
BRW34	557719	193226	Brentwood	Diffusion Tube	28.7	No
BRW38	563659	198314	Brentwood	Diffusion Tube	21.2	No
BRW39	562412	189153	Brentwood	Diffusion Tube	38.3	No
BRW6	557014	192493	Brentwood	Diffusion Tube	39.3	No
BRW7	557118	191978	Brentwood	Diffusion Tube	26.6	No
CP14	576379	188464	Castle Point	Diffusion Tube	31.0	No
CP15	576923	188481	Castle Point	Diffusion Tube	41.2	No

Site ID	X OS grid ref	Y OS grid ref	Data owner	Monitoring method	2016 monitored NO <sub>2</sub> (µg/m <sup>3</sup> )	Annualised to 2016?
CP29	580120	189646	Castle Point	Diffusion Tube	32.8	No
CP30	579695	189698	Castle Point	Diffusion Tube	30.7	No
CP32	578346	190590	Castle Point	Diffusion Tube	24.3	No
CP34	579253	187887	Castle Point	Diffusion Tube	34.1	No
CB27	574080	203469	Chelmsford	Diffusion Tube	35.0	No
DA14	555484	174441	Dartford	Diffusion Tube	56.1	No
DA20	555660	174863	Dartford	Diffusion Tube	46.0	No
DA22	555600	174030	Dartford	Diffusion Tube	53.0	No
DA24	555632	173558	Dartford	Diffusion Tube	38.6	No
DA34	555373	173763	Dartford	Diffusion Tube	44.6	No
DA39	555129	173802	Dartford	Diffusion Tube	41.0	No
DA43	554580	173992	Dartford	Diffusion Tube	58.2	No
DA48	555297	171327	Dartford	Diffusion Tube	38.7	No
DA49	554902	173893	Dartford	Diffusion Tube	39.9	No
DA50	553783	172319	Dartford	Diffusion Tube	47.6	No
DA60	553895	174678	Dartford	Diffusion Tube	37.2	No
DA62	555796	173902	Dartford	Diffusion Tube	44.0	No
DA70	558687	172610	Dartford	Diffusion Tube	38.1	No
DA72	556433	172124	Dartford	Diffusion Tube	41.8	No
DA78	553686	174905	Dartford	Diffusion Tube	37.7	No
DA84	555574	174068	Dartford	Diffusion Tube	51.2	No

Site ID	X OS grid ref	Y OS grid ref	Data owner	Monitoring method	2016 monitored NO <sub>2</sub> (µg/m <sup>3</sup> )	Annualised to 2016?
DA85	554556	174034	Dartford	Diffusion Tube	31.6	No
DA87	558617	172779	Dartford	Diffusion Tube	40.2	No
DA89	553793	172261	Dartford	Diffusion Tube	32.2	No
DA90	553957	172275	Dartford	Diffusion Tube	35.2	No
DA92	560534	174877	Dartford	Diffusion Tube	44.3	No
Dartford3	558622	172752	Dartford	Automatic	57.0	No
3	544928	201281	Epping Forest	Diffusion Tube	46.0	No
22	538710	199860	Epping Forest	Diffusion Tube	35.0	No
GR08	562589	172076	Gravesham	Diffusion Tube	30.6	No
GR107	562272	172281	Gravesham	Diffusion Tube	36.9	No
GR117	564638	171130	Gravesham	Diffusion Tube	23.3	No
GR92	562323	172589	Gravesham	Diffusion Tube	38.0	No
HAV47	554730	189487	Havering	Diffusion Tube	46.5	No
HM111	521980.1	200567.5	Hertsmere	Diffusion Tube	28.0	No
HM60	518585.5	202938.9	Hertsmere	Diffusion Tube	30.7	No
HM61	522037.6	200670.1	Hertsmere	Diffusion Tube	46.4	No
HM86	522970	199958.8	Hertsmere	Diffusion Tube	49.4	No
A2BN_001_0913	555592	173376	Highways England	Diffusion Tube	53.0	Yes
A2BN_002_0913	555824	173363	Highways England	Diffusion Tube	46.9	Yes
A2BN_003_0913	556462	172137	Highways England	Diffusion Tube	41.5	Yes
A2BN_010_0913	556832	171333	Highways England	Diffusion Tube	28.4	Yes



Site ID	X OS grid ref	Y OS grid ref	Data owner	Monitoring method	2016 monitored NO <sub>2</sub> (µg/m <sup>3</sup> )	Annualised to 2016?
A2BN_012_0913	562219	172312	Highways England	Diffusion Tube	40.6	Yes
A2BN_014_0913	562340	172686	Highways England	Diffusion Tube	42.7	Yes
A2BN_015_0913	559260	171843	Highways England	Diffusion Tube	26.9	Yes
A2BN_017_0913	564633	170962	Highways England	Diffusion Tube	40.4	Yes
A2BN_018_0913	564633	170962	Highways England	Diffusion Tube	39.0	Yes
A2EBB_003_0913	564009	170312	Highways England	Diffusion Tube	29.9	Yes
A2EBB_004_0913	564233	171600	Highways England	Diffusion Tube	36.9	Yes
A2EBB_010_0913	564788	171048	Highways England	Diffusion Tube	27.6	Yes
A2EBB_011_0913	565347	170778	Highways England	Diffusion Tube	31.1	Yes
A2EBB_013_0913	566125	170465	Highways England	Diffusion Tube	41.5	Yes
A2EBB_014_0913	566150	170290	Highways England	Diffusion Tube	24.9	Yes
A2EBB_015_0913	570584	169550	Highways England	Diffusion Tube	31.6	Yes
A2EBB_016_0913	570726	169411	Highways England	Diffusion Tube	33.8	Yes
A2EBB_018_0913	561336	171966	Highways England	Diffusion Tube	28.4	Yes
Dartford_003_0117	555432	174454	Highways England	Diffusion Tube	43.7	Yes
Dartford_004_0117	555464	174128	Highways England	Diffusion Tube	39.3	Yes
Dartford_005_0117	555632	173523	Highways England	Diffusion Tube	41.7	Yes
Dartford_009_0117	555864	173365	Highways England	Diffusion Tube	50.8	Yes
Dartford_010_0117	555740	173678	Highways England	Diffusion Tube	55.2	Yes
Dartford_012_0117	555519	174208	Highways England	Diffusion Tube	54.2	Yes
J23-27_002_0117	535297	199994	Highways England	Diffusion Tube	43.4	Yes

Site ID	X OS grid ref	Y OS grid ref	Data owner	Monitoring method	2016 monitored NO <sub>2</sub> (µg/m <sup>3</sup> )	Annualised to 2016?
J23-27_003_0117	535431	200090	Highways England	Diffusion Tube	38.1	Yes
J23-27_005_0117	536204	200038	Highways England	Diffusion Tube	54.6	Yes
J23-27_007_0117	538923	199797	Highways England	Diffusion Tube	38.1	Yes
J23-27_010_0117	545267	200963	Highways England	Diffusion Tube	43.2	Yes
J23-27_011_0117	545028	200951	Highways England	Diffusion Tube	43.1	Yes
M20J3J5_001_0813	576960.8	157788.2	Highways England	Diffusion Tube	36.9	Yes
M20J3J5_002_0813	576865.1	157736.5	Highways England	Diffusion Tube	30.9	Yes
M20J3J5_004_0813	575692	158506.2	Highways England	Diffusion Tube	30.4	Yes
M20J3J5_005_0813	575705.8	158607.9	Highways England	Diffusion Tube	26.7	Yes
M20J3J5_006_0813	575394.3	158792.6	Highways England	Diffusion Tube	34.3	Yes
M20J3J5_008_0813	575488.8	157942.9	Highways England	Diffusion Tube	27.7	Yes
M20J3J5_011_0813	573815.9	157256.6	Highways England	Diffusion Tube	25.4	Yes
M20J3J5_012_0813	572626.9	158548.3	Highways England	Diffusion Tube	41.3	Yes
M20J3J5_013_0813	572589.7	158455.3	Highways England	Diffusion Tube	39.0	Yes
M20J3J5_015_0813	571658.9	158689.1	Highways England	Diffusion Tube	33.4	Yes
M20J3J5_016_0813	572164.3	158646.6	Highways England	Diffusion Tube	39.9	Yes
M20J3J5_018_0813	570368.5	159030.4	Highways England	Diffusion Tube	42.0	Yes
M20J3J5_019_0813	570345.2	158965.3	Highways England	Diffusion Tube	38.2	Yes
M20J3J5_020_0813	569956.8	159162.2	Highways England	Diffusion Tube	41.0	Yes
M20J3J5_024_0813	569784.2	160568.5	Highways England	Diffusion Tube	33.6	Yes
M20J3J5_027_0813	563559.5	158669.9	Highways England	Diffusion Tube	27.5	Yes

Site ID	X OS grid ref	Y OS grid ref	Data owner	Monitoring method	2016 monitored NO <sub>2</sub> (µg/m <sup>3</sup> )	Annualised to 2016?
M20J3J5_028_0813	562773.6	158608	Highways England	Diffusion Tube	39.8	Yes
M20J3J5_029_0813	562098.3	159048.8	Highways England	Diffusion Tube	39.6	Yes
M20J3J5_030_0813	561315.7	159550.3	Highways England	Diffusion Tube	36.2	Yes
M20J3J5_031_0813	560767.9	159699.2	Highways England	Diffusion Tube	21.9	Yes
M20J3J5_032_0813	560356.9	159945	Highways England	Diffusion Tube	26.0	Yes
M20J3J5_037_0813	576193	158357.5	Highways England	Diffusion Tube	49.9	Yes
M25J30_005_0913	560046	179881	Highways England	Diffusion Tube	38.3	Yes
M25J30_007_0913	561036	180530	Highways England	Diffusion Tube	34.4	Yes
M25J30_008_0913	559554	179546	Highways England	Diffusion Tube	35.8	Yes
M25J30_009_0913	560347	179782	Highways England	Diffusion Tube	52.2	Yes
M25J30_010_0913	561642	179407	Highways England	Diffusion Tube	37.1	Yes
M25J30_014_0913	559011	178966	Highways England	Diffusion Tube	48.4	Yes
M25J30_015_0913	555643	174871	Highways England	Diffusion Tube	41.7	Yes
LTC_ECO_05	567357.4	169801.1	LTC	Diffusion Tube	26.8	Yes
LTC_ECO_09	574861.1	160600.9	LTC	Diffusion Tube	27.5	Yes
LTC_ECO_10	543669.6	154643	LTC	Diffusion Tube	28.4	Yes
LTC_ECO_11	568292.5	169698.6	LTC	Diffusion Tube	34.6	Yes
LTC_ECO_15	562991.8	179383.2	LTC	Diffusion Tube	34.8	Yes
LTC13	565602.1	181267.6	LTC	Diffusion Tube	36.0	Yes
LTC14	565362.6	182248.5	LTC	Diffusion Tube	35.2	Yes
LTC20	560390.6	188789.7	LTC	Diffusion Tube	36.5	Yes

Site ID	X OS grid ref	Y OS grid ref	Data owner	Monitoring method	2016 monitored NO <sub>2</sub> (µg/m <sup>3</sup> )	Annualised to 2016?
LTC22	572273.4	186967.2	LTC	Diffusion Tube	33.2	Yes
LTC23	574047.7	188044.2	LTC	Diffusion Tube	38.1	Yes
LTC24	576443	188427	LTC	Diffusion Tube	31.6	Yes
LTC25	576772.6	189582.6	LTC	Diffusion Tube	27.6	Yes
LTC26	578405.1	190584.5	LTC	Diffusion Tube	31.4	Yes
LTC27	577173	190775.8	LTC	Diffusion Tube	37.7	Yes
LTC29	555587.9	173350.6	LTC	Diffusion Tube	46.2	Yes
LTC32	555507.5	174445	LTC	Diffusion Tube	46.0	Yes
LTC33	555263.6	171394.2	LTC	Diffusion Tube	33.0	Yes
LTC37	558665.5	172650	LTC	Diffusion Tube	46.0	Yes
LTC39	562431.4	172157.7	LTC	Diffusion Tube	40.0	Yes
LTC41	567254.2	170958.7	LTC	Diffusion Tube	17.9	Yes
LTC42	567151.4	171231.3	LTC	Diffusion Tube	20.5	Yes
LTC53	571777.8	168082.4	LTC	Diffusion Tube	33.2	Yes
LTC55	572798.4	166595.5	LTC	Diffusion Tube	30.0	Yes
LTC56	574694.3	163008.3	LTC	Diffusion Tube	36.6	Yes
LTC58	574971.4	162354.6	LTC	Diffusion Tube	25.8	Yes
LTC59	572052.3	158657.3	LTC	Diffusion Tube	41.1	Yes
LTC60	571805.7	158643.4	LTC	Diffusion Tube	26.2	Yes
LTC65	570489.6	165810.4	LTC	Diffusion Tube	47.1	Yes
LTC68	550963.6	157661.5	LTC	Diffusion Tube	36.8	Yes

Site ID	X OS grid ref	Y OS grid ref	Data owner	Monitoring method	2016 monitored NO <sub>2</sub> (µg/m <sup>3</sup> )	Annualised to 2016?
Maid10	575714	158504	Maidstone	Diffusion Tube	31.0	No
Maid101	578049	157248	Maidstone	Diffusion Tube	33.1	No
Maid71	575738	156711	Maidstone	Diffusion Tube	30.1	No
Maid75	586308	152577	Maidstone	Diffusion Tube	27.1	No
NAS7	574999	170882	Medway	Diffusion Tube	23.4	No
NAS9	575044	171351	Medway	Diffusion Tube	27.0	No
RO011	580233	189766	Rochford	Diffusion Tube	36.5	No
DT12	546815	155850	Sevenoaks	Diffusion Tube	43.1	No
DT13	552504	167700	Sevenoaks	Diffusion Tube	36.5	No
KE1	584843	188299	Southend-on-Sea	Diffusion Tube	27.7	No
KE2	584834	188272	Southend-on-Sea	Diffusion Tube	31.0	No
KE3	584786	188183	Southend-on-Sea	Diffusion Tube	23.6	No
KE4	584864	188229	Southend-on-Sea	Diffusion Tube	33.4	No
KE6	584903	188231	Southend-on-Sea	Diffusion Tube	30.4	No
KE7	584952	188293	Southend-on-Sea	Diffusion Tube	41.5	No
KE8	584892	188301	Southend-on-Sea	Diffusion Tube	29.8	No
SOU28	584932	188249	Southend-on-Sea	Diffusion Tube	31.9	No
SOU32	587393	187577	Southend-on-Sea	Diffusion Tube	27.1	No
CR	561572	178154	Thurrock	Diffusion Tube	32.6	No
DR	560279	178944	Thurrock	Diffusion Tube	30.1	No
FRC	559136	179084	Thurrock	Diffusion Tube	33.2	No

Site ID	X OS grid ref	Y OS grid ref	Data owner	Monitoring method	2016 monitored NO <sub>2</sub> (µg/m <sup>3</sup> )	Annualised to 2016?
HR	559118	179462	Thurrock	Diffusion Tube	31.5	No
LRAR	555301	179438	Thurrock	Diffusion Tube	62.5	No
LRARMN	555299	179453	Thurrock	Diffusion Tube	45.6	No
LRARMS	555329	179397	Thurrock	Diffusion Tube	43.6	No
LRARN	555286	179501	Thurrock	Diffusion Tube	32.0	No
LRARS	555357	179362	Thurrock	Diffusion Tube	31.1	No
LRG	560624	177811	Thurrock	Diffusion Tube	38.9	No
LRSS	559785	177910	Thurrock	Diffusion Tube	39.6	No
NAS1	561469	178063	Thurrock	Diffusion Tube	33.5	No
NAS2	559720	179630	Thurrock	Diffusion Tube	56.0	No
PBP	556257	178438	Thurrock	Diffusion Tube	37.8	No
PBPA	556221	178461	Thurrock	Diffusion Tube	34.7	No
PKSL	567781	182400	Thurrock	Diffusion Tube	29.0	No
Thurrock8	556700	177928	Thurrock	Automatic	55.0	No
WC	556314	178765	Thurrock	Diffusion Tube	50.2	No
WES	561958	180967	Thurrock	Diffusion Tube	31.8	No
WT	558483	177678	Thurrock	Diffusion Tube	41.1	No
UT008	551189	217438	Uttlesford	Diffusion Tube	29.9	No

- B.4.4 For each monitoring site, the relevant 1x1km 2016 background concentrations for NO<sub>x</sub> and NO<sub>2</sub> were acquired by using the 2015 reference year Defra background maps (issued Dec 2017) which were adjusted by a monitoring-based adjustment factor to ensure that the modelled maps did not under-predict when compared to observed backgrounds.
- B.4.5 The NO<sub>2</sub> to NO<sub>x</sub> tool was used to calculate the total of road NO<sub>x</sub> at each diffusion tube monitoring site. At those automatic sites which measured NO<sub>x</sub>, the road NO<sub>x</sub> component was calculated by subtracting the background NO<sub>x</sub> from the total NO<sub>x</sub> concentration. Table B.3 summarises the background NO<sub>x</sub>/NO<sub>2</sub> concentrations, raw (ie, no adjustment) modelled and monitored road NO<sub>x</sub> concentrations and raw modelled and monitored total NO<sub>2</sub> concentrations.

**Table B.3 Unadjusted modelled results vs actual monitored results 2016 (total NO<sub>2</sub> and road NO<sub>x</sub>)**

Tube ID	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	Background NO <sub>2</sub> (µg/m <sup>3</sup> )	Monitored NO <sub>2</sub> (µg/m <sup>3</sup> )	Modelled total NO <sub>2</sub> (µg/m <sup>3</sup> )	Monitored vs modelled total NO <sub>2</sub> % difference	Monitored road NO <sub>x</sub> (µg/m <sup>3</sup> )	Modelled road NO <sub>x</sub> (µg/m <sup>3</sup> )	Monitored vs modelled road NO <sub>x</sub> % difference
BAS3	23.3	16.3	35.0	28.1	-19.8%	37.8	23.0	-39.1%
BAS6	25.3	17.6	29.6	29.3	-1.1%	23.8	23.1	-3.0%
BAS7	20.5	14.6	29.8	24.2	-19.0%	30.1	18.4	-38.9%
BRW17	19.3	13.9	30.3	22.2	-26.9%	32.5	15.7	-51.6%
BRW19	19.7	14.1	29.6	25.6	-13.5%	30.4	22.1	-27.2%
BRW20	19.7	14.1	39.0	28.4	-27.3%	51.2	27.8	-45.6%
BRW21	19.7	14.1	26.5	26.1	-1.6%	23.9	23.1	-3.2%
BRW22	19.7	14.1	35.1	28.2	-19.7%	42.5	27.5	-35.4%
BRW23	19.7	14.1	38.9	28.0	-28.1%	51	27.0	-47.0%
BRW26	17.3	12.6	29.9	23.3	-22.1%	34.2	20.5	-40.2%
BRW29	17	12.4	27.5	25.9	-5.8%	29.6	26.2	-11.5%
BRW30	17	12.4	32.4	27.6	-14.8%	40	29.8	-25.6%
BRW31	15.7	11.5	27.3	22.0	-19.6%	30.8	19.9	-35.5%
BRW34	19.3	13.9	28.7	21.2	-26.0%	29.1	13.9	-52.2%
BRW38	16.3	12.0	21.2	22.0	3.9%	17.5	19.2	9.5%
BRW39	18.9	13.6	38.3	34.5	-10.0%	50.7	42.1	-17.0%
BRW6	20.1	14.4	39.3	27.1	-31.0%	51.6	24.8	-51.9%
BRW7	18.7	13.5	26.6	26.8	0.9%	25.4	25.9	2.0%
CP14	23.8	16.7	31.0	24.0	-22.6%	28.9	14.3	-50.7%



Tube ID	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	Background NO <sub>2</sub> (µg/m <sup>3</sup> )	Monitored NO <sub>2</sub> (µg/m <sup>3</sup> )	Modelled total NO <sub>2</sub> (µg/m <sup>3</sup> )	Monitored vs modelled total NO <sub>2</sub> % difference	Monitored road NO <sub>x</sub> (µg/m <sup>3</sup> )	Modelled road NO <sub>x</sub> (µg/m <sup>3</sup> )	Monitored vs modelled road NO <sub>x</sub> % difference
CP15	23.8	16.7	41.2	25.6	-38.0%	52.5	17.5	-66.7%
CP29	27	18.5	32.8	29.5	-10.2%	29.1	22.0	-24.5%
CP30	22.7	16.0	30.7	26.5	-13.6%	29.8	20.8	-30.3%
CP32	20.3	14.5	24.3	21.7	-10.7%	18.9	13.8	-27.1%
CP34	23.9	16.7	34.1	23.8	-30.1%	35.2	13.7	-61.1%
CB27	15.8	11.6	35.0	26.7	-23.8%	47.4	29.3	-38.2%
DA14	27.2	18.7	56.1	47.6	-15.2%	84.5	62.5	-26.1%
DA20	27.2	18.7	46.0	35.3	-23.3%	58.6	33.8	-42.3%
DA22	27.2	18.7	53.0	41.6	-21.5%	76.3	48.0	-37.0%
DA24	25.1	17.5	38.6	30.1	-22.0%	43.7	25.0	-42.7%
DA34	25.1	17.5	44.6	25.8	-42.2%	59.1	16.4	-72.3%
DA39	25.1	17.5	41.0	25.7	-37.3%	50.2	16.3	-67.6%
DA43	24.8	17.3	58.2	25.5	-56.2%	96	16.2	-83.1%
DA48	20.1	14.4	38.7	31.6	-18.5%	50.4	34.3	-31.9%
DA49	24.8	17.3	39.9	25.5	-36.0%	48	16.2	-66.3%
DA50	22.1	15.7	47.6	35.7	-25.0%	69.1	40.8	-41.0%
DA60	25.9	18.0	37.2	25.9	-30.4%	40.2	15.7	-61.1%
DA62	25.1	17.5	44.0	30.1	-31.7%	56.4	24.9	-55.8%
DA70	19.5	14.0	38.1	23.7	-37.8%	49.8	18.7	-62.4%
DA72	21.2	15.1	41.8	24.5	-41.4%	56.1	18.2	-67.6%

Tube ID	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	Background NO <sub>2</sub> (µg/m <sup>3</sup> )	Monitored NO <sub>2</sub> (µg/m <sup>3</sup> )	Modelled total NO <sub>2</sub> (µg/m <sup>3</sup> )	Monitored vs modelled total NO <sub>2</sub> % difference	Monitored road NO <sub>x</sub> (µg/m <sup>3</sup> )	Modelled road NO <sub>x</sub> (µg/m <sup>3</sup> )	Monitored vs modelled road NO <sub>x</sub> % difference
DA78	25.9	18.0	37.7	24.9	-34.1%	41.4	13.5	-67.3%
DA84	27.2	18.7	51.2	45.7	-10.7%	71.6	57.9	-19.1%
DA85	32.1	21.4	31.6	26.5	-16.1%	20.7	10.0	-51.5%
DA87	19.5	14.0	40.2	30.5	-24.1%	54.7	32.8	-40.0%
DA89	22.1	15.7	32.2	30.1	-6.6%	33.1	28.5	-13.8%
DA90	22.1	15.7	35.2	28.9	-18.0%	39.7	26.1	-34.4%
DA92	23	16.2	44.3	24.5	-44.8%	61.1	16.2	-73.5%
Dattford3	19.5	14.0	57.0	39.2	-31.3%	119.5	52.2	-56.3%
3	18	13.1	46.0	25.2	-45.3%	70.4	23.3	-66.8%
22	22.9	16.1	35.0	32.7	-6.6%	38.2	33.1	-13.3%
GR08	21.2	15.1	30.6	25.5	-16.7%	30.8	20.1	-34.6%
GR107	21.2	15.1	36.9	28.0	-24.2%	44.6	25.2	-43.5%
GR117	19.5	14.0	23.3	19.7	-15.5%	17.9	10.8	-39.8%
GR92	21.2	15.1	38.0	26.1	-31.4%	48	21.6	-55.0%
HAV47	24.3	17.0	46.5	24.7	-46.9%	70.2	15.9	-77.4%
HM111	19.7	14.2	28.0	21.9	-21.8%	27.2	14.8	-45.7%
HM60	19.9	14.3	30.7	20.8	-32.2%	32.5	12.3	-62.2%
HM61	20	14.4	46.4	38.4	-17.2%	68.9	49.7	-27.9%
HM86	20.1	14.4	49.4	39.2	-20.6%	76.5	51.6	-32.6%
A2BN_001_0913	25.1	17.5	53.0	34.9	-34.2%	79	35.3	-55.3%

Tube ID	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	Background NO <sub>2</sub> (µg/m <sup>3</sup> )	Monitored NO <sub>2</sub> (µg/m <sup>3</sup> )	Modelled total NO <sub>2</sub> (µg/m <sup>3</sup> )	Monitored vs modelled total NO <sub>2</sub> % difference	Monitored road NO <sub>x</sub> (µg/m <sup>3</sup> )	Modelled road NO <sub>x</sub> (µg/m <sup>3</sup> )	Monitored vs modelled road NO <sub>x</sub> % difference
A2BN_002_0913	25.1	17.5	46.9	30.9	-34.1%	63.4	26.7	-57.8%
A2BN_003_0913	21.2	15.1	41.5	27.8	-33.0%	55.5	25.0	-55.0%
A2BN_010_0913	19.6	14.1	28.4	19.5	-31.4%	28.3	10.2	-63.8%
A2BN_012_0913	21.2	15.1	40.6	29.9	-26.5%	53.2	29.2	-45.2%
A2BN_014_0913	21.2	15.1	42.7	24.5	-42.7%	59.3	18.3	-69.1%
A2BN_015_0913	18.6	13.4	26.9	17.4	-35.2%	26.4	7.5	-71.6%
A2BN_017_0913	18.3	13.2	40.4	39.0	-3.5%	56.7	53.3	-6.0%
A2BN_018_0913	18.3	13.2	39.0	39.0	-0.1%	53.3	53.3	0.0%
A2EBB_003_0913	18.3	13.2	29.9	21.3	-28.9%	33.5	15.5	-53.6%
A2EBB_004_0913	19.5	14.0	36.9	25.6	-30.7%	46.8	22.4	-52.1%
A2EBB_010_0913	19.5	14.0	27.6	20.0	-27.4%	26.6	11.4	-57.1%
A2EBB_011_0913	19.3	13.9	31.1	22.0	-29.4%	34.2	15.4	-54.8%
A2EBB_013_0913	18.9	13.6	41.5	26.7	-35.7%	58.3	25.5	-56.3%
A2EBB_014_0913	18.9	13.6	24.9	23.8	-4.3%	21.7	19.6	-9.6%
A2EBB_015_0913	18.5	13.3	31.6	22.8	-28.0%	36.3	18.0	-50.4%
A2EBB_016_0913	18.5	13.3	33.8	25.1	-25.7%	41.3	22.8	-44.9%
A2EBB_018_0913	18.9	13.6	28.4	18.5	-35.0%	29.2	9.1	-68.7%
Dartford_003_0117	27.2	18.7	43.7	39.9	-8.7%	53	44.1	-16.8%
Dartford_004_0117	27.2	18.7	39.3	32.5	-17.3%	42.8	27.7	-35.3%
Dartford_005_0117	25.1	17.5	41.7	30.2	-27.6%	50.9	25.2	-50.5%

Tube ID	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	Background NO <sub>2</sub> (µg/m <sup>3</sup> )	Monitored NO <sub>2</sub> (µg/m <sup>3</sup> )	Modelled total NO <sub>2</sub> (µg/m <sup>3</sup> )	Monitored vs modelled total NO <sub>2</sub> % difference	Monitored road NO <sub>x</sub> (µg/m <sup>3</sup> )	Modelled road NO <sub>x</sub> (µg/m <sup>3</sup> )	Monitored vs modelled road NO <sub>x</sub> % difference
Dartford_009_0117	25.1	17.5	50.8	28.8	-43.4%	73.2	22.3	-69.6%
Dartford_010_0117	25.1	17.5	55.2	38.2	-30.7%	84.9	42.8	-49.5%
Dartford_012_0117	27.2	18.7	54.2	45.2	-16.6%	79.4	56.6	-28.7%
J23-27_002_0117	23.8	16.7	43.4	31.0	-28.6%	56.8	28.6	-49.6%
J23-27_003_0117	23.2	16.3	38.1	32.4	-15.1%	44.6	32.0	-28.3%
J23-27_005_0117	25	17.4	54.6	37.1	-32.0%	83	40.3	-51.5%
J23-27_007_0117	22.9	16.1	38.1	27.1	-28.9%	45.1	21.4	-52.6%
J23-27_010_0117	17.6	12.8	43.2	26.4	-38.8%	64	26.5	-58.5%
J23-27_011_0117	17.6	12.8	43.1	26.2	-39.3%	63.8	26.0	-59.3%
M20J3J5_001_0813	20.2	14.4	36.9	28.7	-22.2%	45.8	27.9	-39.0%
M20J3J5_002_0813	20.2	14.4	30.9	25.9	-16.2%	32.6	22.2	-32.0%
M20J3J5_004_0813	20.3	14.5	30.4	26.3	-13.7%	31.6	22.9	-27.6%
M20J3J5_005_0813	20.3	14.5	26.7	29.6	11.0%	23.9	29.9	25.2%
M20J3J5_006_0813	20.3	14.5	34.3	26.1	-23.8%	40	22.6	-43.4%
M20J3J5_008_0813	20.6	14.7	27.7	20.5	-26.1%	25.9	11.1	-57.0%
M20J3J5_011_0813	19.4	13.9	25.4	22.2	-12.8%	22.5	16.0	-29.1%
M20J3J5_012_0813	21.9	15.5	41.3	37.0	-10.5%	53.9	43.9	-18.6%
M20J3J5_013_0813	21.9	15.5	39.0	31.8	-18.4%	48.4	32.5	-32.9%
M20J3J5_015_0813	25.7	17.8	33.4	28.4	-15.0%	31.4	20.8	-33.7%
M20J3J5_016_0813	21.9	15.5	39.9	30.1	-24.6%	50.7	28.8	-43.2%

Tube ID	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	Background NO <sub>2</sub> (µg/m <sup>3</sup> )	Monitored NO <sub>2</sub> (µg/m <sup>3</sup> )	Modelled total NO <sub>2</sub> (µg/m <sup>3</sup> )	Monitored vs modelled total NO <sub>2</sub> % difference	Monitored road NO <sub>x</sub> (µg/m <sup>3</sup> )	Modelled road NO <sub>x</sub> (µg/m <sup>3</sup> )	Monitored vs modelled road NO <sub>x</sub> % difference
M20J3J5_018_0813	21.8	15.4	42.0	35.0	-16.8%	55.5	39.5	-28.9%
M20J3J5_019_0813	20.9	14.9	38.2	31.4	-17.9%	47.8	32.7	-31.7%
M20J3J5_020_0813	19.2	13.8	41.0	26.5	-35.3%	56.8	24.8	-56.4%
M20J3J5_024_0813	17.8	12.9	33.6	17.2	-48.8%	42.3	8.1	-80.8%
M20J3J5_027_0813	16.1	11.7	27.5	18.7	-32.2%	30.7	13.0	-57.8%
M20J3J5_028_0813	15.9	11.6	39.8	24.4	-38.6%	58.3	24.6	-57.8%
M20J3J5_029_0813	15.2	11.2	39.6	27.2	-31.3%	58.9	31.2	-47.1%
M20J3J5_030_0813	15.3	11.3	36.2	24.8	-31.5%	50.9	26.1	-48.7%
M20J3J5_031_0813	15.1	11.1	21.9	20.3	-7.5%	20.5	17.3	-15.5%
M20J3J5_032_0813	15.1	11.1	26.0	18.3	-29.8%	29	13.4	-53.8%
M20J3J5_037_0813	18.6	13.4	49.9	36.5	-26.8%	79.5	47.0	-40.8%
M25J30_005_0913	25.7	17.8	38.3	31.1	-18.7%	42.3	26.5	-37.3%
M25J30_007_0913	24.2	17.0	34.4	27.9	-18.8%	35.2	21.5	-38.9%
M25J30_008_0913	26.1	18.1	35.8	27.6	-22.9%	36.9	19.0	-48.5%
M25J30_009_0913	25.7	17.8	52.2	29.6	-43.3%	78	23.7	-69.7%
M25J30_010_0913	26.2	18.2	37.1	26.6	-28.4%	39.6	16.6	-58.1%
M25J30_014_0913	27	18.5	48.4	29.6	-38.8%	66.5	22.3	-66.5%
M25J30_015_0913	27.2	18.7	41.7	32.1	-23.1%	48.4	26.8	-44.7%
LTC_ECO_05	17.4	12.6	26.8	26.2	-2.1%	27.6	26.4	-4.2%
LTC_ECO_09	18.9	13.6	27.5	20.3	-26.4%	27.1	12.6	-53.7%

Tube ID	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	Background NO <sub>2</sub> (µg/m <sup>3</sup> )	Monitored NO <sub>2</sub> (µg/m <sup>3</sup> )	Modelled total NO <sub>2</sub> (µg/m <sup>3</sup> )	Monitored vs modelled total NO <sub>2</sub> % difference	Monitored road NO <sub>x</sub> (µg/m <sup>3</sup> )	Modelled road NO <sub>x</sub> (µg/m <sup>3</sup> )	Monitored vs modelled road NO <sub>x</sub> % difference
LTC_ECO_10	15.3	11.3	28.4	35.5	24.9%	33.6	49.0	45.9%
LTC_ECO_11	17.4	12.6	34.6	27.3	-21.0%	44.5	28.8	-35.4%
LTC_ECO_15	26.4	18.3	34.8	22.7	-34.7%	34.1	8.7	-74.6%
LTC13	21.2	15.1	36.0	24.5	-32.1%	42.7	18.1	-57.5%
LTC14	20.4	14.5	35.2	22.8	-35.4%	42	15.8	-62.5%
LTC20	19.3	13.9	36.5	28.9	-21.0%	46.2	29.5	-36.2%
LTC22	20.5	14.6	33.2	24.6	-25.9%	37.4	19.3	-48.4%
LTC23	24.8	17.3	38.1	32.1	-15.7%	42.9	29.6	-31.0%
LTC24	23.8	16.7	31.6	22.6	-28.5%	29.8	11.3	-62.2%
LTC25	21.9	15.5	27.6	21.2	-23.3%	23.7	10.8	-54.5%
LTC26	20.3	14.5	31.4	28.5	-9.2%	33.8	27.7	-18.2%
LTC27	20.1	14.3	37.7	29.7	-21.1%	48	30.4	-36.6%
LTC29	25.1	17.5	46.2	32.0	-30.8%	61.7	29.0	-53.0%
LTC32	27.2	18.7	46.0	38.0	-17.5%	58.6	39.7	-32.2%
LTC33	20.1	14.4	33.0	32.8	-0.6%	37.5	37.0	-1.3%
LTC37	19.5	14.0	46.0	28.5	-38.1%	68.8	28.6	-58.5%
LTC39	21.2	15.1	40.0	29.0	-27.4%	51.7	27.4	-46.9%
LTC41	18.2	13.1	17.9	15.8	-11.7%	9	5.0	-44.1%
LTC42	18.2	13.1	20.5	15.6	-23.9%	14.1	4.6	-67.2%
LTC53	19.8	14.2	33.2	24.3	-26.8%	38.3	19.5	-49.0%

Tube ID	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	Background NO <sub>2</sub> (µg/m <sup>3</sup> )	Monitored NO <sub>2</sub> (µg/m <sup>3</sup> )	Modelled total NO <sub>2</sub> (µg/m <sup>3</sup> )	Monitored vs modelled total NO <sub>2</sub> % difference	Monitored road NO <sub>x</sub> (µg/m <sup>3</sup> )	Modelled road NO <sub>x</sub> (µg/m <sup>3</sup> )	Monitored vs modelled road NO <sub>x</sub> % difference
LTC55	19.4	13.9	30.0	24.3	-19.2%	31.9	19.9	-37.5%
LTC56	21.1	15.0	36.6	34.3	-6.4%	44	38.8	-11.9%
LTC58	19.1	13.8	25.8	21.7	-16.0%	23.3	15.1	-35.3%
LTC59	21.9	15.5	41.1	30.7	-25.4%	53.4	30.1	-43.7%
LTC60	25.7	17.8	26.2	27.6	5.5%	16.4	19.3	17.7%
LTC65	17.7	12.8	47.1	23.3	-50.6%	75.8	20.4	-73.1%
LTC68	14.4	10.7	36.8	20.8	-43.5%	53.3	19.2	-64.0%
Maid10	20.3	14.5	31.0	25.9	-16.6%	32.8	22.1	-32.8%
Maid101	18.5	13.3	33.1	21.3	-35.8%	39.6	15.0	-62.0%
Maid71	22.7	16.0	30.1	23.0	-23.7%	28.2	13.4	-52.3%
Maid75	14.8	10.9	27.1	17.8	-34.5%	31.5	12.8	-59.5%
NAS7	25.2	17.5	23.4	23.6	0.6%	11.5	11.7	2.1%
NAS9	22.7	16.0	27.0	23.1	-14.5%	21.9	13.9	-36.6%
RO011	27	18.5	36.5	26.3	-28.0%	37.5	15.4	-59.0%
DT12	14.1	10.4	43.1	27.2	-37.0%	68.8	32.6	-52.6%
DT13	18.1	13.1	36.5	22.4	-38.7%	47.6	17.7	-62.9%
KE1	25.5	17.7	27.7	29.9	7.8%	19.9	24.5	23.1%
KE2	25.5	17.7	31.0	32.7	5.5%	27	30.6	13.4%
KE3	25.5	17.7	23.6	24.2	2.3%	11.5	12.6	9.7%
KE4	25.5	17.7	33.4	30.0	-10.2%	32.3	24.7	-23.4%

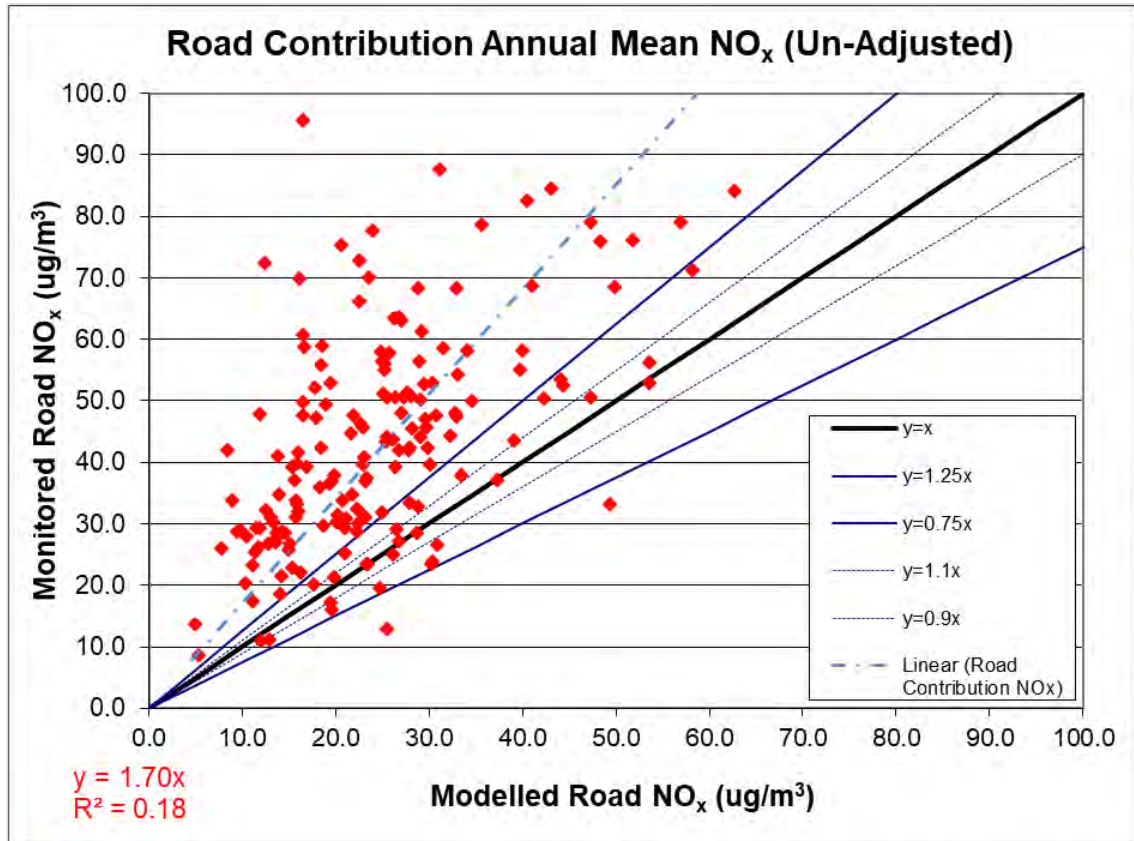
Tube ID	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	Background NO <sub>2</sub> (µg/m <sup>3</sup> )	Monitored NO <sub>2</sub> (µg/m <sup>3</sup> )	Modelled total NO <sub>2</sub> (µg/m <sup>3</sup> )	Monitored vs modelled total NO <sub>2</sub> % difference	Monitored road NO <sub>x</sub> (µg/m <sup>3</sup> )	Modelled road NO <sub>x</sub> (µg/m <sup>3</sup> )	Monitored vs modelled road NO <sub>x</sub> % difference
KE6	25.5	17.7	30.4	28.1	-7.6%	25.6	20.8	-18.9%
KE7	25.5	17.7	41.5	39.9	-3.9%	51.1	47.1	-7.9%
KE8	25.5	17.7	29.8	32.4	8.8%	24.3	30.0	23.6%
SOU28	25.5	17.7	31.9	31.7	-0.7%	28.9	28.4	-1.8%
SOU32	30.2	20.4	27.1	32.7	20.7%	13.3	25.2	89.5%
CR	26.3	18.2	32.6	23.1	-29.0%	29.4	9.6	-67.3%
DR	24.3	17.0	30.1	21.1	-29.8%	26.4	8.0	-69.5%
FRC	26.1	18.1	33.2	25.5	-23.3%	30.9	14.6	-52.9%
HR	26.1	18.1	31.5	24.8	-21.3%	27.3	13.2	-51.6%
LRAR	23.8	16.6	62.5	26.6	-57.5%	110.2	19.7	-82.1%
LRARMN	23.8	16.6	45.6	24.7	-45.9%	63.5	15.8	-75.2%
LRARMS	23.8	16.6	43.6	24.7	-43.3%	58.5	15.9	-72.8%
LRARN	23.8	16.6	32.0	23.0	-28.1%	31.3	12.4	-60.3%
LRARS	23.8	16.6	31.1	23.4	-24.7%	29.3	13.2	-55.0%
LRG	24.4	17.0	38.9	28.3	-27.2%	46.1	22.7	-50.9%
LRSS	27.6	18.9	39.6	31.6	-20.2%	44	25.9	-41.1%
NAS1	26.3	18.2	33.5	26.0	-22.3%	31.4	15.4	-50.8%
NAS2	26.1	18.1	56.0	33.1	-40.8%	87.9	30.8	-64.9%
PBP	25.7	17.8	37.8	22.3	-41.0%	42.1	8.8	-79.1%
PBPA	25.7	17.8	34.7	22.2	-35.9%	35	8.7	-75.3%



Tube ID	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	Background NO <sub>2</sub> (µg/m <sup>3</sup> )	Monitored NO <sub>2</sub> (µg/m <sup>3</sup> )	Modelled total NO <sub>2</sub> (µg/m <sup>3</sup> )	Monitored vs modelled total NO <sub>2</sub> % difference	Monitored road NO <sub>x</sub> (µg/m <sup>3</sup> )	Modelled road NO <sub>x</sub> (µg/m <sup>3</sup> )	Monitored vs modelled road NO <sub>x</sub> % difference
PKSL	22.2	15.7	29.0	23.3	-19.7%	26.3	14.6	-44.3%
Thurrock8	30.7	20.5	55.0	44.7	-18.7%	153.3	52.7	-65.6%
WC	25.7	17.8	50.2	24.0	-52.3%	72.8	12.1	-83.3%
WES	24.2	17.0	31.8	23.0	-27.8%	29.8	11.5	-61.3%
WT	27.1	18.6	41.1	24.5	-40.4%	48.2	11.6	-75.9%
UT008	14.8	11.0	29.9	22.9	-23.3%	37.3	22.9	-38.7%

B.4.6 The modelled versus monitored road NO<sub>x</sub> component concentrations were plotted on a scatter graph as presented on Plate B.1.

**Plate B.1 Scatterplot of unadjusted modelled road NO<sub>x</sub> vs monitored road NO<sub>x</sub>**



B.4.7 Plate B.1 illustrates that the modelled concentrations systematically under-predict the road component of NO<sub>x</sub> in relation to the monitored concentrations. However, there is significant scatter in the data. To examine whether this scatter could be due to some systematic feature, such as the type of road or geographic area, a number of verification tests were carried out:

- a. Basic verification – factor applied to all motorways and all A-roads separately.
- b. Overall factor – one single verification factor for all receptors.
- c. Detailed verification - splitting the model into 13 verification zones following review of the modelled versus monitoring (including splitting specific sections of the road network into different zones).

B.4.8 Following a review of the various verification options it was decided that a detailed split of geographically defined verification zones gave the best level of performance. The road NO<sub>x</sub> verification factors for each of the modelled zones are presented in Table B.4.

**Table B.4 Road NO<sub>x</sub> verification factors per model verification zone**

Verification zone description	Road NO <sub>x</sub> verification factor	Number of monitoring sites used	Number of receptors in zone
1. Urban Areas	2.78	49	225
2. A12	1.51	13	16
3. A127 Junction	0.97	9	2
4. A128	2.67	1	3
5. A13	1.53	7	34
6. A2	1.18	6	52
7. A228	3.93	2	33
8. A289	1.33	2	5
9. All other A-Roads	1.86	39	240
10. Dartford Urban Gradient	5.92	1	1
11. M26	2.65	2	8
12. Motorways	1.50	53	256
13. Southfields	2.36	1	3

- B.4.9 When the 13 verification factors in Table B.4 were applied to the raw modelled results, total annual mean NO<sub>2</sub> concentrations at 93% of the modelled sites were within 25% of monitored NO<sub>2</sub> concentrations as summarised in Table B.4, as opposed to 51% of the sites when no adjustment was applied (Plate B.2).
- B.4.10 Plate B.3 demonstrates that once adjusted for road NO<sub>x</sub>, total modelled NO<sub>2</sub> concentrations are closer to monitored total NO<sub>2</sub> concentrations, than the unadjusted total modelled NO<sub>2</sub> in Plate B.2.

Plate B.2 Scatterplot of unadjusted total NO<sub>2</sub> vs monitored total NO<sub>2</sub>

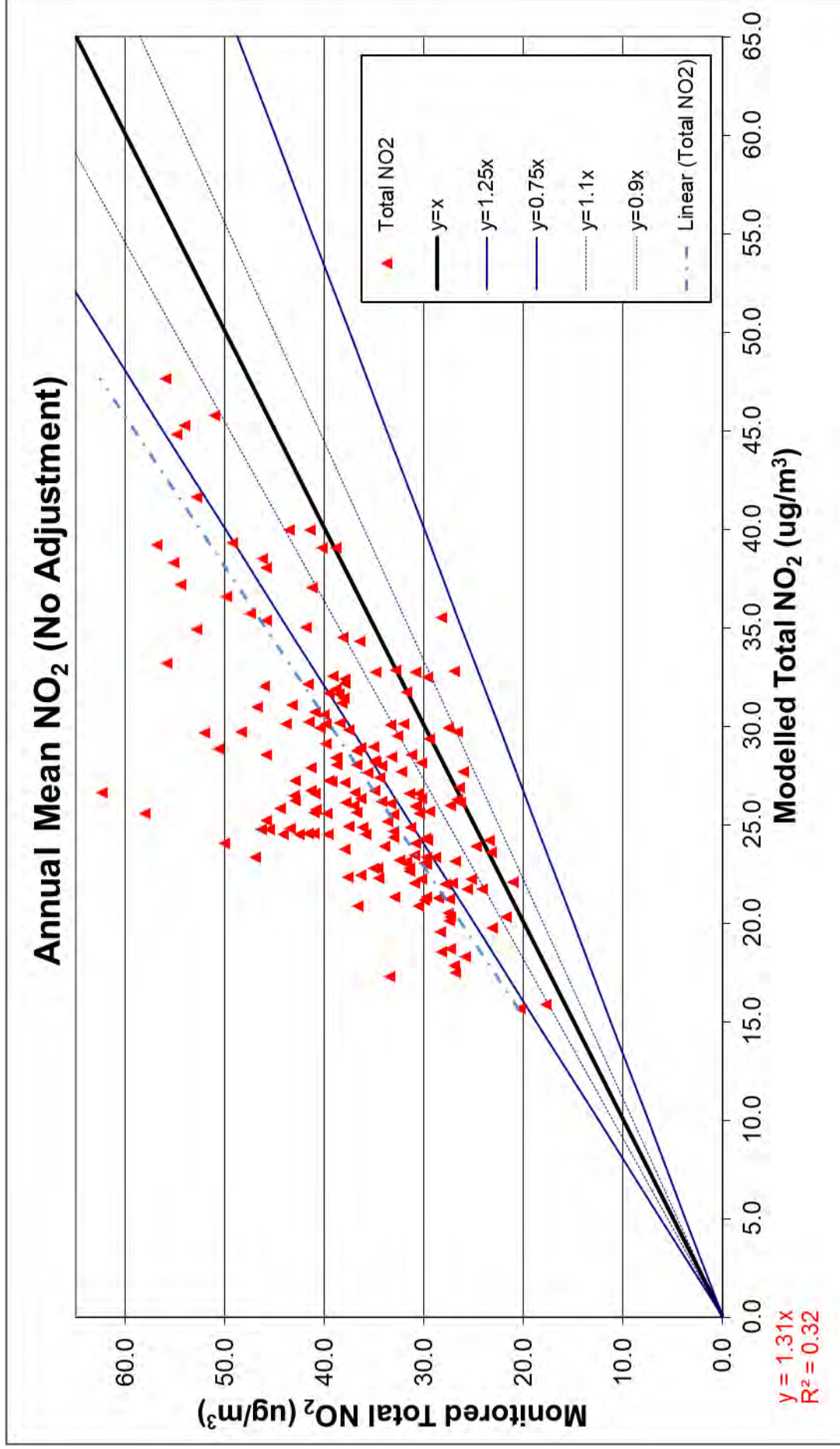
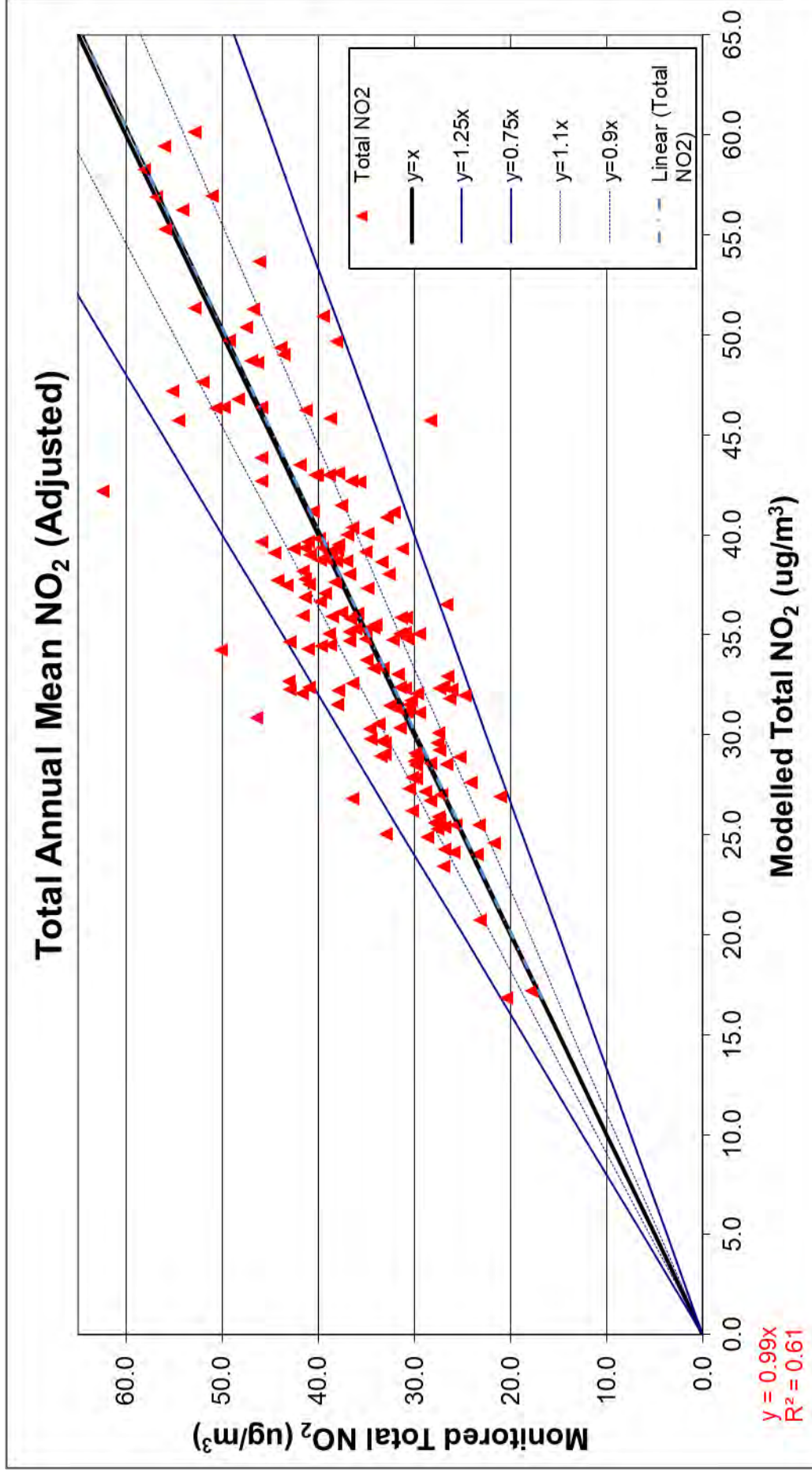


Plate B.3 Scatterplot of road NOx adjusted modelled total NO2 vs monitored NO2



**Table B.5 Model performance statistics**

Parameter	No adjustment	Road NO <sub>x</sub> contribution adjustment (13 zones)
Root Mean Square Error (RMSE)	11.2	5.3
Fractional Bias	0.3	0.0
Correlation Coefficient	0.63	0.81

- B.4.11 Table B.5 summarises the model performance statistics which show that the uncertainty in the predictions of the total NO<sub>2</sub> using the unadjusted model would have been large, as the RMSE is 11.2 µg/m<sup>-3</sup>. Additionally, the model had a tendency to under-predict actual concentrations prior to adjustment, because the fractional bias is greater than zero. When road NO<sub>x</sub> is adjusted by applying the 13 geographical verification factors, the RMSE is reduced from 11.2 µg/m<sup>-3</sup> to 5.3 µg/m<sup>-3</sup>. The model doesn't systematically under- or over-predict actual concentrations once adjusted because the fractional bias is zero. The adjusted model thus provides a much-improved model performance.
- B.4.12 The road NO<sub>x</sub> adjustment factors were also applied to modelled road contribution PM<sub>10</sub> concentrations in the absence of sufficient PM<sub>10</sub> monitoring data.

## Appendix C

### C.1 Human and ecological receptors

Table C.1 Modelled human receptors, and associated background pollutant concentrations and AQMAs

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration ( $\mu\text{g}/\text{m}^3$ )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0001	582895	188860	N		16.5	14.5	13.4	13.9
PEIR0002	581836	189338	N		16.3	15.6	13.2	15.1
PEIR0003	568255	173172	N		14.3	13.7	12.1	13.1
PEIR0004	570254	161799	N		15.2	16.6	12.5	15.9
PEIR0005	560568	174744	N		16.2	15.2	12.7	14.6
PEIR0006	572851	158801	N		15.5	17.7	12.6	17.3
PEIR0007	569885	160639	N		12.9	15.8	10.4	15.4
PEIR0008	559658	178296	N		18.5	17.6	14.7	17.1
PEIR0009	570331	158496	N		14.9	17.8	11.9	17.2
PEIR0010	554196	174518	Y	Dartford AQMA 3	21.4	15.8	17.3	15.2
PEIR0011	559429	178390	N		18.5	17.6	14.7	17.1
PEIR0012	560524	174870	Y	Dartford AQMA 2	16.2	15.2	12.7	14.6
PEIR0013	569642	158657	N		14.4	15.6	11.5	15.1
PEIR0014	563970	179821	N		17.1	15.9	13.3	15.3
PEIR0015	564557	178510	N		17.6	14.7	13.5	14.1

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0016	556651	171612	N		14.1	15.6	11.0	15.1
PEIR0017	558702	177721	Y	Thurrock AQMA	18.6	17.3	14.7	16.7
PEIR0018	563556	180873	N		16.2	17.0	12.8	16.5
PEIR0019	561672	178325	N		18.2	17.4	14.3	16.8
PEIR0020	577142	157936	N		14.1	17.4	11.4	16.9
PEIR0021	545034	201093	N		14.2	15.3	10.9	14.7
PEIR0022	562864	177940	N		17.6	15.4	13.8	14.7
PEIR0023	554543	173998	Y	Dartford AQMA 3	17.3	15.5	13.5	14.9
PEIR0024	544922	201281	N	Epping Forest 2	13.1	16.8	10.2	16.2
PEIR0025	561491	178080	Y	Thurrock AQMA	18.2	17.4	14.3	16.8
PEIR0026	561223	178026	Y	Thurrock AQMA	18.2	17.4	14.3	16.8
PEIR0027	573162	158957	N		15.5	17.7	12.8	17.2
PEIR0028	560713	177840	Y	Thurrock AQMA	17.0	16.5	13.5	15.9
PEIR0029	563631	198246	N		12.0	16.5	9.2	15.9
PEIR0030	561652	177986	Y	Thurrock AQMA	17.2	17.4	13.6	16.7
PEIR0031	559003	179016	N		18.1	17.7	14.2	17.2
PEIR0032	559842	177903	Y	Thurrock AQMA	18.9	19.3	15.5	18.8
PEIR0033	555535	173830	Y	Dartford AQMA 1	17.5	17.3	13.6	16.8
PEIR0034	553899	174679	Y	Dartford AQMA 3	18.0	15.2	13.9	14.6
PEIR0035	566046	169567	N		12.6	14.9	10.2	14.3



Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0036	570616	166058	N		13.0	14.2	10.6	13.6
PEIR0037	564590	178803	N		17.6	14.7	13.5	14.1
PEIR0038	559845	177927	Y	Thurrock AQMA	18.9	19.3	15.5	18.8
PEIR0039	559703	178377	N		18.5	17.6	14.7	17.1
PEIR0040	561427	180001	N		17.0	16.9	13.0	16.4
PEIR0041	570530	159716	N		15.4	17.2	12.6	16.6
PEIR0042	567384	168433	N		12.5	14.3	10.1	13.7
PEIR0043	559146	179066	N		18.1	17.7	14.2	17.2
PEIR0044	580024	163034	N		15.3	14.9	12.3	14.3
PEIR0045	556534	188139	Y	London Borough of Havering AQMA	15.3	15.0	12.1	14.4
PEIR0046	560293	178948	N		17.0	16.6	13.4	16.0
PEIR0047	558450	185165	Y	London Borough of Havering AQMA	14.6	16.5	11.4	15.9
PEIR0048	564683	178490	N		17.6	14.7	13.5	14.1
PEIR0049	560869	177859	Y	Thurrock AQMA	17.0	16.5	13.5	15.9
PEIR0050	555303	173773	Y	Dartford AQMA 3	17.5	17.3	13.6	16.8
PEIR0051	561535	178613	N		18.2	17.4	14.3	16.8
PEIR0052	563481	188644	N		13.7	15.6	11.1	15.0
PEIR0053	573199	159088	N		13.9	15.9	11.4	15.4
PEIR0054	567793	182426	N		15.7	16.7	12.7	16.1

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0055	560698	179193	N		17.8	18.2	14.0	17.7
PEIR0056	561613	178167	Y	Thurrock AQMA	18.2	17.4	14.3	16.8
PEIR0057	570573	161995	N		15.2	16.6	12.5	15.9
PEIR0058	561152	178153	Y	Thurrock AQMA	18.2	17.4	14.3	16.8
PEIR0059	561587	179173	N		18.2	15.8	14.0	15.2
PEIR0060	518451	202881	N		14.3	16.4	10.7	16.0
PEIR0061	562332	179243	N		18.3	15.3	14.1	14.7
PEIR0062	561526	179001	N		18.2	15.8	14.0	15.2
PEIR0063	563212	189307	N		13.6	16.1	10.9	15.6
PEIR0064	554300	167241	N		12.1	16.4	9.4	15.9
PEIR0065	559188	186277	Y	London Borough of Havering AQMA	14.2	14.9	11.2	14.3
PEIR0066	555459	173737	N		17.5	17.3	13.6	16.8
PEIR0067	563405	189411	N		13.6	16.1	10.9	15.6
PEIR0068	562543	158880	N		11.6	17.9	9.3	17.8
PEIR0069	571307	167031	N		13.6	16.2	11.1	15.6
PEIR0070	550227	161894	N		11.0	15.3	8.2	14.8
PEIR0071	569017	183271	N		18.5	15.7	14.6	15.1
PEIR0072	563566	180762	N		16.2	17.0	12.8	16.5
PEIR0073	569615	159843	N		13.8	17.2	11.1	16.8

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0074	565098	179706	N		15.7	15.3	12.5	14.7
PEIR0075	562501	180054	N		16.7	15.9	12.9	15.3
PEIR0076	550406	160341	N		10.8	15.4	8.1	14.9
PEIR0077	562519	179922	N		18.3	15.3	14.1	14.7
PEIR0078	567282	170735	N		13.1	14.2	10.7	13.6
PEIR0079	554846	189265	Y	London Borough of Havering AQMA	17.0	14.9	13.0	14.3
PEIR0080	576812	188490	N		16.7	15.8	13.4	15.2
PEIR0081	575126	158264	Y	Maidstone Town AQMA	14.5	17.6	12.6	17.1
PEIR0082	570817	186330	N		14.8	15.4	11.9	14.8
PEIR0083	575515	157926	Y	Maidstone Town AQMA	14.7	15.9	12.4	15.3
PEIR0084	564264	171697	N		14.0	15.7	11.1	15.2
PEIR0085	550516	215168	N		11.9	17.2	9.3	16.6
PEIR0086	566046	171054	N		15.3	14.3	12.1	13.7
PEIR0087	583139	154236	N		11.2	16.0	8.8	15.5
PEIR0088	556511	188811	Y	London Borough of Havering AQMA	15.3	15.0	12.1	14.4
PEIR0089	560033	179698	Y	Thurrock AQMA	17.8	18.2	14.0	17.7
PEIR0090	570199	164298	N		12.7	15.3	10.3	14.6

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0091	564961	183866	N		14.4	16.0	11.6	15.5
PEIR0092	560125	178949	N		17.0	16.6	13.4	16.0
PEIR0093	564970	170988	N		13.2	16.1	10.6	15.6
PEIR0094	559267	187097	Y	London Borough of Havering AQMA	14.7	15.0	11.4	14.4
PEIR0095	563192	178782	N		17.2	16.3	13.3	15.7
PEIR0096	562197	179973	N		18.3	15.3	14.1	14.7
PEIR0097	556588	188105	Y	London Borough of Havering AQMA	15.3	15.0	12.1	14.4
PEIR0098	566500	168726	N		12.4	13.8	10.0	13.1
PEIR0099	566250	181541	N		16.6	16.4	13.8	15.9
PEIR0100	555120	189192	Y	London Borough of Havering AQMA	15.0	15.1	11.8	14.5
PEIR0101	573333	158281	N		15.5	17.7	12.8	17.2
PEIR0102	573807	170761	N		16.9	16.2	13.6	15.5
PEIR0103	558411	162246	N		11.2	15.2	8.9	14.7
PEIR0104	574837	160742	N		13.6	15.6	11.3	15.1
PEIR0105	571962	158659	Y	Tonbridge and Malling (M20 AQMA)	17.8	17.7	14.9	17.2
PEIR0106	518757	203637	N		14.6	16.1	10.9	15.6
PEIR0107	570420	162501	N		13.0	15.6	10.5	15.0

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m³)					
					Base year 2016			Opening year 2026		
					NO <sub>2</sub>	PM <sub>10</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>	PM <sub>10</sub>
PEIR0108	555434	174423	Y	Dartford AQMA 1	18.7	18.0	18.0	14.7	17.5	17.5
PEIR0109	564653	199898	N		12.4	17.2	17.2	9.6	16.6	16.6
PEIR0110	572141	158547	Y	Tonbridge and Malling (M20 AQMA)	15.5	17.7	17.7	12.6	17.3	17.3
PEIR0111	603271	142194	N		12.2	16.2	16.2	9.7	15.6	15.6
PEIR0112	565814	171583	N		14.9	14.4	14.4	11.8	13.8	13.8
PEIR0113	560947	179826	N		17.8	18.2	18.2	14.0	17.7	17.7
PEIR0114	554668	189522	Y	London Borough of Havering AQMA	17.0	14.9	14.9	13.0	14.3	14.3
PEIR0115	577829	190850	N		14.3	16.4	16.4	11.7	15.9	15.9
PEIR0116	563091	179025	N		17.1	15.9	15.9	13.3	15.3	15.3
PEIR0117	570554	169539	Y	Gravesham A2 AQMA	13.3	16.2	16.2	10.9	15.7	15.7
PEIR0118	555762	173186	Y	Dartford AQMA 1	17.5	17.3	17.3	13.6	16.8	16.8
PEIR0119	576410	188430	N		16.7	15.8	15.8	13.4	15.2	15.2
PEIR0120	554367	174218	Y	Dartford AQMA 3	21.4	15.8	15.8	17.3	15.2	15.2
PEIR0121	567596	182045	N		15.7	16.7	16.7	12.7	16.1	16.1
PEIR0122	557124	178006	Y	Thurrock AQMA	19.7	17.7	17.7	15.8	17.2	17.2
PEIR0123	550379	162054	Y	Sevenoaks AQMA 2 (M25)	11.2	15.4	15.4	8.4	14.9	14.9
PEIR0124	563276	179535	N		17.1	15.9	15.9	13.3	15.3	15.3

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )					
					Base year 2016			Opening year 2026		
					NO <sub>2</sub>	PM <sub>10</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>	PM <sub>10</sub>
PEIR0125	554429	189752	Y	London Borough of Havering AQMA	17.0	14.9	14.9	13.0	14.3	14.3
PEIR0126	518949	203400	N		14.6	16.1	16.1	10.9	15.6	15.6
PEIR0127	573218	187537	N		17.6	15.9	15.9	14.6	15.3	15.3
PEIR0128	565020	189657	N		14.9	14.8	14.8	11.8	14.3	14.3
PEIR0129	553391	175211	Y	Dartford AQMA 3	16.5	15.4	15.4	12.9	14.8	14.8
PEIR0130	555731	173609	Y	Dartford AQMA 1	17.5	17.3	17.3	13.6	16.8	16.8
PEIR0131	555482	174386	Y	Dartford AQMA 1	18.7	18.0	18.0	14.7	17.5	17.5
PEIR0132	560903	179864	N		17.8	18.2	18.2	14.0	17.7	17.7
PEIR0133	577222	190808	N		14.3	16.4	16.4	11.7	15.9	15.9
PEIR0134	568678	182957	N		17.4	16.1	16.1	14.0	15.4	15.4
PEIR0135	555593	173889	Y	Dartford AQMA 1	17.5	17.3	17.3	13.6	16.8	16.8
PEIR0136	559653	174907	Y	Dartford AQMA 2	15.5	15.0	15.0	12.1	14.4	14.4
PEIR0137	540630	199807	N		15.1	16.8	16.8	12.0	16.3	16.3
PEIR0138	555522	173338	Y	Dartford AQMA 2	17.5	17.3	17.3	13.6	16.8	16.8
PEIR0139	571961	170616	N		13.7	15.4	15.4	11.3	14.8	14.8
PEIR0140	561986	159056	N		11.3	16.1	16.1	8.9	15.6	15.6
PEIR0141	575233	159602	N		14.3	16.4	16.4	12.7	15.9	15.9
PEIR0142	565439	180898	N		14.5	14.9	14.9	11.6	14.3	14.3
PEIR0143	555899	173354	N		17.5	17.3	17.3	13.6	16.8	16.8

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration ( $\mu\text{g}/\text{m}^3$ )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0144	562507	179264	N		18.3	15.3	14.1	14.7
PEIR0145	564193	180652	N		15.5	16.5	12.4	16.0
PEIR0146	556230	178461	Y	Dartford AQMA 3	17.8	16.6	14.2	16.0
PEIR0147	556369	172379	N		15.1	17.4	11.8	16.9
PEIR0148	574636	201570	N		11.3	15.6	8.8	15.0
PEIR0149	558665	172636	N		14.0	17.5	10.9	17.0
PEIR0150	559008	178819	N		18.5	17.6	14.7	17.1
PEIR0151	555650	173559	Y	Thurrock AQMA	17.5	17.3	13.6	16.8
PEIR0152	571164	186475	N		15.1	15.7	12.2	15.2
PEIR0153	568635	158314	N		14.8	14.9	12.3	14.4
PEIR0154	557363	188788	Y	Dartford AQMA 1	15.2	14.9	12.0	14.4
PEIR0155	563556	178720	N		17.2	16.3	13.3	15.7
PEIR0156	555622	173392	Y	Dartford AQMA 1	17.5	17.3	13.6	16.8
PEIR0157	561258	159578	N		11.3	16.1	8.9	15.6
PEIR0158	575467	158078	Y	Maidstone Town AQMA	14.5	17.6	12.6	17.1
PEIR0159	561981	179274	N		18.2	15.8	14.0	15.2
PEIR0160	568378	169766	N		12.6	15.9	10.3	15.4
PEIR0161	556121	178744	Y	Thurrock AQMA	17.8	16.6	14.2	16.0
PEIR0162	565768	167837	N		12.4	14.1	10.0	13.4

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0163	601511	159640	N		10.5	16.2	8.1	15.6
PEIR0164	561043	180521	N		17.0	16.9	13.0	16.4
PEIR0165	588279	160896	N		11.7	16.1	9.3	15.5
PEIR0166	562208	172335	Y	Gravesham A2 AQMA	15.1	16.0	11.8	15.5
PEIR0167	560301	188783	N		13.9	15.6	11.1	15.0
PEIR0168	560127	179186	N		17.8	18.2	14.0	17.7
PEIR0169	534915	199936	Y	Enfield AQMA	15.5	15.9	11.9	15.4
PEIR0170	559196	179282	N		18.1	17.7	14.2	17.2
PEIR0171	558661	178139	N		21.5	16.8	17.0	16.2
PEIR0172	555287	179501	N		16.6	16.7	13.3	16.2
PEIR0173	576884	157736	Y	Maidstone Town AQMA	14.4	16.5	11.8	16.0
PEIR0174	574242	188073	N		17.3	15.9	13.8	15.4
PEIR0175	564089	186522	N		13.7	15.7	11.1	15.1
PEIR0176	574080	203481	N		11.6	17.1	9.0	16.5
PEIR0177	562333	172586	Y	Gravesham A2 AQMA	15.1	16.0	11.8	15.5
PEIR0178	559463	179373	N		18.1	17.7	14.2	17.2
PEIR0179	563210	179590	N		17.1	15.9	13.3	15.3
PEIR0180	578384	190582	N		14.5	15.8	11.7	15.3
PEIR0181	563652	158098	N		11.7	16.1	9.3	15.7



Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0182	601333	143586	N		15.5	17.6	12.9	17.0
PEIR0183	563129	178852	N		17.2	16.3	13.3	15.7
PEIR0184	565388	181402	N		15.1	17.1	12.2	16.6
PEIR0185	555357	173381	N		17.5	17.3	13.6	16.8
PEIR0186	577037	157737	Y	Maidstone Town AQMA	14.1	17.4	11.4	16.9
PEIR0187	551715	221588	N		13.0	15.8	10.2	15.3
PEIR0188	561069	179924	N		18.2	15.8	14.0	15.2
PEIR0189	560898	179228	N		17.8	18.2	14.0	17.7
PEIR0190	557309	178760	Y	Thurrock AQMA	19.7	17.7	15.8	17.2
PEIR0191	563521	178820	N		17.2	16.3	13.3	15.7
PEIR0192	599547	159758	N		10.5	15.5	8.1	14.9
PEIR0193	574706	162998	N		13.8	16.3	11.3	15.8
PEIR0194	563307	179705	N		17.1	15.9	13.3	15.3
PEIR0195	564882	171384	N		14.0	15.7	11.1	15.2
PEIR0196	558482	194543	N		14.1	17.4	10.9	16.9
PEIR0197	558768	194944	Y	Brentwood AQMA 4	14.1	17.4	10.9	16.9
PEIR0198	575693	157239	Y	Maidstone Town AQMA	14.7	15.9	12.4	15.3
PEIR0199	558826	194911	Y	Brentwood AQMA 4	14.1	17.4	10.9	16.9
PEIR0200	522049	200656	Y	Hertsmere AQMA 3	14.4	16.3	10.9	15.9

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )					
					Base year 2016		Opening year 2026			
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0201	560934	159625	N		11.1	16.1	8.7	15.5		
PEIR0202	561412	179631	N		18.2	15.8	14.0	15.2		
PEIR0203	563205	179583	N		17.1	15.9	13.3	15.3		
PEIR0204	555670	174872	Y	Dartford AQMA 1	18.7	18.0	14.7	17.5		
PEIR0205	562815	158587	N		11.6	17.9	9.3	17.8		
PEIR0206	561118	179875	N		18.2	15.8	14.0	15.2		
PEIR0207	594409	158990	N		10.3	14.3	8.1	13.7		
PEIR0208	558908	172744	N		14.0	17.5	10.9	17.0		
PEIR0209	576488	190931	N		14.7	16.0	12.0	15.4		
PEIR0210	563146	179047	N		17.1	15.9	13.3	15.3		
PEIR0211	560028	179870	Y	Thurrock AQMA	17.8	18.2	14.0	17.7		
PEIR0212	557434	188812	Y	London Borough of Havering AQMA	15.2	14.9	12.0	14.4		
PEIR0213	563995	178439	N		17.2	16.3	13.3	15.7		
PEIR0214	587448	161318	N		11.8	16.5	9.4	15.9		
PEIR0215	555175	179735	N		16.6	16.7	13.3	16.2		
PEIR0216	577220	161481	N		14.6	16.4	12.4	15.8		
PEIR0217	575091	162398	N		14.6	15.9	12.0	15.3		
PEIR0218	601465	143513	N		15.5	17.6	12.9	17.0		
PEIR0219	556000	172630	N		15.1	17.4	11.8	16.9		

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )					
					Base year 2016			Opening year 2026		
					NO <sub>2</sub>	PM <sub>10</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>	PM <sub>10</sub>
PEIR0220	557560	177743	Y	Thurrock AQMA	20.3	19.1	19.1	17.0	18.7	18.7
PEIR0221	555511	174237	Y	Dartford AQMA 1	18.7	18.0	18.0	14.7	17.5	17.5
PEIR0222	522710	199915	N		14.4	16.6	16.6	10.9	16.1	16.1
PEIR0223	562377	189126	N		13.6	15.8	15.8	11.0	15.3	15.3
PEIR0224	558985	178753	N		21.5	16.8	16.8	17.0	16.2	16.2
PEIR0225	569227	159783	N		13.8	17.2	17.2	11.1	16.8	16.8
PEIR0226	556101	175092	N		20.4	18.6	18.6	16.6	18.1	18.1
PEIR0227	563889	179683	N		17.1	15.9	15.9	13.3	15.3	15.3
PEIR0228	563848	198533	N		12.0	16.5	16.5	9.2	15.9	15.9
PEIR0229	550968	157671	Y	Sevenoaks AQMA 3 (M26)	10.7	16.5	16.5	8.0	16.0	16.0
PEIR0230	562336	172521	N		15.1	16.0	16.0	11.8	15.5	15.5
PEIR0231	563533	158683	N		11.7	16.1	16.1	9.3	15.7	15.7
PEIR0232	564251	171590	N		14.0	15.7	15.7	11.1	15.2	15.2
PEIR0233	563405	178120	N		17.2	16.3	16.3	13.3	15.7	15.7
PEIR0234	559310	172765	N		13.7	17.3	17.3	10.8	16.9	16.9
PEIR0235	555267	173378	N		17.5	17.3	17.3	13.6	16.8	16.8
PEIR0236	525798	199932	Y	Hertsmere AQMA 1	15.6	16.4	16.4	11.8	15.9	15.9
PEIR0237	517940	204670	N		15.7	15.5	15.5	11.8	14.9	14.9
PEIR0238	559072	179458	Y	Thurrock AQMA	18.1	17.7	17.7	14.2	17.2	17.2

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0239	567438	182115	N		15.7	16.7	12.7	16.1
PEIR0240	576356	188464	N		16.7	15.8	13.4	15.2
PEIR0241	563826	179656	N		17.1	15.9	13.3	15.3
PEIR0242	561035	179807	N		18.2	15.8	14.0	15.2
PEIR0243	574486	162352	N		13.8	16.3	11.3	15.8
PEIR0244	570710	169406	N		13.3	16.2	10.9	15.7
PEIR0245	558097	177639	N		18.6	17.3	14.7	16.7
PEIR0246	586070	152657	N		10.9	16.2	8.5	15.6
PEIR0247	535356	199993	Y	Enfield AQMA	16.7	15.7	12.7	15.2
PEIR0248	558483	174679	Y	Dartford AQMA 2	16.3	15.7	12.7	15.1
PEIR0249	555482	175518	N		18.1	17.2	14.1	16.6
PEIR0250	565459	181205	N		15.1	17.1	12.2	16.6
PEIR0251	555662	173219	Y	Dartford AQMA 1	17.5	17.3	13.6	16.8
PEIR0252	560052	178475	N		17.0	16.6	13.4	16.0
PEIR0253	555504	173390	Y	Dartford AQMA 3	17.5	17.3	13.6	16.8
PEIR0254	563227	158043	N		11.7	16.1	9.3	15.7
PEIR0255	566292	170349	Y	Gravesham A2 AQMA	13.6	17.1	11.1	16.5
PEIR0256	557355	172354	N		14.2	17.0	11.1	16.5
PEIR0257	565229	189780	N		14.9	14.8	11.8	14.3
PEIR0258	571718	168164	N		14.2	16.3	11.2	15.7

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0259	574963	162374	N		13.8	16.3	11.3	15.8
PEIR0260	565624	189798	N		14.9	14.8	11.8	14.3
PEIR0261	542362	200656	N		13.7	16.4	10.8	15.9
PEIR0262	554440	174095	Y	Dartford AQMA 3	21.4	15.8	17.3	15.2
PEIR0263	562248	172403	Y	Gravesham A2 AQMA	15.1	16.0	11.8	15.5
PEIR0264	567646	202209	N		11.1	16.5	8.6	15.9
PEIR0265	583077	163597	N		13.2	16.3	10.8	15.6
PEIR0266	566162	170292	Y	Gravesham A2 AQMA	13.6	17.1	11.1	16.5
PEIR0267	576792	189606	N		15.5	15.8	12.5	15.2
PEIR0268	555268	158119	Y	Sevenoaks AQMA 3 (M26)	11.3	15.0	8.8	14.5
PEIR0269	565654	200239	N		11.5	17.6	8.9	17.1
PEIR0270	575399	158805	Y	Maidstone Town AQMA	14.5	17.6	12.6	17.1
PEIR0271	573359	170840	N		16.9	16.2	13.6	15.5
PEIR0272	559548	179538	Y	Thurrock AQMA	18.1	17.7	14.2	17.2
PEIR0273	557433	179109	Y	Thurrock AQMA	17.1	17.3	13.6	16.8
PEIR0274	601456	159722	N		10.5	16.2	8.1	15.6
PEIR0275	555323	171339	N		14.4	17.1	11.3	16.6
PEIR0276	568760	182857	N		17.4	16.1	14.0	15.4
PEIR0277	572973	166435	N		13.9	16.0	11.3	15.4

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0278	576167	188452	N		16.7	15.8	13.4	15.2
PEIR0279	577195	161682	N		14.6	16.4	12.4	15.8
PEIR0280	573663	171015	N		14.8	15.1	12.2	14.4
PEIR0281	555285	171422	N		14.4	17.1	11.3	16.6
PEIR0282	562437	196891	N		12.6	16.1	9.8	15.6
PEIR0283	574579	171364	N		15.7	16.3	13.0	15.7
PEIR0284	563650	180415	N		16.2	17.0	12.8	16.5
PEIR0285	570856	186481	N		14.8	15.4	11.9	14.8
PEIR0286	563017	158358	N		11.7	16.1	9.3	15.7
PEIR0287	522009	200575	N		14.4	16.3	10.9	15.9
PEIR0288	563062	177977	N		15.6	16.4	12.4	15.8
PEIR0289	572615	158549	N		15.5	17.7	12.6	17.3
PEIR0290	570475	161134	N		15.2	16.6	12.5	15.9
PEIR0291	576909	195116	N		13.3	15.6	10.8	15.0
PEIR0292	563374	158007	N		11.7	16.1	9.3	15.7
PEIR0293	558619	172776	Y	Dartford AQMA 4	14.0	17.5	10.9	17.0
PEIR0294	574764	200666	N		11.6	15.8	9.0	15.1
PEIR0295	585155	152905	N		10.5	15.9	8.1	15.3
PEIR0296	562850	158373	N		11.6	17.9	9.3	17.8
PEIR0297	558428	174801	N		16.3	15.7	12.7	15.1

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0298	558413	174634	Y	Dartford AQMA 2	16.3	15.7	12.7	15.1
PEIR0299	574714	163231	N		15.0	16.7	12.0	16.2
PEIR0300	567512	190145	N		15.7	15.6	12.6	15.0
PEIR0301	562299	196654	N		12.6	16.1	9.8	15.6
PEIR0302	549916	158084	Y	Sevenoaks AQMA 2 (M25)	10.6	14.2	7.9	13.6
PEIR0303	569062	159173	N		13.8	17.2	11.1	16.8
PEIR0304	574707	161219	N		13.3	15.7	10.9	15.2
PEIR0305	561129	158376	N		11.4	16.3	9.1	15.8
PEIR0306	577375	193087	N		14.0	15.2	11.3	14.7
PEIR0307	556962	178837	N		17.8	16.6	14.2	16.0
PEIR0308	550183	214038	N		11.4	17.5	8.9	16.9
PEIR0309	570322	158955	N		14.9	17.8	11.9	17.2
PEIR0310	569966	159149	N		13.8	17.2	11.1	16.8
PEIR0311	541306	200038	N		14.3	16.7	11.3	16.1
PEIR0312	574315	188160	N		17.3	15.9	13.8	15.4
PEIR0313	575047	171332	N		16.0	15.8	13.4	15.2
PEIR0314	583381	154215	N		11.2	16.0	8.8	15.5
PEIR0315	573366	165658	N		14.4	17.2	11.5	16.6
PEIR0316	555415	173420	Y	Dartford AQMA 3	17.5	17.3	13.6	16.8

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0317	570058	185812	N		15.3	15.8	12.3	15.2
PEIR0318	564281	178048	N		17.6	14.7	13.5	14.1
PEIR0319	599463	145051	N		10.9	15.5	8.3	14.9
PEIR0320	538705	199854	N		16.1	17.0	12.7	16.5
PEIR0321	520370	202433	N		14.2	17.0	10.5	16.6
PEIR0322	573577	157572	N		13.9	17.9	11.1	17.9
PEIR0323	556407	172142	N		15.1	17.4	11.8	16.9
PEIR0324	599540	145122	N		10.9	15.5	8.3	14.9
PEIR0325	553357	167633	Y	Sevenoaks AQMA 2 (M25)	12.4	16.5	9.6	16.0
PEIR0326	569833	160519	N		12.9	15.8	10.4	15.4
PEIR0327	548269	208811	N		13.2	16.6	10.3	16.1
PEIR0328	535442	200083	Y	Broxbourne AQMA 2	16.3	16.4	12.5	15.9
PEIR0329	590818	149544	N		9.9	15.2	7.6	14.6
PEIR0330	544742	155182	N		10.9	14.8	8.2	14.3
PEIR0331	566152	170260	N		13.6	17.1	11.1	16.5
PEIR0332	522994	199984	Y	Hertsme AQMA 2	14.4	16.6	10.9	16.1
PEIR0333	575172	160228	N		13.6	15.6	11.7	15.1
PEIR0334	554175	174269	Y	Dartford AQMA 3	21.4	15.8	17.3	15.2
PEIR0335	587986	151107	N		10.6	16.2	8.2	15.7



Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0336	569734	160525	N		12.9	15.8	10.4	15.4
PEIR0337	556959	192286	Y	Brentwood AQMA 2	13.6	16.7	10.6	16.1
PEIR0338	569972	185599	N		14.2	16.2	11.4	15.6
PEIR0339	590853	149652	N		9.9	15.2	7.6	14.6
PEIR0340	549456	211192	N		11.7	17.3	9.1	16.8
PEIR0341	572600	158448	N		15.5	17.7	12.6	17.3
PEIR0342	554838	167392	Y	Sevenoaks AQMA 1 (M20)	12.1	16.4	9.4	15.9
PEIR0343	546836	155829	Y	Sevenoaks AQMA 2 (M25)	10.4	16.2	7.8	15.8
PEIR0344	575208	158327	Y	Maidstone Town AQMA	14.5	17.6	12.6	17.1
PEIR0345	559359	172709	N		13.7	17.3	10.8	16.9
PEIR0346	562149	159133	N		11.2	16.4	8.9	15.9
PEIR0347	596634	146979	N		9.9	14.7	7.6	14.1
PEIR0348	571602	168345	N		14.2	16.3	11.2	15.7
PEIR0349	561349	180920	N		17.0	16.9	13.0	16.4
PEIR0350	562864	179302	N		18.3	15.3	14.1	14.7
PEIR0351	558305	185117	Y	Havering AQMA	14.6	16.5	11.4	15.9
PEIR0352	555576	175391	N		18.1	17.2	14.1	16.6

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0353	558161	164726	Y	Sevenoaks AQMA 1 (M20)	11.4	15.0	9.1	14.4
PEIR0354	564908	181062	N		15.3	15.7	12.2	15.2
PEIR0355	555712	175117	N		18.1	17.2	14.1	16.6
PEIR0356	563770	180338	N		16.2	17.0	12.8	16.5
PEIR0357	575720	158476	Y	Maidstone Town AQMA	14.5	17.6	12.6	17.1
PEIR0358	574630	162610	N		13.8	16.3	11.3	15.8
PEIR0359	557125	191984	N		13.5	17.0	10.6	16.4
PEIR0360	575342	159012	N		14.3	16.4	12.7	15.9
PEIR0361	556762	171491	N		14.1	15.6	11.0	15.1
PEIR0362	566152	170420	Y	Gravesham A2 AQMA	13.6	17.1	11.1	16.5
PEIR0363	588286	150763	N		10.3	17.1	7.9	16.5
PEIR0364	562393	172196	Y	Gravesham A2 AQMA	15.1	16.0	11.8	15.5
PEIR0365	566573	159432	N		12.0	16.4	9.6	15.8
PEIR0366	558574	174593	N		16.3	15.7	12.7	15.1
PEIR0367	562698	179215	N		18.3	15.3	14.1	14.7
PEIR0368	517754	202681	N		13.7	16.0	10.4	15.5
PEIR0369	573237	158002	N		15.5	17.7	12.8	17.2
PEIR0370	544793	154870	Y	Sevenoaks AQMA 2 (M25)	12.5	16.9	9.7	16.4

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0371	568732	159334	N		12.5	16.7	10.1	16.2
PEIR0372	566312	190119	N		14.8	15.8	12.0	15.2
PEIR0373	547862	207136	N		12.0	17.0	9.3	16.5
PEIR0374	579311	162295	N		13.7	16.2	11.4	15.7
PEIR0375	579990	156924	N		12.8	14.2	10.2	13.6
PEIR0376	558573	174332	N		16.3	15.7	12.7	15.1
PEIR0377	548079	204935	N		11.6	16.6	9.1	16.0
PEIR0378	575739	158637	N		14.5	17.6	12.6	17.1
PEIR0379	550374	164657	Y	Sevenoaks AQMA 2 (M25)	11.8	16.6	8.8	16.1
PEIR0380	557720	193240	N		13.9	16.2	10.7	15.6
PEIR0381	562845	179229	N		18.3	15.3	14.1	14.7
PEIR0382	574705	163045	N		15.0	16.7	12.0	16.2
PEIR0383	558144	183520	Y	Thurrock AQMA	14.5	17.7	11.6	17.4
PEIR0384	575143	159181	Y	Maidstone Town AQMA	14.3	16.4	12.7	15.9
PEIR0385	575478	158263	Y	Maidstone Town AQMA	14.5	17.6	12.6	17.1
PEIR0386	558716	172536	N		14.0	17.5	10.9	17.0
PEIR0387	571873	167998	N		13.6	16.2	11.1	15.6
PEIR0388	595542	147206	N		10.0	16.0	7.6	15.5

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0389	567481	169862	Y	Gravesham A2 AQMA	12.6	16.3	10.3	15.8
PEIR0390	536226	200025	Y	Broxbourne AQMA 1	17.4	16.1	13.3	15.5
PEIR0391	581055	163295	N		14.4	15.6	11.5	14.9
PEIR0392	568812	159490	N		12.5	16.7	10.1	16.2
PEIR0393	562650	179264	N		18.3	15.3	14.1	14.7
PEIR0394	560879	180608	N		15.6	16.4	12.3	15.8
PEIR0395	569512	159194	N		13.8	17.2	11.1	16.8
PEIR0396	558709	179548	N		18.8	17.2	14.8	16.7
PEIR0397	552275	166940	N		12.0	16.5	9.2	16.0
PEIR0398	550875	218557	N		11.4	16.0	8.8	15.5
PEIR0399	561727	172696	N		14.0	17.5	11.1	17.0
PEIR0400	557240	190294	Y	Havering AQMA	13.7	16.8	10.8	16.2
PEIR0401	558722	172900	N		14.0	17.5	10.9	17.0
PEIR0402	580361	163039	N		15.3	14.9	12.3	14.3
PEIR0403	540690	154083	N		12.1	15.0	9.0	14.5
PEIR0404	561771	196376	N		12.1	16.2	9.5	15.7
PEIR0405	551995	158223	N		11.1	15.2	8.4	14.7
PEIR0406	571426	168615	N		14.2	16.3	11.2	15.7
PEIR0407	601086	143894	N		15.5	17.6	12.9	17.0
PEIR0408	573117	157659	N		13.9	17.9	11.1	17.9

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0409	565977	159254	N		12.3	16.6	9.7	16.1
PEIR0410	571137	186646	N		15.1	15.7	12.2	15.2
PEIR0411	552527	167677	N		13.1	16.9	10.0	16.4
PEIR0412	556392	172325	N		15.1	17.4	11.8	16.9
PEIR0413	552598	196401	N		12.1	17.3	9.3	16.7
PEIR0414	550429	197618	N		12.4	17.4	9.6	16.9
PEIR0415	565463	170666	N		13.9	17.1	11.2	16.6
PEIR0416	559690	179893	N		18.1	17.7	14.2	17.2
PEIR0417	573156	202584	N		11.3	16.6	8.8	16.0
PEIR0418	572904	158243	N		15.5	17.7	12.6	17.3
PEIR0419	574772	162484	N		13.8	16.3	11.3	15.8
PEIR0420	558111	177931	N		18.6	17.3	14.7	16.7
PEIR0421	557565	181476	Y	Thurrock AQMA	15.9	16.4	12.6	15.9
PEIR0422	555870	173353	Y	Dartford AQMA 1	17.5	17.3	13.6	16.8
PEIR0423	576106	197979	N		12.2	15.5	10.0	14.9
PEIR0424	570372	201724	N		11.7	16.6	8.9	16.0
PEIR0425	568285	183191	N		16.1	16.9	12.9	16.4
PEIR0426	558746	174294	N		16.3	15.7	12.7	15.1
PEIR0427	578329	157310	N		13.3	17.4	10.8	16.8
PEIR0428	536833	153020	N		12.1	13.5	9.1	13.0

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0429	562635	179371	N		18.3	15.3	14.1	14.7
PEIR0430	553723	169593	Y	Sevenoaks AQMA 2 (M25)	13.7	16.9	10.4	16.4
PEIR0431	559015	179141	N		18.1	17.7	14.2	17.2
PEIR0432	559022	178973	N		18.5	17.6	14.7	17.1
PEIR0433	552945	168582	N		14.3	16.0	10.8	15.4
PEIR0434	557017	192495	Y	Brentwood AQMA 2	14.4	16.5	11.1	15.9
PEIR0435	561426	159520	N		11.3	16.1	8.9	15.6
PEIR0436	574558	163589	N		15.0	16.7	12.0	16.2
PEIR0437	558981	178832	N		21.5	16.8	17.0	16.2
PEIR0438	578087	190655	N		14.5	15.8	11.7	15.3
PEIR0439	563079	177710	N		15.6	16.4	12.4	15.8
PEIR0440	550085	163988	N		11.5	16.6	8.6	16.1
PEIR0441	571465	170755	N		13.7	15.4	11.3	14.8
PEIR0442	581961	155498	N		11.5	16.4	9.1	15.8
PEIR0443	563572	180725	N		16.2	17.0	12.8	16.5
PEIR0444	546991	199657	N		13.2	16.7	10.3	16.2
PEIR0445	555040	194152	N		12.6	16.3	9.7	15.7
PEIR0446	557714	189948	N		13.9	17.1	11.1	16.5
PEIR0447	565710	170621	N		13.9	17.1	11.2	16.6

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )						
					Base year 2016		Opening year 2026				
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>	
PEIR0448	574763	158593	Y	Maidstone Town AQMA	15.3	17.1	14.0				
PEIR0449	564492	158971	N		12.5	14.1	9.8				13.6
PEIR0450	577924	185182	N		16.4	13.2	13.9				12.6
PEIR0451	555932	172659	N		16.9	18.1	13.4				17.7
PEIR0452	575966	186980	N		15.5	14.7	13.0				14.1
PEIR0453	565257	170786	N		13.9	17.1	11.2				16.6
PEIR0454	564539	180831	N		15.5	16.5	12.4				16.0
PEIR0455	560283	179756	N		17.8	18.2	14.0				17.7
PEIR0456	563551	178572	N		17.2	16.3	13.3				15.7
PEIR0457	568107	202662	N		11.3	17.0	8.7				16.4
PEIR0458	549345	157007	N		10.6	15.9	7.9				15.5
PEIR0459	551590	222287	N		12.6	16.8	10.0				16.3
PEIR0460	555603	172641	N		16.9	18.1	13.4				17.7
PEIR0461	576135	161767	N		13.8	16.5	11.7				15.9
PEIR0462	557597	181088	N		15.9	16.4	12.6				15.9
PEIR0463	550521	159041	N		11.2	16.0	8.3				15.5
PEIR0464	558055	188627	Y	Havering AQMA	14.5	17.0	11.6				16.4
PEIR0465	558970	178392	N		21.5	16.8	17.0				16.2
PEIR0466	576371	188816	N		16.7	15.8	13.4				15.2

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0467	565834	181364	N		15.1	17.1	12.2	16.6
PEIR0468	559007	160626	N		10.7	15.4	8.4	14.9
PEIR0469	583151	154563	N		11.2	16.0	8.8	15.5
PEIR0470	538436	153840	N		12.8	15.1	9.5	14.7
PEIR0471	564660	171117	N		14.0	15.7	11.1	15.2
PEIR0472	562817	172024	N		15.1	16.0	11.8	15.5
PEIR0473	548598	156621	N		10.5	16.8	7.8	16.4
PEIR0474	547409	200862	N		12.4	16.8	9.7	16.3
PEIR0475	577920	192174	N		15.1	16.5	12.5	16.1
PEIR0476	568226	182969	N		17.4	16.1	14.0	15.4
PEIR0477	567917	182454	N		15.7	16.7	12.7	16.1
PEIR0478	549632	156701	N		10.5	16.2	7.9	15.8
PEIR0479	539115	199899	N		14.9	17.4	11.9	16.9
PEIR0480	545262	200998	N		12.8	17.0	10.0	16.5
PEIR0481	583968	188316	N		18.4	15.3	14.9	14.7
PEIR0482	584144	188244	N		17.7	15.5	14.3	14.9
PEIR0483	584938	188294	N		17.7	15.5	14.3	14.9
PEIR0484	586393	187988	N		20.5	16.2	16.5	15.5
PEIR0485	587423	187626	Y	Southend-on-Sea AQMA 1	20.4	16.7	16.8	16.1



Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0486	570400	187253	N		17.2	14.8	13.7	14.2
PEIR0487	578005	188254	N		17.4	14.6	13.9	14.0
PEIR0488	579321	187876	N		16.7	14.1	13.6	13.5
PEIR0489	561438	179699	N		18.2	15.8	14.0	15.2
PEIR0490	564625	178314	N		17.6	14.7	13.5	14.1
PEIR0491	564648	179004	N		16.9	14.8	13.1	14.3
PEIR0492	567411	177574	N		16.3	15.5	14.0	14.9
PEIR0493	564965	179788	N		16.9	14.8	13.1	14.3
PEIR0494	533804	152763	N		12.1	16.3	9.2	16.0
PEIR0495	570393	159028	N		15.4	17.2	12.6	16.6
PEIR0496	570254	164271	N		12.7	15.3	10.3	14.6
PEIR0497	574832	158380	Y	Maidstone Town AQMA	15.3	17.1	14.0	16.7
PEIR0498	577343	158871	N		13.0	14.7	10.8	14.1
PEIR0499	574529	162123	N		13.8	16.3	11.3	15.8
PEIR0500	570870	169517	N		13.3	16.2	10.9	15.7
PEIR0501	574998	170883	N		17.5	17.1	14.5	16.5
PEIR0502	564446	166780	N		12.2	14.1	9.8	13.4
PEIR0503	562616	167937	N		12.4	14.1	9.9	13.5
PEIR0504	560723	168886	N		13.3	13.8	10.6	13.2

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0505	560797	168885	N		13.3	13.8	10.6	13.2
PEIR0506	567143	171222	N		13.1	14.8	10.7	14.2
PEIR0507	566185	170715	N		13.6	17.1	11.1	16.5
PEIR0508	563995	170310	N		13.7	15.4	11.0	14.8
PEIR0509	561411	171993	N		13.6	15.6	10.8	15.0
PEIR0510	558109	174989	N		16.3	15.7	12.7	15.1
PEIR0511	557474	174973	N		16.9	15.4	13.2	14.9
PEIR0512	554883	175700	N		16.8	15.9	13.1	15.3
PEIR0513	555300	173798	Y	Dartford AQMA 3	17.5	17.3	13.6	16.8
PEIR0514	555669	173902	Y	Dartford AQMA 1	17.5	17.3	13.6	16.8
PEIR0515	554910	172040	N		18.1	16.6	14.6	16.0
PEIR0516	553772	172322	N		15.7	15.8	12.0	15.3
PEIR0517	553968	172184	N		15.7	15.8	12.0	15.3
PEIR0518	553045	168269	Y	Sevenoaks AQMA 2 (M25)	12.9	16.7	9.9	16.2
PEIR0519	556840	177926	Y	Thurrock AQMA	20.5	15.8	17.2	15.2
PEIR0520	556809	177897	Y	Thurrock AQMA	20.5	15.8	17.2	15.2
PEIR0521	561032	179195	Y	Thurrock AQMA	18.2	15.8	14.0	15.2
PEIR0522	580260	189694	Y	Rayleigh AQMA	18.5	17.3	15.3	16.7
PEIR0523	531522	200902	Y	Broxbourne AQMA 3	13.2	15.6	10.2	15.1

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
PEIR0524	515200	202626	Y	St Albans AQMA 7	17.1	16.6	13.4	16.1
PEIR0525	515337	202678	Y	St Albans AQMA 7	17.1	16.6	13.4	16.1
PIER0526	567776	172771	N		14.2	14.3	11.6	13.7
PIER0527	568263	172507	N		13.3	14.4	11.0	13.8
FUT0001	565796	170576	N		13.9	17.1	11.2	16.6
FUT0002	564165	171552	N		14.0	15.7	11.1	15.2
FUT0003	561797	172582	Y	Gravesham A2 AQMA	14.0	17.5	11.1	17.0
FUT0004	560396	177978	N		17.0	16.5	13.5	15.9
FUT0005	563756	178670	N		17.2	16.3	13.3	15.7
FUT0006	564630	179112	N		16.9	14.8	13.1	14.3
FUT0007	563672	180314	N		16.2	17.0	12.8	16.5
FUT0008	566986	178768	N		16.0	15.7	13.3	15.0
FUT0009	567119	181184	N		14.8	14.8	12.0	14.2
FUT0010	567159	181567	N		14.8	14.8	12.0	14.2
FUT0011	567151	181885	N		14.8	14.8	12.0	14.2
FUT0012	567459	181972	N		14.8	14.8	12.0	14.2
FUT0013	568191	182900	N		17.4	16.1	14.0	15.4
FUT0014	568542	182880	N		17.4	16.1	14.0	15.4
FUT0015	563871	189389	N		13.6	16.1	10.9	15.6
FUT0016	564687	189597	N		13.6	15.7	10.9	15.2

Receptor ID	X OS grid ref	Y OS grid ref	In AQMA?	AQMA name	Background concentration (µg/m <sup>3</sup> )			
					Base year 2016		Opening year 2026	
					NO <sub>2</sub>	PM <sub>10</sub>	NO <sub>2</sub>	PM <sub>10</sub>
FUT0017	564746	178257	N		17.6	14.7	13.5	14.1
FUT0018	559127	179471	Y	Thurrock AQMA	18.1	17.7	14.2	17.2
FUT0019	559261	179504	Y	Thurrock AQMA	18.1	17.7	14.2	17.2
FUT0020	567187	178051	N		17.2	16.2	14.7	15.5
FUT0021	567097	178274	N		17.2	16.2	14.7	15.5

*PEIR = existing receptor*

*FUT = future receptor*

**Table C.2 Modelled ecological transect receptors, and associated background pollutant concentrations**

Site ID	X OS grid ref	Y OS grid ref	Site details	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	
				Base year 2016	Opening year 2026
CobhamWoods1	571188	168718	Cobham Woods SSSI	19.8	15.2
CBW2	571170	168700		19.8	15.2
CBW3	571155	168684		19.8	15.2
CBW4	571141	168668		19.8	15.2
CBW5	571126	168651		19.8	15.2
CBW6	571112	168636		19.8	15.2
CBW7	571099	168620		19.8	15.2
CBW8	571087	168604		19.8	15.2
CBW9	571076	168587		19.8	15.2
CBW10	571064	168571		19.8	15.2
CBW11	571053	168553		19.8	15.2
HolbournBurham1	570639	162439	Holbourn to Burham Marshes SSSI	18.0	14.2
HB2	570660	162441		18.0	14.2
QueendownWarren1	583252	163331	Queendown Warren SSSI, SAC	18.2	14.7
QW2	583246	163313		18.2	14.7
GraysThurrock1	560757	179127	Grays Thurrock Chalk Pit SSSI	25.7	19.5
GT2	560769	179120		25.7	19.5
GT3	560779	179113		25.7	19.5
GT4	560788	179106		25.7	19.5
GT5	560798	179099		25.7	19.5

Site ID	X OS grid ref	Y OS grid ref	Site details	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	
				Base year 2016	Opening year 2026
GT6	560808	179093		25.7	19.5
GT7	560818	179086		25.7	19.5
GT8	560818	179085		25.7	19.5
GT9	560828	179079		25.7	19.5
GT10	560839	179071		25.7	19.5
GT11	560849	179065		25.7	19.5
GT12	560859	179058		25.7	19.5
GT13	560869	179051		25.7	19.5
GT14	560879	179045		25.7	19.5
GT15	560889	179039		25.7	19.5
GT16	560901	179032		25.7	19.5
GT17	560912	179025		25.7	19.5
GT18	560924	179017		25.7	19.5
NorthDownW1	577381	159833	North Downs Woodlands SAC	17.8	14.7
NDW2	577382	159820		17.8	14.7
NDW3	577383	159808		17.8	14.7
NDW4	577384	159798		17.8	14.7
NDW5	577385	159788		17.8	14.7
NDW6	577386	159777		17.8	14.7
NDW7	577387	159766		17.8	14.7
NDW8	577389	159756		17.8	14.7

Site ID	X OS grid ref	Y OS grid ref	Site details	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	
				Base year 2016	Opening year 2026
NDW9	577390	159744		17.8	14.7
NDW10	577392	159734		17.8	14.7
NDW11	577394	159723		17.8	14.7
NDW12	577396	159712		17.8	14.7
NDW13	577398	159700		17.8	14.7
NDW14	577400	159689		17.8	14.7
NDW15	577402	159677		17.8	14.7
NDW16	577404	159666		17.8	14.7
NDW17	577406	159655		17.8	14.7
NDW18	577408	159643		17.8	14.7
NDW19	577410	159634		17.8	14.7
WouldhamDetling11a	574338	162083	Wouldham to Detling Escarpment SSSI	19.1	15.4
WD12a	574325	162083		19.1	15.4
WD13a	574314	162083		19.1	15.4
WD14a	574302	162084		19.1	15.4
WD15a	574289	162085		19.1	15.4
WouldhamDetling1b	574808	161334	Wouldham to Detling Escarpment SSSI	18.5	14.7
WD2b	574818	161334		18.5	14.7
WD3b	574829	161334		18.5	14.7
WD4b	574840	161334		18.5	14.7
WD5b	574850	161334		18.5	14.7

Site ID	X OS grid ref	Y OS grid ref	Site details	Background NO <sub>x</sub> (µg/m <sup>3</sup> )		
				Base year 2016	Opening year 2026	
WD6b	574860	161334		18.5	14.7	
WD7b	574871	161334		18.5	14.7	
WD8b	574881	161334		18.5	14.7	
WD9b	574892	161334		18.5	14.7	
WD10b	574902	161333		18.5	14.7	
WD11b	574914	161334		18.5	14.7	
WD12b	574924	161334		18.5	14.7	
WD13b	574934	161334		18.5	14.7	
ShorneAshenbank1b	567368	169745		Shorne and Ashenbank Woods SSSI	17.4	13.8
SA2b	567365	169734			17.4	13.8
SA3b	567362	169724			17.4	13.8
SA4b	567360	169714			17.4	13.8
SA5b	567357	169702			17.4	13.8
SA6b	567355	169691	17.4		13.8	
SA7b	567353	169681	17.4		13.8	
SA8b	567350	169669	17.4		13.8	
SA9b	567348	169658	17.4		13.8	
SA10b	567345	169648	17.4		13.8	
SA11b	567343	169636	17.4	13.8		
SA12b	567341	169626	17.4	13.8		
SA13b	567339	169616	17.4	13.8		



Site ID	X OS grid ref	Y OS grid ref	Site details	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	
				Base year 2016	Opening year 2026
SA14b	567337	169604	Hailing to Trottscliffe Escarpment SSSI	17.4	13.8
SA15b	567335	169593		17.4	13.8
SA16b	567333	169583		17.4	13.8
SA17b	567331	169571		17.4	13.8
SA18b	567328	169561		17.4	13.8
SA19b	567326	169550		17.4	13.8
SA20b	567324	169540		17.4	13.8
HailingTrott1	570613	166085		17.9	14.3
HT2	570604	166090		17.9	14.3
HT3	570594	166095		17.9	14.3
HT4	570583	166100		17.9	14.3
HT5	570573	166103		17.9	14.3
HT6	570564	166107		17.9	14.3
HT7	570554	166110		17.9	14.3
HT8	570544	166114		17.9	14.3
HT9	570534	166118		17.9	14.3
HT10	570524	166122		17.9	14.3
HT11	570513	166126		17.9	14.3
HT12	570503	166129		17.9	14.3
HT13	570493	166133		17.9	14.3
HT14	570483	166136	17.9	14.3	

Site ID	X OS grid ref	Y OS grid ref	Site details	Background NO <sub>x</sub> (µg/m <sup>3</sup> )		
				Base year 2016	Opening year 2026	
HT15	570472	166140		17.9	14.3	
HT16	570462	166144		17.9	14.3	
HT17	570451	166148		17.9	14.3	
HT18	570440	166151		17.9	14.3	
HT19	570429	166155		17.9	14.3	
H120	570418	166159		17.9	14.3	
WouldhamDetting1a	574468	162086		Wouldham to Detling Escarpment SSSI	19.1	15.4
WD2a	574453	162084			19.1	15.4
WD3a	574439	162085			19.1	15.4
WD4a	574425	162084			19.1	15.4
WD5a	574413	162083	19.1		15.4	
WD6a	574400	162083	19.1		15.4	
WD7a	574389	162083	19.1		15.4	
WD8a	574376	162083	19.1		15.4	
WD9a	574362	162083	19.1		15.4	
WD10a	574350	162083	19.1		15.4	
SouthThamesE1	568067	173197	South Thames Estuary and Marshes SSSI	20.1	16.6	
STE2	568065	173207		20.1	16.6	
STE3	568064	173216		20.1	16.6	
STE4	568062	173225		20.1	16.6	
STE5	568060	173236		20.1	16.6	

Site ID	X OS grid ref	Y OS grid ref	Site details	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	
				Base year 2016	Opening year 2026
STE6	568059	173243		20.1	16.6
STE7	568058	173251		20.1	16.6
STE8	568057	173259		20.1	16.6
STE9	568055	173269		20.1	16.6
STE10	568054	173276		20.1	16.6
STE11	568053	173285		20.1	16.6
STE12	568052	173294		20.1	16.6
STE13	568050	173303		20.1	16.6
STE14	568048	173313		20.1	16.6
STE15	568047	173323		20.1	16.6
STE16	568045	173332		20.1	16.6
STE17	568044	173341		20.1	16.6
STE18	568042	173350		20.1	16.6
STE19	568041	173359		20.1	16.6
STE20	568040	173367		20.1	16.6
STE21	568038	173376		20.1	16.6
STE22	568037	173385		20.1	16.6
STE23	568035	173394		20.1	16.6
ShorneAshenbank 1a	567791	169745	Shorne and Ashenbank Woods SSSI	17.4	13.8
SA2a	567794	169754		17.4	13.8
SA3a	567796	169763		17.4	13.8

Site ID	X OS grid ref	Y OS grid ref	Site details	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	
				Base year 2016	Opening year 2026
SA4a	567799	169772		17.4	13.8
SA5a	567802	169781		17.4	13.8
SA6a	567806	169791		17.4	13.8
SA7a	567809	169801		17.4	13.8
SA8a	567812	169810		17.4	13.8
SA9a	567815	169819		17.4	13.8
SA10a	567818	169828		17.4	13.8
SA11a	567820	169837		17.4	13.8
SA12a	567823	169846		17.4	13.8
SA13a	567825	169856		17.4	13.8
SA14a	567828	169864		17.4	13.8
SA15a	567831	169875		17.4	13.8
SA16a	567833	169884		17.4	13.8
SA17a	567837	169893		17.4	13.8
SA18a	567840	169902		17.4	13.8
SA19a	567842	169912		17.4	13.8
SA20a	567846	169921		17.4	13.8
SA21a	567848	169929		17.4	13.8
SA22a	567852	169938		17.4	13.8
EppingForest1b	548212	202574	Epping Forest SSSI	16.1	12.2
EF2b	548199	202578		16.1	12.2

Site ID	X OS grid ref	Y OS grid ref	Site details	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	
				Base year 2016	Opening year 2026
EF3b	548186	202582		16.1	12.2
EF4b	548174	202586		16.1	12.2
EF5b	548163	202590		16.1	12.2
EF6b	548150	202593		16.1	12.2
EF7b	548137	202598		16.1	12.2
EF8b	548125	202602		16.1	12.2
EF9b	548114	202606		16.1	12.2
EF10b	548104	202608		16.1	12.2
EF11b	548095	202612		16.1	12.2
EF12b	548084	202615		16.1	12.2
EF12b	548074	202618		16.1	12.2
EF13b	548064	202621		16.1	12.2
EF14b	548053	202625		16.1	12.2
InnerThamesMarsh1	555039	179200		Inner Thames Marshes SSSI	23.8
ITM2	555029	179202		23.8	18.5
ITM3	555018	179203		23.8	18.5
GreatCrabbles1	570245	169968		Great Crabbles Wood SSSI	18.5
GC2	570239	169975		18.5	14.7
GC3	570231	169983		18.5	14.7
GC4	570222	169992		18.5	14.7
GC5	570214	170000		18.5	14.7

Site ID	X OS grid ref	Y OS grid ref	Site details	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	
				Base year 2016	Opening year 2026
GC6	570208	170008		18.6	15.0
GC7	570199	170016		18.6	15.0
WoldinghamDowns1	538530	154229	Woldingham & Oxted Downs SSSI	16.6	12.0
WD2	538529	154240		16.6	12.0
WD3	538528	154249		16.6	12.0
WD4	538528	154259		16.6	12.0
EppingForest1	544899	200980	Epping Forest SSSI and SAC	18.8	14.3
EP2	544895	200969		18.8	14.3
EP3	544892	200958		18.8	14.3
EP4	544888	200947		18.8	14.3
EP5	544884	200936		18.8	14.3
EP6	544881	200924		18.8	14.3
EP7	544877	200913		18.8	14.3
EP8	544874	200902		18.8	14.3
EP9	544870	200891		18.8	14.3
EP10	544865	200878		18.8	14.3
EP11	544862	200866		18.8	14.3
EP12	544858	200854		18.8	14.3
EP13	544854	200842		18.8	14.3
EP14	544850	200830		18.8	14.3
BasildonMeadow1	570539	187094	Basildon Meadows SSSI	24.7	19.1

Site ID	X OS grid ref	Y OS grid ref	Site details	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	
				Base year 2016	Opening year 2026
BM2	570533	187086		24.7	19.1
BM3	570527	187076		24.7	19.1
BM4	570521	187065		24.7	19.1
BM5	570514	187055		24.7	19.1
BM6	570509	187044		24.7	19.1
BM7	570504	187034		24.7	19.1
BM8	570498	187024		24.7	19.1
BM9	570492	187014		24.7	19.1
BM10	570486	187004		24.7	19.1
BM11	570480	186994		20.7	16.3
BM12	570475	186984		20.7	16.3
BM13	570469	186973		20.7	16.3
BM14	570465	186963		20.7	16.3
BM15	570460	186953		20.7	16.3
WesterhamWoods1	543959	154641	Westerham Woods SSSI	15.3	11.2
WW2	543966	154622		15.3	11.2
WW3	543972	154602		15.3	11.2
WW4	543977	154582		15.3	11.2
WW5	543984	154562		15.3	11.2
WesterhamWoods1a	543842	154674	Westerham Woods SSSI	15.3	11.2
WW2a	543846	154692		15.3	11.2

Site ID	X OS grid ref	Y OS grid ref	Site details	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	
				Base year 2016	Opening year 2026
WW3a	543851	154710		15.3	11.2
WW4a	543856	154730		15.3	11.2
WW5a	543862	154748		15.3	11.2
WW6a	543867	154766		15.3	11.2
WW7a	543872	154784		15.3	11.2
WW8a	543878	154802		15.3	11.2
WW9a	543883	154821		15.3	11.2
WW10a	543889	154840		15.3	11.2
WW11a	543895	154858		15.3	11.2
LunningstonePark1	550406	164163	Lullingstone Park SSSI	16.0	11.7
LP2	550426	164163		16.0	11.7
TitseyWood1	541907	154427	Titsey Woods SSSI	15.6	11.4
TW2	541916	154403		15.6	11.4
TW3	541924	154381		15.6	11.4
TW4	541931	154359		15.6	11.4
TW5	541939	154336		15.6	11.4
TW6	541948	154314		15.6	11.4
TW7	541959	154288		15.6	11.4
TitseyWood1a	541675	154382	Titsey Woods SSSI	15.6	11.4
TW2a	541659	154393		15.6	11.4
TW3a	541642	154404		15.6	11.4



Site ID	X OS grid ref	Y OS grid ref	Site details	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	
				Base year 2016	Opening year 2026
TW4a	541625	154414		15.6	11.4
TW5a	541610	154423		15.6	11.4
TW6a	541593	154431		15.6	11.4
TW7a	541578	154440		15.6	11.4
TW8a	541563	154449		15.6	11.4
TW9a	541548	154459		15.6	11.4
TW10a	541532	154471		15.6	11.4
TW8	541968	154268		15.6	11.4
TW9	541978	154248		15.6	11.4
HangmansWood1	562979	179378		Hangman's Wood and Dene holes SSSI	26.4
HW2	562995	179364	26.4		19.6
HW3	563013	179352	24.4		18.4
HW4	563032	179342	24.4		18.4
HW5	563049	179330	24.4		18.4
HW6	563067	179319	24.4		18.4
HW7	563081	179308	24.4		18.4
HW8	563098	179296	24.4		18.4
HW9	563114	179284	24.4		18.4
HW10	563131	179272	24.4		18.4
HW11	563146	179261	24.4		18.4
VangeandFobbing1	572331	186907	Vange and Fobbing Marshes SSSI	20.5	16.4

Site ID	X OS grid ref	Y OS grid ref	Site details	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	
				Base year 2016	Opening year 2026
VF2	572347	186894		20.5	16.4
VF3	572362	186880		20.5	16.4
VF4	572378	186866		20.5	16.4
VF5	572394	186850		20.5	16.4
VF6	572409	186836		20.5	16.4
VF7	572426	186822		20.5	16.4
VF8	572443	186808		20.5	16.4
VF9	572461	186794		20.5	16.4
DarenthWood1	557299	172258		Darenth Wood SSSI	19.9
DW2	557303	172238	19.9		15.1
DW3	557306	172218	19.9		15.1
DW4	557309	172198	19.9		15.1
DW5	557313	172177	19.9		15.1
DW6	557316	172157	19.9		15.1
DW7	557320	172137	19.9		15.1
DW8	557324	172117	19.9		15.1
DW9	557327	172097	19.9		15.1
DW10	557331	172077	19.9		15.1
DarenthWood1a	556749	172258	Darenth Wood SSSI	21.2	16.1
DW2a	556757	172276		21.2	16.1
DW3a	556766	172293		21.2	16.1

Site ID	X OS grid ref	Y OS grid ref	Site details	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	
				Base year 2016	Opening year 2026
DW4a	556775	172311		21.2	16.1
DW5a	556783	172329		21.2	16.1
DW6a	556793	172347		21.2	16.1
DW7a	556803	172365		21.2	16.1
DW8a	556815	172382		21.2	16.1
DW9a	556824	172399		21.2	16.1
DW10a	556835	172416		21.2	16.1
DW11a	556844	172433		21.2	16.1
CurtismillGreen1	551848	196927	Curtismill Green SSSI	16.8	12.6
CG2	551840	196913		16.8	12.6
CG3	551831	196898		16.8	12.6
CG4	551822	196882		16.8	12.6
ThorndonPark1	562892	189474	Thorndon Park SSSI	18.9	14.9
WTLagoon1	557246	176701	West Thurrock Lagoon and Marshes SSSI	23.3	18.1
WTL2	557264	176692		23.3	18.1
WTL3	557282	176684		23.3	18.1
WTL4	557300	176674		23.3	18.1
WTL5	557321	176664		23.3	18.1
WTL6	557339	176655		23.3	18.1
WTL7	557358	176644		23.3	18.1
GarroldsMeadow1	582363	188986	Garrold's Meadow SSSI	23.5	18.5

Site ID	X OS grid ref	Y OS grid ref	Site details	Background NO <sub>x</sub> (µg/m <sup>3</sup> )	
				Base year 2016	Opening year 2026
GM2	582363	188976		23.5	18.5
GM3	582363	188966		23.5	18.5
GM4	582363	188956		23.5	18.5
GM5	582363	188946		23.5	18.5
GM6	582363	188936		23.5	18.5
GM7	582363	188926		23.5	18.5
GM8	582363	188916		23.5	18.5
GM9	582363	188906		23.5	18.5
GM10	582363	188896		23.5	18.5
ThundersleyGreatComm	579709	189586		Thundersley Great Common SSSI	22.7
TGC2	579709	189576	22.7		17.8
TGC3	579709	189566	22.7		17.8
TGC4	579709	189556	22.7		17.8
TGC5	579709	189546	22.7		17.8
TGC6	579709	189536	22.7		17.8
TGC7	579709	189526	22.7		17.8

Ecological receptors modelled along 10m transect points extending from closest point to nearest affected road to a distance of ~200m.

## Appendix D

### D.1 Air quality modelling results

Table D.1 Modelled annual mean NO<sub>2</sub> and PM<sub>10</sub> at human receptors

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0001	30.5	23.6	23.8	0.2	16.8	16.2	16.2	0
PEIR0002	29.9	23.1	23.3	0.2	18	17.4	17.5	0.1
PEIR0003	21	16.2	17.5	1.3	14.7	14.1	14.4	0.3
PEIR0004	29	22.2	25.1	2.9	18.4	17.6	18.5	0.9
PEIR0005	27.5	23.3	23.1	-0.2	16.7	16.5	16.4	-0.1
PEIR0006	38.5	30.8	32	1.2	21.3	20.8	21	0.2
PEIR0007	33.1	25.7	29.5	3.8	18.7	18.1	19.3	1.2
PEIR0008	29.2	22.7	21.5	-1.2	19.2	18.6	18.3	-0.3
PEIR0009	34.4	27.2	27.9	0.7	20.8	20.1	20.1	0
PEIR0010	<b>45.3</b>	37.3	35.7	-1.6	19.6	19.3	18.9	-0.4
PEIR0011	28.8	22.4	21.3	-1.1	19.1	18.6	18.3	-0.3
PEIR0012	36.1	31.5	30.5	-1	17.9	17.9	17.6	-0.3
PEIR0013	26.8	22.6	23.1	0.5	17.6	17.3	17.6	0.3
PEIR0014	24.1	18.7	19.4	0.7	16.9	16.5	16.6	0.1
PEIR0015	29.6	23.5	23.4	-0.1	16.5	15.9	15.9	0
PEIR0016	36.8	30.3	29.4	-0.9	19.2	18.8	18.5	-0.3

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0017	33.8	26.3	25.4	-0.9	19.8	19.1	18.9	-0.2
PEIR0018	33.3	27	X	X	19.9	19.6	X	X
PEIR0019	29.5	23.6	23.3	-0.3	18.9	18.5	18.4	-0.1
PEIR0020	26.4	20.8	21.2	0.4	19.2	18.7	18.8	0.1
PEIR0021	33.1	26.5	27	0.5	17.9	17.2	17.3	0.1
PEIR0022	38.2	30.6	31.4	0.8	18.6	18.1	18.4	0.3
PEIR0023	<b>83.8</b>	<b>68</b>	<b>66.7</b>	-1.3	25.8	24.9	24.4	-0.5
PEIR0024	40	32.1	31.8	-0.3	21.3	20.7	20.6	-0.1
PEIR0025	<b>45.1</b>	35	33.9	-1.1	20.6	19.8	19.5	-0.3
PEIR0026	<b>45.5</b>	35.8	34.6	-1.2	21.1	20.4	20	-0.4
PEIR0027	34.3	27.9	30.1	2.2	20.5	20.1	20.4	0.3
PEIR0028	<b>44.5</b>	35.2	34.2	-1	19.9	19.2	18.9	-0.3
PEIR0029	29.6	23.2	23.2	0	19.5	18.8	18.8	0
PEIR0030	32.8	25.7	25.2	-0.5	19.4	18.7	18.6	-0.1
PEIR0031	39.1	31.8	30.8	-1	21.1	20.7	20.4	-0.3
PEIR0032	<b>41.7</b>	32.6	31.4	-1.2	22.3	21.7	21.4	-0.3
PEIR0033	<b>50.6</b>	<b>43.2</b>	40.7	-2.5	23	22.8	22	-0.8
PEIR0034	<b>46.1</b>	38.5	37.3	-1.2	19.8	19.7	19.3	-0.4
PEIR0035	22.7	17.6	18.9	1.3	16.6	16	16.4	0.4
PEIR0036	<b>41.8</b>	34.8	39.5	4.7	19.8	19.7	21.7	2
PEIR0037	28.5	21.9	23.5	1.6	16.4	15.7	16.1	0.4
PEIR0038	<b>47.1</b>	37.1	35.5	-1.6	23.1	22.4	22	-0.4
PEIR0039	27.7	21.5	20.7	-0.8	19	18.4	18.2	-0.2

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0040	33.3	27.4	26.1	-1.3	19.4	19.1	18.8	-0.3
PEIR0041	34.7	27.9	29.6	1.7	19.9	19.3	19.7	0.4
PEIR0042	20.9	16.3	15.9	-0.4	15.7	15	14.9	-0.1
PEIR0043	<b>46.4</b>	37.1	35.9	-1.2	22.6	22.1	21.7	-0.4
PEIR0044	28.2	21.8	21.9	0.1	16.8	16.1	16.1	0
PEIR0045	25.5	19.9	20.6	0.7	16.6	16	16.2	0.2
PEIR0046	28.6	22.1	21.5	-0.6	18.6	18	17.8	-0.2
PEIR0047	27.7	21.8	23	1.2	18.3	17.7	18.1	0.4
PEIR0048	31.2	24.8	26.5	1.7	16.6	16	16.1	0.1
PEIR0049	32	25	24.4	-0.6	18.4	17.7	17.6	-0.1
PEIR0050	39.9	33.5	32.6	-0.9	20.7	20.5	20.2	-0.3
PEIR0051	32.2	25.3	25.3	0	19.3	18.6	18.6	0
PEIR0052	37.8	31.5	28.1	-3.4	19.7	19.1	18.2	-0.9
PEIR0053	24.8	18.8	19.3	0.5	17.6	17	17.2	0.2
PEIR0054	28	22.8	25.3	2.5	18.7	18.6	19.1	0.5
PEIR0055	31.3	24.8	25.1	0.3	20.2	19.8	19.9	0.1
PEIR0056	32.7	25.7	25.3	-0.4	19.3	18.7	18.6	-0.1
PEIR0057	39.5	32.9	35.7	2.8	21	20.9	22.1	1.2
PEIR0058	39	30.8	30.2	-0.6	20.3	19.7	19.5	-0.2
PEIR0059	36.9	28.6	28.6	0	18.2	17.5	17.4	-0.1
PEIR0060	36.4	28.6	28.6	0	19.7	19	19	0
PEIR0061	32.9	26.5	25.8	-0.7	17.2	16.7	16.5	-0.2
PEIR0062	34.8	27.4	27.4	0	17.9	17.4	17.3	-0.1

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0063	34.4	27.1	25.8	-1.3	19.6	19	18.5	-0.5
PEIR0064	21.4	16.8	16.6	-0.2	17.7	17.1	17.1	0
PEIR0065	28.1	21.9	22.1	0.2	17.3	16.6	16.6	0
PEIR0066	<b>43.9</b>	35.1	33.9	-1.2	21.5	20.9	20.5	-0.4
PEIR0067	36	28.1	27.1	-1	19.9	19.2	18.8	-0.4
PEIR0068	32.3	24.9	24.8	-0.1	21.2	20.9	20.8	-0.1
PEIR0069	<b>44.3</b>	36.4	39.9	3.5	22.1	21.9	23.5	1.6
PEIR0070	18	14	14	0	16.1	15.6	15.6	0
PEIR0071	27	21.3	22	0.7	17	16.5	16.7	0.2
PEIR0072	28.8	23.1	X	X	19	18.8	X	X
PEIR0073	33.6	27.5	28.8	1.3	20.2	19.7	20	0.3
PEIR0074	27	21.2	23.3	2.1	17.1	16.6	17.2	0.6
PEIR0075	28	22.3	22	-0.3	17.6	17.1	17	-0.1
PEIR0076	20.6	16	16.1	0.1	16.8	16.2	16.2	0
PEIR0077	30	23.8	23.5	-0.3	17.1	16.6	16.5	-0.1
PEIR0078	20.8	16.3	18.5	2.2	15.4	14.9	15.3	0.4
PEIR0079	24.5	18.6	19.1	0.5	16.2	15.4	15.6	0.2
PEIR0080	35	28.4	29.1	0.7	18.6	18.2	18.4	0.2
PEIR0081	24.7	19.3	19.5	0.2	19	18.5	18.6	0.1
PEIR0082	28.5	22.8	24.3	1.5	17.7	17.2	17.5	0.3
PEIR0083	26.9	21.5	22.1	0.6	17.9	17.5	17.7	0.2
PEIR0084	27.8	21.8	22.9	1.1	18.1	17.6	17.6	0
PEIR0085	24.4	19.6	19.7	0.1	18.6	18	18	0



ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )					PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )				
	Base	DM	DS	Change		Base	DM	DS	Change	
PEIR0086	28.6	22.9	23.6	0.7		16.6	16.2	16.3	0.1	
PEIR0087	22	17.4	17.5	0.1		17.6	17.1	17.1	0	
PEIR0088	23.8	18.4	18.9	0.5		16.5	15.9	16	0.1	
PEIR0089	<b>45.7</b>	35.7	33.9	-1.8		23.2	22.6	21.8	-0.8	
PEIR0090	31.3	25.6	28.2	2.6		18.6	18.3	19.3	1	
PEIR0091	30.7	24.2	22.5	-1.7		18.7	18.3	17.4	-0.9	
PEIR0092	26.9	21	20.4	-0.6		18.1	17.6	17.4	-0.2	
PEIR0093	31.6	25.5	24.2	-1.3		19.3	18.8	18.3	-0.5	
PEIR0094	35.2	28	28	0		18.8	18	18	0	
PEIR0095	27.2	21.3	21.9	0.6		17.8	17.4	17.4	0	
PEIR0096	29.3	23.1	22.7	-0.4		16.9	16.4	16.3	-0.1	
PEIR0097	22.4	17.3	17.8	0.5		16.1	15.5	15.6	0.1	
PEIR0098	21.2	16.5	16.3	-0.2		15.1	14.5	14.4	-0.1	
PEIR0099	30.9	24.6	25.1	0.5		18.8	18.5	18.6	0.1	
PEIR0100	26.4	20.1	20.5	0.4		17.2	16.3	16.4	0.1	
PEIR0101	34	27	26.4	-0.6		20.2	19.7	19.6	-0.1	
PEIR0102	29.3	23.5	23.7	0.2		18.2	17.7	17.7	0	
PEIR0103	19.6	15.2	14.9	-0.3		16.3	15.7	15.6	-0.1	
PEIR0104	33.1	25.6	26.1	0.5		18.9	18.1	18.4	0.3	
PEIR0105	<b>57.4</b>	<b>46.5</b>	<b>45.3</b>	-1.2		22.8	21.7	21.4	-0.3	
PEIR0106	29.3	22.5	22.5	0		18.3	17.6	17.7	0.1	
PEIR0107	27.2	21.9	23.3	1.4		18	17.5	18.1	0.6	
PEIR0108	<b>55.5</b>	<b>45.3</b>	<b>41.8</b>	-3.5		24.8	24.4	22.9	-1.5	

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0109	36.3	28.6	28.5	-0.1	21.3	20.6	20.5	-0.1
PEIR0110	<b>43</b>	34.6	33.7	-0.9	21	20.1	19.9	-0.2
PEIR0111	34.8	27.4	27.5	0.1	18.8	17.8	17.8	0
PEIR0112	26.4	21.2	22	0.8	16.2	15.8	15.9	0.1
PEIR0113	<b>49.5</b>	38.6	35.7	-2.9	22.3	21.4	20.9	-0.5
PEIR0114	26.8	20.8	21	0.2	16.7	15.9	16	0.1
PEIR0115	35.3	27.8	27.8	0	20	19.4	19.4	0
PEIR0116	26.7	20.8	20.8	0	17.4	16.9	16.8	-0.1
PEIR0117	35.8	28.2	31.7	3.5	19	18.2	18.7	0.5
PEIR0118	<b>51.3</b>	<b>42.9</b>	39.3	-3.6	23.6	23.2	21.9	-1.3
PEIR0119	40.1	32.7	33.6	0.9	19.2	18.7	18.9	0.2
PEIR0120	<b>42.2</b>	32.7	32.1	-0.6	18.9	18.1	17.9	-0.2
PEIR0121	26.9	21.4	22.1	0.7	18.5	18.1	18.2	0.1
PEIR0122	<b>56.4</b>	<b>45</b>	<b>44.5</b>	-0.5	23.2	22.1	21.8	-0.3
PEIR0123	21.3	16.8	16.9	0.1	16.6	16	16.1	0.1
PEIR0124	24.6	19.1	19.6	0.5	17	16.6	16.6	0
PEIR0125	30.6	23.7	23.9	0.2	17.5	16.6	16.6	0
PEIR0126	35.5	27.6	27.7	0.1	18.8	18	18	0
PEIR0127	38.1	30.7	32	1.3	19.4	19	19.4	0.4
PEIR0128	38.5	29.5	29	-0.5	19	18	18	0
PEIR0129	29.5	23.8	23.5	-0.3	17.6	17.2	17.1	-0.1
PEIR0130	<b>50.7</b>	<b>42.2</b>	38.5	-3.7	23.4	23	21.7	-1.3
PEIR0131	<b>63.7</b>	<b>52.5</b>	<b>47.8</b>	-4.7	26.8	26.4	24.4	-2

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0132	<b>48.3</b>	38.6	35.3	-3.3	22.3	21.4	20.8	-0.6
PEIR0133	37	28.6	28.7	0.1	20.5	19.9	19.9	0
PEIR0134	24.5	19.6	20.1	0.5	17.1	16.8	17	0.2
PEIR0135	<b>51.9</b>	<b>45.4</b>	39.9	-5.5	23.6	23.3	21.9	-1.4
PEIR0136	29.6	24.4	23.8	-0.6	16.9	16.7	16.5	-0.2
PEIR0137	36.7	29	29.3	0.3	19.9	19.1	19.2	0.1
PEIR0138	<b>47.1</b>	39.3	38.3	-1	22.1	21.8	21.4	-0.4
PEIR0139	21.3	16.6	16.6	0	16.6	16.1	16	-0.1
PEIR0140	24.5	19	18.8	-0.2	18	17.4	17.3	-0.1
PEIR0141	36.8	28.8	29.1	0.3	20.2	19.4	19.7	0.3
PEIR0142	26	20.5	22.2	1.7	16.7	16.2	16.7	0.5
PEIR0143	40.4	32.9	31.5	-1.4	21.2	20.8	20.2	-0.6
PEIR0144	36	29	28.1	-0.9	17.5	17	16.8	-0.2
PEIR0145	28.6	23	25.4	2.4	18.7	18.4	19.1	0.7
PEIR0146	29.2	23.7	23.9	0.2	18.5	18.2	18.2	0
PEIR0147	32.1	25.9	25.1	-0.8	20.2	19.8	19.4	-0.4
PEIR0148	22.2	17.3	17.4	0.1	17.3	16.7	16.7	0
PEIR0149	34.8	29	27.7	-1.3	21	20.6	20.1	-0.5
PEIR0150	37.6	30.4	29.5	-0.9	20.6	20.2	19.9	-0.3
PEIR0151	<b>41.8</b>	34.1	32	-2.1	21.5	21.1	20.3	-0.8
PEIR0152	25.7	20.3	20.8	0.5	17.5	17	17.2	0.2
PEIR0153	27.8	21.9	21.7	-0.2	17	16.5	16.4	-0.1
PEIR0154	27.6	21.3	21.8	0.5	17.2	16.4	16.6	0.2

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0155	26.1	20.4	20.5	0.1	17.7	17.2	17.2	0
PEIR0156	<b>55.9</b>	<b>47.2</b>	<b>45.2</b>	-2	23.9	23.7	22.8	-0.9
PEIR0157	31.9	25.5	24.3	-1.2	18.9	18.2	17.9	-0.3
PEIR0158	27.6	22.1	22.4	0.3	19.6	19.3	19.4	0.1
PEIR0159	30	23.2	22.9	-0.3	17.4	16.8	16.7	-0.1
PEIR0160	21.9	18.2	18.3	0.1	18.9	18.4	17.1	-1.3
PEIR0161	29.6	23.8	24	0.2	18.5	18.2	18.3	0.1
PEIR0162	18.2	14	14.2	0.2	15	14.3	14.4	0.1
PEIR0163	24.3	19.4	19.7	0.3	17.7	17	17	0
PEIR0164	30.9	25.4	24.4	-1	19.2	18.9	18.6	-0.3
PEIR0165	30.6	24.2	24.5	0.3	18.2	17.3	17.3	0
PEIR0166	40.6	33.5	32.4	-1.1	20.5	20	19.5	-0.5
PEIR0167	39.7	30.5	30	-0.5	20.1	19.3	18.9	-0.4
PEIR0168	26.4	20.5	20.2	-0.3	19.5	19	18.9	-0.1
PEIR0169	<b>41.7</b>	31.6	31.7	0.1	19.4	18.4	18.4	0
PEIR0170	<b>41.6</b>	33	32.1	-0.9	21.4	20.9	20.6	-0.3
PEIR0171	33.7	26.2	25.8	-0.4	18.6	18	17.9	-0.1
PEIR0172	33.6	27	26.6	-0.4	19.5	19	18.8	-0.2
PEIR0173	36.2	28.5	28.4	-0.1	19	18.1	18.1	0
PEIR0174	32.1	25.7	26.5	0.8	18.4	18	18.3	0.3
PEIR0175	23.9	18.5	17.8	-0.7	17.2	16.7	16.3	-0.4
PEIR0176	33.7	26.9	27.2	0.3	20.4	19.7	19.7	0
PEIR0177	40.5	34.3	34.7	0.4	20.3	20.1	20	-0.1

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0178	35.2	27.7	27.1	-0.6	20.2	19.8	19.6	-0.2
PEIR0179	26.6	20.9	21.5	0.6	17.4	17	17.1	0.1
PEIR0180	31.3	24.5	24.7	0.2	18.8	18.2	18.3	0.1
PEIR0181	27.6	21.3	21.3	0	18.2	17.6	17.5	-0.1
PEIR0182	30	23.1	23.1	0	19.4	18.6	18.6	0
PEIR0183	25.5	19.9	20	0.1	17.5	17	17	0
PEIR0184	31.6	25.9	27.4	1.5	19.9	19.8	20.2	0.4
PEIR0185	35.9	29.6	29.1	-0.5	20.2	19.9	19.7	-0.2
PEIR0186	44.6	35.4	35.5	0.1	21.2	20.1	20.2	0.1
PEIR0187	26.9	22.7	22.8	0.1	17.6	17.1	17.1	0
PEIR0188	<b>51.1</b>	40.2	36.8	-3.4	20.1	19.2	18.6	-0.6
PEIR0189	30.9	24.4	24.5	0.1	20.2	19.8	19.8	0
PEIR0190	<b>64.8</b>	<b>53.7</b>	<b>53.1</b>	-0.6	23.2	22.1	21.8	-0.3
PEIR0191	25.7	20	19.9	-0.1	17.5	17	17	0
PEIR0192	27	21.3	21.6	0.3	17.1	16.3	16.4	0.1
PEIR0193	39.5	30.9	34.6	3.7	19.3	18.5	18.8	0.3
PEIR0194	26.5	20.8	21.4	0.6	17.4	17	17.1	0.1
PEIR0195	24.9	19.8	19.1	-0.7	17.5	17.1	16.9	-0.2
PEIR0196	33.8	26.4	26.4	0	20.7	20	20	0
PEIR0197	34.4	26.9	26.9	0	20.8	20.1	20.1	0
PEIR0198	25.9	20.6	21.2	0.6	17.8	17.4	17.6	0.2
PEIR0199	32	24.9	24.9	0	20.4	19.7	19.7	0
PEIR0200	<b>48.5</b>	38.2	38.3	0.1	21.1	20.1	20.1	0

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0201	24.2	19.2	18.2	-1	17.5	16.9	16.6	-0.3
PEIR0202	32.2	25.6	24.7	-0.9	17.8	17.2	17	-0.2
PEIR0203	26.6	20.9	21.4	0.5	17.4	17	17.1	0.1
PEIR0204	<b>44.4</b>	36.3	33.7	-2.6	22.3	21.9	21	-0.9
PEIR0205	34.2	26.8	26.6	-0.2	21.3	20.9	20.8	-0.1
PEIR0206	<b>47.2</b>	38.6	34.6	-4	19.5	18.8	18.3	-0.5
PEIR0207	22.4	17.5	17.7	0.2	15.5	14.8	14.8	0
PEIR0208	<b>51.2</b>	<b>43.4</b>	40.1	-3.3	24.4	24.1	22.7	-1.4
PEIR0209	33.2	25.6	25.6	0	19.2	18.6	18.6	0
PEIR0210	26.9	21	21.2	0.2	17.4	17	16.9	-0.1
PEIR0211	40.6	34.1	32.7	-1.4	22.1	22.4	21.8	-0.6
PEIR0212	30	23.2	23.8	0.6	17.7	16.8	17	0.2
PEIR0213	24.6	19.2	19.6	0.4	17.4	17	17.1	0.1
PEIR0214	23.2	18	18.2	0.2	17.6	16.9	16.9	0
PEIR0215	34.1	26.5	25.8	-0.7	19.6	18.8	18.6	-0.2
PEIR0216	25.1	19.5	19.9	0.4	17.6	16.9	17	0.1
PEIR0217	33	26	26.6	0.6	17.9	17.1	17.2	0.1
PEIR0218	27.6	21.3	21.3	0	19	18.2	18.2	0
PEIR0219	26.2	20.9	20.3	-0.6	19.2	18.7	18.5	-0.2
PEIR0220	<b>47.4</b>	37.6	35.3	-2.3	23.6	23.3	22.3	-1
PEIR0221	<b>56.1</b>	<b>47.5</b>	<b>42.3</b>	-5.2	25.1	24.7	23	-1.7
PEIR0222	30	23.2	23.3	0.1	18.7	18	18	0
PEIR0223	31.5	24.3	23.6	-0.7	18.8	18.1	17.8	-0.3

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0224	33.8	26.4	25.7	-0.7	18.7	18.1	17.9	-0.2
PEIR0225	39.7	32.1	31.2	-0.9	21.1	20.6	20.3	-0.3
PEIR0226	38.9	34	30.5	-3.5	21.4	21.1	20.6	-0.5
PEIR0227	27.9	22.5	23.4	0.9	17.6	17.5	17.8	0.3
PEIR0228	29.5	23.1	23	-0.1	19.4	18.7	18.7	0
PEIR0229	35.4	28.7	28.6	-0.1	19.9	19.2	19.1	-0.1
PEIR0230	36.7	30.4	30.5	0.1	19.7	19.3	19.2	-0.1
PEIR0231	35.7	28.9	28.6	-0.3	18.9	18.2	18.2	0
PEIR0232	25.1	19.7	19.9	0.2	17.5	17	16.9	-0.1
PEIR0233	25	19.6	19.8	0.2	17.5	17.1	17.2	0.1
PEIR0234	25.9	20.4	19.6	-0.8	19.3	18.8	18.5	-0.3
PEIR0235	33.7	27.5	27.1	-0.4	19.9	19.6	19.4	-0.2
PEIR0236	<b>48</b>	38.7	38.8	0.1	21	20.2	20.2	0
PEIR0237	29.6	22.5	22.5	0	17.6	16.9	17	0.1
PEIR0238	37.4	29.2	28.1	-1.1	20.8	20.2	19.8	-0.4
PEIR0239	33.3	27.8	29.8	2	19.7	19.7	20.2	0.5
PEIR0240	36.1	29	29.5	0.5	18.7	18.2	18.3	0.1
PEIR0241	25.6	20.3	21.2	0.9	17.2	17	17.3	0.3
PEIR0242	<b>42.5</b>	33.4	31.1	-2.3	18.8	18.1	17.7	-0.4
PEIR0243	33.1	25.6	26.4	0.8	19.6	18.8	19.1	0.3
PEIR0244	35.5	28.1	33.4	5.3	18.7	17.8	18.4	0.6
PEIR0245	32.2	25.2	24.6	-0.6	19.4	18.8	18.5	-0.3
PEIR0246	24.4	19.4	19.5	0.1	17.9	17.3	17.3	0

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0247	37.1	29.4	29.5	0.1	18.2	17.4	17.5	0.1
PEIR0248	35.1	29.5	28.9	-0.6	18.5	18.3	18.1	-0.2
PEIR0249	33.6	27.8	28	0.2	19.7	19.6	19.6	0
PEIR0250	31.2	25.1	25.9	0.8	19.6	19.3	19.5	0.2
PEIR0251	37.9	30.7	29	-1.7	20.8	20.4	19.6	-0.8
PEIR0252	24.9	19.2	19	-0.2	17.8	17.2	17.1	-0.1
PEIR0253	<b>48.4</b>	40.3	39.4	-0.9	22.2	21.9	21.6	-0.3
PEIR0254	24.4	18.9	18.8	-0.1	17.9	17.4	17.4	0
PEIR0255	<b>48.3</b>	38.6	31.7	-6.9	23.4	22.7	20.3	-2.4
PEIR0256	<b>48.6</b>	40.1	37	-3.1	23.3	22.9	21.6	-1.3
PEIR0257	36.6	28.1	28	-0.1	18.6	17.7	17.7	0
PEIR0258	29.9	23.4	26.1	2.7	18	17.2	17.5	0.3
PEIR0259	26.1	20.3	20.7	0.4	17.7	17.1	17.1	0
PEIR0260	28	21.5	21.5	0	17	16.3	16.3	0
PEIR0261	<b>47.9</b>	38.4	38.7	0.3	21.2	20.3	20.4	0.1
PEIR0262	37.4	29	28.6	-0.4	18.2	17.5	17.3	-0.2
PEIR0263	33.4	27.3	26.9	-0.4	19.1	18.7	18.5	-0.2
PEIR0264	19.5	15	15	0	17.8	17.2	17.1	-0.1
PEIR0265	28.6	22.6	23.3	0.7	17.9	17.1	17.2	0.1
PEIR0266	33.5	26.4	X	X	20.5	19.8	X	X
PEIR0267	27.4	21.6	22.1	0.5	17.8	17.3	17.4	0.1
PEIR0268	31.4	25.2	24.9	-0.3	17.4	16.6	16.5	-0.1
PEIR0269	25.9	20.3	20.1	-0.2	20	19.3	19.3	0



ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0270	32.6	25.5	26.1	0.6	20.2	19.6	19.6	0
PEIR0271	23.8	18.6	18.7	0.1	17.3	16.7	16.8	0.1
PEIR0272	<b>43.2</b>	34	32.8	-1.2	21.6	21.1	20.7	-0.4
PEIR0273	34.2	27.3	26.4	-0.9	19.8	19.4	19	-0.4
PEIR0274	25.8	21.9	22.2	0.3	18	17.5	17.5	0
PEIR0275	36.6	30.7	29.9	-0.8	20.1	19.7	19.5	-0.2
PEIR0276	25.6	21.5	22	0.5	17.3	17.5	17.7	0.2
PEIR0277	33.3	26.2	27.8	1.6	18.1	17.2	17.5	0.3
PEIR0278	29.5	23.1	23.5	0.4	17.8	17.3	17.4	0.1
PEIR0279	30.4	24	24.5	0.5	18.4	17.7	17.8	0.1
PEIR0280	20.7	16.1	16.2	0.1	16	15.4	15.5	0.1
PEIR0281	38.2	31.9	31.2	-0.7	20.4	19.9	19.6	-0.3
PEIR0282	20.6	15.9	15.9	0	17.4	16.8	16.8	0
PEIR0283	22.3	17.4	17.6	0.2	17.3	16.8	16.8	0
PEIR0284	26.2	20.9	X	X	18.6	18.4	X	X
PEIR0285	24.3	19.1	19.7	0.6	16.9	16.4	16.6	0.2
PEIR0286	30.2	23.8	23.5	-0.3	18.8	18.2	18.1	-0.1
PEIR0287	31.8	24.9	24.9	0	18.6	17.9	17.9	0
PEIR0288	27.8	22.2	22.5	0.3	18.3	17.9	17.9	0
PEIR0289	<b>42.5</b>	34.4	34	-0.4	21.1	20.4	20.3	-0.1
PEIR0290	29.4	23.3	24.2	0.9	18.8	18.2	18.5	0.3
PEIR0291	21.8	16.6	16.7	0.1	16.9	16.2	16.3	0.1
PEIR0292	20	15.4	15.3	-0.1	17.2	16.7	16.7	0

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0293	43.9	45.7	44.2	-1.5	22.8	24.2	23.4	-0.8
PEIR0294	21.1	16.3	16.4	0.1	17.3	16.6	16.6	0
PEIR0295	20.1	15.7	15.8	0.1	17	16.3	16.3	0
PEIR0296	26.2	20.6	20.5	-0.1	19.8	19.6	19.5	-0.1
PEIR0297	26.1	20.9	20.6	-0.3	17.2	16.8	16.7	-0.1
PEIR0298	32.8	28	27.5	-0.5	18.1	17.8	17.7	-0.1
PEIR0299	31.9	25	25.6	0.6	19.2	18.6	18.6	0
PEIR0300	29.9	22.6	22.5	-0.1	18	17.2	17.2	0
PEIR0301	24.4	19.1	19.1	0	18	17.4	17.4	0
PEIR0302	27.3	21.8	22	0.2	16.2	15.6	15.6	0
PEIR0303	29	22.6	22.3	-0.3	19.4	18.8	18.6	-0.2
PEIR0304	27.5	21.4	21.7	0.3	18	17.4	17.5	0.1
PEIR0305	27.3	21.6	21.4	-0.2	18.2	17.6	17.6	0
PEIR0306	24	18.7	18.9	0.2	16.8	16.3	16.4	0.1
PEIR0307	31.4	25.1	25.1	0	18.7	18.3	18.3	0
PEIR0308	31.1	25.8	25.9	0.1	19.7	19	19	0
PEIR0309	31.8	25.2	24.8	-0.4	19.8	19	18.9	-0.1
PEIR0310	35.8	28.7	28.1	-0.6	19.8	19	18.9	-0.1
PEIR0311	33.9	26.7	26.9	0.2	19.1	18.4	18.4	0
PEIR0312	32.2	25.5	26.1	0.6	18.5	18	18.2	0.2
PEIR0313	26.1	20.1	20.2	0.1	17.4	16.7	16.7	0
PEIR0314	20.8	16.2	16.3	0.1	17.2	16.5	16.5	0
PEIR0315	26.7	20.6	21.6	1	18.5	17.7	17.9	0.2

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0316	39.3	32.6	31.8	-0.8	20.8	20.6	20.3	-0.3
PEIR0317	26.7	21.1	21.9	0.8	17.7	17.2	17.4	0.2
PEIR0318	25.5	19.7	20.3	0.6	16	15.4	15.6	0.2
PEIR0319	18.8	14.6	14.6	0	16.4	15.7	15.7	0
PEIR0320	38.7	30.4	30.6	0.2	19.1	18.5	18.5	0
PEIR0321	23.1	17.7	17.7	0	18.1	17.5	17.5	0
PEIR0322	33.3	25.7	25.5	-0.2	20.7	20.4	20.4	0
PEIR0323	34.4	27.7	26.4	-1.3	20.7	20.2	19.6	-0.6
PEIR0324	22.2	17.4	17.4	0	16.7	16	16	0
PEIR0325	22.9	18.1	17.5	-0.6	17.8	17.2	17	-0.2
PEIR0326	29.6	23.7	24.8	1.1	18.4	18.1	18.5	0.4
PEIR0327	27.1	21	21	0	18.2	17.4	17.4	0
PEIR0328	<b>41.7</b>	33.3	33.5	0.2	19.8	19.1	19.1	0
PEIR0329	17.5	13.6	13.7	0.1	16	15.4	15.4	0
PEIR0330	17.6	13.7	13.7	0	15.6	15.1	15.1	0
PEIR0331	27.8	21.7	X	X	19.4	18.8	X	X
PEIR0332	35.9	28	28.1	0.1	19.5	18.6	18.7	0.1
PEIR0333	29.7	23.1	23.3	0.2	18.2	17.5	17.7	0.2
PEIR0334	36.9	28.7	28.4	-0.3	17.9	17.2	17.1	-0.1
PEIR0335	21.3	16.7	16.7	0	17.4	16.7	16.7	0
PEIR0336	29.9	23.8	25.2	1.4	18.3	17.9	18.4	0.5
PEIR0337	30.9	24.4	24.9	0.5	19.2	18.5	18.5	0
PEIR0338	23.6	18.6	19.3	0.7	17.8	17.3	17.5	0.2

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0339	20.4	16	16	0	16.4	15.7	15.7	0
PEIR0340	25	20.8	20.9	0.1	18.8	18	18.1	0.1
PEIR0341	33.5	26.8	26.7	-0.1	20	19.5	19.4	-0.1
PEIR0342	24	19	18.2	-0.8	17.8	17.1	16.9	-0.2
PEIR0343	24.1	19.4	19.5	0.1	17.9	17.4	17.4	0
PEIR0344	26.7	20.8	21	0.2	19	18.5	18.5	0
PEIR0345	33.9	27.5	26	-1.5	20.7	20.3	19.7	-0.6
PEIR0346	20.5	16.1	15.6	-0.5	17.5	16.9	16.8	-0.1
PEIR0347	17.5	13.6	13.6	0	15.6	14.9	14.9	0
PEIR0348	30.2	23.6	26.2	2.6	18	17.2	17.6	0.4
PEIR0349	31.5	25.8	24.8	-1	19.3	19.2	18.8	-0.4
PEIR0350	29	22.7	22.9	0.2	16.9	16.4	16.4	0
PEIR0351	26.8	21	21.8	0.8	18.2	17.5	17.8	0.3
PEIR0352	32.1	26.2	25.8	-0.4	19.4	19.1	19	-0.1
PEIR0353	21.7	17.1	16.4	-0.7	16.1	15.4	15.2	-0.2
PEIR0354	26.5	21.2	X	X	17.6	17.2	X	X
PEIR0355	40.2	34.1	31.8	-2.3	20.6	20.2	19.8	-0.4
PEIR0356	24.6	19.3	X	X	18.3	17.9	X	X
PEIR0357	26.5	20.7	20.7	0	19	18.4	18.4	0
PEIR0358	29.8	24.1	25.8	1.7	18.6	17.9	18.1	0.2
PEIR0359	31.1	24.7	25.1	0.4	19.3	18.6	18.7	0.1
PEIR0360	27.8	21.7	22.2	0.5	18.5	17.8	17.9	0.1
PEIR0361	25	20.1	19.7	-0.4	17.3	16.8	16.7	-0.1

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0362	37	29.4	27.8	-1.6	21.1	20.5	19.7	-0.8
PEIR0363	16.7	12.9	13	0.1	17.8	17.2	17.2	0
PEIR0364	37.5	29.9	28.5	-1.4	19.9	19.3	18.7	-0.6
PEIR0365	27.6	22	21.3	-0.7	18.1	17.4	17.2	-0.2
PEIR0366	24.6	19.6	19.3	-0.3	17	16.6	16.5	-0.1
PEIR0367	30	23.5	23.5	0	16.9	16.4	16.4	0
PEIR0368	31.7	24.7	24.7	0	18.3	17.6	17.6	0
PEIR0369	24.1	18.5	18.4	-0.1	18.7	18.3	18.2	-0.1
PEIR0370	21.2	16.5	16.6	0.1	18	17.5	17.5	0
PEIR0371	20.4	15.9	15.7	-0.2	17.7	17.2	17.1	-0.1
PEIR0372	25.8	19.7	19.6	-0.1	17.6	16.9	16.9	0
PEIR0373	25.1	19.5	19.5	0	18.6	18	18	0
PEIR0374	25.5	19.8	20.2	0.4	17.5	16.8	16.8	0
PEIR0375	20.5	16	16	0	15.1	14.4	14.4	0
PEIR0376	23.1	18.1	17.9	-0.2	16.8	16.3	16.2	-0.1
PEIR0377	30.4	23.6	23.7	0.1	18.7	17.8	17.9	0.1
PEIR0378	29.1	22.7	22.8	0.1	19.2	18.6	18.6	0
PEIR0379	23.8	18.7	18.8	0.1	18.1	17.4	17.4	0
PEIR0380	26.4	20.4	20.4	0	18.1	17.5	17.5	0
PEIR0381	31.1	24.4	24.5	0.1	17.3	16.8	16.7	-0.1
PEIR0382	33.6	26.2	28.1	1.9	19	18.3	18.5	0.2
PEIR0383	28.5	22.4	21.6	-0.8	19.6	19.1	18.7	-0.4
PEIR0384	22.9	17.7	17.8	0.1	17.6	17.1	17.1	0

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0385	25.3	20	20.2	0.2	19.1	18.6	18.7	0.1
PEIR0386	24.9	20.5	19.9	-0.6	19.2	18.8	18.5	-0.3
PEIR0387	25.5	19.9	21.4	1.5	17.5	16.8	17	0.2
PEIR0388	18	14	14	0	16.9	16.2	16.2	0
PEIR0389	27.8	21.7	24.9	3.2	18.9	18.2	18.9	0.7
PEIR0390	<b>56.4</b>	<b>46</b>	<b>46.3</b>	0.3	21.9	21.1	21.1	0
PEIR0391	23.3	18.1	18.4	0.3	16.5	15.8	15.9	0.1
PEIR0392	23.4	18.3	17.9	-0.4	18	17.4	17.3	-0.1
PEIR0393	35.1	28.1	27.5	-0.6	17.5	17	16.8	-0.2
PEIR0394	25.8	20.9	20.2	-0.7	18	17.7	17.5	-0.2
PEIR0395	22.9	17.9	17.7	-0.2	18.3	17.7	17.7	0
PEIR0396	32.6	25.4	24.7	-0.7	19.2	18.8	18.6	-0.2
PEIR0397	21.5	16.7	16.8	0.1	17.6	17	17	0
PEIR0398	23.3	18.8	18.9	0.1	17.4	16.7	16.7	0
PEIR0399	24.4	19	18.4	-0.6	19.2	18.7	18.4	-0.3
PEIR0400	22	17	17.3	0.3	17.9	17.3	17.4	0.1
PEIR0401	26.3	21.6	20.9	-0.7	19.4	19.1	18.8	-0.3
PEIR0402	24.2	18.6	18.9	0.3	15.8	15.1	15.2	0.1
PEIR0403	23.8	18.8	18.9	0.1	16.4	15.8	15.8	0
PEIR0404	24.1	18.9	19	0.1	18.2	17.6	17.5	-0.1
PEIR0405	22.5	17.7	17.6	-0.1	16.5	15.9	15.8	-0.1
PEIR0406	28.5	22.2	24.1	1.9	17.8	17	17.4	0.4
PEIR0407	23	17.5	17.5	0	18.4	17.7	17.7	0

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0408	20.8	16.1	16	-0.1	19	18.9	18.9	0
PEIR0409	22.6	17.7	17.3	-0.4	17.7	17.1	17	-0.1
PEIR0410	25.3	19.8	20.2	0.4	17.4	16.9	17	0.1
PEIR0411	23.9	19.3	19.4	0.1	18.4	17.9	17.9	0
PEIR0412	34.5	27.9	26.7	-1.2	20.7	20.3	19.8	-0.5
PEIR0413	21.6	16.8	17	0.2	18.5	17.8	17.8	0
PEIR0414	23	17.9	18.1	0.2	18.8	18.2	18.2	0
PEIR0415	24.4	18.9	18.5	-0.4	18.8	18.3	18	-0.3
PEIR0416	30.7	24.4	23.8	-0.6	19.6	19.4	19.2	-0.2
PEIR0417	16.9	12.9	12.8	-0.1	17.5	16.8	16.8	0
PEIR0418	23.8	18.4	18.3	-0.1	18.7	18.1	18.1	0
PEIR0419	27.3	21.1	22.1	1	18.1	17.5	17.6	0.1
PEIR0420	30.7	24	23.5	-0.5	19.1	18.5	18.3	-0.2
PEIR0421	27.2	21.4	20.5	-0.9	17.9	17.4	17	-0.4
PEIR0422	<b>42.6</b>	34.9	33.2	-1.7	21.6	21.2	20.5	-0.7
PEIR0423	18.8	14.4	14.4	0	16.5	15.9	15.9	0
PEIR0424	18	13.7	13.7	0	17.5	16.9	16.9	0
PEIR0425	23.1	18.1	18.6	0.5	18.1	17.6	17.8	0.2
PEIR0426	22.5	17.5	17.4	-0.1	16.6	16.2	16.1	-0.1
PEIR0427	19.7	15.2	15.3	0.1	18.1	17.5	17.5	0
PEIR0428	21.9	17.2	17.3	0.1	14.7	14.1	14.1	0
PEIR0429	33.7	27	26.5	-0.5	17.6	17.2	17	-0.2
PEIR0430	24.3	19.3	19.2	-0.1	18.2	17.7	17.6	-0.1

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0431	37.3	30.3	29.4	-0.9	20.8	20.4	20.1	-0.3
PEIR0432	<b>44.5</b>	36.5	35.2	-1.3	22	21.5	21.2	-0.3
PEIR0433	21.8	17	16.9	-0.1	16.9	16.3	16.3	0
PEIR0434	37.7	29.3	29.7	0.4	19.9	19	19	0
PEIR0435	21.3	16.8	16.2	-0.6	17.3	16.7	16.5	-0.2
PEIR0436	29.9	23.3	24.1	0.8	18.7	18	18.1	0.1
PEIR0437	38.1	30.3	29.6	-0.7	19.4	18.9	18.7	-0.2
PEIR0438	23.7	18.3	18.5	0.2	17.3	16.8	16.8	0
PEIR0439	21	16.3	16.4	0.1	17.2	16.7	16.7	0
PEIR0440	17.9	13.8	13.9	0.1	17.3	16.8	16.8	0
PEIR0441	20.5	15.9	16	0.1	16.4	15.9	15.9	0
PEIR0442	19.9	15.5	15.6	0.1	17.3	16.6	16.6	0
PEIR0443	25.9	20.5	X	X	18.5	18.2	X	X
PEIR0444	21	16.3	16.3	0	17.6	17	17	0
PEIR0445	23.8	18.6	18.8	0.2	17.7	17	17.1	0.1
PEIR0446	24	18.6	18.9	0.3	18.5	17.8	17.9	0.1
PEIR0447	33.5	26.7	25.9	-0.8	20.5	20	19.5	-0.5
PEIR0448	26.5	20.7	20.7	0	18.6	18.1	18.1	0
PEIR0449	19	14.7	14.5	-0.2	14.8	14.2	14.2	0
PEIR0450	26.1	20	20	0	14.8	14.2	14.2	0
PEIR0451	29.2	23.2	22.5	-0.7	20	19.7	19.3	-0.4
PEIR0452	19.1	14.5	14.5	0	15.3	14.6	14.7	0.1
PEIR0453	23.2	18	17.6	-0.4	18.6	18.1	17.9	-0.2



ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0454	28.7	23	25.1	2.1	18.7	18.4	19.0	0.6
PEIR0455	<b>41.5</b>	32.6	31.1	-1.5	22.4	21.8	21.2	-0.6
PEIR0456	25.5	20	20.4	0.4	17.6	17.1	17.3	0.2
PEIR0457	21.2	16.5	16.6	0.1	18.5	17.9	17.9	0
PEIR0458	18.6	15.2	15.2	0	16.9	16.5	16.6	0.1
PEIR0459	18.1	13.9	13.9	0	17.5	16.8	16.8	0
PEIR0460	27.5	21.6	21	-0.6	19.7	19.3	19.1	-0.2
PEIR0461	29.7	23.4	23.9	0.5	18.4	17.7	17.8	0.1
PEIR0462	26.2	20.5	19.8	-0.7	17.8	17.3	17	-0.3
PEIR0463	20.5	16	16	0	17.2	16.7	16.7	0
PEIR0464	22.5	17.3	17.6	0.3	18.2	17.5	17.6	0.1
PEIR0465	30.9	23.9	23.7	-0.2	18.2	17.7	17.6	-0.1
PEIR0466	24.4	18.9	19.1	0.2	17	16.5	16.6	0.1
PEIR0467	32.4	26	26.7	0.7	20.1	19.8	19.9	0.1
PEIR0468	15.9	12.2	12	-0.2	16	15.4	15.3	-0.1
PEIR0469	22.5	18	17.9	-0.1	17.6	17.1	17.1	0
PEIR0470	19.5	15.2	15.2	0	16	15.6	15.6	0
PEIR0471	20.8	15.9	15.7	-0.2	16.8	16.2	16.1	-0.1
PEIR0472	22	16.9	16.6	-0.3	17.1	16.6	16.4	-0.2
PEIR0473	18.8	14.8	14.8	0	17.8	17.3	17.3	0
PEIR0474	21.7	16.9	16.9	0	17.9	17.2	17.2	0
PEIR0475	22.6	17.3	17.4	0.1	17.7	17.3	17.4	0.1
PEIR0476	25.1	20.2	20.8	0.6	17.3	17.1	17.3	0.2

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0477	21.8	17	17.8	0.8	17.6	17.2	17.4	0.2
PEIR0478	17.9	15	15	0	17.1	16.9	16.9	0
PEIR0479	29.2	22.8	22.9	0.1	19.2	18.6	18.6	0
PEIR0480	26.5	21.1	21.2	0.1	18.8	18.2	18.2	0
PEIR0481	38.3	30.1	30.3	0.2	18.7	18.1	18.1	0
PEIR0482	40.2	31.6	31.9	0.3	19.2	18.6	18.7	0.1
PEIR0483	38.8	30.2	30.4	0.2	19.3	18.8	18.8	0
PEIR0484	<b>61.1</b>	<b>47.7</b>	<b>48</b>	0.3	23.4	22.5	22.6	0.1
PEIR0485	<b>43.6</b>	33.8	34	0.2	20.6	19.8	19.9	0.1
PEIR0486	26.7	20.8	20.8	0	16.4	15.9	15.9	0
PEIR0487	32.9	26.4	27	0.6	17.3	16.9	17.1	0.2
PEIR0488	31.1	25	25.5	0.5	16.6	16.2	16.3	0.1
PEIR0489	33.7	27.1	25.9	-1.2	18	17.4	17.2	-0.2
PEIR0490	26.6	20.6	21.8	1.2	16.2	15.6	15.9	0.3
PEIR0491	25.6	19.7	21.2	1.5	16.1	15.5	15.9	0.4
PEIR0492	18.7	14.1	15.1	1	15.9	15.2	15.5	0.3
PEIR0493	22.2	17	18.5	1.5	15.6	15.1	15.4	0.3
PEIR0494	24.4	19.1	19.1	0	17.7	17.3	17.3	0
PEIR0495	<b>42.4</b>	34.2	33.5	-0.7	20.5	19.6	19.5	-0.1
PEIR0496	25.5	20.4	22	1.6	17.4	16.9	17.5	0.6
PEIR0497	27.2	21.3	21.1	-0.2	18.5	18	17.9	-0.1
PEIR0498	21.4	16.7	17.1	0.4	16	15.5	15.6	0.1
PEIR0499	33.2	25.9	26.3	0.4	19.5	18.8	19	0.2

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
PEIR0500	24.4	18.9	20	1.1	17.7	17	17.3	0.3
PEIR0501	25.4	19.5	19.7	0.2	18.5	17.8	17.9	0.1
PEIR0502	22	17.8	18.2	0.4	15.6	15.1	15.2	0.1
PEIR0503	21.7	17.5	16.9	-0.6	15.6	15.1	14.9	-0.2
PEIR0504	20	15.8	15.5	-0.3	14.8	14.3	14.2	-0.1
PEIR0505	19.5	15.3	15.1	-0.2	14.8	14.2	14.1	-0.1
PEIR0506	16.5	12.6	15.5	2.9	15.3	14.7	15.3	0.6
PEIR0507	33.5	27.4	28.1	0.7	20.5	20.3	20.3	0
PEIR0508	21	16.3	16.4	0.1	16.6	16	16	0
PEIR0509	23.5	19	18.5	-0.5	17.2	16.9	16.7	-0.2
PEIR0510	24.6	19.5	19.3	-0.2	17	16.6	16.5	-0.1
PEIR0511	25	19.8	19.5	-0.3	16.7	16.3	16.2	-0.1
PEIR0512	28.2	22.9	23.1	0.2	17.7	17.4	17.5	0.1
PEIR0513	40.6	34.3	33.3	-1	20.8	20.7	20.3	-0.4
PEIR0514	<b>50.6</b>	<b>43</b>	38.9	-4.1	23.3	23	21.7	-1.3
PEIR0515	<b>46.5</b>	37.1	37.3	0.2	21.7	21	21	0
PEIR0516	<b>53.1</b>	<b>42.8</b>	<b>43.2</b>	0.4	22.9	22.2	22.3	0.1
PEIR0517	34.8	27.5	27.6	0.1	19.1	18.5	18.5	0
PEIR0518	25	19.9	19.8	-0.1	18.2	17.6	17.5	-0.1
PEIR0519	<b>48.3</b>	<b>42.2</b>	<b>42.3</b>	0.1	20.4	20	19.8	-0.2
PEIR0520	<b>53.1</b>	<b>47.6</b>	<b>47.8</b>	0.2	21.4	20.9	20.8	-0.1
PEIR0521	30.2	23.7	23.7	0	17.7	17.2	17.2	0
PEIR0522	40.7	31.5	31.8	0.3	21.3	20.7	20.8	0.1

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )					PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )				
	Base	DM	DS	Change		Base	DM	DS	Change	
PEIR0523	24.4	18.7	18.8	0.1		17	16.3	16.3	0	
PEIR0524	33.9	26.2	26.3	0.1		18.8	18	18	0	
PEIR0525	31.7	24.6	24.7	0.1		18.5	17.8	17.8	0	
PIER0526	23.1	18.1	20.9	2.8		15.8	15.3	15.8	0.5	
PIER0527	18.2	14	17.8	3.8		15.2	14.5	15.4	0.9	
FUT0001	36.1	29	27.9	-1.1		21	20.5	19.9	-0.6	
FUT0002	26.2	20.8	20.8	0		17.7	17.2	17.1	-0.1	
FUT0003	36.9	29.3	27.6	-1.7		21.5	21	20.3	-0.7	
FUT0004	25.4	19.6	19.5	-0.1		17.6	17	16.9	-0.1	
FUT0005	30.4	24.5	25	0.5		18.4	18.3	18.5	0.2	
FUT0006	27.6	21.6	23.1	1.5		16.6	16	16.5	0.5	
FUT0007	30.2	24.8	X	X		19.3	19.4	X	X	
FUT0008	18.3	13.8	15.9	2.1		16	15.4	15.9	0.5	
FUT0009	18	13.8	14.2	0.4		15.2	14.7	14.8	0.1	
FUT0010	20.7	16.1	16.5	0.4		15.7	15.2	15.3	0.1	
FUT0011	32	26.3	27.8	1.5		17.7	17.5	17.8	0.3	
FUT0012	28.3	22.7	23.8	1.1		17	16.6	16.7	0.1	
FUT0013	28.1	23.7	24.6	0.9		17.8	18	18.3	0.3	
FUT0014	28.7	24.9	25.8	0.9		17.9	18.4	18.7	0.3	
FUT0015	25.9	20	19.8	-0.2		18.1	17.5	17.4	-0.1	
FUT0016	<b>42.4</b>	32.6	31.9	-0.7		20.9	19.9	19.8	-0.1	
FUT0017	22.9	17.6	18	0.4		15.5	14.9	15	0.1	
FUT0018	37.2	28.9	27.9	-1		20.7	20.1	19.7	-0.4	

ID	NO <sub>2</sub> Concentration (µg.m <sup>-3</sup> )				PM <sub>10</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change	Base	DM	DS	Change
FUT0019	37.9	29.4	28.4	-1	20.9	20.2	19.8	-0.4
FUT0020	19.1	14.4	15.9	1.5	16.4	15.8	16.1	0.3
FUT0021	19.1	14.4	16.3	1.9	16.4	15.8	16.2	0.4

Base = 2016 Base Year

DM = 2026 Do Minimum

DS = 2026 Do Something

Change = DS minus DM

X = Receptor removed due to Project

Exceedances of Annual Mean AQS objectives in **bold**

**Table D.2 Modelled annual mean NO<sub>x</sub> (µg.m<sup>-3</sup>) at ecological receptors**

ID	NO <sub>x</sub> Concentration (µg.m <sup>-3</sup> )				Change
	Base	DM	DS		
CobhamWoods1	65.6	45.4	51.2	5.8	5.8
CBW2	43.6	29.7	32.4	2.7	2.7
CBW3	37.7	25.5	27.4	1.9	1.9
CBW4	34.5	23.3	24.8	1.5	1.5
CBW5	32.5	21.9	23.1	1.2	1.2
CBW6	31.2	21	22	1	1
CBW7	30.3	20.3	21.2	0.9	0.9
CBW8	29.5	19.8	20.6	0.8	0.8
CBW9	29	19.4	20.1	0.7	0.7
CBW10	28.5	19	19.7	0.7	0.7
CBW11	28	18.7	19.3	0.6	0.6
HolboughBurham1	31	21.2	21.7	0.5	0.5
HB2	30.7	21	21.5	0.5	0.5
QueendownWarren1	25	16.7	16.9	0.2	0.2
QW2	24.6	16.4	16.6	0.2	0.2
GraysThurrock1	51.1	35.3	35	-0.3	-0.3
GT2	45.5	31.3	31.1	-0.2	-0.2
GT3	43.5	29.8	29.7	-0.1	-0.1
GT4	42.5	29.1	29	-0.1	-0.1
GT5	41.7	28.5	28.4	-0.1	-0.1
GT6	41.2	28.1	28.1	0	0
GT7	40.8	27.8	27.8	0	0
GT8	40.8	27.8	27.7	-0.1	-0.1

ID	NO <sub>x</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change
GT9	40.5	27.6	27.5	-0.1
GT10	40.2	27.4	27.3	-0.1
GT11	40	27.2	27.2	0
GT12	39.9	27.1	27.1	0
GT13	39.7	27	27	0
GT14	39.6	26.9	26.9	0
GT15	39.5	26.9	26.8	-0.1
GT16	39.5	26.8	26.8	0
GT17	39.4	26.8	26.7	-0.1
GT18	39.3	26.7	26.7	0
NorthDownW1	34.9	24.3	25.2	0.9
NDW2	27.6	18.7	19.1	0.4
NDW3	26.1	17.6	17.8	0.2
NDW4	25.4	17.1	17.3	0.2
NDW5	25.1	16.8	17	0.2
NDW6	24.8	16.6	16.8	0.2
NDW7	24.7	16.5	16.7	0.2
NDW8	24.5	16.4	16.6	0.2
NDW9	24.4	16.3	16.5	0.2
NDW10	24.4	16.3	16.4	0.1
NDW11	24.3	16.2	16.4	0.2
NDW12	24.3	16.2	16.3	0.1
NDW13	24.2	16.2	16.3	0.1
NDW14	24.2	16.2	16.3	0.1
NDW15	24.2	16.2	16.3	0.1

ID	NO <sub>x</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change
NDW16	24.2	16.2	16.3	0.1
NDW17	24.2	16.2	16.3	0.1
NDW18	24.3	16.2	16.3	0.1
NDW19	24.3	16.2	16.4	0.2
WouldhamDetling11a	31.2	20.9	21.2	0.3
WD12a	30.7	20.6	20.8	0.2
WD13a	30.3	20.3	20.6	0.3
WD14a	30	20.1	20.3	0.2
WD15a	29.7	19.9	20.1	0.2
WouldhamDetling1b	59.7	40.8	41.7	0.9
WD2b	51.4	34.9	35.7	0.8
WD3b	46.3	31.4	32	0.6
WD4b	42.9	29	29.5	0.5
WD5b	40.5	27.4	27.8	0.4
WD6b	38.7	26.1	26.5	0.4
WD7b	37.2	25.1	25.5	0.4
WD8b	36	24.3	24.6	0.3
WD9b	35.1	23.7	24	0.3
WD10b	34.4	23.1	23.5	0.4
WD11b	33.8	22.7	23	0.3
WD12b	33.6	22.6	22.9	0.3
WD13b	34.3	23.1	23.4	0.3
ShorneAshenbank1b	32.9	22.4	32	9.6
SA2b	31.3	21.2	25.2	4
SA3b	30.2	20.4	23.2	2.8



ID	NO <sub>x</sub> Concentration (µg.m <sup>-3</sup> )				Change
	Base	DM	DS		
SA4b	29.3	19.8	22		2.2
SA5b	28.5	19.2	20.9		1.7
SA6b	27.8	18.7	20.2		1.5
SA7b	27.3	18.3	19.7		1.4
SA8b	26.8	18	19.1		1.1
SA9b	26.4	17.7	18.7		1
SA10b	26	17.4	18.4		1
SA11b	25.7	17.2	18.1		0.9
SA12b	25.4	17	17.8		0.8
SA13b	25.2	16.8	17.6		0.8
SA14b	24.9	16.7	17.4		0.7
SA15b	24.7	16.5	17.2		0.7
SA16b	24.5	16.4	17		0.6
SA17b	24.3	16.2	16.8		0.6
SA18b	24.2	16.1	16.7		0.6
SA19b	24	16	16.5		0.5
SA20b	23.9	15.9	16.4		0.5
HailingTrott1	101	76.7	90.6		13.9
HT2	57	41.6	46.9		5.3
HT3	46.2	33	36.4		3.4
HT4	40.4	28.5	30.8		2.3
HT5	37.8	26.5	28.4		1.9
HT6	36.1	25.2	26.8		1.6
HT7	34.8	24.2	25.6		1.4
HT8	33.9	23.4	24.6		1.2

ID	NO <sub>x</sub> Concentration (µg.m <sup>-3</sup> )				Change
	Base	DM	DS		
HT9	33.1	22.8	24		1.2
HT10	32.5	22.4	23.4		1
HT11	32	22	22.9		0.9
HT12	31.6	21.6	22.5		0.9
HT13	31.2	21.4	22.2		0.8
HT14	30.9	21.2	21.9		0.7
HT15	30.7	21	21.7		0.7
HT16	30.5	20.8	21.5		0.7
HT17	30.3	20.6	21.3		0.7
HT18	30.1	20.5	21.1		0.6
HT19	29.9	20.4	21		0.6
H120	29.8	20.3	20.9		0.6
WouldhamDetling1a	57	38.7	39.6		0.9
WD2a	46.1	31.2	31.8		0.6
WD3a	41.6	28.1	28.6		0.5
WD4a	38.4	25.9	26.3		0.4
WD5a	36.4	24.5	24.9		0.4
WD6a	35	23.5	23.9		0.4
WD7a	34	22.8	23.2		0.4
WD8a	33.1	22.2	22.5		0.3
WD9a	32.2	21.6	21.9		0.3
WD10a	31.6	21.2	21.5		0.3
SouthThamesE1	35.9	25	27.2		2.2
STE2	32.4	22.1	24.1		2
STE3	30.1	20.3	22.2		1.9

ID	NO <sub>x</sub> Concentration (µg.m <sup>-3</sup> )				Change
	Base	DM	DS		
STE4	29.2	19.7	21.5		1.8
STE5	28.8	19.3	21.1		1.8
STE6	28.5	19.2	20.9		1.7
STE7	28.4	19	20.7		1.7
STE8	28.3	19	20.6		1.6
STE9	28.2	18.9	20.5		1.6
STE10	28.1	18.8	20.4		1.6
STE11	28	18.8	20.3		1.5
STE12	28	18.7	20.2		1.5
STE13	27.9	18.7	20.2		1.5
STE14	27.9	18.6	20.1		1.5
STE15	27.8	18.6	20		1.4
STE16	27.8	18.6	20		1.4
STE17	27.8	18.6	19.9		1.3
STE18	27.7	18.6	19.9		1.3
STE19	27.7	18.5	19.9		1.4
STE20	27.7	18.5	19.8		1.3
STE21	27.7	18.5	19.8		1.3
STE22	27.7	18.5	19.8		1.3
STE23	27.6	18.5	19.7		1.2
ShorneAshenbank1a	72.8	51.2	70.3		19.1
SA2a	59.6	41.6	51.4		9.8
SA3a	51.7	35.9	42.3		6.4
SA4a	46.7	32.3	37.1		4.8
SA5a	42.9	29.5	33.3		3.8

ID	NO <sub>x</sub> Concentration (µg.m <sup>-3</sup> )				Change
	Base	DM	DS		
SA6a	40	27.4	30.5	3.1	
SA7a	37.8	25.8	28.5	2.7	
SA8a	36.2	24.7	27	2.3	
SA9a	34.9	23.8	25.8	2	
SA10a	33.7	22.9	24.8	1.9	
SA11a	32.8	22.3	24	1.7	
SA12a	31.9	21.7	23.2	1.5	
SA13a	31.2	21.1	22.6	1.5	
SA14a	30.5	20.7	22	1.3	
SA15a	29.9	20.2	21.5	1.3	
SA16a	29.4	19.8	21	1.2	
SA17a	28.9	19.5	20.7	1.2	
SA18a	28.5	19.2	20.3	1.1	
SA19a	28.1	18.9	20	1.1	
SA20a	27.8	18.7	19.7	1	
SA21a	27.5	18.5	19.4	0.9	
SA22a	27.2	18.3	19.2	0.9	
EppingForest1b	78.7	54.5	54.9	0.4	
EF2b	58.2	40	40.2	0.2	
EF3b	48.7	33.3	33.5	0.2	
EF4b	43.3	29.5	29.6	0.1	
EF5b	39.9	27.1	27.2	0.1	
EF6b	37.1	25.1	25.3	0.2	
EF7b	34.9	23.6	23.7	0.1	
EF8b	33.3	22.5	22.6	0.1	

ID	NO <sub>x</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change
EF9b	32.1	21.7	21.8	0.1
EF10b	31.2	21	21.1	0.1
EF11b	30.5	20.5	20.6	0.1
EF12b1	29.8	20	20.1	0.1
EF12b	29.8	20	20.1	0.1
EF13b	28.7	19.3	19.3	0
EF14b	28.2	18.9	19	0.1
InnerThamesMarsh1	35.5	24.1	24	-0.1
ITM2	35.4	24.1	24	-0.1
ITM3	35.3	24	23.9	-0.1
GreatCrabbles1	32.6	22.2	23	0.8
GC2	32.3	22	22.7	0.7
GC3	31.9	21.7	22.4	0.7
GC4	31.6	21.4	22.1	0.7
GC5	31.3	21.2	21.9	0.7
GC6	31.1	21.1	21.8	0.7
GC7	30.9	20.9	21.6	0.7
WoldinghamDowns1	30.7	21.2	21.2	0
WD2	30.2	20.7	20.8	0.1
WD3	29.7	20.4	20.4	0
WD4	29.1	20	20	0
EppingForest1	47	32.7	33	0.3
EP2	43.1	29.8	30	0.2
EP3	40.3	27.8	28	0.2
EP4	38.3	26.3	26.5	0.2

ID	NO <sub>x</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change
EP5	36.6	25	25.2	0.2
EP6	35.2	24	24.1	0.1
EP7	34.1	23.3	23.4	0.1
EP8	33.2	22.6	22.7	0.1
EP9	32.5	22.1	22.2	0.1
EP10	31.7	21.5	21.6	0.1
EP11	31.2	21.1	21.2	0.1
EP12	30.6	20.7	20.8	0.1
EP13	30.1	20.4	20.5	0.1
EP14	29.7	20.1	20.2	0.1
BasildonMeadow1	52	36.6	36.4	-0.2
BM2	42.6	29.4	29.4	0
BM3	38.5	26.3	26.4	0.1
BM4	36.5	24.7	24.8	0.1
BM5	35.2	23.8	23.9	0.1
BM6	34.4	23.2	23.3	0.1
BM7	33.8	22.8	22.9	0.1
BM8	33.4	22.4	22.6	0.2
BM9	33.1	22.2	22.3	0.1
BM10	32.8	22	22.2	0.2
BM11	28.6	19.2	19.4	0.2
BM12	28.4	19	19.2	0.2
BM13	28.2	18.9	19.1	0.2
BM14	28.1	18.9	19	0.1
BM15	28	18.8	19	0.2

ID	NO <sub>x</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change
WesterhamWoods1	80.6	60.1	60.4	0.3
WW2	47.3	34	34.1	0.1
WW3	37.2	26.2	26.3	0.1
WW4	32.3	22.5	22.5	0
WW5	29.1	20.1	20.2	0.1
WesterhamWoods1a	78.1	57.4	57.8	0.4
WW2a	56.2	40.6	40.8	0.2
WW3a	46	32.8	33	0.2
WW4a	40	28.2	28.4	0.2
WW5a	36.3	25.5	25.6	0.1
WW6a	33.7	23.5	23.6	0.1
WW7a	31.7	22	22.1	0.1
WW8a	30.3	20.9	21	0.1
WW9a	29	20	20	0
WW10a	28	19.2	19.2	0
WW11a	27.1	18.6	18.6	0
LullingstonePark1	28	19.1	19.2	0.1
LP2	27.2	18.4	18.6	0.2
TitseyWood1	61.6	45.1	45.3	0.2
TW2	41.5	29.4	29.6	0.2
TW3	34.5	24.1	24.2	0.1
TW4	30.8	21.3	21.3	0
TW5	28.2	19.4	19.4	0
TW6	26.6	18.1	18.2	0.1
TW7	25.1	17.1	17.1	0

ID	NO <sub>x</sub> Concentration (µg.m <sup>-3</sup> )				Change
	Base	DM	DS		
TitseyWood1a	159	120	121		1.1
TW2a	70.8	51.6	52		0.4
TW3a	52.2	37.4	37.6		0.2
TW4a	43.7	31	31.2		0.2
TW5a	39.2	27.6	27.7		0.1
TW6a	35.9	25.1	25.2		0.1
TW7a	33.4	23.2	23.3		0.1
TW8a	31.6	21.9	21.9		0
TW9a	30	20.7	20.8		0.1
TW10a	28.7	19.7	19.7		0
TW8	24.3	16.5	16.5		0
TW9	23.6	16	16		0
HangmansWood1	55.4	39.4	40.7		1.3
HW2	44	30.4	31		0.6
HW3	39.8	27.3	27.9		0.6
HW4	38.7	26.5	27		0.5
HW5	38.1	26	26.5		0.5
HW6	37.7	25.7	26.2		0.5
HW7	37.5	25.6	26.1		0.5
HW8	37.3	25.4	25.9		0.5
HW9	37.1	25.3	25.8		0.5
HW10	37	25.2	25.7		0.5
HW11	37	25.1	25.6		0.5
VangeandFobbing1	38.8	27.1	28		0.9
VF2	34.5	23.7	24.4		0.7



ID	NO <sub>x</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change
VF3	32	21.9	22.4	0.5
VF4	30.4	20.6	21.1	0.5
VF5	29.3	19.8	20.1	0.3
VF6	28.5	19.2	19.5	0.3
VF7	27.9	18.8	19	0.2
VF8	27.4	18.4	18.7	0.3
VF9	27.1	18.1	18.4	0.3
DarenthWood1	71.4	51.5	47.8	-3.7
DW2	56	39.8	37.5	-2.3
DW3	48.5	34.2	32.4	-1.8
DW4	43.9	30.7	29.4	-1.3
DW5	40.8	28.4	27.3	-1.1
DW6	38.7	26.8	25.9	-0.9
DW7	37	25.6	24.8	-0.8
DW8	35.8	24.7	23.9	-0.8
DW9	34.7	23.9	23.2	-0.7
DW10	33.9	23.3	22.7	-0.6
DarenthWood1a	179	134	119	-14.7
DW2a	99.3	72.4	66	-6.4
DW3a	77.8	56.1	51.8	-4.3
DW4a	66.3	47.4	44.2	-3.2
DW5a	59.1	42	39.5	-2.5
DW6a	54.6	38.6	36.5	-2.1
DW7a	51.1	36	34.1	-1.9
DW8a	48.6	34.1	32.5	-1.6

ID	NO <sub>x</sub> Concentration (µg.m <sup>-3</sup> )			
	Base	DM	DS	Change
DW9a	46.6	32.6	31.2	-1.4
DW10a	45	31.4	30.1	-1.3
DW11a	43.6	30.4	29.2	-1.2
CurtsmillGreen1	29.6	20.1	20.3	0.2
CG2	28.7	19.5	19.7	0.2
CG3	27.9	18.9	19.1	0.2
CG4	27.2	18.4	18.5	0.1
ThorndonPark1	31.2	20.9	20.8	-0.1
WTLagoon1	53.6	37.3	34.6	-2.7
WTL2	48.9	33.7	31.7	-2
WTL3	45.8	31.5	29.8	-1.7
WTL4	43.5	29.8	28.4	-1.4
WTL5	41.6	28.4	27.1	-1.3
WTL6	40.2	27.4	26.3	-1.1
WTL7	39.1	26.6	25.6	-1
GarroldsMeadow1	34.1	22.7	22.9	0.2
GM2	33.5	22.3	22.4	0.1
GM3	32.9	21.9	22.1	0.2
GM4	32.5	21.6	21.7	0.1
GM5	32.1	21.3	21.5	0.2
GM6	31.8	21.1	21.2	0.1
GM7	31.5	20.9	21	0.1
GM8	31.2	20.7	20.8	0.1
GM9	31	20.5	20.7	0.2
GM10	30.8	20.4	20.5	0.1

ID	NO <sub>x</sub> Concentration (µg.m <sup>-3</sup> )			Change
	Base	DM	DS	
ThundersleyGreatComm	33.6	22.4	22.6	0.2
TGC2	33.2	22.1	22.2	0.1
TGC3	32.8	21.8	22	0.2
TGC4	32.5	21.6	21.7	0.1
TGC5	32.2	21.4	21.5	0.1
TGC6	31.9	21.2	21.3	0.1
TGC7	31.7	21.1	21.2	0.1

Base = 2016 Base Year

DM = 2026 Do Minimum

DS = 2026 Do Something

Change = DS minus DM

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# Appendices

7

## Chapter 7. Cultural Heritage

## CHAPTER 7: CULTURAL HERITAGE

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## Appendix E

### E.1 Listed buildings

Table E.1 Listed buildings

Project ID	List entry	Name	Location	Grade	Easting	Northing	Period
LB1	1040014	Chapel of St Katherine	Shorne, Gravesham, Kent, DA12	II	569202	171455	Medieval
LB2	1045890	Harmony Hill and The Post Office	Shorne, Gravesham, Kent, DA12	II	569112	171250	Post-Medieval
LB3	1054798	Chapel Farmhouse	Gravesham, Kent, DA12	II	565383	170743	Post-Medieval
LB4	1054827	Orchard House	Gravesham, Kent, DA12	II	565307	170781	Post-Medieval
LB5	1079868	Kilbro	Havering, London, RM14	II	559335	184959	Post-Medieval
LB6	1079869	Russell Cottage	Havering, London, RM14	II	559319	185027	Post-Medieval
LB7	1079870	The Forge	Havering, London, RM14	II	559306	184952	Post-Medieval
LB8	1079871	Castle Cottages	Havering, London, RM14	II	559324	184900	Post-Medieval
LB9	1079872	Garden Walls Entrance Gate and Brick Piers to Former Stubbers House	Havering, London, RM14	II	557574	184705	Post-Medieval
LB10	1079925	Church of All Saints	Havering, London, RM14	II	557210	186144	Post-Medieval
LB11	1079926	The Rectory	Havering, London, RM14	II	558741	184914	Post-Medieval
LB12	1081086	Court Cottage, Garden Cottage	Gravesham, Kent, DA13	II	564863	170006	Post-Medieval
LB13	1083891	Church of St Peter and St Paul	Shorne, Gravesham, Kent, DA12	II*	569061	171020	Medieval
LB14	1083892	The Old Parsonage	Shorne, Gravesham, Kent, DA12	II	568978	171054	Post-Medieval
LB15	1083893	Pipes Place	Shorne, Gravesham, Kent, DA12	II	569248	171395	Post-Medieval
LB16	1083894	Front Garden Wall and Gate Piers to Pipes Place	Shorne, Gravesham, Kent, DA12	II	569228	171400	Post-Medieval
LB17	1083895	Little St Katherine's	Shorne, Gravesham, Kent, DA12	II*	569251	171459	Medieval



Project ID	List entry	Name	Location	Grade	Easting	Northing	Period
LB18	1083896	St Katherine's House	Shorne, Gravesham, Kent, DA12	II	569216	171450	Post-Medieval
LB19	1083897	Green Farm Granary	Shorne, Gravesham, Kent, DA12	II	569559	172428	Post-Medieval
LB20	1083898	8 And 10, The Street	Shorne, Gravesham, Kent, DA12	II	569113	171224	Post-Medieval
LB21	1083899	Cobb Cottage	Shorne, Gravesham, Kent, DA12	II	569143	171256	Post-Medieval
LB22	1083901	White Horse Cottage	Shorne, Gravesham, Kent, DA12	II	567275	170620	Post-Medieval
LB23	1089005	54-58, Vicarage Lane	Gravesham, Kent, DA12	II	567128	173078	Post-Medieval
LB24	1089019	Readers	Gravesham, Kent, DA12	II	567593	173188	Medieval - Post-Medieval
LB25	1089020	Filborough Farmhouse	Gravesham, Kent, DA12	II	568263	173154	Post-Medieval
LB26	1089043	1, Chalk Road	Gravesham, Kent, DA12	II	567003	173055	Post-Medieval
LB27	1089044	Church of St Mary	Gravesham, Kent, DA12	II*	568325	172498	Medieval
LB28	1089045	East Court Farmhouse	Gravesham, Kent, DA12	II	568429	172920	Post-Medieval
LB29	1089051	The George Inn	Gravesham, Kent, DA12	II	565420	170712	Post-Medieval
LB30	1089062	Granary at Little Filborough Farm	Gravesham, Kent, DA12	II	568250	173188	Post-Medieval
LB31	1096324	The Mount	Cobham, Gravesham, Kent, DA12	II	567539	169460	Post-Medieval
LB32	1111540	Street Farmhouse	Thurrock, RM15	II	559304	182954	Post-Medieval
LB33	1111541	Church Of St James	Thurrock, RM18	II*	566136	177704	Medieval
LB34	1111544	Garden Wall, 2 Gate Piers and Gate, and Wicket Gate Attached to Orsett House	Thurrock, RM16	II	563965	182017	Post-Medieval
LB35	1111554	Smithy Cottage	Thurrock, SS17	II	567494	179276	Post-Medieval
LB36	1111564	Church of St Nicholas	Thurrock, RM15	I	559500	182908	Medieval
LB37	1111566	Whitecrofts Farmhouse	Thurrock, RM16	II	564030	180543	Post-Medieval
LB38	1111567	Greygoose Farmhouse	Thurrock, RM16	II	562556	180686	Post-Medieval
LB40	1111574	Heath Cottage	Thurrock, RM16	II	564112	179923	Post-Medieval
LB41	1111575	Heath Place	Thurrock, RM16	II	564618	180389	Post-Medieval
LB42	1111577	Mill House	Thurrock, RM18	II	565845	178696	Post-Medieval
LB43	1111586	Weatherboarded Granary at Great Mollands	Thurrock, RM15	II	560650	182308	Post-Medieval

Project ID	List entry	Name	Location	Grade	Easting	Northing	Period
LB44	1111592	Old Hall Farm House	Thurrock, RM16	II	564122	182182	Medieval
LB45	1111608	Slades Hold Cottages	Thurrock, RM16	II	563751	181558	Post-Medieval
LB46	1111609	Village Lock Up or Cage	Thurrock, RM16	II	564277	181925	Post-Medieval
LB47	1111610	Orsett House	Thurrock, RM16	II*	563976	181975	Post-Medieval
LB48	1111623	Polwicks	Thurrock, RM18	II	566827	177657	Post-Medieval
LB49	1111624	Walnut Tree Cottage	Thurrock, RM18	II	566714	177611	Medieval
LB50	1111625	West Tilbury Hall	Thurrock, RM18	II	566071	177723	Post-Medieval
LB51	1111627	Kemps	Thurrock, RM15	II	558218	183566	Post-Medieval
LB52	1111630	Thatched Barn At Whitfields	Thurrock, RM16	II	563303	181462	Post-Medieval
LB53	1111631	The Wilderness	Thurrock, RM16	II	563390	181470	Post-Medieval
LB54	1111633	Kings Head Public House	Thurrock, RM18	II	566062	177992	Post-Medieval
LB55	1111634	The Bakery	Thurrock, RM18	II	566029	177942	Post-Medieval
LB56	1111642	Mill House	Thurrock, RM16	II	563343	181388	Post-Medieval
LB57	1111643	Baker Street Windmill	Thurrock, RM16	II	563311	181283	Post-Medieval
LB58	1111644	Thatched Cottage	Thurrock, RM16	II	563669	180490	Post-Medieval
LB59	1111649	Loft Hall	Thurrock, RM16	II	565363	181897	Post-Medieval
LB60	1146709	Whitfields	Thurrock, RM16	II	563353	181451	Post-Medieval
LB61	1146717	Poplars Farmhouse	Thurrock, RM16	II	563458	182050	Post-Medieval
LB62	1146758	Granary to North East Of Manor Farmhouse	Thurrock, RM18	II	566129	177996	Post-Medieval
LB63	1147362	Red Brick Barn at Great Mollands	Thurrock, RM15	II	560504	182282	Post-Medieval
LB64	1147431	Former Gateway At Groves Barns	Thurrock, RM15	II	559933	184121	Post-Medieval
LB65	1147701	Moat Bridge and Gatehouse At South Ockendon Hall	Thurrock, RM15	II	560312	183171	Post-Medieval
LB66	1147796	Buckland	Thurrock, RM18	II	567443	177246	Post-Medieval
LB67	1147812	Little Wellhouse	Thurrock, RM16	II	562475	180827	Post-Medieval
LB68	1183600	Garden Walls at Cranham Hall	Havering, London, RM14	II	557239	186013	Post-Medieval
LB69	1183610	Church of St Mary Magdalene	Havering, London, RM14	I	558739	184867	Medieval
LB70	1224054	2, Bata Avenue	Thurrock, RM18	II	567876	178512	Modern
LB71	1224055	4 And 6, Bata Avenue	Thurrock, RM18	II	567866	178498	Modern
LB72	1224058	12 And 14, Bata Avenue	Thurrock, RM18	II	567838	178482	Modern
LB73	1224059	24 And 26, Bata Avenue	Thurrock, RM18	II	567791	178467	Modern

Project ID	List entry	Name	Location	Grade	Easting	Northing	Period
LB74	1224061	32 And 34, Bata Avenue	Thurrock, RM18	II	567766	178449	Modern
LB75	1224101	28 And 30, Bata Avenue	Thurrock, RM18	II	567783	178449	Modern
LB76	1224103	Building 13, Bata Factory	Thurrock, RM18	II	567963	178300	Modern
LB77	1252711	Farmyard Wall to Former North Ockendon Hall	Havering, London, RM14	II	558754	184851	Post-Medieval
LB78	1252853	Baynards Cottage	Shorne, Gravesham, Kent, DA12	II	568283	170914	Post-Medieval
LB79	1262054	The Engine House, Cobham Hall	Cobham, Gravesham, Kent, DA12	II	568421	169421	Post-Medieval
LB80	1266987	8 And 10, Bata Avenue	Thurrock, RM18	II	567843	178494	Modern
LB81	1266988	16 And 18, Bata Avenue	Thurrock, RM18	II	567820	178482	Modern
LB82	1300500	Garden Walls of The Former North Ockendon Hall	Havering, London, RM14	II	558807	184701	Post-Medieval
LB83	1308454	Post House	Thurrock, RM18	II	565992	177990	Post-Medieval
LB84	1308486	Old North's Cottage	Thurrock, RM16	II	564564	181876	Post-Medieval
LB85	1308840	Well House	Thurrock, RM18	II	566051	177921	Medieval - Post-Medieval
LB86	1308865	Kemps Cottage	Thurrock, RM15	II	558149	183519	Post-Medieval
LB87	1308889	Barn to North Of West Tilbury Hall	Thurrock, RM18	II	566074	177745	Post-Medieval
LB88	1308981	Weatherboarded Barn at Bareham's Broading Kennels	Thurrock, RM16	II	566014	180821	Post-Medieval
LB89	1337056	1 And 2 Grays Corner Cottages	Thurrock, RM16	II	563657	180416	Post-Medieval
LB90	1337058	Marshall's Cottages	Thurrock, RM18	II*	566063	178225	Medieval
LB92	1337089	Manor Farmhouse	Thurrock, RM18	II	566103	177976	Post-Medieval
LB93	1337090	The Cottages	Thurrock, RM18	II	566055	177999	Post-Medieval
LB94	1337091	High House	Thurrock, RM18	II	565710	179207	Post-Medieval
LB95	1337095	Royal Oak Inn	Thurrock, RM15	II	559532	183008	Medieval
LB96	1337096	Murrells Cottages	Thurrock, RM16	II	564909	181055	Post-Medieval
LB97	1337105	Great Mollands	Thurrock, RM15	II	560632	182286	Post-Medieval
LB98	1337127	Maltings Cottages	Thurrock, RM16	II	564229	182141	Post-Medieval
LB99	1341481	Barn to North West of Filborough Farmhouse	Gravesham, Kent, DA12	II	568250	173169	Post-Medieval
LB100	1341493	44, Chalk Road	Gravesham, Kent, DA12	II	567134	173010	Post-Medieval

Project ID	List entry	Name	Location	Grade	Easting	Northing	Period
LB101	1341498	Corner Cottage	Gravesham, Kent, DA12	II	565327	170765	Post-Medieval
LB102	1341520	The Old Forge	Gravesham, Kent, DA12	II	566696	173077	Post-Medieval
LB103	1346411	Green Farm House	Shorne, Gravesham, Kent, DA12	II	569593	172440	Post-Medieval
LB104	1346413	The Old Vicarage	Shorne, Gravesham, Kent, DA12	II	569118	171102	Post-Medieval
LB105	1346416	Parish Boundary Stone	Cobham, Gravesham, Kent, DA12	II	568353	169554	Post-Medieval
LB106	1350862	Church of St Margaret, Ifield	Cobham, Gravesham, Kent, DA13	II	565277	170119	Medieval - Post-Medieval
LB107	1358508	Cranham Hall	Havering, London, RM14	II	557241	186109	Post-Medieval
LB108	1358509	Railed Tomb to West Of The Church Of All Saints	Havering, London, RM14	II	557172	186143	Post-Medieval
LB109	1358548	Barn and Stable Block To The North Of Broadfields Farmhouse	Havering, London, RM14	II	558387	186149	Post-Medieval
LB110	1393327	Bata Industrial Buildings Numbers 24 And 34, Victory House and Nelson House	Thurrock, RM18	II	567807	178147	Modern
LB111	1393328	Bata Industrial Building Number 12	Thurrock, RM18	II	567933	178346	Modern
LB112	1434930	Shorne War Memorial	Shorne, Gravesham, Kent, DA12	II	569063	171059	Modern
LB114	1045876	Homeward Cottages	Shorne, Gravesham, Kent, DA12	II	569312	170339	Post-Medieval
LB115	1079879	Franks Farmhouse	Havering, London, RM14	II	558653	187409	Medieval - Post-Medieval
LB116	1079905	Tylers Hall Farmhouse	Havering, London, RM14	II	556785	190815	Post-Medieval
LB117	1083900	Homewood Cottages	Shorne, Gravesham, Kent, DA12	II	569321	170318	Post-Medieval
LB118	1083903	K6 Telephone Kiosk	Shorne, Gravesham, Kent, DA12	II	569350	170330	Modern
LB120	1089047	Milton Chantry	Gravesham, Kent, DA12	II*	565254	174338	Medieval - Post-Medieval
LB122	1095053	Cobham Hall (Including Kitchen and Stable Court)	Cobham, Gravesham, Kent, DA12	I	568366	168914	Medieval - Post-Medieval

Project ID	List entry	Name	Location	Grade	Easting	Northing	Period
LB123	1095054	The Temple, Cobham Hall	Cobham, Gravesham, Kent, DA12	II	568557	168964	Post-Medieval
LB124	1095060	Jeskyns Court	Cobham, Gravesham, Kent, DA12	II	565981	169103	Post-Medieval
LB125	1095061	Jeskyns Court Granary	Cobham, Gravesham, Kent, DA12	II	566007	169107	Post-Medieval
LB126	1096336	Crutches Gate Cottage and Farmhouse	Higham, Gravesham, Kent, ME2	II	570748	169564	Post-Medieval
LB128	1111553	Old Rectory	Thurrock, RM18	II	568820	176962	Post-Medieval
LB129	1111559	Birch Cottage	Thurrock, RM16	II	564551	181954	Medieval - Post-Medieval
LB130	1111560	Stable Range to North Of The Larches	Thurrock, RM16	II	564523	182026	Post-Medieval
LB131	1111606	15, High Road	Thurrock, RM16	II	564415	181924	Post-Medieval
LB132	1111607	29 And 31, High Road	Thurrock, RM16	II	564361	181915	Post-Medieval
LB133	1111632	World's End Inn	Thurrock, RM18	II	564797	175263	Post-Medieval
LB134	1146774	Gun Hill Farmhouse	Thurrock, RM18	II	565611	177688	Post-Medieval
LB135	1147049	Church of St Giles And All Saints	Thurrock, RM16	I	564440	181971	Medieval - Post-Medieval
LB136	1147068	Numbers 11 And 13 And Post Office	Thurrock, RM16	II	564444	181924	Medieval - Post-Medieval
LB137	1147083	33 And 35, High Road	Thurrock, RM16	II	564345	181911	Post-Medieval
LB138	1147588	The Larches	Thurrock, RM16	II	564527	182011	Post-Medieval
LB139	1183938	Timber Framed Range of Weatherboarded Outbuildings To Tylers Hall Farmhouse	Havering, London, RM14	II	556738	190842	Post-Medieval
LB140	1184797	Great Tomkyns	Havering, London, RM14	II*	556669	189498	Post-Medieval
LB141	1197209	Two Door Cottage	Brentwood, Essex, CM13	II*	558367	190668	Medieval - Post-Medieval
LB142	1197210	Church of St Mary The Virgin	Brentwood, Essex, CM13	I	558888	189990	Modern
LB143	1197211	Walleys	Brentwood, Essex, CM13	II	558323	190639	Post-Medieval
LB144	1197259	Blake House	Brentwood, Essex, CM13	II	558318	190683	Post-Medieval
LB145	1197260	The Red House	Brentwood, Essex, CM13	II	558307	190680	Post-Medieval

Project ID	List entry	Name	Location	Grade	Easting	Northing	Period
LB146	1197261	South Lodge to Warley Place	Brentwood, Essex, CM13	II	558329	190741	Post-Medieval
LB147	1205387	Thatched Cottage	Brentwood, Essex, CM13	II	557970	190392	Post-Medieval
LB148	1206628	Oak Beam Cottage, Warley Green Cottage	Brentwood, Essex, CM13	II	558351	190648	Post-Medieval
LB149	1206677	Lych Gate at Church Of St Mary The Virgin	Brentwood, Essex, CM13	II*	558922	189995	Post-Medieval
LB150	1208559	Thatchers Arms Inn	Brentwood, Essex, CM13	II	558324	190718	Post-Medieval
LB151	1208575	The Squirrels	Brentwood, Essex, CM13	II	558096	190318	Post-Medieval
LB152	1250605	Hulmers	Brentwood, Essex, CM13	II	559435	188917	Post-Medieval
LB153	1250606	Hole Farmhouse	Brentwood, Essex, CM13	II	558564	189798	Medieval - Post-Medieval
LB155	1261173	New Tavern Fort	Gravesham, Kent, DA12	II*	565293	174239	Post-Medieval
LB157	1263167	Brick House Hotel	Brentwood, Essex, CM13	II	559457	188864	Post-Medieval
LB158	1293148	Post Office	Brentwood, Essex, CM13	II	558283	190657	Post-Medieval
LB159	1297214	K6 Telephone Kiosk Adjacent to Post Office	Brentwood, Essex, CM13	II	558289	190652	Modern
LB160	1297215	Stony Hills Farm	Brentwood, Essex, CM13	II	557708	190524	Post-Medieval
LB161	1297230	Warley Elms	Brentwood, Essex, CM13	II	558799	190098	Post-Medieval
LB163	1308680	2, High Road	Thurrock, RM16	II	564504	181968	Post-Medieval
LB164	1308682	8 And 10, High Road	Thurrock, RM16	II	564404	181945	Post-Medieval
LB165	1337076	Monument 20 Yards East of Church Of St Giles And All Saints	Thurrock, RM16	II	564477	181976	Post-Medieval
LB166	1337077	39 And 41, High Road	Thurrock, RM16	II	564328	181907	Post-Medieval
LB167	1337078	6, High Road	Thurrock, RM16	II	564409	181946	Post-Medieval
LB168	1337128	The Bothy	Thurrock, RM16	II	564997	182242	Post-Medieval
LB169	1337129	Church of St Katherine	Thurrock, RM18	I	568907	176964	Medieval - Post-Medieval
LB170	1337130	Whitmore Arms Public House	Thurrock, RM16	II	564541	181967	Post-Medieval
LB173	1346412	Bushylees	Shorne, Gravesham, Kent, DA12	II	569824	170358	Post-Medieval
LB174	1346414	Homeward Cottages	Shorne, Gravesham, Kent, DA12	II	569314	170332	Post-Medieval

Project ID	List entry	Name	Location	Grade	Eastings	Northing	Period
LB175	1350861	The Aviary, Cobham Hall	Cobham, Gravesham, Kent, DA12	II	568519	168988	Post-Medieval
LB176	1350898	The Dairy, Cobham Hall	Cobham, Gravesham, Kent, DA12	II*	568336	168617	Post-Medieval
LB177	1358527	Barn to North East Of Great Tomkyns	Havering, London, RM14	II*	556685	189611	Medieval
LB178	1369994	Well Cottage	Shorne, Gravesham, Kent, DA12	II	569786	170338	Post-Medieval
LB179	1370024	Homeward Cottages	Shorne, Gravesham, Kent, DA12	II	569318	170327	Post-Medieval
LB180	1373832	Knights Place Farmhouse	Cobham, Gravesham, Kent, ME2	II	570127	168940	Post-Medieval
LB181	1375568	Officers Barracks Tilbury Fort	Thurrock, RM18	II*	565154	175336	Post-Medieval
LB182	1045897	The Tanyard	Shorne, Gravesham, Kent, DA12	II	569197	170795	Medieval - Post-Medieval
LB183	1049086	Owletts' Cottage	Cobham, Gravesham, Kent, DA12	II	566470	168762	Post-Medieval
LB184	1049097	Owletts	Cobham, Gravesham, Kent, DA12	II*	566510	168734	Post-Medieval
LB185	1049126	Cottage Belonging to The Leather Bottle Inn	Cobham, Gravesham, Kent, DA12	II	566972	168458	Post-Medieval
LB186	1076965	36 And 38, The Street	Cobham, Gravesham, Kent, DA12	II	567055	168438	Medieval
LB187	1076989	26-30, The Street	Cobham, Gravesham, Kent, DA12	II	567101	168434	Post-Medieval
LB188	1079929	Bullens And Herds (to the North Of Home Farm)	Havering, London, RM14	II	561054	185828	Post-Medieval
LB189	1095055	The Mausoleum, Cobham Hall	Cobham, Gravesham, Kent, ME2	I	569437	168379	Post-Medieval
LB190	1095057	Rose Cottage	Cobham, Gravesham, Kent, DA12	II	567381	168436	Post-Medieval
LB191	1095058	Rookery Farm Thatched Barn	Cobham, Gravesham, Kent, DA12	II	566383	168722	Post-Medieval
LB192	1095059	Rookery Farm Granary	Cobham, Gravesham, Kent, DA12	II	566435	168729	Post-Medieval

Project ID	List entry	Name	Location	Grade	Easting	Northing	Period
LB193	1096314	Cadmans, Dillywood Cottage, Murrells, Old Post Cottage, White Cottage	Cobham, Gravesham, Kent, DA12	II	567089	168420	Medieval - Post-Medieval
LB194	1096315	The Old Post Office	Cobham, Gravesham, Kent, DA12	II	567052	168423	Medieval - Post-Medieval
LB195	1096316	63, The Street	Cobham, Gravesham, Kent, DA12	II	567008	168400	Post-Medieval
LB196	1096317	Cobham College	Cobham, Gravesham, Kent, DA12	I	566968	168343	Medieval - Post-Medieval
LB197	1096318	The Terrace	Cobham, Gravesham, Kent, DA12	II	566747	168539	Post-Medieval
LB198	1096319	The Ship Inn	Cobham, Gravesham, Kent, DA12	II	567243	168433	Post-Medieval
LB199	1096320	Forge Cottages	Cobham, Gravesham, Kent, DA12	II	567314	168428	Post-Medieval
LB200	1096321	The Village School	Cobham, Gravesham, Kent, DA12	II	567155	168447	Post-Medieval
LB201	1096322	Crookers Place	Cobham, Gravesham, Kent, DA12	II	566960	168480	Post-Medieval
LB202	1096323	Meadow Cottages	Cobham, Gravesham, Kent, DA12	II	566817	168527	Post-Medieval
LB203	1111568	Waltons Hall	Thurrock, SS17	II	567569	180058	Post-Medieval
LB204	1111569	Sutton's Farmhouse	Thurrock, SS17	II	567410	179914	Medieval - Post-Medieval
LB210	1147501	Parkers Farmhouse	Thurrock, RM16	II	564106	183535	Post-Medieval
LB212	1307175	Turners Farm	Thurrock, SS17	II	567628	180024	Post-Medieval
LB216	1337086	Blankets Farmhouse	Thurrock, RM14	II	562101	185540	Post-Medieval
LB217	1337098	Weatherboarded Barn at Waltons Hall	Thurrock, SS17	II	567603	180118	Post-Medieval
LB218	1350208	Ifield Court	Gravesham, Kent, DA13	II*	564785	169957	Medieval - Post-Medieval
LB219	1350223	The Village Pump	Cobham, Gravesham, Kent, DA12	II	566936	168476	Post-Medieval
LB220	1350224	Owletts' Well House	Cobham, Gravesham, Kent, DA12	II	566487	168740	Post-Medieval



Project ID	List entry	Name	Location	Grade	Eastings	Northing	Period
LB221	1350258	The Stone House	Cobham, Gravesham, Kent, DA12	II	567015	168421	Medieval - Post-Medieval
LB222	1350259	Parish Church of St Mary Magdalene	Cobham, Gravesham, Kent, DA12	I	566969	168384	Medieval - Post-Medieval
LB223	1350260	Mill Farmhouse	Cobham, Gravesham, Kent, DA12	II	567300	168428	Post-Medieval
LB224	1350261	Forge Cottages	Cobham, Gravesham, Kent, DA12	II	567320	168427	Post-Medieval
LB225	1350262	The Leather Bottle Inn	Cobham, Gravesham, Kent, DA12	II	566993	168453	Post-Medieval
LB226	1365623	Larkins	Thurrock, RM16	II	564481	182229	Post-Medieval
LB227	1373849	Meadow House	Cobham, Gravesham, Kent, DA12	II*	566990	168623	Post-Medieval
LB228	1392465	Boundary Wall at Orsett Hall	Thurrock, RM16	II	565102	182332	Post-Medieval
LB230	1435143	Cobham War Memorial	Cobham, Gravesham, Kent, DA12	II	567386	168414	Modern
LB231	1079850	Liliputs	Havering, London, RM11	II	555415	188368	Post-Medieval
LB232	1079888	Entrance Piers and Gates To Upminster Court	Havering, London, RM14	II	556483	187924	Modern
LB233	1079889	Upminster Hall	Havering, London, RM14	II*	556592	187682	Medieval - Post-Medieval
LB234	1079890	Apse Tree Cottages	Havering, London, RM14	II	556199	189464	Post-Medieval
LB235	1079931	Upminster Court	Havering, London, RM14	II	556415	187948	Modern
LB236	1095056	Cobhambury House	Cobham, Gravesham, Kent, DA12	II	567343	168249	Post-Medieval
LB237	1183723	Stable Block at Upminster Court	Havering, London, RM14	II	556435	188007	Modern
LB238	1358524	Bury Farmhouse	Havering, London, RM14	II	560166	186585	Post-Medieval

## E.2 Scheduled monuments

Table E.2 Scheduled monuments

Project ID	List entry	Name	Easting	Northing	Period
SM1	1002134	Cropmark complex, Orsett	562746	181083	Prehistoric, Roman, Early Medieval
SM2	1002155	Gatehouse and moat of South Ockenden Old Hall	560367	183143	Medieval - Post-Medieval
SM3	1002156	Dene holes in Hangman's Wood	563129	179292	Unknown
SM4	1002196	Bishop Bonner's Palace, Orsett	564123	182252	Medieval
SM5	1002199	Earthworks near church, West Tilbury	566019	177703	Early Medieval, Post-Medieval
SM6	1009286	Causewayed enclosure and Anglo-Saxon cemetery 500m ENE of Heath Place	565155	180532	Prehistoric, Early Medieval
SM7	1009287	Springfield style enclosure and Iron Age enclosures south of Hill House, Baker Street	563890	181534	Prehistoric
SM8	1011011	Bowl barrow, Ashenbank Wood south of Cobham Park reservoir	567384	169343	Prehistoric
SM9	1012185	Second World War anti-aircraft battery at Bowaters Farm	567864	177076	Modern
SM10	1012964	Romano-British villa and 19th century reservoir in Cobham Park	568298	169316	Roman, Post-Medieval
SM11	1013880	East Tilbury Battery	568691	177368	Post-Medieval
SM12	1019106	Roman barrow 260m north-east of South Ockendon Hall	560311	183363	Roman
SM13	1021092	Tilbury Fort	565106	175443	Post-Medieval
SM14	1013943	Coalhouse Fort battery and artillery defences	569084	176641	Post-Medieval
SM15	1003403	Cliffe Fort	570674	176719	Post-Medieval
SM16	1005120	Gravesend Blockhouse	564993	174409	Medieval - Post-Medieval
SM17	1013658	New Tavern Fort, Gravesend, including Milton Chantry	565289	174268	Medieval - Post-Medieval
SM18	1001991	Medieval grange barn, 228m south-east of Upminster Court	556523	187740	Medieval

## E.3 Registered parks and gardens

Table E.3 Registered parks and gardens

Project ID	List entry	Name	Grade	Easting	Northing	Period
RPG1	1000182	Cobham Hall	II*	568657	168904	Post-Medieval - Modern
RPG2	1000746	Warley Place	II	558361	191005	Post-Medieval - Modern
RPG3	1001586	Upminster Court	II	556389	187959	Modern

## E.4 Conservation areas

Table E.4 Conservation areas

Project ID	Conservation area name	Location	Data of designation
CA1	Warley Place	Brentwood	22.07.1993
CA2	Great Warley	Brentwood	12.12.1975
CA3	Cranham	Havering	02.04.1968
CA4	North Ockendon	Havering	11.04.1990
CA5	Orsett	Thurrock	01.09.1975
CA6	East Tilbury	Thurrock	01.03.1993
CA7	West Tilbury	Thurrock	01.07.1991
CA9	Shorne Village	Gravesham	23.02.1970
CA10	Thong, Shorne	Gravesham	03.03.1981
CA11	Cobham Village	Gravesham	01.01.1970
CA12	Chestnut Green, Shorne	Gravesham	27.04.1976

## E.5 Non-designated heritage assets

Table E.5 Non-designated heritage assets

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1	MEX1010723	Orsett Hall	House	Post-Medieval	Essex HER
2	MEX1010726	Boundary stone	Boundary stone	Post-Medieval	Essex HER
3	MEX1031017	Kemps Farm	Rectilinear enclosure; trackway; field boundary	Unknown	Essex HER
5	MEX1031025	Finds	Findspot	Bronze Age	Essex HER
6	MEX1031027	WW1 landing ground at Orsett	Military airfield	Modern	Essex HER
7	MEX1031028	Orsett Causewayed Enclosure	Causewayed enclosure; ditch; post hole; palisade; building? pit; earthwork?; portal	Neolithic	Essex HER
8	MEX1031055	Cropmarks	Field boundary	Unknown	Essex HER
9	MEX1031059	Bomb Crater at Tooks Farm	Bomb crater	Modern	Essex HER
10	MEX1031234	East of the Decoy	Linear feature	Unknown	Essex HER
11	MEX1031657	Coombe Lodge	Great house; garden	Post-Medieval	Essex HER
14	MEX1032105	Land east of Sabina Road, Chadwell St. Mary	Findspot	Medieval	Essex HER
15	MEX1032117	West Tilbury Commons - REVOKED see 18614	Drainage ditch	-	Essex HER
16	MEX1032121	West Tilbury Commons	Drainage ditch	Modern	Essex HER
17	MEX1032122	East or West Tilbury	Findspot	Roman	Essex HER
19	MEX1032217	Orsett Causewayed Enclosure	Findspot	Medieval	Essex HER
20	MEX1032218	Grey Goose Farm, Thurrock	Pit	Medieval	Essex HER
21	MEX1032235	Mucking Creek Valley	Findspot	Prehistoric	Essex HER
23	MEX1032255	5 The Goslings, Orsett	Findspot; findspot	Post-Medieval to Modern	Essex HER
24	MEX1032261	Welling Road, Orsett	Quarry	Modern	Essex HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
25	MEX1032284	Oak Lodge, Station Road, East Tilbury	Feature	Unknown	Essex HER
26	MEX1032293	South Stifford	Findspot	Roman	Essex HER
27	MEX1032322	William Edwards School	Lithic working site?; pit; ditch	Late Bronze Age to Roman	Essex HER
28	MEX1032446	William Edwards School	Ditch; gully	Late Bronze Age to Medieval	Essex HER
29	MEX1032737	Grove Barns, South Ockendon	Manor; moat?; fishpond	Medieval	Essex HER
30	MEX1032738	Grove Barns, South Ockendon	Manor house; ornamental pond	Post-Medieval	Essex HER
31	MEX1032741	Rear of 25-31 High Road, Orsett	Quarry; gully; tenement	Medieval to Post-Medieval	Essex HER
32	MEX1032742	Rear of 25-31 High Road, Orsett	Ditch; gully; tenement	Post-Medieval	Essex HER
33	MEX1032743	William Edwards School	Pit; post hole	Medieval	Essex HER
34	MEX1032745	Stanford Le Hope STW Water Pipeline	No finds or features	-	Essex HER
36	MEX1032827	WW1 landing ground at North Ockendon	Military airfield	Modern	Essex HER
37	MEX1032839	Great Warley Hall manor	Manor house	Early Medieval to Medieval	Essex HER
38	MEX1032841	Possible Domesday settlement at Great Warley	Settlement	Early Medieval	Essex HER
39	MEX1032842	St Mary's Church, Great Warley	Church	Early Medieval to Medieval	Essex HER
40	MEX1032843	Great Warley Historic settlement	Manor house; church; hospital; vicarage; common land; settlement; barracks	Medieval to Post-Medieval	Essex HER
41	MEX1032844	Rectory, Great Warley	Vicarage	Medieval	Essex HER
42	MEX1032851	Pumping station, Great Warley	Pumping station	Post-Medieval	Essex HER
43	MEX1032967	Tilbury Power Station	Coal fired power station; oil fired power station	Modern	Essex HER
44	MEX1032994	Bata Estate - Factory and Model Settlement	Shoe factory; housing estate; leather factory; rubber works	Modern	Essex HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
45	MEX1033028	Orsett Union Workhouse	Workhouse; casual ward block; infirmary	Post-Medieval	Essex HER
47	MEX1033058	Low Street Brick Works	Brickworks	Post-Medieval	Essex HER
48	MEX1033073	The Brick Yard at Stifford Clays	Brickworks; tile works	Post-Medieval	Essex HER
49	MEX1033087	Thurrock District Hospital	Infectious diseases hospital	Post-Medieval	Essex HER
51	MEX1034076	Heath Place	Findspot	Iron Age	Essex HER
52	MEX1034095	Land to the North of Riverside Station, Tilbury	No finds or features	-	Essex HER
53	MEX1034114	Heraldic Horse Mount	Findspot	Medieval	Essex HER
54	MEX1034115	Gold Ring and Iron Age Stater	Findspot	Iron Age	Essex HER
55	MEX1034116	Tilbury Riverside - Earthworks linear features	Ridge and furrow; drain	Post-Medieval to Modern	Essex HER
56	MEX1035105	Proposed widening of the M25 an Archaeological Assessment	-	-	Essex HER
57	MEX1035334	Linford Pumping Station	Pumping station	Post-Medieval	Essex HER
58	MEX1035555	Road Barrier (destroyed), Gt. Warley St, Great Warley	Road barrier	Modern	Essex HER
59	MEX1035591	Old Methodist Chapel	Wesleyan Methodist Chapel	Post-Medieval	Essex HER
60	MEX1036394	Whitmore Arms, Rectory Road, Orsett	No finds or features	-	Essex HER
61	MEX1036400	South Ockendon Clay Quarry	Ridge and furrow	Medieval	Essex HER
62	MEX1036402	Tilbury landing stage and passenger terminal	Landing stage; ferry terminal	Modern	Essex HER
63	MEX1036414	HCF: Horndon - Tilbury (Coalhouse Fort) Gas Pipeline.	Findspot	Prehistoric	Essex HER
64	MEX1036415	HCF: Horndon - Tilbury (Coalhouse Fort) Gas Pipeline.	Findspot	Prehistoric	Essex HER
65	MEX1036416	HCF: Horndon - Tilbury (Coalhouse Fort) Gas Pipeline.	Findspot	Prehistoric	Essex HER
66	MEX1036418	HCF: Horndon - Tilbury (Coalhouse Fort) Gas Pipeline.	Findspot	Prehistoric	Essex HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
67	MEX1036420	HCF: Horndon - Tilbury (Coalhouse Fort) Gas Pipeline.	Findspot	Prehistoric	Essex HER
68	MEX1036421	HCF: Horndon - Tilbury (Coalhouse Fort) Gas Pipeline.	Findspot	Prehistoric	Essex HER
69	MEX1036422	HCF: Horndon - Tilbury (Coalhouse Fort) Gas Pipeline.	Findspot	Iron Age	Essex HER
70	MEX1036479	Grangewaters, South Ockendon	Quarry	Modern	Essex HER
71	MEX1036480	Former Quarry, now part of Mar Dyke Country Park, South Ockendon	Quarry	Modern	Essex HER
72	MEX1036514	North Ockendon Hall	House; building; garden wall	Post-Medieval	Essex HER
73	MEX1036566	Findspot on the Epping-Horndon Gas Pipeline	Findspot	Iron Age	Essex HER
74	MEX1036567	Findspot on the Epping-Horndon Gas Pipeline	Findspot	Roman	Essex HER
75	MEX1036569	Findspot on the Epping-Horndon Gas Pipeline	Findspot	Post-Medieval	Essex HER
76	MEX1036570	Fieldwalking along the Epping-Horndon Gas Pipeline	Findspot	Unknown	Essex HER
77	MEX1036731	Bermuda or Island Wood, Boyles Court, Brentwood	Plantation	Modern	Essex HER
78	MEX1036732	Bridge Wood, Boyles Court, Brentwood	Wood	Modern	Essex HER
79	MEX1036733	Hole Wood, Boyles Court, Brentwood	Wood; ditch	Unknown	Essex HER
80	MEX1036734	Jacksons Wood, Boyles Court, Brentwood	Coppice; wood bank	Unknown	Essex HER
81	MEX1036735	Jermains Wood, Boyles Court, Brentwood	Wood	Unknown	Essex HER
82	MEX1036739	Wormwalk Shaw, Boyles Court, Brentwood	Wood bank; wood	Unknown	Essex HER
83	MEX1036740	Franks Wood, Codham Hall Estate, Cranham	Wood	Unknown	Essex HER
84	MEX1036741	Unnamed Wood I, Codham Hall Estate, Great Warley	Wood; wood bank	Unknown	Essex HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
85	MEX1036742	Unnamed Wood II, Codham Hall Estate, Great Warley	Wood; wood bank	Unknown	Essex HER
86	MEX1036743	Unnamed Wood III, Codham Hall Estate, Great Warley	Wood	Unknown	Essex HER
87	MEX1036759	Tyler's Shaw, Boyles Court, Upminster	Wood	Unknown	Essex HER
88	MEX1037278	Brickworks at North Ockendon	Brickfield	Post-Medieval	Essex HER
89	MEX1037623	Coalhouse Wharf and Coastguard Station	Wharf; coastguard station	Post-Medieval to Modern	Essex HER
90	MEX1037624	Sea-wall, Coalhouse Arable	Sea defences	Post-Medieval	Essex HER
91	MEX1037625	Relict sea-wall, East Tilbury saltings	Sea defences	Post-Medieval	Essex HER
93	MEX1037738	Biosolids Dryer at Tilbury sewage works	Farm; open site?	Post-Medieval	Essex HER
94	MEX1037748	School at Sockets Heath	Findspot	Roman	Essex HER
95	MEX1038266	Torells School, Buxton Road, Grays	No finds or features	-	Essex HER
96	MEX1038452	Warley Road and Great Warley Street, Great Warley	Signpost	Modern	Essex HER
97	MEX1038468	Signpost at Baker Street, Orsett	Signpost	Modern	Essex HER
98	MEX1038469	Signpost in Rectory Road, Orsett	Signpost	Modern	Essex HER
99	MEX1038470	Signpost, High Road, Orsett	Signpost	Modern	Essex HER
101	MEX1038727	Warley Hill, Warley Road, Havering	No finds or features	-	Essex HER
102	MEX1039152	Farthings, Rectory Road, Orsett, modern features	Post hole; pit	Modern	Essex HER
103	MEX1039202	Orsett Churches Centre, High Road, Orsett	No finds or features	-	Essex HER
104	MEX1039326	Land at East Tilbury and Linford Area of Prehistoric ritual landscape and Roman field boundaries	Field system; field system	Bronze Age to Roman	Essex HER
105	MEX1039383	Cold War Nuclear Monitoring Post, Orsett	Underground monitoring post; royal observer corps site	Modern	Essex HER
106	MEX1039718	Tilbury Power Station Archaeological evaluation and monitoring report	Coal fired power station; oil fired power station	-	Essex HER



Project ID	Source preferred reference number	Name	Monument type	Period	Source
107	MEX1039719	Geophysical Survey Report - Land at East Tilbury, Essex	-	-	Essex HER
109	MEX1040048	Green Lane	Field boundary	Medieval	Essex HER
110	MEX1040410	Land at Bata Field East Tilbury	Enclosure	Bronze Age	Essex HER
111	MEX1040412	Tilbury Pond Wildlife Site, Tilbury	No finds or features	-	Essex HER
112	MEX1040423	Mill of unknown type at Bulphan	Windmill	Post-Medieval	Essex HER
113	MEX1040428	Tilbury Wildlife Pond Site, Tilbury	No finds or features	-	Essex HER
115	MEX1040564	South Ockendon Congregational Chapel and associated cemetery	Congregational chapel; cemetery	Post-Medieval to Modern	Essex HER
116	MEX1040595	Orsett Post Mill Roundhouse	Post mill; post mill roundhouse; windmill mound	Post-Medieval	Essex HER
117	MEX1040708	Redcrofts Farm	Round barrow	Prehistoric	Essex HER
118	MEX1040709	Mar Dyke	Field boundary	Medieval	Essex HER
119	MEX1040710	Coronation Avenue	Sea defences	Post-Medieval	Essex HER
120	MEX1041055	Junction of Blue Anchor Land and Muckingford Road, West Tilbury	No finds or features	-	Essex HER
121	MEX1041070	South Essex College, Grays, Thurrock	Fire pit	Prehistoric	Essex HER
122	MEX1041229	Observation Post (destroyed), Blankets Farm, Bulphan	Observation post	Modern	Essex HER
124	MEX1041234	WWII HAA Gun Site 'TN14 Orsett', NW of Orsett, Thurrock	Heavy anti-aircraft battery	Modern	Essex HER
125	MEX1041235	Road Barrier (destroyed), Rectory Road, Orsett	Road barrier	Modern	Essex HER
126	MEX1041236	Alan-Williams Turret (destroyed), Chapel Field, Orsett	Alan Williams turret	Modern	Essex HER
127	MEX1041237	Spigot Mortar Emplacement, Orsett Park Farm, Orsett	Spigot mortar emplacement	Modern	Essex HER
128	MEX1041238	Pillbox, Orsett Road, Orsett	Pillbox (type fw3/22)	Modern	Essex HER
129	MEX1041239	Road Barrier (destroyed), Orsett Road, Orsett	Road barrier	Modern	Essex HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
130	MEX1041240	Military Camp (destroyed), S of Stanford Road, Orsett	Military camp	Modern	Essex HER
135	MEX1041248	D-Day Assembly Area, Tilbury	Military camp	Modern	Essex HER
136	MEX1041251	Eighteen Air Raid Shelters (destroyed), Recreation Ground, Tilbury	Air raid shelter	Modern	Essex HER
137	MEX1041252	Six Air Raid Shelters (destroyed), between railway and Tilbury Fort	Air raid shelter	Modern	Essex HER
139	MEX1041364	Herringham Primary School	Field boundary	Unknown	Essex HER
140	MEX1041498	A Portable Antiquities Scheme findspot of unknown date.	Findspot	Unknown	Essex HER
141	MEX1042081	Orsett hall Hotel, Prince Charles Avenue, Orsett	No finds or features	-	Essex HER
142	MEX1042099	West and East Tilbury Marsh	Marsh	Medieval to Post-Medieval	Essex HER
143	MEX1042100	East Tilbury Marsh	Marsh	Medieval to Post-Medieval	Essex HER
144	MEX1042101	Mucking Marsh	Marsh	Medieval to Post-Medieval	Essex HER
145	MEX1042105	West Tilbury Marshes	Marsh	Medieval to Post-Medieval	Essex HER
146	MEX1042207	Grey Goose Farm Cottage, Orsett, Essex	Pit	-	Essex HER
147	MEX1042208	Heath Place, Hornsby Lane, Orsett, Grays, Essex	Pit	Modern	Essex HER
149	MEX1043327	A Portable Antiquities Scheme findspot of unknown date.	Findspot	Unknown	Essex HER
150	MEX1043328	A Portable Antiquities Scheme findspot of unknown date.	Findspot	Unknown	Essex HER
151	MEX1043341	A Portable Antiquities Scheme findspot of unknown date.	Findspot	Unknown	Essex HER
152	MEX1043347	A Portable Antiquities Scheme findspot of unknown date.	Findspot	Unknown	Essex HER
153	MEX1043348	A Portable Antiquities Scheme findspot of unknown date.	Findspot	Unknown	Essex HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
154	MEX1044018	A Portable Antiquities Scheme findspot of Medieval date.	Findspot	Medieval	Essex HER
155	MEX1044080	A Portable Antiquities Scheme findspot of Medieval date.	Findspot	Medieval	Essex HER
156	MEX1044101	A Portable Antiquities Scheme findspot of Medieval date.	Findspot	Medieval	Essex HER
157	MEX1044753	A Portable Antiquities Scheme findspot of Medieval date.	Findspot	Medieval	Essex HER
158	MEX1045849	A Portable Antiquities Scheme findspot of Medieval to Post-Medieval date.	Findspot	Medieval to Post-Medieval	Essex HER
159	MEX1049022	A Portable Antiquities Scheme findspot of unknown date.	Findspot	Unknown	Essex HER
160	MEX1049080	Land adjacent to Walton Hall Farm, Linford, Stanford Le Hope	Ditch; ditch; ring ditch; ditch	Prehistoric to Roman	Essex HER
161	MEX1049097	Barvilles Solar Farm, East Tilbury, Thurrock	Saltern	Roman	Essex HER
162	MEX1049257	Archaeological monitoring No 4 Farm Road, Tilbury, Essex.	No finds or features	-	Essex HER
163	MEX1049310	Lambourne House, North Road, South Ockendon	No finds or features	-	Essex HER
164	MEX1049361	M25 - Tank 1740 and Strip Widening - M25015.10	-	-	Essex HER
165	MEX1049362	M25 - Watley Road to Berdenis Lane Strip Widening - M25014.10	-	-	Essex HER
166	MEX1049363	M25 - Folkes Lane Strip Widening	-	Medieval	Essex HER
167	MEX1049364	M25 - Codham Hall Bund, Tank 1762 and Strip Widening - M25018.10	-	Late Neolithic to Medieval	Essex HER
168	MEX1049365	M25 - Hobbs Hole evaluation and excavation - M25001.08/09	-	Prehistoric to Early Medieval	Essex HER
169	MEX1049366	M25 - Upminster Bund	-	Prehistoric to Post-Medieval	Essex HER
170	MEX1049367	M25 - Pond 1776 - M25021.11	-	Post-Medieval	Essex HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
171	MEX1049368	M25 - Pond 1787 and Strip Widening - M25020.11	-	Unknown	Essex HER
172	MEX1049369	M25 - Pond 1791 and Strip Widening	-	Unknown	Essex HER
173	MEX1049370	M25 - Ockendon Cutting Palaeolithic watching brief - M25026.11	-	Palaeolithic	Essex HER
174	MEX1049371	M25 - Pond 1812 and Strip Widening - M25024.11	-	Unknown	Essex HER
175	MEX1049461	Hill View, Stanford Road, Orsett: Evaluation	No finds or features	-	Essex HER
176	MEX17492	North Ockendon	Windmill	Post-Medieval	Essex HER
177	MEX17493	Baldwin's Farm	Moat	Medieval	Essex HER
178	MEX17507	The Rectory	Moat	Medieval	Essex HER
179	MEX17509	The Rectory	House	Post-Medieval	Essex HER
180	MEX17510	Little Belhus Farm Pit	Pit; latrine pit	Roman	Essex HER
181	MEX17513	Little Belhus Farm Pit	Findspot	Unknown	Essex HER
182	MEX17535	South Ockendon-The Green	Findspot	Roman	Essex HER
183	MEX17560	Near Belhus wood country park	Pit; linear feature	Unknown	Essex HER
184	MEX17597	Near Red Crofts Farm	Natural feature; circular enclosure	Unknown	Essex HER
185	MEX17603	East of South Ockendon	Ring ditch; ditch; linear feature; pit	Unknown	Essex HER
186	MEX17605	South of Hall Farm	Ring ditch; pit; rectangular enclosure	Unknown	Essex HER
187	MEX17609	North of South Ockendon	Grubenhuis; ring ditch; ditch; pit; trackway; linear feature; rectilinear enclosure	Unknown	Essex HER
188	MEX17611	South of Kemps Farm	Pit; post hole; ditch; ring ditch; rectangular enclosure	Unknown	Essex HER
189	MEX17631	West of Redcrofts Farm	Linear feature; pit	Unknown	Essex HER
190	MEX17638	Near Dennises Cottages, Thurrock	Findspot	Roman	Essex HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
191	MEX17639	Medieval-Post-Medieval features excavated near Dennises Farm	Settlement	Medieval to Post-Medieval	Essex HER
192	MEX17640	Medieval-Post-Medieval features excavated near Dennises Farm	Settlement	Medieval to Post-Medieval	Essex HER
193	MEX17657	Orsett-Baker Street Mills (also HER 35154)	Steam mill	Post-Medieval	Essex HER
194	MEX17660	Orsett-Baker Street	Settlement; pit; ditch; post hole; cremation	Bronze Age	Essex HER
195	MEX17665	Orsett-Baker Street	Findspot	Bronze Age to Roman	Essex HER
196	MEX17666	Orsett-Baker Street	Settlement	Early Medieval	Essex HER
197	MEX17667	Orsett-Baker Street	Ditch	Medieval	Essex HER
198	MEX17696	South Ockendon Hall - 'The Mount'	Findspot	Iron Age	Essex HER
199	MEX17697	South Ockendon Hall - 'The Mount'	Findspot	Medieval	Essex HER
200	MEX17698	South Ockendon - Great Mollands Lane	Findspot	Bronze Age	Essex HER
201	MEX17701	South Ockendon - Great Mollands Lane	Mound	Unknown	Essex HER
202	MEX17735	Mucking-Gas Council Pipe Line	Quarry	Unknown	Essex HER
203	MEX17737	Mucking-Linford-Holford Wood Road-Rainbow Shaw Pits	Settlement; house; post hole; pit; hearth	Iron Age	Essex HER
204	MEX17743	Mucking-Linford-Holford Wood Road-Rainbow Shaw Pits	Corn drying kiln; ditch; pottery kiln	Roman	Essex HER
205	MEX17744	Mucking-Linford-Holford Wood Road-Rainbow Shaw Pits	Village; settlement; house; grubenhaus; pit; post hole; hearth; ditch; enclosure; palisade; palisaded enclosure; post hole; floor; workshop	Early Medieval	Essex HER
206	MEX17747	Mucking-Linford-Holford Wood Road-Rainbow Shaw Pits	Pit	Medieval	Essex HER
207	MEX17761	Orsett-Causewayed Enclosure	Pit; post hole; hollow; house	Iron Age	Essex HER
208	MEX17774	Orsett-Causewayed Enclosure	Findspot	Roman	Essex HER
209	MEX17775	Orsett	Findspot	Roman	Essex HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
210	MEX17776	Orsett-Causewayed Enclosure	Ring ditch; round barrow; coffin; inhumation; post hole	Early Medieval	Essex HER
211	MEX17779	Orsett-Causewayed Enclosure	Field boundary; trackway; ditch	Medieval	Essex HER
212	MEX17782	Orsett-Causewayed Enclosure	Field boundary; trackway; ditch	Post-Medieval	Essex HER
213	MEX17783	Orsett-Causewayed Enclosure	Ditch; rectangular enclosure; post hole; linear feature; ring ditch; pit; field boundary	Unknown	Essex HER
214	MEX17786	South Ockendon	Linear feature; ditch; pit	Unknown	Essex HER
215	MEX17792	Stifford Clays-Primrose Island	Pit; pit; ring ditch; house; house; farmstead; post hole; ditch	Bronze Age to Iron Age	Essex HER
216	MEX17804	Stifford Clays-Primrose Island	Farmstead; cremation; rectangular enclosure; ditch; field boundary; stock enclosure; pond; corn drying kiln; pit	Roman	Essex HER
217	MEX17812	Stifford Clays-Primrose Island	Building; post hole; moat	Medieval	Essex HER
218	MEX17818	Stifford Clays-Primrose Island	Ditch; pit; linear feature	Unknown	Essex HER
219	MEX17873	Nevilles Farm	Ring ditch	Unknown	Essex HER
220	MEX17900	Orsett-Barrington's Farm, Lofts Farm	Ditch; ring ditch; linear feature; trackway; house; pit; grubenhaus; field boundary; square enclosure; enclosure; henge	Unknown	Essex HER
221	MEX17929	South Ockendon	Ring ditch; linear feature; ditch	Unknown	Essex HER
223	MEX17940	Stifford Clays	Findspot	Roman	Essex HER
224	MEX17945	Orsett-Maltings Lane	Findspot	Roman	Essex HER
225	MEX17949	Church of St Giles and All Saints, Orsett	Findspot	Iron Age	Essex HER
226	MEX17952	Church of St Giles and All Saints, Orsett	Findspot	Post-Medieval	Essex HER
227	MEX17955	Orsett	Findspot	Prehistoric	Essex HER
228	MEX17957	Orsett Heath Place Farm	Findspot	Mesolithic	Essex HER
229	MEX17965	Fen Lane, North west of Orsett	Moat	Medieval	Essex HER

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230	MEX17973	Blankets	Moat	Medieval	Essex HER
231	MEX17990	West of Nevilles Farm	Enclosure; linear feature; ditch; pit; grubenhaus; ring ditch; square enclosure	Unknown	Essex HER
232	MEX17998	Holme Farm, Bulphan Fen	Pit; cemetery; burial; settlement	Roman	Essex HER
234	MEX18007	Holme Farm, Bulphan Fen	Findspot	Prehistoric	Essex HER
235	MEX18008	Orsett-Barrington's Farm-Orsett Cock Beaker Burial	Burial; pit	Bronze Age	Essex HER
236	MEX18016	Orsett-Barrington's Farm-Orsett Cock, trial trenching of fire station	Field boundary; ditch; post hole	Medieval	Essex HER
237	MEX18019	Orsett-Orsett Cock	Ring ditch; cremation	Bronze Age	Essex HER
238	MEX18022	Orsett-Orsett Cock	Pit; hearth	Iron Age	Essex HER
239	MEX18023	Orsett-Orsett Cock	Ditch; field boundary	Roman	Essex HER
240	MEX18026	Orsett-Orsett Cock	Grubenhaus; settlement	Early Medieval	Essex HER
241	MEX18029	Orsett-Orsett Cock	Ditch	Medieval	Essex HER
242	MEX18030	Orsett-Orsett Cock	Ditch	Post-Medieval	Essex HER
243	MEX18031	Mucking Heath	Linear feature; ditch; ring ditch; trackway; rectangular enclosure	Unknown	Essex HER
244	MEX18050	Near William Edwards School	Moat	Medieval	Essex HER
245	MEX18051	Near Heath Place	Trackway; pit; ring ditch; linear feature; rectilinear enclosure	Unknown	Essex HER
246	MEX18071	North East edge of Grays	Linear feature?	Unknown	Essex HER
247	MEX18075	Orsett-Grey Goose Farm	Trackway; ditch; field system; field boundary; enclosure; ring ditch; pit; house; linear feature; grubenhaus; square enclosure	Unknown	Essex HER
248	MEX18096	Orsett-Grey Goose Farm	Pit	Palaeolithic	Essex HER
249	MEX18105	Orsett-Grey Goose Farm	Findspot	Post-Medieval	Essex HER
250	MEX18106	Orsett-Grey Goose Farm	Findspot	Unknown	Essex HER
251	MEX18107	Orsett-Grey Goose Farm	Findspot	Medieval	Essex HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
252	MEX18108	Orsett-Grey Goose Farm	Findspot	Post-Medieval	Essex HER
253	MEX18109	Orsett-Grey Goose Farm	Pit	Post-Medieval	Essex HER
254	MEX18114	Orsett-Grey Goose Farm	Dene hole; pit	Unknown	Essex HER
255	MEX18116	Orsett-Baker Street Pit	No finds or features	Unknown	Essex HER
256	MEX18121	Orsett-Baker Street Pit	Findspot	Post-Medieval	Essex HER
257	MEX18122	North of Heath Place	Linear feature; rectilinear enclosure; trackway; ditch; ring ditch	Unknown	Essex HER
258	MEX18126	Orsett	Pit; field boundary; ditch	Unknown	Essex HER
259	MEX18140	West of Brook Farm	Ring ditch	Unknown	Essex HER
260	MEX18153	Near South Ockendon Hall	Trackway; ditch; linear feature	Unknown	Essex HER
261	MEX18157	East of Baker Street	Field boundary; rectangular enclosure; trackway; pit; linear feature; ditch	Unknown	Essex HER
262	MEX18160	West of Whitecrofts Farm	Grubenhous; linear feature	Unknown	Essex HER
263	MEX18163	Orsett Farm	Moat; ditch; linear feature; ring ditch; house	Unknown	Essex HER
264	MEX18174	South of South Ockendon Hall	Linear feature; ditch; pit	Unknown	Essex HER
265	MEX18185	North of South Ockendon Hall	Rectangular enclosure; pit; ditch; linear feature; trackway	Unknown	Essex HER
266	MEX18190	South Ockendon Wind Mill	Smock mill; watermill	Post-Medieval	Essex HER
267	MEX18195	Cropmarks of a moat	Enclosure; moat	Unknown	Essex HER
268	MEX18205	West of Mill House	Linear feature	Unknown	Essex HER
269	MEX18208	Orsett-High Road, Village Lock-up or Cage	Prison; pound	Post-Medieval	Essex HER
270	MEX18216	Boyn Hill terrace - Orsett	Pit; post hole; settlement	Iron Age	Essex HER
271	MEX18220	East of Brook Farm	Trackway; rectangular enclosure; linear feature; ditch	Unknown	Essex HER
272	MEX22270	Orsett Cock	Findspot	Roman	Essex HER
273	MEX22271	Orsett Cock	Findspot	Early Medieval	Essex HER



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274	MEX22272	Orsett Cock	Findspot	Post-Medieval	Essex HER
275	MEX27426	Warley Place	Garden	Post-Medieval	Essex HER
276	MEX27432	Warley Place	House; garden	Post-Medieval	Essex HER
277	MEX28558	Orsett Causewayed Enclosure	Findspot	Mesolithic to Bronze Age	Essex HER
278	MEX28562	Orsett Causewayed Enclosure	Findspot	Mesolithic to Bronze Age	Essex HER
279	MEX28563	Orsett Causewayed Enclosure	Findspot	Neolithic to Bronze Age	Essex HER
280	MEX28712	Field West of St Catherine's Church, Thurrock	Findspot	Early Medieval	Essex HER
281	MEX28713	Field West of St Catherine's Church, Thurrock	Findspot	Medieval	Essex HER
282	MEX28714	Field West of St Catherine's Church, Thurrock	Findspot	Post-Medieval	Essex HER
283	MEX28716	Field West of St Catherine's Church, Thurrock	Human remains	Roman	Essex HER
284	MEX28719	Field West of St Catherine's Church, Thurrock	Human remains	Medieval	Essex HER
285	MEX28721	East Tilbury - Quarry and Field East of St Catherine's Church	Findspot	Roman	Essex HER
286	MEX28725	St Catherine's Church Cemetery, East Tilbury	Findspot	Roman	Essex HER
287	MEX28727	St Catherine's Church Cemetery, East Tilbury - a small searchlight/gun battery	Searchlight battery; battery	Modern	Essex HER
288	MEX28728	Alan Williams Turret, Love Lane/Princess Margaret Road, East Tilbury	Alan Williams turret	Modern	Essex HER
289	MEX28729	East Tilbury - Field West of Coalhouse Fort	Findspot	Roman	Essex HER
290	MEX28730	Church Green, East Tilbury	Battery; war memorial	Modern	Essex HER
291	MEX28731	St Catherine's Church Boundary (N, E, S), East Tilbury	Fortification; dyke (defence)	Post-Medieval	Essex HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
294	MEX31784	Spigot Mortar Site (destroyed), Allotments, Sockett's Heath	Spigot mortar emplacement	Modern	Essex HER
295	MEX31786	Road Barrier (destroyed), Sockett's Heath	Road barrier; anti-tank pimple	Modern	Essex HER
296	MEX31787	Pillbox (destroyed), Sockett's Heath	Pillbox	Modern	Essex HER
297	MEX31788	Spigot Mortar Base, E of roundabout, Sockett's Heath	Spigot mortar emplacement	Modern	Essex HER
298	MEX31791	WWII HAA Gun Site "TN15 Chadwell", Thurrock	Anti-aircraft battery	Modern	Essex HER
306	MEX31801	Spigot Mortar Site (destroyed), N of Chadwell St. Mary	Spigot mortar emplacement	Modern	Essex HER
307	MEX31802	Spigot Mortar Site (destroyed), N of Chadwell St. Mary	Spigot mortar emplacement	Modern	Essex HER
308	MEX31805	Road Barrier (destroyed), Nr Level Crossing, Fort Rd, W. Tilbury	Road barrier	Modern	Essex HER
309	MEX31806	Turret (destroyed), Allotments, Fort Road	Tett turret?; Alan Williams turret?	Modern	Essex HER
310	MEX31807	Road Barrier (destroyed), Cooper's Lane, West Tilbury	Road barrier	Modern	Essex HER
311	MEX31809	Road Barrier (destroyed), Rectory Road, West Tilbury	Road barrier	Modern	Essex HER
312	MEX31810	Spigot Mortar Base, Top of Gun Hill, West Tilbury	Spigot mortar emplacement	Modern	Essex HER
313	MEX31811	Road Barrier (destroyed), Muckingford Road, West Tilbury	Road barrier	Modern	Essex HER
314	MEX31812	Pillbox, S of Tilbury Power Station	Pillbox	Modern	Essex HER
315	MEX31813	Spigot Mortar Pit, corner of field, St. James Church, W. Tilbury	Spigot mortar emplacement	Modern	Essex HER
316	MEX31814	Spigot Mortar Pit, Church Road, West Tilbury	Spigot mortar emplacement	Modern	Essex HER
317	MEX31815	Spigot Mortar Site (destroyed), Manor Farm, West Tilbury	Spigot mortar emplacement	Modern	Essex HER
318	MEX31816	Spigot Mortar Site x 2 (destroyed), Muckingford Road	Spigot mortar emplacement	Modern	Essex HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
319	MEX381818	Spigot Mortar Site (destroyed), Muckingford Road	Spigot mortar emplacement	Modern	Essex HER
320	MEX381819	Spigot Mortar Site (destroyed), "George and Dragon", Linford	Spigot mortar emplacement	Modern	Essex HER
321	MEX381820	Pillbox, Thames Foreshore, East Tilbury Marshes	Pillbox	Modern	Essex HER
322	MEX381821	Alan-Williams Steel Turret (destroyed), Love Lane/Prin. Marg	Alan Williams turret	Modern	Essex HER
323	MEX381834	Pillbox (destroyed), sea wall, East Tilbury marshes	Pillbox	Modern	Essex HER
324	MEX34893	Site of former buildings near Tilbury junctions	Building; farmstead; tile works	Post-Medieval	Essex HER
325	MEX37972	N of Rose Cottage, Chadwell St Mary	Long barrow; mortuary enclosure	Unknown	Essex HER
326	MEX38148	North Ring, Mucking	Circular enclosure; cremation; building; fence; post hole	Bronze Age	Essex HER
327	MEX38150	North Ring, Mucking	Settlement; grubenhaus	Early Medieval	Essex HER
328	MEX38151	Mucking: Palaeolithic	Findspot	Palaeolithic	Essex HER
329	MEX38154	Mucking: Mesolithic	Findspot	Mesolithic	Essex HER
330	MEX38156	Mucking: Neolithic	Pit; rubbing stone	Neolithic	Essex HER
331	MEX38158	Mucking: Beaker period	Burial; inhumation	Bronze Age	Essex HER
332	MEX38160	Mucking: Early to Middle Bronze Age	Burial; ring ditch; barrow; clay pit	Bronze Age	Essex HER
333	MEX38162	Mucking: Late Bronze Age	Circular enclosure; building; pit; settlement	Bronze Age	Essex HER
334	MEX38163	Mucking: Iron Age	Enclosure; structure; settlement; hut circle; hillfort; cemetery; cremation; inhumation	Iron Age	Essex HER
335	MEX38165	Mucking: Roman	Double ditched enclosure; trackway; settlement; farmstead; building; granary; pottery kiln; metal working site; cemetery; mortuary enclosure; round barrow	Roman	Essex HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
336	MEX38166	Mucking: Early to Middle Saxon	Settlement; grubenhaus; building; cemetery; cremation; inhumation; hearth; pit	Early Medieval	Essex HER
337	MEX38170	Mucking: Middle to Late Saxon	Field system; field system; ditch	Early Medieval	Essex HER
338	MEX38171	Mucking: Medieval	Field system; windmill; aisled barn	Medieval	Essex HER
339	MEX38172	Mucking: Post-Medieval	Field system; field boundary	Post-Medieval	Essex HER
340	MEX39591	The Paddock, Orsett	Findspot	Post-Medieval	Essex HER
341	MEX39618	Emmanuel Church, Chadwell St. Mary	Findspot	Modern	Essex HER
342	MEX39649	Cropmarks NW of High House	Ring ditch	Prehistoric	Essex HER
343	MEX39652	East Tilbury Marshes	Oyster beds; bomb crater	Unknown	Essex HER
344	MEX39661	Cropmarks N of High House	Linear feature; enclosure?	Unknown	Essex HER
345	MEX39663	Cropmarks N of Linford Road	Ring ditch; linear feature; field boundary	Unknown	Essex HER
346	MEX39665	Oyster beds c. 1km E of Tilbury Power Station	Oyster beds	Unknown	Essex HER
347	MEX39670	Anti-glider ditch E of Gobions	Aircraft obstruction; bomb crater; rectilinear enclosure; bank (earthwork)	Modern	Essex HER
348	MEX39672	Anti-Glider Ditches SE of Bowaters Farm	Aircraft obstruction	Modern	Essex HER
349	MEX39674	Anti-glider ditches SE of Bowaters Farm	Aircraft obstruction	Modern	Essex HER
350	MEX39676	Anti glider ditches N of Orchard House	Aircraft obstruction	Modern	Essex HER
351	MEX39688	Cropmarks to SE of Old House Wood	Rectangular enclosure; ring ditch; linear feature; pit	Bronze Age	Essex HER
352	MEX39804	Cropmark S of Fen Covert	Field boundary	Unknown	Essex HER
353	MEX39806	Cropmarks in grounds of South Ockendon Hospital	Long barrow; mortuary enclosure	Bronze Age	Essex HER
354	MEX39809	Cropmarks S of William Edwards Comprehensive School	Ring ditch; pit; linear feature	Unknown	Essex HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
355	MEX39812	Cropmarks SE of Poplars Farm	Field boundary	Unknown	Essex HER
356	MEX39815	Cropmarks W of Field House Farm	Pit	Unknown	Essex HER
357	MEX39818	Cropmarks W of Nevilles Farm	Pit; field boundary	Unknown	Essex HER
358	MEX39821	Cropmarks S of Orsett Primary School	Field boundary; pit; ring ditch; linear feature	Unknown	Essex HER
360	MEX39827	Cropmarks SE of Grey Goose Farm	Enclosure; pit; trackway	Unknown	Essex HER
361	MEX39853	Cropmark SE of Redcrofts Farm	Ring ditch; mound	Unknown	Essex HER
362	MEX39864	Cropmark S of Freeman's Shaw	Rectilinear enclosure	Unknown	Essex HER
363	MEX39946	Cropmarks NE of Turner Farm	Field boundary; linear feature	Unknown	Essex HER
364	MEX39957	Cropmarks SW of Dame Elyns	Field boundary	Unknown	Essex HER
365	MEX40514	Linford - Cremation Cemetery (H-CHF93)	Cemetery; cremation; pit; human remains	Bronze Age	Essex HER
366	MEX41042	Codham Hall Wood, Codham Hall Estate, Great Warley	Bank (earthwork); ditch; boundary marker; parish boundary	Medieval	Essex HER
367	MEX41073	Hobbs Hole, Codham Hall Estate, Great Warley	Dam; fishpond; mill	Medieval	Essex HER
368	MEX41456	Sandy Lane, Chadwell St Mary	Settlement; settlement; pottery kiln	Roman	Essex HER
369	MEX41474	West Tilbury-Gun Hill	Field system; ditch; field boundary; house; pit; building; workshop; pit; post hole	Iron Age	Essex HER
370	MEX42068	South Ockendon Hospital, South Road	Post hole; settlement; post hole; ditch; post hole; settlement; post hole	Bronze Age to Iron Age	Essex HER
371	MEX42071	South Ockendon Hospital South Road	Findspot	Roman	Essex HER
372	MEX42073	South Ockendon Hospital South Road	Findspot	Medieval	Essex HER
373	MEX42075	South Ockendon Hospital South Road	Findspot	Post-Medieval	Essex HER
374	MEX42152	Blackshott's Lane, Thurrock	No finds or features	Unknown	Essex HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
376	MEX43028	Horndon to Barking Gas Pipeline - Site 2	Ditch; field boundary	Post-Medieval	Essex HER
377	MEX43030	Horndon to Barking Gas Pipeline - Site 2	Pit	Bronze Age to Iron Age	Essex HER
378	MEX43034	Horndon to Barking Gas Pipeline - Site 3	Ditch; field boundary; field system	Medieval	Essex HER
379	MEX43037	Horndon to Barking Gas Pipeline - Site 4	Ditch; field boundary	Bronze Age to Iron Age	Essex HER
380	MEX43038	Horndon to Barking Gas Pipeline - Site 5	Ditch	Bronze Age	Essex HER
381	MEX43040	Horndon to Barking Gas Pipeline - Site 6	Well; garden wall; yard	Post-Medieval	Essex HER
382	MEX43041	Horndon to Barking gas pipeline - Site 7	Cremation; pit; human remains	Bronze Age	Essex HER
383	MEX43043	Horndon to Barking Gas pipeline - Site 7	Ditch; field boundary	Post-Medieval	Essex HER
387	MEX5919	East Tilbury	Findspot	Unknown	Essex HER
388	MEX5920	East Tilbury	Human remains	Unknown	Essex HER
392	MEX5948	St Mary's Hospital, East Tilbury	Hospital; chapel	Medieval	Essex HER
393	MEX6006	East Tilbury	Burial	Neolithic	Essex HER
394	MEX6010	East Tilbury	Findspot	Iron Age	Essex HER
395	MEX6015	Tilbury	Findspot	Palaeolithic	Essex HER
396	MEX6018	Tilbury	Findspot	Neolithic	Essex HER
397	MEX6022	Tilbury	Findspot	Neolithic	Essex HER
398	MEX6025	West Tilbury	Burial	Roman	Essex HER
399	MEX6028	East Tilbury	Findspot	Bronze Age	Essex HER
400	MEX6055	Little Thurrock - Hangman's Wood	Findspot	Roman	Essex HER
403	MEX6079	Chadwell St Mary	Rectilinear enclosure	Unknown	Essex HER
404	MEX6084	Sandy Lane, Chadwell St Mary	Post hole; granary; settlement; pit; ditch	Iron Age	Essex HER
405	MEX6090	East Tilbury Foreshore	Findspot	Iron Age	Essex HER

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406	MEX6091	East Tilbury Foreshore	Findspot	Roman	Essex HER
407	MEX6092	East Tilbury Foreshore	Findspot	Roman	Essex HER
408	MEX6093	East Tilbury Marshes	Findspot	Roman	Essex HER
409	MEX6094	East Tilbury	Saltern; red hill	Unknown	Essex HER
410	MEX6095	West Tilbury - Low Street	Burial	Roman	Essex HER
411	MEX6098	West Tilbury - Condover's Pit	Findspot	Roman	Essex HER
412	MEX6102	East Tilbury Foreshore	Settlement; hut circle; wood; floor; oven; trackway	Roman	Essex HER
414	MEX6188	Little Thurrock – Dene holes Roundabout	Findspot	Palaeolithic	Essex HER
415	MEX6191	Little Thurrock - Laird Avenue	Findspot	Neolithic	Essex HER
416	MEX6192	Orsett - Orsett Heath, Greyhound Lane	Findspot	Mesolithic	Essex HER
417	MEX6195	Tilbury - Quebec Road	Findspot	Roman	Essex HER
423	MEX6214	Orsett - Orsett Heath, Pit west of Greyhound Lane	Findspot	Palaeolithic	Essex HER
424	MEX6218	Terrels Heath	Findspot	Palaeolithic	Essex HER
427	MEX6229	Thurrock Technical College, Chadwell St Mary	Findspot	Palaeolithic	Essex HER
429	MEX6235	South of Herringham School, Chadwell St Mary	Findspot	Palaeolithic	Essex HER
430	MEX6238	Tilbury - Feenan Highway	Findspot	Palaeolithic	Essex HER
432	MEX6251	Mucking - Rainbow Wood	Pit; post hole	Iron Age	Essex HER
433	MEX6254	West Tilbury - Foreshore	Findspot	Roman	Essex HER
434	MEX6255	West Tilbury	Findspot	Roman	Essex HER
435	MEX6256	West Tilbury - Coal Road, East of Low Street Lane	Ring ditch; rectangular enclosure; ditch	Unknown	Essex HER
436	MEX6263	West Tilbury - Coal Road, East of Low Street Lane	Findspot	Roman	Essex HER
437	MEX6264	East Tilbury - East Tilbury Place	Pit	Iron Age	Essex HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
438	MEX6272	East Tilbury - Near Picon's Pit	Findspot	Neolithic to Bronze Age	Essex HER
439	MEX6275	Church of St Margaret, now St Katherine, East Tilbury	Findspot	Roman	Essex HER
440	MEX6279	East Tilbury	Findspot	Iron Age	Essex HER
441	MEX6286	North of Church, East Tilbury	Findspot	Palaeolithic	Essex HER
442	MEX6289	East Tilbury - Bowaters Farm	Saltern; red hill	Roman	Essex HER
443	MEX6294	East Tilbury - Muckingford Lane	Findspot	Neolithic to Bronze Age	Essex HER
444	MEX6295	East Tilbury - Muckingford Lane	Round barrow; cremation; ditch	Bronze Age	Essex HER
445	MEX6308	East Tilbury - Muckingford Lane	Wood; settlement	Iron Age	Essex HER
446	MEX6309	East Tilbury - Muckingford Lane	Trackway; ditch; ring ditch	Unknown	Essex HER
447	MEX6312	Cropmarks to the north of Mill House Farm	Ring ditch; gully; circular enclosure; pit; circular enclosure; linear feature; trackway; enclosure; ditch; rectangular enclosure	Unknown	Essex HER
448	MEX6320	East Tilbury - Foreshore	Findspot	Roman	Essex HER
449	MEX6325	West Tilbury- High House	Enclosure	Unknown	Essex HER
450	MEX6327	East of Mill House, Chadwell St Mary	Circular enclosure; ring ditch; pit; ditch; linear feature; hut circle; trackway; rectilinear enclosure	Unknown	Essex HER
451	MEX6341	East Tilbury	Pit; rectilinear enclosure	Unknown	Essex HER
452	MEX6343	East Tilbury	Pit; ring ditch; windmill mound; windmill; linear feature; ditch; trackway; rectilinear enclosure	Unknown	Essex HER
453	MEX6391	East Tilbury	Mosaic	Roman	Essex HER
454	MEX6401	High House Lane, Chadwell St Mary	Trackway	Iron Age	Essex HER
456	MEX6409	East of West Tilbury	Linear feature; trackway; ring ditch; pit; ditch; rectilinear enclosure	Unknown	Essex HER



Project ID	Source preferred reference number	Name	Monument type	Period	Source
457	MEX6411	Mucking Creek Valley	Trackway; linear feature; ditch; rectangular enclosure	Unknown	Essex HER
458	MEX6418	Mucking Creek Valley	Findspot	Neolithic	Essex HER
459	MEX6420	West Tilbury - Mill House Farm	Pit; linear feature; rectangular enclosure	Unknown	Essex HER
464	MEX6455	West Tilbury	Findspot	Palaeolithic	Essex HER
466	MEX6469	Find from Tilbury Fort, West Tilbury	Findspot	Palaeolithic	Essex HER
468	MEX6475	West Tilbury - Gun Hill	Findspot	Palaeolithic	Essex HER
469	MEX6484	West Tilbury - Gun Hill	Findspot	Mesolithic	Essex HER
470	MEX6488	West Tilbury - Gun Hill	Findspot	Neolithic to Bronze Age	Essex HER
471	MEX6489	West Tilbury - Gun Hill	Post hole; building; field system; field boundary; ditch; post hole	Bronze Age	Essex HER
472	MEX6505	West Tilbury - Gun Hill	Pottery kiln; pit; ditch; field system; field boundary; rectilinear enclosure	Roman	Essex HER
473	MEX6510	West Tilbury - Gun Hill	Grubenhous; post hole; wall	Early Medieval	Essex HER
474	MEX6513	West Tilbury - Gun Hill	Ditch; field boundary; field system; trackway; road	Medieval	Essex HER
475	MEX6518	West Tilbury - Gun Hill	Pit; ditch; lynchet; linear feature	Unknown	Essex HER
476	MEX6520	West Tilbury - Gun Hill	Grubenhous; ditch; pit; linear feature	Unknown	Essex HER
477	MEX6521	West Tilbury - Gun Hill, Cropmarks east of Turnpike Lane	Road; pit; grubenhous; ditch; trackway; ring ditch; linear feature; rectangular enclosure; circular enclosure	Unknown	Essex HER
479	MEX6530	North of Holford Farm	Ditch; ring ditch; linear feature	Unknown	Essex HER
480	MEX6533	West of High House	Linear feature	Unknown	Essex HER
481	MEX6535	Linford	Trackway; linear feature; pit; ring ditch	Unknown	Essex HER
482	MEX6539	Orsett	Ring ditch; trackway; house; pit; ditch; linear feature; rectilinear enclosure	Unknown	Essex HER

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483	MEX6544	Orsett - (see 1801 for cropmarks)	Findspot	Neolithic	Essex HER
484	MEX6549	Mucking, East Tilbury	Road	Roman	Essex HER
485	MEX6551	Chadwell St Mary	Mound; pit; millstone; windmill mound	Medieval	Essex HER
486	MEX6555	Chadwell St Mary	Findspot	Post-Medieval	Essex HER
487	MEX6556	Mill House	Windmill	Post-Medieval	Essex HER
488	MEX6558	East Tilbury - Ferris Aggregate Gravel Pit	Ditch	Unknown	Essex HER
489	MEX6567	West Tilbury Marsh	Findspot	Neolithic	Essex HER
490	MEX6574	Within Chadwell St Mary	Findspot	Neolithic to Bronze Age	Essex HER
491	MEX6583	Orsett Heath	Findspot	Mesolithic	Essex HER
492	MEX6587	Orsett - Heath Farm	Findspot	Palaeolithic	Essex HER
493	MEX6596	Linford	Trackway; pit; ditch; rectilinear enclosure	Unknown	Essex HER
494	MEX6598	East of Merrie Loots Farm	Bomb crater; ring ditch; ditch; pit; linear feature	Modern	Essex HER
495	MEX6600	East Tilbury	Rectilinear enclosure; linear feature; ditch; ring ditch	Unknown	Essex HER
496	MEX6603	West of Gravel Pit Farm	Settlement	Unknown	Essex HER
497	MEX6607	East of West Tilbury	Enclosure	Unknown	Essex HER
498	MEX6609	East Tilbury - 'Soldier's Graves'	Earthwork	Unknown	Essex HER
499	MEX6627	Tilbury - Wick House	House	Unknown	Essex HER
500	MEX6629	Tilbury	Sea defences	Medieval	Essex HER
501	MEX6630	Tilbury Foreshore	Findspot	Roman	Essex HER
502	MEX6632	West side of East Tilbury Marshes	Saltern; red hill	Unknown	Essex HER
503	MEX6633	Pigg's Pit, Chadwell St Mary	Findspot	Palaeolithic	Essex HER
504	MEX6644	Orsett	Findspot	Iron Age	Essex HER
505	MEX6648	Orsett	Findspot	Unknown	Essex HER
506	MEX6657	Orsett	Findspot	Palaeolithic	Essex HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
507	MEX6731	Orsett - Orsett Cock	Findspot	Neolithic	Essex HER
508	MEX6735	Orsett - Orsett Cock	Settlement	Iron Age	Essex HER
509	MEX6743	Orsett - Orsett Cock	Pit; industrial site; square enclosure; hut circle; post hole; ditch; palisaded enclosure; rectangular enclosure; hut circle	Iron Age	Essex HER
510	MEX6774	Orsett - Orsett Cock	Enclosure; ditch; building; pottery kiln; ditch; pottery kiln; ditch; post hole; hearth; furnace; industrial site; ditch; pit	Roman	Essex HER
511	MEX6775	Orsett - Orsett Cock	Grubenhous; building; post hole; pit; ditch; post hole; boundary marker; settlement	Early Medieval	Essex HER
512	MEX6784	Orsett - Orsett Cock	Field boundary; field system; ditch	Medieval	Essex HER
513	MEX6787	Orsett - Orsett Cock	Quarry	Post-Medieval	Essex HER
514	MEX6790	South Ockendon Old Hall	Moat; gatehouse; bridge; aisled barn; watermill; fishpond; kitchen; hall house; barn; well; privy house; chimney; chapel; wall; manor; beehive	Medieval	Essex HER
515	MEX6818	South Ockendon Hall-Mound South of	Findspot	Bronze Age	Essex HER
516	MEX6823	South Ockendon Hall-Mound South of	Findspot	Iron Age	Essex HER
517	MEX6824	Mound South of South Ockendon Hall	Round barrow; pit; ditch; round barrow	Roman	Essex HER
518	MEX6835	South Ockendon Hall-Mound South of	Findspot	Post-Medieval	Essex HER
519	MEX6858	Bulphan-Downes Farm or Spinnny Farm	Moat	Medieval	Essex HER
520	MEX6914	Orsett-Collingwood Farm	Linear feature	Unknown	Essex HER
521	060092/02/00	Ockendon Rd North Ockendon	Ditch; ditch	Iron Age	GLHER
522	060111/00/00	Rainham	Findspot	Roman	GLHER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
523	060363/00/00	Fen La North Ockendon	Enclosure; ring ditch	Prehistoric	GLHER
524	060444/00/00	Tylers Common Upminster	Spring	Post-Medieval	GLHER
525	060454/00/00	Ockendon Rd North Ockendon	Farmhouse; manor house	Post-Medieval	GLHER
526	060454/01/00	Stubbers La North Ockendon	Cellar	Post-Medieval	GLHER
527	060454/02/00	Ockendon Rd North Ockendon	Outbuilding	Post-Medieval	GLHER
528	060454/03/00	Ockendon Road, North Ockendon, Havering {Post-Medieval ice house}	Icehouse	Post-Medieval	GLHER
529	060454/04/00	Ockendon Rd North Ockendon	Fishpond; boating lake	Post-Medieval	GLHER
530	060454/05/00	Ockendon Rd North Ockendon	Barn; barn	Medieval to Post-Medieval	GLHER
531	060454/06/00	Ockendon Rd North Ockendon	Dovecote	Post-Medieval	GLHER
532	060454/07/00	Ockendon Rd North Ockendon	Dairy	Post-Medieval	GLHER
533	060454/08/00	Ockendon Rd North Ockendon	Garden temple	Post-Medieval	GLHER
534	060454/09/00	Ockendon Rd North Ockendon	Garden	Post-Medieval	GLHER
535	060460/00/00	Church La North Ockendon	School; school house	Post-Medieval	GLHER
536	060462/00/00	Beredens La Cranham	Manor house; manor house	Medieval to Post-Medieval	GLHER
537	060462/01/00	Beredens La Cranham	Manor house; manor house	Medieval to Post-Medieval	GLHER
538	060462/02/00	Beredens La Cranham	Occupation site	Medieval	GLHER
539	060464/03/00	Beredens La Cranham	Farmhouse; wall	Post-Medieval	GLHER
540	060530/00/00	Stubbers Lane, North Ockendon {Prehistoric enclosure?}	Enclosure	Prehistoric	GLHER
541	060901/00/00	Warley St Near Great Warley	Fishpond; dam; dam; fishpond	Medieval to Post-Medieval	GLHER
542	060983/00/00	Tylers Common Upminster	Settlement	Early Medieval/Dark Age to Medieval	GLHER
543	060984/00/00	Tylers Common Upminster	Building	Roman	GLHER
544	061033/00/00	Stubbers La North Ockendon	House; house	Medieval to Post-Medieval	GLHER
545	061034/00/00	Beredens La Cranham	House	Medieval	GLHER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
546	061037/00/00	Folkes Lane Cranham	House	Medieval	GLHER
547	061038/00/00	Pike Lane, Cranham	House	Medieval	GLHER
548	061040/00/00	Cranham	Settlement	Early Medieval/Dark Age to Medieval	GLHER
549	061041/00/00	Warley Road, Cranham (Formerly)	Wood	Medieval	GLHER
550	061044/00/00	Folkes La Cranham	House	Medieval to Post-Medieval	GLHER
551	061045/00/00	The Chase Cranham	Church; church	Medieval to Post-Medieval	GLHER
552	061045/01/00	The Chase Cranham	Wall; wall	Medieval to Post-Medieval	GLHER
553	061046/00/00	Front La Cranham	House	Post-Medieval	GLHER
554	061053/00/00	Clay Tye Rd Great Warley	House	Medieval to Post-Medieval	GLHER
555	061057/00/00	St Marys La Great Warley	House	Medieval	GLHER
556	061071/00/00	Fen La North Ockendon	Farmstead	Medieval to Post-Medieval	GLHER
557	061704/00/00	Ockendon Rd North Ockendon	Dump	Roman	GLHER
558	062025/00/00	Maybank Ave	Findspot	Roman	GLHER
559	062180/00/00	2 Hall Farm North Ockendon	Moat; ditch	Medieval	GLHER
560	062181/00/00	2 Hall Farm North Ockendon	Findspot	Post-Medieval	GLHER
561	062262/00/00	Ladyville Lodge	Pit	Post-Medieval	GLHER
562	062644/00/00	Hall Farm	Building; structure; yard; yard; structure; building; building; structure; yard	Medieval to Post-Medieval	GLHER
563	062735/00/00	Stubbers La	Landfill site	Post-Medieval	GLHER
564	062742/00/00	Ockendon Rd Hall Farm	Landfill site	Post-Medieval	GLHER
565	062756/00/00	Bury Farm	Landfill site	Post-Medieval	GLHER
566	062834/00/00	Church La	Settlement	Medieval	GLHER
567	062844/00/00	Broadfields Farm	Findspot; findspot; findspot; findspot	Prehistoric	GLHER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
568	062845/00/00	Broadfields Farm	Findspot	Roman	GLHER
569	062846/00/00	Broadfields Farm	Findspot	Medieval	GLHER
570	062847/00/00	Broadfields Farm	Findspot; findspot; findspot	Post-Medieval	GLHER
571	062848/00/00	Broadfields Farm	Findspot	Unknown	GLHER
572	062849/00/00	Broadfields Farm	Findspot	Unknown	GLHER
573	062925/00/000	Hall Farm	Building	Post-Medieval	GLHER
574	211323/00/00	Church Lane, North Ockendon	Manor house; moated site; moated site; manor house	Medieval to Post-Medieval	GLHER
575	211323/02/00	Church La North Ockendon	Outbuilding	Post-Medieval	GLHER
576	211323/02/001	Church La North Ockendon	Wall	Medieval to Post-Medieval	GLHER
577	211410/01/00	St Marys La Upminster	Barn	Post-Medieval	GLHER
578	211410/02/00	St Marys La Upminster	Moat	Medieval	GLHER
579	211421/02/00	Tomkyns Lane	Moat	Medieval	GLHER
580	MLO100555	Upminster {Palaeolithic Handaxe}	Findspot	Palaeolithic	GLHER
581	MLO100557	North Ockenden {Second World War heavy anti-aircraft battery}	Anti-aircraft battery	World War Two	GLHER
582	MLO100577	Moor Lane, Queens Gardens, Cranham {cropmarks}	Field boundary?	Post-Medieval	GLHER
583	MLO100582	Little Tomkyns Farm (east of) {cropmark}	Barrow?; circular enclosure?	Lower Palaeolithic to Post-Medieval	GLHER
584	MLO100583	Folkes Lane (west of) {cropmark}	Enclosure?; ditch?	Lower Palaeolithic to Post-Medieval	GLHER
585	MLO100584	Folkes Lane (east of) {cropmark}	Ditch?	Lower Palaeolithic to Post-Medieval	GLHER
586	MLO100586	Moor Lane, Queens Gardens, Cranham {cropmark}	Field boundary?	Post-Medieval	GLHER
587	MLO100589	The Chase [Cranham Farm], Upminster, Havering {Possible prehistoric field system}	Field system?; ditch	Prehistoric	GLHER
588	MLO100590	Fen Lane {cropmark}	Ditch?; enclosure?	Lower Palaeolithic to Post-Medieval	GLHER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
589	MLO100594	Ockenden Road {cropmarks}	Enclosure?; ditch?	Lower Palaeolithic to Post-Medieval	GLHER
590	MLO100769	Aveley Road (Cockhide Farm) {cropmarks}	Field boundary?	Post-Medieval	GLHER
591	MLO100815	Pike Lane, Upminster, Havering {Possible prehistoric field boundary}	Ditch	Prehistoric	GLHER
592	MLO100816	Pike Lane, Upminster, Havering {Possible prehistoric linear cropmark}	Trackway; field boundary	Prehistoric	GLHER
593	MLO100817	Pike Lane, Upminster, Havering {Possible prehistoric ditched enclosure}	Ring ditch; ditched enclosure; farmstead?	Prehistoric	GLHER
594	MLO100818	Ockendon Road, North Ockendon, Havering {possible early medieval cropmarks}	Field boundary	Early Medieval/Dark Age to Post-Medieval	GLHER
595	MLO100819	Ockendon Road, North Ockendon, Havering {enclosure cropmark}	Rectilinear enclosure	Lower Palaeolithic to Early Medieval/Dark Age	GLHER
596	MLO100820	Ockendon Road, North Ockendon, Havering {Prehistoric or Roman Ring ditch}	Ring ditch	Lower Palaeolithic to Roman	GLHER
597	MLO100821	Ockendon Road, North Ockendon, Havering {prehistoric or Roman cropmark}	Ring ditch?	Lower Palaeolithic to Roman	GLHER
598	MLO100822	Ockendon Road, North Ockendon, Havering {undated linear cropmarks}	Ditch	Unknown	GLHER
599	MLO100823	Ockendon Road, North Ockendon, Havering {undated linear cropmark}	Ditch	Unknown	GLHER
600	MLO102547	Tomkyns Lane [Great Tomkyns], London {Post-Medieval cut features}	Pit; ditch; gully	Post-Medieval	GLHER
601	MLO103900	Ockendon Road, [Upminster Cemetery] Corbets Tey, Upminster, Havering {20th century cemetery}	Cemetery; mortuary chapel; crematorium; cemetery chapel	Modern	GLHER
602	MLO104533	The Chase [Cranham Hall] Upminster, Havering {16th century private gardens}	Garden; pond	Post-Medieval to Modern	GLHER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
603	MLO104564	Nags Head Lane/Warley Road [Tyers Common] Havering {Common land}	Common land	Medieval to Modern	GLHER
604	MLO137	Ockendon Road, [Manor Farm], North Ockendon, Havering {Late Bronze Age to Roman occupation site}	Post hole; pit; gully; ditch; hut?; ditch; enclosure; farmstead; settlement; metal working site; cremation; ditch	Late Bronze Age to Early Medieval/Dark Age	GLHER
605	MLO139	Ockendon Road, North Ockendon, Havering {possible prehistoric cropmarks}	Enclosure; pit?; ring ditch	Lower Palaeolithic to Roman	GLHER
606	MLO13921	Pike Lane, Upminster, Havering {Possible prehistoric field system}	Field system	Prehistoric	GLHER
607	MLO14188	The Chase, [Cranham Hall Farm], Cranham {Dovecote}	Dovecote	Post-Medieval	GLHER
608	MLO144	Fen Lane, North Ockendon, Havering {undated cropmarks}	Site	Unknown	GLHER
609	MLO23414	The Chase [Cranham Farm], Upminster, Havering {site of a medieval windmill}	Windmill	Medieval	GLHER
610	MLO54550	Church Lane, North Ockendon, Havering {probable Post-Medieval moat}	Moat	Post-Medieval to Modern	GLHER
611	MLO58272	Ockendon Road, North Ockendon, Havering {undated cropmarks}	Oval enclosure	Unknown	GLHER
612	MLO5871	Fen Lane, North Ockendon, Havering {Post-Medieval post mill}	Post mill	Post-Medieval	GLHER
613	MLO71925	Fen Lane, North Ockendon, Havering {Old Road}	Road	Unknown	GLHER
614	MLO75999	Great Barn	Findspot	Prehistoric	GLHER
615	MLO76051	Hole Farm	Finds scatter	Prehistoric	GLHER
616	MLO76898	Hole Farm	Finds scatter	Roman	GLHER
617	MLO76902	Great Barn	Findspot	Roman	GLHER
618	MLO76903	Great Barn	Findspot	Unknown	GLHER
619	MLO76918	Hall Farm, North Ockendon	Manor house	Post-Medieval	GLHER



Project ID	Source preferred reference number	Name	Monument type	Period	Source
620	MLO76919	Hall Farm, North Ockendon	Well	Post-Medieval	GLHER
621	MLO77396	Chapmans Farm	Ridge and furrow	Medieval to Post-Medieval	GLHER
622	MLO84865	Large Barn to North East of Franks Farmhouse	Timber framed barn	Post-Medieval	GLHER
623	MLO98647	The Chase, [Cranham Hall Farm], Cranham {19th century model farm}	Model farm; farm; forge; farmhouse	Post-Medieval to Modern	GLHER
624	MLO99045	Clay Tye Road, Pike Lane, [area between], {undated ditches and possible pits}	Drainage feature; ditch; pit?	Post-Medieval to Modern	GLHER
625	411640	A Palaeolithic flint implement, between Tylers Common and Brentwood.	Findspot	Palaeolithic	Historic England Archive
626	413186	Roman brooch	Findspot	Roman	Historic England Archive
627	413199	Roman coin, Cobham Park	Findspot	Roman	Historic England Archive
628	413201	Medieval lead seal-die, possibly 13th century in date.	Findspot	Medieval	Historic England Archive
630	413468	A Romano British pottery kiln at Condoers Pit, Saxon and Medieval pottery and a circular cropmark.	Pottery kiln; findspot; ring ditch	Roman, Medieval, Unknown	Historic England Archive
631	413474	Roman vase, East Tilbury.	Findspot	Roman	Historic England Archive
632	413475	Roman pottery.	Findspot	Roman	Historic England Archive
633	413477	St Marys Hospital and Chapel	Hospital; chapel	Medieval	Historic England Archive
634	413478	`U' earthwork.	Earthwork	Unknown	Historic England Archive
635	413480	Iron Age pottery.	Findspot	Iron Age	Historic England Archive
636	413481	`U' enclosure.	Enclosure; pit	Unknown	Historic England Archive

Project ID	Source preferred reference number	Name	Monument type	Period	Source
637	413483	Possible Neolithic burial	Burial site	Neolithic	Historic England Archive
638	413484	Neolithic arrowhead.	Findspot	Neolithic	Historic England Archive
639	413486	Iron Age and Roman pottery associated with areas of burnt material and ditches recorded on the foreshore.	Findspot; ditch	Iron Age, Roman	Historic England Archive
640	413488	Palaeolithic implements including 1 handaxe, 11 retouched flakes and 6 flakes, Tilbury and West Tilbury.	Finds scatter	Palaeolithic	Historic England Archive
641	413489	A Neolithic small chipped flint axe or chisel, dredged from the Thames off Tilbury	Findspot	Neolithic	Historic England Archive
642	413490	Roman burials with bronze and iron bracelets, West Tilbury.	Burial; findspot	Roman	Historic England Archive
643	413494	Three Red hills found along with Roman pottery.	Salt works	Roman	Historic England Archive
644	413495	Roman lamp.	Findspot	Roman	Historic England Archive
645	413496	Whetstone of possible Bronze Age date	Findspot	Bronze Age	Historic England Archive
646	413497	Four Acheulian hand axes and flakes possibly Palaeolithic, Gun Hill. Possible Mesolithic flint flakes, a leaf-shaped arrowhead and scrapers.	Finds scatter	Palaeolithic, Mesolithic, Neolithic	Historic England Archive
647	413503	Palaeolithic flakes found in gravel pit.	Finds scatter	Palaeolithic	Historic England Archive
653	413530	Monastery founded by Bishop Cedd c.654 AD. Exact location unknown, probably either at Tilbury or Chadwell St Mary.	Monastery	Early Medieval	Historic England Archive
655	413534	Roman finds.	Findspot	Roman	Historic England Archive

Project ID	Source preferred reference number	Name	Monument type	Period	Source
656	413554	A Palaeolithic handaxe and a lump, Little Thurrock.	Findspot	Palaeolithic	Historic England Archive
658	413571	A Palaeolithic handaxe found on Terrell's Hill, Little Thurrock, Grays.	Findspot	Palaeolithic	Historic England Archive
664	413612	Romano-British settlement associated with pottery making of 1st to early 3rd century date. Late Roman burials of 4th/5th century date.	Settlement; burial site;	Roman	Historic England Archive
665	413615	Bronze coin of Tasciovanus.	Findspot	Iron Age	Historic England Archive
666	413712	Roman pottery with graffiti found at Chalk	Findspot	Roman	Historic England Archive
667	413713	Findspot of five Roman miniature pots.	Findspot	Roman	Historic England Archive
668	413719	A disused swing bridge over the Thames and Medway Canal	Bridge	Post - Medieval	Historic England Archive
669	413722	Findspot of a copper alloy cross arm's terminal plate of twelfth or thirteenth century	Findspot	Medieval	Historic England Archive
670	413725	Alleged site of a deserted Medieval village at Denton.	Deserted medieval village	Medieval	Historic England Archive
671	413727	Mesolithic implements found at Randall Heath, Shorne.	Findspot	Mesolithic	Historic England Archive
672	413731	Roman urns, fibulae and iron nails found at Shorne.	Findspot	Roman	Historic England Archive
673	413732	Samian vessel	Findspot	Roman	Historic England Archive
674	413737	The fragmented cropmark remains of a probable later prehistoric trackway	Field boundary; rectilinear enclosure; trackway; ditch; hollow way	Prehistoric	Historic England Archive
675	413749	A group of pits of uncertain date, situated on the chalk on the eastern edge of Gravesend.	Pit	Unknown	Historic England Archive

Project ID	Source preferred reference number	Name	Monument type	Period	Source
676	413755	A zig-zagging double ditched feature thought to be a trackway, possibly later prehistoric in date	Ditch; trackway	Late Prehistoric	Historic England Archive
677	413760	The fragmentary cropmarks of a possible Late Prehistoric track way north of Claylane Wood.	Ditch; trackway	Late Prehistoric	Historic England Archive
678	413831	Iron Age old coin	Findspot	Iron Age	Historic England Archive
679	413838	Neolithic polished flint axe found south of the Mid-Kent Golf Course.	Findspot	Neolithic	Historic England Archive
680	414100	Romano British potsherds, Walton Hall Farm	Findspot	Roman	Historic England Archive
681	414133	Pottery of possible Roman date	Findspot	Roman	Historic England Archive
682	414139	The remains of a Romano British cremation and inhumation cemetery.	Cemetery; burial site; findspot	Roman	Historic England Archive
683	414144	Iron Age pots; `U' spur.	Findspot; spur	Iron Age	Historic England Archive
684	414148	Documented site of a Romano-British double ditched enclosure.	Enclosure; ditch	Roman	Historic England Archive
685	414156	Roman glass bottle neck.	Findspot	Roman	Historic England Archive
686	414159	A Mesolithic flint blade was found.	Findspot	Mesolithic	Historic England Archive
687	414162	The faint cropmarks of a circular enclosure, circa 70 metres in diameter.	Circular enclosure	Late Bronze Age, Prehistoric	Historic England Archive
688	416214	Neolithic axe found near Knight's Place, Cuxton.	Findspot	Neolithic	Historic England Archive
689	498133	Windmill documented on the Orsett tithe Map of 1758.	Windmill	Post-Medieval	Historic England Archive
690	502033	Low Street Station	Railway station; railway	Post-Medieval	Historic England Archive
691	502039	Ockendon Station	Railway station; railway	Post-Medieval	Historic England Archive

Project ID	Source preferred reference number	Name	Monument type	Period	Source
693	502269	East Tilbury Station	Railway station	Post-Medieval	Historic England Archive
694	511817	St Katherines Cottage	House	Post-Medieval	Historic England Archive
697	545194	West Court	Farmhouse	Post-Medieval	Historic England Archive
699	546228	Lavender Cottage	House	Post-Medieval	Historic England Archive
700	621829	Roman briquetage	Findspot	Roman	Historic England Archive
701	765219	The incomplete cropmark of possible Roman enclosed settlement	Settlement; pit; enclosure	Roman	Historic England Archive
702	765302	Fragments of ditch seen as cropmarks.	Ditch; trackway	Unknown	Historic England Archive
703	765312	The cropmark remains of a curving trackway, probably of later prehistoric date	Trackway	Late Prehistoric	Historic England Archive
704	896342	Three Sisters	Boat; barge	Post-Medieval	Historic England Archive
705	896638	Sultan	Boat; barge	Post-Medieval	Historic England Archive
706	896657	Georgian	Boat; cargo vessel	Post-Medieval	Historic England Archive
707	896945	Pearl	Boat; schooner	Post-Medieval	Historic England Archive
708	897434	H C	Boat; barge	Post-Medieval	Historic England Archive
709	965375	Site of Tylehurst, Upminster possibly in the area of Tylers Common or Tylers Hall, suggests a tile kiln or building in the vicinity.	Tile kiln; tile factory; building	Post-Medieval	Historic England Archive
710	965453	Iron Age and Roman enclosed settlement consisting of two rectangular enclosures and two small ditched enclosures	Settlement; enclosure; ditch	Iron Age, Roman	Historic England Archive

Project ID	Source preferred reference number	Name	Monument type	Period	Source
711	965468	Md and PM house and dovecote, Stubbers, North Ockendon	House; dovecote	Medieval - Post-Medieval	Historic England Archive
712	965531	Medieval and Post-Medieval buildings excavated at Beredens Manor, Upminster.	Building	Medieval - Post-Medieval	Historic England Archive
713	965545	St Peters Church	Church	Post-Medieval	Historic England Archive
714	1043713	Possible Roman road running from London to Othona (Bradwell).	Road	Roman	Historic England Archive
715	1043721	Possible Roman road running from Brentwood to Tilbury.	Road	Roman	Historic England Archive
716	1043728	Possible Roman road running from Orsett Hall to East Tilbury.	Road	Roman	Historic England Archive
717	1043729	Possible Roman road running from Mucking Road to Grays.	Road	Roman	Historic England Archive
718	1044002	Possible Roman road at Grays.	Road	Roman	Historic England Archive
719	1076539	THURROCK HOSPITAL	Hospital; sanatorium	Post-Medieval	Historic England Archive
721	1084628	Lower Palaeolithic handaxe and retouched flake	Findspot	Lower Palaeolithic	Historic England Archive
722	1084643	Lower Palaeolithic handaxe and 2 Levallois flakes found in the parish Shorne.	Findspot	Lower Palaeolithic	Historic England Archive
723	1142655	A broken handaxe found to the north of the church at Marsh Level, East Tilbury	Findspot	Palaeolithic	Historic England Archive
724	1142664	A Palaeolithic handaxe found on the surface of the ground at South Ockendon	Findspot	Palaeolithic	Historic England Archive
725	1143781	A Palaeolithic handaxe, Piggs Pit, Chadwell Saint Mary, east of Sandy Lane	Findspot	Palaeolithic	Historic England Archive
726	1143782	Palaeolithic implements including 115 handaxes, 2 roughouts and 6	Findspot; finds scatter	Palaeolithic	Historic England Archive

Project ID	Source preferred reference number	Name	Monument type	Period	Source
		flakes, Chadwell Saint Mary or Chadwell			
728	1145076	A Palaeolithic handaxe found at Sockets Heath Pit, Grays	Findspot	Palaeolithic	Historic England Archive
729	1145511	Palaeolithic implements including 4 handaxes, 1 retouched flake and 9 flakes, Orsett and Orsett Heath	Findspot; finds scatter	Palaeolithic	Historic England Archive
731	1174614	A Neolithic causewayed enclosure, alleged to have existed at Chalk	Causewayed enclosure	Neolithic	Historic England Archive
732	1180031	Anne Royal	Ship; ship wreck	Post-Medieval	Historic England Archive
733	1252243	John	Boat; barge	Post-Medieval	Historic England Archive
735	1308909	Andyville	House; cottage	Post-Medieval	Historic England Archive
736	1323767	Site interpreted as agricultural activity dated to the middle-late Bronze Age, Rochester and Cobham Golf Course	Settlement; agricultural activity	Prehistoric	Historic England Archive
737	1368964	London Tilbury and Southend Railway	Railway	Post-Medieval	Historic England Archive
738	1368966	Barking and Pitsea Railway	Railway	Post-Medieval	Historic England Archive
739	1368976	Upminster and Grays Branch Railway	Railway	Post-Medieval	Historic England Archive
740	1375151	The remains of a timber and concrete jetty, on the eastern bank of the River Thames and south-east of the village of East Tilbury.	Jetty	Medieval - Post-Medieval	Historic England Archive
741	1416228	Remains of a Second World War or later radar mast near Coalhouse Fort. Precise location not known.	Radar mast	Modern	Historic England Archive
742	1421283	Second World War pillbox with continuous 'firing slits'. On the North bank of the Thames foreshore, circa	Pillbox	Modern	Historic England Archive

Project ID	Source preferred reference number	Name	Monument type	Period	Source
		1 mile West of Coalhouse Fort and circa 2 miles East of Tilbury Fort.			
743	1423397	Non-hexagonal Second World War pillbox, Tilbury Power Station.	Pillbox	Modern	Historic England Archive
744	1430061	A small irregular ring ditch, circa 13 metres in diameter	Ring ditch; ditch; enclosure; pit	Bronze Age	Historic England Archive
747	1473568	Heavy Anti-Aircraft Battery Thames And Medway Tn15	Anti-aircraft battery	Modern	Historic England Archive
748	1474327	Cobham Heavy Anti-Aircraft Battery	Anti-aircraft battery	Modern	Historic England Archive
749	1478888	Ground Controlled Interception Station 40g	Radar station	Modern	Historic England Archive
750	1548129	Earthwork remains of an oval mound, possibly a 19th century or earlier stock refuge mound	Mound; stock refuge mound	Post-Medieval	Historic England Archive
751	1548139	Earthwork remains of an oval mound, possibly a 19th century or earlier stock refuge mound	Mound; stock refuge mound	Post-Medieval	Historic England Archive
752	1548144	Earthwork remains of an oval mound, possibly a 19th century or earlier stock refuge mound	Mound; stock refuge mound	Post-Medieval	Historic England Archive
753	1548166	The site of a possible former Second World War pillbox located close to the river bank	Pillbox	Modern	Historic England Archive
754	1548187	Earthwork remains of a probable Post-Medieval - 20th century stock watering pond, Shornemead Marshes	Stock watering pond	Post-Medieval	Historic England Archive
755	1548189	Earthwork remains of a probable Post-Medieval - 20th century stock watering pond, Shornemead Marshes	Stock watering pond	Post-Medieval	Historic England Archive
756	1548190	Earthwork remains of a probable Post-Medieval - 20th century stock watering pond, Shornemead Marshes	Earthwork; stock watering pond	Post-Medieval	Historic England Archive



Project ID	Source preferred reference number	Name	Monument type	Period	Source
757	1548207	Earthwork remains of a small oval mound, probably a 19th century or earlier stock refuge mound, Shorne Marshes	Mound; stock refuge mound	Post-Medieval	Historic England Archive
758	1548210	The earthwork remains of an oval mound within Shorne Marshes, probably a 19th century or earlier stock refuge mound	Mound; stock refuge mound	Post-Medieval	Historic England Archive
759	1548213	The earthwork remains of a small oblong mound within Shorne Marshes, probably a 19th century or earlier stock refuge mound	Mound; stock refuge mound	Post-Medieval	Historic England Archive
760	1548216	The earthwork remains of a small oval mound on the north-western edge of Shorne Marshes. Probable 19th century or earlier stock refuge mound	Mound; stock refuge mound	Post-Medieval	Historic England Archive
761	1549291	East Tilbury	Settlement	-	Historic England Archive
762	1549982	The earthworks of two possible Post-Medieval woodland banks and flanking ditches, Claylane Wood	Woodland bank; flanking ditch	Post-Medieval	Historic England Archive
763	1549990	The earthwork of a possible Post-Medieval sand pit can be seen in Claylane Wood	Sand pit; pit	Post-Medieval	Historic England Archive
764	1550079	A group of earthworks on Shorne Hill, possibly part of a Post-Medieval rabbit warren and would have functioned as pillow mounds	Rabbit warren; pillow mound	Post-Medieval	Historic England Archive
765	1550080	The earthworks of three banks situated to the south of Swiller's Lane.	Bank	Post-Medieval	Historic England Archive
766	1550092	The earthwork of a lynchet in a field on the northern edge of Shorne	Lynchet	Post-Medieval	Historic England Archive

Project ID	Source preferred reference number	Name	Monument type	Period	Source
767	1550094	The earthwork remains of possible Post-Medieval quarrying on Shorne Hill	Quarry	Post-Medieval	Historic England Archive
768	1550247	The earthwork remains of a Twentieth century golf course on Filborough Marshes	Golf course	Modern	Historic England Archive
769	1550256	A group of possible Second World War allotments, situated behind houses on East Milton Road, Bellman Avenue and Abbey Road.	Allotment	Modern	Historic England Archive
770	1550264	A group of possible Second World War allotments, the majority of which are situated behind houses on Chalk Road	Allotment	Modern	Historic England Archive
771	1550270	A group of Second World War allotments, situated between Waterton Road and the railway line.	Allotment	Modern	Historic England Archive
772	1550299	Two groups of Second World War allotments, situated along the north-western side of Denton Court Road with a second group a little to the west of these.	Allotment	Modern	Historic England Archive
773	1550458	The incomplete cropmark of a curvilinear enclosure or ring ditch of possible Bronze Age date.	Enclosure; ring ditch	Bronze Age	Historic England Archive
774	1550459	The incomplete cropmark of a possible Later Prehistoric or Roman enclosure to the north of Harts Hill.	Enclosure	Late Prehistoric, Roman	Historic England Archive
775	1550460	The cropmarks of a probable Later Prehistoric enclosure and associated boundary ditch situated on the eastern slope of a coombe on the eastern edge of Gravesend.	Enclosure; ditch; boundary ditch	Late Prehistoric	Historic England Archive
776	1550461	The cropmark of a possible Post-Medieval chalk pit situated south of Chalk	Chalk pit	Post-Medieval	Historic England Archive

Project ID	Source preferred reference number	Name	Monument type	Period	Source
777	1550462	The cropmark of a possible Post-Medieval chalk pit situated to the south of Chalk	Chalk pit	Post-Medieval	Historic England Archive
778	1550464	The cropmarks of possible Later Prehistoric or Roman field boundaries, situated in a coombe to the south of Chalk.	Field boundary	Late Prehistoric to Roman	Historic England Archive
779	1550465	The cropmarks of possible Later Prehistoric or Roman field boundaries, situated in a coombe to the south of Chalk.	Field boundary	Late Prehistoric to Roman	Historic England Archive
780	1550473	The earthwork of a Post-Medieval water channel situated on Filborough Marshes	Water channel	Post-Medieval	Historic England Archive
781	1550474	The earthwork of a Post-Medieval water channel situated on the southern edge of Filborough Marshes.	Water channel	Post-Medieval	Historic England Archive
782	1550928	The cropmark traces of a linear ditch, probably the remains of a former boundary of uncertain date.	Ditch; linear ditch; boundary	Unknown	Historic England Archive
783	1550950	A small ring ditch of uncertain date with a diameter of 6.5m, seen as a cropmark adjacent to the cropmark traces of a probable later prehistoric trackway (NMR Monument: 413755).	Ring ditch; trackway; round barrow	Unknown	Historic England Archive
784	1550954	Cropmark of an 80m length of ditch of uncertain date, possibly a former boundary aligned NE-SW.	Ditch; boundary	Unknown	Historic England Archive
785	1550956	A single pit of uncertain date with a diameter of 6m seen as a cropmark	Pit	Unknown	Historic England Archive
786	1550964	Two parallel ditches, possibly the remains of a former trackway of uncertain date, north of the Gravesend Road to the west of Lower Shorne.	Ditch; trackway	Unknown	Historic England Archive

Project ID	Source preferred reference number	Name	Monument type	Period	Source
787	1551274	The cropmark trace of a former field boundary seen as a ditch	Field boundary; ditch	Medieval to Post-Medieval	Historic England Archive
788	1551276	A linear ditch, possibly a later prehistoric or Roman field boundary seen as a cropmark	Field boundary; ditch	Late Prehistoric to Roman	Historic England Archive
789	1551290	The slight earthwork remains of a former sea wall on Filborough Marshes	Sea wall	Post-Medieval	Historic England Archive
790	1551309	Cropmark of a short length of linear ditch, probably part of a former boundary of uncertain date.	Linear ditch; boundary	Unknown	Historic England Archive
791	1551332	The cropmark of a ditch, possible trackway and pits situated to the north of Harts Hill.	Ditch; trackway; pit	Unknown	Historic England Archive
792	1551384	The cropmarks of two possible Post-Medieval chalk pits, situated to the north of Harts Hill.	Chalk pit;	Post-Medieval	Historic England Archive
793	1551393	The cropmarks of two possible Post-Medieval chalk pits, situated to the north of Harts Hill	Chalk pit	Post-Medieval	Historic England Archive
794	1551414	The cropmarks of a possible Roman square enclosure, situated to the north of Harts Hill.	Enclosure; ditch	Roman	Historic England Archive
795	1551425	A former field boundary of uncertain date visible as a slight bank. St Mary's Churchyard to the corner of a field to the NE of Eastcourt Oast.	Field boundary; bank	Unknown	Historic England Archive
796	1551429	The cropmark of a ditch, maybe Roman in date.	Ditch	Roman	Historic England Archive
797	1551438	The earthwork remains of an oval mound thought to be a 19th century or earlier stock refuge mound, Filborough Marshes.	Oval mound; stock refuge mound	Post-Medieval	Historic England Archive
798	1551441	The cropmarks of two ditches on uncertain date, west of Muggins Lane and less than a metre wide.	Ditch	Unknown	Historic England Archive

Project ID	Source preferred reference number	Name	Monument type	Period	Source
799	1551460	Two earthworks situated on the western edge of Filborough Marshes	Earthwork; mound	Post-Medieval to Modern	Historic England Archive
800	1551488	A group of eight buildings or huts thought to date to the Second World War. The structures are arranged in a line along the southern edge of a field to the south of Denton Sewage Works.	Building; hut	Modern	Historic England Archive
801	1551783	The remains of field boundary banks, situated on the eastern edge of Gravesend south of Chalk.	Field boundary; bank	Post-Medieval	Historic England Archive
802	1551786	The remains of three field boundary banks, situated on the eastern edge of Gravesend south of Chalk.	Field boundary; bank	Post-Medieval	Historic England Archive
803	1551789	The remains of three possible Post-Medieval field banks, situated to the south of Chalk.	Field boundary; bank	Post-Medieval	Historic England Archive
804	1551791	The cropmark of a continuation of an east-west trackway, situated to the south of Chalk.	Trackway	Post-Medieval	Historic England Archive
805	1551913	The slight earthwork remains of a Post-Medieval chalk pit. This oval chalk pit survives a slight depression in an arable field.	Chalk pit	Post-Medieval	Historic England Archive
806	1554259	A linear arrangement of three small square WW2 buildings or structures above the shore on the edge of Eastcourt Marshes to the west of Shornemead Fort. Could be associated with the wartime coastal defence	Building; coastal defence	Modern	Historic England Archive
807	1572867	Probable moated site at Mangrove Cottages	Settlement; moat; pond	Unknown	Historic England Archive
808	1575754	The cropmark of a single ring ditch, possibly the remains of a Bronze	Ring ditch; round barrow; hut circle	Bronze Age	Historic England Archive

Project ID	Source preferred reference number	Name	Monument type	Period	Source
		Age round barrow or a later prehistoric hut circle.			
809	1575755	The cropmarks of a single ring ditch, possibly a Bronze Age round barrow, and adjacent linear ditch or boundary	Ring ditch; round barrow; linear ditch; boundary	Bronze Age	Historic England Archive
810	1575882	Cropmarks of a probable Iron Age/Roman boundary ditches of trackway	Boundary ditch; trackway	Iron Age, Roman	Historic England Archive
811	1584207	Attack on The Hope 1667	Naval battlefield	Post-Medieval	Historic England Archive
812	1584245	1667 wreck of English fireship	Wreck; fireship; warship	Post-Medieval	Historic England Archive
813	1584256	1667 wreck of fireship, probably Dutch	Wreck; fireship; warship	Post-Medieval	Historic England Archive
814	1584257	1667 wreck of Dutch fireship	Wreck; fireship; warship	Post-Medieval	Historic England Archive
815	1584258	1667 wreck of Dutch fireship	Wreck; fireship; warship	Post-Medieval	Historic England Archive
816	1584259	1667 wreck of Dutch fireship	Wreck; fireship; warship	Post-Medieval	Historic England Archive
817	1584260	1667 wreck of Dutch fireship	Wreck; fireship; warship	Post-Medieval	Historic England Archive
818	1584266	1667 wreck of Dutch fireship	Wreck; fireship; warship	Post-Medieval	Historic England Archive
819	1584268	1667 wreck of Dutch fireship	Wreck; fireship; warship	Post-Medieval	Historic England Archive
820	1584273	1667 wreck of Dutch fireship	Wreck; fireship; warship	Post-Medieval	Historic England Archive
821	1584274	1667 wreck of Dutch fireship	Wreck; fireship; warship	Post-Medieval	Historic England Archive
822	1584275	1667 wreck of Dutch fireship	Wreck; fireship; warship	Post-Medieval	Historic England Archive
823	1584276	1667 wreck of Dutch fireship	Wreck; fireship; warship	Post-Medieval	Historic England Archive

Project ID	Source preferred reference number	Name	Monument type	Period	Source
825	MIKE102231	Portable Antiquities Scheme metal detector find	Findspot	Middle Bronze Age to Early Medieval or Anglo-Saxon	Kent HER
826	MIKE102232	Portable Antiquities Scheme metal detector find	Findspot	Roman	Kent HER
827	MIKE102269	Portable Antiquities Scheme metal detector find	Findspot	Roman	Kent HER
828	MIKE102270	Portable Antiquities Scheme metal detector find	Findspot	Roman	Kent HER
829	MIKE58424	Roman copper alloy unidentified object	Findspot	Roman to Medieval	Kent HER
830	MIKE66605	Medieval copper alloy knife	Findspot	Medieval	Kent HER
831	MIKE66606	Roman copper alloy brooch	Findspot	Roman	Kent HER
832	MIKE66621	Iron Age copper alloy stud	Findspot	Early Iron Age to Roman	Kent HER
833	MIKE66622	Post-Medieval pewter bell	Findspot	Post-Medieval	Kent HER
834	MIKE66639	Modern copper alloy figurine	Findspot	Post-Medieval to Modern	Kent HER
835	MIKE66647	Iron Age copper alloy strap fitting	Findspot	Middle Iron Age	Kent HER
836	MIKE66652	Roman copper alloy brooch	Findspot	Roman	Kent HER
837	MIKE66657	Medieval copper alloy thimble	Findspot	Medieval	Kent HER
838	MIKE66658	Post-Medieval copper alloy dress hook	Findspot	Medieval to Post-Medieval	Kent HER
839	MIKE66671	Roman copper alloy brooch	Findspot	Roman	Kent HER
840	MIKE66684	Roman copper alloy vessel	Findspot	Roman	Kent HER
841	MIKE66687	Medieval copper alloy buckle	Findspot	Medieval to Post-Medieval	Kent HER
842	MIKE66688	Medieval copper alloy buckle	Findspot	Medieval	Kent HER
843	MIKE66689	Medieval lead bird feeder	Findspot	Medieval to Post-Medieval	Kent HER
844	MIKE66690	Medieval silver coin	Findspot	Medieval	Kent HER
845	MIKE66691	Post-Medieval silver coin	Findspot	Post-Medieval	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
846	MKE66692	Post-Medieval copper alloy buckle	Findspot	Post-Medieval	Kent HER
847	MKE66693	Post-Medieval copper alloy coin	Findspot	Post-Medieval	Kent HER
848	MKE66696	Early Medieval silver strap fitting	Findspot	Early Medieval or Anglo-Saxon	Kent HER
849	MKE66702	Iron Age gold coin	Findspot	Early Iron Age to Roman	Kent HER
850	MKE66703	Roman base silver coin	Findspot	Roman	Kent HER
851	MKE66704	Roman silver coin	Findspot	Roman	Kent HER
852	MKE66705	Roman copper alloy coin	Findspot	Roman	Kent HER
853	MKE66706	Roman copper alloy coin	Findspot	Roman	Kent HER
854	MKE66707	Roman copper alloy brooch	Findspot	Late Iron Age to Roman	Kent HER
855	MKE66708	Post-Medieval copper alloy finger ring	Findspot	Post-Medieval	Kent HER
856	MKE66709	Iron Age copper alloy brooch	Findspot	Middle Iron Age	Kent HER
857	MKE66710	Medieval copper alloy buckle	Findspot	Medieval to Post-Medieval	Kent HER
858	MKE66711	Medieval copper alloy harness pendant	Findspot	Medieval	Kent HER
859	MKE66717	Roman copper alloy buckle	Findspot	Early Medieval or Anglo-Saxon	Kent HER
860	MKE66718	Roman copper alloy bow brooch	Findspot	Roman	Kent HER
861	MKE66719	Bronze Age copper alloy toggle	Findspot	Late Neolithic to Roman	Kent HER
862	MKE66720	Medieval copper alloy harness pendant	Findspot	Medieval	Kent HER
863	MKE66724	Roman copper alloy coin	Findspot	Roman	Kent HER
864	MKE66731	Post-Medieval copper alloy buckle	Findspot	Medieval to Post-Medieval	Kent HER
865	MKE66732	Post-Medieval lead powder measure	Findspot	Post-Medieval	Kent HER
866	MKE66733	Medieval copper alloy jetton	Findspot	Medieval	Kent HER



Project ID	Source preferred reference number	Name	Monument type	Period	Source
867	MIKE66750	Medieval copper alloy harness pendant	Findspot	Medieval	Kent HER
868	MIKE66751	Post-Medieval copper alloy knife	Findspot	Medieval to Post-Medieval	Kent HER
869	MIKE66752	Post-Medieval copper alloy sword belt	Findspot	Post-Medieval	Kent HER
870	MIKE66753	Roman silver coin	Findspot	Roman	Kent HER
871	MIKE66754	Roman silver coin	Findspot	Roman	Kent HER
872	MIKE66763	Roman base silver coin	Findspot	Roman	Kent HER
873	MIKE66764	Roman copper alloy plate brooch	Findspot	Roman	Kent HER
874	MIKE66765	Medieval copper alloy harness pendant	Findspot	Medieval	Kent HER
875	MIKE66767	Roman silver coin	Findspot	Roman	Kent HER
876	MIKE66768	Roman copper alloy plate brooch	Findspot	Roman to Early Medieval or Anglo-Saxon	Kent HER
877	MIKE66769	Roman copper alloy plate brooch	Findspot	Roman to Early Medieval or Anglo-Saxon	Kent HER
878	MIKE66770	Roman copper alloy brooch	Findspot	Late Iron Age to Roman	Kent HER
879	MIKE66771	Medieval copper alloy pendant	Findspot	Medieval	Kent HER
880	MIKE66777	copper alloy knife	Findspot	Unknown	Kent HER
881	MIKE66784	Roman copper alloy coin	Findspot	Roman	Kent HER
882	MIKE66786	Post-Medieval copper alloy dress hook	Findspot	Post-Medieval	Kent HER
883	MIKE66787	Medieval lead seal matrix	Findspot	Medieval	Kent HER
884	MIKE66788	Medieval copper alloy coin weight	Findspot	Medieval to Post-Medieval	Kent HER
885	MIKE66789	Medieval copper alloy coin weight	Findspot	Medieval to Post-Medieval	Kent HER
886	MIKE66791	Post-Medieval copper alloy crotal	Findspot	Post-Medieval	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
887	MIKE66798	Post-Medieval copper alloy unidentified object	Findspot	Post-Medieval	Kent HER
888	MIKE66800	Iron Age copper alloy coin	Findspot	Early Iron Age to Roman	Kent HER
889	MIKE66801	Roman copper alloy coin	Findspot	Roman	Kent HER
890	MIKE66802	Roman copper alloy brooch	Findspot	Roman	Kent HER
891	MIKE66803	Medieval lead button	Findspot	Medieval	Kent HER
892	MIKE66804	Iron Age copper alloy toggle	Findspot	Late Iron Age to Roman	Kent HER
893	MIKE66805	Post-Medieval silver ring	Findspot	Post-Medieval	Kent HER
894	MIKE66806	Roman copper alloy coin	Findspot	Roman	Kent HER
895	MIKE66807	Roman copper alloy brooch	Findspot	Roman to Early Medieval or Anglo-Saxon	Kent HER
896	MIKE66808	Roman copper alloy coin	Findspot	Roman	Kent HER
897	MIKE66809	Medieval copper alloy coin weight	Findspot	Medieval	Kent HER
898	MIKE66810	Medieval silver coin	Findspot	Medieval	Kent HER
899	MIKE66811	Medieval copper alloy coin	Findspot	Medieval	Kent HER
900	MIKE66812	Medieval copper alloy jetton	Findspot	Medieval to Post-Medieval	Kent HER
901	MIKE66813	Medieval silver coin	Findspot	Medieval	Kent HER
902	MIKE66814	Iron Age gold coin	Findspot	Iron Age	Kent HER
903	MIKE66818	Iron Age copper alloy coin	Findspot	Early Iron Age to Roman	Kent HER
904	MIKE66819	Iron Age copper alloy coin	Findspot	Late Iron Age	Kent HER
905	MIKE66820	Iron Age copper alloy coin	Findspot	Early Iron Age to Roman	Kent HER
906	MIKE66821	Post-Medieval copper alloy bell	Findspot	Post-Medieval	Kent HER
907	MIKE66822	Post-Medieval copper alloy bell	Findspot	Medieval to Post-Medieval	Kent HER
908	MIKE66823	Post-Medieval copper alloy token	Findspot	Post-Medieval	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
909	MKE66824	Medieval copper alloy jetton	Findspot	Medieval to Post-Medieval	Kent HER
910	MKE66825	Post-Medieval silver coin	Findspot	Medieval	Kent HER
911	MKE66826	Medieval silver coin	Findspot	Medieval	Kent HER
912	MKE66827	Medieval silver coin	Findspot	Medieval	Kent HER
913	MKE66828	Medieval silver coin	Findspot	Medieval	Kent HER
914	MKE66829	Medieval silver coin	Findspot	Medieval	Kent HER
915	MKE66830	Post-Medieval copper alloy buckle	Findspot	Medieval to Post-Medieval	Kent HER
916	MKE66831	Post-Medieval silver coin	Findspot	Post-Medieval	Kent HER
917	MKE66832	Post-Medieval silver coin	Findspot	Post-Medieval	Kent HER
918	MKE66835	Early Medieval silver coin	Findspot	Early Medieval or Anglo-Saxon	Kent HER
919	MKE66842	Medieval copper alloy strap fitting	Findspot	Medieval to Post-Medieval	Kent HER
920	MKE66843	Medieval silver coin	Findspot	Medieval	Kent HER
921	MKE66844	Iron Age copper alloy coin	Findspot	Late Iron Age to Roman	Kent HER
922	MKE66846	Neolithic flint lithic implement	Findspot	Early Neolithic to Early Bronze Age	Kent HER
923	MKE66847	Neolithic flint lithic implement	Findspot	Early Neolithic to Middle Bronze Age	Kent HER
924	MKE66848	Mesolithic flint lithic implement	Findspot	Early Mesolithic to Middle Bronze Age	Kent HER
925	MKE66856	Iron Age copper alloy coin	Findspot	Early Iron Age to Post-Medieval	Kent HER
926	MKE66857	Roman copper alloy coin	Findspot	Roman	Kent HER
927	MKE66858	Roman copper alloy coin	Findspot	Roman to Early Medieval or Anglo-Saxon	Kent HER
928	MKE66859	Roman copper alloy coin	Findspot	Roman	Kent HER
929	MKE66861	Roman copper alloy bell	Findspot	Roman	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
930	MKE66862	Post-Medieval copper alloy harness fitting	Findspot	Post-Medieval	Kent HER
931	MKE66863	Post-Medieval copper alloy purse	Findspot	Post-Medieval	Kent HER
932	MKE66868	Iron Age silver coin	Findspot	Late Iron Age	Kent HER
933	MKE66869	Roman copper alloy coin	Findspot	Roman	Kent HER
934	MKE66870	Iron Age copper alloy brooch	Findspot	Early Iron Age to Middle Iron Age	Kent HER
935	MKE66878	Roman copper alloy brooch	Findspot	Roman	Kent HER
936	MKE66883	Roman copper alloy brooch	Findspot	Roman	Kent HER
937	MKE66884	Roman copper alloy coin	Findspot	Roman	Kent HER
938	MKE66885	Roman copper alloy dress fastener (unknown)	Findspot	Roman to Post-Medieval	Kent HER
939	MKE66887	Medieval silver coin	Findspot	Medieval	Kent HER
940	MKE66888	Post-Medieval silver coin	Findspot	Post-Medieval	Kent HER
941	MKE66890	Roman copper alloy coin	Findspot	Roman	Kent HER
942	MKE66891	Iron Age copper alloy brooch	Findspot	Late Iron Age to Roman	Kent HER
943	MKE66894	Medieval silver coin	Findspot	Medieval	Kent HER
944	MKE66895	Post-Medieval silver coin	Findspot	Post-Medieval	Kent HER
945	MKE66899	Post-Medieval copper alloy token	Findspot	Post-Medieval	Kent HER
946	MKE66907	Roman copper alloy brooch	Findspot	Roman	Kent HER
947	MKE66920	Roman copper alloy coin	Findspot	Roman	Kent HER
948	MKE66921	Post-Medieval copper alloy token	Findspot	Post-Medieval	Kent HER
949	MKE66922	Medieval lead seal matrix	Findspot	Medieval	Kent HER
950	MKE66923	Medieval copper alloy spur	Findspot	Medieval	Kent HER
951	MKE67030	Early Medieval copper alloy strap end	Findspot	Early Medieval or Anglo-Saxon	Kent HER
952	MKE67036	Early Medieval copper alloy mount	Findspot	Early Medieval or Anglo-Saxon	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
953	MIKE67037	Early Medieval copper alloy strap end	Findspot	Early Medieval or Anglo-Saxon	Kent HER
954	MIKE67038	Early Medieval copper alloy brooch	Findspot	Early Medieval or Anglo-Saxon	Kent HER
955	MIKE67094	Mesolithic flint axe	Findspot	Mesolithic	Kent HER
956	MIKE67098	Medieval copper alloy buckle	Findspot	Medieval	Kent HER
957	MIKE67099	Post-Medieval copper alloy mount	Findspot	Medieval to Post-Medieval	Kent HER
958	MIKE67100	Post-Medieval copper alloy token	Findspot	Post-Medieval	Kent HER
959	MIKE67101	Post-Medieval copper alloy thimble	Findspot	Post-Medieval	Kent HER
960	MIKE67110	Roman copper alloy brooch	Findspot	Roman	Kent HER
961	MIKE67111	Roman copper alloy brooch	Findspot	Late Iron Age to Roman	Kent HER
962	MIKE67112	Roman copper alloy brooch	Findspot	Late Iron Age to Roman	Kent HER
963	MIKE67113	Greek and Roman provincial copper alloy coin	Findspot	Roman	Kent HER
964	MIKE67114	Medieval silver coin	Findspot	Medieval	Kent HER
965	MIKE67115	Medieval silver coin	Findspot	Medieval	Kent HER
966	MIKE67116	Medieval silver coin	Findspot	Medieval	Kent HER
967	MIKE67197	Early Medieval silver hooked tag	Findspot	Early Medieval or Anglo-Saxon	Kent HER
968	MIKE67198	Medieval silver buckle	Findspot	Medieval	Kent HER
969	MIKE67224	Medieval lead seal matrix	Findspot	Medieval	Kent HER
970	MIKE67239	Post-Medieval silver coin	Findspot	Medieval	Kent HER
971	MIKE67243	Early Medieval copper alloy coin	Findspot	Early Medieval or Anglo-Saxon	Kent HER
972	MIKE67244	Medieval silver coin	Findspot	Medieval	Kent HER
973	MIKE67248	Medieval copper alloy buckle	Findspot	Medieval	Kent HER
974	MIKE67249	Medieval silver coin	Findspot	Medieval	Kent HER
975	MIKE67252	Medieval silver coin	Findspot	Medieval	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
976	MKE67261	Medieval lead seal matrix	Findspot	Medieval	Kent HER
977	MKE67263	Early Medieval copper alloy strap end	Findspot	Early Medieval or Anglo-Saxon to Medieval	Kent HER
978	MKE67265	Unknown copper alloy unidentified object	Findspot	Unknown	Kent HER
979	MKE67294	Roman copper alloy coin	Findspot	Roman	Kent HER
980	MKE67323	Iron Age copper alloy coin	Findspot	Iron Age	Kent HER
981	MKE67329	Iron Age copper alloy coin	Findspot	Iron Age	Kent HER
982	MKE67343	Iron Age copper alloy coin	Findspot	Iron Age	Kent HER
983	MKE67344	Iron Age copper alloy coin	Findspot	Iron Age	Kent HER
984	MKE67347	Iron Age copper alloy coin	Findspot	Iron Age	Kent HER
985	MKE67348	Iron Age copper alloy coin	Findspot	Iron Age	Kent HER
986	MKE67351	Iron Age copper alloy coin	Findspot	Iron Age	Kent HER
987	MKE67352	Iron Age gold coin	Findspot	Iron Age	Kent HER
988	MKE67353	Iron Age copper alloy coin	Findspot	Iron Age	Kent HER
989	MKE67354	Iron Age copper alloy coin	Findspot	Iron Age	Kent HER
990	MKE67355	Iron Age copper alloy coin	Findspot	Iron Age	Kent HER
991	MKE67356	Iron Age copper alloy coin	Findspot	Iron Age	Kent HER
996	MKE67364	Iron Age copper alloy coin	Findspot	Iron Age	Kent HER
997	MKE67371	Iron Age copper alloy coin	Findspot	Iron Age	Kent HER
998	MKE67372	Iron Age copper alloy coin	Findspot	Iron Age	Kent HER
999	MKE67373	Iron Age copper alloy coin	Findspot	Iron Age	Kent HER
1000	MKE67375	Iron Age copper alloy coin	Findspot	Iron Age	Kent HER
1001	MKE67455	Copper alloy buckle	Findspot	Medieval	Kent HER
1002	MKE67456	Copper alloy brooch	Findspot	Late Iron Age	Kent HER
1003	MKE67457	Copper alloy coin	Findspot	Roman	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1004	MKE67458	Silver coin	Findspot	Medieval to Post-Medieval	Kent HER
1005	MKE67459	Bronze Age copper alloy casting waste	Findspot	Bronze Age	Kent HER
1006	MKE67482	Copper alloy bell	Findspot	Post-Medieval	Kent HER
1007	MKE67483	Medieval copper alloy buckle	Findspot	Medieval to Post-Medieval	Kent HER
1008	MKE67484	Copper alloy coin	Findspot	Roman	Kent HER
1009	MKE67491	Copper alloy pin	Findspot	Medieval	Kent HER
1010	MKE67492	Copper alloy strap end	Findspot	Early Medieval or Anglo-Saxon	Kent HER
1011	MKE67493	Copper alloy rowel spur	Findspot	Post-Medieval	Kent HER
1012	MKE67494	Copper alloy unidentified object	Findspot	Unknown	Kent HER
1013	MKE67495	Copper alloy coin	Findspot	Unknown	Kent HER
1014	MKE67496	Copper alloy coin	Findspot	Unknown	Kent HER
1015	MKE67497	Copper alloy coin	Findspot	Unknown	Kent HER
1016	MKE67498	Copper alloy strap end	Findspot	Medieval	Kent HER
1017	MKE67510	Copper alloy coin	Findspot	Roman	Kent HER
1018	MKE67511	Copper alloy coin	Findspot	Roman	Kent HER
1019	MKE67512	Copper alloy coin	Findspot	Roman	Kent HER
1020	MKE67513	Copper alloy coin	Findspot	Roman	Kent HER
1021	MKE67514	Silver coin	Findspot	Roman	Kent HER
1022	MKE67515	Copper alloy coin	Findspot	Roman	Kent HER
1023	MKE67516	Copper alloy coin	Findspot	Roman	Kent HER
1024	MKE67517	Copper alloy coin	Findspot	Roman	Kent HER
1025	MKE67518	Copper alloy coin	Findspot	Roman	Kent HER
1026	MKE67519	Copper alloy coin	Findspot	Roman	Kent HER
1027	MKE67520	Copper alloy coin	Findspot	Roman	Kent HER
1028	MKE67521	Copper alloy coin	Findspot	Roman	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1029	MKE67522	Copper alloy coin	Findspot	Roman	Kent HER
1030	MKE67523	Copper alloy coin	Findspot	Roman	Kent HER
1031	MKE67524	Copper alloy coin	Findspot	Roman	Kent HER
1032	MKE67525	Copper alloy coin	Findspot	Roman	Kent HER
1033	MKE67526	Copper alloy coin	Findspot	Roman	Kent HER
1034	MKE67527	Copper alloy coin	Findspot	Late Iron Age	Kent HER
1035	MKE67528	Copper alloy coin	Findspot	Late Iron Age	Kent HER
1036	MKE67529	Copper alloy coin	Findspot	Late Iron Age to Roman	Kent HER
1037	MKE67530	Copper alloy coin	Findspot	Late Iron Age to Roman	Kent HER
1038	MKE67531	Copper alloy coin	Findspot	Unknown	Kent HER
1039	MKE67532	Copper alloy coin	Findspot	Roman	Kent HER
1040	MKE67533	Copper alloy coin	Findspot	Roman	Kent HER
1041	MKE67534	Copper alloy coin	Findspot	Roman	Kent HER
1042	MKE67535	Copper alloy coin	Findspot	Roman	Kent HER
1043	MKE67536	Copper alloy coin	Findspot	Roman	Kent HER
1044	MKE67537	Copper alloy coin	Findspot	Roman	Kent HER
1045	MKE67538	Copper alloy coin	Findspot	Roman	Kent HER
1046	MKE67539	Copper alloy coin	Findspot	Roman	Kent HER
1047	MKE67540	Copper alloy coin	Findspot	Roman	Kent HER
1048	MKE67541	Copper alloy coin	Findspot	Roman	Kent HER
1049	MKE67542	Copper alloy coin	Findspot	Roman	Kent HER
1050	MKE67543	Copper alloy coin	Findspot	Roman	Kent HER
1051	MKE67544	Copper alloy coin	Findspot	Roman	Kent HER
1052	MKE67545	Copper alloy coin	Findspot	Late Iron Age	Kent HER
1053	MKE67546	Copper alloy coin	Findspot	Late Iron Age	Kent HER
1054	MKE67547	Copper alloy coin	Findspot	Roman	Kent HER



Project ID	Source preferred reference number	Name	Monument type	Period	Source
1055	MAKE67548	Copper alloy coin	Findspot	Roman	Kent HER
1056	MAKE67549	Copper alloy coin	Findspot	Roman	Kent HER
1057	MAKE67550	Copper alloy coin	Findspot	Roman	Kent HER
1058	MAKE67551	Copper alloy coin	Findspot	Roman	Kent HER
1059	MAKE67552	Copper alloy coin	Findspot	Roman	Kent HER
1060	MAKE67553	Copper alloy coin	Findspot	Roman	Kent HER
1061	MAKE67554	Copper alloy coin	Findspot	Roman	Kent HER
1062	MAKE67555	Copper alloy coin	Findspot	Roman	Kent HER
1063	MAKE67556	Copper alloy coin	Findspot	Roman	Kent HER
1064	MAKE67557	Copper alloy coin	Findspot	Roman	Kent HER
1065	MAKE67558	Copper alloy coin	Findspot	Roman	Kent HER
1066	MAKE71337	Post-Medieval copper alloy coin	Findspot	Post-Medieval	Kent HER
1067	MAKE71516	Roman copper alloy coin	Findspot	Roman	Kent HER
1068	MAKE71730	Roman copper alloy brooch	Findspot	Roman	Kent HER
1069	MAKE71731	Post-Medieval lead alloy seal	Findspot	Post-Medieval	Kent HER
1070	MAKE75717	Copper alloy harness	Findspot	Unknown	Kent HER
1071	MAKE79580	Post-Medieval copper alloy button	Findspot	Post-Medieval	Kent HER
1072	MAKE79581	Roman copper alloy coin	Findspot	Roman to Unknown	Kent HER
1073	MAKE79582	Roman copper alloy coin	Findspot	Roman	Kent HER
1074	MAKE79583	Roman copper alloy coin	Findspot	Roman	Kent HER
1075	MAKE79584	Roman copper alloy coin	Findspot	Roman	Kent HER
1076	MAKE79585	Roman copper alloy coin	Findspot	Roman	Kent HER
1077	MAKE79586	Roman copper alloy coin	Findspot	Roman	Kent HER
1078	MAKE79587	Medieval copper alloy jetton	Findspot	Medieval	Kent HER
1079	MAKE79588	Roman copper alloy coin	Findspot	Roman	Kent HER
1080	MAKE79589	Roman copper alloy coin	Findspot	Roman	Kent HER
1081	MAKE79590	Roman copper alloy coin	Findspot	Roman	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1082	MKE79591	Roman copper alloy coin	Findspot	Roman	Kent HER
1083	MKE79592	Roman copper alloy coin	Findspot	Roman	Kent HER
1084	MKE79593	Roman copper alloy coin	Findspot	Roman	Kent HER
1085	MKE79594	Roman copper alloy coin	Findspot	Roman	Kent HER
1086	MKE79595	Roman silver coin	Findspot	Roman	Kent HER
1087	MKE79596	Roman copper alloy coin	Findspot	Roman	Kent HER
1088	MKE79597	Roman copper alloy coin	Findspot	Roman	Kent HER
1089	MKE79598	Roman copper alloy unidentified object	Findspot	Roman to Early Medieval or Anglo-Saxon	Kent HER
1090	MKE79599	Roman copper alloy brooch	Findspot	Roman	Kent HER
1091	MKE79600	Roman copper alloy brooch	Findspot	Late Iron Age to Roman	Kent HER
1092	MKE79601	Roman copper alloy cosmetic set	Findspot	Roman to Early Medieval or Anglo-Saxon	Kent HER
1093	MKE79602	Post-Medieval copper alloy knife	Findspot	Medieval to Post-Medieval	Kent HER
1094	MKE79603	Roman copper alloy buckle	Findspot	Roman to Early Medieval or Anglo-Saxon	Kent HER
1095	MKE79604	Post-Medieval copper alloy unidentified object	Findspot	Post-Medieval	Kent HER
1096	MKE79605	Medieval copper alloy purse	Findspot	Medieval to Post-Medieval	Kent HER
1097	MKE79606	Medieval copper alloy purse	Findspot	Medieval	Kent HER
1098	MKE79607	Medieval copper alloy bell	Findspot	Medieval to Post-Medieval	Kent HER
1099	MKE79608	Medieval copper alloy strap fitting	Findspot	Medieval	Kent HER
1100	MKE79609	Post-Medieval silver coin	Findspot	Post-Medieval	Kent HER
1101	MKE79610	Roman copper alloy coin	Findspot	Roman	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1102	MAKE79611	Medieval silver coin	Findspot	Unknown	Kent HER
1103	MAKE79612	Roman copper alloy mount	Findspot	Roman to Early Medieval or Anglo-Saxon	Kent HER
1104	MAKE79613	Roman copper alloy coin	Findspot	Roman	Kent HER
1105	MAKE79614	Roman copper alloy coin	Findspot	Roman	Kent HER
1106	MAKE79615	Roman copper alloy coin	Findspot	Roman	Kent HER
1107	MAKE79616	Roman copper alloy coin	Findspot	Roman	Kent HER
1108	MAKE79617	Bronze Age copper alloy spear	Findspot	Late Bronze Age	Kent HER
1109	MAKE79618	Post-Medieval lead alloy token	Findspot	Post-Medieval	Kent HER
1110	MAKE79643	Roman copper alloy coin	Findspot	Roman to Early Medieval or Anglo-Saxon	Kent HER
1111	MAKE79644	Roman copper alloy coin	Findspot	Roman	Kent HER
1112	MAKE79645	Roman copper alloy coin	Findspot	Roman	Kent HER
1113	MAKE79646	Roman copper alloy coin	Findspot	Roman	Kent HER
1114	MAKE79647	Early Medieval copper alloy mount	Findspot	Early Medieval or Anglo-Saxon to Medieval	Kent HER
1115	MAKE79652	Roman copper alloy coin	Findspot	Roman	Kent HER
1116	MAKE79653	Copper alloy buckle	Findspot	Medieval	Kent HER
1117	MAKE79657	Copper alloy coin	Findspot	Roman	Kent HER
1118	MAKE79778	Early Medieval silver coin	Findspot	Early Medieval or Anglo-Saxon	Kent HER
1119	MAKE84313	Jeskyns Court (Jeskyns Court)	Farmstead	Post-Medieval	Kent HER
1120	MAKE84314	Dabbs Place Farm (Dabs Place)	Farmstead	Post-Medieval	Kent HER
1121	MAKE84315	Hever Farm	Farmstead	Post-Medieval	Kent HER
1122	MAKE84316	Chapel Farm	Farmstead	Post-Medieval	Kent HER
1123	MAKE84317	Orchard House (Hever Court Orchard)	Farmstead	Post-Medieval	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1124	MKE84318	Outfarm south of Orchard House	Farmstead	Post-Medieval	Kent HER
1125	MKE84319	Farmstead north west of Orchard House	Farmstead	Post-Medieval	Kent HER
1126	MKE84358	Farmstead at Battle Street	Farmstead	Post-Medieval	Kent HER
1127	MKE84359	West Wood Farm	Farmstead	Post-Medieval	Kent HER
1128	MKE84360	Malthouse Farm	Farmstead	Post-Medieval	Kent HER
1129	MKE84361	West Court	Farmstead	Post-Medieval	Kent HER
1130	MKE84362	Great Clane Lane	Farmstead	Post-Medieval	Kent HER
1131	MKE84363	Yard north of Readers	Farmstead	Post-Medieval	Kent HER
1132	MKE84364	Thong	Farmstead	Post-Medieval	Kent HER
1133	MKE84365	Cheneys Farm	Farmstead	Post-Medieval	Kent HER
1134	MKE84366	White Horse Cottage	Farmstead	Post-Medieval	Kent HER
1135	MKE84367	Randall Bottom	Farmstead	Post-Medieval	Kent HER
1136	MKE84451	Park Pale Farm	Farmstead	Post-Medieval	Kent HER
1137	MKE84452	Woodlands	Farmstead	Post-Medieval	Kent HER
1138	MKE84453	Outfarm west of Well Cottage	Farmstead	Post-Medieval	Kent HER
1139	MKE84454	Ifield Farm (Ifield Place)	Farmstead	Post-Medieval	Kent HER
1140	MKE84455	Outfarm in Upper Ifield	Farmstead	Post-Medieval	Kent HER
1141	MKE84456	Outfarm north east of Ifield Place	Farmstead	Post-Medieval	Kent HER
1142	MKE84457	Smith Street Farm (Smiths Farm)	Farmstead	Post-Medieval	Kent HER
1143	MKE84458	Court Lodge Farm	Farmstead	Post-Medieval	Kent HER
1144	MKE84459	Outfarm north north east of Barrett's Folly	Farmstead	Post-Medieval	Kent HER
1145	MKE84460	Green Farm	Farmstead	Post-Medieval	Kent HER
1146	MKE84461	East Court Farm	Farmstead	Post-Medieval	Kent HER
1147	MKE84463	Filborough Farm	Farmstead	Post-Medieval	Kent HER
1148	MKE84464	Outfarm to south south west of Queen's Farm	Farmstead	Post-Medieval	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1149	MEKE84554	Chapter Farm (Reed Court)	Farmstead	Post-Medieval	Kent HER
1150	MEKE88585	Outfarm west of Woodlands	Farmstead	Post-Medieval	Kent HER
1151	MEKE88663	Farmstead east of Crutches Farm	Farmstead	Post-Medieval	Kent HER
1152	MEKE88664	Farmstead south west of Crutches Farm	Farmstead	Post-Medieval	Kent HER
1153	MEKE88845	Outfarm north of White Horse Cottage	Farmstead	Post-Medieval	Kent HER
1154	MEKE88855	Hillside Farm	Farmstead	Post-Medieval	Kent HER
1155	MEKE88856	Yard south west of Hillside Farm	Farmstead	Post-Medieval	Kent HER
1156	MEKE88857	Outfarm in Shorne	Farmstead	Post-Medieval	Kent HER
1157	MEKE88858	Outfarm east of Shorne	Farmstead	Post-Medieval	Kent HER
1158	MEKE95424	Roman copper alloy brooch	Findspot	Roman	Kent HER
1159	MEKE95432	Medieval Silver coin	Findspot	Medieval	Kent HER
1160	MEKE95433	Post-Medieval copper alloy dress fastener (unknown)	Findspot	Post-Medieval	Kent HER
1161	MEKE95434	Medieval copper alloy dagger	Findspot	Medieval to Post-Medieval	Kent HER
1162	MEKE95441	Unknown copper alloy unidentified object	Findspot	Roman to Modern	Kent HER
1163	MEKE95443	Roman copper alloy coin	Findspot	Roman	Kent HER
1164	MEKE95462	Roman copper alloy coin	Findspot	Roman	Kent HER
1165	MEKE95478	Medieval copper alloy strap fitting	Findspot	Medieval	Kent HER
1166	MEKE95479	Medieval copper alloy thimble	Findspot	Medieval to Post-Medieval	Kent HER
1167	MEKE95480	Medieval copper alloy candlestick	Findspot	Medieval to Post-Medieval	Kent HER
1168	MEKE95486	Post-Medieval copper alloy unidentified object	Findspot	Medieval to Post-Medieval	Kent HER
1169	MEKE95487	Medieval copper alloy strap fitting	Findspot	Medieval	Kent HER
1170	MEKE95488	Medieval copper alloy buckle	Findspot	Medieval	Kent HER
1171	MEKE95489	Roman copper alloy brooch	Findspot	Roman	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1172	MKE95490	Neolithic Flint lithic implement	Findspot	Late Mesolithic to Early Bronze Age	Kent HER
1173	MKE95491	Medieval Silver coin	Findspot	Medieval	Kent HER
1174	MKE95492	Iron Age copper alloy coin	Findspot	Late Iron Age to Roman	Kent HER
1175	MKE95493	Iron Age copper alloy coin	Findspot	Middle Iron Age to Late Iron Age	Kent HER
1176	MKE95494	Roman copper alloy coin	Findspot	Roman	Kent HER
1177	MKE95495	Roman copper alloy coin	Findspot	Roman	Kent HER
1178	MKE95496	Roman copper alloy coin	Findspot	Roman	Kent HER
1179	MKE95497	Roman copper alloy coin	Findspot	Roman	Kent HER
1180	MKE95498	Roman copper alloy coin	Findspot	Roman	Kent HER
1181	MKE95499	Roman copper alloy coin	Findspot	Roman	Kent HER
1182	MKE95500	Roman copper alloy coin	Findspot	Roman	Kent HER
1183	MKE95501	Roman copper alloy coin	Findspot	Roman	Kent HER
1184	MKE95502	Roman copper alloy coin	Findspot	Roman	Kent HER
1185	MKE95503	Roman copper alloy coin	Findspot	Roman	Kent HER
1186	MKE95504	Roman copper alloy coin	Findspot	Roman	Kent HER
1187	MKE95505	Roman copper alloy coin	Findspot	Roman	Kent HER
1188	MKE95506	Roman copper alloy coin	Findspot	Roman	Kent HER
1189	MKE95518	Copper alloy buckle	Findspot	Post-Medieval	Kent HER
1190	MKE95519	Post-Medieval copper alloy token	Findspot	Post-Medieval	Kent HER
1191	MKE95520	Post-Medieval copper alloy token	Findspot	Post-Medieval	Kent HER
1192	MKE95521	Roman copper alloy coin	Findspot	Roman	Kent HER
1193	MKE95522	Roman copper alloy coin	Findspot	Roman	Kent HER
1194	MKE95523	Roman copper alloy coin	Findspot	Roman	Kent HER
1195	MKE95524	Roman copper alloy coin	Findspot	Roman	Kent HER
1196	MKE95525	Roman copper alloy coin	Findspot	Roman	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1197	MAKE95526	Roman copper alloy coin	Findspot	Roman	Kent HER
1198	MAKE95527	Roman copper alloy vessel	Findspot	Roman to Early Medieval or Anglo-Saxon	Kent HER
1199	MAKE95528	Copper alloy coin	Findspot	Roman	Kent HER
1200	MAKE95529	Silver coin	Findspot	Late Iron Age	Kent HER
1201	MAKE95530	Copper alloy coin	Findspot	Roman	Kent HER
1202	MAKE95531	Copper alloy coin	Findspot	Roman	Kent HER
1203	MAKE95532	Copper alloy coin	Findspot	Roman	Kent HER
1204	MAKE95533	Copper alloy coin	Findspot	Roman	Kent HER
1205	MAKE95534	Copper alloy coin	Findspot	Roman	Kent HER
1206	MAKE95535	Copper alloy coin	Findspot	Roman	Kent HER
1207	MAKE95536	Copper alloy coin	Findspot	Roman	Kent HER
1208	MAKE95537	Copper alloy coin	Findspot	Roman	Kent HER
1209	MAKE95538	Copper alloy coin	Findspot	Roman	Kent HER
1210	MAKE95539	Copper alloy coin	Findspot	Roman	Kent HER
1211	MAKE95540	Copper alloy coin	Findspot	Roman	Kent HER
1212	MAKE95544	Bronze Age copper alloy bucket	Findspot	Middle Bronze Age to Late Bronze Age	Kent HER
1213	MAKE95546	Copper alloy coin	Findspot	Roman	Kent HER
1214	MAKE95547	Copper alloy coin	Findspot	Roman	Kent HER
1215	MAKE95548	Copper alloy coin	Findspot	Roman	Kent HER
1216	MAKE95549	Copper alloy coin	Findspot	Roman	Kent HER
1217	MAKE95550	Copper alloy coin	Findspot	Roman	Kent HER
1218	MAKE95551	Copper alloy coin	Findspot	Roman	Kent HER
1219	MAKE95552	Copper alloy coin	Findspot	Roman	Kent HER
1220	MAKE95553	Copper alloy coin	Findspot	Roman	Kent HER
1221	MAKE95554	Copper alloy coin	Findspot	Roman	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1222	MIKE95555	Copper alloy coin	Findspot	Roman	Kent HER
1223	MIKE95556	Copper alloy coin	Findspot	Roman	Kent HER
1224	MIKE95557	Copper alloy coin	Findspot	Roman	Kent HER
1225	MIKE95558	Copper alloy coin	Findspot	Roman	Kent HER
1226	MIKE95559	Copper alloy coin	Findspot	Roman	Kent HER
1227	MIKE95560	Copper alloy coin	Findspot	Roman	Kent HER
1228	MIKE95561	Copper alloy coin	Findspot	Roman	Kent HER
1229	MIKE95562	Copper alloy coin	Findspot	Roman	Kent HER
1230	MIKE95563	Copper alloy coin	Findspot	Roman	Kent HER
1231	MIKE95564	Copper alloy coin	Findspot	Roman	Kent HER
1232	MIKE95565	Copper alloy coin	Findspot	Roman	Kent HER
1233	MIKE95566	Copper alloy coin	Findspot	Roman	Kent HER
1234	MIKE95567	Copper alloy coin	Findspot	Roman	Kent HER
1235	MIKE95568	Copper alloy coin	Findspot	Roman	Kent HER
1236	MIKE95569	Copper alloy coin	Findspot	Roman	Kent HER
1237	MIKE95570	Copper alloy coin	Findspot	Roman	Kent HER
1238	MIKE95571	Copper alloy coin	Findspot	Roman	Kent HER
1239	MIKE95572	Copper alloy coin	Findspot	Roman	Kent HER
1240	MIKE95573	Copper alloy coin	Findspot	Roman	Kent HER
1241	MIKE95574	Copper alloy coin	Findspot	Roman	Kent HER
1242	MIKE95575	Copper alloy coin	Findspot	Roman	Kent HER
1243	MIKE95576	Copper alloy coin	Findspot	Roman	Kent HER
1244	MIKE95577	Copper alloy coin	Findspot	Roman	Kent HER
1245	MIKE95578	Copper alloy coin	Findspot	Roman	Kent HER
1246	MIKE95579	Copper alloy coin	Findspot	Roman	Kent HER
1247	MIKE95580	Copper alloy coin	Findspot	Roman	Kent HER
1248	MIKE95581	Copper alloy coin	Findspot	Roman	Kent HER



Project ID	Source preferred reference number	Name	Monument type	Period	Source
1249	MKE95582	Copper alloy coin	Findspot	Roman	Kent HER
1250	MKE95583	Copper alloy coin	Findspot	Roman	Kent HER
1251	MKE95584	Copper alloy coin	Findspot	Roman	Kent HER
1252	MKE95585	Copper alloy coin	Findspot	Roman	Kent HER
1253	MKE95586	Copper alloy coin	Findspot	Roman	Kent HER
1254	MKE95587	Copper alloy coin	Findspot	Roman	Kent HER
1255	MKE95588	Copper alloy coin	Findspot	Roman	Kent HER
1256	MKE95589	Copper alloy coin	Findspot	Roman	Kent HER
1257	MKE95590	Copper alloy coin	Findspot	Roman	Kent HER
1258	MKE95591	Copper alloy coin	Findspot	Roman	Kent HER
1259	MKE95592	Copper alloy coin	Findspot	Roman	Kent HER
1260	MKE95593	Copper alloy coin	Findspot	Roman	Kent HER
1261	MKE95594	Copper alloy coin	Findspot	Roman	Kent HER
1262	MKE95595	Copper alloy coin	Findspot	Roman	Kent HER
1263	MKE95596	Copper alloy coin	Findspot	Roman	Kent HER
1264	MKE95597	Copper alloy coin	Findspot	Roman	Kent HER
1265	MKE95598	Copper alloy coin	Findspot	Roman	Kent HER
1266	MKE95599	Copper alloy coin	Findspot	Roman	Kent HER
1267	MKE95600	Copper alloy coin	Findspot	Roman	Kent HER
1268	MKE95601	Copper alloy coin	Findspot	Roman	Kent HER
1269	MKE95602	Copper alloy coin	Findspot	Roman	Kent HER
1270	MKE95603	Copper alloy coin	Findspot	Roman	Kent HER
1271	MKE95604	Copper alloy coin	Findspot	Roman	Kent HER
1272	MKE95605	Copper alloy coin	Findspot	Roman	Kent HER
1273	MKE95606	Copper alloy coin	Findspot	Roman	Kent HER
1274	MKE95607	Copper alloy coin	Findspot	Roman	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1275	MKE95608	Copper alloy brooch	Findspot	Late Iron Age to Roman	Kent HER
1276	MKE95609	Copper alloy strap end	Findspot	Early Medieval or Anglo-Saxon	Kent HER
1277	MKE95610	Copper alloy finger ring	Findspot	Unknown	Kent HER
1278	MKE96304	Bronze Age copper alloy awl	Findspot	Unknown	Kent HER
1279	MKE96317	Roman copper alloy coin	Findspot	Roman	Kent HER
1280	MKE97401	The Laughing Water Restaurant and Tea Rooms	Restaurant	Modern	Kent HER
1281	MKE97489	Plantation and Shepherds Cottage	Estate cottage	Post-Medieval	Kent HER
1282	TQ 57 SE 277	North Kent Railway	Railway	Post-Medieval	Kent HER
1283	TQ 66 NE 1	4th cent Roman coin hoard	Findspot	Roman	Kent HER
1284	TQ 66 NE 101	Lynchet? Cobham Park	Lynchet?	Post-Medieval	Kent HER
1285	TQ 66 NE 102	Former Yard Surfaces	Courtyard	Unknown	Kent HER
1286	TQ 66 NE 103	Prehistoric Pit; Scalers Hill	Pit	Late Iron Age to Roman	Kent HER
1287	TQ 66 NE 104	Park Pale, Cobham Park	Park pale	Medieval to Post-Medieval	Kent HER
1288	TQ 66 NE 105	Brick Lined Pit, Cobham Park	Icehouse?	Post-Medieval to Modern	Kent HER
1289	TQ 66 NE 106	A single Early Neolithic worked flint	Findspot	Early Neolithic	Kent HER
1290	TQ 66 NE 107	Early Bronze Age barrow, Cobham Golf Course	Round barrow	Early Bronze Age	Kent HER
1291	TQ 66 NE 108	Late Bronze Age ditch, Cobham Golf Course	Ditch; trackway?	Middle Bronze Age to Late Bronze Age	Kent HER
1292	TQ 66 NE 109	Late Bronze Age settlement, Cobham Golf Course	Unenclosed settlement; ditch; pit cluster; post hole	Late Bronze Age	Kent HER
1293	TQ 66 NE 110	Flint Scatter	Lithic scatter	Bronze Age	Kent HER
1294	TQ 66 NE 111	Late Iron Age/Early Roman Ditch, Knights Place Farm	Boundary ditch	Late Iron Age to Roman	Kent HER
1295	TQ 66 NE 113	Cobham Coal Mine, Scalers Hill, Cobham	Colliery	Modern	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1296	TQ 66 NE 114	Jeskyns Court Barn	Site; timber framed barn; aisled barn	Post-Medieval	Kent HER
1297	TQ 66 NE 185	Cobham Second World War Vulnerable Point V7	Fortification	Modern	Kent HER
1298	TQ 66 NE 188	RAF Second World War dispersed accommodation camp site 4 at Ashenbank Wood, Cobham, Kent	Military airfield site	Modern	Kent HER
1299	TQ 66 NE 194	RAF Second World War Camp site 3, off Halfpence Lane, Cobham, Kent	Military airfield site	Modern	Kent HER
1300	TQ 66 NE 195	RAF Second World War camp site 1 in Ashenbank Wood, Cobham	Military airfield site	Modern	Kent HER
1301	TQ 66 NE 197	RAF Second World War camp site 5, Ashenbank Wood, Cobham, Kent	Military airfield site	Modern	Kent HER
1302	TQ 66 NE 2	St Thomas's Well	Well; well	Medieval to Post-Medieval	Kent HER
1303	TQ 66 NE 204	Prehistoric flint, Henhurst	Findspot	Later Prehistoric	Kent HER
1304	TQ 66 NE 206	Gardener's Cottage, Cobham Hall	Estate cottage	Post-Medieval to Modern	Kent HER
1305	TQ 66 NE 207	Former site of the Fountain House, Cobham Hall	Fountain house	Post-Medieval	Kent HER
1306	TQ 66 NE 208	Medieval settlement, Henhurst Dale	Enclosure; pit; ditch; post hole; grubenhaus; oven; pond	Medieval	Kent HER
1307	TQ 66 NE 209	Lynchets, Cobham Hall Park	Lynchet	Unknown	Kent HER
1308	TQ 66 NE 210	Late medieval buildings, Cobham Hall	Building	Medieval	Kent HER
1309	TQ 66 NE 222	Crash site of Supermarine Spitfire I	Aircraft crash site; spitfire	Modern	Kent HER
1310	TQ 66 NE 223	18th century icehouse, Cobham Hall	Icehouse	Post-Medieval to Modern	Kent HER
1311	TQ 66 NE 224	Shorne Wood Country Park	Landscape	Unknown	Kent HER
1312	TQ 66 NE 225	Possible lynchet? Cobham Park	Lynchet?	Middle Bronze Age to Roman	Kent HER
1313	TQ 66 NE 227	Medieval pits and ditches, Henhurst Road	Pit; ditch	Medieval	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1314	TQ 66 NE 232	Cobham Hall, Cobham, Dartford	Hospital	Modern	Kent HER
1315	TQ 66 NE 24	Possible medieval earthworks, Cobham Park	Deserted settlement	Medieval	Kent HER
1316	TQ 66 NE 29	Former site of Dickens' Chalet	House	Post-Medieval to Modern	Kent HER
1317	TQ 66 NE 3	Late 17th century conduit, Cobham Hall	Conduit	Post-Medieval	Kent HER
1318	TQ 66 NE 33	Roman brooch	Findspot	Roman	Kent HER
1319	TQ 66 NE 37	Rectilinear and curvilinear banks in Cobham Park	Site	Medieval	Kent HER
1320	TQ 66 NE 46	Copper Alloy Iron Age coin, Cobham Park	Findspot	Unknown	Kent HER
1321	TQ 66 NE 47	Bronze harness pendent	Findspot	Unknown	Kent HER
1322	TQ 66 NE 48	Thirteenth Century lead seal-die	Findspot	Medieval	Kent HER
1323	TQ 66 NE 60	Neolithic ditch and flints, Cobham Park	Ditch	Neolithic	Kent HER
1324	TQ 66 NE 63	Second World War RAF camps, Ashenbank Wood	Military camp; structure	Modern	Kent HER
1325	TQ 66 NE 64	Prehistoric remains at Rochester and Cobham Golf course	Findspot	Early Neolithic to Early Iron Age	Kent HER
1326	TQ 66 NE 65	Post-Medieval ditch at Rochester and Cobham Golf Course	Ditch	Post-Medieval	Kent HER
1327	TQ 66 NE 69	Watling Street Medieval/Post-Medieval site	Hollow way; ha ha; kennels	Medieval to Modern	Kent HER
1328	TQ 66 NE 70	Brewers Gate Post-Medieval Gatehouse	Drive; gate lodge	Post-Medieval to Modern	Kent HER
1329	TQ 66 NE 71	West of Scalars Hill, Late Iron Age/Early Roman activity	Post hole; gully; ditch; pit	Late Iron Age to Roman	Kent HER
1330	TQ 66 NE 72	Undated building? Cropmark in the field east of Jeskyns Court, near Cobham, Kent	Building	Unknown	Kent HER
1331	TQ 66 NE 75	World War Two RAF camp dispersal site for RAF Gravesend	Military airfield site; air raid shelter; drain; platform?; structure?	Modern	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1332	TQ 66 NE 76	Post-Medieval clay pits, Shorne Wood Country Park	Clay pit	Post-Medieval	Kent HER
1333	TQ 66 NE 77	Lynchets Bank, Brewers Wood	Lynchets	Post-Medieval	Kent HER
1334	TQ 66 NE 78	Sunken Lane, Brewers Wood	Hollow way	Medieval	Kent HER
1335	TQ 66 NE 79	Circular pit of unknown date, Brewers Wood	Pit	Unknown	Kent HER
1336	TQ 66 NE 80	Possible drainage ditch? Shorne Wood	Ditch	Unknown	Kent HER
1337	TQ 66 NE 81	Concentration of brick rubble, probable former structure, Shorne Wood	Structure	Post-Medieval	Kent HER
1338	TQ 66 NE 82	Remains of 'Wash Plant' associated with modern clay extraction, Shorne Wood	Structure	Modern	Kent HER
1339	TQ 66 NE 83	Monolith, Shorne Wood	Standing stone	Unknown	Kent HER
1340	TQ 66 NE 84	Possible line of former tramway, Shorne Wood	Mineral railway?	Modern	Kent HER
1341	TQ 66 NE 85	Extant Sluice Gate, Shorne Wood	Sluice gate	Modern	Kent HER
1342	TQ 66 NE 86	Possible platform, Shorne Wood	Platform	Unknown	Kent HER
1343	TQ 66 NE 87	Lynchets, Shorne Wood Country Park	Lynchets	Post-Medieval	Kent HER
1344	TQ 66 NE 88	Drainage Channel, Brewers Wood	Drain	Unknown	Kent HER
1345	TQ 66 NE 89	Quarry, Brewers Wood, Shorne Woods Country Park	Clay pit	Post-Medieval	Kent HER
1346	TQ 66 NE 90	Possible microlith, Shorne Wood	Findspot?	Mesolithic	Kent HER
1347	TQ 66 NE 91	Flint Scraper, Shorne Wood	Findspot	Early Mesolithic to Late Iron Age	Kent HER
1348	TQ 66 NE 92	Ditch, Brewers Wood	Ditch	Post-Medieval	Kent HER
1349	TQ 66 NE 93	Plantation Ridge, Brewers Wood	Plantation bank	Post-Medieval	Kent HER
1350	TQ 66 NE 94	Ditch, Brewers Wood	Ditch	Post-Medieval	Kent HER
1351	TQ 66 NE 95	Plantation Ridge, Brewers Wood	Plantation bank	Post-Medieval	Kent HER
1352	TQ 66 NE 96	Lady Darnley's Garden, Cobham Hall	Seat; garden wall; garden path; garden wall; garden wall; arbour;	Roman to Modern	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1353	TQ 66 NE 99	Remaining sections of Hollow Way, Cobham Park	garden wall; glasshouse; orangery; garden wall; bastion; garden wall; zoo; aviary; ornamental pond; ionic temple; grotto; stone setting; tunnel arbour; ornamental pond	Post-Medieval	Kent HER
1354	TQ 67 NE 54	Triumph, Thames foreshore, by Shorne Marshes	Wreck	Post-Medieval	Kent HER
1355	TQ 67 NE 57	Mary Ann	Wreck	Post-Medieval	Kent HER
1356	TQ 67 NE 58	Cleopatra	Wreck	Post-Medieval	Kent HER
1357	TQ 67 NE 60	Jane duff	Wreck	Modern	Kent HER
1358	TQ 67 NE 61	Jane Filmer	Wreck	Post-Medieval to Modern	Kent HER
1359	TQ 67 NE 63	Jessie	Wreck	Post-Medieval to Modern	Kent HER
1360	TQ 67 NE 64	Autumn	Wreck	Post-Medieval to Modern	Kent HER
1361	TQ 67 NE 65	Vectis	Wreck	Modern	Kent HER
1362	TQ 67 SE 10	Site of barrow (contracted primary; 5 secondary burials), cropmark	Round barrow; contracted inhumation; burial	Early Bronze Age to Roman	Kent HER
1363	TQ 67 SE 1001	Roman finds from evaluation at Gravesend WTW	Findspot	Roman	Kent HER
1364	TQ 67 SE 1003	Roman/Prehistoric remains and possible Roman feature, Denton	Feature	Roman	Kent HER
1365	TQ 67 SE 1004	Windmill, Gravesend	Windmill; site	Post-Medieval	Kent HER
1366	TQ 67 SE 1005	Denon Wharf, Gravesend	Wharf; site	Post-Medieval	Kent HER
1367	TQ 67 SE 101	Enclosure - cropmark	Enclosure	Iron Age	Kent HER
1368	TQ 67 SE 1013	Salt workings near Gravesend	Salt works; site	Unknown	Kent HER
1369	TQ 67 SE 1014	Salt workings	Salt works; site	Unknown	Kent HER
1370	TQ 67 SE 1018	Quay, near to the 'Ship & Lobster', Denton	Quay; site	Post-Medieval	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1371	TQ 67 SE 1019	Ridge and furrow, near Gravesend	Ridge and furrow; site	Unknown	Kent HER
1372	TQ 67 SE 102	Enclosed settlement - cropmark	Enclosed settlement	Roman	Kent HER
1373	TQ 67 SE 1020	Circular embankment, Shorne Marshes, Gravesend	Embankment	Unknown	Kent HER
1374	TQ 67 SE 1021	Barrage balloon, with submerged mooring in Thames, by East Court Marshes, Gravesend	Barrage balloon site	Modern	Kent HER
1375	TQ 67 SE 1022	Three mounds, Shorne Marshes	Mound; site	Unknown	Kent HER
1376	TQ 67 SE 1032	Causeway, Gravesend	Causeway	Modern	Kent HER
1377	TQ 67 SE 1033	Mooring post on foreshore by Shorne Marshes	Pile; site	Modern	Kent HER
1378	TQ 67 SE 1034	Rectangular Feature on foreshore, by Shorne Marshes	Feature; site	Modern	Kent HER
1379	TQ 67 SE 104	Enclosed settlement - cropmark	Enclosed settlement	Roman	Kent HER
1380	TQ 67 SE 1040	Jetty, near to the 'Ship & Lobster', Denton	Jetty; site	Post-Medieval	Kent HER
1381	TQ 67 SE 1044	Oval stone bank on foreshore by the Sea Training Centre, Gravesend	Wreck?	Unknown	Kent HER
1382	TQ 67 SE 1045	Two concrete platforms near the Sea Training Centre, Gravesend	Platform	Modern	Kent HER
1383	TQ 67 SE 1046	Peat banks on foreshore by Eastcourt Marshes	Natural feature	Early Mesolithic to Late Neolithic	Kent HER
1384	TQ 67 SE 1047	Row of small posts, foreshore by Eastcourt Marshes	Post built structure	Unknown	Kent HER
1385	TQ 67 SE 1048	Possible Hard, Shorne Marshes	Hard?	Modern	Kent HER
1386	TQ 67 SE 1049	Wooden posts, foreshore by Shorne Marshes	Post built structure	Post-Medieval to Modern	Kent HER
1387	TQ 67 SE 105	Enclosed settlement - cropmark	Enclosed settlement	Roman	Kent HER
1388	TQ 67 SE 1050	Angled stakes and rubble on foreshore by Shorne Marshes	Hard?	Post-Medieval to Modern	Kent HER
1389	TQ 67 SE 1051	Rectangular wooden post structure on foreshore by Shorne Marshes	Structure	Post-Medieval to Modern	Kent HER
1390	TQ 67 SE 106	Enclosed settlement - cropmark	Enclosed settlement	Roman	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1391	TQ 67 SE 107	Enclosed settlement - cropmark	Enclosed settlement	Iron Age	Kent HER
1392	TQ 67 SE 108	Ring ditch - poss. round barrow, cropmark	Round barrow	Bronze Age	Kent HER
1393	TQ 67 SE 109	Ring ditch - poss. round barrow, cropmark	Round barrow	Bronze Age	Kent HER
1394	TQ 67 SE 11	Brass of Constantinus	Findspot	Roman	Kent HER
1395	TQ 67 SE 110	Probable Bronze Age barrow, Hillside	Round barrow? ring ditch	Bronze Age	Kent HER
1396	TQ 67 SE 111	Enclosed settlement - cropmark	Enclosed settlement	Bronze Age	Kent HER
1397	TQ 67 SE 112	Enclosed settlement - cropmark	Enclosed settlement	Bronze Age	Kent HER
1398	TQ 67 SE 113	Possible enclosure fragment - cropmark	Enclosure	Unknown	Kent HER
1399	TQ 67 SE 114	Possible enclosure fragment (angled) - cropmark	Enclosure	Unknown	Kent HER
1400	TQ 67 SE 1146	Brown Road Second World War air raid wardens post, Gravesend	Air raid wardens post	Modern	Kent HER
1401	TQ 67 SE 1148	Rochester Road Second World War Police Telephone Box, Chalk, Nr. Gravesend	Civil defence site	Modern	Kent HER
1403	TQ 67 SE 1151	Thong Lane Second World War road block, Gravesend	Roadblock	Modern	Kent HER
1404	TQ 67 SE 1153	Lower Higham Road Second World War Police Telephone Box	Civil defence site	Modern	Kent HER
1405	TQ 67 SE 1155	King's Farm Second World War air raid wardens post, Cedar Road, Gravesend	Air raid wardens post	Modern	Kent HER
1406	TQ 67 SE 1156	Maltings Second World War searchlight position, Lower Higham Road, Chalk, Kent	Searchlight battery	Modern	Kent HER
1407	TQ 67 SE 1158	Chalk Second World War Defended Locality DL20	Fortification	Modern	Kent HER
1408	TQ 67 SE 1159	RAF Gravesend, Thong Lane, Gravesend	Military airfield	Modern	Kent HER
1409	TQ 67 SE 116	Possible field system - cropmark	Field system	Unknown	Kent HER



Project ID	Source preferred reference number	Name	Monument type	Period	Source
1410	TQ 67 SE 1160	East Court Farm Second World War road block buoys, Church Lane, Chalk	Roadblock	Modern	Kent HER
1411	TQ 67 SE 1161	Lower Higham Road Second World War road block, Chalk	Roadblock	Modern	Kent HER
1412	TQ 67 SE 1162	Rochester Road Second World War road block, Chalk	Roadblock	Modern	Kent HER
1413	TQ 67 SE 1165	Brown Road Second World War National Fire Service Action Station, Gravesend, Kent	Civil defence building	Modern	Kent HER
1414	TQ 67 SE 117	Cropmarks of pit(s)	Pit	Unknown	Kent HER
1415	TQ 67 SE 1172	Rose and Crown Second World War Emergency Mortuary, The Street, Shorne, near Gravesend, Kent	Civil defence site	Modern	Kent HER
1416	TQ 67 SE 1175	Shorne School Second World War Battle Headquarters, Shorne	Battle headquarters	Modern	Kent HER
1417	TQ 67 SE 1176	Dust Heap Second World War Defended Locality, Gravesend	Fortification	Modern	Kent HER
1419	TQ 67 SE 1181	Furzy Leas Wood army barrack site, Shorne	Army camp	Modern	Kent HER
1420	TQ 67 SE 1182	White Hart Inn Second World War Battle Headquarters, Rochester Road, Chalk	Battle headquarters	Modern	Kent HER
1421	TQ 67 SE 1183	Bunny Hill private Second World War War air raid shelter, Shorne	Air raid shelter	Modern	Kent HER
1422	TQ 67 SE 1185	Milton 19th/20th century rifle range, Eastcourt Marshes, Gravesend	Firing range; butts	Post-Medieval	Kent HER
1423	TQ 67 SE 119	Trackway - cropmark	Trackway	Unknown	Kent HER
1424	TQ 67 SE 1193	Shorne Hill Second World War spigot mortar emplacement, Shorne	Spigot mortar emplacement	Modern	Kent HER
1425	TQ 67 SE 1196	Denton Sewage Works Battle Headquarters, Mark Lane, Gravesend	Battle headquarters	Modern	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1426	TQ 67 SE 1198	Shorne Second World War anti-aircraft searchlight post, Shorne, near Gravesend	Searchlight battery	Modern	Kent HER
1427	TQ 67 SE 12	Romano-British coins and remains (doubtful site)	Findspot	Roman	Kent HER
1428	TQ 67 SE 120	Possible boundary ditch - cropmark	Boundary ditch	Unknown	Kent HER
1429	TQ 67 SE 1203	Thong Second World War light anti-aircraft battery, Thong Lane, Gravesend	Anti-aircraft battery	Modern	Kent HER
1430	TQ 67 SE 1205	Thong Lane Second World War light anti-aircraft battery, Nr. Gravesend	Anti-aircraft battery	Modern	Kent HER
1431	TQ 67 SE 1207	Riverview Park Second World War light anti-aircraft battery, Gravesend	Anti-aircraft battery	Modern	Kent HER
1432	TQ 67 SE 1209	Denton Heavy anti-aircraft battery, Mark Lane, Denton, Gravesend, Kent	Anti-aircraft battery	Modern	Kent HER
1433	TQ 67 SE 121	Possible boundary ditch - cropmark	Ditch	Roman	Kent HER
1434	TQ 67 SE 1210	Riverview Park Second World War anti-aircraft battery, Gravesend	Anti-aircraft battery	Modern	Kent HER
1435	TQ 67 SE 1214	'Polperro' Second World War, anti-aircraft headquarters, Rochester Road, Chalk	Anti-aircraft operations room	Modern	Kent HER
1436	TQ 67 SE 122	Possible boundary ditch - cropmark	Ditch	Roman	Kent HER
1437	TQ 67 SE 1220	Malthouse Second World War sandbagged position, Lower Higham Road, Chalk	Fortification	Modern	Kent HER
1438	TQ 67 SE 1229	Northcourt School Second World War Emergency Feeding Centre, Dickens Road, Denton near Gravesend, Kent	Civil defence site	Modern	Kent HER
1439	TQ 67 SE 1235	Flint flakings found during clearance of ground for extensions at Kings Farm School	Findspot	Early Mesolithic to Late Iron Age	Kent HER
1440	TQ 67 SE 1237	Milestone on Gravesend Road, Shorne	Milestone	Post-Medieval to Modern	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1441	TQ 67 SE 1246	Bomb caters, located either side of Brewers Road, Shorne, Gravesham	Bomb crater	Modern	Kent HER
1442	TQ 67 SE 1247	Former Zion Chapel, 1838	Chapel	Post-Medieval to Unknown	Kent HER
1443	TQ 67 SE 1251	Denton Mill, Gravesend (former site)	Smock mill?	Unknown to Post-Medieval	Kent HER
1444	TQ 67 SE 1252	Bullets associated with 19 century Milton Rifle Ranges, Shorne Marshes	Shooting stand	Post-Medieval	Kent HER
1445	TQ 67 SE 13	Chapel farm	Farmhouse; chapel	Medieval	Kent HER
1446	TQ 67 SE 14	Mesolithic implements	Findspot	Mesolithic	Kent HER
1447	TQ 67 SE 15	Chalk Roman villa	Ditch; pit; villa; baths	Early Iron Age to Roman	Kent HER
1448	TQ 67 SE 18	Romano-British burial found 1959	Burial	Roman	Kent HER
1449	TQ 67 SE 20	Thames and Medway Canal	Canal	Post-Medieval to Modern	Kent HER
1450	TQ 67 SE 201	Greek coin dating to 3rd century BC	Findspot; site	Middle Iron Age	Kent HER
1451	TQ 67 SE 202	Tannery (site) at park cottages, Shorne	House; tannery	Post-Medieval	Kent HER
1452	TQ 67 SE 203	Tannery (site) at Tanyard House, Shorne	Tannery	Post-Medieval	Kent HER
1453	TQ 67 SE 21	Romano-British cremation (fd 1935)	Cremation; cinerary urn; urn	Roman	Kent HER
1454	TQ 67 SE 212	AA battery, Gravesend	Anti-aircraft battery	Modern	Kent HER
1455	TQ 67 SE 214	Spigot mortar emplacement, Shorne	Spigot mortar emplacement	Modern	Kent HER
1456	TQ 67 SE 217	Site of Denton Halt	Railway station	Modern	Kent HER
1457	TQ 67 SE 218	Malthouse farm (site of)	Farm; maltings	Post-Medieval	Kent HER
1458	TQ 67 SE 22	Site of Randall Manor, Shorne Woods Country Park	Manor house	Medieval to Post-Medieval	Kent HER
1459	TQ 67 SE 221	Gravesend airport (site)	Aircraft factory; airfield	Modern	Kent HER
1460	TQ 67 SE 225	Barracks (1940-45)	Barracks	Modern	Kent HER
1461	TQ 67 SE 23	Brass of Constantine I found 1961	Findspot	Roman	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1462	TQ 67 SE 231	Malt house, Chalk	Maltings	Post-Medieval	Kent HER
1463	TQ 67 SE 237	Undated Linear Features, Cervia Way, Gravesend	Feature	Unknown	Kent HER
1464	TQ 67 SE 238	Late Iron Age Pit, Gravesend	Pit	Late Iron Age	Kent HER
1465	TQ 67 SE 239	Late Iron Age - Roman Field Boundaries, Gravesend	Ditch; field system	Late Iron Age to Roman	Kent HER
1466	TQ 67 SE 24	1st C Roman flagon found AD 1957	Findspot	Roman	Kent HER
1467	TQ 67 SE 241	Former site of West Court	Manor house; site; farmhouse	Post-Medieval to Modern	Kent HER
1468	TQ 67 SE 242	Medieval Manor House (Site of) Gravesend	Manor house	Medieval to Post-Medieval	Kent HER
1469	TQ 67 SE 244	Possible Bronze Age Field System, Singlewell	Field system? pit; gully; post hole	Late Bronze Age	Kent HER
1470	TQ 67 SE 245	Post-Medieval Quarries, Singlewell	Quarry	Post-Medieval	Kent HER
1471	TQ 67 SE 246	Strip Lynchets, Randall Wood	Strip lynchet	Medieval	Kent HER
1472	TQ 67 SE 247	Probable Medieval Trackway, Randall Wood	Trackway?	Medieval	Kent HER
1473	TQ 67 SE 248	Dry pond and adjacent short section of bank, Randall Wood	Clay pit?	Post-Medieval	Kent HER
1474	TQ 67 SE 249	Possible Bronze Age barrow, Randall Wood, Shorne	Barrow?	Early Bronze Age	Kent HER
1475	TQ 67 SE 250	Probable World War 2 Storage Tank base, Randall Wood	Ordnance store?	Modern	Kent HER
1476	TQ 67 SE 251	Possible trackway/boundary, Randall Wood	Trackway?	Unknown	Kent HER
1477	TQ 67 SE 252	Probable pond, Randall Wood	Pond?	Medieval	Kent HER
1478	TQ 67 SE 253	Clay Extraction Pits, Randall Wood	Clay pit	Post-Medieval	Kent HER
1479	TQ 67 SE 254	Lynchet Banks, Randall Wood	Lynchet	Later Prehistoric	Kent HER
1480	TQ 67 SE 255	Earthwork Banks, Randall Wood	Earthwork	Unknown	Kent HER
1481	TQ 67 SE 256	Earthwork Bank, Randall Wood	Earthwork	Medieval	Kent HER
1482	TQ 67 SE 257	Earthen Bank (possible Trackway?), Randall Wood	Trackway?	Medieval	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1483	TQ 67 SE 258	Sunken Trackway, Randall Wood	Hollow way	Medieval to Post-Medieval	Kent HER
1484	TQ 67 SE 259	Deeply sunken lane/trackway, Randall Wood	Hollow way	Medieval	Kent HER
1485	TQ 67 SE 260	Possible fishpond relating to Randall's Manor, Randall Wood	Fishpond?	Medieval	Kent HER
1486	TQ 67 SE 261	Section of raised and sunken track, Randall Wood	Hollow way	Post-Medieval	Kent HER
1487	TQ 67 SE 262	Probable Strip Lynchets, Randall Wood	Strip lynchet	Medieval	Kent HER
1488	TQ 67 SE 263	Substantial Lynchet Bank, Randall Wood	Lynchet	Later Prehistoric	Kent HER
1489	TQ 67 SE 265	Mediaeval Windmill Mound, Randall Heath	Post mill	Medieval	Kent HER
1490	TQ 67 SE 266	Lynchet Banks, Randall Heath	Lynchet	Medieval	Kent HER
1491	TQ 67 SE 267	Sunken Lane, Randall Heath	Hollow way	Medieval	Kent HER
1492	TQ 67 SE 268	Extensive clay extraction quarry, Shorne Wood Country Park	Clay pit	Modern	Kent HER
1493	TQ 67 SE 269	Post-Medieval Marl Pit, Shorne Wood Country Park	Clay pit	Post-Medieval	Kent HER
1494	TQ 67 SE 27	Romano-British milestone	Milestone	Roman	Kent HER
1495	TQ 67 SE 270	Post-Medieval Marl Pit, Shorne Wood Country Park	Clay pit	Post-Medieval	Kent HER
1496	TQ 67 SE 271	Historic Hedgerow, Shorne Wood	Hedge	Post-Medieval	Kent HER
1497	TQ 67 SE 272	Curving Lynchet Bank, Brewers Wood	Lynchet	Post-Medieval	Kent HER
1498	TQ 67 SE 273	Circular pit of unknown date, Brewers Wood	Pit	Unknown	Kent HER
1499	TQ 67 SE 274	An area of quarry drainage ditches, Shorne Wood	Ditch	Post-Medieval	Kent HER
1500	TQ 67 SE 275	Area of modern day clay extraction, Shorne Wood	Clay workings	Modern	Kent HER
1501	TQ 67 SE 276	Quarry, Shorne Wood	Clay pit	Post-Medieval	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1502	TQ 67 SE 277	Cropmarks, Westcourt Marshes	Enclosure?	Bronze Age	Kent HER
1503	TQ 67 SE 278	Brick Tank	Structure	Unknown	Kent HER
1504	TQ 67 SE 280	A Palaeolithic handaxe and 2 Levallois flakes from Shorne.	Findspot	Lower Palaeolithic to Middle Palaeolithic	Kent HER
1505	TQ 67 SE 281	Undated features at Southfields School, Gravesend	Feature	Unknown	Kent HER
1507	TQ 67 SE 282	Lynchet and sloping feature, site of former Southfields School, Singlewell, Gravesend	Lynchet	Unknown	Kent HER
1508	TQ 67 SE 283	A post pit containing backfill of nineteenth and twentieth century date, Gravesend	Findspot; pit; ditch	Early Mesolithic to Modern	Kent HER
1509	TQ 67 SE 284	Possible Palaeolithic flint tool find from the former Southfields School site, Singlewell Road, Gravesend	Findspot	Prehistoric	Kent HER
1510	TQ 67 SE 286	Prehistoric evidence from Lion Business Park Near Gravesend Kent	Findspot	Later Prehistoric	Kent HER
1511	TQ 67 SE 294	Earthwork of a mound in Shorne	Mound	Unknown	Kent HER
1512	TQ 67 SE 295	Prehistoric flint and pottery, Shorne	Findspot	Later Prehistoric	Kent HER
1513	TQ 67 SE 296	Roman brick and pottery, Shorne	Findspot	Roman	Kent HER
1514	TQ 67 SE 297	Prehistoric flint, Thong	Findspot	Later Prehistoric	Kent HER
1515	TQ 67 SE 298	Earthworks, Shorne	Site	Unknown	Kent HER
1516	TQ 67 SE 300	Prehistoric flint, Harts Hill	Findspot	Later Prehistoric	Kent HER
1517	TQ 67 SE 301	Probable saltern	Saltern?; mound	Unknown	Kent HER
1518	TQ 67 SE 302	Possible saltern	Mound; saltern?	Unknown	Kent HER
1519	TQ 67 SE 307	George V pillar box, XPO, 75A Lower Higham Road, Chalk	Pillar box	Modern	Kent HER
1520	TQ 67 SE 311	Iron Age ditch, Singlewell	Ditch	Iron Age	Kent HER
1521	TQ 67 SE 312	Medieval animal burial, Singlewell	Pit; animal burial	Medieval	Kent HER
1522	TQ 67 SE 313	Late Neolithic/Early Bronze Age worked flints, east of Claylane Wood	Findspot	Late Neolithic to Early Bronze Age	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1523	TQ 67 SE 314	Later prehistoric well, east of Claylane Wood	Well	Later Prehistoric	Kent HER
1524	TQ 67 SE 315	Late Iron Age/Early Roman enclosure, east of Claylane Wood	Enclosure; pit; ditch	Late Iron Age to Roman	Kent HER
1525	TQ 67 SE 317	George V pillar box, Colonial PH, Rochester Road	Pillar box	Modern	Kent HER
1526	TQ 67 SE 322	George VI pillar box, Barr Road East/Thong Lane	Pillar box	Modern	Kent HER
1527	TQ 67 SE 323	A Levallois struck flint, Church Road, Tollgate	Findspot	Lower Palaeolithic to Middle Palaeolithic	Kent HER
1528	TQ 67 SE 324	Bronze Age pit, Church Road, Tollgate	Pit	Bronze Age	Kent HER
1529	TQ 67 SE 325	Late Bronze Age pit, Henhurst Road	Clay pit?	Late Bronze Age	Kent HER
1530	TQ 67 SE 326	Iron Age pit group, Tollhurst	Pit	Iron Age	Kent HER
1531	TQ 67 SE 327	Roman activity, Henhurst Road	Road; pit; ditch; wheel rut; field system; ditch	Late Iron Age to Roman	Kent HER
1532	TQ 67 SE 328	Medieval marl pit and ditch, Church Road	Ditch; marl pit	Early Medieval or Anglo-Saxon to Medieval	Kent HER
1533	TQ 67 SE 330	Post-Medieval kiln, Henshurst Road	Brick kiln	Post-Medieval	Kent HER
1534	TQ 67 SE 331	Rectilinear parchmarks, Southern Valley Golf Course	Villa?	Roman	Kent HER
1535	TQ 67 SE 332	Former site of oasthouse west of Baynards Cottage	Oasthouse	Post-Medieval to Modern	Kent HER
1536	TQ 67 SE 333	Anglo-Saxon gold shilling ('thrymsa'), Shorne	Findspot	Early Medieval or Anglo-Saxon	Kent HER
1537	TQ 67 SE 334	Anglo-Saxon silver penny, Shorne	Findspot	Early Medieval or Anglo-Saxon	Kent HER
1540	TQ 67 SE 339	Crash site of Messerschmitt Bf109E-1	Aircraft crash site; me109	Modern	Kent HER
1541	TQ 67 SE 34	Romano-British occupation area	Ditch; wall	Roman	Kent HER
1542	TQ 67 SE 342	Site of Milton Range halt	Railway station	Post-Medieval to Modern	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1543	TQ 67 SE 343	Bridge no. 3 over the Thames and Medway canal	Bridge	Post-Medieval	Kent HER
1544	TQ 67 SE 345	Bridge no. 5, Thames and Medway canal	Swing bridge	Post-Medieval	Kent HER
1545	TQ 67 SE 346	Air raid warden post, Gravesend	Air raid wardens post	Modern	Kent HER
1547	TQ 67 SE 350	Prehistoric and medieval features along the A2 Pepperhill to Cobham widening scheme, site J, Pond C and Bodey's Yard	Post hole; boundary ditch	Lower Palaeolithic to Medieval	Kent HER
1548	TQ 67 SE 351	Anglo-Saxon silver penny, Chalk	Findspot	Early Medieval or Anglo-Saxon	Kent HER
1549	TQ 67 SE 352	Anglo-Saxon silver penny, Chalk	Findspot	Early Medieval or Anglo-Saxon	Kent HER
1550	TQ 67 SE 354	Later Prehistoric flints, Singlewell	Findspot	Later Prehistoric	Kent HER
1551	TQ 67 SE 355	A Bronze Age settlement, Singlewell	Pit; enclosure; ditch; round house (domestic); post hole	Late Neolithic to Early Iron Age	Kent HER
1552	TQ 67 SE 356	Early and Middle Iron Age features, Singlewell	Ritual pit; pit; post hole; post built structure; ditch; stake hole; hearth	Iron Age	Kent HER
1553	TQ 67 SE 357	Crash site of Hawker Hurricane I	Aircraft crash site; hurricane	Modern	Kent HER
1554	TQ 67 SE 358	Crash site of Consolidated B24J Liberator	Aircraft crash site; b24 liberator	Modern	Kent HER
1555	TQ 67 SE 36	Roman pottery find	Findspot; site	Roman	Kent HER
1556	TQ 67 SE 361	Excavation of the brick sluice in the Randall lower lake dam	Dam; sluice; pipe	Medieval to Modern	Kent HER
1557	TQ 67 SE 362	Site of 6 Nissan Huts, located on land off Woodlands Lane, Shorne, Gravesham	Army camp	Modern	Kent HER
1558	TQ 67 SE 363	V1 bomb site off Woodlands Lane, Shorne, Gravesham	Bomb site	Modern	Kent HER
1559	TQ 67 SE 364	DH Mosquito crash site, Shorne, Gravesham	Aircraft crash site	Modern	Kent HER
1560	TQ 67 SE 365	P47 Thunderbolt crash site, Crown Lane, Shorne, Gravesham	Aircraft crash site	Modern	Kent HER



Project ID	Source preferred reference number	Name	Monument type	Period	Source
1561	TQ 67 SE 367	WW1 Homes for Heroes scheme houses, Thong Lane, Shorne, Gravesham	Semi-detached house	Modern to Unknown	Kent HER
1562	TQ 67 SE 368	Caves converted to air raid shelters, Thong Lane, Shorne, Gravesham	Air raid shelter	Modern	Kent HER
1563	TQ 67 SE 369	Medieval pit, Hever Court Road, Gravesend	Pit	Medieval	Kent HER
1564	TQ 67 SE 370	Prehistoric ditches, Hever Court Road, Gravesend	Ditch	Prehistoric	Kent HER
1565	TQ 67 SE 371	Post-Medieval brickearth quarrying features, Hever Court Road, Gravesend	Brickearth pit; wheel rut	Post-Medieval	Kent HER
1566	TQ 67 SE 372	Anglo-Saxon ditch, Hever Court Road, Gravesend	Ditch	Early Medieval or Anglo-Saxon	Kent HER
1567	TQ 67 SE 373	Early Roman ditches, Hever Court Road, Gravesend	Ditch	Roman	Kent HER
1568	TQ 67 SE 374	Medieval ditch, Hever Court Road, Gravesend	Ditch	Medieval	Kent HER
1569	TQ 67 SE 375	Late Medieval to Post-Medieval features, Hever Court Road, Gravesend	Ditch; post hole; pit	Post-Medieval	Kent HER
1570	TQ 67 SE 376	Large Post-Medieval pit, Hever Court Road, Gravesend	Pit	Post-Medieval	Kent HER
1571	TQ 67 SE 377	Undated ditch and post holes, Hever Court Road, Gravesend	Ditch; post hole	Unknown	Kent HER
1572	TQ 67 SE 378	Neolithic polished flint axe-head, Hever Court Road, Gravesend	Findspot	Neolithic	Kent HER
1573	TQ 67 SE 379	Worked flint scatter, Hever Court Road, Gravesend	Findspot	Prehistoric	Kent HER
1574	TQ 67 SE 380	Post-medieval layers, Hever Court Road, Gravesend	Occupation layer	Medieval to Post-Medieval	Kent HER
1575	TQ 67 SE 381	14th century Jug handle fragment, Hever Court Road, Gravesend	Findspot	Medieval	Kent HER
1576	TQ 67 SE 382	Romano-British ditch, east of Allen's Mead, Gravesend	Ditch	Roman	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1577	TQ 67 SE 385	Possible round barrow seen in aerial photographs	Round barrow	Unknown	Kent HER
1578	TQ 67 SE 39	Roman coin	Findspot; site	Roman	Kent HER
1579	TQ 67 SE 40	Late Iron Age site, Thong lane	Hearth; human remains	Iron Age	Kent HER
1580	TQ 67 SE 41	Mesolithic or Neolithic flintwork, Denton	Findspot	Mesolithic	Kent HER
1581	TQ 67 SE 42	Three Roman graffiti	Graffiti	Roman	Kent HER
1582	TQ 67 SE 43	Five miniature pots	Findspot	Roman	Kent HER
1583	TQ 67 SE 44	Roman beaker	Findspot	Roman	Kent HER
1584	TQ 67 SE 45	Circular crop mark (excavated) - possible round barrow	Ring ditch	Bronze Age	Kent HER
1585	TQ 67 SE 49	Swing bridge on Thames and Medway Canal	Swing bridge	Post-Medieval	Kent HER
1586	TQ 67 SE 51	Chapel farm	Farm	Post-Medieval	Kent HER
1587	TQ 67 SE 52	Medieval Terminal Plate	Unassigned	Medieval	Kent HER
1588	TQ 67 SE 56	Mesolithic find	Findspot	Mesolithic	Kent HER
1589	TQ 67 SE 57	Mesolithic flints, Randall Heath, Shorne	Findspot	Mesolithic	Kent HER
1590	TQ 67 SE 58	Mesolithic tranchet axe, Thong	Findspot	Mesolithic	Kent HER
1591	TQ 67 SE 61	Romano-British urns fibulae and iron nails	Cinerary urn	Roman	Kent HER
1592	TQ 67 SE 62	Samian vessel	Findspot	Roman	Kent HER
1593	TQ 67 SE 64	Settlement complex, cropmarks	Settlement; enclosure; settlement	Early Iron Age to Roman	Kent HER
1594	TQ 67 SE 65	Lazy beds, Rectangular Enclosure, Cropmark, Earthworks	Lazy beds; enclosure	Post-Medieval	Kent HER
1595	TQ 67 SE 66	Cropmark of a ring ditch	Round barrow	Bronze Age	Kent HER
1596	TQ 67 SE 67	Rectilinear Feature, Cropmark	Rectangular enclosure	Unknown	Kent HER
1597	TQ 67 SE 68	Iron Age/Roman settlement site, Hillside	Enclosure; ditch; post built structure; pit; quarry; trackway; field system; ditch	Late Iron Age to Roman	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1598	TQ 67 SE 69	Road, cropmark	Road; site	Post-Medieval to Modern	Kent HER
1599	TQ 67 SE 7	Possible Anglo-Saxon burial ground, Claylane Wood	Cemetery; human remains	Early Medieval or Anglo-Saxon	Kent HER
1600	TQ 67 SE 70	Cropmark of a square enclosure, SE of Gravesend	Square enclosure?; trackway?	Unknown	Kent HER
1601	TQ 67 SE 71	Rectangular enclosure, possible enclosure fragment - cropmark	Enclosed settlement; enclosure	Roman	Kent HER
1602	TQ 67 SE 72	Settlement Complex, Cropmark	Settlement	Iron Age	Kent HER
1603	TQ 67 SE 73	Circular structure - poss. hut circle (cropmark)	Hut circle	Prehistoric or Roman	Kent HER
1604	TQ 67 SE 74	Circular enclosed settlement with entrance to west	Enclosed settlement	Iron Age	Kent HER
1605	TQ 67 SE 75	Linear Feature, Cropmark	Linear earthwork	Unknown	Kent HER
1606	TQ 67 SE 76	Rectangular enclosed settlement - cropmark	Enclosed settlement	Roman	Kent HER
1607	TQ 67 SE 77	Rectangular enclosed settlement - cropmark	Enclosed settlement	Roman	Kent HER
1608	TQ 67 SE 78	Circular enclosed settlement - cropmark	Enclosed settlement	Bronze Age	Kent HER
1609	TQ 67 SE 79	Pits, Cropmark	Pit	Unknown	Kent HER
1610	TQ 67 SE 8	Romano-British settlement - associated with pottery making (1st-5th century.)	Settlement; pottery kiln; inhumation; coffin	Roman	Kent HER
1614	TQ 67 SE 86	Rectilinear enclosed settlement; poss. enclosure fragment - cropmark	Enclosed settlement; enclosure	Roman	Kent HER
1615	TQ 67 SE 87	Ring ditches - possible barrows, cropmarks	Round barrow	Bronze Age	Kent HER
1616	TQ 67 SE 88	Recti - and Curvilinear Feature, Cropmark	Site	Unknown	Kent HER
1617	TQ 67 SE 89	Second World War searchlight battery, formerly interpreted as a Bronze Age settlement	Searchlight battery	Modern	Kent HER
1618	TQ 67 SE 9	Bronze coin of Tasciovanus	Findspot	Late Iron Age	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1619	TQ 67 SE 91	Curvilinear enclosed settlement - cropmark	Enclosed settlement	Bronze Age	Kent HER
1620	TQ 67 SE 92	Ring-ditch - poss. round barrow; pit - cropmarks	Round barrow; pit	Bronze Age	Kent HER
1621	TQ 67 SE 93	Shorne windmill	Windmill	Post-Medieval	Kent HER
1622	TQ 67 SE 94	Enclosures and cropmarks	Enclosure	Unknown	Kent HER
1623	TQ 67 SE 95	Bronze Armorial Plaque	Plaque	Medieval	Kent HER
1624	TQ 67 SE 96	Penny of Coenwulf, found at East Court Farm	Findspot	Early Medieval or Anglo-Saxon	Kent HER
1625	TQ 67 SE 98	14th century bronze seal die	Findspot	Medieval	Kent HER
1626	TQ 67 SE 99	Early-medieval cemetery	Cemetery	Early Medieval or Anglo-Saxon	Kent HER
1641	TQ 67 SW 1050	South-East of Tollgate Late Iron Age/early Romano-British features, near Tollgate	Pit	Late Iron Age to Roman	Kent HER
1645	TQ 67 SW 124	Post-Medieval trackway	Trackway	Post-Medieval	Kent HER
1646	TQ 67 SW 126	Enclosed settlement - cropmark	Enclosed settlement	Bronze Age	Kent HER
1647	TQ 67 SW 127	Cropmarks of (possibly Roman) settlement complex - rectangular enclosed settlement with entrances and internal features	Enclosed settlement	Roman	Kent HER
1649	TQ 67 SW 1297	Singlewell Second World War air wardens post and air raid siren, Watling Street, Gravesend	Air raid wardens post	Modern	Kent HER
1653	TQ 67 SW 134	Cropmark of (possibly Roman) enclosed settlement	Enclosed settlement	Roman	Kent HER
1654	TQ 67 SW 135	Cropmark of (possibly Bronze Age) circular/sub circular enclosed settlement	Enclosed settlement	Bronze Age	Kent HER
1655	TQ 67 SW 136	Possible enclosure fragment - cropmark	Enclosure	Unknown	Kent HER
1656	TQ 67 SW 137	Field system - cropmark	Field system	Prehistoric or Roman	Kent HER
1657	TQ 67 SW 16	Romano-British rubbish pit	Pit	Roman	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1658	TQ 67 SW 17	Romano-British tile cist	Cist	Roman	Kent HER
1660	TQ 67 SW 3	Cropmark of small rectangular enclosure	Enclosure	Unknown	Kent HER
1661	TQ 67 SW 369	Lower Palaeolithic Handaxe found near Tollgate	Findspot	Lower Palaeolithic to Middle Palaeolithic	Kent HER
1662	TQ 67 SW 418	Neolithic Mortuary Enclosure or Long Barrow (?), Tollgate	Ditched enclosure	Early Neolithic to Late Bronze Age	Kent HER
1663	TQ 67 SW 419	Ditched Trackway, Tollgate	Trackway	Unknown	Kent HER
1664	TQ 67 SW 465	Dene Hole, Golf Links Avenue, Gravesend	Dene hole	Post-Medieval	Kent HER
1666	TQ 67 SW 518	George V pillar box, Orchard Avenue/Singlewell Road	Pillar box	Modern	Kent HER
1667	TQ 67 SW 524	Prehistoric post-built structures, Tollgate	Post built structure	Later Prehistoric	Kent HER
1668	TQ 67 SW 525	Early Bronze Age pits and possible field system, Tollgate	Pit; field system; ditch	Early Bronze Age	Kent HER
1669	TQ 67 SW 534	Mesolithic to Bronze Age worked flints, Singlewell	Findspot; pit	Early Mesolithic to Late Bronze Age	Kent HER
1670	TQ 67 SW 609	Prehistoric flint, Wrotham Road	Findspot	Later Prehistoric	Kent HER
1671	TQ 67 SW 8	Dene hole (site of)	Dene hole	Unknown	Kent HER
1672	TQ 76 NW 278	Possible Park Pale, Cobham Park	Park pale	Unknown	Kent HER
1673	TQ 76 NW 279	Possible Dene hole in Cobham Park	Dene hole	Unknown	Kent HER
1674	TQ 76 NW 280	Fire Pits Nr Gads Hill	Site	Unknown	Kent HER
1675	TQ 76 NW 290	Site of Limekiln at Chapter Farm, Higham	Lime kiln	Post-Medieval	Kent HER
1676	TQ 76 NW 380	Mesolithic Burin	Findspot	Mesolithic	Kent HER
1677	TQ 76 NW 53	Neolithic axe	Findspot	Neolithic	Kent HER
1678	TQ 76 NW 761	Two undated circular pits, south of Great Crabbles Wood	Pit	Unknown	Kent HER
1679	TQ 76 NW 762	Roman and Prehistoric finds, south of Great Crabbles Wood	Findspot	Early Neolithic to Roman	Kent HER
1680	TQ 86 SW 132	Watling Street Roman Road	Road; road	Roman	Kent HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1681	411371	Lilliputts	House	Post-Medieval	Historic England Archive
1682	891103	The remains of ridge and furrow cultivation, preserved as slight earthworks on Upminster Hall playing fields. The earthworks are situated on an east-facing slope immediately to the north of Upminster Hall, a 16th century house.	Ridge and furrow	Medieval - Post-Medieval	Historic England Archive
1683	1143573	A 3rd and 4th century Roman building and a Medieval rectangular enclosure were excavated at Cherry Orchard Farm, Orsett, in 1964.	Building; enclosure	Roman, Medieval	Historic England Archive
1684	1595287	The incomplete cropmark of a possible Bronze Age ring ditch can be seen on aerial photographs taken in 2010. This cropmark is situated within the golf course to the south of the main building of the Upminster Golf and Bowling Club.	Ring ditch	Prehistoric, Bronze Age	Historic England Archive
1685	1595288	The cropmark of a possible later prehistoric enclosure can be seen on aerial photographs taken in 2010. This polygonal enclosure is situated within Upminster Hall Playing Fields and is cut by the cropmark of a Post-Medieval field boundary.	Enclosure	Prehistoric	Historic England Archive
1686	060052/00/00	Southend Arterial Rd Upminster	Findspot	Palaeolithic	GLHER
1687	060095/00/00	Tomkyns La Upminster	Ditch	Undated	GLHER
1688	060278/00/00	Wingletye La Hornchurch	Farmhouse; farmhouse	Medieval - Post-Medieval	GLHER
1689	060288/00/00	Southend Arterial Rd Hornchurch	Farmhouse; farmhouse; farmhouse	Medieval - Post-Medieval	GLHER
1690	060296/00/00	Berkshire Way, Hornchurch	Farmhouse; farmhouse	Post-Medieval	GLHER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1691	060419/00/00	Bird La Upminster	Brick kiln	Post-Medieval	GLHER
1692	060420/00/00	Bird La Upminster	Tramway	Post-Medieval	GLHER
1693	060421/00/00	Bird La Upminster	Brick kiln	Post-Medieval	GLHER
1694	060445/00/00	Bird La Upminster	Spring	Post-Medieval	GLHER
1695	061052/00/00	St Marys La Great Warley	House	Medieval	GLHER
1696	062396/00/00	Nags Hall Lane	Settlement; settlement	Prehistoric	GLHER
1697	062415/00/00	120-122 Hall La	Occupation site	Post-Medieval	GLHER
1698	062752/00/00	Bird La Adjacent to Chapmans Farm	Landfill site	Post-Medieval	GLHER
1699	211338/01/00	Hall La Upminster	Chapel; chapel	Medieval - Post-Medieval	GLHER
1700	211338/01/001	Hall La Upminster	Cemetery	Medieval	GLHER
1701	211338/02/00	Hall Lane Upminster	Fishpond; moat	Medieval	GLHER
1702	211434/01/00	27 Wingleye La Hornchurch	Moat; pond	Medieval	GLHER
1703	MEX1032848	Great Warley School	School	Post-Medieval to Modern	Essex HER
1704	MEX1033035	Chapman's Farm (now The Strawberry Farm)	Model farm; cow house	Modern	Essex HER
1705	MEX17724	Mucking-West of Bluehouse Farm	Findspot	Roman	Essex HER
1706	MEX17728	Mucking-West of Bluehouse Farm	Findspot	Iron Age	Essex HER
1707	MEX17729	Mucking - Bluehouse-Gravel pits	Findspot	Early Medieval	Essex HER
1708	MEX17731	Mucking - Gas Council Pipe Line	Findspot	Mesolithic	Essex HER
1709	MEX17734	Mucking-Gas Council Pipe Line	Findspot	Early Neolithic to Late Bronze Age	Essex HER
1710	MEX17760	Orsett	Findspot	Roman	Essex HER
1711	MEX17946	Orsett-North of Maltings Lane	Findspot	Roman	Essex HER
1712	MEX17963	Orsett-Orsett Hall-North Boundary	Findspot	Late Iron Age	Essex HER
1713	MEX18042	Orsett-Cherry Orchard Farm	Findspot	Early Bronze Age	Essex HER
1714	MEX18043	Orsett-Cherry Orchard Farm	Findspot	Late Iron Age	Essex HER
1715	MEX18044	Orsett-Cherry Orchard Farm	Findspot	Roman	Essex HER

Project ID	Source preferred reference number	Name	Monument type	Period	Source
1716	MEX6671	Mucking Heath - only 4 fig NGR	Findspot	Neolithic	Essex HER
1717	MEX6675	Mucking Marshes - only 4 fig NGR	Findspot	Neolithic	Essex HER
1718	MEX6676	Mucking Marshes - only 4 fig NGR	Findspot	Palaeolithic	Essex HER
1719	MKE66734	Early Medieval copper alloy brooch	Findspot	Early Medieval	Kent HER
1720	MKE84356	Rookery Farm	Farmstead	Undated	Kent HER
1721	MLO100588	Thames Chase (south of) {cropmark}	Barrow?	Prehistoric to Post-Medieval	GLHER
1722	MLO26029	Arterial Road (A127), Upminster, Havering {Palaeolithic occupation site}	Occupation site; lithic working site	Palaeolithic	GLHER
1723	MLO76002	Pages Farm	Findspot	Medieval to Post-Medieval	GLHER
1724	MLO76216	Hall Lane, Upminster	Subsoil	Undated	GLHER
1725	MLO76899	Pages Farm	Findspot	Undated	GLHER
1726	MLO76900	Pages Farm	Findspot	Undated	GLHER
1727	MLO77398	Chapmans Farm	Ditch	Undated	GLHER
1728	TQ 66 NE 183	Owletts Second World War Civil Defence depot, The Street, Cobham	Civil defence site	Modern	Kent HER
1729	MLO100580	Hall Lane (Harold Wood Park) {cropmarks}	Field boundary?	Medieval to Post-Medieval	GLHER
1730	MLO100581	Great Tomkyns Farm (west of) {cropmark}	Barrow?, circular enclosure?	Lower Palaeolithic to Post-Medieval	GLHER
1731	MLO99046	Hall Lane, [Harold Wood Park], Havering {undated linear features, palaeochannel, ditch and possible boundary}	Linear feature; ditch; boundary?; palaeochannel	Unknown	GLHER
1732	MEX1040077	Sewage Pipeline, Warley, Essex	Gully; pit; cremation	Undated, Early Medieval to Medieval	Essex HER
1733	MEX17720	Mucking-West of Bluehouse Farm	Ditch; ditch; pit	Early Iron Age?	Essex HER
1734	MEX18041	Mucking	Settlement	Iron Age	Essex HER
1735	MEX41461	Little Thurrock-Palmer's 6th Form College (formerly Girls' School)	Ditch; fortification; pottery kiln; pottery kiln; field boundary; ditch;	Roman	Essex HER



Project ID	Source preferred reference number	Name	Monument type	Period	Source
1736	MEX42204	Golf Course, St. Cleres Hall	field boundary; field system; pit; post hole		
1737	MEX6182	Little Thurrock - Palmer's Sixth Form College	Findspot Dene hole	Post-Medieval Undated	Essex HER Essex HER
1738	1548193	The earthwork remains of a probable Post-Medieval-20th century stock watering pond within Shornemead Marshes. The pond appears as an elongated water-filled pond with up-cast material forming two parallel banks on the northern and southern sides.	Pond	Post-Medieval	Historic England Archive
1739	1548183	The earthwork remains of a probable Post-Medieval to 20th century stock watering pond within Shornemead Marshes. The pond appears as an irregular rectangular water-filled depression (13.8m x 27m) with up-cast material forming parallel banks on the long side.	Pond	Post-Medieval	Historic England Archive
1740	414146	Palaeolithic handaxes were found at Orsett no date or exact provenance of find is known.	Findspot	Palaeolithic	Historic England Archive
1741	414091	A partly ground Neolithic stone axe of grey flint was found on Mucking Heath and is now in Colchester Museum (Accession number 3496-16).	Findspot	Neolithic	Historic England Archive

# Appendices

## Chapter 9. Terrestrial Biodiversity

## CHAPTER 9: TERRESTRIAL BIODIVERSITY

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## Appendix F

### F.1 Biodiversity survey methodologies

#### Introduction

- F.1.1 Survey work is required to comply with Environmental Impact Assessment (EIA) and HRA assessment requirements to comply with UK and European wildlife legislation (Wildlife and Countryside Act 1981 (as amended), the NERC Act (2006) and the Conservation of Habitats and Species Regulations 2010 (as amended) – often abbreviated to ‘Habs Regs’). These surveys have been informed by the preliminary desk-based study undertaken for the long and short list of options, including consultation with key stakeholders and statutory consultees. This approach to assessment is also consistent with the principles set out in Highways England’s *Biodiversity Plan*.
- F.1.2 These surveys will inform likely mitigation and/or compensation requirements for the Project on a species and habitat-specific basis. Survey information will also be used for micro-siting or minor realignments (where the route allows). It will inform, where necessary, safe methods of work (eg, root protection zones) or licensing requirements. This is specifically for European Protected Species which are protected under the Habs Regs, badgers which are protected under The Protection of Badgers Act 1992 and water voles which are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended)). Surveys methodologies follow best practice guidance including, but not restricted to, NE and Defra guidelines, *DMRB* Volume 10, Section 4, Parts 1 to 6 and Chartered Institute of Ecology and Environmental Management (CIEEM) Competencies for species surveys, as appropriate.
- F.1.3 Unless otherwise stated, surveys are undertaken during the day. If a licence is required to undertake the survey this is underlined. All surveys assume a minimum of two surveyors, the second surveyor is there either to assist the lead surveyor and/or to provide a second person for H&S requirements. Surveys are required to inform both the EIA and the HRA.

#### Surveys to inform EIA

##### Extended Phase 1 habitat and protected species walk over

###### When

- F.1.4 Main survey period April to October inclusive.
- F.1.5 The results of the extended Phase 1 habitat and protected species walk over survey will identify the habitats present along the route alignment, inform the requirement for further surveys for protected species and areas to focus further detailed habitat assessment such as NVC.

### Coverage

- F.1.6 Length of the route plus 50m either side of the Development Boundary, which will include all areas of temporary land take, eg, construction compounds. This will be extended in areas where desk-based study indicates potential for European protected species such as great crested newts (eg, water bodies up to 500m from Development Boundary) or bats (eg, 2 - 5km from Development Boundary, where existing roosts are identified, up to 10km for any SSSIs supporting bats).

### Equipment

- F.1.7 Binoculars, hand lens, red line boundary map, iPad and/or GPS and paper map (to record data in the event of an equipment failure) and camera.

### Surveyor experience/licence requirement

- F.1.8 Experienced botanist and protected species ecologist, likely to be a Principal Ecologist and assistant. No licence is required for survey.

### Methodology

- F.1.9 The entire extent of land within red line boundary and a 50m buffer will be walked by the survey team. The habitat will be classified following the Phase 1 habitat classification guidelines (JNCC 2010) and any evidence of European protected species, habitat for protected species or species of conservation concern will be detailed as Target Notes.

### Detailed botanical surveys

- F.1.10 These surveys include, for example, NVC or Defra (open mosaic habitat) OMH surveys.

### When

- F.1.11 Main survey period May to September, but dependent on species and habitats. Single survey visit per site is required – to coincide with optimal survey period for the habitat/species it supports. If detailed mapping to identify the distribution of particularly rare/notable species is required, and the collection of quadrat data, to assign vegetation to NVC communities.

### Coverage

- F.1.12 Local wildlife sites (eg, Goshems Farm; adjacent to River Thames crossing location), important habitats (eg, sites supporting Thames Terrace grasslands and important brownfield sites) and areas of noteworthy priority and/or inventory habitat (Section 41 habitats, ancient woodlands) identified during the extended Phase 1 habitat survey. Invertebrate surveys are also likely to be required in these locations.

- F.1.13 The OMH surveys will identify groups of plants and other features of particular importance to invertebrate species to supplement specific invertebrate species surveys.

#### Equipment

- F.1.14 Hand lens, camera, quadrat, iPad and/or GPS and paper map (to record data in the event of an equipment failure) and camera.

#### Surveyor experience/licence requirement

- F.1.15 Experienced botanist, likely to be Principal Ecologist and assistant. No licence is required for survey

#### Methodology

- F.1.16 For NVC survey quadrats will be in homogeneous stands of vegetation distributed across the targeted survey area identified during the Phase 1 survey and the percentage species composition will be evaluated. In addition, species lists will be made that will enable the botanical value of a site to be assessed. Survey methodology follows the current NVC survey guidance (Rodwell, 2006). Where suspected OMH are identified during NVC surveys, they will be assessed following the guidance outlined in the Open Mosaic Habitat Survey Handbook (Lush *et al.*, 2013).

### Protected species surveys

#### Water vole surveys

##### When

- F.1.17 Two surveys, one between mid-April and the end of June and one between July and September (inclusive). Surveys should be at least two months apart (Dean *et al.*, 2016).

##### Coverage

- F.1.18 Initial assessment within Development Boundary. Extent of survey area depends on the impact of the Project (Dean *et al.*, 2016) which is detailed below:
- If crossing location is temporarily affecting  $\leq 50\text{m}$  of watercourse survey requirement: 50m upstream and downstream of any affected watercourse.
  - If works permanently impacting 15-50m of watercourse as survey of the footprint of the works and 100-200m upstream and downstream of the works. If works are permanently impacting on  $>50\text{m}$  of watercourse field surveys need to cover the footprint of the works, plus any temporary work areas and 200m-500m upstream and downstream of the works.

### **Equipment**

- F.1.19 Chest /thigh waders (plus wading belt), buoyancy aid, wading pole, rope and harness (depending on depth of ditch), throw line, Verkon (disinfectant spray required for biosecurity), iPad and/or GPS and paper map (to record data in the event of an equipment failure).

### **Surveyor experience/licence requirement**

- F.1.20 Experienced water vole surveyor and an assistant. No licence required for survey.

### **Methodology**

- F.1.21 All watercourses likely to be affected or impacted by installation of proposed crossing points or outfall installations will require a water vole survey. Surveyors will enter the watercourse where practical and safe, to evaluate its habitat suitability for water voles and search for field signs indicating the presence of water voles, eg, dung (droppings), latrines (collections of droppings), feeding stations (including feeding remains), burrows (entrance to below ground resting sites), tracks (footprints), runs or pathways to feeding areas, watercourse and burrows.

### **Otter surveys**

#### **When**

- F.1.22 Any time of year, but spring is best as evidence is easier to find as water levels recede and wet mud is exposed (paw prints can be seen more easily) – no seasonal constraints (but avoid periods of heavy rain which would make field signs difficult to detect). Surveys should be repeated at 3-monthly intervals over a 12-month period to take into account any seasonal variations in otter activity (DMRB, 2001).

#### **Coverage**

- F.1.23 Development Boundary. Survey to cover 1km upstream and downstream of crossing locations for any watercourse that is crossed by the Development Boundary for the Project (DMRB, 2001).

### **Equipment**

- F.1.24 Chest /thigh waders (plus wading belt), buoyancy aid, wading pole, rope and harness (depending on depth of watercourse), Verkon (disinfectant spray required for biosecurity), throw line, iPad and/or GPS and paper map (to record data in the event of an equipment failure).

### **Surveyor experience/licence requirement**

- F.1.25 An appropriately experienced and/or licensed otter surveyor and assistant. If a holt or lying up location is identified, these must be checked by a licensed surveyor, again at three-monthly intervals. If a holt is suspected to be in use



(and would be impacted by the Project) further assessment (eg, via trail camera) to identify level and type of use (eg, is it a breeding site) would be required.

### Methodology

- F.1.26 All watercourses likely to be affected or impacted by installation of proposed crossing points or outfall installations will require an otter survey. Surveyors will enter the watercourse (where safe to do so) to search for field signs indicating the presence of otters, ie, dung (spraints), tracks (footprints), feeding remains, otter slides (into water), holts (underground sites) and couches/lying up site (above ground sites where otters rest during the day). The methodology would follow the guidelines published by Natural England (NE) and Defra (2014) CIEEM (2013) and *DMRB* (2001).

### Invertebrates

- F.1.27 Invertebrate surveys of Ramsar site (only if hydrological impacts from project envisaged) and areas of habitat likely to support diverse invertebrate assemblage.

### When

- F.1.28 May to September to include two main survey periods between May-June and August-September (depending on target species and habitat type).

### Coverage

- F.1.29 OMH and similar habitat identified from desk-based study and Phase 1 Survey as likely to support important invertebrate assemblages. Currently, the southern tunnel portal location unlikely to directly affect the Ramsar site. If this is not the case, then the area of Ramsar site at risk of hydrological/hydrogeological/groundwater impacts from tunnelling and/or changes in air quality; ie, at least 200m radii from tunnel portal (for air quality impacts).

### Equipment

- F.1.30 Depending on survey type, surveyors will require a number of the following items (Note: this list is indicative, not comprehensive): sweep net, beating tray, pouter, containers (plastic buckets for pitfall traps or aquatic sampling), pond net, trowel, hand saw, auger, industrial methylated spirit, iPad and/or GPS and paper map (to record data in the event of an equipment failure) and camera.

### Surveyor experience/licence requirement

- F.1.31 Experienced Entomologist and an assistant, no licence is required for survey. Surveys would aim to provide information on the value of the invertebrate assemblage that each site supports. If survey of the Ramsar site is required, the Ramsar site species list should be considered in designing survey methodology.

Site evaluation should be undertaken using the Natural England Pantheon database.

### Methodology

- F.1.32 Survey effort: the typical survey period for an 'average site' of between 10 - 50ha is 3 - 7 days (respectively) with each survey day comprising 5 - 7 hrs of active fieldwork. Duration of fieldwork is therefore dependent on potential impacts (air and water) to the site (area requiring survey). Survey techniques should include (for terrestrial habitats) standardised sweeping, spot sweeping from flowers, ground searching and beating. Passive trapping methods such as pitfall, water or malaise traps may be useful to help counteract poor weather conditions (but are prone to disturbance). For aquatic habitats surveys may need to include pond netting and (potentially) kick-sampling. Surveyors should also record detailed site description, map of survey locations and photographs of habitats and species (as appropriate) to facilitate assessment of likely impacts (Natural England (2014); Drake *et al.* (2007)).

### Botanical surveys for Ramsar site plant species

#### When

- F.1.33 Main survey period June to October: two visits, one in early June/July and one later in August/September (subject to modification to align with target species flowering or fruiting period). Survey will include sampling aquatic plants within ditches.

#### Coverage

- F.1.34 Within the Ramsar site/SSSI, targeted surveys and at specified distances from the tunnel alignment and tunnel portal. Survey area up to 200m from route alignment to take account of air quality impacts, potentially extending further depending on anticipated changes to hydrogeology and/or groundwater associated with the tunnelling. The current 'worst case scenario' is a 'radius of influence' of 3km around the tunnel portals. Standard modelling of changes in air quality in relation to roads has shown that pollution levels reduce to pre-existing background levels 200m from the road. Therefore, impacts are only typically considered where sites lie within a 200m buffer of a road.

#### Equipment

- F.1.35 Hand lens, camera, quadrat, iPad and/or GPS and paper map (to record data in the event of an equipment failure).

#### Surveyor experience/licence requirement

- F.1.36 Experienced botanist, likely to be Principal Ecologist and assistant. No licence is required for survey.

## Methodology

- F.1.37 Quadrats will be distributed across suitable habitat within the area of the site identified as potentially impacted by the Project and the percentage species composition will be evaluated. In addition, species lists will be made that will enable the botanical value of a site to be assessed. Particular attention will be paid to habitats of the qualifying plant species identified on the Ramsar site designation (if confirmed present). Survey methodology follows the current NVC survey guidance (Rodwell, 2006).

## Amphibians (great crested newts)

### When

- F.1.38 Initial HSI surveys will be undertaken for all suitable water bodies identified within a 500m buffer of the Development Boundary. If a large number of water bodies are identified, environmental DNA (eDNA) surveys may be undertaken to identify those which do not support great crested newts, to rule them out of any further assessment. If taken forward, eDNA surveys would be carried out between mid-April and late June (NE and Defra (2015)). Both the HSI and eDNA surveys will be undertaken during the day.
- F.1.39 Ponds confirmed as GCN positive from eDNA (or all ponds if eDNA not undertaken) would be surveyed to confirm population size of great crested newts, to inform mitigation and licensing requirements. Four to six surveys will be undertaken between mid-March and mid-June per pond, with at least two surveys occurring between mid-April and mid-May. These surveys are undertaken after dark and require access early in the morning to check traps.

### Coverage

- F.1.40 Any ponds or suitable water bodies within a 500m buffer of the Development Boundary would be assessed and surveyed. Surveys would record presence of other Section 41 amphibians which share similar habitat requirements (eg, common toad, pool frog, smooth newt and palmate newt).

### Equipment

- F.1.41 For HSI surveys - Dip net, Verkon (disinfectant spray required for biosecurity), camera, iPad and/or GPS and paper map and forms (to record data in the event of an equipment failure). For great crested newt surveys: Clu-lite (high powered torch), chest/thigh (plus wading belt) waders, buoyancy aid, wading pole, throw line, bottle traps (plastic bottles and bamboo canes), Verkon (disinfectant spray required for biosecurity), a hand net, iPad and/or GPS and paper map and forms (to record data in the event of an equipment failure).

### Surveyor experience/licence requirement

- F.1.42 All surveys require two surveyors and at least one surveyor must be licensed for great crested newt surveys.

## Methodology

- F.1.43 HSI methodology involves surveyors visiting a pond and recording specific criteria laid out in Amphibian and Reptile Group of the United Kingdom (ARG) UK Advice sheet 5, eg, dimension of the pond, the quality of the water, presence of waterfowl, presence of fish and so forth.
- F.1.44 Great crested newt survey methodology taken from Langton *et al* (2001) and NE and Defra (2015). Ponds will be surveyed between four and six times using three survey techniques on each visit, depending on the ponds' characteristics. Most commonly these surveys will include trapping (using bottle traps), egg searching and torching. Netting will be undertaken if the pond is unsuitable to deploy traps in. Typically, bottle traps will be deployed in the late afternoon and a search for eggs will occur at the same time. A high-powered torch (Clu-lite) will be used to search for newts after dark. Note: torch survey results are subject to high variation due to weather conditions, and so should only be carried out under the following conditions: night-time air temperature >5°C, no/little wind, no rain. Bottle traps are collected early the following morning (Note: traps should not be left for longer than 6-7hrs in hot weather conditions) and any newts or other amphibians released. Egg search requires a check of submerged vegetation for great crested newt eggs and is carried out in daylight either prior to setting bottle traps or on their retrieval in the morning. As soon as great crested new eggs are confirmed present, no further egg search should be undertaken.

## Reptiles

### When

- F.1.45 April to May (inclusive), and September mid-morning and late afternoon.

### Coverage

- F.1.46 Within the Development Boundary in areas identified by the extended Phase 1 and protected species walkover survey and any potential receptor sites adjacent to the Development Boundary (as translocation is likely to be required).

### Equipment

- F.1.47 0.5m x 0.5m squares of roofing felt or corrugated metal, spray paint, adder handling gloves, a snake stick, iPad and/or GPS and paper map (to record data in the event of an equipment failure) and camera.

### Surveyor experience/licence requirement

- F.1.48 Experienced surveyor and assistant. No licence is required for survey of common reptiles. However, surveys for smooth snakes and sand lizards require an appropriately licensed surveyor. All surveyors would have venomous snake

training if the desk study identifies that adders are present within the Development Boundary or any potential off-line receptor sites.

### Methodology

- F.1.49 Methodology follows the guidance published by Froglife (1999), NE and Defra (2015). Reptile surveys incorporate two survey techniques: artificial refuges ('tins') and direct observation. Direct observation is usually undertaken in conjunction with the use of artificial refuges. This involves walking slowly scanning the area 3-4m in front of the surveyor, paying particular attention to natural (as well as artificial) basking locations. The survey will encompass all Section 41 reptile species identified from desk-based study (eg, grass snakes, adders, slow worms, common lizards and, if present, smooth snake and sand lizard).
- F.1.50 Reptile tins are typically deployed at a minimum density of 10 tins/ha, in areas of suitable reptile habitat (sunny areas near to cover), eg, along hedgerow bases, grassy banks, rides or verges. The tins act as artificial basking sites and refuges. Tins are left to 'bed in' for a minimum of 2 weeks (to allow animals to find and start using them). These are then checked for the presence of reptiles (both basking on top and resting beneath the tins) on a minimum of seven occasions during suitable conditions (as appropriate to time of year and daytime temperatures).

### Ornithology surveys

#### Breeding bird surveys

##### When

- F.1.51 April to June (inclusive), starting ideally 06:00–07:00 BST and no later than 09:00 BST. Additional visits during evenings [(*timings*)] would be required where crepuscular species are identified through desk-based study and the extended Phase 1 survey. Up to two years of surveys to inform the EIA assessment. Following initial year of surveys, we will review the requirement to extend the survey period to earlier (eg, February and/or March) or later (July) in the year.

##### Coverage

- F.1.52 Breeding bird surveys will be required within the Development Boundary + 500m buffer, depending on desk study findings and extended Phase 1 survey and protected species walk over. This data should be no more than two years old when the application is submitted - survey will include Section 41 bird species, if present.

##### Equipment

- F.1.53 Binoculars, iPad and/or GPS and paper map (to record data in the event of an equipment failure) for each surveyor.

### **Surveyor experience/licence requirement**

- F.1.54 Experienced bird surveyors and assistants, no licence is required for survey.

### **Methodology**

- F.1.55 Breeding bird surveys follow methodology from Gilbert *et al.* (1998). Transects that were walked along included hedgerows and suitable habitat. Surveyors will use binoculars and will plot observations (both aural and visual) of Schedule 1, Section 41, Red list and Amber list species on a transect map, with a tally kept of all other bird species.

### **Winter and migration bird surveys**

#### **When**

- F.1.56 September to March (inclusive).

#### **Coverage**

- F.1.57 Winter bird surveys will be required within the Development Boundary + 500m buffer, depending on desk study findings and Extended phase 1 and protected species walk over. This data should be no more than two years old when the application is submitted - survey will include Section 41 bird species, if present. One year of surveys will be required to inform the EIA assessment.

#### **Equipment**

- F.1.58 Binoculars, iPad and/or GPS and paper map (to record data in the event of an equipment failure) for each surveyor.

### **Surveyor experience/licence requirement**

- F.1.59 Experienced bird surveyors and assistants. No licence is required for survey.

### **Methodology**

- F.1.60 Winter surveys will follow generic methodology from Gilbert *et al.* (1998) will be focused within the red line boundary. Transect that were walked along included hedgerows and suitable habitat. Surveyors will use binoculars and will plot observations (both aural and visual) of Schedule 1, Red list and Amber list species on a transect map, with a tally kept of all other bird species. These surveys are likely to coincide with the potential functional habitat transect surveys for the HRA, detailed below.

### **Tidal bird surveys**

#### **When**

- a. Spring passage: April to June inclusive
- b. Autumn passage: July to October inclusive
- c. Wintering birds: November to March inclusive

- F.1.61 Spring and autumn passage and wintering bird surveys will include hours of darkness around dusk and dawn (linked to timing of high and low tides) and will also require nocturnal surveys. Two years of spring and autumn passage and wintering bird surveys are required to inform the HRA.

#### Coverage

- F.1.62 For spring and autumn passage and wintering birds: River crossing location including Ramsar site/SPA/SSSI and areas of potential functional habitat. Assessment of potential functional habitat would cover anything suitable up to 1km inland from the SPA boundary and within 1km of the route.
- F.1.63 Survey to include 500m buffer either side of crossing locations in terms of vantage point locations. Two years of data are required.

#### Equipment

- F.1.64 Binoculars, high powered telescope and tripod, walkie-talkie, iPad and/or GPS and paper map (to record data in the event of an equipment failure) for each surveyor.

#### Surveyor experience/licence requirement

- F.1.65 Bird surveyors with experience of wader and waterfowl surveys and assistant. No licence is required for survey.

#### Methodology

- F.1.66 Twice-monthly vantage point (VP) surveys will be undertaken from high to low tide (or vice versa). Counts will be made hourly, for a total of 6 hours. VPs will be located at either side of the river, for any crossing option going forward. This survey will occur during all survey periods and follows methodology detailed in Gilbert *et al.*, (1998). Transect surveys will be undertaken once a month in all survey periods for spring, autumn and winter. These will focus on suitable roosting habitat associated with the Thames Estuary and Marshes SPA, located within 1km of the proposed crossing locations. During each survey visit, the surveyors would also walk a predefined transect route around the boundaries of the fields within and adjacent to the proposed construction areas in order to assess the potential impacts upon SPA species and other wintering birds of conservation concern that may be using the fields to forage or roost. The transect surveys would be undertaken to coincide with the period two hours either side of high-tide when birds are more likely to be using fields for foraging. For all transect surveys, surveyors will carry binoculars, and will be plotting observations (both audial and visual) of Schedule 1, Red list and Amber list species on a transect map, with a tally kept of all other bird species. For VP surveys, surveyors will use telescopes and binoculars and record all waterfowl and waders and a tally will be kept of non-focal species.

## Nocturnal bird surveys

### When

F.1.67 November to March inclusive

### Coverage

F.1.68 Areas within 1km of the Thames Estuary identified as being functionally linked to the SPA and Ramsar site.

### Equipment

F.1.69 Night vision equipment and infra-red light source.

### Surveyor experience/licence requirement

F.1.70 Bird surveyors with experience of wader and waterfowl surveys and assistant. No licence is required for survey.

### Methodology

F.1.71 Survey of potential functionally linked habitat from a series of fixed VPs during the hours of darkness, ideally timed to coincide with two hours high tide when birds most likely to use functionally linked habitat.

## Noise surveys

### Noise surveys for birds

#### When

F.1.72 Once a quarter, currently proposed to cover March, May, September and November (encompassing all key seasonal constraints: breeding birds, spring and autumn passage and over-wintering). Noise specialists will confirm the duration required for each survey visit to collect a representative sample of baseline conditions.

#### Coverage

F.1.73 Noise monitoring, to establish the existing baseline, within 500m of the Development Boundary (ie, Development Boundary + 500m buffer) and within SPA and Ramsar site boundaries and areas of potential functional habitat that lie within the Development Boundary + 500m buffer. Note: the exact survey locations may be subject to change as the Project design is finalised. This baseline noise data will be interpreted in relation to previously reported noise disturbance distances for the SPA/Ramsar site wetland birds, as well as direct observations during the bird survey work of any loud noises, and will be used to interpret the likely impacts of construction and operation (once noise contouring mapping has been produced).

#### Equipment

F.1.74 Noise monitor and tripod.



### **Surveyor experience/licence requirement**

- F.1.75 No licence is required for survey. Noise specialist and ecologists will agree the locations where equipment would be deployed. Noise sampling (to obtain baseline) would be carried out once a quarter and will coincide with the fortnightly bird surveys in relation to the SPA and Ramsar sites.
- F.1.76 Equipment will be set up and retrieved by noise specialists at the end of every survey.

### **Methodology**

- F.1.77 Noise monitor will be set up at the appropriate location (and height – relative to bird behaviours). Analysis of the results will be undertaken by noise specialist. This data will be interpreted in relation to observations of birds' behaviour during the surveys.

### **Dormice surveys**

#### **When**

- F.1.78 Surveys are undertaken between April to October (inclusive) for monitoring using nest tubes and September to December for nut searches.

#### **Coverage**

- F.1.79 Survey of suitable habitat within the Development Boundary + 500m buffer, specifically woodland that will either be lost under the footprint of the Project or which is directly linked to hedgerows that will be bisected by the Project.

#### **Equipment**

- F.1.80 Nest tubes, wire, markers, handling bag and iPad and/or GPS and paper map (to record data in the event of an equipment failure) and camera.

### **Surveyor experience/licence requirement**

- F.1.81 Experienced surveyor, likely to be Senior Ecologist and an assistant. Licensed surveyor required for nest tube checks.

### **Methodology**

- F.1.82 For nest tubes: these will be deployed in habitat suitable for dormice, with at least 50 tubes used to sample a site, spaced every 20m. These tubes will be kept out for the entire season and will be checked regularly (approximately once a month) and a survey 'score' of 20 will need to be obtained using the survey guidance index of probability (Bright *et al.* 2006).
- F.1.83 Nut searches (looking for distinctive dormouse gnawed hazelnuts) will occur along hedgerows and in wooded areas. This involves collecting 100 hazelnuts, for each hedgerow or woodland area, that have been opened by small rodents (voles and mice) but avoiding caches made by these species and also ignoring

nuts opened by squirrels. If this sample contains no nuts that have been opened by dormice it is highly probable that dormice are not present (Vaughan 2009), but this survey technique should not be used in isolation to confirm absence of dormice due to risk of 'false negative' where dormice densities are low (NE & Defra (2015). This method can, therefore, only be reliably used to confirm presence of dormice.

- F.1.84 If dormice will be adversely affected by the Project, it will be necessary to install nest boxes to obtain a population estimate to inform mitigation and licensing requirements for the Project (*DMRB*, 2001). The requirement for a more detailed dormouse survey would be identified following the initial dormouse survey in year 1.

### Bat surveys

- F.1.85 All bat surveys will be undertaken in accordance with BCT Bat Survey Guidelines (Collins, 2016).

### Preliminary ground level tree inspections

#### When

- F.1.86 January to March.

#### Coverage

- F.1.87 Along the entire length of the route within the Development Boundary + 50m.

#### Equipment

- F.1.88 Tablet (with GPS and camera), binoculars, Clu-lite torch, tape measure, endoscope (only to be used by a Natural England Class 2 Bat Licence holder), ladder, mirror, plastic bags/pots for dropping samples, appropriate personal protective equipment (PPE) as required by location, mobile phone(s), first aid kit.

#### Surveyor experience/licence requirements

- F.1.89 Experienced survey team, led by a Natural England Class 2 Bat Licence holder.

#### Methodology

- F.1.90 Identified trees will be inspected to identify and record any potential roost features (including split branches, woodpecker holes and lifted bark) which could support roosting bats. Where accessible from the ground an endoscope will be used, by a suitably licensed surveyor (Natural England Class 2 Bat Licence holder), to inspect feature(s). A record will be taken of all evidence (inc. the presence of bats, droppings or staining), and the location(s) and dimensions of potential roost features. Where present a sample of bat droppings may be taken for further analysis. Additional information regarding the surrounding habitat will also be recorded.

- F.1.91 The suitability of a given feature will be determined based on the evidence found and professional judgement. Where possible, evidence will be recorded to allow an assessment of the likely species of bat which may use the feature, and the time of year at which a feature may be used.
- F.1.92 A recommendation for any required further surveys, including the number and form these surveys should take, will be made on the basis of the suitability of a feature for roosting bats, in line with BCT Bat Survey Guidelines (Collins, 2016). A preference will be made for further surveys to take the form of endoscope inspections from the ground or tree climbing surveys, due to the greater degree of information that can be gathered by these methodologies when considering trees. Where these surveys are not suitable further surveys will take the form of emergence and/or re-entry surveys.

### Internal and external building inspections

#### When

- F.1.93 No seasonal constraints, although if a roost is present the ability to confirm the roost type (eg, maternity, mating, hibernation) may be limited depending on the timing of inspections.

#### Coverage

- F.1.94 Buildings within the Development Boundary + 50m that have been identified as being impacted by the proposed development.

#### Equipment

- F.1.95 Tablet (with GPS and camera), binoculars, Clu-lite torch, endoscope (only to be used by a Natural England Class 2 Bat Licence holder), ladder, mirror, plastic bags/pots for dropping samples, appropriate PPE as required by location, mobile phone(s), first aid kit.

#### Surveyor experience/licence requirements

- F.1.96 Experienced survey team, led by a Natural England Class 2 Bat Licence holder.

#### Methodology

- F.1.97 Identified buildings will be inspected externally and, where access allows, internally to identify and record any potential roost(s) and/or potential access point(s) (including gaps in brickwork/roof tiles/soffits/fascias/wall tops and gable ends, lifted or missing roof felt/lead flashing, and open or broken windows etc). Where appropriate and accessible, features will be inspected by a Natural England Class 2 Bat Licence holder using an endoscope. If necessary, a ladder will be used to gain access to areas within buildings. A record will be taken of all evidence (inc. the presence of bats, droppings, staining and/or feeding remains) and the location(s) and dimensions of any potential roost features and/or access point(s). Where present, a sample of bat droppings may be taken for

further analysis. Additional information regarding the surrounding habitat will also be recorded.

- F.1.98 The suitability of a building for roosting bats will be determined based on the evidence found and professional judgement. Where possible, evidence will be recorded to allow an assessment of the likely species of bat which may use the building, and the time of year during which it may be used.
- F.1.99 A recommendation for any required further surveys, including the number of additional surveys will be made based on the suitability of the building for roosting bats, in line with the BCT bat survey guidelines (Collins, 2016). Further surveys will be undertaken in the form of emergence and/or re-entry surveys.

### Road and rail structure inspection – for roosting bats

#### When

- F.1.100 No seasonal constraints, although if a roost is present the ability to confirm the roost type (eg, maternity, mating, hibernation) may be limited depending on the timing of inspections.

#### Coverage

- F.1.101 Road and rail structures (culverts, underbridges and overbridges) within the Development Boundary + 50m that have been identified as being impacted by the proposed development.

#### Equipment

- F.1.102 Tablet (with GPS and camera), binoculars, Clu-lite torch, endoscope (only to be used by a Natural England Class 2 Bat Licence holder), mirror, plastic bags/pots for dropping samples, appropriate PPE as required by location, mobile phone(s), first aid kit.

#### Surveyor experience/licence requirements

- F.1.103 Experienced survey team, led by Natural England Class 2 Bat Licence holder. Both surveyors will have undertaken the appropriate training, medical(s) and inductions required to enable work on the relevant infrastructure.

#### Methodology

- F.1.104 Identified road and rail structures will be inspected externally, and where access allows, internally to identify and record any potential roost feature(s) (inc. crumbling mortar and expansion joints). Where accessible, features will be inspected by a Natural England Class 2 Bat Licence holder using an endoscope. A record will be taken of all evidence (including the presence of bats, droppings and/or staining) and the location(s) and dimensions of any potential roost features. Where present, a sample of bat droppings may be

taken for further analysis. Additional information regarding the surrounding habitat will also be recorded.

- F.1.105 The suitability of a structure for roosting bats will be determined based on the evidence found and professional judgement. Where possible, evidence will be recorded to allow an assessment of the likely species of bat which may use the building, and the time of year during which it may be used.
- F.1.106 A recommendation for any required further surveys, including the number of additional surveys will be made based on the suitability of the structure for roosting bats, in line with the BCT Bat Survey Guidelines (Collins, 2016). Further surveys will be undertaken in the form of emergence and/or re-entry surveys.

### **Tree climbing surveys – to assess for roosting bats**

#### **When**

- F.1.107 No seasonal constraints, although if a roost is present the ability to confirm the roost type (eg, maternity, mating, hibernation) may be limited depending on the timing of inspections. The presence of other protected species must be considered and timings amended where necessary.

#### **Coverage**

- F.1.108 Trees identified, following extended Phase 1 habitat and protected species surveys and preliminary ground level tree inspections, as having moderate or high roost suitability along the length of the route within the Development Boundary + 50m, where the potential for impacts, should bats be present, has been identified.

#### **Equipment**

- F.1.109 Tablet (with GPS and camera), binoculars, Clu-lite torch, endoscope (only to be used by a Natural England Class 2 Bat Licence holder), ladder, climbing harness, ropes and helmets, mirror, plastic bags/pots for dropping samples, appropriate PPE as required by location, mobile phone(s), first aid kit.

#### **Surveyor experience/licence requirements**

- F.1.110 Experienced survey team, led by a Natural England Class 2 Bat Licence holder. Both surveyors will hold the appropriate climbing qualifications (including aerial rescue) (certified in Tree Climbing and Aerial Rescue Techniques (formally NPTC CS38)).

#### **Methodology**

- F.1.111 Tree climbing surveys will be undertaken on trees assessed as being of moderate or high suitability to support roosting bats following preliminary ground level tree inspections. The number of tree climbing surveys undertaken on any

given tree will be determined by the suitability category assigned to a feature. Only those trees assessed as suitable and safe to climb will be surveyed in this manner, this assessment will be made following the completion of a full and comprehensive tree specific risk assessment for each tree prior to each climbing survey.

- F.1.112 Identified trees assessed as suitable and safe to climb following the tree-specific risk assessment will be climbed by a single surveyor using appropriate, certified, climbing equipment including a harness and ropes. A second surveyor will remain on the ground to assist the climber as required. The climber will be a Natural England Class 2 Bat Licence holder and both surveyors will hold appropriate climbing qualifications (including aerial rescue) (certified in Tree Climbing and Aerial Rescue Techniques (formally NPTC CS38)).
- F.1.113 The climber will record additional information related to the potential roost feature(s) previously identified, including any information that it was not possible to gain from ground level tree inspections. Potential roost features will be inspected using an endoscope and/or Clu-lite. Any evidence indicating the presence of bats will be recorded (inc. the presence of bats, droppings and/or staining). Where present, a sample of bat droppings may be taken for further analysis.
- F.1.114 The suitability of a feature may be reassessed following tree climbing surveys due to the increased level of information collected. This may result in an alteration to the number of further surveys recommended.

### Emergence/re-entry surveys

#### When

- F.1.115 April to October (core survey period May to September). These surveys are nocturnal. Surveys will be undertaken from 15 minutes before sunset for 1.5 to 2 hours after sunset and/or from 1.5 to 2 hours before sunrise up to 15 minutes after sunrise. The frequency of surveys is determined based on the roost suitability categorisation as detailed below:
- Low suitability – Buildings/Structures – one emergence or re-entry survey between May and August. Trees – no surveys required.
  - Moderate suitability – Buildings/Structures and Trees – two surveys, consisting of one emergence survey and one re-entry survey, separated by at least two weeks, with at least one survey between May and August.
  - High suitability – Buildings/Structures and Trees – three surveys, consisting of one emergence survey, one re-entry survey, and one further emergence or re-entry survey. Each survey should be separated by at least two weeks, with at least two surveys between May and August.

### Coverage

- F.1.116 Buildings, structures and trees along the length of the route within the Development Boundary + 500m where a review of the proposed works and desk study records have indicated the potential for impacts on bats. Emergence and re-entry surveys will be used as the primary further survey method for buildings and other structures. Emergence/re-entry surveys will only be used for further surveys on trees where ground level endoscope or tree climbing surveys are not suitable, due to the limitations that can be associated with this survey method when considering trees<sup>1</sup>.

### Equipment

- F.1.117 Batlogger M bat detectors, headphones, digital recorders, walkie-talkies, head torches, Tablet (with GPS and camera), Weather-writer, maps, pens, appropriate PPE as required by location, mobile phone(s), first aid kit.

### Surveyor Experience/Licence Requirements

- F.1.118 Experienced survey team, to be led by an ecologist experienced in leading bat activity surveys.

### Methodology

- F.1.119 Surveyors will be positioned around the tree, building or structure observing potential roost features/access points identified on the tree, building or structure and will use Batlogger M bat detectors in manual mode with headphones to record bat echolocation calls and determine if any bats leave or return to the tree, building or structure. Associated commentaries detailing survey dates, conditions, and the nature of any activity will be recorded using digital recorders. Recorded bat echolocation calls will be analysed by an experienced analyst using Batexplorer.

### Activity transect survey

#### When

- F.1.120 April to October (core survey period May to September). These surveys are nocturnal. Surveys will be undertaken from 15 minutes before sunset for 1.5 to 2 hours after sunset and/or from 1.5 to 2 hours before sunrise up to 15 minutes after sunrise. Transects will be supported by the deployment of Song Meter

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<sup>1</sup> These include the visibility of a potential roost feature from the ground in low light levels, the potential for tree limbs and/or vegetation to obstruct the view from the ground of potential roost features, and that emerging bats may not immediately echolocate or that echolocation may happen at a height and/or angle to the surveyor on the ground that prevents a bat detector from picking up the call.

SM4BAT FS static bat detectors, deployed for 5 consecutive nights. The frequency of surveys is determined based on habitat suitability, as detailed below:

- a. Low suitability – one survey per season with one static bat detector (Spring = April/May, Summer = June/July/August, Autumn = September/October).
- b. Moderate suitability – one survey per month between April and October with 2 static bat detectors. At least one survey should consist of a dusk and pre-dawn transect within a 24-hour period.
- c. High suitability – up to 2 surveys per month between April and October with 3 static bat detectors. At least one survey should consist of a dusk and pre-dawn transect within a 24-hour period.

### Coverage

- F.1.121 An appropriate sample of habitats (including watercourses, woodland and meadows) available for bats along the length of the route, within the Development Boundary + 500m buffer, as well as adjacent habitats where desk study records, a review of aerial photographs and professional judgement indicate the potential for impacts upon bats.

### Equipment

- F.1.122 Batlogger M bat detectors, headphones, digital recorders, walkie-talkies, head torches, Song Meter SM4BAT FS static bat detectors with associated cables and microphones, Tablet (with GPS and camera), Weather-writer, maps, pens, appropriate PPE as required by location, mobile phone(s), first aid kit.

### Surveyor experience/licence requirements

- F.1.123 Experienced survey team, to be led by an ecologist experienced in leading bat activity surveys.

### Methodology

- F.1.124 Activity transect surveys will be undertaken by pairs of surveyors from sunset until two to three hours after sunset. A predetermined, during daytime scoping, route will be walked at a steady pace. Where the length of the transect allows, surveyors will walk the route on multiple occasions to allow points on the transect to be surveyed at different times of the night. Each pair of surveyors will use a Batlogger M bat detector in manual mode to record bat echolocation calls and a digital recorder on which commentaries detailing survey dates, conditions and the nature of any activity.
- F.1.125 Between one and three Song Meter SM4BAT FS static bat detectors will also be deployed at points along the transect route. The number of static bat detectors will be determined based on the habitat suitability. Detectors will be placed at appropriate points to sample the range of habitats covered by a



transect and will be left in place for five consecutive nights, which will include the night on which the manned activity transect is undertaken. Static detectors will be programmed to turn on 30 minutes before sunset and to turn off 30 minutes after sunrise.

- F.1.126 Bat echolocation data recorded by Batlogger M bat detectors will be analysed by an experienced analyst using Batexplorer. Bat echolocation data recorded by Song Meter SM4BAT FS static bat detectors will be analysed by auto-identification software with a proportional degree of manual verification in BatSound. The extent of manual verification will be determined by ecologist experienced in static bat detector surveys and the use of auto-identification software. Manual verification will be undertaken by an experienced analyst.

### Crossing point surveys

#### When

- F.1.127 April to October (core survey period May to September). Each identified crossing point will be surveyed by static detectors for a period of five consecutive days once a month. Static detectors will be deployed and collected during daylight hours. There may be a need for further manned activity surveys at these locations which would be nocturnal. If required these surveys would be undertaken from 15 minutes before sunset for 1.5 to 2 hours after sunset and/or from 1.5 to 2 hours before sunrise up to 15 minutes after sunrise.

#### Coverage

- F.1.128 Linear features (inc. tree lines, hedgerows, woodland edge, watercourses) identified along the length of the route that will be bisected by the proposed development. These are informed by the findings of extended Phase 1 habitat and protected species surveys, desk study roost records, habitat assessment and professional judgement.

#### Equipment

- F.1.129 Song Meter SM4BAT FS bat detectors with associated cables and microphones, Tablet (with GPS and camera), Weather-writer, maps, pens, appropriate PPE as required by location, mobile phone(s), first aid kit. If further manned activity surveys are required the additional equipment would be required: Batlogger M bat detectors, headphones, digital recorders, walkie-talkies, head torches.

#### Surveyor experience/licence requirements

- F.1.130 Static detectors will be deployed by an experienced survey team led by an ecologist experienced in the positioning and setting up of Song Meter SM4BAT FS bat detectors. If further manned activity surveys are required these surveys would be undertaken by an experienced survey team led by an ecologist experienced in leading bat activity surveys.

## Methodology

- F.1.131 Crossing point surveys will be conducted by Song Meter SM4BAT FS static bat detectors. Each crossing point will be surveyed by a minimum of 2 static bat detectors which will be deployed at suitable points along a linear feature to allow for the assessment of the linear feature as a bat commuting route. Each detector will be deployed for five consecutive nights. Should initial results indicate the requirement for further manned activity surveys these will be undertaken in addition to static detector surveys. A team of surveyors would be positioned at appropriate points along the linear feature using Batlogger M bat detectors to record bat echolocation calls, and digital recorders to record audio commentaries detailing survey dates, conditions and the nature of any activity. The frequency of such surveys would be determined based on habitat suitability, static detector data and professional judgement.
- F.1.132 Bat echolocation data recorded by Song Meter SM4BAT FS static bat detectors will be analysed by auto-identification software with a proportional degree of manual verification in BatSound. The extent of manual verification will be determined by an ecologist experienced in static bat detector surveys and the use of auto-identification software. Manual verification will be undertaken by an experienced analyst.

## Badger surveys

### When

- F.1.133 Early winter is the best time to undertake surveys, when vegetation is dying back, eg, November and December. However, if required, surveys can be undertaken at any time of year if, for example, access restraints restrict survey timings.

### Coverage

- F.1.134 All suitable habitat within a 500m buffer of the Development Boundary would be assessed and surveyed. The survey footprint may need to be widened to 1km (as necessary) to locate nearby setts or other features of importance (*DMRB 1997*).

### Equipment

- F.1.135 iPad and/or GPS and paper map (to record data in the event of an equipment failure) and camera.

### Surveyor experience/licence requirement

- F.1.136 Experienced surveyor, likely to be senior ecologist and assistant, no licence is required for survey.

### Methodology

- F.1.137 Survey methodology is provided by NE (2015). Areas identified as potentially suitable for badgers, which could not be ruled out during the Phase 1 survey, will be surveyed further and all setts will be classified confirming level of use and current occupation. All areas of suitable habitat (eg, areas of woodland, dense scrub, field margins) will be searched thoroughly for signs of badger activity, eg, tracks (footprints), badger runs (paths), latrines (dung pits), badger hair on fences and vegetation, snuffle holes (evidence of digging for food), sett entrances, and bedding or spoil heaps outside sett entrances (NE and Defra 2015).
- F.1.138 If a sett is identified within 1km of the Development Boundary, and confirmed as active (and will be directly impacted by proposals), a bait marking survey will be carried out to determine the territorial boundaries of the sett and if the animals using the sett have an alternative place of shelter (this will also determine if there is the requirement to provide a replacement artificial sett and inform the mitigation proposals, ie, a suitable location for the replacement sett).

### Badger bait marking survey

#### When

- F.1.139 During Late February to early April or early September and mid-October.

#### Coverage

- F.1.140 Approximately 1km around sett that will be impacted, all other setts in the immediate vicinity that a badger from the sett to be impacted could reach.

#### Equipment

- F.1.141 Buckets, peanuts, golden syrup, peanut butter, coloured beads (red, blue, orange white, not muted or similar colours - enough colours to be different for each sett within the survey), spade (to deploy bait), signs for members of the public (if in a public location) and iPad and/or GPS and paper map (to record data in the event of an equipment failure) and camera.

#### Surveyor experience

- F.1.142 Experience of looking for signs of badgers beneficial when looking for coloured pellets.

### Methodology

- F.1.143 Plastic beads are mixed with peanuts and syrup bait and placed in the vicinity of each sett. Different coloured beads are placed at each sett. Dung pits and latrines are checked after bait deployment and the colour beads in the dung pits are recorded. Bait marking and latrine inspections should be undertaken on a daily basis for approximately three weeks depending on bait uptake and weather conditions (Scottish Natural Heritage (SNH) 2004).

### **Lower plants (fungi, bryophytes, lichens)**

- F.1.144 Detailed desk study coupled with extended Phase 1 survey to confirm presence of suitable habitats would inform the requirement to undertake detailed surveys for notable Section 41 lower plants, which will also be dependent on the likely impacts of the Project on local populations and whether detailed mitigation would be required. Note, specialist surveyor is likely to be required if surveys for lower plants are required.

# Appendices

## Chapter 11. Geology and Soils

# CHAPTER 11: GEOLOGY AND SOILS

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## Appendix G

### G.1 Landfill data

- G.1.1 Table G.1 and Table G.2 provide details of most of the landfill sites (both historic/closed landfill sites and authorised landfill sites) within 250m of the Project. The reference numbers are marked on Figure 11.5 in Volume 3, where they intersect the Project.
- G.1.2 An authorised landfill site is a landfill site which has been permitted by the EA or local authority, however it may not be currently active.
- G.1.3 Note that the landfills listed in these tables are recorded landfill sites. There may be other unrecorded or pre-licence landfills present in the area which are not captured in the tables.

**Table G.1 Historic/closed landfill sites**

Landfill site	Ref	Year open	Year closed	Years in operation	Waste type
Goshems Farm	THU 048	Not known	1958	-	River Dredgings, Household, Inert Cap
Wm Cory & Sons/East Tilbury Marshes	THU 017	1932 (licensed in 1979)	1991	59	Household, Industrial, Commercial, Liquids
Tilbury B Power Station	THU 011	Not known	Not known	-	Fly Ash/PFA
Low Street Brickworks	THU 062	1956	1977	21	Industrial
Low Street	THU 061	1969	1976	7	Non-hazardous, Industrial Commercial
Millers Sand and Gravel Pits/Mobbs Farm	THU 058 THU 073	1948	1965	17	Household Commercial
Ockendon Grays Area No 3	THU 091	1974	Not known	-	Non-hazardous, Inert (recent). Road gully sweepings and asbestos (historical)



Landfill site	Ref	Year open	Year closed	Years in operation	Waste type
Groves Farm, Ockendon Road (located east of North Road (B186))	THU 045		1969	19	Household
Hall Farm (located west of North Road (B186))	HAV 28	1959	1984	25	Inert, Commercial, Household
Groves Farm (located east of North Road (B186))	THU 007	1972	1978	6	Inert, Industrial, Commercial
Baldwins Farm Landfill	-	Not known	Not known	-	Inert, Industrial
Stubbers Outdoor Pursuits Centre	HAV 22	1979	1989	10	Inert, Industrial
Grange Farm	THU 006	1974	1990	16	Inert, Commercial, Household
Filborough Landfill		Not known	1991	-	Inert, Commercial
Linford Quarry	THU 086 THU 026 THU 027	1984	1993	9	Inert, Industrial
Love Lane	THU 004	1934	1988	54	Inert, Industrial, Commercial
Saltings	THU 042	1988	1993	5	River Dredgings, Inert, Liquid Sludge
Princess Margaret Road	THU 066	Not known	Not known	-	Non-hazardous, Industrial, Commercial
The East Tilbury Quarry	THU 030	Not known	Not known	-	Non-hazardous, Industrial
Orsett Heath Recreation Ground	-	Not known	Not known	-	Domestic Refuse
Land adjoining Chapmans Farm	HAV38	Not known	Not known	-	
Pinchon Hayward Site	HAV42	1986	1988	2	Inert

**Table G.2 Authorised landfill sites**

Landfill site	Reference and licence status	Year opened	Years in operation	Waste type
RWE nPower plc, Fort Road Tilbury	Area B NAT 002/Expired	1978	38	Industrial Waste (Factory Curtilage)
RWE nPower plc, Fort Road Tilbury	Area A1, A2 & C NAT001/Expired	1991	25	Industrial Waste (Factory Curtilage)
RWE nPower plc, Fort Road, Tilbury	Area A3 INT004/Expired	2001	15	Industrial Waste (Factory Curtilage)
RWE nPower plc, Fort Road Tilbury	Area C2 INN002/Expired	2001	15	Industrial Waste (Factory Curtilage)
Veolia ES Cleanaway (UK) Ltd, Medebridge Road (East)	CLE005/FP3236LV/Issued	1990	26	Co-Disposal (licence expired – planned reopen in next 5 yrs)
Veolia ES Cleanaway (UK) Ltd, Medebridge Road (East)	CLE002/BW0410IH/Expired (planned reopen in next 5 yrs)	1997	19	Co-Disposal (licence expired – planned reopen in next 5 yrs)
Clearserve Ltd / Rainbow Shaw Quarry	CLE003/XP3430LS/Issued	1999	16	Landfill taking non-biodegradable waste
Linford Landfill	THU 026/TAR130/Transferred	Unknown	Unknown	Inert Factory
Southfields Gravel Co Ltd, Southfields Quarry, Brentwood Road	Located at the Orsett Cock Junction/Closed SOU002	1996	19	Landfill taking non-biodegradable wastes
Aylett Gravel Ltdf	Princess Margaret Road, East Tilbury/Operational as far as known	1980	38	No known restriction on source

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## Appendix H


### H.1 Site walkover survey memo




H.1.1 The key observations and photographs taken during the site walkover surveys are summarised in Table H.1 below and presented on Figure 11.4 in Volume 3. The Figure IDs in the table relate to the numbers included on the drawings.




H.1.2 A description of the areas and sites visited during the site walkover survey is provided below, and has been split into the following areas of the Project:



- d. South of River Thames: Project route/A2 junction to Gravesend link
- e. Tunnel: south portal to north portal
- f. North of River Thames: Tilbury to M25 junction 29



**Table H.1 Site walkover - south of the River Thames**

Site name	Description	Photographs	ID (Fig.11.4)
A2 Trunk Road and surroundings	Singlewell infrastructure maintenance is on the HS1 between Church Road and the A2. The depot appears to be used for maintenance of trains. Materials (large cable reels, scrap metal, scaffolding poles, railway sleepers, plastic piping) and waste storage were noted along with electricity transformers and potential tank-like structures.	 <p>Photo taken from public footpath (bridge over high speed rail line) looking east.</p>	1.1


Site name	Description	Photographs	ID (Fig.11.4)
A2 Trunk Road and surroundings	Fly tipped waste noted in hedge by public footpath comprising construction waste, insulation, plastic, foam and polystyrene.	 <p>Fly tipping viewed from public road, looking north.</p>	1.2
A2 Trunk Road and surroundings	Highway maintenance depot between Henhurst Road and the A2. Vehicle and materials (aggregate, scaffolding poles storage were noted).	 <p>Viewed from public footpath looking north</p>	1.3
A2 Trunk Road and surroundings	Fly tipping of discarded concrete rings and Made Ground (presence of anthropogenic material) was noted immediately north of the A2.		1.4



Site name	Description	Photographs	ID (Fig.11.4)
A2 Trunk Road and surroundings	Between A2 Trunk Road and Thong Lane – old road suspected to be associated with the former Gravesend Airport which extends south east from Riverview Park Housing estate towards the A2.	 <p>Old road potentially associated with the former Gravesend Airport</p>	1.5
A2 Trunk Road and surroundings	Evidence of buried services including gas main (high pressure) marker posts located along the old road and adjacent to Claylane Wood and covered manholes suspected to be associated with the existing sewage system.	 <p>Gas main markers</p>  <p>Covered manholes</p>	1.6
A2 Trunk Road and surroundings	Fly tipping noted at 2 locations along a footpath that runs through Claylane Wood towards the A2.	No photo available	1.7

Site name	Description	Photographs	ID (Fig.11.4)
Hartshill Nursery and Bayliss Landscape Contractors) on the eastern side of Thong Lane	The northern part of the site comprises a soil and waste storage area including a large stockpile of soil (mixed with concrete, brick, wood and plastic), waste plastic, wooden pallets, disused machinery, gas canisters, bricks, sand, ceramics, empty drums.	 <p>Soil/waste stockpile in northern part of the site</p>  <p>Used fuel/chemical drum in northern part of the site</p>	2.1

Site name	Description	Photographs	ID (Fig.11.4)
<p>Hartshill Nursery and Bayliss Landscape Contractors) on the eastern side of Thong Lane</p>	<p>Site office in central area of the site. Anecdotal evidence from Bayliss Landscapes indicates that there was a quarry present in this area which was infilled after WW2 and during piling for the foundations of the office, the edges of the quarry were not encountered.</p>	 <p>Site office viewed from north east</p>	<p>2.2</p>
<p>Hartshill Nursery and Bayliss Landscape Contractors on the eastern side of Thong Lane</p>	<p>The southern part of the site comprises vehicle storage (not on hardstanding) and a workshop for vehicle and equipment maintenance</p>	 <p>Vehicle storage area viewed from north west</p>	<p>2.3</p>








Site name	Description	Photographs	ID (Fig.11.4)
<p>Hartshill Nursery and Bayliss Landscape Contractors on the eastern side of Thong Lane</p>	<p>Red and white diesel storage tanks (5,400 and 1,500 litres) were sited on hardstanding. A stained metal oil can was noted adjacent to the tanks (possibly used for topping up vehicles). There was evidence of oil staining on the hardstanding floor and an oil stained blanket (possibly used to mop up spills).</p>	 <p>Fuel tanks viewed from south</p>	<p>2.4</p>
<p>Hartshill Nursery and Bayliss Landscape Contractors on the eastern side of Thong Lane</p>	<p>Waste skips noted for general waste and recyclables. Scattered waste (artificial turf, plastic) noted outside the skips.</p>	 <p>Skips viewed from north</p>	<p>2.5</p>



Site name	Description	Photographs	ID (Fig.11.4)
Former quarries on western side of Thong Lane	No evidence was identified of the two former quarries identified from historical mapping. The land is arable farmland with small area of scrub woodland in the northern corner of the field.	 <p>Viewed from side of public road (Thong Lane) looking north</p>	3.1
Southern Valley Golf Club on eastern side of Thong Lane	The golf course comprises landscaped areas, electricity pylons and overhead power lines, a public footpath and existing boreholes that serve irrigation of the site. According to anecdotal evidence, Made Ground and Fill associated with the construction of Bluewater Shopping Centre was used to form the landscaped mounds.	 <p>Southern end of the golf course, looking north east</p>	4.1



Site name	Description	Photographs	ID (Fig.11.4)
<p>Southern Valley Golf Club on eastern side of Thong Lane</p>	<p>According to anecdotal evidence, the northern eastern side of the golf course was an airfield during WW2, but all ordnance was cleared when the site was developed into a golf course circa 1990. No evidence of the former airfield was apparent apart from a relatively level area which used to be the runway. There is a gas tank and waste storage compound to the north west of the clubhouse.</p>	 <p>Location of former airfield, looking south west</p>	<p>4.2</p>



**Table H.2 Tunnel: south portal to north portal**

Site name	Description	Photographs	ID (Fig.11.4)
Lower Higham Road	Pile of fly tipped construction waste was noted in a layby on the northern side of Lower Higham Road comprising tarmac, plastic pipe, tiles, soil and so forth.	 <p>Photo taken on Lower Higham Road, looking west</p>	5.1
Lower Higham Road	Foam Concrete works on Lower Higham Road which is the location of Filborough Farm former historical landfill site.	 <p>Photo taken from Lower Higham Road, looking north</p>	5.2
Lower Higham Road	Fly tipped construction waste was noted on a footpath to the west of the concrete works, comprising concrete, plastic, tiles, metal and ash.	 <p>Photo taken from public footpath, looking north east</p>	5.3




Site name	Description	Photographs	ID (Fig.11.4)
Shorne Marshes – between Lower Higham Road and the North Kent Railway Line	The site mainly comprises pasture land and grass covered fields bounded by drain ditches. A small pond was noted immediately south of the railway line.	No photo available	6.1
North Kent Railway Line and Thames Medway Canal – between Shorne Marshes and Milton Rifle Range	North Kent Railway Line runs parallel to the Thames and Medway Canal and a public footpath. The railway line has a pedestrian crossing and is accessed from the public footpath.	 <p>North Kent Railway Line viewed from a public crossing point</p>	7.1
North Kent Railway Line and Thames Medway Canal – between Shorne Marshes and Milton Rifle Range	The canal is overgrown with vegetation and potentially infilled at the eastern end.	 <p>Thames and Medway Canal looking east. Shorne Marshes in background to right</p>	7.2




Site name	Description	Photographs	ID (Fig.11.4)
<p>Milton Rifle Range – adjacent to south of River Thames</p>	<p>The periphery of the rifle range comprises scrub and rough grassland. The central area forms the 'firing range floor', comprising short grass and a series of raised mounds at approximately 100m intervals. The range is orientated east to west, firing towards a brick target butt in the east of the site.</p> <p>A designated watercourse runs approximately east-west along the southern area of the site which is fed by a series of internal drainage ditches.</p> <p>The site is enclosed with a chain link fence with locked access gates in the southwest corner.</p>	 <p>Photo taken from public footpath, looking south east towards the firing range</p>	<p>8.1</p>
<p>Adjacent to east/north east of Milton Rifle Range</p>	<p>Several drainage ditches with sluice gates are present around Milton Rifle Range.</p>	 <p>Surface water channel viewed from public footpath, looking south west</p>	<p>9.1</p>


Site name	Description	Photographs	ID (Fig.11.4)
Adjacent to east/north east of Milton Rifle Range	The drainage ditches appear to discharge into the River Thames via an outfall.	 <p>Surface water outfall into the River Thames viewed from public footpath, looking south</p>	9.2
Adjacent to east/north east of Milton Rifle Range	Large electricity substation adjacent to west of Milton Rifle Range with hardstanding/gravel floor, brick building, pylons and electricity transformers.	 <p>Photo taken from public footpath, looking south west</p>	9.3

Site name	Description	Photographs	ID (Fig.11.4)
<p>Ingrebourne Valley Land raise area and RWE/Tilbury Power Station – adjacent to north of River Thames</p>	<p>Large area of land raising works carried out by Ingrebourne Valley Limited at the site of a former Victorian landfill (Goshems Farm Landfill) with areas of PFA from the nearby power station.</p> <p>The land is currently being further raised as part of a permitted restoration plan with uncompacted tunnelling spoil from ongoing schemes in London.</p> <p>The site surface was noted to comprise disturbed/levelled soil with occasional fragments of rock, glass, metal, plastic, ceramic and brick.</p> <p>At the time of the walkover, certain areas had been raised by between 2 to 4m above the surrounding land.</p> <p>Information from Ingrebourne Valley Ltd reveals historical encounters with hand grenades during vegetation clearance at the site and the presence of sink holes.</p> <p>An occasional organic odour was noted from the land raise area during the site walkover survey.</p>	 <p>Typical surface of land raise area, looking west</p>  <p>Pile of construction waste on land raise area looking west</p>	<p>10.1</p>






Site name	Description	Photographs	ID (Fig.11.4)
<p>Ingrebourne Valley Land raise area and RWE/Tilbury Power Station – adjacent to north of River Thames</p>	<p>The site also comprises a northeast to southwest trending haul road. There is a public footpath that runs parallel to the northern bank of the River Thames. A construction project was being carried out on the northern bank of the Thames (southern side of the land raise area).</p>	 <p>Construction project and haul road viewed from north</p>	<p>10.2</p>
<p>Ingrebourne Valley Land raise area and RWE/Tilbury Power Station – adjacent to north of River Thames</p>	<p>Man-made valley present at the eastern edge of the land raise area which serves as habitat to amphibians and reptiles relocated from various parts of the site. It was estimated to be up to 40m wide at the time of the walkover survey.</p>	 <p>Man-made valley at eastern edge of land raise area, looking north</p>	<p>10.3</p>
<p>Ingrebourne Valley Land raise area and RWE/Tilbury Power Station – adjacent to north of River Thames</p>	<p>Area of PFA landfilling from adjacent Tilbury Power Station (disused). The northerly area was capped and vegetated with small hummocks/mounds. The southerly area was landscaped with small hummocks to provide reptile habitats</p>	 <p>Landscaped reptile habitat on PFA landfill, looking south west</p>	<p>10.4</p>

Site name	Description	Photographs	ID (Fig.11.4)
<p>Ingrebourne Valley Land raise area and RWE/Tilbury Power Station – adjacent to north of River Thames</p>	<p>Area of PFA landfill to the north of the power station which had been mined for construction materials.</p>	 <p>Area of PFA mining/land stripping looking north east</p>	<p>10.5</p>
<p>Ingrebourne Valley Land raise area and RWE/Tilbury Power Station – adjacent to north of River Thames</p>	<p>Waterlogged area of landfill which had been used for PFA aggregate storage.</p>	 <p>Waterlogged former PFA storage area looking north</p>	<p>10.6</p>
<p>Ingrebourne Valley Land raise area and RWE/Tilbury Power Station – adjacent to north of River Thames</p>	<p>Surface drainage ditches noted between land raise area and RWE site. The water appeared to be stagnant and discoloured.</p>	 <p>Surface water channel looking north</p>	<p>10.7</p>



Site name	Description	Photographs	ID (Fig.11.4)
Ingrebourne Valley Land raise area and RWE/Tilbury Power Station – adjacent to north of River Thames	<p>The former Tilbury Power Station buildings were in the process of being demolished. Large piles of metal, concrete and demolition waste, heavy machinery and demolition compounds were present.</p> <p>Former coal storage area and National Grid substation area adjacent to the north of the power station.</p>	 <p>Partially dismantled Tilbury Power Station, viewed from west looking east</p>	10.8




**Table H.3 North of River Thames**




Site name	Description	Photographs	ID (Fig.10.5)
Cole Farm Land	<p>Cole Farm Land comprises arable farmland and Cole Farm is bisected by the Tilbury Loop Railway Line and Station Road.</p> <p>The farm contains a large reservoir for irrigation purposes, pylons and overhead power lines, mature trees and an electric sub-station.</p> <p>Information obtained from the farmer during the walkover indicates the presence of a network of shallow land drains.</p>	 <p>Cole Farm Land, looking south west</p>	11.1

Site name	Description	Photographs	ID (Fig.10.5)
Cole Farm Land	Railway line which bisects Cole Farm Land.	 <p>Railway line bisecting Cole Farm Land, looking north east</p>	11.2
Cole Farm Land	A stockpile of soil was noted on Cole Farm Land at the side of the rail tracks, along with railway sleepers, wooden pallets and rubber matting.	 <p>Stockpile of soil on Cole Farm Land, looking south east</p>	11.3
Cole Farm Land	There is a pond on Cole Farm Land which, according to anecdotal evidence, is groundwater fed.	No photo available	11.4




Site name	Description	Photographs	ID (Fig.10.5)
Cole Farm Land	There is a small active sand and gravel extraction quarry to the north of Muckingford Road on Cole Farm Land.	 <p>Sand and gravel extraction quarry</p>	11.5
Cole Farm Land	On the north-western edge of the quarry there is a derelict house, shipping container, 1,400 litre fuel tank and drums of engine oil unbanded and on bare ground. There was a skip containing plastic waste and scattered metal waste.	 <p>1,400 litre fuel tank viewed from east</p>  <p>Fuel drums and waste skip viewed from east</p>	11.6



Site name	Description	Photographs	ID (Fig.10.5)
<p>Low Street former Landfill (and EMR scrapyard)</p>	<p>The site comprises a bare levelled plot of land with perimeter of earth bunds. The site is currently used for temporary lorry storage and turnaround area, and skip storage for the adjacent scrapyard.</p> <p>It was stated that the site was originally a brick works which was infilled to form the level ground surface now present. EA records (see Appendix 11.1) state that the landfill was infilled with non-hazardous industrial and commercial waste.</p>	 <p>Skip storage on site, viewed from west</p>	<p>12.1</p>
<p>Low Street former Landfill (and EMR scrapyard)</p>	<p>Several large soil/rock mounds (containing, metal, ceramic, concrete, plastic and brick) were present which were stated to be used for the earth bund, as well as a large area where burning appeared to have taken place.</p>	 <p>Soil/rock mound, viewed from north</p>	<p>12.2</p>


Site name	Description	Photographs	ID (Fig.10.5)
Low Street former Landfill (and EMR scrapyard)	2 boreholes on site in brick housing which, according to anecdotal evidence, was used to supply water to the Tilbury Power Station. It was stated that there are below-ground water pipes and electrical cables beneath the site.	 <p>Brick housing for borehole on-site, viewed from north</p>	12.3
Low Street former Landfill (and EMR scrapyard)	Small brick building on the north-western edge of the site which appeared to be a substation for the adjacent railway or a pumping station.	 <p>Brick building on-site viewed from north east</p>	12.4
Low Street former Landfill (and EMR scrapyard)	The EMR scrapyard is adjacent to the east of Low Street Landfill. The scrapyard currently processes and recycles scrap metal from local activities such as the dismantling of Tilbury Power Station.	 <p>EMR Scrapyard viewed from the north west (Low Street Landfill). Access onto the EMR Scrapyard not available.</p>	12.5




Site name	Description	Photographs	ID (Fig.10.5)
Low Street former Landfill (and EMR scrapyards)	Fly tipping noted on Low Street Lane including tyres, plastic, furniture, electrical goods.	 <p>Fly tipping on Low Street Lane, viewed from north</p>	13.1
Orsett Golf Club on eastern side of Brentwood Road	Landscaped golf course which slopes down towards the south east. According to anecdotal evidence, the golf course has been present since the 1800s and was landscaped using natural materials.	 <p>Golf course viewed from north west</p>	14.1
Orsett Golf Club on eastern side of Brentwood Road	Adjacent to the north of the golf course there is a disused quarry (sand and gravel) which is now densely vegetated.	 <p>Disused and overgrown former quarry, viewed from east</p>	14.2



Site name	Description	Photographs	ID (Fig.10.5)
<p>Danasand Quarry – between Brentwood Road and A13</p>	<p>Active sand and gravel extraction quarry which is also used for stockpiling, processing and recycling of aggregates, soils, concrete, rock, ceramics and asphalt. The site could potentially receive and process soils or Made Ground from construction or demolition sites.</p>	 <p>Materials processing carried out at Danasand Quarry</p>  <p>Stockpiles of used concrete and metal awaiting processing</p>	<p>15.1</p>
<p>Baker Street – former garage</p>	<p>No evidence of former garage identified. Area is now occupied by a housing estate</p>	 <p>Baker Street housing estate, viewed from former landfill site to the south east</p>	<p>16.1</p>

Site name	Description	Photographs	ID (Fig.10.5)
Ockendon Landfill (operated by Veolia)	Active and historic landfill site. The active landfill mainly receives waste from domestic waste transfer stations. According to anecdotal evidence the site was mothballed for approximately five years and reopened in 2016.	 <p>Active landfill area, viewed from south</p>	17.1
Ockendon Landfill (operated by Veolia)	The historic landfill has been restored/capped and has leachate and gas monitoring systems.	 <p>Historic landfill area with gas/leachate monitoring systems</p>	17.2
Ockendon Landfill (operated by Veolia)	There is a pond (assumed to be man-made) onsite which is being drained by Veolia.	No photo available	17.3

Site name	Description	Photographs	ID (Fig.10.5)
Agricultural Farmland – between Ockendon Road and B186	Agricultural fields bisected by railway line. Overhead power cables present.		18.1
Agricultural Farmland – between Ockendon Road and B186	Evidence of fly tipped wood, metal and furniture in fields on eastern side of Pike Lane.	 <p>Fly tipped wood, metal and furniture in field on agricultural land, viewed from west</p>	18.2
Agricultural Farmland – between Ockendon Road and B186	Fishing lake adjacent to agricultural land which is assumed to be artificial. Water appeared to be stagnant. Evidence of fly tipped car tyres noted around the lake.	 <p>Fishing lake viewed from north</p>	18.3

Site name	Description	Photographs	ID (Fig.10.5)
Agricultural Farmland – between Ockendon Road and B186	Railway which bisects farmland	 <p>Railway viewed from railway bridge from the south</p>	18.4
Agricultural Farmland – between Ockendon Road and B186	Potential asbestos roof on farm buildings at farm shop.	 <p>Farm shop, viewed from west</p>	18.5
Light industrial activities around the B187 road	Industrial estate off B187 road includes a range of light industrial and commercial businesses including garage doors, software and media, wholesale garage supplies, MOT centre.		19.1

Site name	Description	Photographs	ID (Fig.10.5)
Light industrial activities around the B187 road	Scrap metal works off B187 road.	 <p>Entrance to scrap metal works, viewed from public road to north</p>	19.2

# Appendices

## Chapter 12.

### Materials

## CHAPTER 12: MATERIALS

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# Appendix I

## I.1 Active landfill and waste transfer and treatment facilities

Table I.1 Active landfill and waste transfer and treatment facilities

LIC_BR	LIC_OTHD	LIC_WM	LIC_LT	LIC_YE	Site_ADD_UIDL	Site_ADD_B	Site_ADD_HOUSE	Site_ADD_TRT	Site_ADD_S	Site_ADD_AR	Site_ADD_T	Site_ADD_CNTY	Site_ADD_PC	LIC_NAME	LIC_TRADE	LIC_SITE	NGR	Easting	Northin	STAT_ESC	LIC_TONS	LIC_EPR
WHI069	EAWML10075	10075	A09	A09	Unit 7 Larkfield Mill		Bellingham Way	Aylesford	Burnt Mills		Kent	ME20 7PS	SRCL Ltd		Larkfield Waste Facility	TQ71135923	571130	159230	Modified	7300	EA/EPR/FP39 30XX/V002	
COH002		71323	A09	A09			Archers Field	Basildon			Essex	SS13 1DH	Cohart Asbestos Disposal Ltd		Cohart Asbestos Disposal Ltd	TQ73659052	573650	190520	Transferred	24999	EA/EPR/DB32 07KK/T001	
GJB001	71310	71310	A09	A09	Fairview		Magpie Lane	Brentwood			Essex	CM13 3DT	G J Bowmer (Waste Disposal) Ltd		G J Bowmer	TQ5998090370	559980	190370	Issued	75000	EA/EPR/SP32 94NT/A001	
UNI002	P/10/70	19504	A09	A09	Unit 6		Comp Road	Sevenoaks	Borough Green		Kent	TN15 8QX	United Services Corporation Limited	Health Support Services	Orchard Place Farm Business Park	TQ6410056800	564100	156800	Issued	400	EA/EPR/DP35 98HS/A001	
SAF001	P/10/53	19496	A09	A09			Lake Road	Aylesford, Maidstone	Quarry Wood Ind Estate		Kent	ME20 7TQ	Safety Kleen UK Ltd		Safetykleen UK	TQ7230057500	572300	157500	Modified	5500	EA/EPR/RP32 98HV/V005	
CLE107		104671	A09	A09			Mills Road	Aylesford	Quarry Wood Ind Est		Kent	ME20 7NA	Cleansing Services Group Ltd		CSG Aylesford Treatment Plant	TQ7208657369	572086	157369	Modified	24999	EA/EPR/UP30 33UX/V007	
AHE001	161/89	70280	A09	A09		10	Heron's Court	Basildon	Cranes Farm Road		Essex	SS14 3DF	P F Ahern (London) Ltd		Ahern Basildon	TQ7291390538	572913	190538	Modified	45000	EA/EPR/SP30 99NE/V006	
SAF001	375/97	71083	A09	A09			Christy Way	Basildon	Laindon		Essex	SS15 6TR	Safety Kleen UK Ltd		Safetykleen Uk	TQ6647489333	566474	189333	Modified	25000	EA/EPR/ZP34 98NM/V006	
ASP017	71184	71184	A09	A09			Runwood Road	Canvey Island	Charfleets Ind Est		Essex	SS8 0PL	Aspect Contracts Ltd		Asbestos Collection Services	TQ7743783211	577437	183211	Transferred	25000	EA/EPR/EP37 94ED/T001	
HYD029	P/03/33	19396	A09	A09			Kingsnorth Industrial Estate	Rochester	Kingsnorth, Hoo		Kent	ME3 9ND	Slicker Recycling Limited		Kingsnorth Oil Treatment Plant	TQ8080073500	580800	173500	Modified	26000	EA/EPR/CB39 07CZ/V003	
NAT001	P/01/50	19613	A09	A09			Littlebrook Manor Way	Dartford			Kent	DA1 5PS	National Grid Company Plc	National Grid	Littlebrook Oil Management Unit	TQ5630075800	556300	175800	To PPC	74999	EA/EPR/XP35 94HN/V002	
DRU006	DL565	80152	A09	A09			Charles Street	London	Silvertown			E16 2BY	Drum Distribution Services UK Ltd		Drum Distribution Services UK Ltd	TQ4142380280	541423	180280	Transferred	4999	EA/EPR/HP32 90VJ/T001	
MCS006		403040	A09	A09			Chatham Docks	Chatham			Kent	ME4 4SW	Mobile Compactor Services Limited		Mobile Compactor Services Limited	TQ7757170067	577571	170067	Issued	3100	EA/EPR/DB38 02KH/A001	
MSK001		80525	A09	A09			River Road	Barking			Essex	IG11 0DY	Multi Services Kent Limited		Docklands Wharf Transfer Station	TQ4589081744	545890	181744	Modified	414700	EA/EPR/KP37 97NW/V003	
POL066		401775	A09	A09			Springhead Road	Northfleet			Kent	DA11 8HH	Polihim - SS UK Limited		Unit D2 Springhead Enterprise Park	TQ6211373244	562113	173244	Issued	2400	EA/EPR/CB30 05LP/A001	
KEL286		101242	A09	A09			Bradfield Road	London	Silvertown			E16 2AX	Keltbray AWS Limited		Mohawk Wharf Recycling Facility	TQ4039179796	540391	179796	To PPC	25000	EA/EPR/FP30 92LH/V003	

LIC_BR	LIC_NM	LIC_WM	LIC_LT	LIC_YPE	Site_ADD_UIDL	Site_ADD_B	Site_ADD_HOUSE	Site_ADD_TRT	Site_ADD_S	Site_ADD_AR	Site_ADD_T	Site_ADD_D	Site_ADD_CNTY	Site_ADD_PC	LIC_NAME	LIC_TRADE	LIC_SITE	NGR	Easting	Northin	STAT_ESC	LIC_TONS	LIC_EPR
ALB067		402204		A09	Oakwood Yard			Watling Street	Bean	Dartford		Kent		DA2 8AH	Albus Environmental Limited		Oakwood Yard Hazardous Waste Transfer Station	TQ5898772894	558987	172894	Modified	78350	EAEPR/CB36 06SY/V002
SXE001		402142		A09	Unit 2			Courtauld Road		Basildon		Essex		SS13 1ND	Peliss Limited		Peliss Limited	TQ747907	574700	190700	Issued	12	EAEPR/CB35 09UL/A001
TLM002		402809		A09	Hovefields Court			Hovefields Avenue		Basildon		Essex		SS13 1EB	TLM Management Limited		Hovefields Avenue	TQ7458490899	574584	190899	Modified	74999	EAEPR/DB34 09XU/V002
UKP003		101366		A09	Eitham Grid Substation			Rochester Way Relief Road		London				SE9 2RE	U K Power Networks (Holdings) Ltd		Eitham Grid Substation	TQ4446275485	544462	175485	Modified	3650	EAEPR/PP36 90VN/V002
PNH002		83511		A09	Greenwich Transfer Station			Horn Link Way	Greenwich	London				SE10 0RT	Peter Norris (Haulage) Ltd		Greenwich Transfer Station	TQ40287879	540280	178790	Modified	311000	EAEPR/DB33 07CS/V002
MCG001		80745		A09			62	River Road		Barking		Essex		IG11 0DS	McGrath Bros. (Waste Control) Limited		McGrath Brothers (62 R)	TQ4569781901	545697	181901	Transferred	3000	EAEPR/FB33 06HG/T001
BYW004		80744		A09	Unit J Prologis Park			Twelvetrees Crescent	Bow	London				E3 3JG	Bywaters (Leyton) Ltd		Bywaters Recycling And Recovery Centre	TQ3841682253	538416	182253	Modified	650000	EAEPR/SP30 93EA/V004
EDW004		80765		A11	The Recycling Centre			Gallions Close	Off Thames Road	Barking		Essex		IG11 0JD	Edwards Waste Paper Ltd		Edwards Recycling - Barking	TQ4640082747	546400	182747	Modified	74999	EAEPR/LP36 93EQ/V002
GAB001		80780		A11	Unit 2 Thames Wharf			Dock Road	Silvertown	London				E16 4AF	G & B Compressor Hire Ltd		G & B Compressor Hire, Dock Road	TQ3969980580	539699	180580	Issued	57200	EAEPR/MP37 93ES/A001
RIC002		70312		A11	Land/ premises at			Romainville Way, Kings Road	Charfleets Ind Est	Canvey Island		Essex		SS8 0RB	B W Rice Plant & Skip Hire Ltd		B W Rice Skip Hire Ltd	TQ7706683104	577066	183104	Issued	25000	EAEPR/MP39 99NL/A001
FRA001		70311		A11	Unit 1			Rawreth Industrial Estate	Rawreth Lane	Rayleigh		Essex		SS6 9RL	Franklin Hire Ltd		Franklin Hire	TQ7960092401	579600	192401	Issued	25000	EAEPR/MP30 99NT/A001
BEN001		71298		A11	Unit 16			Brunel Road	Manor Trading Estate	Thundersley		Essex		SS7 4PS	Benfleet Scrap Co Ltd		Benfleet Scrap Transfer Stn	TQ7790089160	577900	189160	Issued	4999	EAEPR/BP31 94NN/A001
SSE006		80572		A11	New Free Trade Wharf		40	River Road		Barking		Essex		IG11 0DW	Suez Recycling & Recovery South East Ltd		Barking Transfer Station	TQ4549982289	545499	182289	Modified	182500	EAEPR/AB35 07MZ/V003
STO001		70416		A11	Unit 8, Nevendon Ind Estate			Harvey Road	Burnt Mills	Basildon		Essex		SS13 1DG	Stone Alan M		Leigh Skips Transfer Station	TQ7373190304	573731	190304	Issued	25000	EAEPR/CP33 99NU/A001
ADL001		80669		A11	24 Salamons Way			Ferry Lane South		Rainham		Essex		RM13 9UL	Adler & Allan Ltd		Ferry Lane South Waste Transfer Facility	TQ5118681416	551186	181416	Modified	4100	EAEPR/BP39 34MQ/V002
KIL003		80625		A11	Land At			York Road		Rainham		Essex		RM13 7SS	Kilbridge Construction Services Ltd		Kilbridge Construction Services Ltd	TQ5097284239	550972	184239	Modified	100310	EAEPR/VP36 97NS/V003
RWW005		80583		A11				Chequers Lane		Dagenham		Essex		RM9 6QJ	R White Waste Management Ltd		Chequers Lane	TQ4882582106	548825	182106	Transferred	288570	EAEPR/KB35 32AM/T002
MCD003		71367		A11	The Yard			Wrexham Road		Basildon		Essex		SS15 6PX	Mc Dermott Charlie		Mackers Metals	TQ6767788376	567677	188376	Modified	1200	EAEPR/MP32 95VZ/V003
BEN003		70343		A11			27	Vikings Way		Canvey Island		Essex		SS8 0PB	Canvey Skip Hire & Recycling Ltd		Canvey Skip Hire	TQ7762783303	577627	183303	Transferred	5000	EAEPR/XP36 99NK/T001

LIC_BR	LIC_OTHID	LIC_WM	LIC_LT	LIC_YE	Site_ADD_UIDL	Site_ADD_B	Site_ADD_HOUSE	Site_ADD_TRT	Site_ADD_S	Site_ADD_EA	Site_ADD_AR	Site_ADD_T	Site_ADD_D	Site_ADD_CNTY	Site_ADD_PCODE	LIC_NAME	LIC_TRADE	LIC_SITE	NGR	Easting	Northin	STAT_ESC	LIC_TONS	LIC_EPR
PGR001	331/96	70396	A11	A11	Land/ premises at			Archers Field	Burnt Mills Ind Est	Basilton	Essex	SS13 1DH	PGR Waste Management Ltd		Veolia Mir	TQ7365590401	573655	190401	Modified	75000	EAVEPR/HP32 99NK/V002			
HAV004		80682	A11	A11	Rainham Quarry			Launders Lane		Rainham	Essex	RM13 9GF	Haivering Aggregates Limited		Rainham Quarry	TQ5503782777	555037	182777	Modified	70000	EAVEPR/YP39 97NF/V002			
CLE011		83498	A11	A11	Greenwich IWMF			Nathan Way	Plumstead Marsh	Thamesmea d	London	SE28 0AF	Veolia E S Cleanaway (UK) Ltd		Greenwich Integrated Waste Management Facility	TQ4629279627	546292	179627	Modified	411000	EAVEPR/DP33 90EL/V004			
KEL100		100300	A11	A11	Land/ Premises At			Laverstoke Road	20/20 Business Park	Maidstone	Kent	ME16 0LE	Kent Enviropower Ltd		Allington Incinerator Transfer Station	TQ7396057855	573960	157855	Issued	74999	EAVEPR/UP37 98ED/A001			
TDB001		71438	A11	A11	Temple Wood Estate			Stock Road		Chelmsford	Essex	CM2 8LP	T D Buttlig & P J Cars & Plant Ltd		S B Skip Hire	TL7059600722	570596	200722	Issued	4999	EAVEPR/CP37 94NL/A001			
ESS017		71464	A11	A11		12		Parsons Road		Benfleet	Essex	SS7 4PY	Essex County Skips Ltd			TQ77748946	577740	189460	Transferred	4999	EAVEPR/AP33 95LW/T001			
ROB002		71481	A11	A11				Harvey Road	Burnt Mills Ind Estate	Basilton	Essex	SS13 1DG	Robert Michael Walker & Victoria Kathleen Walker	Bob's Skips	Bob's Skips	TQ7374090363	573740	190363	Issued	25000	EAVEPR/EP37 94NL/A001			
KIL001	71275	71275	A11	A11	Botany Quarry			Botany Way	Beacon Hill Ind Estate	Purfleet	Essex	RM16 0AA	Waste Management Ltd	Botany Quarry, Purfleet		TQ5580078400	555800	178400	Issued	75000	EAVEPR/PP34 94NH/A001			
BRE014		80781	A11	A11	Thames Wharf			Dock Road	Silvertown	London		E16 1AF	Brewsters Waste Management Ltd	Brewsters, Dock Road		TQ3973580531	539735	180531	Issued	275000	EAVEPR/UP33 93ES/A001			
SIM138	71426	71426	A11	A11	Burrows Farm			Brentwood Road		Bulphan	Essex	RM14 3TL	Sims Environmental & Recycling Services Ltd	Burrows Farm Transfer Station		TQ6455185110	564551	185110	Modified	24999	EAVEPR/AB36 00TK/V002			
GAR002		71311	A11	A11	Archers Fields			Burnt Mills Industrial Estate		Basilton	Essex	SS13 1DH	G B N Services Limited	Archers Fields		TQ7358090248	573580	190248	Modified	162250	EAVEPR/SP36 94NW/V006			
BIF001	DL303	80109	A11	A11	Maybell Farm			Ripple Road		Barking	Essex	IG11 0TT	Biffa Waste Services Ltd	Barking Waste Transfer And Recycling Facility		TQ4749983446	547499	183446	Modified	218500	EAVEPR/JP38 96NV/V003			
OLY001	DL601	80099	A11	A11	Compound D Denver Site			Albright Estate	Ferry Lane	Rainham	Essex	RM13 9BU	First London Environmental Ltd	Ferry Lane		TQ5186981766	551869	181766	Transferred	31470	EAVEPR/BP35 93MR/T001			
GRO002	DL594	80088	A11	A11	(land between)			Salamons Way		Rainham	Essex	RM13 9JL	Craven Peter	Grove Road Tyres		TQ5127781435	551277	181435	Issued	2610	EAVEPR/DP32 96NJ/A001			
PFA001	392/98	71114	A11	A11	Land/ Premises At			Oliver Close	Riverside Estate	West Thurrock	Essex	RM20 3EE	P F Ahern (London) Ltd	Recycling And Transfer Station		TQ5763777043	557637	177043	Modified	75000	EAVEPR/VP39 98NH/V006			
SHA003	DL434	80086	A11	A11	Unit 6g			Albright Industrial Estate	Ferry Lane	Rainham	Essex	RM13 9BU	Sharp Skips Ltd	Sharp Skips, Ferry Lane, Rainham		TQ5177481887	551774	181887	Issued	7320	EAVEPR/DP38 96NH/A001			
BAS001	368/97	71143	A11	A11	Barleylands Depot			Barleylands Road		Billericay	Essex	CM11 2UF	Basidon District Council	Barleylands Depot		TQ6925491650	569254	191650	Modified	39999	EAVEPR/AP34 98NL/V007			
VEO010		100154	A11	A11	Rainham Landfill			Coldharbour Lane		Rainham	Essex	RM13 9BJ	Veolia E S Cleanaway (UK) Ltd	Rainham Jetty Transfer Station		TQ5170379019	551703	179019	Issued	234000	EAVEPR/RP30 95EY/A001			

LIC_BR	LIC_OTHID	LIC_WM	LIC_LT	LIC_YE	Site_ADD_UID	Site_ADD_B	Site_ADD_HOUSE	Site_ADD_TRT	Site_ADD_S	Site_ADD_AR	Site_ADD_T	Site_ADD_D	Site_ADD_CNTY	Site_ADD_PC	LIC_NAME	LIC_TRADE	LIC_SITE	NGR	Eastings	Northin	STAT_ESC	LIC_TONS	LIC_EPR
RED001	DL126	80095		A11	Ley Street Depot	Ley Street						Essex	IG2 7QZ	Redbridge London Borough Council		LB Redbridge, Ley Street Depot	TQ4438587740	544385	187740	Modified	4999	EAEPR/YP35 96NB/V003	
ELW005	DL235	80122		A11	Jenkins Lane Waste Management Facility	Jenkins Lane						Essex	IG11 0AD	ELWA Ltd		Elwa, Jenkins Lane Transfer Station	TQ4416882626	544168	182626	Modified	3363110	EAEPR/QP32 96NF/V004	
CLE110		100076		A11		River Road	80					Essex	IG11 0DS	Clearun Recycling Limited		80 River Road	TQ4625181579	546251	181579	Transferred	24999	EAEPR/CB39 01FM/T001	
PAS001	330/96	80418		A11	Unit 17-18	Juliet Way						Essex	RM15 4YD	Passy Tony	Modern Skips	Modern Skips, Purfleet	TQ5470279829	554702	179829	Issued	5000	EAEPR/PP33 97NN/A001	
ALB001	DL434	80378		A11	Albright Industrial Estate	Ferry Lane						Essex	RM13 9BU	Albright Transfer Station Limited		Albright Transfer Station	TQ5169681908	551696	181908	Modified	74999	EAEPR/YP38 91NY/V008	
HEA002	209/92	80429		A11	Hallsford Bridge Ind.est	Stondon Road						Essex	CM5 9RB	Heatherland Ltd	Lunnon Plant & Waste Services	Heatherland Ltd, Stondon Massey	TL5624301888	556243	201888	Modified	75000	EAEPR/BP33 97NP/V002	
MCG007		80535		A11		River Road						Essex	IG11 0DW	Mc Grath Brothers (Waste Control) Ltd		Mc Grath Bros (Waste Control)	TQ4558482008	545584	182008	Modified	480000	EAEPR/TP36 97NP/V005	
BRO003	230/92	80473		A11	Rosedene							Essex	CM5 0ES	Brown David Romanus		Rosedene, Magdalen Laver	TL5074207403	550742	207403	Issued	4999	EAEPR/MP31 97NG/A001	
TJC003	71152	71152		A11	Unit 13 Rawreth Ind Estate	Rawreth Lane						Essex	SS6 9RL	T J Cottis Transport Limited		T J Cottis Transport	TQ7961792171	579617	192171	Modified	25000	EAEPR/JB30 33AR/V002	
ASH003	71265	71265		A11	Unit 3 Templewood	Stock Road						Essex	CM2 8LA	Ash Plant Hire Limited		Ash Plant Hire	TL7062600605	570626	200605	Modified	70000	EAEPR/QP36 98NQ/V004	
IOD001		80515		A11		Stephenson Street	32					Essex	E16 4SA	IOD Skip Hire Ltd		IOD Skip Hire Ltd	TQ3913281838	539132	181838	Modified	350000	EAEPR/KP35 97NZ/V006	
GBN001		100109		A11	Threshers	Hastingwood Road						Essex	CM17 9JT	GBN Services Limited		GBN Services Limited	TL4868707621	548687	207621	Issued	74999	EAEPR/VP38 95EW/A001	
ELW001	DL256	80105		A11	Frizlands Depot	Rainham Road North						Essex	RM10 7HX	ELWA Ltd		Frizlands Lane Reuse & Recycling Centre	TQ4963186540	549631	186540	Modified	80000	EAEPR/BP35 93SB/S004	
WAL001	71138	71138		A11		Brunel Road						Essex	SS7 4PS	Wallace Brian	A A Quick Skips	A A Quickskips	TQ7756889193	577756	189193	Transferred	25000	EAEPR/AP33 98NB/T001	
PET001	P/16/03	19570		A11	Land/Premises At	Station Approach						Kent	BR5 2NB	Peter Norris (Haulage) Ltd		British Rail Goods Yard, Norris Haulage Unit Q	TQ4672068330	546720	168330	Issued	74999	EAEPR/SP30 94HQ/A001	
TJS012		10337		A11	Newington Industrial Estate	London Rd						Kent	ME9 7NU	T J Skips Limited		Newington Industrial Estate	TQ8484664867	584846	164867	Transferred	1000	EAEPR/DB36 00XE/T001	
BSP001	EAWML10081	10081		A11	Knockholt Station Goods Yard	Sevenoaks Road						Kent	TN14 7HR	B S P (Knockholt) Ltd		Knockholt Station Goods Yard	TQ4834562920	548345	162920	Modified	24999	EAEPR/ZP33 95HN/V002	
AGG006	EAWML10080	10080		A11	Land At Isle Of Grain Sidings							Kent	ME3 0AG	Aggregate Industries UK Ltd	Bardon Aggregates	Isle Of Grain Stone Terminal	TQ87367441	587360	174410	Modified	160110	EAEPR/CP37 95HQ/V002	
KSC002	EAWML10071	10071		A11	Unit 1	Templemars h Estate						Kent	ME2 2BA	Kent Soils And Composites Limited		Kent Soils And Composites Limited	TQ73056810	573050	168100	Modified	74999	EAEPR/CP38 95HB/V007	
COU071	EAWML10066	10066		A11	Plot 2b Templemars h Estate	Knights Road						Kent	ME2 2BA	Countrystyle Recycling Ltd		Countrystyle Recycling Ltd	TQ73246811	573240	168110	Modified	146250	EAEPR/CP30 95HT/V006	
PET003	EAWML10014	10014		A11	Station Approach	St Mary Cray						Kent	BR5 2NB	Peter Norris (Haulage) Ltd		Peter Norris (Haulage) Ltd	TQ4672068330	546720	168330	Modified	71000	EAEPR/KP36 95HU/V002	



LIC_BR	LIC_OTHID	LIC_WM	LIC_LT	LIC_YE	Site_ADD_UID	Site_ADD_B	Site_ADD_HOUSE	Site_ADD_TRT	Site_ADD_S	Site_ADD_AR	Site_ADD_T	Site_ADD_D_CNTY	Site_ADD_PCODE	LIC_NAME	LIC_TRADE	LIC_SITE	NGR	Easting	Northin	STAT_ESC	LIC_TONS	LIC_EPR
REC005		401583	A11		Penhall Road			Penhall Road	Charlton	London			SE7 8RX	Recycled Material Supplies Limited		Penhall Road Recycling Centre	TQ4158978842	541589	178842	Transferred	24999	EAEPR/FB38 01XQ/T001
STU041		402099	A11		Dockside North Of Sheds 32 And 33			Northwick Road	Port Tilbury	Tilbury		Essex	RM18 7NS	Suez Recycling And Recovery Uk Ltd		Tilbury Dock Alternative Fuel Storage Facility	TQ6331075258	563310	175258	Issued	800000	EAEPR/CB35 03MG/A001
HEY007		104802	A11		5 - 11 Northwick Camp			Northwick Road		Canvey Island		Essex	SS8 0PU	James Heys And Sons Limited		James Heys And Sons Ltd	TQ7595884014	575958	184014	Issued	9999	EAEPR/LB37 35RK/A001
MAI020		101419	A11		Bircholt Road			Bircholt Road	Park Wood	Maidstone		Kent	ME15 9XY	Maidstone Borough Council		Maidstone Borough Council Depot	TQ7912751767	579127	151767	Modified	4999	EAEPR/FP39 91ER/V002
SIT806		402083	A11		Port Of Tilbury			Port Of Tilbury		Tilbury		Essex	RM18 7NS	Suez Recycling And Recovery Uk Ltd		Tilbury Dock Alternative Fuel Storage Facility	TQ6331075258	563310	175258	Issued	179999	EAEPR/ZP34 34EU/V002
RSS002		103146	A11		Queens Farm Road			Queens Farm Road	Shorne	Gravesend		Kent	DA12 3HU	R S Skips Limited		Unit 4, Apex Business Park	TQ695735	569500	173500	Issued	55000	EAEPR/AB39 39AV/A001
EXC011		101529	A11		80 River Road			River Road		Barking		Essex	IG11 0DS	Excel Skip Hire Ltd		Excel Skip Hire	TQ4625681609	546256	181609	Transferred	12500	EAEPR/GP35 90VL/T001
LMA003		103889	A11		Aylesford Recycling Facility			New Hythe Lane	Medway City Estate	Aylesford		Kent	ME20 7PA	London Mining Associates Limited		Aylesford Recycling Facility	TQ7147559586	571475	159586	Modified	210000	EAEPR/DB31 04KP/V003
VEO036		100552	A11		Whitewall Road			Medway City Estate	Medway Ind Park	Rochester		Kent	ME2 4DZ	Veolia E S (UK) Ltd		Medway MRF & WTS	TQ747695	574700	169500	Issued	249999	EAEPR/BP33 96LD/A001
GRE395		103659	A11		C/o Michelin Tyre Plc			Southfields Industrial Estate	Laindon	Basildon		Essex	SS15 6TX	Great Bear Distribution Ltd		Great Bear Distribution Ltd	TQ6638089120	566380	189120	Issued	20000	EAEPR/DB37 33AL/A001
JBW001		100421	A11		Oak Tree Farm			London Road	Polhill	Halstead		Kent	TN14 7AB	BSP (Knockholt) Limited		Oak Tree Farm	TQ5010560811	550105	160811	Transferred	74999.999	EAEPR/FB32 06XY/T001
WOR052		402509	A11		Creek Road			Creek Road		Barking		Essex	IG11 OJH	Workrate Limited		Creek Road Waste Management Facility	TQ4566682642	545666	182642	Issued	64999	EAEPR/DB31 00CK/A001
TER003	DL463	80110	A14		Unit 5 Eastbury Road			London Industrial Park	Beckton	London		Kent	E6 6LP	Terrafirma Pipeline Ltd		Terrafirma Beckton	TQ4334981977	543349	181977	Transferred	20240	EAEPR/JP34 96NK/T002
KEE001	180/90	80431	A14		9 Hallsford Bridge Ind Estate			Stondon Road	Stondon Massey	Ongar		Essex	CM5 9RB	Philip W Keen Ltd		Stondon Massey	TL5618001846	556180	201846	Modified	24999	EAEPR/BP39 97NC/V005
AWI001	P/01/38	19381	A14		Little Queen Street			Little Queen Street		Dartford		Kent	DA1 1TJ	A Winchester & Sons		Winchester Wts	TQ5470074000	554700	174000	Issued	75000	EAEPR/KP31 98HB/A001
DAG003		401033	A15		Dagenham Dock Aggregate Recycling Facility			Land On Breach Lane	Dagenham	London			RM9 6QD	Hanson Quarry Products Europe Ltd		Dagenham Dock Aggregate Recycling Facility	TQ4923182155	549231	182155	Issued	249999	EAEPR/BB30 05TG/A001
VIR040	EAWML10023	10023	A15		Royal Eagle Close			Royal Eagle Close	Medway City Estate	Rochester		Kent	ME2 4NF	Viridor Waste Kent Limited		Pelican Reach (Plot L)	TQ7541069210	575410	169210	Modified	261975	EAEPR/TP34 95HH/V007
VWM504		102678	A15		Bliton Road Ind Est			Bliton Road Ind Est		Erith		Kent	DA8 2AN	Viridor Waste Management Ltd		Bliton Road M R F	TQ522277431	552522	177431	Transferred	49500	EAEPR/MB31 38RL/T001
CLE011		80518	A15		Coldharbour Lane			Coldharbour Lane	Off Ferry Lane	Rainham		Essex	RM13 9DA	Veolia E S Cleanaway (UK) Ltd		Cleanaway Limited	TQ5258079109	552580	179109	Issued	505000	EAEPR/KP34 97NF/A001

LIC_BR	LIC_OTHID	LIC_WM	LIC_LTYE	Site_ADD_UIDL	Site_ADD_BHOUSE	Site_ADD_TRT	Site_ADD_S EA	Site_ADD_AR OWN	Site_ADD_T D_CNTY	Site_ADD_PCODE	LIC_NAME	LIC_TRADE	LIC_SITE	NGR	Easting	Northin g	STAT_ESC	LIC_TONS	LIC_EPR
ERI001		403754	A15	Eastern Quarry		Watling Street	Bean	Dartford	Kent	DA2 8AH	Erith Haulage Company Limited		Washmills Recycling Centre	TQ594273006	559427	173006	Issued	74999	EA/EPR/DB30 06CA/A001
URM002		403656	A15	Shed 46		Port Of Tilbury	Tilbury Freeport	Tilbury	Essex	RM19 7EH	URM (UK) Limited		URM (UK) Limited	TQ6375776070	563757	176070	Issued	409999	EA/EPR/EB36 06HC/A001
THO109	xVVML/23506	23506	A15	Hurn M R F		Chapel Lane	Hurn	Christchurch	Dorset	BH23 6NW	Thompson Geoffrey	W & S Recycling	Hurn M R F	TQ77748946	577740	189460	Modified	74999	EA/EPR/BP35 96SG/V003
PZL001		403490	A15		11	Atcost Road	Barking	London		IG11 0EG	Plasterzone Ltd		Plasterzone Ltd	TQ4613781764	546137	181764	Modified	30	EA/EPR/EB34 03XA/V002
BAL144		103206	A15	Port Of Tilbury		Berth 36-38		Tilbury	Essex	RM18 7EH	Ballast Phoenix Ltd		Tilbury I B A Facility	TQ6292475902	562924	175902	To PPC	275000	EA/EPR/BB32 39RD/V003
MUR003		83515	A15	Murphy's Wharf		Lombard Wall	Greenwich	London		SE7 7SH	Day Group Limited		Day Aggregates	TQ4063978938	540639	178938	Modified	649999	EA/EPR/DP34 90EU/V004
BAL146		103320	A15	C/o Veolia Landfill Site		Coldharbour Lane	Off Ferry Lane	Rainham	Essex	RM13 9DA	Ballast Phoenix Ltd		Rainham Iba Facility	TQ5253779313	552537	179313	To PPC	100000	EA/EPR/BB38 38AZ/V006
DUG007		104136	A15	Dugdale Wharf			Crayford Creek	Crayford	Kent	DA1 4QG	Mr George Dugdale, Mr Mark Dugdale And Mr Steven Dugdale	Anchor Bay Commercial Haulage	Anchor Bay Commercial Haulage Waste Treatment Facility	TQ5297375615	552973	175615	Modified	74999	EA/EPR/GB35 34AM/V002
HAN115		104072	A15	Allington Depot		Liphook Way		Maidstone	Kent	ME16 0LQ	Hanson Quarry Products Europe Ltd		Allington Depot	TQ7430057900	574300	157900	Modified	74999	EA/EPR/GB31 33DY/V002
GRO004		83464	A15	Century Wharf		Crayford Creek	Crayford	Dartford	Kent	DA1 4HQ	Viridor Waste Management Ltd		Crayfords Materials Recycling Facility	TQ5282475480	552824	175480	Modified	350000	EA/EPR/WP31 90EA/V003
BJE001		80770	A15	Unit 8 Ravenswood Ind Estate		Shernhall Street	Walthamstow	London		E17 9HQ	B J Electronics (UK) Ltd		B J Electronics, Walthamstow	TQ3804789105	538047	189105	Issued	5000	EA/EPR/MP30 93EC/A001
CLE013		80704	A15	Coldharbour Lane		Off Ferry Lane		Rainham	Essex	RM13 9DA	Veolia E S Cleanaway (UK) Ltd		Rainham M R F	TQ5257679036	552576	179036	Modified	5248	EA/EPR/JP32 97NX/V003
SHE288		401982	A16	Manor Way Materials Recovery Facility		Manor Way		Swanscombe	Kent	DA10 0PP	Sheerness Recycling Limited		Manor Way Materials Recovery Facility	TQ6033375053	560333	175053	Issued	149999	EA/EPR/CB33 05XA/A001
ENT064		104569	A16	Double Day House		St Michaels Close		Aylesford	Kent	ME20 7BU	Enterprise (AOL) Ltd		Aylesford Highways Depot	TQ7420658983	574206	158983	Issued	4999	EA/EPR/KB31 30RT/A001
HSI001		403472	A16	3 And 40-45 Herringham Road		New Charlton		London		SE7 8NJ	H Sivyler (transport) Limited		Charlton Recycling Facility	TQ4140579145	541405	179145	Issued	250000	EA/EPR/EB34 01FD/A001
HAR227		103540	A16	Silvertown Recycling Centre	2	Oriental Road		London		E16 2BZ	Harrow Green Ltd		Harrow Green Recycling Centre	TQ4182180243	541821	180243	Modified	4000	EA/EPR/DB31 37RV/V002
BRO006		71500	A16	Land/ Premises At Long Reach Sewage Treatment Works Waste Import Facility		Watson Close	West Thurrock	Grays	Essex	RM20 3EF	Brocks Haulage Ltd		Brocks Haulage	TQ5822376835	558223	176835	Issued	75000	EA/EPR/WP39 94NL/A001
TWU995		103630	A16			Marsh Street		Dartford	Kent	DA1 5PP	Thames Water Utilities Limited		Long Reach Sewage Treatment Works Waste Import Facility	TQ5530776494	555307	176494	Modified	49.999	EA/EPR/DB35 38RS/V003
MJC027		401965	A16	Ham Hill Quarry			Snodland	Kent		ME6 5LA	Tarmac Trading Limited		Ham Hill Recycling Facility	TQ6932361014	569323	161014	Modified	100000	EA/EPR/CB33 04UZ/V003
AGG110		402281	A16			Jurgens Road	London Road	Purfleet	Essex	RM19 1UA	Aggregate Industries UK Ltd		Aggregate Industries UK Limited	TQ56677720	556670	177200	Issued	249999	EA/EPR/CB37 06HC/A001

LIC_BR	LIC_OTHID	LIC_WM	LIC_LT	LIC_YPE	Site_ADD_UIDL	Site_ADD_B	Site_ADD_HOUSE	Site_ADD_S	Site_ADD_AR	Site_ADD_T	Site_ADD_D_CNTY	Site_ADD_PCODE	LIC_NAME	LIC_TRADE	LIC_SITE	NGR	Easting	Northin	STAT_ESC	LIC_TONS	LIC_EPR
FLO001		71474	A16	A16	Land/ Premises At		Rawreth Industrial Estate	Rawreth	Rayleigh	Essex	Essex	SS6 9RL	Flowline Ltd		Flowline	TQ7965092360	579650	192360	Issued	24999	EA/EPR/EP39 94NT/A001
REC337		402013	A16	A16	Building 3		Ashleigh Commercial Estate	Westmoorland Street	London			SE7 8NQ	Recycled Materials Supplies Ltd		Recycled Materials Supplies	TQ4155479087	541554	179087	Modified	74999	EA/EPR/CB34 00MQ/V002
SHA140		402250	A16	A16	Frog Island Waste Management Facility		Creek Way		Rainham	Essex	Essex	RM13 8EN	Shanks Waste Management Ltd		Frog Island Waste Management Facility	TQ5096781092	550967	181092	Modified	387000	EA/EPR/ZP35 33BS/V007
SHA139		402249	A16	A16	Jenkins Lane Waste Management Facility		Jenkins Lane		Barking	Essex	Essex	IG11 7BG	Shanks Waste Management Ltd		Jenkins Lane Waste Management Facility	TQ44218273	544210	182730	Issued	110000	EA/EPR/WP34 33BY/V004
VEL012		402681	A16	A16	Coldharbour Lane		Coldharbour Lane	Rainham	Essex			RM13 9DA	Veolia ES Landfill Ltd		Rainham Landfill Site	TQ525795	552500	179500	Modified	150000	EA/EPR/EP31 36GK/V006
FES006		403169	A16	A16	Trottscliffe Road		Trottscliffe Road	Addington	Wrotham	Kent	Kent	ME19 5DL	Ferns Surfacing Limited		Wrotham Quarry	TQ6539759393	565397	159393	Modified	74999	EA/EPR/EB30 01GZ/V002
FMC001		103200	A16	A16	Conway House		Rochester Way		Dartford	Kent	Kent	DA1 3QY	F M Conway Ltd		Gully Waste Recycling Facility	TQ51397369	551390	173690	Modified	400000	EA/EPR/BX22 13IV/V004
NEP002		403070	A16	A16	Thunderer Road		Chequers Lane		Dagenham			RM9 6QD	Neptune Contract Services Limited		Thunderer Road	TQ4832982132	548329	182132	Issued	175000	EA/EPR/DB38 06JM/A001
SWA039		403185	A16	A16	Frog Island		Ferry Lane South		Rainham	Essex	Essex	RM13 9YH	S. Walsh & Son Limited		Frog Island	TQ5122580875	551225	180875	Modified	209000	EA/EPR/EB30 04CE/V003
CRL004		403295	A16	A16	Archers Field Close		Archers Field Close	Burnt Mills Ind Est	Basildon	Essex	Essex	SS13 1DN	Clearaway Recycling Limited		Whites Yard Recycled Material Supplies	TQ7336990346	573369	190346	Issued	24999	EA/EPR/EB31 07XD/A001
RMS015		104575	A16	A16	Sunshine Wharf		Bradfield Road		Silvertown	London		E16 2AX	Recycled Material Supplies Ltd		Recycled Material Supplies	TQ4051179913	540511	179913	Modified	230000	EA/EPR/KB31 36AM/V004
ANG000	71267	71267	A16	A16	Unit 10		Brunel Road	Manor Trading Estate	Benfleet	Essex	Essex	SS7 4PS	Anglo Environmental Engineering & Construction Ltd		Unit 10 Manor Trading Estate	TQ7783189158	577831	189158	Transferred	15600	EA/EPR/XP35 91EU/T001
BXX001		402949	A16	A16	Pitsea Hall Lane		Pitsea		Basildon	Essex	Essex	SS16 4UH	Batterfly Limited		Block A, Tuskite Works	TQ7373687222	573736	187222	Issued	384000	EA/EPR/DB37 00TZ/A001
REC342		402833	A16	A16	Perry Road Recycling Facility		Perry Road	Off Chequers Lane	Dagenham	London	London	RM9 6QD	Recycled Material Supplies Limited		Perry Road Recycling Facility	TQ4912581891	549125	181891	Issued	250000	EA/EPR/DB35 02TZ/A001
PJC003	405/98	71117	A16	A16	Templewood Estate		Stock Road	West Hanningfield	Chelmsford	Essex	Essex	CM2 8LP	P J Cars & Plant Ltd		Compounds P & Q	TL7076000720	570760	200720	Issued	75000	EA/EPR/VP34 98NP/S002
RIC001	394/98	71091	A16	A16	Land / Premises At		Romainville Way	Charfleets Ind Est	Canvey Island	Essex	Essex	SS8 0RB	B W Rice & Skip Hire Ltd		B W Rice Treatment	TQ7704583104	577045	183104	Modified	5000	EA/EPR/NP39 98NS/V002
CLE007	373/97	71081	A16	A16	Rainbow Shaw Quarry		Holford Road	Linford	Stanford Le Hope	Essex	Essex	SS17 0PJ	Clearserve Ltd Erith		Rainbow Shaw Treatment	TQ6674880366	566748	180366	Issued	75000	EA/EPR/ZP35 98NX/A001
ERT001		103948	A16	A16	Anchor Bay Wharf		Manor Road		Erith	Kent	Kent	DA8 2AW	Remediation Technologies Limited		Anchor Bay Wharf	TQ5277777820	552777	177820	Issued	74999	EA/EPR/FB34 34RA/A001
VAN002		80620	A16	A16	Hunts Wharf Rainham Generation Plant		Perry Road	Chequers Lane	Dagenham	Essex	Essex	RM8 6QY	Van Dalen U K Ltd		Van Dalen Dagenham	TQ4900081750	549000	181750	To PPC	150000	EA/EPR/VP35 97NP/V003
EDL001		80736	A16	A16	Compound		Coldharbour Lane		Rainham	Essex	Essex	RM13 9BJ	EDL Operations (Rainham) Ltd		Rainham Generation Plant	TQ5246379209	552463	179209	Issued	50000	EA/EPR/BP35 93EF/A001



LIC_BR	LIC_NM	LIC_WM	LIC_LT	LIC_YE	LIC_OTHID	LIC_ADD_B	LIC_ADD_HOUSE	LIC_ADD_S	LIC_ADD_AR	LIC_ADD_T	LIC_ADD_D	LIC_ADD_CNTY	LIC_ADD_PC	LIC_ADD_CODE	LIC_NAME	LIC_TRADE	LIC_SITE	NGR	Easting	Northin	STAT_ESC	LIC_TONS	LIC_EPR
VEO003		80768		A16		Inert Soils Recovery		Coldharbour Lane	Off Ferry Lane	Rainham	Essex		RM13 9DA		Veolia E S Landfill Ltd		Veolia Inert Soils Coldharbour Lane	TQ51918023	551910	180230	Transferred	400000	EA/EPR/FB33 03TZ/T001
DEV001		80696		A16		Marlow		High Road	Thornwood Common	Epping	Essex		CM16 6LU		John Evans, Timothy Evans, Terry Evans	D Evans & Sons	Evans Thornwood	TL4682404903	546824	204903	Issued	74999	EA/EPR/JP39 97ND/A001
BEX001		404062		A16		Manor Farm		Manor Road		Bexley	Kent		DA5 3LX		Bexley Sand And Ballast Company Limited		Bexley Sand And Ballast Limited	TQ5002773654	550027	173654	Issued	27999	EA/EPR/FB32 00MJ/A001
DAV003		80578		A16		The Elms		Woolmonger s Lane		Epping Forest	Essex		CM4 0JX		Davies John	John Davies & Son	John Davies, Woolmongers Lane	TL5804701705	558047	201705	Issued	4999	EA/EPR/CP32 97NQ/A001
GFG002		404147		A16	19			Juliette Way	South Ockendon	Purfleet			RM15 4YD		G F Gordon (Plant Hire) Ltd		Gordon Recycling	TQ5476279779	554762	179779	Issued	74999	EA/EPR/FB33 02XE/A001
SOU002	P/03/47	19401		A16		Whitewall Creek		Upnor Road		Rochester	Kent		ME2 4UZ		Southern Water Services Limited		Whitewall Creek Wtw	TQ7510070100	575100	170100	Issued	15700	EA/EPR/HP34 98HM/A001
STU038		400909		A16	57	Stuart's Topsoil		North Cray Road		Sidcup	Kent		DA14 5EU		Mr Adam Stuart, Mr Billy Stuart, Mr Boris Stuart		Stuart's Topsoil	TQ49117241	549110	172410	Modified	15000	EA/EPR/AB38 09FV/V002
OSS013		401256		A16				Cody Road Business Centre	South Crescent	Canning Town	London		E16 4SR		Orion Support Services Limited		Orion Support Services	TQ3888582209	538885	182209	Modified	149999	EA/EPR/BB34 00MJ/V003
FJC001		80771		A16		Centenary Works		Manor Way		Rainham	Essex		RM13 8RR		F. J. Church & Sons Limited		Centenary Works	TQ5158582511	551585	182511	Modified	74999	EA/EPR/MP39 93EX/V006
GAL008	EAWML 10365	10365		A16		Hermitage Quarry		Hermitage Lane	Barming	Maidstone	Kent		ME16 9NT		Gallagher Aggregates Limited		Hermitage Quarry	TQ72505550	572500	155500	Modified	585000	EA/EPR/XP38 98HM/V008
STR106		10364		A16		Berth 6 Basin 3		Chatham Docks		Gillingham	Kent		ME4 4SR		Street Fuel Limited		Berth 6, Chatham Dockyard	TQ77307020	577300	170200	Modified	280000	EA/EPR/AB30 07XN/V003
REC314		400376		A16		Swanscombe Glass Recovery Facility		Manor Road	Swanscombe	Dartford	Kent		DA10 0LL		Recresco Limited		Swanscombe Glass Recovery Facility	TQ5987175147	559871	175147	Issued	220000	EA/EPR/AB31 03KR/A001
MER006		83425		A16	14			Hailey Road		Erith	Kent		DA18 4AP		Meridian Technical Services Ltd	Meridian Technical Services Ltd	Meridian Technical Services	TQ49247972	549240	179720	Modified	5000	EA/EPR/VP34 90EQ/V003
BOR003		10366		A16		Platt Industrial Estate		Maidstone Rd	Platt	Sevenoaks	Kent		TN15 8JL		Borough Green Sandpits Ltd		Borough Green Sandpit	TQ61965769	561960	157690	Issued	8000	EA/EPR/XP34 98HD/A001
SIV008		101878		A16		Victoria Deep Water Terminal		Tunnel Avenue	Greenwich	London			SE10 0QE		H. Siver Transport Limited		Victoria Deep Water Terminal	TQ3902579548	539025	179548	Modified	400000	EA/EPR/LP33 95VN/S008
VEK006		401013		A16		Manor Way Industrial Park		Manor Way		Swanscombe	Kent		DA10 0LL		Veka Recycling Limited	Veka Recycling Ltd	Veka Recycling Ltd	TQ6000875042	560008	175042	Modified	50000	EA/EPR/BB30 03CH/V002
AGG105		400933		A16				Horn Lane		Greenwich	London		SE10 0RT		Aggregate Industries U K Ltd	Angerstein Wharf	Angerstein Wharf	TQ40367886	540360	178860	Issued	83000	EA/EPR/AB39 03CL/A001
EXC001		102157		A16		Unit 5 Denver Site		Ferry Lane		Rainham	Essex		RM13 9BU		Excel Waste Management Limited	Unit 5 Denver Site	Unit 5 Denver Site	TQ5183581783	551835	181783	Transferred	100000	EA/EPR/EB36 07GZ/T001
SEA039		400635		A16	20			Juliette Way	Purfleet Ind Park	South Ockendon	Essex		RM15 4YD		Seales Road Haulage Limited	Seales Road Haulage Ltd	Seales Road Haulage Ltd	TQ5477579720	554775	179720	Issued	250000	EA/EPR/AB34 08HK/A001
GYP001		100247		A16		Land/premises At		Rochester Works		Halling	Kent		ME2 1AW		Gypsum Recycling U K Ltd	Press House Shed	Press House Shed	TQ70106500	570100	165000	Issued	40000	EA/EPR/BP37 98EB/A001

LIC_BR	LIC_OTHID	LIC_WM	LIC_LT	LIC_YE	Site_ADD_UIDL	Site_ADD_B	Site_ADD_HOUSE	Site_ADD_TRT	Site_ADD_S	Site_ADD_AR	Site_ADD_T	Site_ADD_D_CNTY	Site_ADD_PCODE	LIC_NAME	LIC_TRADE	LIC_SITE	NGR	Easting	Northin	STAT_ESC	LIC_TONS	LIC_EPR
HIG076		104859	A16		Plot 3 Burts Wharf		Crabtree Manorway North	Belvedere	Kent	DA17 6LJ	Highway United Limited	Burts Wharf Recycling Depot	TQ5004180494	550041	180494	Issued	74999	EAEPR/MB31 33AP/A001				
SOU009	P/10/69	19503	A16		Land/Premises At Bulking Treatment And Transfer Facility		Bull Lane	Maidstone	Kent	ME20 7DA	Southern Water Services Ltd	Aylesford Wastewater Treatment Works	TQ7200059600	572000	159600	Modified	28500	EAEPR/DP39 98HH/V005				
ASS064	DL431	83237	A17		Ongar Hall Farm	165	Tunnel Avenue	London		SE10 0PW	Associated Reclaimed Oils Limited	Palmer & Klein Ltd	TQ3947878921	539478	178921	Modified	999	EAEPR/WP39 30JD/V003				
PAL011		100019	A17				Brentwood Road	Orsett	Essex	RM16 3HU	Palmer & Klein Ltd	Williams Environmental Management Ltd	TQ6411484893	564114	184893	Issued	74999	EAEPR/KP37 95EM/A001				
WIL009		80752	A17				Charles Street	London		E16 2BY	Williams Environmental Management Ltd	Williams Environmental, Silvertown	TQ4144080282	541440	180282	Issued	25000	EAEPR/SP32 93EJ/A001				
TWM005		400911	A20		Total Waste Management Ltd		Hovefields Avenue	Basildon	Essex	SS13 1EB	Total Waste Management Limited	Total Waste Management Basildon	TQ7450090848	574500	190848	Modified	15000	EAEPR/AB38 09XH/V002				
MAY003	297/94	70364	A20		Land/Premises At Denton Industrial Estate		Station Road	East Tilbury	Essex	RM18 8QR	Mayer Parry Recycling Ltd	European Metals	TQ6729077700	567290	177700	Modified	1500000	EAEPR/KP38 99NQ/V002				
GMR001	P/02/19	19390	A20				Wharf Road	Gravesend	Kent	DA12 2RU	GMR (Kent) Limited	GMR (Kent) Limited	TQ6635074200	566350	174200	Transferred	11000	EAEPR/EB37 00JE/T001				
BEN088	318/94	70383	A20		Unit 35		Globe Ind Estate	Grays	Essex	RM17 6ST	Benfleet Scrap Co Ltd	Benfleet Scrap Co Limited	TQ6243677929	562436	177929	Modified	25000	EAEPR/NB34 33AG/V002				
BEN001	398/98	71088	A20		Unit 16		Brunel Road	Thundersley	Essex	SS7 4PS	Benfleet Scrap Co Limited	Benfleet Scrap Co Limited	TQ7790089202	577900	189202	Modified	75000	EAEPR/ZP37 98NH/V002				
LOW001	397/98	71078	A20				Manor Road	Grays	Essex	RM17 6EF	Alan Lowe & Albert Henry Lowe	Lowes Metals	TQ6246877684	562468	177684	Issued	25000	EAEPR/ZP33 98NS/A001				
SPE001	389/98	71089	A20		Land/Premises At		Hume Avenue	Tilbury	Essex	RM18 8DX	Specialist Metal Services Ltd	Hume Works	TQ6457675922	564576	175922	Issued	5000	EAEPR/NP33 98NN/A001				
EUR001		71484	A20		13-20 Berth			Tilbury Dock	Essex	RM18 7EH	European Metal Recycling Ltd	European Metal Recycling	TQ6349076150	563490	176150	Modified	300000	EAEPR/VP30 94NK/V002				
EUR002	T/NE/MAY011	83229	A20		European Metal Recycling		Manor Road	Erith	Kent	DA8 2AD	European Metal Recycling Ltd	European Metal Recycling	TQ5211977726	552119	177726	Modified	296959	EAEPR/FB35 09MJ/V002				
VIN001	DL427	83233	A20		Albion Yard		Manor Road	Erith	Kent	DA8 2AD	Vinton Metals Ltd	Albion Yard	TQ5202177741	552021	177741	Modified	16120	EAEPR/LP31 90EG/V004				
NOR476		103643	A20				River Road	Barking	Essex	IG11 0DS	S Norton & Co Ltd	S Norton & Co Ltd	TQ4587281662	545872	181662	Modified	200000	EAEPR/CB38 07HV/V002				
SHI001	196/91	80435	A20		Unit 32 Purfleet Industrial Park		Kerry Avenue	South Ockendon	Essex	RM15 4YE	Shields Environmental Plc	Shields Environmental, Purfleet	TQ5492779756	554927	179756	Issued	24999	EAEPR/BP32 97NJ/A001				
BEN085		103779	A20		Caxton House		Harvey Road	Basildon	Essex	SS13 1QJ	Benfleet Scrap Co Ltd	Benfleet Scrap Co Ltd	TQ7385290525	573852	190525	Modified	12500	EAEPR/EB34 35AS/V002				
CRE005	DL516	80111	A20		Eastern Works		Alfreds Way	Barking	Essex	IG11 0AT	Creek Metals Limited	Alfreds Way, Barking	TQ4617783656	546177	183656	Modified	69000	EAEPR/JP32 96NM/V004				
THO004	312/94	80481	A20		Randalls Works		Woodside	Epping	Essex	CM16 6LF	Total Waste Management Ltd	Total Waste Management Ltd	TL4739904328	547399	204328	Modified	74999	EAEPR/UP32 97NW/V				
SHI002	401/98	80484	A20		Units 32a, 33 & 34		Kerry Avenue	South Ockendon	Essex	RM15 4YA	Shields Environmental Ltd	Shields Environmental Ltd, Purfleet	TQ5493979691	554939	179691	Issued	25000	EAEPR/UP31 97NE/A001				
MAY001	MAY043	80125	A20		Mayer Parry Recycling Ltd	29	Bidder Street	London		E16 4SZ	Mayer Parry Recycling Ltd	Mayer Parry, Bidder Street	TQ3907581665	539075	181665	Modified	150000	EAEPR/QP37 96NY/V002				

LIC_BR	LIC_OTHID	LIC_WM	LIC_LT	LIC_YE	Site_ADD_UID	Site_ADD_B	Site_ADD_HOUSE	Site_ADD_TRT	Site_ADD_S	Site_ADD_AR	Site_ADD_T	Site_ADD_D_CNTY	Site_ADD_PC	LIC_NAME	LIC_TRADE	LIC_SITE	NGR	Eastings	Northings	STAT_ESC	LIC_TONS	LIC_EPR
JUN002	321/94	80439		A20	Thele			Woolmongers Lane	High Ongar	Ingatstone	Essex	Essex	CM4 0JX	Juniper Mark	Mark's Commercials	Mark's Commercials, Woolmongers Lane	TL5808601746	558086	201746	Transferred	74999	EAEPR/BP30 96LN/T001
REM001	DL409	80115		A20	9a Cody Business Centre			South Crescent		London			E16 4TL	The Remet Company Ltd		Remet Canning Town, Cody Road	TQ3859582018	538595	182018	Modified	74999	EAEPR/QP33 96NZ/V003
ROY073		401854		A22	Greenwich Park Office			Blackheath Gate, Charlton Way	Greenwich	London			SE10 8QY	The Royal Parks - Greenwich Park		Greenwich Park Leaf Yard	TQ3957677155	539576	177155	Issued	545	EAEPR/CB31 07CY/A001
SHA015		80661		A22				Jenkins Lane		Barking	Essex	Essex	IG11 0AD	Renewi UK Services Limited		Jenkins Lane Ecco Decco	TQ4429082605	544290	182605	Modified	30000	EAEPR/RP32 97NN/V002
SHA016		80662		A22	Frog Island			Manor Way		Rainham	Essex	Essex	RM13 8UM	Renewi UK Services Limited		Frog Island	TQ5093281122	550932	181122	Modified	30000	EAEPR/RP36 97NJ/V002
VEO170		103773		A22	Pitsea Landfill			Pitsea Hall Lane	Pitsea	Basildon	Essex	Essex	SS16 4UH	Veolia E S Landfill Ltd		Pitsea Landfill	TQ7499185233	574991	185233	Modified	49000	EAEPR/EP39 36GP/V004
BIO139		10089		A22	Matts Hill Farm			Matts Hill Road	Hartlip	Sittingbourne	Kent	Kent	ME9 7UY	Biowaste Recovery Limited		Matts Hill Farm	TQ8186062890	581860	162890	Modified	58400	EAEPR/BB35 33DP/V002
TJC004	EAWML10086	10086		A22	Land / premises at			Cookham Road		Swanley	Kent	Kent	BR8 7QP	T J Composting Ltd		Cookham Road Composting Facility	TQ4910069670	549100	169670	To PPC	33499	EAEPR/ZP39 95HS/V006
TJC001		100262		A22				Epping Road		Chipping Ongar	Essex	Essex	CM16 6RZ	T J Composting Services Ltd		Ongar Recycling Facility	TL5152005660	551520	205660	To PPC	24999	EAEPR/LP30 98EY/V002
CLE003	393/98	71080		A22	Land/ premises at			Pitsea Hall Lane	Pitsea	Basildon	Essex	Essex	SS16 4UH	Veolia E S Cleanaway (UK) Ltd		Pitsea Composting Site	TQ7386287340	573862	187340	Modified	61800	EAEPR/ZP39 98NN/V002
COM162		101293		A23				Kingsnorth Ind Est	Hoo	Rochester	Kent	Kent	ME3 9NZ	Composting Facilities Services Ltd		Composting Facilities Services Ltd	TQ8084472937	580844	172937	Modified	74999	EAEPR/KP34 94VZ/V004
EPP004		80787		A23	Land/ premises at			Moreton Bridge	Moreton	Ongar	Essex	Essex	CM5 0LL	Epping Forest District Council		Epping Forest D.C. Bobbingworth Leachate Treatment Plant	TL5339806621	553398	206621	Issued	10980	EAEPR/UP32 93EP/A001
ECO001	P/10/71	19505		A23	Ham Hill			Brook Lane		Rochester	Kent	Kent	ME6 5JX	Ecoclear Ltd		Ham Hill Liquid Waste Treatment Works	TQ70506073	570500	160730	Modified	111400	EAEPR/DP38 98HK/V005
TES001		404013		A25				Chequers Lane		Dagenham	Essex	Essex	RM9 6SA	T. E. Scudder Limited		Dagenham Stamping & Tooling Operations	TQ4925783208	549257	183208	Issued	229999.99	EAEPR/FB31 02XF/A001
SWA038		402220		A25	East Tilbury Quarry			Princess Margaret Road		East Tilbury	Essex	Essex	RM18 8PH	S Walsh & Son Ltd		East Tilbury Flood Bund	TQ6884778960	568847	178960	Modified	50000	EAEPR/CB36 09HV/V003
PJB019		103273		A25	Port Medway Marina Limited			Station Road	Cuxton	Rochester	Kent	Kent	ME2 1AB	Port Medway Marina Limited		Port Medway Marina	TQ7200067000	572000	167000	Modified	49999	EAEPR/BB36 33RV/V002
FOR098		103294		A25	Cranfield Golf Centre			Whalebone Lane	North Romford	Romford	Kent	Greater London	RM6 6SB	Carzo Ltd		Cranfield Golf Centre	TQ487588720	548975	188720	Issued	1000000	EAEPR/BB37 35AU/A001
INX001		403032		A25				Gerpins Lane		Rainham	Kent	Essex	RM14 2XR	Ingrebourne Valley Limited		Pinch Restoration	TQ5520083600	555200	183600	Issued	355999	EAEPR/DB38 00MK/A001
BSG003		403095		A25	Hainault Farm			Dock Road	Tilbury Point	Tilbury	Essex	Essex	RM17 6UR	Bournwood Sand & Gravel Limited		Tilbury Point	TQ627987555	562798	175550	Issued	370	EAEPR/DB38 09KP/A001
BRE067		103309		A25				Hainault Road		Ilford	Essex	Essex	IG2 7TD	Brett Tarmac Limited		Fairlop Quarry	TQ4582689538	545826	189538	Modified	300000	EAEPR/BB38 33AL/V004

LIC_BR	LIC_OTHID	LIC_WM	LIC_LT	LIC_YPE	Site_ADD_B UILD	Site_ADD_HOUSE	Site_ADD_TRT	Site_ADD_S EA	Site_ADD_AR EA	Site_ADD_T OWN	Site_ADD_CNTY	Site_ADD_PCODE	LIC_NAME	LIC_TRADE	LIC_SITE	NGR	Easting	Northin g	STAT_ESC	LIC_TONS	LIC_EPR
FDL001		103229	A25		Barking Riverside		Off Renwick Road		Barking		Essex	IG11 0XF	Foundation Developments Limited		Barking Riverside (Resource Information And Marketing Suite)	TQ4734682598	547346	182598	Modified	200000	EAVEPR/BB34 35DS/V002
ING031		402524	A25		Buckingham Hill Road S		Stanford-le-hope		Thurrock		Essex	SS17 0PP	Ingrebourne Valley Limited		Orsett Quarry Ecological Park	TQ6713680402	567136	180402	Issued	9999	EAVEPR/DB31 02UX/A001
KNO031		102116	A25		Dux Court Road				Hoo		Kent	ME3 8RZ	Knowl Hill Limited		Deangate Ridge Golf & Sports Centre	TQ7713973103	577139	173103	Modified	428	EAVEPR/PP36 98VX/V003
WOO170		102044	A25		Lower Road		Northfleet Ind Est		Gravesend		Kent	DA11 9SW	Woodland Environmental Limited		Northfleet Lake	TQ6103075055	561030	175055	Transferred	114800	EAVEPR/KB34 35AK/T001
ING023		101917	A25		New Road				Rainham		Essex	RM13 9ED	Ingrebourne Valley Ltd		Ingrebourne Links	TQ5498481713	554984	181713	Issued	600000	EAVEPR/LP39 95VS/A001
LAN142		401693	A25		Cotton Lane		Stone		Dartford		Kent	DA9 9ED	Land Logical Limited		Stone Pit 1	TQ5669774367	556697	174367	Modified	369999.99	EAVEPR/BB39 06MD/V002
ING030		401833	A25		Berwick Pond Road		Rainham		Havering		Essex	RM13 9EJ	Ingrebourne Valley Limited		Little Gerpins 2 Landfill	TQ5457184096	554571	184096	Issued	305999	EAVEPR/CB31 04CE/A001
WAL163		101652	A25		Stonehouse Lane				Purfleet		Essex	RM19 1TD	S. Walsh & Son Limited		Bluelands Quarry	TQ5702378677	557023	178677	Modified	499999	EAVEPR/JB35 35AT/V005
STA177		401872	A25		Horseman Side				Stapleford Abbots		Essex	RM4 1JU	Woodland Environmental Limited		The Priors Course	TQ5370695092	553706	195092	Issued	254768	EAVEPR/CB31 09HX/A001
ING027		401827	A25		Romford Road				Essex		Essex	RM15 4JU	Ingrebourne Valley Ltd		Moor Hall Paddocks	TQ5569281619	555692	181619	Issued	89999	EAVEPR/CB31 03TX/A001
RUR011		103003	A25		Arisdale Avenue				South Ockendon		Essex	RM15 5DP	Rural Arisings Ltd		Little Belhus Restoration	TQ5820482429	558204	182429	Modified	1156984	EAVEPR/AB33 31RU/V002
DPW004		102849	A25		The Manorway				Stanford Le Hope		Essex	SS17 9PD	Gateway Parkland Ltd		London Gateway Parkland	TQ7197082090	571970	182090	Issued	2400000	EAVEPR/YP36 91EK/A001
ING024		102617	A25		Station Road		East Tilbury		Tilbury		Essex	RM18 8QR	Ingrebourne Valley Limited		Goshems Farm	TQ6723375547	567233	175547	Modified	759000	EAVEPR/WP30 94EP/V002
BRE105		403263	L05		Salt Lane				Cliffe		Kent	ME3 7SX	Brett Aggregates Limited		Alpha Lake	TQ7122876087	571228	176087	Issued	999999	EAVEPR/EB31 03LP/A001
FER002		403948	L05		Trottscliffe Road		Addington Wrotham				Kent	ME19 5DL	Ferns Surfacing Limited		Wrotham Quarry At Addington	TQ6528859598	565288	159598	Issued	150000	EAVEPR/FB30 03MP/A001
BOR014	BW1696IF	210113	L05		Platt Industrial Estate		Borough Green		Sevenoaks		Kent	TN15 8JL	Borough Green Sand Pits Ltd		Borough Green Sand Pit Landfill	TQ6199857707	561998	157707	Modified	83999	EAVEPR/LP31 94VK/V006
SEE009		210032	L05		St James Lane		Stone		Dartford		Kent	DA9 9DT	Stonepit Restoration Limited		Stone Pit 2 Inert Landfill	TQ5736173496	557361	173496	Modified	624000	EAVEPR/BS67 26IL/V006
RBH002	BX4313ID	210119	L05		Wrotham Road		Borough Green		Tonbridge		Kent	TN15 8DN	Robert Body Haulage Limited		Borough Green Landfill	TQ6196057690	561960	157690	Modified	744923	EAVEPR/LB36 31AU/V002
TAR130	SP3630LB	210075	L05		Buckingham Hill Road		Linford		Stanford Le Hope		Essex	SS17 0PY	Tarmac Building Products Ltd		Linford Landfill	TQ6691079730	566910	179730	Modified	50000	EAVEPR/DB38 32RD/V002
ING014		101016	L05		New Road				Rainham		Essex	RM13 9GF	Ingrebourne Valley Ltd		Spring Farm Landfill	TQ53908215	553900	182150	Issued	300000	EAVEPR/DP37 94ER/A001
BOU020		210058	L05		Off A20 By Pass				Swanley		Kent	BR8 7DP	Bournewood Sand And Gravel Ltd		Bournewood Inert Landfill Site	TQ50206820	550200	168200	Modified	240000	EAVEPR/LP33 35UG/V002
GAL011	BX8505IG	210040	L05		Workhouse Road			Ryarsh	West Malling		Kent	ME19 5SJ	Gallagher Aggregates Ltd		Workhouse Quarry Inert Landfill	TQ6665059800	566650	159800	Issued	400000	EAVEPR/BX85 05IG/

LIC_BR	LIC_NM	LIC_WM	LIC_LT	LIC_YE	LIC_OTHID	LIC_ADD_B	Site_ADD_B	Site_ADD_S	Site_ADD_AR	Site_ADD_T	Site_ADD	Site_ADD_PCODE	LIC_NAME	LIC_TRADE	LIC_SITE	NGR	Easting	Northin	STAT_ESC	LIC_TONS	LIC_EPR
HAV003		80524	L05			South Hall Farm	New Road		Rainham	Essex	RM13 9EW	RM13 9EW	Having Aggregates Limited		South Hall Farm	TQ5374781986	553747	181986	Modified	260000	EAEPR/KP31 97NLU/V003
HDD001		104954	L05			Manor Farm Barn Landfill	Parsonage Lane		Frindsbury	Kent	ME2 4UT	ME2 4UT	Downland Trading (Kent) Limited		Manor Farm Barn Landfill And Recovery Operation	TQ7450069900	574500	169900	Issued	500000	EAEPR/MB36 35RG/A001
ING013		210001	L05			Marks Warren Quarry Landfill	Whalebone Lane North		Romford	Essex	RM6 6RB	RM6 6RB	Ingrebourne Valley Ltd		Marks Warren Quarry Landfill	TQ48858971	548850	189710	Transferred	244000	EAEPR/CP31 90VE/T001
CLE060	XP3430LS	210102	L05			Rainbow Shaw Quarry	Holford Road		Linford	Essex	SS17 0PJ	SS17 0PJ	Clearserve Ltd		Rainbow Shaw Quarry	TQ66748036	566740	180360	Issued	74999	EAEPR/XP34 30L.S/A001
GAL012	QP3135SX	210072	L05			Gallagher Aggregates Limited	Hermitage Lane		Maidstone	Kent	ME16 9NT	ME16 9NT	Gallagher Aggregates Ltd		Hermitage Quarry Inert Landfill	TQ72325602	572320	156020	Modified	305000	EAEPR/EB36 01KU/V003
JCU002	BP3335SR	210005	L05			Perrys Farm	Grain Road	Isle Of Grain	Rochester	Kent	ME3 0AW	ME3 0AW	J Clubb Limited		Perry's Farm	TQ87907649	587900	176490	Modified	24999	EAEPR/GP38 99LW/V002
KEN046	FP3630LC	210049	L05			Lower Twydall Chalk Pit	Rainham Road		Rainham	Kent	ME7 2XH	ME7 2XH	Kent Land Reclamation Ltd		Lower Twydall Chalk Pit	TQ80676770	580670	167700	Modified	90000	EAEPR/BB33 09GK/V003
BRE005		71266	L05			East Tilbury Quarry	Princess Margaret Road		East Tilbury	Essex	RM18 8PH	RM18 8PH	S. Walsh & Son Limited		East Tilbury Quarry	TQ68557736	568550	177360	Modified	299999	EAEPR/SP34 39LE/V008
POR073		101825	S0801			Flagstaff House	Chatham Docks		Chatham	Kent	ME4 4SW	ME4 4SW	Port of Sheerness Ltd		Chatham Docks Transfer Station	TQ7734169991	577341	169991	Issued	74999	EAEPR/KP35 98VQ/A001
GSW001		401607	S0801			Albright Ind Est	Ferry Lane		Rainham		RM13 9BU	RM13 9BU	G & S Waste Management Limited		G & S Waste Recycling	TQ5165482000	551654	182000	Issued	75000	EAEPR/BB38 05CX/A001
MAR248		104952	S0801			Whitesbridge Cottage		Crays Hill	Billericay	Essex	CM11 2UL	CM11 2UL	Marks Services And Sons Limited		Whitesbridge Cottage	TQ7063691809	570636	191809	Issued	74999	EAEPR/MB37 35AV/A001
MRB017		402861	S0801			Unit 6	Maypole Crescent	Darent Ind Park	Erith	Kent	DA8 2JZ	DA8 2JZ	M & R Building & Landscaping Ltd		M & R Building & Landscaping Ltd	TQ5383977853	553839	177853	Issued	74999	EAEPR/DB35 07TQ/A001
GEM005		100930	S0801			Wood Farm	Moreton Road	Moreton	Ongar	Essex	CM5 0EY	CM5 0EY	Mr John Gemmill And Mrs Margaret Gemmill		Wood Farm	TL5440305908	554403	205908	Issued	24999	EAEPR/CP33 91EM/A001
RIV038		103887	S0802			Riverside Resource Recovery Facility	Norman Road	Belvedere	Bexley	Kent	DA17 6JY	DA17 6JY	Riverside Resource Recovery Ltd	Cory Riverside Energy	Riverside Resource Recovery Facility	TQ4946080750	549460	180750	Issued	4999	EAEPR/FB30 38AB/A001
JHH002		104692	S0803			Unit 19	Landau Way	Darent Industrial Park	Erith	Kent	DA8 2LF	DA8 2LF	J & H Haulage Ltd		Landau Way Transfer Station	TQ5358678099	553586	178099	Modified	74999	EAEPR/LB30 33DP/V002
EDW033		402132	S0803			Perry Road	Off Chequers Lane		Dagenham		RM9 6QD	RM9 6QD	Edwards Recycling Ltd		Edwards Recycling Ltd	TQ4905181907	549051	181907	Issued	74999	EAEPR/CB35 07KZ/A001
MCF003		402266	S0803				South Crescent		London		E16 4TL	E16 4TL	Mcfen Plant Limited		Mcfen Plant Limited	TQ3884482003	538844	182003	Issued	74999	EAEPR/CB37 04CL/A001
QUI002		104011	S0803			Quick Skips London	Alisa Street		London		E14 0NE	E14 0NE	Quick Skips London Limited		Quick Skips London	TQ3831681841	538316	181841	Transferred	74999	EAEPR/FB30 00GC/T001
GST005		102554	S0803			G & S Tyre Services Ltd	Kingsbridge Road		Barking	Essex	IG11 0BD	IG11 0BD	G & S Tyre Services Ltd		G & S Tyre Services Ltd	TQ4491983108	544919	183108	Issued	74999	EAEPR/VP32 99VX/A001
MRL012		402252	S0803				Thames Road	Barking	London		IG11 0HS	IG11 0HS	Max Recycling Ltd		19 Thames Road	TQ4591982837	545919	182837	Issued	75000	EAEPR/CB37 02UW/A001
MAN105		101645	S0803			Old Bus Depot	Perry Road	Chequers Lane	Dagenham	Essex	RM9 6QD	RM9 6QD	Manns Waste Management Ltd		Manns Waste Management Ltd	TQ4906382040	549063	182040	Modified	74999	EAEPR/HP30 98VH/V002

LIC_BR	LIC_OTHID	LIC_WM	LIC_LT	LIC_ADD_B	Site_ADD_B	Site_ADD_S	Site_ADD_AR	Site_ADD_T	Site_ADD	Site_ADD	LIC_NAME	LIC_TRADE	LIC_SITE	NGR	Easting	Northin	STAT_SD	LIC_TONS	LIC_EPR
			TYPE	UIDL	HOUSE	TRT	EA	OWN	D_CNTY	PCODE						g	ESC		
LAN008		10371	S0803	K3/k4		George Summers Close	Medway City Estate	Rochester	Kent	ME2 4DY	Langley Lisa	Faversham Aggregates	Faversham Aggregates Medway City Estate	TQ75406970	575400	169700	Issued	25000	EAVEPR/XP37 98HS/A001
ECO088		80734	S0803	Unit 4b		Marsh Way	Fairview Ind Estate	Rainham	Essex	RM13 8UH	Ecotech London Ltd		Ecotech London Limited	TQ5082881533	550828	181533	Modified	74999.999	EAVEPR/BB32 00FF/V002
ROL019		401396	S0803		7	Maypole Crescent	Darent Industrial Estate	Erith	Kent	DA8 2JZ	Roll On Off Services Limited		Roll On Off Services Limited	TQ5384977877	553849	177877	Issued	75000	EAVEPR/BB35 07UJ/A001
SID001	P/16/01	19568	S0807	Waldens Depot		Waldens Road	St Mary Cray	Orpington	Kent	BR5 4EU	Syd Bishop & Sons (Demolition) Limited		Waldens Depot	TQ4860066885	548600	166885	Modified	74999	EAVEPR/SP33 94HU/V002
MCG013		101049	S0809	Mc Gee Bedrocl		Thames Wharf	Dock Road	Silvertown	London	E16 1AF	McGee Asbestos Removal Limited		Mc Gee Asbestos Removal	TQ3979980624	539799	180624	Issued	3650	EAVEPR/EP31 92SA/A001
ASB006		101371	S0809			Oliver Close		West Thurrock	Essex	RM20 3EE	Asbestos Waste Solutions Llp		Asbestos Waste Solutions	TQ5764677131	557646	177131	Issued	3650	EAVEPR/FP36 94VC/A001
WAF001		402704	S0809	Sandhurst		Kings Road	Charfleets Industrial Est	Canvey Island	Essex	SS8 0SA	Frost & Wood Limited		Frost & Wood Limited	TQ7716383093	577163	183093	Modified	3649.999	EAVEPR/DB33 04TZ/V002
PEC008		101455	S0809	Keltbray House		Burnt Mills Road		Basildon	Essex	SS13 1DT	Keltbray Ltd		Keltbray Environmental Solutions	TQ741902	574100	190200	Modified	3650	EAVEPR/GP30 97LY/V002
SMH002		102930	S0809	Unit 3 Childerditch Industrial Estate		Childerditch Hall Drive		Brentwood	Essex	CM13 3HD	S M H Products Limited		S M H Products Ltd (London Branch)	TQ609895	560900	189500	Issued	3650	EAVEPR/ZP37 99VD/A001
LEN018		101156	S0809	K T House		Stanhope Ind Estate	Wharf Road	Stanford Le Hope	Essex	SS17 0EH	Lenval Ltd		Lenval Ltd	TQ6891081680	568910	181680	Issued	3650	EAVEPR/EP35 96SH/A001
CLA115		400795	S0809	Unit 1		Sandy Lane	Chadwell St Mary	Nr Grays	Essex	RM16 4LL	Asbestos Transfer Services Ltd		Asbestos Transfer Services Ltd	TQ6520378447	565203	178447	Issued	3649	EAVEPR/AB37 00ML/A001
WIN001		403657	S0809	29 Childerditch Industrial Park		Childerditch Hall Drive	Little Warley	Brentwood	Essex	CM13 3HD	Windsor Waste Management Limited		Windsor Waste Management Limited	TQ6080589613	560805	189613	Issued	3.649	EAVEPR/EB36 05TJ/A001
ERI028		103757	S0809	Anchor Bay		Manor Road		Erith	Kent	DA8 2AW	Erith Contractors Ltd		Anchor Bay	TQ5226277789	552262	177789	Issued	3650	EAVEPR/EB32 39DT/A001
ECO074		103153	S0809	Econ Yard		Maidstone Road	Ruxley	Sidcup	Kent	DA14 5AZ	Econ Construction Limited		Econ Yard	TQ4883570237	548835	170237	Issued	3650	EAVEPR/BB30 34AZ/A001
RWA004		401389	S0809			North Dane Way		Lordwood	Kent	ME5 8YE	3 R Waste Limited		The Highways Depot	TQ7789562994	577895	162994	Issued	3650	EAVEPR/BB35 06HG/A001
LAN123		104168	S0811	Manor Way Business Park		Manor Way		Swanscombe	Kent	DA10 0LQ	Lancebox Limited		Lancebox Recycling Facility	TQ6058074920	560580	174920	Issued	0	EAVEPR/GB37 30RW/A001
KEL318		100813	S0811	Thames Wharf		Dock Road	Silvertown	London		E16 1AF	Keltbray Environmental Ltd		Thames Wharf Barking Materials Recycling Facility	TQ3979180427	539791	180427	Modified	112500	EAVEPR/MB34 37RG/V002
SIT717		101756	S0814	Docklands Wharf		River Road	Barking	London		IG11 0DS	Suez Recycling And Recovery UK Ltd		Materials Recovery Facility	TQ4575181781	545751	181781	Modified	74999	EAVEPR/JP35 96EB/V002
VEO003		80759	S0814			Choats Road	Dagenham Dock	Dagenham	Essex	RM9 6LF	Veolia E S (UK) Limited		Materials Recovery Facility	TQ4823882572	548238	182572	Transferred	74999	EAVEPR/CB31 06GQ/T001
BPR006		103737	S0814	Units 38-39		Juliette Way	Purfleet Ind Park	Purfleet	Essex	RM15 4YA	B P R Group Europe Ltd		Juliette Way Materials Recycling & WEEE ATF	TQ5513379597	555133	179597	Issued	149998	EAVEPR/EB31 35AD/A001

LIC_BR	LIC_OTHID	LIC_WM	LIC_LTYE	Site_ADD_UIDL	Site_ADD_BHOUSE	Site_ADD_HOUSE	Site_ADD_TRT	Site_ADD_S EA	Site_ADD_AR EA	Site_ADD_T OWN	Site_ADD_D CNTY	Site_ADD_PC CODE	LIC_NAME	LIC_TRADE	LIC_SITE	NGR	Easting	Northin g	STAT_ESC	LIC_TONS	LIC_EPR
NEW069		100642	S0817	Blaise Farm Quarry			Kings Hill			West Malling	Kent	ME19 4PN	New Earth Solutions (Kent) Ltd		Blaise Farm Quarry Closed Vessel Composting	TQ6626056180	566260	156180	To PPC	75000	EA/EPR/CP32 98LQ/V003
BIS014		102197	S0821	Unit 9a			Thames Road Ind Est	Silvertown		London		E16 2EZ	Bishopgate Iron And Steel Co Ltd		Bishopgate Iron & Steel Co Ltd	TQ4182279923	541822	179923	Issued	74999	EA/EPR/QP36 98VG/A001
ELG012		400638	S0821	Unit 6 & 7 Standard Ind Est			River Road			Barking	Essex	IG11 0DG	E L G Haniel Metals Limited		E L G Haniel Metals Ltd	TQ4537782670	545377	182670	Issued	74999	EA/EPR/AB34 09GT/A001
LON257		103174	S0821				Factory Road	Silvertown		London		E16 2EJ	London City Metals Ltd		London City Metals	TQ4280179897	542801	179897	Issued	74999	EA/EPR/BB31 31RS/A001
CRO120		103650	S0821				River Road			Barking	Essex	IG11 0DS	Cronimet (London) Limited		Cronimet (London) Ltd	TQ4585981694	545859	181694	Modified	74999	EA/EPR/DB36 39RX/V002
WAL165		400251	S0905	Port Of Tilbury London Limited			Leslie Ford House	Tilbury Freeport		Tilbury	Essex	RM18 7EH	S. Walsh & Son Limited		Berth 5, Port Of Tilbury London	TQ6328076070	563280	176070	Modified	249999	EA/EPR/PB39 33DJ/V003
POR072		101490	S0905				Chatham Docks			Chatham	Kent	ME4 4SW	Port of Sheerness Ltd		Chatham Docks Transfer Station	TQ7734169991	577341	169991	Issued	250000	EA/EPR/GP32 95LY/A001
MUC001		101679	S0906	Barking Riverside Recycling Park			River Road			Barking	Essex	IG11 0XF	Muckit Recycling Limited		Barking Riverside Development Park	TQ4688882007	546888	182007	Transferred	249999	EA/EPR/EB34 03CY/T001
PMC001		404568	S0906	Soil Management Facility			Bidder Street	Canning Town		London		E16 4SH	P M C Soil Solutions Ltd		P M C Soil Solutions Soil Management Facility	TQ3913581539	539135	181539	Issued	0	EA/EPR/FB39 00XQ/A001
RJS001		403409	S1504	Grove Farm Maybank Wharf			Brook Street			Brentwood	Essex	CM14 5NG	R J Skip Hire Ltd		Grove Farm Maybank Wharf	TQ5640892547	556408	192547	Issued	75	EA/EPR/BB34 31AE/A001
WWL001		403581	S1506				Landau Way	Charlton Darent Industrial Park		London		SE7 8NW	Westminster Waste Limited		Maybank Wharf	TQ4117679148	541176	179148	Issued	74.999	EA/EPR/EB35 05LC/A001
HUB001		404318	S1506	Unit 5			Knights Road			Erith	Kent	DA8 2LF	Hubble Harry		Enviroclear	TQ5377478059	553774	178059	Issued	74999	EA/EPR/FB35 05FG/A001
BAL001		404368	S1506	Plot 16			Thames Road			Strood		ME25 2BA	Bal Skip Hire Ltd		Bal Skip Hire	TQ7316868123	573168	168123	Issued	74999	EA/EPR/FB36 05MV/A001
CLE002		403766	S1506		21		Archers Field			Barking	Essex	IG11 0HN	Clearun Recycling Limited		Clearun Recycling Ltd	TQ4594782843	545947	182843	Issued	74999	EA/EPR/EB38 00KG/A001
WHI252		101845	S1506				Maypole Crescent	Burnt Mills Ind Est		Basildon	Essex	SS13 1DH	Mr Paul Ian Whitehair & Mr Ian John Whitehair		Clear-a-way Recycling Transfer Station	TQ7359690285	573596	190285	Modified	74999	EA/EPR/KP37 99VU/V002
RWS001		404088	S1506		11		Atcost Road	Darent Industrial Estate		Erith	Kent	DA8 2JZ	Rhino Waste Services Limited		Rhino Waste Services Limited	TQ5389277724	553892	177724	Issued	75000	EA/EPR/FB32 03LL/A001
LON003		403475	S1506	Media Park			River Road			Barking	Essex	IG11 0DW	London Recycling Services Limited		Media Park	TQ4554782301	545547	182301	Transferred	74999	EA/EPR/FB39 00CS/T001
JAC001		404048	S1506		11		Chequers Lane			Barking	Essex	IG11 0EQ	Jac Skip Hire Limited		Jac Skip Hire	TQ4615781832	546157	181832	Issued	74999	EA/EPR/FB31 09HT/A001
MMS001		404533	S1506		2		Tilbury Docks Waste Transfer Station			Dagenham		RM9 6QJ	M M S Supplies Limited		M M S Recycling	TQ4893581991	548935	181991	Issued	75000	EA/EPR/FB38 05CH/A001
RRR001		403050	S1506	Connolley's Yard			Tilbury Freeport			Tilbury	Essex	RM18 7DP	Riverside Resource Recovery Limited	Cory Riverside Energy	Tilbury Docks Waste Transfer Station	TQ6293775254	562937	175254	Issued	74999	EA/EPR/DB38 03LZ/A001
CML001		404493	S1514				Thames Road			London		E16 2EZ	Connolley Metals Limited		Connolley's Yard	TQ4169679887	541696	179887	Issued	74999	EA/EPR/FB38 00GM/A001

LIC_BR	LIC_OTHID	LIC_WM	LIC_LT	Site_ADD_UID	Site_ADD_B	Site_ADD_HOUSE	Site_ADD_TRT	Site_ADD_S	Site_ADD_EA	Site_ADD_AR	Site_ADD_T	Site_ADD_D	Site_ADD_CNTY	Site_ADD_PCODE	LIC_NAME	LIC_TRADE	LIC_SITE	NGR	Easting	Northin	STAT_ESC	LIC_TONS	LIC_EPR
MIL109		400743	S1539	Mill House Farm Agricultural Reservoir		High House Lane	High House Lane	Chadwell St Mary	Chadwell St Mary	Thurrock		Essex	Essex	RM18 8TP	R J D Limited		Mill House Farm Agricultural Reservoir	TQ6585779074	565857	179074	Modified	60000	EAEPR/AB36 04FS/V002
BRE103		401196	SR/12			Launders Lanes	Launders Lanes			Rainham		Essex	Essex	RM13 9GJ	Brett Aggregates Limited		Rainham Recycling Facility	TQ5510482787	555104	182787	Transferred	75000	EAEPR/DB35 01KS/T001
HEN042		401468	SR/12	Unit 5		Bennett's Industrial Estate	Bennett's Industrial Estate	Sandy Lane	Chadwell St. Mary			Essex	Essex	RM16 4LR	Henderson & Taylor Public Works Limited		Unit 5 Bennett's Industrial Estate	TQ6524078330	565240	178330	Issued	74999	EAEPR/BB36 07HF/A001
REC270		102042	SR/12	Dansands Quarry		Stanford Road	Stanford Road	Orsett	Grays			Essex	Essex	RM16 3BB	Recycled In Orsett Ltd		Recycled In Orsett	TQ6517181136	565171	181136	Issued	149998	EAEPR/NP36 96EG/A001
SUC005		104126	SR/12	Unit 2		Choats Road	Choats Road	Dagenham	London					RM9 6RJ	S U C Exc UK Ltd		S U C Exc UK Ltd	TQ4815382738	548153	182738	Modified	74999	EAEPR/GB34 38RL/V002
JDT001		102921	SR/12			Crabtree Manorway North	Crabtree Manorway North		Belvedere			Kent	Kent	DA17 6LJ	J D T (South - East) Ltd		Burts Wharf WTS	TQ5018480360	550184	180360	Issued	74999	EAEPR/ZP37 90VS/A001
JKS006		403250	SR/12	Little Brook Business Centre		Manor Way	Manor Way	Little Brookchalfont St G	Dartford			Kent	Kent	DA1 5PS	J K S Group Ltd		J K S Recycling	TQ5605175997	556051	175997	Issued	74999.999	EAEPR/EB31 02TX/A001
FER001		104441	SR/12	Unit A		Codham Hall Lane	Codham Hall Lane	Great Warley	Brentwood			Essex	Essex	CM13 3JT	Ferns Surfacing Limited		Unit A	TQ5923488583	559234	188583	Transferred	74999	EAEPR/EB37 00CY/T001
COR154		401840	SR/12	Mainport Training Progress Business Park		Gallions Road	Gallions Road	Royal Albert Basin	London					E16 2QY	Corbyn Construction Ltd		Corbyn Recycling	TQ4410780287	544107	180287	Issued	74999	EAEPR/CB31 05CW/A001
PLA102		401700	SR/20			55 Progress Road	55 Progress Road	Trafford Park	Leigh On Sea					SS9 5PR	Platinum International Limited		Platinum International	TQ8318189095	583181	189095	Modified	24999	EAEPR/BB39 70KD/V002
AJP009		103439	SR/20			Rainham Road South	Rainham Road South		Dagenham			Essex	Essex	RM10 7UU	A & J Plumbing & Heating London Ltd		Plumbing & Heating London Ltd	TQ4994085820	549940	185820	Issued	24999	EAEPR/CB35 31RF/A001
HWR001		103209	SR/22	Tilbury Docks					Tilbury			Essex	Essex	RM18 7HB	Hadfield Wood Recyclers Ltd		Tilbury New Site	TQ6325475733	563254	175733	Issued	74999	EAEPR/BB33 32AE/A001
CLE005	162/89	70281	A01	Area 1		Medebridge Road	Medebridge Road	South Ockendon	Grays			Essex	Essex	RM16 5TZ	Veolia E S Cleanaway (UK) Ltd		Medebridge Road Landfill	TQ6130082800	561300	182800	Issued	500000	EAEPR/SP39 99NT/A001
BIF001	P/03/30	19394	A01					St Mary Hoo	Rochester			Kent	Kent	ME3 8RN	Biffa Waste Services Ltd		Shakespeare Landfill	TQ8140077600	581400	177600	To PPC	193908	EAEPR/TP31 98HH/A001
LON250	P/03/62	19407	A01	Factory Farm		Wouldham Road	Wouldham Road	Borstal	Rochester			Kent	Kent	ME1 3TL	London And Continental Railways Ltd		Factory Farm	TQ7230066600	572300	166600	Modified	66960	EAEPR/HP34 93VK/V002
BIF003	P/03/66	19408	A01					St Mary Hoo	Rochester			Kent	Kent	ME3 8RN	Biffa Waste Services Ltd		Shakespeare Farm Landfill Extension	TQ8130077100	581300	177100	Modified	920700	EAEPR/FP30 98HA/V002
CLE008	CLE121	80140	A04	Phase 4, Rainham Landfill		Wennington Marshes	Wennington Marshes	Ferry Lane	Rainham			Essex	Essex	RM13 9BJ	Veolia E S Cleanaway (UK) Ltd		Rainham Landfill (Phase 4) Ferry Lane	TQ5210082000	552100	182000	Issued	2213400	EAEPR/BP38 91NJ/A001
PAN002	DL32	80104	A04	Ayletts Farm Quarry		Warwick Lane	Warwick Lane		Rainham			Essex	Essex	RM13 9XW	Panelmark Ltd		Ayletts Farm Quarry, Rainham	TQ5495483501	554954	183501	Modified	127117	EAEPR/JP30 96NP/V002
CLE003	CLE076	80118	A04	Rainham Landfill		Wennington Marshes	Wennington Marshes	Ferry Lane	Rainham			Essex	Essex	RM13 9DA	Veolia E S Cleanaway (UK) Ltd		Rainham Landfill	TQ5255079214	552550	179214	Modified	802270	EAEPR/QP39 96NB/V010
CLE015		80738	A04			Coldharbour Lane	Coldharbour Lane	Off Ferry Lane	Rainham			Essex	Essex	RM13 9DA	Veolia E S Cleanaway (UK) Ltd		Coldharbour Lane, Rainham	TQ5240778958	552407	178958	Issued	1700000	EAEPR/BP34 93ET/A001
WAS003	252/93	80466	A04	Mill Lane Landfill		Mill Lane	Mill Lane		High Ongar			Essex	Essex	CM5 9RG	Waste Recycling Group (Central) Ltd		Mill Lane Landfill (2)	TL56180227	556180	202270	Modified	0	EAEPR/MP35 97NE/V008



LIC_BR	LIC_NUM	LIC_WML	LIC_LTY	Site_ADD_UID	Site_ADD_BHOUSE	Site_ADD_TRT	Site_ADD_S EA	Site_ADD_AR EA	Site_ADD_T OWN	Site_ADD_CNTY	Site_ADD_PC	LIC_NAME	LIC_TRADE	LIC_SITE	NGR	Eastings	Northings	STAT_ESC	LIC_TONS	LIC_EPR
WAS001	093/82	80465	A04	Leca Works		Mill Lane	Chipping Ongar	Ongar	Essex	Essex	CM5 9RG	Waste Recycling Group (Central) Ltd		Mill Lane Landfill	TL56180227	556180	202270	Modified	0	EAEPR/MP39 97NQ/V012
WAS005	333/96	80463	A04	Aveley Landfill		Sandy Lane	Aveley	South Ockendon	Essex	Essex	RM15 4XP	Waste Recycling Group (Central) Ltd		Aveley No2 Clay Pit	TQ55498066	555490	180660	Modified	250000	EAEPR/AP32 93MC/V005
WAS006	372/97	80462	A04	Aveley Landfill		Sandy Lane	Aveley	South Ockendon	Essex	Essex	RM15 4XP	Waste Recycling Group (Central) Ltd		Aveley No3 Clay Pit	TQ5570880954	555708	180954	Modified	5000	EAEPR/AP32 91LG/V005
WAS004	136/87	80464	A04	Aveley Landfill		Sandy Lane	Aveley	South Ockendon	Essex	Essex	RM15 4XP	Waste Recycling Group (Central) Ltd		Aveley No2a Clay Pit	TQ55498066	555490	180660	Modified	0	EAEPR/MP30 97NJ/V005
LRC002	P/01/16	19374	A04	Bamber Pit		Swanscombe High Street		Swanscombe	Kent	Kent	DA10 0AN	London Resort Company Holdings Limited		Bamber Quarry Landfill	TQ6090074600	560900	174600	Transferred	250000	EAEPR/CB39 08CE/T001
BLU002	P/01/26	19375	A04	Northfleet Landfill			Bakers Hole	Northfleet	Kent	Kent	DA11 8HF	Tarmac Cement And Lime Limited		Northfleet Landfill	TQ6100074300	561000	174300	Modified	0	EAEPR/KP38 98HE/V006
WRG006	P/10/68	19502	A04	White Ladies		Teston Road	Offham	West Malling	Kent	Kent	ME19 5PF	Waste Recycling Group (Central) Ltd		Offham Landfill	TQ64725752	564720	157520	Modified	446400	EAEPR/AP32 97SS/V011
WRG001	P/10/08	19488	A04	Stangate Landfill		Quarry Hill Road		Borough Green	Kent	Kent	TN15 8RW	Waste Recycling Group (Central) Ltd		Stangate Landfill	TQ6043156279	560431	156279	Modified	250000	EAEPR/AP31 98HE/V004
AYL002	P/10/06	19487	A04	Margetts Pit Landfill		Margetts Lane	Burham	Rochester	Kent	Kent	ME1 3XU	Margetts Pit Limited		Margetts Pit Landfill	TQ720006258	572000	162580	Modified	100000000	EAEPR/AP36 98HB/V008
RHG001	P/09/26	19478	A05	Hartley Bottom Farm			Hartley Bottom	Dartford	Kent	Kent	DA3 8LJ	R H Glover		Hartley Bottom Farm	TQ6190066000	561900	166000	Modified	4950	EAEPR/MP31 98HZ/V002
LAF010	177/90	80438	A05	Baldwins Farm		Bramble Lane	South Ockendon	Thurrock	Essex	Essex	RM15 5SD	Tarmac Aggregates Limited		Baldwins Farm	TQ5695083650	556950	183650	Modified	150000	EAEPR/BP31 97ND/V003
WRG008	P/11/24	19514	A05	Land/premises at		A20 London Road	Allington	Maidstone	Kent	Kent	ME16 0LE	Waste Recycling Group (Central) Ltd		Allington Landfill	TQ743579	574300	157900	Modified	70000	EAEPR/YP33 98HR/V003
HAZ001	P/10/50	19493	A05	Harpwood		Seven Mile Lane		Wrotham Heath	Kent	Kent	TN15 7RJ	Hazelidene Mr And Mrs	Mr And Mrs Hazelidene	Harpwood Residential	TQ6360058000	563600	158000	Issued	150000	EAEPR/RP35 98HV/A001
GAL001	P/10/51	19494	A05	Manor Cottage		Hermitage Lane	Barming	Maidstone	Kent	Kent		Gallagher Aggregates Ltd		Hermitage Quarry	TQ7200056500	572000	156500	To PPC	250000	EAEPR/RP38 98HJ/A001
BEX001	P/15/03	19565	A05	Manor		Manor Road		Bexley	Kent	Kent	DA5 3LX	Bexley Sand & Ballast Company		Manor Farm	TQ4982273349	549822	173349	Issued	1000000	EAEPR/BP36 94HA/A001
LAF002	DL255	80127	A05	Fairlop Quarry		Hainault Road	Little Heath	Redbridge	Essex	Essex		Tarmac Aggregates Limited		Fairlop Quarry	TQ4661290882	546612	190882	Modified	603400	EAEPR/PP30 91ND/V006
EBB001	EBB001	80124	A05	Mardyke Farm		South Dagenham Road	South Hornchurch	Dagenham	Essex	Essex	RM13 7RS	Ebbcliffe Ltd		Mardyke Farm	TQ5100083700	551000	183700	Modified	692250	EAEPR/QP31 96NT/V003
BRE006	RED076	80389	A05	Fairlop Quarry (C)		Hainault Road	Little Heath	Romford	Essex	Essex	RM6 5SS	Brett Lafarge Ltd		Fairlop Quarry (area C)	TQ4640090700	546400	190700	Modified	300000	EAEPR/YP37 91NR/V002
JCL001	P/01/27	19376	A05	Old Mill Farm		Darenth Hill	Darenth	Dartford	Kent	Kent	DA2 7QZ	J Clubb Limited		Old Mill Farm	TQ5550071200	555500	171200	Issued	150000	EAEPR/KP34 98HG/A001
CLE003	71151	71151	A05	Rainbow Shaw Quarry		Holford Road	Linford	Stanford Le Hope	Essex	Essex	SS17 0PJ	Clearsense Ltd		Rainbow Shaw Quarry	TQ6674880366	566748	180366	To PPC	150000	EAEPR/AP31 98NY/A001

LIC_BR	LIC_OTHID	LIC_WM	LIC_LTYPE	LIC_LT	Site_ADD_UIDL	Site_ADD_BHOUSE	Site_ADD_TRT	Site_ADD_S EA	Site_ADD_AR OWN	Site_ADD_T D_CNTY	Site_ADD_PCODE	LIC_NAME	LIC_TRADE	LIC_SITE	NGR	Eastings	Northings	STAT_ESC	LIC_TONS	LIC_EPR
KEN003	P/04/18	19418	A05				Lower Rainham Road	Rainham	Rainham	Kent		Kent Land Reclamation Ltd		Lower Twydale Chalk Pit	TQ8050067700	580500	167700	Issued	300000	EA/EPR/CP33 98HY/A001
EAS001	120/85	70270	A06	The East Tilbury Quarry			Princess Margaret Road	East Tilbury	East Tilbury	Essex	RM18 8PH	S. Walsh & Son Ltd		The East Tilbury Quarry	TQ6850078600	568500	178600	Modified	0	EA/EPR/BP32 99NS/V006
EAS003	076/80	70265	A06	The East Tilbury Quarry			Princess Margaret Road	East Tilbury	East Tilbury	Essex	RM18 8PH	S. Walsh & Son Limited		Princess Margaret Road Landfill	TQ6900078400	569000	178400	Modified	0	EA/EPR/BP35 99NK/V006
TIL001	THA032	83247	A06	Facility No. 3, Tripcock Point			Off Central Way	Thamesmead	London		SE28	Tilfenland Ltd	Tilfenland Ltd	Tripcock Point Landfill Site	TQ45368071	545360	180710	To PPC	117000	EA/EPR/UP30 90EN/T003
SHE277	DIRP/03/28	19393	A06	Hoo Island			Medway Estuary	Hoo	Rochester	Kent		Port of Sheerness Ltd		Hoo Island	TQ7851070555	578510	170555	Modified	1500000	EA/EPR/GB34 30AA/V002
WAS002		80508	A06	Leca Works			Mill Lane	Chipping Ongar	Ongar	Essex	CM5 9RG	(Central) Ltd		Mill Mane Landfill	TL56180227	556180	202270	Modified	1	EA/EPR/GP36 97NF/V006

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## Appendix J

### J.1 Active mineral facilities

Table J.1 Active mineral facilities

Pit_Name	ALTERNATIV	CMDTY_prod	Easting	Northing	Pit_address	LITHOSTRAT	Operator_name	Operator_address
Dansand Quarry	Orsett Cock West	Sand	565150	180990	Brentwood Road, Orsett, GRAYS, Essex	Thanet Formation	Recycled in Orsett Ltd	Recycled in Orsett Ltd, Stanford Road, Orsett, GRAYS, Essex, RM16 3BB
Dansand Quarry	Orsett Cock West	Secondary	565150	180990	Brentwood Road, Orsett, GRAYS, Essex	Aggregates for recycling	Recycled in Orsett Ltd	Recycled in Orsett Ltd, Stanford Road, Orsett, GRAYS, Essex, RM16 3BB
Civil & Marine Jetty	Purfleet Wharf	Slag	557100	176970	London Road, West Thurrock, GRAYS, Essex, RM20 3NL	Blast Furnace Slag	Hanson Cement	Hanson Cement, Padeswood Works, Padeswood, MOLD, Flintshire, CH7 4HB
Thurrock Marine Terminal	Lafarge Jetty	Marine Sand & Gravel	557185	176550	Oliver Close, West Thurrock, GRAYS, Essex, RM20 3EE	Marine Deposits	Tarmac	Tarmac, Portland House, Bickenhill Lane, Solihull, BIRMINGHAM, B37 7BQ
Tilbury Docks	1 Berth, Tilbury Docks	Crushed Rock	563300	175950	21 Berth Powell Duffryn House, Tilbury Docks, TILBURY, Essex, RM18 7JT	Quarry (Hard Rock)	Stema Shipping (UK) Ltd.	Stema Shipping (UK) Ltd., Cory House, 21 Berth, Tilbury Docks, TILBURY, Essex, RM18 7JT
Purfleet Depot		Crushed Rock	555435	178085	Jorgens Road, PURFLEET, Essex, RM19 1UA	from Glensanda	Aggregate Industries UK	Aggregate Industries UK, Bardon Hill, COALVILLE, Leicestershire, LE67 1TL
Squibb Demolition Yard		Secondary	569066	181670	Wharf Road, Stanford-le-Hope, THURROCK, Essex, SS17 0ED	Aggregates for recycling	Squibb Environmental	Squibb Environmental, Stanhope Industrial Park, Wharf Road, STANFORD-LE-HOPE, Essex, SS17 0EH
East Tilbury Quarry		Sand & Gravel	569212	178832	Princes Margaret Road, East Tilbury, GRAYS, Essex, RM18 8PH	Alluvium	S. Walsh & Son Ltd	S. Walsh & Son Ltd, East Hordon Hall Business Park, Tilbury Road, BRENTWOOD, Essex, CM13 3LR
East Tilbury Quarry		Secondary	569212	178832	Princes Margaret Road, East Tilbury, GRAYS, Essex, RM18 8PH	Aggregates for recycling	S. Walsh & Son Ltd	S. Walsh & Son Ltd, East Hordon Hall Business Park, Tilbury Road, BRENTWOOD, Essex, CM13 3LR
Mill House Farm Pit		Sand & Gravel	565845	178930	Mill House Farm, Muckingford Road, West Tilbury, GRAYS, Essex, RM18 8TP		Unknown Operator	Unknown Operator
Mill House Farm Pit		Sand	565845	178930	Mill House Farm Muckingford Road, West Tilbury, GRAYS, Essex, RM18 8TP	Lambeth Group	Unknown Operator	Unknown Operator
Seales Recycling		Secondary	554774	179724	Juliett Way, Purfleet Industrial Park, Purfleet, GRAYS, Essex	Aggregates for recycling	Seales Road Haulage Ltd	Seales Road Haulage Ltd, 17 Juliette Way, Purfleet Industrial Park, SOUTH OCKENDEN, Essex, RM15 4YB
Brocks		Secondary	558223	176835	Watson Close, West Thurrock, GRAYS, Essex	Aggregates for recycling	Brocks Haulage Ltd	Brocks Haulage Ltd, Beacon Hill Industrial Estate, Botany Way, PURFLEET, Essex, RM19 1SR
Killoughery Wharf		Secondary	555756	178270	Botany Way, Beacon Hill Industrial Estate, Purfleet, GRAYS, Essex	Aggregates for recycling	Killoughery Construction Ltd.	Killoughery Construction Ltd., Beacon Hill Industrial Estate, Botany Way, PURFLEET, Essex, RM19 1SR
Jurgens Wharf	Purfleet Stone Terminal	Crushed Rock	557275	177315	Jurgens Road, PURFLEET, Essex, RM19 1UA	!	Aggregate Industries UK	Aggregate Industries UK, Bardon Hill, COALVILLE, Leicestershire, LE67 1TL
Bourne Wood Quarry	Bourne Wood Thanet Sand Quarry	Sand	550230	168275	BROMLEY, Kent	Thanet Formation	Bourne Wood Sand & Gravel Ltd.	Bourne Wood Sand & Gravel Ltd., Quarry Drive, A20 Swanley Bypass, SWANLEY, Kent, BR8 7QH
Victoria Deep Water Terminal	Victoria Wharf	Crushed Rock	538900	179470	The Weighbridge Tunnel Avenue, Greenwich, LONDON, SE10 0QE	Quarry (Hard Rock)	Hanson Aggregates, South East Region	Hanson Aggregates, South East Region, St Lawrence Avenue, 20/20 Industrial Estate, Allington, MAIDSTONE, Kent, ME16 0LQ
Victoria Deep Water Terminal	Victoria Wharf	Marine Sand & Gravel	538900	179470	The Weighbridge, Tunnel Avenue, Greenwich, LONDON, SE10 0QE	Marine Deposits	Hanson Aggregates, South East Region	Hanson Aggregates, South East Region, St Lawrence Avenue, 20/20 Industrial Estate, Allington, MAIDSTONE, Kent, ME16 0LQ
Angerstein Wharf	Angerstein's	Marine Sand & Gravel	540350	179195	Off Horn Lane, Bugsby's Way, New Charlton, LONDON, SE10 0RT	Marine Deposits	CEMEX UK Materials Ltd.	CEMEX UK Materials Ltd., CEMEX House, Coldharbour Lane, Thorpe, EGHAM, Surrey, TW20 8TD
Murphy's Wharf	Christies Wharf	Marine Sand & Gravel	540500	179140	Lombard Wall, Charlton, LONDON, SE7 7SH	Marine Deposits	Tarmac	Tarmac, Portland House, Bickenhill Lane, Solihull, BIRMINGHAM, B37 7BQ

Pit_Name	ALTERNATIV	CMDTY_prod	Easting	Northing	Pit_address	LITHOSTRAT	Operator_name	Operator_address
Pioneer Wharf	Erith Wharf	Marine Sand & Gravel	550835	179700	Church Manorway, ERITH, Kent, DA8 1DE	Marine Deposits	Tarmac	Tarmac, Portland House, Bickenhill Lane, Solihull, BIRMINGHAM, B37 7BQ
Dagenham Wharf	Hanson Aggregates Wharf	Marine Sand & Gravel	549150	181670	Chequers Lane, DAGENHAM, Essex, RM9 6QD	Marine Deposits	Hanson Aggregates Marine Ltd.	Hanson Aggregates Marine Ltd., Burnley Wharf, Marine Parade, SOUTHAMPTON, Hampshire, SO14 5JF
Dagenham Rail Depot		Crushed Rock	549150	181670	Chequers Lane, DAGENHAM, Essex, RM9 6QD	Carboniferous Limestone	Hanson Aggregates, South East Region	Hanson Aggregates, South East Region, St Lawrence Avenue, 20/20 Industrial Estate, Allington, MAIDSTONE, Kent, ME16 0LQ
Eurovia Wharf	Ringway, No 1 Western Extension, Whitemountain Wharf		548890	181865	No1 Western Extension, Dagenham Dock Chequers Lane, DAGENHAM, Essex, RM9 6QD	Carnduff Halite	Eurovia Roadstone	Eurovia Roadstone, Albion House, Springfield Road, HORSHAM, West Sussex, RH12 2RW
Eurovia Wharf	Ringway, No 1 Western Extension, Whitemountain Wharf	Crushed Rock	548890	181865	No1 Western Extension, Dagenham Dock Chequers Lane, DAGENHAM, Essex, RM9 6QD	Antrim Lava Group (Whitemountain Quarry)	Eurovia Roadstone	Eurovia Roadstone, Albion House, Springfield Road, HORSHAM, West Sussex, RH12 2RW
Conway Wharf	Erith Wharf, British Gypsum Wharf	Crushed Rock	550910	179040	Conway Asphalt Plant, Church Manorway, ERITH, Kent, DA8 1DF	Quarry (Hard Rock)	F. M. Conway Ltd.	F. M. Conway Ltd., Conway House, Rochester Way, DARTFORD, Kent, DA1 3QY
Riverside Wharf	Charlton Works	Crushed Rock	541275	179178	Charlton Works Herringham Road, Charlton, LONDON, SE7 8SJ	Quarry (Hard Rock)	Tarmac	Tarmac, Portland House, Bickenhill Lane, Solihull, BIRMINGHAM, B37 7BQ
Charlton Wharf	Angerstein Wharf, Murphy's Wharf	Crushed Rock	540580	179000	Murphy's Wharf Lombard Wall, Charlton, LONDON, SE7 7SH		Day Aggregates	Day Aggregates, Transport Avenue, Great West Road, BRENTFORD, Middlesex, TW8 9HF
Charlton Wharf	Angerstein Wharf, Murphy's Wharf	Sand & Gravel	540580	179000	Murphy's Wharf Lombard Wall, Charlton, LONDON, SE7 7SH	Sand and Gravel	Day Aggregates	Day Aggregates, Transport Avenue, Great West Road, BRENTFORD, Middlesex, TW8 9HF
Charlton Wharf	Angerstein Wharf, Murphy's Wharf	Sand	540580	179000	Murphy's Wharf Lombard Wall, Charlton, LONDON, SE7 7SH	Sand and Gravel of Unknown Age	Day Aggregates	Day Aggregates, Transport Avenue, Great West Road, BRENTFORD, Middlesex, TW8 9HF
Charlton Wharf	Angerstein Wharf, Murphy's Wharf	Secondary	540580	179000	Murphy's Wharf Lombard Wall, Charlton, LONDON, SE7 7SH	Aggregates for recycling	Day Aggregates	Day Aggregates, Transport Avenue, Great West Road, BRENTFORD, Middlesex, TW8 9HF
Angerstein Wharf Rail Depot	Mohawk Wharf RMC	Crushed Rock	540350	179140	New Charlton, LONDON	Bardon Breccia	Aggregate Industries UK	Aggregate Industries UK, Barton Hill, COALVILLE, Leicestershire, LE67 1TL
Dock Entrance Wharf	Dagenham Wharf	Sand & Gravel	540380	179830	Bradfield Road, Silvertown, LONDON, E16 2AX	Sand and Gravel of Unknown Origin	Euromix Concrete Ltd	Euromix Concrete Ltd, Waltham Road, Boreham, CHELMSFORD, Essex, CM3 3AW
Dagenham Wharf	Rainham, South Hall Farm & Spring Farm Quarry	Marine Sand & Gravel	548110	182315	DAGENHAM, Essex	Marine Deposits	CEMEX UK Materials Ltd.	CEMEX UK Materials Ltd., CEMEX House, Coldharbour Lane, Thorpe, EGHAM, Surrey, TW20 8TD
Spring Farm Quarry	Ringway, No 1 Western Extension, Whitemountain Wharf	Sand & Gravel	553800	182200	New Road, RAINHAM, Essex	Taplow Gravel Formation	Haveing Aggregates Ltd.	Haveing Aggregates Ltd., Brett House, Bysing Wood Road, FAVERSHAM, Kent, ME13 7UD
Eurovia Wharf	Ringway, No 1 Western Extension, Whitemountain Wharf		548890	181865	No1 Western Extension, Dagenham Dock Chequers Lane, DAGENHAM, Essex, RM9 6QD		Eurovia Roadstone	Eurovia Roadstone, Albion House, Springfield Road, HORSHAM, West Sussex, RH12 2RW
Eurovia Wharf	Ringway, No 1 Western Extension, Whitemountain Wharf	Salt	548890	181865	No1 Western Extension, Dagenham Dock Chequers Lane, DAGENHAM, Essex, RM9 6QD	Carnduff Halite	Eurovia Roadstone	Eurovia Roadstone, Albion House, Springfield Road, HORSHAM, West Sussex, RH12 2RW

Pit_Name	ALTERNATIV	CMDTY_prod	Easting	Northing	Pit_address	LITHOSTRAT	Operator_name	Operator_address
	Whitemountain Wharf							
Cliffe Quarry		Chalk	572455	175950	Salt Lane, Cliffe, ROCHESTER, Kent, ME3 7TL	White Chalk Subgroup (Upper Chalk)	Omya UK Ltd	Omya UK Ltd, Omya House, Stephenson's Way, Wyvern Business Park, Chaddesden, DERBY, Derbyshire, DE2 6LY
Detling Quarry		Chalk	579125	158745	Hermitage Lane, Detling, MAIDSTONE, Kent, ME14 3HW	Lewes Nodular Chalk Formation	John Bourne & Co., Ltd.	John Bourne & Co., Ltd., Rye Road, Newenden, CRANBROOK, Kent, TN18 5QG
Pinden Quarry		Chalk	559565	169625	Pinden Quarry Green Street, Green Road, DARTFORD, Kent, DA2 8EB	White Chalk Subgroup (Upper Chalk)	Pinden Ltd	Pinden Ltd, Pinden Quarry, Green Street Green Road, Longfield, DARTFORD, Kent, DA2 8EB
Whitehall Farm Quarry	Grain Pit	Clay & Shale	588350	177305	Whitehall Farm, GRAIN, Kent	London Clay Formation	J. Clubb Ltd.	J. Clubb Ltd., Church Hill, Wilmington, DARTFORD, Kent, DA2 7DZ
Hermitage Lane Quarry	Hermitage	Limestone	572265	155900	Hermitage Lane, Barming Heath, MAIDSTONE, Kent, ME20 7PX	Hythe Formation (Kentish Ragstone)	Gallagher Aggregates Ltd.	Gallagher Aggregates Ltd., Little Preston, Aylesford, MAIDSTONE, Kent, ME20 7NS
Hermitage Lane Quarry	Hermitage	Sand & Gravel	572265	155900	Hermitage Lane, Barming Heath, MAIDSTONE, Kent, ME20 7PX	Hythe Formation (Hassock)	Gallagher Aggregates Ltd.	Gallagher Aggregates Ltd., Little Preston, Aylesford, MAIDSTONE, Kent, ME20 7NS
Nepicar Farm Quarry		Sand	562405	157845	Wrotham Road, PLATT, Kent	Folkestone Formation	J. Clubb Ltd.	J. Clubb Ltd., Church Hill, Wilmington, DARTFORD, Kent, DA2 7DZ
Nepicar Farm Quarry		Silica Sand	562405	157845	Wrotham Road, PLATT, Kent	Folkestone Formation	J. Clubb Ltd.	J. Clubb Ltd., Church Hill, Wilmington, DARTFORD, Kent, DA2 7DZ
Borough Green Sand Pits Quarry		Sand	561570	157630	Platt Industrial Estate, Maidstone Road, Platt, SEVENOAKS, Kent, TN15 8JL	Folkestone Formation	Borough Green Sandpits Ltd.	Borough Green Sandpits Ltd., Platt Industrial Estate, Maidstone Rd, Platt, SEVENOAKS, Kent, TN15 8JL
Addington North Quarry	Addington, Wrotham, Addington East Quarry	Silica Sand	564715	159430	Trottscliffe Road, Addington, WROTHAM, Kent, ME19 5DL	Folkestone Formation	Hanson Aggregates, South East Region	Hanson Aggregates, South East Region, St Lawrence Avenue, 20/20 Industrial Estate, Allington, MAIDSTONE, Kent, ME16 0LQ
Addington South Quarry	Addington, Wrotham	Silica Sand	564900	159050	Trottscliffe Road, Addington, WROTHAM, Kent, ME19 5DL	Folkestone Formation	Hanson Aggregates, South East Region	Hanson Aggregates, South East Region, St Lawrence Avenue, 20/20 Industrial Estate, Allington, MAIDSTONE, Kent, ME16 0LQ
Frindsbury Wharf	Euro Wharf	Marine Sand & Gravel	575480	169530	Anthony's Way, Medway City Estate, Frindsbury, ROCHESTER, Kent, ME2 4EN	Marine Deposits	Hanson Aggregates, South East Region	Hanson Aggregates, South East Region, St Lawrence Avenue, 20/20 Industrial Estate, Allington, MAIDSTONE, Kent, ME16 0LQ
Allington Rail Depot		Crushed Rock	574550	157830	St Lawrence Road, 20/20 Industrial Estate, Allington, MAIDSTONE, Kent, ME16 0LQ	Carboniferous Limestone	Hanson Aggregates, South East Region	Hanson Aggregates, South East Region, St Lawrence Avenue, 20/20 Industrial Estate, Allington, MAIDSTONE, Kent, ME16 0LQ
Allington Rail Depot		Sand & Gravel	574550	157830	St Lawrence Road, 20/20 Industrial Estate, Allington, MAIDSTONE, Kent, ME16 0LQ	Sand and Gravel of Unknown Origin	Hanson Aggregates, South East Region	Hanson Aggregates, South East Region, St Lawrence Avenue, 20/20 Industrial Estate, Allington, MAIDSTONE, Kent, ME16 0LQ
Northfleet Wharf	Botany Marshes	Marine Sand & Gravel	561125	176000	Botany Marshes Lower Road, NORTHFLEET, Kent, DA11 9BB	Marine Deposits	CEMEX UK Materials Ltd.	CEMEX UK Materials Ltd., CEMEX House, Coldharbour Lane, Thorpe, EGHAM, Surrey, TW20 8TD
North Sea Terminal	Alpha Jetty	Marine Sand & Gravel	570588	176800	Salt Lane, Cliffe, ROCHESTER, Kent, ME3 7SX	Marine Deposits	Brett Aggregates Ltd.	Brett Aggregates Ltd., Brett House, Bysing Wood Road, FAVERSHAM, Kent, ME13 7UD
Clubb's Marine Terminal	Denton Marine	Crushed Rock	566960	174200	Marine Gravel Works Mark Lane, Denton, GRAVESEND, Kent, DA12 2QB	Quarry (Hard Rock)	J. Clubb Ltd.	J. Clubb Ltd., Church Hill, Wilmington, DARTFORD, Kent, DA2 7DZ
Clubb's Marine Terminal	Denton Marine	Marine Sand & Gravel	566960	174200	Marine Gravel Works Mark Lane, Denton, GRAVESEND, Kent, DA12 2QB	Marine Deposits	J. Clubb Ltd.	J. Clubb Ltd., Church Hill, Wilmington, DARTFORD, Kent, DA2 7DZ

Pit_Name	ALTERNATIV	CMDTY_prod	Easting	Northing	Pit_address	LITHOSTRAT	Operator_name	Operator_address
Red Lion Wharf		Crushed Rock	563160	174580	Crete Hall Road, NORTHFLEET, Kent, DA11 9AD	Quarry (Hard Rock)	Stema Shipping (UK) Ltd.	Stema Shipping (UK) Ltd., Cory House, 21 Berth, Tilbury Docks, TILBURY, Essex, RM18 7JT
Red Lion Wharf		Marine Sand & Gravel	563160	174580	Crete Hall Road, NORTHFLEET, Kent, DA11 9AD	Marine Deposits	Stema Shipping (UK) Ltd.	Stema Shipping (UK) Ltd., Cory House, 21 Berth, Tilbury Docks, TILBURY, Essex, RM18 7JT
42 Wharf	Bevan's Wharf	Mineral	562440	174770	NORTHFLEET, Kent	Clinker	Tarmac	Tarmac, Portland House, Bickenhill Lane, Solihull, BIRMINGHAM, B37 7BQ
Robin's Wharf	Northfleet	Crushed Rock	561750	175120	Grove Road, NORTHFLEET, Kent, DA11 9AX	Quarry (Hard Rock)	Brett Aggregates Ltd.	Brett Aggregates Ltd., Brett House, Bysing Wood Road, FAVERSHAM, Kent, ME13 7UD
Greenhithe Wharf	Johnson's Wharf	Marine Sand & Gravel	558205	175120	King Edward Road, GREENHITHE, Kent, DA9 9AD	Marine Deposits	Tarmac	Tarmac, Portland House, Bickenhill Lane, Solihull, BIRMINGHAM, B37 7BQ
Isle of Grain	Thamesport	Crushed Rock	587210	174035	Gate Bold BP Terminal, Isle of Grain, ROCHESTER, Kent, ME3 0AG	from Glensanda	Day Aggregates	Day Aggregates, Transport Avenue, Great West Road, BRENTFORD, Middlesex, TW8 9HF
Isle of Grain Wharf	Thamesport	Crushed Rock	587525	174280	BP Terminal, Isle of Grain, ROCHESTER, Kent, ME3 0AG	from Glensanda	Aggregate Industries UK	Aggregate Industries UK, Bardon Hill, COALVILLE, Leicestershire, LE67 1TL
North Sea Terminal		Marine Sand & Gravel	572000	175500	Cliffe, ROCHESTER, Kent	Marine Deposits	Brett Aggregates Ltd.	Brett Aggregates Ltd., Brett House, Bysing Wood Road, FAVERSHAM, Kent, ME13 7UD
Sevenoaks Quarry	Greatness Farm	Sand	553425	157450	Ball and Bat Road, SEVENOAKS, Kent, TN14 5SR	Folkestone Formation	Tarmac	Tarmac, Portland House, Bickenhill Lane, Solihull, BIRMINGHAM, B37 7BQ
Ightham Sand Pit	Cricketts Farm, Dark Hill Sandpits	Sand	560430	157445	Wrotham Road, Borough Green, SEVENOAKS, Kent, TN15 8DG	Folkestone Formation	H & H UK Limited	H & H UK Limited, Celcon House, Ightham, SEVENOAKS, Kent, TN15 9HZ
Blaise Farm Quarry Extension		Limestone	566130	155915	King Hill Road, WEST MALLING, Kent, ME19 4PN	Hythe Formation	Gallagher Aggregates Ltd.	Gallagher Aggregates Ltd., Little Preston, Aylesford, MAIDSTONE, Kent, ME20 7NS

Pit_Name	ALTERNATIV	CMDTY_prod	Easting	Northing	Pit_addresses	LITHOSTRAT	Operator_n	Operator_a
Dansand Quarry	Orsett Cock West	Sand	565150	180990	Brentwood Road, Orsett, GRAYS, Essex	Thanet Formation	Recycled in Orsett Ltd	Recycled in Orsett Ltd, Stanford Road, Orsett, GRAYS, Essex, RM16 3BB
Dansand Quarry	Orsett Cock West	Secondary	565150	180990	Brentwood Road, Orsett, GRAYS, Essex	Aggregates for recycling	Recycled in Orsett Ltd	Recycled in Orsett Ltd, Stanford Road, Orsett, GRAYS, Essex, RM16 3BB
Civil & Marine Jetty	Purfleet Wharf	Slag	557100	176970	London Road, West Thurrock, GRAYS, Essex, RM20 3NL	Blast Furnace Slag	Hanson Cement	Hanson Cement, Padeswood Works, Padeswood, MOLD, Flintshire, CH7 4HB
Thurrock Marine Terminal	Lafarge Jetty	Marine Sand & Gravel	557185	176550	Oliver Close, West Thurrock, GRAYS, Essex, RM20 3EE	Marine Deposits	Tarmac	Tarmac, Portland House, Bickenhill Lane, Solihull, BIRMINGHAM, B37 7BQ
Tilbury Docks	1 Berth, Tilbury Docks	Crushed Rock	563300	175950	21 Berth, Powell Duffryn House, Tilbury Docks, TILBURY, Essex, RM18 7JT	Quarry (Hard Rock)	Stema Shipping (UK) Ltd.	Stema Shipping (UK) Ltd., Cory House, 21 Berth, Tilbury Docks, TILBURY, Essex, RM18 7JT
Purfleet Depot		Crushed Rock	555435	178085	Jorgens Road, PURFLEET, Essex, RM19 1UA	from Glensanda	Aggregate Industries UK	Aggregate Industries UK, Bardon Hill, COALVILLE, Leicestershire, LE67 1TL
Squibb Demolition Yard		Secondary	569066	181670	Wharf Road, Stanford-le-Hope, THURROCK, Essex, SS17 0ED	Aggregates for recycling	Squibb Environmental	Squibb Environmental, Stanhope Industrial Park, Wharf Road, STANFORD-LE-HOPE, Essex, SS17 0EH
East Tilbury Quarry		Sand & Gravel	569212	178832	Princes Margaret Road, East Tilbury, GRAYS, Essex, RM18 8PH	Alluvium	S. Walsh & Son Ltd	S. Walsh & Son Ltd, East Hordon Hall Business Park, Tilbury Road, BRENTWOOD, Essex, CM13 3LR
East Tilbury Quarry		Secondary	569212	178832	Princes Margaret Road, East Tilbury, GRAYS, Essex, RM18 8PH	Aggregates for recycling	S. Walsh & Son Ltd	S. Walsh & Son Ltd, East Hordon Hall Business Park, Tilbury Road, BRENTWOOD, Essex, CM13 3LR
Mill House Farm Pit		Sand & Gravel	565845	178930	Mill House Farm Muckingford Road, West Tilbury, GRAYS, Essex, RM18 8TP	Boyn Hill Gravel Member	Unknown Operator	Unknown Operator
Mill House Farm Pit		Sand	565845	178930	Mill House Farm Muckingford Road, West Tilbury, GRAYS, Essex, RM18 8TP	Lambeth Group	Unknown Operator	Unknown Operator

Pit Name	ALTERNATIV	CMDTY_prod	Easting	Northing	Pit_adress	LITHOSTRAT	Operator_n	Operator_a
Seales Recycling		Secondary	554774	179724	Juliett Way, Purfleet Industrial Park, Purfleet, GRAYS, Essex	Aggregates for recycling	Seales Road Haulage Ltd	Seales Road Haulage Ltd, 17 Juliette Way, Purfleet Industrial Park, SOUTH OCKENDEN, Essex, RM15 4YB
Brocks		Secondary	558223	176835	Watson Close, West Thurrock, GRAYS, Essex	Aggregates for recycling	Brocks Haulage Ltd	Brocks Haulage Ltd, Beacon Hill Industrial Estate, Botany Way, PURFLEET, Essex, RM19 1SR
Killoughery		Secondary	555756	178270	Botany Way, Beacon Hill Industrial Estate, Purfleet, GRAYS, Essex	Aggregates for recycling	Killoughery Construction Ltd.	Killoughery Construction Ltd., Beacon Hill Industrial Estate, Botany Way, PURFLEET, Essex, RM19 1SR
Jurgens Wharf	Purfleet Stone Terminal	Crushed Rock	557275	177315	Jurgens Road, PURFLEET, Essex, RM19 1UA	!	Aggregate Industries UK	Aggregate Industries UK, Bardon Hill, COALVILLE, Leicestershire, LE67 1TL
Bourne Wood Quarry	Bourne Wood Thanet Sand Quarry	Sand	550230	168275	BROMLEY, Kent	Thanet Formation	Bourne Wood Sand & Gravel Ltd.	Bourne Wood Sand & Gravel Ltd., Quarry Drive, A20 Swanley Bypass, SWANLEY, Kent, BR8 7QH
Victoria Deep Water Terminal	Victoria Wharf	Crushed Rock	538900	179470	The Weighbridge Tunnel Avenue, Greenwich, LONDON, SE10 0QE	Quarry (Hard Rock)	Hanson Aggregates, South East Region	Hanson Aggregates, South East Region, St Lawrence Avenue, 20/20 Industrial Estate, Allington, MAIDSTONE, Kent, ME16 0LQ
Victoria Deep Water Terminal	Victoria Wharf	Marine Sand & Gravel	538900	179470	The Weighbridge Tunnel Avenue, Greenwich, LONDON, SE10 0QE	Marine Deposits	Hanson Aggregates, South East Region	Hanson Aggregates, South East Region, St Lawrence Avenue, 20/20 Industrial Estate, Allington, MAIDSTONE, Kent, ME16 0LQ
Angerstein Wharf	Angerstein's	Marine Sand & Gravel	540350	179195	Off Horn Lane, Bugsby's Way, New Charlton, LONDON, SE10 0RT	Marine Deposits	CEMEX UK Materials Ltd.	CEMEX UK Materials Ltd., CEMEX House, Coldharbour Lane, Thorpe, EGHAM, Surrey, TW20 8TD
Murphy's Wharf	Christies Wharf	Marine Sand & Gravel	540500	179140	Lombard Wall, Charlton, LONDON, SE7 7SH	Marine Deposits	Tarmac	Tarmac, Portland House, Bickenhill Lane, Solihull, BIRMINGHAM, B37 7BQ
Pioneer Wharf	Erith Wharf	Marine Sand & Gravel	550835	179700	Church Manorway, ERITH, Kent, DA8 1DE	Marine Deposits	Tarmac	Tarmac, Portland House, Bickenhill Lane, Solihull, BIRMINGHAM, B37 7BQ
Dagenham Wharf	Hanson Aggregates Wharf	Marine Sand & Gravel	549150	181670	Chequers Lane, DAGENHAM, Essex, RM9 6QD	Marine Deposits	Hanson Aggregates Marine Ltd.	Hanson Aggregates Marine Ltd., Burnley Wharf, Marine Parade, SOUTHAMPTON, Hampshire, SO14 5JF
Dagenham Rail Depot		Crushed Rock	549150	181670	Chequers Lane, DAGENHAM, Essex, RM9 6QD	Carboniferous Limestone	Hanson Aggregates, South East Region	Hanson Aggregates, South East Region, St Lawrence Avenue, 20/20 Industrial Estate, Allington, MAIDSTONE, Kent, ME16 0LQ
Eurovia Wharf	Ringway, No 1 Western Extension, Whitemountain Wharf		548890	181865	No1 Western Extension, Dagenham Dock Chequers Lane, DAGENHAM, Essex, RM9 6QD	Carnduff Halite	Eurovia Roadstone	Eurovia Roadstone, Albion House, Springfield Road, HORSHAM, West Sussex, RH12 2RW
Eurovia Wharf	Ringway, No 1 Western Extension, Whitemountain Wharf	Crushed Rock	548890	181865	No1 Western Extension, Dagenham Dock Chequers Lane, DAGENHAM, Essex, RM9 6QD	Antrim Lava Group (Whitemountain Quarry)	Eurovia Roadstone	Eurovia Roadstone, Albion House, Springfield Road, HORSHAM, West Sussex, RH12 2RW
Conway Wharf	Erith Wharf, British Gypsum Wharf	Crushed Rock	550910	179040	Conway Asphalt Plant, Church Manorway, ERITH, Kent, DA8 1DF	Quarry (Hard Rock)	F. M. Conway Ltd.	F. M. Conway Ltd., Conway House, Rochester Way, DARTFORD, Kent, DA1 3QY
Riverside Wharf	Charlton Works	Crushed Rock	541275	179178	Charlton Works Herringham Road, Charlton, LONDON, SE7 8SJ	Quarry (Hard Rock)	Tarmac	Tarmac, Portland House, Bickenhill Lane, Solihull, BIRMINGHAM, B37 7BQ
Charlton Wharf	Angerstein Wharf, Murphy's Wharf	Crushed Rock	540580	179000	Murphy's Wharf, Lombard Wall, Charlton, LONDON, SE7 7SH	!	Day Aggregates	Day Aggregates, Transport Avenue, Great West Road, BRENTFORD, Middlesex, TW8 9HF
Charlton Wharf	Angerstein Wharf, Murphy's Wharf	Sand & Gravel	540580	179000	Murphy's Wharf Lombard Wall, Charlton, LONDON, SE7 7SH	Sand and Gravel	Day Aggregates	Day Aggregates, Transport Avenue, Great West Road, BRENTFORD, Middlesex, TW8 9HF
Charlton Wharf	Angerstein Wharf, Murphy's Wharf	Sand	540580	179000	Murphy's Wharf, Lombard Wall, Charlton, LONDON, SE7 7SH	Sand and Gravel of Unknown Age	Day Aggregates	Day Aggregates, Transport Avenue, Great West Road, BRENTFORD, Middlesex, TW8 9HF

Pit_Name	ALTERNATIV	CMDTY_prod	Easting	Northing	Pit_addresses	LITHOSTRAT	Operator_n	Operator_a
Charlton Wharf	Angerstein Wharf, Murphy's Wharf	Secondary	540580	179000	Murphy's Wharf Lombard Wall, Charlton, LONDON, SE7 7SH	Aggregates for recycling	Day Aggregates	Day Aggregates, Transport Avenue, Great West Road, BRENTFORD, Middlesex, TW8 9HF
Angerstein Wharf Rail Depot		Crushed Rock	540350	179140	New Charlton, LONDON	Bardon Breccia	Aggregate Industries UK	Aggregate Industries UK, Bardon Hill, COALVILLE, Leicestershire, LE67 1TL
Dock Entrance Wharf	Mohawk Wharf	Sand & Gravel	540380	179830	Bradfield Road, Silvertown, LONDON, E16 2AX	Sand and Gravel of Unknown Origin	Euromix Concrete Ltd	Euromix Concrete Ltd, Waltham Road, Boreham, CHELMSFORD, Essex, CM3 3AW
Dagenham Wharf	RMC Dagenham Wharf	Marine Sand & Gravel	548110	182315	DAGENHAM, Essex	Marine Deposits	CEMEX UK Materials Ltd.	CEMEX UK Materials Ltd., CEMEX House, Coldharbour Lane, Thorpe, EGHAM, Surrey, TW20 8TD
Spring Farm Quarry	Rainham, South Hall Farm & Spring Farm Quarry	Sand & Gravel	553800	182200	New Road, RAINHAM, Essex	Taplow Gravel Formation	Havering Aggregates Ltd.	Havering Aggregates Ltd., Brett House, Bysing Wood Road, FAVERSHAM, Kent, ME13 7UD
Eurovia Wharf	Ringway, No 1 Western Extension, Whitemountain Wharf		548890	181865	No1 Western Extension, Dagenham Dock Chequers Lane, DAGENHAM, Essex, RM9 6QD		Eurovia Roadstone	Eurovia Roadstone, Albion House, Springfield Road, HORSHAM, West Sussex, RH12 2RW
Eurovia Wharf	Ringway, No 1 Western Extension, Whitemountain Wharf	Salt	548890	181865	No1 Western Extension, Dagenham Dock Chequers Lane, DAGENHAM, Essex, RM9 6QD	Carnduff Halite	Eurovia Roadstone	Eurovia Roadstone, Albion House, Springfield Road, HORSHAM, West Sussex, RH12 2RW
Cliffe Quarry		Chalk	572455	175950	Salt Lane, Cliffe, ROCHESTER, Kent, ME3 7TL	White Chalk Subgroup (Upper Chalk)	Omya UK Ltd	Omya UK Ltd, Omya House, Stephenson's Way, Wyvern Business Park, Chaddesden, DERBY, Derbyshire, DE2 6LY
Detling Quarry		Chalk	579125	158745	Hermitage Lane, Detling, MAIDSTONE, Kent, ME14 3HW	Lewes Nodular Chalk Formation	John Bourne & Co., Ltd.	John Bourne & Co., Ltd., Rye Road, Newenden, CRANBROOK, Kent, TN18 5QG
Pinden Quarry		Chalk	559565	169625	Pinden Quarry Green Street, Green Road, DARTFORD, Kent, DA2 8EB	White Chalk Subgroup (Upper Chalk)	Pinden Ltd	Pinden Ltd, Pinden Quarry, Green Street Green Road, Longfield, DARTFORD, Kent, DA2 8EB
Whitehall Farm Quarry	Grain Pit	Clay & Shale	588350	177305	Whitehall Farm, GRAIN, Kent	London Clay Formation	J. Clubb Ltd.	J. Clubb Ltd., Church Hill, Wilmington, DARTFORD, Kent, DA2 7DZ
Hermitage Lane Quarry	Hermitage	Limestone	572265	155900	Hermitage Lane, Barming Heath, MAIDSTONE, Kent, ME20 7PX	Hythe Formation (Kentish Ragstone)	Gallagher Aggregates Ltd.	Gallagher Aggregates Ltd., Little Preston, Aylesford, MAIDSTONE, Kent, ME20 7NS
Hermitage Lane Quarry	Hermitage	Sand & Gravel	572265	155900	Hermitage Lane, Barming Heath, MAIDSTONE, Kent, ME20 7PX	Hythe Formation (Hassock)	Gallagher Aggregates Ltd.	Gallagher Aggregates Ltd., Little Preston, Aylesford, MAIDSTONE, Kent, ME20 7NS
Nepicar Farm Quarry		Sand	562405	157845	Wrotham Road, PLATT, Kent	Folkestone Formation	J. Clubb Ltd.	J. Clubb Ltd., Church Hill, Wilmington, DARTFORD, Kent, DA2 7DZ
Nepicar Farm Quarry		Silica Sand	562405	157845	Wrotham Road, PLATT, Kent	Folkestone Formation	J. Clubb Ltd.	J. Clubb Ltd., Church Hill, Wilmington, DARTFORD, Kent, DA2 7DZ
Borough Green Sand Pits Quarry		Sand	561570	157630	Platt Industrial Estate Maidstone Road, Platt, SEVENOAKS, Kent, TN15 8JL	Folkestone Formation	Borough Green Sandpits Ltd.	Borough Green Sandpits Ltd., Platt Industrial Estate, Maidstone Rd, Platt, SEVENOAKS, Kent, TN15 8JL
Addington North Quarry	Addington, Wrotham, Addington East Quarry	Silica Sand	564715	159430	Trottscliffe Road, Addington, WROTHAM, Kent, ME19 5DL	Folkestone Formation	Hanson Aggregates, South East Region	Hanson Aggregates, South East Region, St Lawrence Avenue, 20/20 Industrial Estate, Allington, MAIDSTONE, Kent, ME16 0LQ
Addington South Quarry	Addington, Wrotham	Silica Sand	564900	159050	Trottscliffe Road, Addington, WROTHAM, Kent, ME19 5DL	Folkestone Formation	Hanson Aggregates,	Hanson Aggregates, South East Region, St Lawrence Avenue, 20/20 Industrial Estate, Allington, MAIDSTONE, Kent, ME16 0LQ



Pit Name	ALTERNATIV	CMDTY_prod	Easting	Northing	Pit_addresses	LITHOSTRAT	Operator_n	Operator_a
Frindsbury Wharf	Euro Wharf	Marine Sand & Gravel	575480	169530	Anthony's Way, Medway City Estate, Frindsbury, ROCHESTER, Kent, ME2 4EN	Marine Deposits	South East Region	Hanson Aggregates, South East Region, St Lawrence Avenue, 20/20 Industrial Estate, Allington, MAIDSTONE, Kent, ME16 0LQ
Allington Rail Depot		Crushed Rock	574550	157830	St Lawrence Road, 20/20 Industrial Estate, Allington, MAIDSTONE, Kent, ME16 0LQ	Carboniferous Limestone	Hanson Aggregates, South East Region	Hanson Aggregates, South East Region, St Lawrence Avenue, 20/20 Industrial Estate, Allington, MAIDSTONE, Kent, ME16 0LQ
Allington Rail Depot		Sand & Gravel	574550	157830	St Lawrence Road, 20/20 Industrial Estate, Allington, MAIDSTONE, Kent, ME16 0LQ	Sand and Gravel of Unknown Origin	Hanson Aggregates, South East Region	Hanson Aggregates, South East Region, St Lawrence Avenue, 20/20 Industrial Estate, Allington, MAIDSTONE, Kent, ME16 0LQ
Northfleet Wharf	Botany Marshes	Marine Sand & Gravel	561125	176000	Botany Marshes Lower Road, NORTHFLEET, Kent, DA11 9BB	Marine Deposits	CEMEX UK Materials Ltd.	CEMEX UK Materials Ltd., CEMEX House, Coldharbour Lane, Thorpe, EGHAM, Surrey, TW20 8TD
North Sea Terminal	Alpha Jetty	Marine Sand & Gravel	570588	176800	Salt Lane, Cliffe, ROCHESTER, Kent, ME3 7SX	Marine Deposits	Brett Aggregates Ltd.	Brett Aggregates Ltd., Brett House, Bysing Wood Road, FAVERSHAM, Kent, ME13 7UD
Clubb's Marine Terminal	Denton Marine	Crushed Rock	566960	174200	Marine Gravel Works Mark Lane, Denton, GRAVESEND, Kent, DA12 2QB	Quarry (Hard Rock)	J. Clubb Ltd.	J. Clubb Ltd., Church Hill, Wilmington, DARTFORD, Kent, DA2 7DZ
Clubb's Marine Terminal	Denton Marine	Marine Sand & Gravel	566960	174200	Marine Gravel Works Mark Lane, Denton, GRAVESEND, Kent, DA12 2QB	Marine Deposits	J. Clubb Ltd.	J. Clubb Ltd., Church Hill, Wilmington, DARTFORD, Kent, DA2 7DZ
Red Lion Wharf		Crushed Rock	563160	174580	Crete Hall Road, NORTHFLEET, Kent, DA11 9AD	Quarry (Hard Rock)	Stema Shipping (UK) Ltd.	Stema Shipping (UK) Ltd., Cory House, 21 Berth, Tilbury Docks, TILBURY, Essex, RM18 7JT
Red Lion Wharf		Marine Sand & Gravel	563160	174580	Crete Hall Road, NORTHFLEET, Kent, DA11 9AD	Marine Deposits	Stema Shipping (UK) Ltd.	Stema Shipping (UK) Ltd., Cory House, 21 Berth, Tilbury Docks, TILBURY, Essex, RM18 7JT
42 Wharf	Bevan's Wharf	Mineral	562440	174770	NORTHFLEET, Kent	Clinker	Tarmac	Tarmac, Portland House, Bickenhill Lane, Solihull, BIRMINGHAM, B37 7BQ
Robin's Wharf	Northfleet	Crushed Rock	561750	175120	Grove Road, NORTHFLEET, Kent, DA11 9AX	Quarry (Hard Rock)	Brett Aggregates Ltd.	Brett Aggregates Ltd., Brett House, Bysing Wood Road, FAVERSHAM, Kent, ME13 7UD
Greenhithe Wharf	Johnson's Wharf	Marine Sand & Gravel	558205	175120	King Edward Road, GREENHITHE, Kent, DA9 9AD	Marine Deposits	Tarmac	Tarmac, Portland House, Bickenhill Lane, Solihull, BIRMINGHAM, B37 7BQ
Isle of Grain Wharf	Thamesport	Crushed Rock	587210	174035	Old BP Terminal, Isle of Grain, ROCHESTER, Kent, ME3 0AG	from Glensanda	Day Aggregates	Day Aggregates, Transport Avenue, Great West Road, BRENTFORD, Middlesex, TW8 9HF
Isle of Grain Wharf	Thamesport	Crushed Rock	587525	174280	BP Terminal, Isle of Grain, ROCHESTER, Kent, ME3 0AG	from Glensanda	Aggregate Industries UK	Aggregate Industries UK, Bardon Hill, COALVILLE, Leicestershire, LE67 1TL
North Sea Terminal	Greatness Farm	Marine Sand & Gravel	572000	175500	Cliffe, ROCHESTER, Kent	Marine Deposits	Brett Aggregates Ltd.	Brett Aggregates Ltd., Brett House, Bysing Wood Road, FAVERSHAM, Kent, ME13 7UD
Sevenoaks Quarry		Sand	553425	157450	Ball and Bat Road, SEVENOAKS, Kent, TN14 5SR	Folkestone Formation	Tarmac	Tarmac, Portland House, Bickenhill Lane, Solihull, BIRMINGHAM, B37 7BQ
Ightham Sand Pit	Cricketts Farm, Dark Hill Sandpits	Sand	560430	157445	Wrotham Road, Borough Green, SEVENOAKS, Kent, TN15 8DG	Folkestone Formation	H & H UK Limited	H & H UK Limited, Celcon House, Ightham, SEVENOAKS, Kent, TN15 9HZ
Blaise Farm Quarry Extension		Limestone	566130	155915	King Hill Road, WEST MALLING, Kent, ME19 4PN	Hythe Formation	Gallagher Aggregates Ltd.	Gallagher Aggregates Ltd., Little Preston, Aylesford, MAIDSTONE, Kent, ME20 7NS

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# Appendices

## Chapter 15.

### Road Drainage and Water Environment

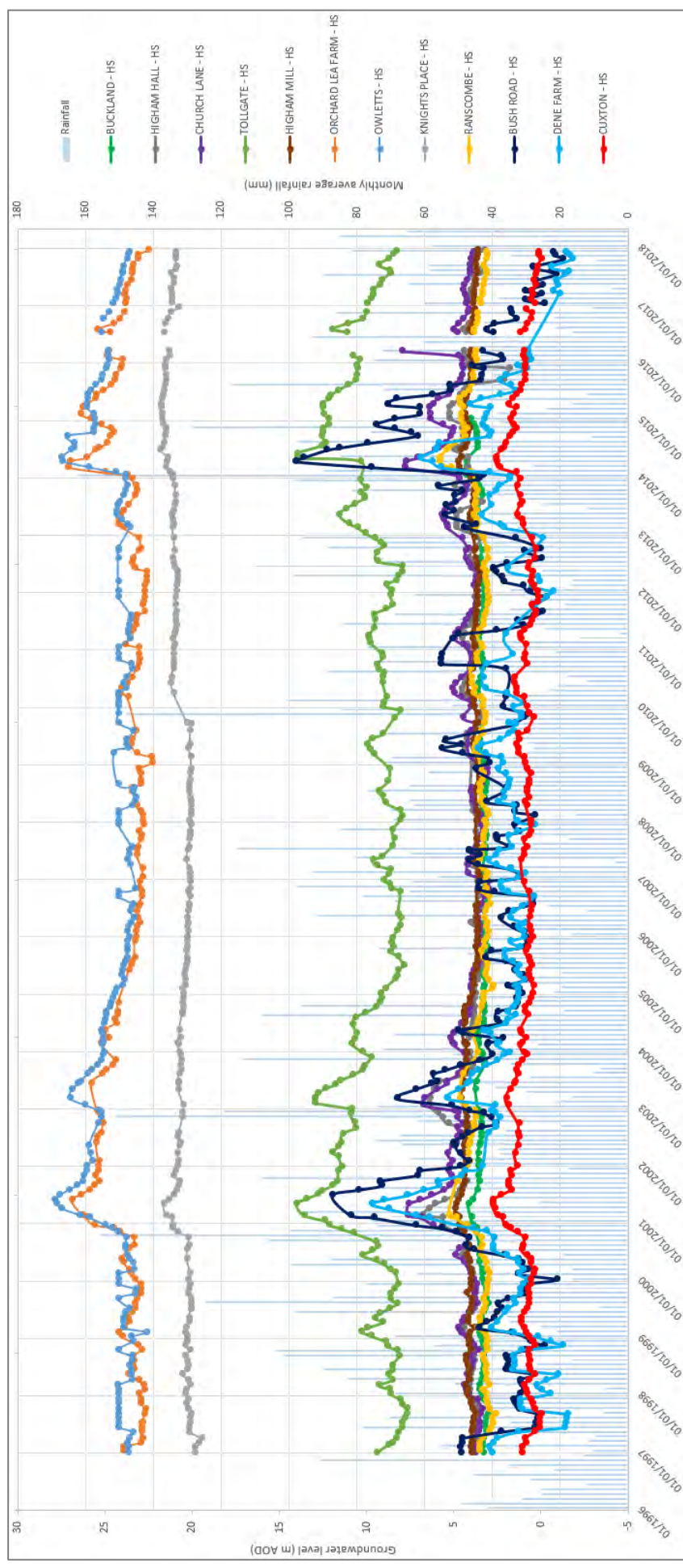
# CHAPTER 15: ROAD DRAINAGE AND WATER ENVIRONMENT

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## Appendix K

### K.1 Groundwater levels south of the Thames

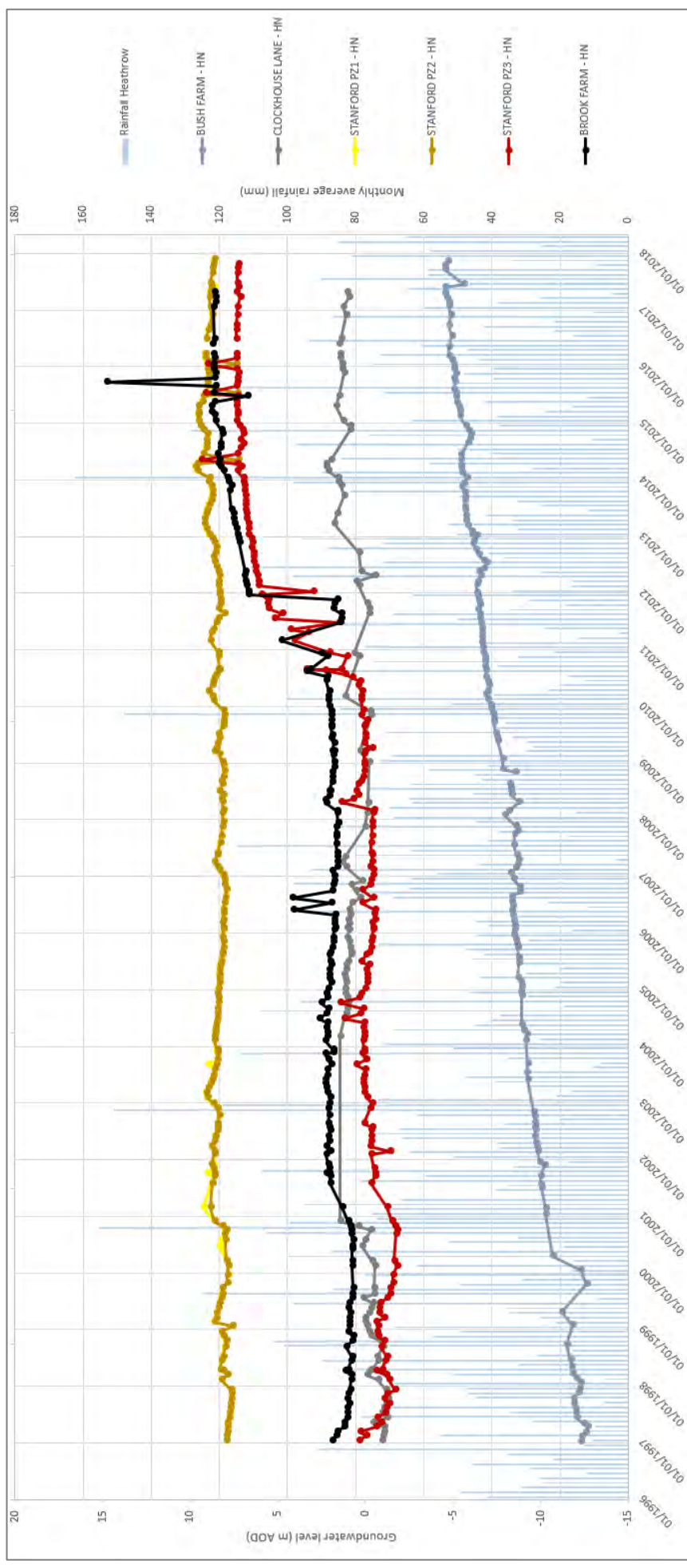
Plate K.1 Groundwater levels in the Chalk aquifer south of the River Thames



Note: Rainfall monthly average data provided by the Met Office (January 1996 to April 2018). Location of the measurement is London Heathrow Airport.

## K.2 Groundwater levels north of the Thames

Plate K.2 Groundwater levels in the Chalk aquifer north of the River Thames



Note: Rainfall monthly average data provided by the Met Office (January 1996 to April 2018). Location of the measurement is London Heathrow Airport.

### K.3 Groundwater levels summary

Table K.1 Groundwater levels identified through observation boreholes

Environment Agency observation borehole	Eastings	Northing	Aquifer	Depth (m)	Minimum water level (mAOD)	Maximum water level (mAOD)	Median water level (mAOD)	Minimum water level date	Maximum water level date
South of the River Thames									
Owletts	566XXX	168XXX	Chalk	69	22.67	27.9	24.28	02/1999	05/2001
Higham Hall	571XXX	172XXX	Chalk		1.86	6.83	4.02	10/2015	02/2001
Higham Mill	572XXX	171XXX	Chalk		3.53	4.95	4.035	04/2012	03/2001
Ranscombe	571XXX	167XXX	Chalk		2.63	5.87	3.435	09/1997	03/2014
Knights Place	570XXX	168XXX	Chalk		19.52	21.88	20.74	04/1997	05/2014
Church Lane	568XXX	172XXX	Chalk	40	3.05	8.03	4.27	10/2006	02/2016
Tollgate	564XXX	171XXX	Chalk		7.74	14.06	9.495	09/1997	04/2001
Springhead Road	562XXX	173XXX	Chalk		-3.29	1.25	-1.53	03/2006	02/2014
Buckland Farm	571XXX	173XXX	Chalk	62	3.00	4.32	3.41	10/1997	12/2013
Bush Road	569XXX	167XXX	Chalk		-1.21	14.12	2.59	09/2017	03/2014
Orchard Lea Farm	568XXX	170XXX	Chalk	72	22.31	27.16	23.49	12/2008	02/2014
Cuxton Meter House	571XXX	166XXX	Chalk		0.03	2.81	0.93	09/1997	04/2001
Southfleet	561XXX	173XXX			-1.85	2.7	0.41	10/2002	03/2014
Dene Farm	570XXX	167XXX	Chalk	95	-1.74	9.75	1.94	09/2017	04/2001
North of the River Thames									
Bush Farm Pit Aveley	556XXX	184XXX	Chalk		-12.66	-4.51	-7.38	04/1997	09/2017
Stanford Le Hope Pzi	567XXX	182XXX			7.62	9.76	8.47	01/1999	02/2014
Stanford Le Hope Pz2	567XXX	182XXX			7.28	9.73	8.44	04/2014	02/2014



Environment Agency observation borehole	Eastings	Northing	Aquifer	Depth (m)	Minimum water level (mAOD)	Maximum water level (mAOD)	Median water level (mAOD)	Minimum water level date	Maximum water level date
Stanford-Le-Hope Pz3	567XXX	182XXX			-1.82	9.39	0.12	02/2000	04/2014
Clockhouse Lane	560XXX	179XXX	Chalk		-1.26	2.25	0.75	10/1997	02/2014
Brook Farm	565XXX	180XXX	Chalk	23	0.70	14.78	2.04	07/2000	08/2015

**Notes:**

*Monthly manual water level dip readings provided by the Environment Agency (1996 to 2017)*

*Gaps show no data available at the time of reporting*

*Dates shown as month/year*

*The locations of the Environment Agency monitoring boreholes have been shown with a resolution of less than 1 km<sup>2</sup>*

## Appendix L

### L.1 Licence abstraction and discharge permit tables

Table L.1 Licensed abstraction – groundwater

Licence no.	Name	Use description	Period start	Period end	Point name	Source aquifer	Easting	Northing	Max annual quantity m <sup>3</sup>	Max daily quantity m <sup>3</sup>
9/40/01/0 511/G	Southern Water Services Ltd	Potable Water Supply - Direct	01/01	31/12	Chalk Boreholes, Wells and Adits at Luddesdown PS	Chalk	566XXX	166XXX	17700000	96000
9/40/01/0 511/G	Southern Water Services Ltd	Potable Water Supply - Direct	01/01	31/12	Lower Greensand Boreholes, Wells and Adits at Luddesdown PS	Chalk	566XXX	166XXX	17700000	96000
9/40/01/0 511/G	Southern Water Services Ltd	Potable Water Supply - Direct	01/01	31/12	Boreholes, Wells and Adits at Cuxton PS (Dean Farm)	Chalk	570XXX	167XXX	17700000	96000
9/40/01/0 511/G	Southern Water Services Ltd	Potable Water Supply - Direct	01/01	31/12	Boreholes, Wells and Adits at Cuxton PS	Chalk	568XXX	167XXX	17700000	96000
9/40/01/0 511/G	Southern Water Services Ltd	Potable Water Supply - Direct	01/01	31/12	Chalk Boreholes, Wells and Adits at Northfleet PS	Chalk	563XXX	1692XX	17700000	96000

Licence no.	Name	Use description	Period start	Period end	Point name	Source aquifer	Easting	Northing	Max annual quantity m <sup>3</sup>	Max daily quantity m <sup>3</sup>
9/40/01/0 511/G	Southern Water Services Ltd	Potable Water Supply - Direct	01/01	31/12	Lower Greensand Boreholes, Wells and Adits at Northfleet PS	Chalk	5639XX	169XXX	17700000	96000
9/40/01/0 511/G	Southern Water Services Ltd	Potable Water Supply - Direct	01/01	31/12	Boreholes, Wells and Adits at Strood PS	Chalk	572XXX	169XXX	17700000	96000
9/40/01/0 511/G	Southern Water Services Ltd	Potable Water Supply - Direct	01/01	31/12	Boreholes, Wells and Adits at Three Crutches PS (S), Shorne	Chalk	570XXX	170XXX	17700000	96000
9/40/01/0 511/G	Southern Water Services Ltd	Potable Water Supply - Direct	01/01	31/12	Boreholes, Wells and Adits at Three Crutches PS (N), Shorne	Chalk	570XXX	170XXX	17700000	96000
9/40/01/0 511/G	Southern Water Services Ltd	Potable Water Supply - Direct	01/01	31/12	Boreholes, Wells and Adits at Hazells PS, Northfleet	Chalk	562XXX	171XXX	17700000	96000
SO/040/0 001/019	Mid Kent Golf Club Limited	Spray Irrigation - Storage	01/04	31/03	Mid Kent Golf Club Borehole	Lower Greensand	564325	171869	10000	50
9/40/01/0 511/G	Southern Water Services Ltd	Potable Water Supply - Direct	01/01	31/12	Boreholes, Wells and Adits at Higham PS, Shorne	Chalk	571XXX	172XXX	17700000	96000

Licence no.	Name	Use description	Period start	Period end	Point name	Source aquifer	Easting	Northing	Max annual quantity m <sup>3</sup>	Max daily quantity m <sup>3</sup>
9/40/01/0 511/G	Southern Water Services Ltd	Potable Water Supply - Direct	01/01	31/12	Boreholes, Adits and Catchpits at Windmill Hill PS	Chalk	565XXX	173XXX	17700000	96000
01/154	Berendse n UK Limited	Laundry Use	01/04	31/03	Point A, Borehole at Springhead Enterprise Park	Chalk	562230	173450	120000	400
9/40/01/0 092/B/GR	Kimberly-Clark Limited	Process Water	01/10	30/09	Borehole 1, H5 Chalk, Northfleet.	Chalk	562410	173660	4710000	19656
9/40/01/0 092/B/GR	Kimberly-Clark Limited	Process Water	01/10	30/09	Borehole 2, H5 Chalk, Northfleet.	Chalk	562450	173660	4710000	19656
9/40/01/0 086/GR	LEJ Properties Ltd	General Use Relating to Secondary Category (Medium Loss)	01/01	31/12	Borehole 2 at Nuralite (UK) Ltd, Higham, Rochester	Chalk	570170	173730	318000	727
9/40/01/0 086/GR	LEJ Properties Ltd	General Use Relating to Secondary Category (Medium Loss)	01/01	31/12	Borehole 2 at Nuralite (UK) Ltd, Higham, Rochester	Chalk	570170	173730	318000	727
9/40/01/0 051/GR	Lafarge Cement UK PLC	Spray Irrigation - Direct	01/04	31/10	Point A at Blue Lake Northfleet Cement Works	Chalk	562210	173750	1186000	6721
9/40/01/0 051/GR	Lafarge Cement UK PLC	General Use Relating to Secondary Category (Medium Loss)	01/01	31/12	Point A at Blue Lake Northfleet Cement Works	Chalk	562210	173750	1186000	6721

Licence no.	Name	Use description	Period start	Period end	Point name	Source aquifer	Easting	Northing	Max annual quantity m <sup>3</sup>	Max daily quantity m <sup>3</sup>
9/40/01/0 051/GR	Lafarge Cement UK PLC	Non-Evaporative Cooling	01/01	31/12	Point A at Blue Lake Northfleet Cement Works	Chalk	562210	173750	1186000	6721
9/40/01/0 051/GR	Lafarge Cement UK PLC	Process Water	01/01	31/12	Point A at Blue Lake Northfleet Cement Works	Chalk	562210	173750	1186000	6721
9/40/01/0 092/B/GR	Kimberly-Clark Limited	Process Water	01/10	30/09	Borehole 3, Springhead Lake, Northfleet.	Chalk	562260	173750	4710000	19656
9/40/01/0 051/GR	Lafarge Cement UK PLC	Spray Irrigation - Direct	01/04	31/10	Point B at Blue Lake Northfleet Cement Works	Chalk	561920	173800	1186000	6721
9/40/01/0 051/GR	Lafarge Cement UK PLC	General Use Relating to Secondary Category (Medium Loss)	01/01	31/12	Point B at Blue Lake Northfleet Cement Works	Chalk	561920	173800	1186000	6721
9/40/01/0 051/GR	Lafarge Cement UK PLC	Non-Evaporative Cooling	01/01	31/12	Point B at Blue Lake Northfleet Cement Works	Chalk	561920	173800	1186000	6721
9/40/01/0 051/GR	Lafarge Cement UK PLC	Process Water	01/01	31/12	Point B at Blue Lake Northfleet Cement Works	Chalk	561920	173800	1186000	6721
9/40/01/0 086/GR	LEJ Properties Ltd	General Use Relating to Secondary Category (Medium Loss)	01/01	31/12	Borehole 1 at Nuralite (UK) Ltd, Higham, Rochester	Chalk	570380	173840	318000	727
9/40/01/0 086/GR	LEJ Properties Ltd	General Use Relating to Secondary Category (Medium Loss)	01/01	31/12	Borehole 1 at Nuralite (UK) Ltd, Higham, Rochester	Chalk	570380	173840	318000	727

Licence no.	Name	Use description	Period start	Period end	Point name	Source aquifer	Easting	Northing	Max annual quantity m <sup>3</sup>	Max daily quantity m <sup>3</sup>
9/40/01/0 508/G	Southern Water Services Ltd	General Washing/Process Washing	01/01	31/12	Point 1, Borehole at Gravesend Sewage Works in Kent.	Chalk	566670	174000	55000	340
9/40/01/0 092/A/GR	Kimberly-Clark Limited	Boiler Feed	01/01	31/12	Point B, Borehole at Kimberly Clark, Northfleet	Lower Greensand	562770	174120	400000	1309
9/40/01/0 498/G	J Clubb Ltd	Mineral Washing	01/01	31/12	Borehole B, Underground Strata River Terrace Gravels	River Terrace Gravels	566929	174152	83969	336
9/40/01/0 498/G	J Clubb Ltd	Mineral Washing	01/01	31/12	Point A, S Drift, Underground Gravel Strata (Thames Ballast)	River Terrace Gravels	566925	174152	83969	336
9/40/01/0 092/B/GR	Kimberly-Clark Limited	Process Water	01/10	30/09	Borehole 4, Crete Hall Road, Northfleet.	Chalk	562980	174260	4710000	19656
9/40/01/0 092/A/GR	Kimberly-Clark Limited	Boiler Feed	01/01	31/12	Point A, Borehole at Kimberly Clark, Northfleet	Lower Greensand	562760	174590	400000	1309
8/37/56/ G/0006	C H Cole & Sons	General Farming & Domestic	01/01	31/12	Well 2 at Polwicks, West Tilbury	Fluvial Sands/ Gravels	566800	177600	182000	1300

Licence no.	Name	Use description	Period start	Period end	Point name	Source aquifer	Easting	Northing	Max annual quantity m <sup>3</sup>	Max daily quantity m <sup>3</sup>
8/37/56/ G/0006	C H Cole & Sons	Spray Irrigation - Direct	01/04	31/10	Well 2 at Polwicks, West Tilbury	Fluvial Sands/ Gravels	566800	177600	182000	1300
8/37/56/ G/0006	C H Cole & Sons	General Farming & Domestic	01/01	31/12	Excav at Polwicks, West Tilbury	Fluvial Sands/ Gravels	567000	177800	182000	1300
8/37/56/ G/0006	C H Cole & Sons	General Farming & Domestic	01/01	31/12	Well 1 at Polwicks, West Tilbury	Fluvial Sands/ Gravels	567000	177800	182000	1300
8/37/56/ G/0006	C H Cole & Sons	Spray Irrigation - Direct	01/04	31/10	Excav at Polwicks, West Tilbury	Fluvial Sands/ Gravels	567000	177800	182000	1300
8/37/56/ G/0006	C H Cole & Sons	Spray Irrigation - Direct	01/04	31/10	Well 1 at Polwicks, West Tilbury	Fluvial Sands/ Gravels	567000	177800	182000	1300
8/37/56/ G/0026	S Walsh & Son Ltd	Mineral Washing	01/01	31/12	Gravel Pit at East Tilbury	Fluvial Sands/ Gravels	568800	177800	409100	1909
8/37/56/ G/0073	RWE Generatio n UK PLC	General Use Relating to Secondary Category (Medium Loss)	01/01	31/12	4 Boreholes, Low St, East Tilbury	Chalk	567200	177800	1100000	5500
8/37/56/ G/0073	RWE Generatio n UK PLC	Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services	01/01	31/12	4 Boreholes, Low St, East Tilbury	Chalk	567200	177800	1100000	5500
8/37/56/ G/0073	RWE Generatio n UK PLC	General Use Relating to Secondary Category (Medium Loss)	01/01	31/12	4 Boreholes, Low St, East Tilbury	Chalk	567200	177800	1100000	5500

Licence no.	Name	Use description	Period start	Period end	Point name	Source aquifer	Easting	Northing	Max annual quantity m <sup>3</sup>	Max daily quantity m <sup>3</sup>
8/37/56/ G/0044	Northumbrian Water Ltd	General Use Relating to Secondary Category (Very Low Loss)	01/01	31/12	Well at Linford, Essex	Chalk	567XXX	179XXX	3728000	18065
8/37/56/ G/0044	Northumbrian Water Ltd	Potable Water Supply - Direct	01/01	31/12	Well at Linford, Essex	Chalk	567XXX	179XXX	3728000	18065
8/37/56/ G/0044	Northumbrian Water Ltd	Potable Water Supply - Direct	01/01	31/12	Well at Stifford, Essex	Chalk	559XXX	180XXX	3728000	18065
8/37/56/ G/0062	Cory Environmental Ltd	Dust Suppression	01/01	31/12	Gravel Pit at Mucking Marsh, Mucking Essex	Glacial Sands/ Gravels	568280	180300	6000	50
AN/037/0 056/012	Orsett Golf Club Limited	Spray Irrigation - Direct	01/04	31/10	Borehole at Orsett Golf Club	Chalk	565985	180732	24000	240
TH/037/0 055/011	Belmont Laundry Limited	Laundry Use	01/04	31/03	Borehole at Arisdale Avenue, South Ockendon	Chalk	558776	182123	93000	255
8/37/56/ G/0032	C H Cole & Sons	General Farming & Domestic	01/01	31/12	Botney Farm, Orsett.	Fluvial Sands/ Gravels	562600	182700	11140	42
8/37/56/ G/0032	C H Cole & Sons	General Farming & Domestic	01/01	31/12	Home Farm, Orsett.	Fluvial Sands/ Gravels	565400	182700	11140	42
8/37/56/ G/0032	C H Cole & Sons	General Farming & Domestic	01/01	31/12	Hobletts Farm, Orsett.	Fluvial Sands/ Gravels	562900	182900	11140	42



Licence no.	Name	Use description	Period start	Period end	Point name	Source aquifer	Easting	Northing	Max annual quantity m <sup>3</sup>	Max daily quantity m <sup>3</sup>
08/37/55/0043*	Lafarge Aggregates Limited	Mineral Washing	01/01	31/12	Thames Groundwater	River Terrace Gravels	557200	183610	unknown	unknown
8/37/56/G/0032	C H Cole & Sons	General Farming & Domestic	01/01	31/12	Castles Farm, Orsett.	Fluvial Sands/ Gravels	563000	184000	11140	42

Notes: The locations of public water supply abstraction sources have been shown with a resolution of less than 1 km<sup>2</sup>.

\* The groundwater licensed abstraction 08/37/55/0043 was present in the 2015 EA data set, but not in the 2018 EA data set. It is unclear whether this abstraction is currently in use.

## L.2 Licensed abstraction – Surface water

Table L.2 Licensed abstraction – surface water

Licence no.	Name	Use description	Period start	Period end	Point name	Easting	Northing	Max annual Quantity m <sup>3</sup>	Max daily quantity m <sup>3</sup>
9/40/01/0061/SR	Terry & Houghton Ltd	Spray Irrigation - Direct	01/03	30/09	Points A-B, Unnamed Watercourse, Kings Farm, Higham.	570630	173700	36386	1164
9/40/01/0061/SR	Terry & Houghton Ltd	Spray Irrigation - Storage	01/10	28/02	Points A-B, Unnamed Watercourse, Kings Farm, Higham.	570630	173700	36386	1164
01/150/R01	The Royal Society for the Protection of Birds	Make-Up or Top-Up Water	01/04	31/05	Point A, Denton New Cut at Shorne Marshes RSPB Reserve	568194	173902	244799	2160

Licence no.	Name	Use description	Period start	Period end	Point name	Eastings	Northing	Max annual Quantity m <sup>3</sup>	Max daily quantity m <sup>3</sup>
SO/040/0001/001/R01	GRAVESHAM BOROUGH COUNCIL	General Use Relating to Secondary Category (Very Low Loss)	01/04	31/03	Denton New Cut-Canal Restoration	567468	174076	50000	1728
01/150/R01	The Royal Society for the Protection of Birds	Make-Up or Top-Up Water	01/04	31/05	Point B, Denton New Cut at Shorne Marshes RSPB Reserve	568824	174152	244799	2160
01/150/R01	The Royal Society for the Protection of Birds	Make-Up or Top-Up Water	01/04	31/05	Area 1, Ditches at Shorne Marshes RSPB Reserve	568022	174370	244799	2160
01/150/R01	The Royal Society for the Protection of Birds	Make-Up or Top-Up Water	01/11	31/03	Area 1, Ditches at Shorne Marshes RSPB Reserve	568022	174370	244799	2160
01/150/R01	The Royal Society for the Protection of Birds	Make-Up or Top-Up Water	01/04	31/05	Point D, Denton New Cut at Higham Marshes RSPB Reserve	570503	174554	244799	2160
01/150/R01	The Royal Society for the Protection of Birds	Make-Up or Top-Up Water	01/11	31/03	Point D, Denton New Cut at Higham Marshes RSPB Reserve	570503	174554	244799	2160

Licence no.	Name	Use description	Period start	Period end	Point name	Eastings	Northing	Max annual Quantity m <sup>3</sup>	Max daily quantity m <sup>3</sup>
01/150/R01	The Royal Society for the Protection of Birds	Make-Up or Top-Up Water	01/04	31/05	Area 2, Ditches at Higham Marshes RSPB Reserve	569842	174962	244799	2160
01/150/R01	The Royal Society for the Protection of Birds	Make-Up or Top-Up Water	01/11	31/03	Area 2, Ditches at Higham Marshes RSPB Reserve	569842	174962	244799	2160
01/150/R01	The Royal Society for the Protection of Birds	Make-Up or Top-Up Water	01/04	31/05	Point C, Denton New Cut at Higham Marshes RSPB Reserve	571093	175097	244799	2160
01/150/R01	The Royal Society for the Protection of Birds	Make-Up or Top-Up Water	01/11	31/03	Point C, Denton New Cut at Higham Marshes RSPB Reserve	571093	175097	244799	2160
9/40/01/0522/S	Robert Brett & Sons Ltd	Mineral Washing	01/01	31/12	Point A, Tidal River Thames at Swanscombe.	561870	175100	45500	375
8/37/56/*T/0091	Innogy PLC	Non-Evaporative Cooling	01/01	31/12	Intakes on River Thames	566020	175240	1600000000	4600000
01/129	Robert Brett & Sons Ltd	Mineral Washing	01/01	31/12	Point A, Marsh Lake at Cliffe	571680	175680	500000	5818

Licence no.	Name	Use description	Period start	Period end	Point name	Easting	Northing	Max annual Quantity m <sup>3</sup>	Max daily quantity m <sup>3</sup>
SO/040/0001/024	Brett Aggregates Limited	Transfer Between Sources (Post Water Act 2003)	01/04	31/03	Thames Estuary at Cliffe	570814	176407	1576800	6543
SO/040/0001/021	Boskalis West-minster Limited	Transfer Between Sources (Post Water Act 2003)	01/04	31/03	River Thames at Cliffe Pools, Kent	570808	177515	0	0
SO/040/0001/021	Boskalis West-minster Limited	Conveying Materials	01/04	31/03	River Thames at Cliffe Pools, Kent	570808	177515	0	0
8/37/56/*S/0085/R01	C H Cole & Sons	Spray Irrigation - Storage	01/11	31/03	Ditch Trib of R. Thames	566477	179408	127272	3600
8/37/56/*S/0089	Hill Farm Estates Ltd	Make-Up or Top Up Water	01/11	31/03	R Mardyke, South Ockendon	559620	180388	3000	45
8/37/56/*S/0066	C H Cole & Sons	Spray Irrigation - Direct	01/04	31/10	River Mardyke at Orsett - Abstraction Pt A	560974	181098	228000	3283
8/37/56/*S/0066	C H Cole & Sons	Transfer Between Sources (Pre- Water Act 2003)	01/04	31/10	River Mardyke at Orsett - Abstraction Pt A	560974	181098	228000	3283
8/37/56/*S/0088A/R01	C H Cole & Sons (Cherry Orchard)	Spray Irrigation - Storage	01/11	31/03	River Mardyke at Orsett - Abstraction Pt A	560974	181098	200000	3333

Licence no.	Name	Use description	Period start	Period end	Point name	Easting	Northing	Max annual Quantity m <sup>3</sup>	Max daily quantity m <sup>3</sup>
AN/037/0056/009	the Warren Fishery Limited	Transfer Between Sources (Post Water Act 2003)	01/04	31/03	Warren Lake at Stanford-le-Hope, Essex	568944	181108	0	0
8/37/56/*S/0066	C H Cole & Sons	Spray Irrigation - Direct	01/04	31/10	River Mardyke at Orsett	561200	181600	228000	3283
8/37/56/*S/0066	C H Cole & Sons	Transfer Between Sources (Pre-Water Act 2003)	01/04	31/10	River Mardyke at Orsett	561200	181600	228000	3283
8/37/56/*S/0066	C H Cole & Sons	Spray Irrigation - Storage	01/11	31/03	Orsett Fen Sewer at Orsett	563400	182900	228000	3283
8/37/56/*S/0066	C H Cole & Sons	Spray Irrigation - Direct	01/04	31/10	River Mardyke at Orsett	562039	183003	228000	3283
8/37/56/*S/0066	C H Cole & Sons	Transfer Between Sources (Pre-Water Act 2003)	01/04	31/10	River Mardyke at Orsett	562039	183003	228000	3283
8/37/56/*S/0088A/R01	C H Cole & Sons (Cherry Orchard)	Spray Irrigation - Storage	01/11	31/03	River Mardyke at Orsett - Abstraction Pt B	562039	183003	200000	3333
08/37/55/0020	Mee	Spray Irrigation - Storage	01/11	31/03	Kemps Farm, Upminster - Trib of Wennington Common Sewer	558600	183600	6819.15	6819.15

Licence no.	Name	Use description	Period start	Period end	Point name	Easting	Northing	Max annual Quantity m <sup>3</sup>	Max daily quantity m <sup>3</sup>
8/37/56/*S/0066	C H Cole & Sons	Spray Irrigation - Direct	01/04	31/10	River Mardyke at Orsett	562000	183700	228000	3283
8/37/56/*S/0066	C H Cole & Sons	Transfer Between Sources (Pre-Water Act 2003)	01/04	31/10	River Mardyke at Orsett	562000	183700	228000	3283
8/37/56/*S/0066	C H Cole & Sons	Spray Irrigation - Direct	01/04	31/10	Stringcock Sewer at Orsett	562400	184000	228000	3283
8/37/56/*S/0066	C H Cole & Sons	Transfer Between Sources (Pre-Water Act 2003)	01/04	31/10	Stringcock Sewer at Orsett	562400	184000	228000	3283
08/37/55/0076	A P Mee Partnership	Spray Irrigation - Storage	01/11	31/03	Manor Farm, Upminster - Reservoir	558200	184400	150018	4546
08/37/55/0072	Mee	Spray Irrigation - Storage	01/11	31/03	Hall Farm, Upminster - Reservoir	558600	184600	15911	1637
08/37/55/0070	Chapman	Spray Irrigation - Storage	01/03	31/10	Rainham Lodge Farm, Upminster -unnamed tributary of Ingrebourne	554940	184640	13638	227.3
08/37/55/0044	Turner	Spray Irrigation - Direct	01/05	30/09	High House Farm - Pond on unnamed tributary of R.Ingrebourne	556260	184920	1818	364

Licence no.	Name	Use description	Period start	Period end	Point name	Easting	Northing	Max annual Quantity m <sup>3</sup>	Max daily quantity m <sup>3</sup>
8/37/56/*S/0076	Top Meadow Golf Club	Make-Up or Top Up Water	01/04	31/03	Trib.of R Mardyke - N Ockendon	561100	185100	15000	691
8/37/56/*S/0076	Top Meadow Golf Club	Spray Irrigation - Storage	01/04	31/03	Trib.of R Mardyke - N Ockendon	561100	185100	15000	691
08/37/55/0083	Dagenham Landscapes Ltd	Spray Irrigation - Direct	01/05	30/09	Redcrofts Farm, North Ockendon - trib of River Ingrebourn	556500	185400	3273	163.6
8/37/56/*S/0001**	Mee	Spray Irrigation - Direct	01/05	30/09	Surface Water Source of Supply	558000	185600	unknown	unknown
8/37/56/*S/0068	Mee	Spray Irrigation - Direct	01/11	31/03	Cranham Hall Farm 2, Cranham	557500	186300	28000	28000
8/37/56/*S/0060	Childerditch Farms	Spray Irrigation - Storage	01/11	31/03	Mardyke East at Bulphan	562800	186400	23000	400
8/37/56/*S/0068	MEE	Spray Irrigation - Direct	01/11	31/03	Cranham Hall Farm 1, Cranham	557300	186500	28000	28000
8/37/56/*S/0051	Childerditch Farms	Spray Irrigation - Storage	01/11	31/03	North Branch of the Mardyke	560800	186700	394550	3734
8/37/56/*S/0087/R01	G J Skinner & S Mould	Make-Up or Top-Up Water	01/11	31/03	West Arm R Mardyke, Upminster	559368	186718	7000	432
8/37/56/*S/0051	Childerditch Farms	Spray Irrigation - Storage	01/11	31/03	North Branch of the Mardyke	561200	188400	394550	3734

Licence no.	Name	Use description	Period start	Period end	Point name	Easting	Northing	Max annual Quantity m <sup>3</sup>	Max daily quantity m <sup>3</sup>
8/37/56/*S/0051	Childerditch Farms	Spray Irrigation - Direct	01/05	30/09	North Branch of the Mardyke	561300	188500	394550	3734
8/37/56/*S/0051	Childerditch Farms	Spray Irrigation - Direct	01/04	30/09	North Branch of the Mardyke	561400	188700	394550	3734
8/37/56/*S/0051	Childerditch Farms	Spray Irrigation - Direct	01/04	30/09	Tributary N branch of the Mardyke	561300	189100	394550	3734
8/37/56/*S/0051	Childerditch Farms	Spray Irrigation - Storage	01/01	31/12	Tributary N branch of the Mardyke	561200	189600	394550	3734
8/37/56/*S/0036	Cliffords Leisure Ltd	Spray Irrigation - Storage	01/11	31/03	Tributary N branch of the Mardyke	560065	190264	9000	9000

*Note: The surface water licensed abstraction 8/37/56/\*S/0001 was present in the 2015 EA data set, but not in the 2018 EA data set. It is unclear whether this abstraction is currently in use.*



## L.3 Discharges to the ground

Table L.3 Discharges to the ground

Permit number	Site name	Receiving watercourse	Outlet National Grid reference	Date effective	Outlet type description
NPSWQD010446	Luddesdown Wastewater Trmnt Works, Southern Water Services Limited	Groundwaters via infiltr system	TQ6707067070	15/02/2017	Sewage - water company
P09554	Cuxton Civic Amenity Site, Medway Norse Limited	Into land	TQ7172067220	21/12/2012	Trade
EPRCB3890NW	The Chestnuts Care Home	Groundwater via a soakaway	TQ6391467916	17/09/2013	Sewage - not water company
P06233	Rochester & Cobham Park Golf Club	Into land	TQ6930069300	21/12/2012	Sewage - not water company
P11384	3 & 4 Henhurst Hill, Cobham, Gravesham Borough Council	Underground strata	TQ6598069650	21/12/2012	Sewage - not water company
P20522	Shorne Wood Country Park	Underground strata	TQ6829069970	13/07/2005	Sewage - not water company
EPRUP3028XA	Shorne Wood, Kent County Council	Groundwater via infiltration and borehole	TQ6840770026	03/08/2012	Sewage - not water company
P02452	Brewers Wood House	Into land	TQ6952070050	28/07/1989	Sewage - not water company
EPRPP3120GX	Long Reach Cottage	Groundwater via infiltration	TQ7031670717	14/12/2011	Sewage - not water company
P21323	Ifield Farm, Ifield Farm Management Company Limited	Underground strata	TQ6850071000	21/12/2012	Sewage - not water company
P04328	Harts Hill Nursery	Into land	TQ6725071150	11/11/1992	Sewage - not water company

Permit number	Site name	Receiving watercourse	Outlet National Grid reference	Date effective	Outlet type description
P05024	Coldharbour Road, Safeway Stores Plc	Into land	TQ6375071700	14/10/1993	Miscellaneous
P07512	Southern Valley Golf Course	Into land	TQ6728071700	21/12/2012	Trade
P04619	Land at City Self-Serve Chalk, Euro Garages Limited	Into land	TQ6656073080	20/12/2012	Miscellaneous
P04619	Land at City Self-Serve Chalk, Euro Garages Limited	Into land	TQ6656073090	20/12/2012	Miscellaneous
P09544	Filborough Farm Barn	Into land	TQ6815073300	02/01/2002	Sewage - not water company
PRELF11902	Mayer Parry Recycling Ltd	Into land at site address	TQ6710077700	14/12/2011	Trade
PREAF01384	Linford Services Ltd, Hillcrest Services	Specified underground waters via soakaway	TQ6534078380	14/12/2011	Trade
PR2AF378	Titan Works, Industrial Chemical Group	Chalk aquifer	TQ6118078630	15/01/1987	Trade
PR2LF21	1 Five Chimney Cottages	Soakaway into land	TQ6417080670	14/12/2011	Sewage - not water company
PR2LF489	Gammon Staples Farmhouse	Soakaway into land	TQ6357080720	14/12/2011	Sewage - not water company
PR2LFS02670	Orsett Business Centre, The Croll Group	Land	TQ6670081500	14/12/2011	Trade
PR2LFS16366	Orsett Business Centre, The Croll Group	Land	TQ6649381559	28/12/1966	Sewage - not water company
PR2LF757	A13 Orsett Service Area, BP Express Shopping	Soakaway into Land	TQ6660081800	24/05/1988	Miscellaneous

Permit number	Site name	Receiving watercourse	Outlet National Grid reference	Date effective	Outlet type description
PR2AF760	Orsett Filling Station (N), BP Express Shopping	Soakaway	TQ6663081890	24/05/1988	Miscellaneous
CTLU.0675	1/2 Bramble Cotts, Brambles Lane, U	Groundwater via a soakaway	TQ5648083620	21/12/2012	Sewage - not water company
CANM.0436	1 Dennises Cottages	Land via soakaway	TQ5796084140	17/06/2002	Sewage - not water company
CTLU.0584	Little Tomkyns Farm, Tomkyns Lane	Groundwater via a soakaway	TQ5678089410	21/12/2012	Sewage - not water company
CANM.0191	Mr G P Cashin	Reservoir via reedbed/soakaway	TQ5600090600	11/11/2000	Sewage - not water company
CTLU.0590	The Grange, Great Warley, Brentwood		TQ5829090670	08/02/1979	Sewage - not water company
CANM.0025	Brook Street, Shell UK Oil Products Limited	Land via a soakaway	TQ5700092520	23/07/1999	Trade

## L.4 Discharges to surface water

Table L.4 Discharges to surface water

Permit number	Site name	Receiving watercourse	Outlet National Grid reference	Date effective	Outlet type description
A00125	Brambletree Crescent Wwps, Southern Water Services Ltd	Saline Estuary	TQ7264066950	15/09/1999	Sewage - water company
A01511	Brambletree Crescent Borstal Ceo, Southern Water Services Ltd	The River Medway Estuary	TQ7264066950	02/07/2008	Sewage - water company
W00551	Cuxton Combined Emergency Overflow, Southern Water Services Ltd	The Tidal River Medway	TQ7191066980	31/03/2017	Sewage - water company
A00938	Charles Street Strood Cso, Southern Water Services Ltd	Medway Estuary	TQ7359069030	31/03/2017	Sewage - water company
A00939	Bryant Road Strood, Southern Water Services Ltd	Tidal River Medway	TQ7359069030	31/03/2017	Sewage - water company
CASM.0005	Cross Lane West Gravesend Cso, Southern Water Services Ltd	Tidal River Thames	TQ6459072790	31/03/2017	Sewage - water company
P02097	Shorne Off Take Station	Freshwater River	TQ6880073000	03/02/1989	Miscellaneous
EPRCB3893VG	Apex Business Park	Trib of River Thames	TQ6945273575	04/08/2015	Sewage - not water company
P04660	Northfleet Eastern Quarry	The River Darent	TQ6176073850	06/10/1993	Trade
K00036	Nuralite Works	Freshwater Stream or River	TQ7030074000	12/08/1996	Sewage - not water company
P04661	Ebbsfleet	The Ebbsfleet	TQ6170074100	06/10/1993	Trade

Permit number	Site name	Receiving watercourse	Outlet National Grid reference	Date effective	Outlet type description
P06840	Fire Fighting Training Centre	Freshwater River	TQ6740074100	22/08/19 97	Trade
P09285	Gravesend Training Complex	Freshwater River	TQ6701074130	20/03/20 01	Trade
CASM.0006	Empress Road Chamber, Gravesend, Southern Water Services Ltd	Tidal River Thames	TQ6642074330	07/01/20 00	Sewage - water company
CATM.2969	Gravesend Stw, Southern Water Services Ltd	Tidal River Thames	TQ6693074340	05/10/20 09	Sewage - water company
CATM.2970	Gravesend Stw, Southern Water Services Ltd	Tidal River Thames	TQ6693074340	17/04/20 08	Sewage - water company
D00075	Gordon Promenade Storm Overflow, Southern Water Services Ltd	Saline Estuary	TQ6538074410	01/04/19 91	Sewage - water company
CSSB.0114	Gordon Promenade Cso Gravesend, Southern Water Services Ltd	River Thames (Tidal)	TQ6538074410	14/10/19 87	Miscellaneous
CASM.0007	Milton Road Gravesend Cso, Southern Water Services Ltd	Tidal River Thames	TQ6539074420	31/03/20 17	Sewage - water company
CSSB.0115	High Street Cso - Town Pier, Southern Water Services Ltd	River Thames (Tidal)	TQ6452074450	14/10/19 87	Miscellaneous
D00076	Town Pier, Gravesend Cso, Southern Water Services Ltd	Thames Estuary	TQ6452074450	01/09/20 17	Sewage - water company
D00077	Town Pier Storm Overflow, Southern Water Services Ltd	Saline Estuary	TQ6452074460	01/04/19 91	Sewage - water company
D00077	Town Pier Storm Overflow, Southern Water Services Ltd	Saline Estuary	TQ6452074460	01/04/19 91	Miscellaneous
CSSB.0113	Town Wharf Cso Gravesend, Southern Water Services Ltd	River Thames (Tidal)	TQ6457074480	14/10/19 87	Miscellaneous

Permit number	Site name	Receiving watercourse	Outlet National Grid reference	Date effective	Outlet type description
D00074	Crawley Court Gravesend Cso, Southern Water Services Ltd	Thames Estuary	TQ6457074480	01/09/2017	Sewage - water company
CASM.1319	High St Gravesend Outside 70 Cso, Southern Water Services Ltd	River Thames Estuary	TQ6481074510	31/03/2017	Sewage - water company
CASM.0029	Cobham Street Gravesend Cso, Southern Water Services Ltd	Tidal River Thames	TQ6481074520	31/03/2017	Sewage - water company
CASM.0031	Singlewell Road Gravesend 123 Cso, Southern Water Services Ltd	Tidal River Thames	TQ6481074520	31/03/2017	Sewage - water company
CASM.0010	High Street, Gravesend, Kent, Southern Water Services Ltd	Tidal River Thames	TQ6481074520	07/01/2000	Sewage - water company
CASM.0011	Cross Lane East Cso, Southern Water Services Ltd	Tidal River Thames	TQ6481074520	31/03/2017	Sewage - water company
CASM.0008	Old Road West Gravesend Cso, Southern Water Services Ltd	Tidal River Thames	TQ6481074520	31/03/2017	Sewage - water company
T01900	Imperial Business Estate, Gravesham HIMU	Freshwater River	TQ6381074540	01/04/1991	Miscellaneous
CASM.0712	Aggregates Wharf	Tidal River Thames	TQ6336074550	06/11/2002	Trade
CNTM.1265	Outlet A, Blue Circle, Northfleet,	Tidal River Thames	TQ6247074740	09/12/2009	Trade
CASM.0640	Blue Circle Washing Plant	Tidal River Thames	TQ6240074800	24/07/2002	Trade
CSSC.0411	Northfleet Stw, Southern Water Services Ltd	Tidal River Thames	TQ6178074920	01/01/2010	Sewage - water company
CTWC.2723	Site at Grove Road, Northfleet, Ken	Tidal River Thames	TQ6180075100	10/08/1988	Trade

Permit number	Site name	Receiving watercourse	Outlet National Grid reference	Date effective	Outlet type description
EPRNP3321GH	Tilbury Fort	River Thames Estuary (Tidal)	TQ6512875217	04/11/2011	Sewage - not water company
PRENF10693	Worlds End Ph	Tributary River Thames	TQ6483075240	06/01/1997	Sewage - not water company
CNTW.0531	Tilbury Water Recycling Centre, Anglian Water Services Limited	Thames Estuary	TQ6564075250	05/02/2016	Sewage - water company
CNTW.0532	Tilbury Water Recycling Centre, Anglian Water Services Limited	Thames Estuary	TQ6565075310	29/05/1990	Sewage - water company
K02092	Gravel Washing Plant Cliffe Hill	Thames Haven	TQ7184075800	10/09/1979	Trade
CTMR.0008	Lagoon Outlet, Northfleet Site	Thames Tidal	TQ6120076030	22/02/1978	Trade
PRENF10899	Tilbury 275kv Sub-Station	Tributary Thames Estuary	TQ6600076120	24/04/1997	Sewage - not water company
PR2NFE10468	Rail Container Term, Port of Tilbury London Ltd		TQ6200077000	23/07/1968	Miscellaneous
CASM.0601	Cliffe Pools	The Cliffe Creek	TQ7145077000	04/02/2005	Trade
PR2NFE20267	Tilbury Docks, Port of Tilbury London Ltd	West Tilbury Dock Sewer	TQ6200077700	01/12/1967	Trade
PRENF20226	Southview Boarding Kennels	The Thames via Drains	TQ6428078053	25/10/2006	Sewage - not water company
PR2NFE14773	Princess Margaret Road	Unknown Trib. River Thames	TQ6940078300	10/10/1973	Miscellaneous
AW2NFE00981	Bata Res. Est Ps, Anglian Water Services Limited		TQ6856078620	08/09/1983	Sewage - water company

Permit number	Site name	Receiving watercourse	Outlet National Grid reference	Date effective	Outlet type description
AW2NFE02860	Housing Est., Anglian Water Services Limited	Gobions Sewer	TQ6640079500	04/04/19 60	Miscellaneous
PRENF13168	Davy Information Centre	Tributary Mardyke	TQ5922080050	03/11/20 00	Sewage - not water company
PRENF04636	Mucking Gas Plant	Trib of Gobions Sewer	TQ6842080060	18/03/19 92	Miscellaneous
AW2NFE02783	Corran Way Ps, Anglian Water Services Limited	Mardyke	TQ5900080200	26/04/19 84	Sewage - water company
EPRDB3198EF	Balfour Beatty Skanska J30 Jv	Mardyke	TQ5913780217	26/10/20 15	Sewage - not water company
PRENF02138	Lakeside Coach Park		TQ5914080220	16/07/19 90	Miscellaneous
PRENF15562	Stifford Wtw, Northumbrian Water Limited	Mardyke	TQ5915080230	01/01/20 10	Trade
PRENF15359	Orsett Fruit Farm	Tributary of Horndon Brook	TQ6557082310	04/11/20 02	Sewage - not water company
CTWC.0989	Belhus Country Park Visitors Centre, Essex County Council	Tributary of Running Water Brook	TQ5652082460	14/07/19 86	Sewage - not water company
PRENF20720	Waterside View	Ditch tributary River Mardyke	TQ6612082990	31/08/20 07	Sewage - not water company
PRENF16127	Recreation Ground	A Trib of the River Mardyke	TQ6630883111	31/05/20 04	Sewage - not water company
PRENF13583	The Barn	Tributary of Mardyke	TQ6423083460	14/08/20 01	Sewage - not water company
PRENF16044	4 Golden Bridge Cottage	Orsett Fen Sewer Tributary of River Mardyke	TQ6492483824	11/11/20 03	Sewage - not water company



Permit number	Site name	Receiving watercourse	Outlet National Grid reference	Date effective	Outlet type description
PRENF11344	Lorkins Farm	Tributary Mardyke	TQ6449083830	26/06/1998	Sewage - not water company
PRENF11516	Evergreens	Tributary of Mardyke	TQ5964084000	08/01/1999	Sewage - not water company
CANM.0044	Dennises Lane	Trib of Running Water Brook	TQ5788084190	24/08/1999	Sewage - not water company
PRENF16954	The Farmhouse	Ditch Leading to Mardyke West	TQ6112385233	03/12/2004	Sewage - not water company
PRENF16963	The Bungalow	Ditch Leading to Mardyke West	TQ6112385233	03/12/2004	Sewage - not water company
PRENF08588	Lowlands	Tributary Mardyke West	TQ5936085770	17/10/1994	Sewage - not water company
PRENF10672	Broadfields Farm, Essex County Council	Tributary West Branch of Mardyke	TQ5841086120	28/11/1996	Sewage - not water company
PRENF13975	Broadfields Farm	Trib of Mardyke	TQ5839086120	24/02/2002	Sewage - not water company
PRENF13974	Broadfield Farm Cottage	Tributary of Mardyke	TQ5839086120	24/02/2002	Sewage - not water company
ASENF10497	Upminster (Bury Fm) Stw, Anglian Water Services Limited	Mardyke West	TQ6109086330	01/04/2009	Sewage - water company
PRENF10804	Warley Substation	Tributary Mardyke	TQ5958086470	03/02/1997	Sewage - not water company
ASENF10497	Upminster (Bury Fm) Stw, Anglian Water Services Limited	Mardyke West	TQ6083086720	01/04/2009	Sewage - water company
PRENF11495	Little Tillingham Barn	Tributary North Branch Mardyke	TQ6175087360	23/10/1998	Sewage - not water company

Permit number	Site name	Receiving watercourse	Outlet National Grid reference	Date effective	Outlet type description
PR2NFE06974	Franks Farm Upminster	Tributary of Mardyke	TQ5875087400	31/07/19 74	Miscellaneous
NPSWQD000311	Monks Farm	Tributary West Branch River Mardyke	TQ6018587436	01/08/20 11	Sewage - not water company
PRENF15776	Southview	Tributary of the Mardyke	TQ6160087810	09/09/20 03	Sewage - not water company
NPSWQD007446	Site Compound	Puddledock Sewer	TQ5864088288	25/06/20 09	Sewage and Trade combined
CATM.3591	Lillyputt Stables	Tributary of River Ingrebourne	TQ5561088340	09/12/19 98	Sewage - not water company
CATM.3636	Lillyputt Stables	Tributary of The Ingrebourne	TQ5561088340	03/02/19 99	Trade
AW2NFE08369	South Warley Stw, Anglian Water Services Limited	Tributary Mardyke Nt	TQ5940088400	04/06/19 59	Sewage - water company
ASENF12001	Great Warley Ps, Anglian Water Services Limited	Puddledock Sewer, Mardyke	TQ5944088410	07/07/19 95	Sewage - water company
EPRTB3790NK	Warley Brook	Warley Brook	TQ5941188432	23/08/20 13	Sewage - not water company
CANM.0189	Two Houses, Site of St Martyns, Ome	Tributary of R Ingrebourne	TQ5656088540	10/01/20 01	Sewage and Trade combined
PR2NFE08863	Codham Pumping Station, Northumbrian Water Limited	Tributary Mardyke	TQ5940088600	29/08/19 63	Miscellaneous
PRENF04676	Greenways	Tributary Mardyke West	TQ5969088770	29/01/19 92	Miscellaneous
PRENF04684	Greenways Warley St	Tributary Mardyke West	TQ5966088770	14/05/19 92	Sewage - not water company

Permit number	Site name	Receiving watercourse	Outlet National Grid reference	Date effective	Outlet type description
EPDRB3697AE	The Kilns Hotel	Tributary of Puddledock Sewer	TQ5947888826	12/10/2016	Sewage - not water company
CATM.2564	Two Houses, Site of St Martyns, Ome	Tributary of the Ingrebourne	TQ5658088970	28/11/1996	Sewage - not water company
CATM.3609	Upminster Lodge Farm, Tomkyns Lane,	Tributary of River Ingrebourne	TQ5662089200	22/12/1998	Sewage - not water company
PR2NFE01983	Woodlands Prep School		TQ5950089200	19/05/1983	Sewage - not water company
CATM.3610	Two Dwellings & Nursery, Packing Sh	Tributary of River Ingrebourne	TQ5665089260	22/12/1998	Sewage - not water company
EPDRB3290VN	1 & 2 Nursery Bungalow	Tributary of Mardyke	TQ5946589288	30/09/2015	Sewage - not water company
EPRCB3294VY	Yewdale	Tributary of Mardyke	TQ5927989701	26/02/2015	Sewage - not water company
EPRBB3093VN	Bern Meadow	Mardyke	TQ5922189757	13/08/2014	Sewage - not water company
ASENF16419	Warley East Ps, Anglian Water Services Limited	Mardyke W tributary, tributary of Thames Estuary	TQ5963089760	05/10/2004	Sewage - water company
EPDRB3095WY	Langdale	Tributary of Mardyke	TQ5921689768	25/08/2015	Sewage - not water company
PRENF10382	Meadowview	North branch Mardyke	TQ6165089900	04/04/1996	Sewage - not water company
ASENF16418	Warley West Ps, Anglian Water Services Limited	Mardyke Tributary of Thames Estuary	TQ5867089900	05/10/2004	Sewage - water company
PRENF20450	Little Foxes	Puddledock Sewer	TQ5774090050	07/02/2007	Sewage - not water company

Permit number	Site name	Receiving watercourse	Outlet National Grid reference	Date effective	Outlet type description
CANM.0903	Calflands Farm	Tributary of Warley Ditch	TQ5676090070	04/04/2005	Sewage - not water company
PRENF13417	Great Warley Place	Tributary Mardyke	TQ5912090130	08/12/2000	Sewage - water company
PRENF11176	Rosebrook Cottage	Tributary Mardyke	TQ6146090150	02/12/1997	Sewage - not water company
CANM.0238	Valewood	Into ditch	TQ5711090160	16/02/2001	Sewage - not water company
CATM.3620	Great Readings	Tributary of River Ingrebourne	TQ5682090180	06/01/1999	Sewage - not water company
PRENF20576	Tooks Farm	Ditch Trib of Mardyke West	TQ5872090350	09/06/2007	Sewage - not water company
PR2NFE03782	Warley Lodge Hospital	Tributary of Mardyke	TQ6002090630	08/04/1992	Sewage - not water company
CATM.3170	Thatchers Arms Public House	Tributary of the River Ingrebourne	TQ5830090700	26/03/1998	Sewage and Trade combined
PRENF10267	Chestnut Tree Cottage	Tributary Mardyke	TQ5842090710	12/10/1995	Sewage - not water company
CANM.0563	Tylers Common Fishery	To River Ingrebourne	TQ5676090780	10/04/2003	Sewage - not water company
PR2NFE15064	Barrack Road	Tributary of Mardyke	TQ5970091300	29/10/1964	Miscellaneous
CSSC.0328	Brentwood Stw (Lagoon), Brentwood, Thames Water Utilities Ltd	The River Ingrebourne	TQ5600091400	19/04/2012	Sewage - water company
CANM.0112	Boyles Court Farm, Essex County Council	River Ingrebourne tributary	TQ5793091450	12/05/2000	Sewage - not water company

Permit number	Site name	Receiving watercourse	Outlet National Grid reference	Date effective	Outlet type description
TEMP.2414	Brentwood (Filter), Thames Water Utilities Ltd	Ingrebourne	TQ5620091500	03/09/2010	Sewage - water company
CSSC.0328	Brentwood Stw (Lagoon), Brentwood, Thames Water Utilities Ltd	The River Ingrebourne	TQ5624091580	19/04/2012	Sewage - water company

## Appendix M

### M.1 Water feature survey factual report

#### Objectives

- M.1.1 CASCADE have conducted the first phase of the Water Feature Survey (WFS) in September 2017, on behalf of Highways England. The objective of the survey is to identify and characterise the baseline characteristics of surface water and groundwater features that may be affected by the construction and operation of the Lower Thames Crossing project. The spatial extent of the survey was agreed in consultation with the Environment Agency and includes surface water features within 500m of the Development Boundary and groundwater features within 1km of this boundary.
- M.1.2 The survey comprised desk-based study and field components. The first phase of field survey was limited to features within public spaces and areas where access had been agreed with landowners. Phase 2 of the survey is planned to be conducted in Summer 2018 and will include any additional features that are now accessible, in addition to repeat sampling at key locations, such as within the Thames Estuary and Marshes Ramsar site, on the south side of the River Thames.

#### Scope

- M.1.3 A factual summary of the WFS conducted in September 2017 is presented in this document. The information is presented as follows:
- a. Water Resources Act 1991 Section 32 Form WR36 for the groundwater and surface water features surveyed during the first phase of the survey.
  - b. A summary map showing all the surveyed feature locations along the Project.
  - c. A photo selection of the relevant surveyed features.

#### Water feature survey: form WR36

- M.1.4 The surveyed groundwater features are presented in Table M.1. The table comprises licensed and unlicensed groundwater abstractions, permit to discharge to the ground, historical wells and springs.
- M.1.5 The surveyed surface water features are presented in Table M.2. The table comprises licensed surface water abstractions, permit discharge to surface watercourses, EA designated main rivers, ordinary watercourses, canals, ditches, lakes and ponds. During the survey, the channels' width flow velocity and field parameters (pH, Temperature, dissolved oxygen and electrical

conductivity) have been recorded only when it was safe to measure. For the field parameters, water was sampled in a container and then analysed with a multiprobe. The watercourses' flow velocity has been estimated with the speed of an object at its surface. The channels' width has been measured with a measuring tape when it was safely possible.

**Table M.1 Groundwater features surveyed during phase 1 of the water feature survey in September 2017**

Key:

- Groundwater abstraction, well, licensed, deregulated/no licence, unknown licence status
- Discharge to ground, permit, exempted, unknown permit status
- Well, historical, abandoned or decommissioned
- Spring

Easting	Northing		Water feature ID		Surveyor		Name, address and contact number of occupier	Water feature type	Abstraction rate (m <sup>3</sup> /d)	Pump suction depth (m)	Dip reference point (datum)	Depth to rest water level (m)		General description
	Distance from DR2 (m)	Photo reference			Abstraction licence or permit number	Survey date						Depth to bottom (m)	Depth to pumped water level (m)	
568480	169911				AJ		Shorne Woods Country Park Brewers Road, Shorne, Gravesend DA12 3HX	Discharge to ground, permit	n/a	n/a	n/a	n/a	n/a	Location shown by the country park contact, who told the survey team it is a sewage decomposer, with various french drains and soakaways underneath. EA describes the outlet as sewage from a non-water company. EA states a discharge to underground strata.
HE540039-CJV-EWE-ZZZ-GP-2S01ZZZ3														
260	GW-1					14/09/2017		Decomposition of sanitary sewage	n/a	n/a	n/a	n/a	n/a	
P20522														
568380	170013				AJ		Shorne Woods Country Park Brewers Road, Shorne, Gravesend DA12 3HX	Discharge to ground, permit	n/a	n/a	n/a	n/a	n/a	Location shown by the country park contact, who told the survey team it is a petrol interceptor. EA describes the outlet as sewage from a non-water company. EA states a discharge to groundwater.
HE540039-CJV-EWE-ZZZ-GP-2S04ZZZ1														
410	GW-2					14/09/2017		Petrol interceptor	n/a	n/a	n/a	n/a	n/a	
EPRUP3028XA														
567760	170078				AJ		Shorne Woods Country Park Brewers Road, Shorne, Gravesend DA12 3HX	Spring	n/a	n/a	n/a	n/a	n/a	Spring digitised by Arcadis from IGS 1968 and IGS 1970 British Geological Survey maps. During survey, the country club contact was not aware of any spring. The survey team has not found source in the valley area, the ground seems dry and the vegetation made the access difficult. Photo not representative of an absence of spring due to a dense vegetation.
HE540039-CJV-EWE-ZZZ-GS-2S04ZZZ1														
300	none					12/09/2017		not used	n/a	n/a	n/a	n/a	n/a	
n/a														
567981	169798				AJ		Shorne Woods Country Park Brewers Road, Shorne, Gravesend DA12 3HX	Well, historical, abandoned or decommissioned	n/a	n/a	not found	not found	not found	BGS Well Records. The country club contact was not aware of a well in the forest. During survey, the well was not found.
HE540039-CJV-EWE-ZZZ-GH-2S04ZZZ1														
95	none					12/09/2017		n/a	n/a	n/a	n/a	n/a	n/a	
n/a														



Easting	Water Feature ID		Northings	Surveyor	Name, address and contact number of occupier	Water feature type	Abstraction Rate (m <sup>3</sup> /d)	Pump suction depth (m)	Dip reference point (datum)		Depth to rest water level (m)	General description
	Distance from DR2 (m)	Photo reference							Depth to bottom (m)	Depth to pumped water level (m)		
Abstraction Licence or Permit Number				Survey date	Use			Dip Tube installed (Y/N)				
567332		171718		AJ	Southern Valley Golf Course Thong Lane, Gravesend DA12 4LT	Groundwater abstraction, well, deregulated/no licence	25	90	not measured	not measured	55	Data on borehole are approximate, verbal communication from the green keeper. Golf course green keeper showed the irrigation water source to the survey team. Groundwater abstracted from borehole when the level of the tank (located 10m from borehole, see picture) is too low.
HE540039-CJV-EWE-ZZZ-GD-2S05ZZZ1				13/09/2017								
170		GW-3; GW-4		AJ	Southern Valley Golf Course Thong Lane, Gravesend DA12 4LT	Irrigation of the golf course	not measured	Y	100	not measured	not measured	The green keeper was not aware of discharge to the ground consent. At the location of the EA permit, the vegetation was much higher than the rest of area (see picture). EA describes the outlet as trade, with a discharge into land.
Unlicensed				13/09/2017								
567280		171701		AJ	Milton Rifle Range, Gravesend	Discharge to ground, permit	n/a	n/a	n/a	n/a	n/a	The green keeper was not aware of discharge to the ground consent. At the location of the EA permit, the vegetation was much higher than the rest of area (see picture). EA describes the outlet as trade, with a discharge into land.
HE540039-CJV-EWE-ZZZ-GP-2S05ZZZ1				13/09/2017								
170		GW-5		AJ	Melville Mott	unknown	n/a	n/a	n/a	n/a	n/a	Gated well, flat topography and very high vegetation around
P07512				14/09/2017								
568266		174001		AJ	Exel lands	Well, historical, abandoned or decommissioned	n/a	n/a	n/a	n/a	n/a	BGS Well Records. Not found.
HE540039-CJV-EWE-ZZZ-GH-2S06ZZZ1				20/09/2017								
280		GW-6		AJ	Melville Mott	n/a	not found	n/a	n/a	n/a	n/a	BGS Well Records. Not found.
n/a				21/09/2017								
568059		176122		AJ	Melville Mott	Well, historical, abandoned or decommissioned	n/a	n/a	n/a	n/a	n/a	BGS Well Records. Not found.
HE540039-CJV-EWE-ZZZ-GH-2N07ZZZ1				20/09/2017								
290		none		AJ	Melville Mott	n/a	not found	n/a	n/a	n/a	n/a	BGS Well Records. Not found.
n/a				21/09/2017								
567350		176487		AJ	Melville Mott	Well, historical, abandoned or decommissioned	n/a	n/a	n/a	n/a	n/a	BGS Well Records. Not found.
HE540039-CJV-EWE-ZZZ-GH-2N07ZZZ2				21/09/2017								
Within DR2		none		AJ	Melville Mott	n/a	not found	n/a	n/a	n/a	n/a	BGS Well Records. Not found.
n/a				21/09/2017								
568105		177528		AJ	Melville Mott	Well, historical, abandoned or decommissioned	n/a	n/a	n/a	n/a	n/a	BGS Well Records. Not found.
HE540039-CJV-EWE-ZZZ-GH-2N07ZZZ3				21/09/2017								
840		none		AJ	Melville Mott	n/a	not found	n/a	n/a	n/a	n/a	BGS Well Records. Not found.
n/a				20/09/2017								
567678		177886		SD	Melville Mott	Well, historical, abandoned or decommissioned	n/a	n/a	n/a	n/a	n/a	BGS Well Records. Not found.
HE540039-CJV-EWE-ZZZ-GH-2N07ZZZ6				20/09/2017								
480		none		SD	Melville Mott	n/a	not found	n/a	n/a	n/a	n/a	BGS Well Records. Not found.
n/a				20/09/2017								
Easting	Water Feature ID		Northings	Surveyor	General description							General description

Water Feature ID		Photo reference	Survey date	Name, address and contact number of occupier	Water feature type	Abstraction Rate (m <sup>3</sup> /d)	Pump suction depth (m)	Dip reference point (datum)	Depth to rest water level (m)
Distance from DR2 (m)	Abstraction Licence or Permit Number								
567561	177918	HE540039-CJV-EWE-ZZZ-GH-2N07ZZZ7	SD 20/09/2017	Melville Mott	Well, historical, abandoned or decommissioned	n/a	n/a	not found	not found
240	none								
n/a									
567495	177968	HE540039-CJV-EWE-ZZZ-GH-2N07ZZZ9	SD 20/09/2017	Melville Mott	Well, historical, abandoned or decommissioned	n/a	n/a	not found	not found
225	none								
n/a									
567308	177892	HE540039-CJV-EWE-ZZZ-GH-2N07ZZ10	SD 20/09/2017	Stolkin/Mahwood	Well, historical, abandoned or decommissioned	n/a	n/a	not found	not found
Adjacent	none								
n/a									
567058	177656	HE540039-CJV-EWE-ZZZ-GH-2N07ZZ13	SD 20/09/2017	Cole Farm Mill House Muckingford Road, RM18 8TP	Well, historical, abandoned or decommissioned	n/a	n/a	not found	not found
Within DR2	none								
n/a									
566560	178670	HE540039-CJV-EWE-ZZZ-GP-2N08ZZZ1	SD	Cole Farm Mill House Muckingford Road, RM18 8TP	Discharge to ground, permit	n/a	n/a	n/a	n/a
Adjacent	none								
unknown					unknown				
566800	178900	HE540039-CJV-EWE-ZZZ-GP-2N08ZZZ2	SD 19/09/2017	Cole Farm Mill House Muckingford Road, RM18 8TP	Discharge to ground, permit	n/a	n/a	n/a	n/a
30	none								
unknown					unknown				
566961	178825	HE540039-CJV-EWE-ZZZ-GH-2N08ZZZ1	MP 19/09/2017	Cole Farm Mill House Muckingford Road, RM18 8TP	Well, historical, abandoned or decommissioned	n/a	n/a	not found	not found
60	none								
n/a					n/a				

Easting	Northing		Surveyor	Name, address and contact number of occupier	Water feature type	Abstraction Rate (m <sup>3</sup> /d)	Pump suction depth (m)	Dip reference point (datum)	Depth to rest water level (m)		General description
	Water Feature ID	Photo reference							Distance from DR2 (m)	Abstraction Licence or Permit Number	
565985	180732		SD	Orsett Golf Club Brentwood Road, Grays RM16 3DR	Groundwater abstraction, well, licensed	240	3 pumps, see photo	not measured	24.48	Borehole in corner of golf course with pumps in shelter and two large groundwater storage tanks. Three pumps in shelter to extract groundwater. EA inspection report given. Advised to not pump at the time of measurement. Not pumping constantly, only when required.	
HE540039-CJV-EWE-ZZZ-GL-2N09ZZZ2			21/09/2017		Irrigation of the golf course	260	Y	44.38	not measured, no access		
AN/037/0056/012				Cole Farm Mill House Muckingford Road, RM18 8TP	Well, historical, abandoned or decommissioned	n/a	n/a	not found	not found	BGS Well Records. Not found.	
566683	179195		MP		n/a	n/a	n/a	not found	not found		
HE540039-CJV-EWE-ZZZ-GH-2N09ZZZ1			19/09/2017		n/a	not found	n/a	not found	not found		
130	none			Cole Farm Mill House Muckingford Road, RM18 8TP	Well, historical, abandoned or decommissioned	n/a	n/a	not found	not found	BGS Well Records. No access. Overgrown nettles.	
n/a			BC		n/a	n/a	n/a	not found	not found		
565508	180104		15/09/2017		n/a	not found	n/a	not found	not found		
HE540039-CJV-EWE-ZZZ-GH-2N09ZZZ5				Thurrock Borough Council	Well, historical, abandoned or decommissioned	n/a	n/a	not found	not found	BGS Well Records. No access. Overgrown field.	
20	none		SD		n/a	n/a	n/a	not found	not found		
n/a			21/09/2017		n/a	not found	n/a	not found	not found		
563078	180741		SD	Cole Farm Mill House Muckingford Road, RM18 8TP	Groundwater abstraction, well, licensed	n/a	No pumped observed	not measured	0.75	No evidence of well in field or in surrounding area, only a tank feature. Concrete capped tank at ground level with sealed manhole cover.	
HE540039-CJV-EWE-ZZZ-GH-2N10ZZZ1			18/09/2017		General Farming and Domestic	3x3 metres	N	not measured	n/a		
Within DR2	none			Thurrock Borough Council	Well, historical, abandoned or decommissioned	n/a	n/a	not found	not found	BGS Well Records. Not found.	
n/a			SD		n/a	n/a	n/a	not found	not found		
562614	182734		SD	Cole Farm Mill House Muckingford Road, RM18 8TP	Well, historical, abandoned or decommissioned	n/a	n/a	not found	not found	BGS Well Records. Within recently developed housing. Cannot access as is now built up. Well unlikely to be present due to the new development. Field behind owned by riding stable.	
HE540039-CJV-EWE-ZZZ-GL-2N11ZZZ1			18/09/2017		n/a	n/a	n/a	not found	not found		
Within DR2	GW-10			Thurrock Borough Council	n/a	not found	n/a	not found	not found	BGS Well Records. Not found.	
8/37/56/*G/0032			SD		n/a	n/a	n/a	not found	not found		
563618	180912		SD	Cole Farm Mill House Muckingford Road, RM18 8TP	Well, historical, abandoned or decommissioned	n/a	n/a	not found	not found	BGS Well Records. Not found.	
HE540039-CJV-EWE-ZZZ-GH-2N11ZZZ1			SD		n/a	n/a	n/a	not found	not found		
Within DR2	none			Cole Farm Mill House Muckingford Road, RM18 8TP	n/a	not found	n/a	not found	not found	BGS Well Records. Not found.	
n/a			SD		n/a	n/a	n/a	not found	not found		
562514	181214		SD	Cole Farm Mill House Muckingford Road, RM18 8TP	Well, historical, abandoned or decommissioned	n/a	n/a	not found	not found	BGS Well Records. Not found.	
HE540039-CJV-EWE-ZZZ-GH-2N11ZZZ2			SD		n/a	n/a	n/a	not found	not found		
Within DR2	none			Cole Farm Mill House Muckingford Road, RM18 8TP	n/a	not found	n/a	not found	not found	BGS Well Records. Not found.	
n/a			MP		n/a	n/a	n/a	not found	not found		
566437	177668		MP	Cole Farm Mill House Muckingford Road, RM18 8TP	Well, historical, abandoned or decommissioned	n/a	n/a	not found	not found	BGS Well Records. Not found.	
HE540039-CJV-EWE-ZZZ-GH-2N18ZZ11			21/09/2017		n/a	n/a	n/a	not found	not found		
360	none			Cole Farm Mill House Muckingford Road, RM18 8TP	n/a	not found	n/a	not found	not found	BGS Well Records. Not found.	
n/a			21/09/2017		n/a	n/a	n/a	not found	not found		

**Table M.2 Surface water features surveyed during phase 1 of the water feature survey in September 2017**

**Key:**

- Surface water abstraction, licensed, deregulated/no licence, unknown licence status
- Surface water discharge, permit, exempted, unknown permit status
- Surface waterbody, EA designated main river
- Surface waterbody, ordinary watercourse (natural bed/bank profile, not designated main river)
- Surface waterbody, canal (artificial linear waterway)
- Surface waterbody, ditch (artificial bed/bank profile, not designated main river)
- Surface waterbody, lake or pond

Easting	Northing		Surveyor	Location of the feature	Water feature type	Estimated Flow velocity (m/s)	Channel Width (m)	pH (pH units)		Temperature (°C)		General description	
	Water Feature ID	Photo reference						Distance from DR2 (m)	Environmental Permit number	Dissolved Oxygen (% saturation)	Electrical Conductivity (µS/cm)		Bed and Bank Materials
			AJ	Shorne Woods Country Park Brewers Road, Shorne, Gravesend DA12 3HX	Surface water body, lake or pond	no visible flow	no access	no access	no access			Pond not accessible, due to fence and dense vegetation. No sample. A lot less water than the pond on the other side of the path. Shallow muddy pond.	
HE540039-CJV-EWE-ZZZ-PS-1S04ZZZ3					Country park landscape	No	Muddy, grass, brambles and reeds	no access	no access				
170	SW-1		18/09/2018										
n/a													
HE540039-CJV-EWE-ZZZ-PS-1S04ZZZ4			AJ	Shorne Woods Country Park Brewers Road, Shorne, Gravesend DA12 3HX	Surface water body, lake or pond	no visible flow	not measured	7.04	12.2			The ponds are connected. Covered in algae and plenty of reeds. Few structures, bridge and jetty.	
200		photo was erased			Country park landscape	No	Muddy, grass, brambles and reeds	76	506				
n/a			18/09/2018										
HE540039-CJV-EWE-ZZZ-PS-1S04ZZZ5			AJ	Shorne Woods Country Park Brewers Road, Shorne, Gravesend DA12 3HX	Surface water body, lake or pond	no visible flow	not measured	7.45	15.2			Sampled from the northern bit of the pond, from the footpath. Wide pond, part of the country club, surrounded by trees.	
200	SW-2				Country park landscape	No	Muddy, grass, brambles and reeds	60	387				
n/a			18/09/2018										
HE540039-CJV-EWE-ZZZ-PS-1S04ZZZ6			AJ	Shorne Woods Country Park Brewers Road, Shorne, Gravesend DA12 3HX	Surface water body, lake or pond	no visible flow	15	6.57	12.8			Surrounded by a lot of vegetation and protected by a fence. Difficult to access.	
120	SW-3				Country park landscape	No	Muddy, grass, brambles and reeds	37	655				
n/a			12/09/2018										
HE540039-CJV-EWE-ZZZ-OW-1S04ZZZ2			AJ	Shorne Woods Country Park Brewers Road, Shorne, Gravesend DA12 3HX	Surface water body, ordinary watercourse (natural bed/bank profile, not designated main river)	no visible flow	no access	dry	dry			Not enough water to sample. Drainage ditch gets drier further north.	
270	SW-4				Pond/lake drainage	No	Muddy, grass	dry	dry				
n/a			18/09/2018										

Easting	Northing		Surveyor	Location of the feature	Water feature type	Estimated Flow velocity (m/s)	Channel Width (m)	pH (pH units)	Temperature (°C)	General description
	Water Feature ID	Photo reference								
HE540039-CJV-EWE-ZZZ-OW-1S04ZZZ1			AJ	Shorne Woods Country Park Brewers Road, Shorne, Gravesend DA12 3HX	Surface water body, ordinary watercourse (natural bed/bank profile, not designated main river)	no visible flow	no access	dry	dry	Marsh area and not enough water to sample.
380	SW-5		18/09/2018		Pond/lake drainage	No	Muddy, grass	dry	dry	
n/a										
HE540039-CJV-EWE-ZZZ-PS-1S04ZZZ7			AJ	Shorne Woods Country Park Brewers Road, Shorne, Gravesend DA12 3HX	Surface water body, lake or pond	no visible flow	no access	7.47	13.7	No actual hydraulic continuity with southern ditch. Very muddy pond. Northern ditch discharges in the pond.
415	SW-6		18/09/2018		Country park landscape	No	Muddy, grass, brambles	71	485	
n/a										
HE540039-CJV-EWE-ZZZ-PS-1S04ZZZ8			AJ	Shorne Woods Country Park Brewers Road, Shorne, Gravesend DA12 3HX	Surface water body, lake or pond	no visible flow	not measured	7.5	13.3	No actual hydraulic continuity with southern ditch. Very muddy pond. Northern ditch discharges in the pond.
430	SW-7		18/09/2018		Country park landscape	No	Muddy, grass, brambles	76	456	
n/a										
HE540039-CJV-EWE-ZZZ-OW-1S04ZZZ5			AJ	Shorne Woods Country Park Brewers Road, Shorne, Gravesend DA12 3HX	Surface water body, ordinary watercourse (natural bed/bank profile, not designated main river)	no visible flow	no access	7.6	15.9	The ditch water flow is stopped by a dam. No water is flowing from the pond.
460	SW-8		18/09/2018		Pond/lake drainage	Dam	Muddy, grass, brambles	76	502	
n/a										
HE540039-CJV-EWE-ZZZ-PS-1S01ZZ12			AJ	Cobham Hall, Brewers Rd, Gravesend DA12 3BL	Surface water body, lake or pond	no visible flow	no access	1- 6.62; 2- 6.4	1- 13.1; 2- 15.6	Two distinct ponds with various aspects. 1- Very orangey brown shallow (Photo 2) 2- Pond with a lot of vegetation and a lot clearer than 1. Both located in the woods.
190	SW-9; SW-10		12/09/2018		Country park landscape	No	Clayey	1- 28; 2- 19	1- 87.5; 2- 130	
n/a										
HE540039-CJV-EWE-ZZZ-PS-1S03ZZZ1			AJ	Cobham Hall, Brewers Rd, Gravesend DA12 3BL	Surface water body, lake or pond	not measured, no visible flow in the pond area	no access	7.67	13.4	A source flowing into the pond from a hydraulic pipe. There were two of them but flowing just from one. On private land small pond water slopping steeply. Couldn't investigate the source because on private land. In the middle of a small valley
140	SW-11		12/09/2018		Country park landscape	Two hydraulic pipes	Muddy	86	521	
n/a										

Easting	Northing		Surveyor	Location of the feature	Water feature type	Estimated Flow velocity (m/s)	Channel Width (m)	pH (pH units)	Temperature (°C)	General description
	Distance from DR2 (m)	Photo reference								
Environmental Permit number			Survey date	Use	Hydraulic Structures	Bed and Bank Materials	Dissolved Oxygen (% saturation)	Electrical Conductivity (µS/cm)		
HE540039-CJV-EWE-ZZZ-PS-1S03ZZZ2			AJ	The Inn on The Lake, Gravesend DA12 3HB	Surface water body, lake or pond	no visible flow	no access	17.8	Lake in the backyard of an inn for fishing with a lot of vegetation. The bank of the lake is natural except for the presence of a jetty. Few animals (ducks, swans) swimming.	
Adjacent	SW-12		12/09/2018		Inn landscape; Fishing lake	No	Bed: Sandy; Bank: a bit more clayey than the bed	91	792	
n/a										
HE540039-CJV-EWE-ZZZ-PS-1S02ZZZ1			AJ	Highways England	Surface water body, lake or pond	no visible flow	no access	no access	Ponds owned and used by Highways England for the A2 drainage. The ponds were gated, and we did not have access, pond (PS-1S02ZZZ1) was dry.	
HE540039-CJV-EWE-ZZZ-PS-1S02ZZZ2			12/09/2018		Highways drainage ditches	No	unknown	no access	no access	
HE540039-CJV-EWE-ZZZ-PS-1S02ZZZ3										
Within	SW-13									
n/a										
HE540039-CJV-EWE-ZZZ-PS-1S04ZZZ9			AJ	Sparks Land/Farm, Gravesend	Surface water body, lake or pond	no visible flow	no access	no access	Abundant vegetation in a deep hole. Completely dried out pond covered with trees and grass. Gated from the farmland.	
180	SW-14		13/09/2018		n/a	No	unknown	no access	no access	
n/a										
567386	174106									
HE540039-CJV-EWE-ZZZ-SY-1S05ZZZ1			AJ	Firefighting training centre, Gravesend	Surface water discharge, permit	not found	not found	not found	The location of the abstraction was not accessible for sampling, due to a fence.	
330	none		14/09/2017		unknown	not found	not found	not found	not found	
P06840										
567469	174080									
HE540039-CJV-EWE-ZZZ-AS-1S05ZZZ1			BC	Gravesham Borough Council, between the Firefighting training centre and the Milton Rifle Range	Surface water abstraction, licensed	no visible flow	no access	no access	Surface water abstraction not seen. The location of the abstraction was not accessible for sampling, due to a steep ditch. A rusted pipe is present across the ditch (Denton New Cut). Use of this pipe was not clear.	
380	SW-15		14/09/2017		General use, with low loss	Pipe across ditch	no access	no access	no access	
SO/040/0001/001/R01										
568024	174375									
HE540039-CJV-EWE-ZZZ-AS-1S06ZZZ2			AJ	Shorne Marshes at The Royal Society for the Protection of Birds reserve, Gravesend	Surface water abstraction, licensed	no access	no access	no access	EA location was not accessible, due to fences and dense vegetation. All the closest accessible ditches were dry.	
130	none		14/09/2017		Ditches to make up or top up water	no access	no access	no access	no access	
01/150/R01										
HE540039-CJV-EWE-ZZZ-PS-1S06ZZZ5			BC	Shorne Marshes, Gravesend	Surface water body, lake or pond	no visible flow	no access	15.9	Lake, fishing boats on private land	
100	SW-16		13/09/2018		Recreational, fishing on private land	No	Bed: Gravel and mud; Bank: Rocks, reeds, islands	100	753	
n/a										

Easting	Northing		Surveyor	Location of the feature	Water feature type	Estimated Flow velocity (m/s)	Channel Width (m)	pH (pH units)		Temperature (°C)		General description
	Distance from DR2 (m)	Photo reference						Dissolved Oxygen (% saturation)	Electrical Conductivity (µS/cm)			
Environmental Permit number			Survey date		Use	Hydraulic Structures	Bed and Bank Materials					
HE540039-CJV-EWE-ZZZ-DI-1S06ZZZ1			BC	Shorne Marshes, Gravesend	Surface water body, ditch (artificial bed/bank profile, not designated main river)	no visible flow	2	9.11	18.9	Between fields. Some ditches are dry, some newly dry and some wet. Ditches roughly 2.5m to approximately 1m deep (ground level to base). Algae and small trees present on southern ditches. Algae, reeds and small bushes on the rest. Sample taken at southern pond. Topography flat until the Lower Higham Road then small hill towards the road where no springs were visible.		
70		SW-17										
n/a			13/09/2018		Marshes drainage ditches	Culverts	Grass and reeds, muddy	117	2,713			
HE540039-CJV-EWE-ZZZ-DI-1S06ZZZ2			BC	Shorne Marshes, Gravesend	Surface water body, ditch (artificial bed/bank profile, not designated main river)	no visible flow	2	9.4	18.2	Pastoral land and drainage channels to either side. Weed, algae and grass growing in channel. Small trees to northwest.		
Within		SW-18										
n/a			13/09/2018		Marshes drainage ditches	Culverts	Grass and reeds, muddy	140	1447			
HE540039-CJV-EWE-ZZZ-DI-1S05ZZZ1			BC	Shorne Marshes, Gravesend	Surface water body, ditch (artificial bed/bank profile, not designated main river)	no visible flow	2	7.03	14.6	Ditch covered with algae and pond weed. Pretty shallow ditch. Occasional pipes used to cross over. Between agricultural land and railway. Search for spring from the north to the southern part, but no visible evidence of springs found.		
230		SW-19										
n/a			13/09/2018		Marshes drainage ditches	Culverts	Bed: Mud and clay; Bank: Grass and vegetation over clay	5	990			
HE540039-CJV-EWE-ZZZ-CN-1S05ZZZ1			BC	Kent and Medway Canal) Shorne, Marshes, Gravesend	Surface water body, canal (artificial linear waterway)	0.1	10	8.77	14.6	Canal. Footbridge with stone bank. Vegetated (high grass) embankment along the canal. Footbridge over the canal. Water sampling from the footbridge, as access to the edge of the canal was not possible due to vegetation and steep slope.		
Within		SW-20										
n/a			13/09/2018		Drainage	No	Grass, reeds, brambles	130	14,046			

Easting	Northing		Surveyor	Location of the feature	Water feature type	Estimated Flow velocity (m/s)	Channel Width (m)	pH (pH units)		Temperature (°C)	General description
	Distance from DR2 (m)	Photo reference						Dissolved Oxygen (% saturation)	Electrical Conductivity (µS/cm)		
Environmental Permit number			Survey date		Use	Hydraulic Structures	Bed and Bank Materials				
HE540039-CJV-EWE-ZZZ-DI-1S05ZZZ3			BC	Shorne Marshes, Gravesend	Surface water body, ditch (artificial bed/bank profile, not designated main river)	no visible flow	4	7.8	13.3	Pastoral land and drainage channels to either side. Weed, algae and grass growing in channel. Topography flat.	
Within n/a	SW-21	13/09/2018			Marshes drainage ditches	Culverts	Grass, reeds, brambles	87	2,151		
HE540039-CJV-EWE-ZZZ-DI-1S06ZZZ6			BC	Shorne Marshes, Gravesend	Surface water body, ditch (artificial bed/bank profile, not designated main river)	no visible flow	4	dry	dry	Dry ditch in the middle of the Rifle Range. Dry culvert full of grass	
Within n/a	SW-22	13/09/2018			Marshes drainage ditches	Culverts	Grass, reeds, brambles	dry	dry		
HE540039-CJV-EWE-ZZZ-DI-1S06ZZZ5			BC	Shorne Marshes, Gravesend	Surface water body, ditch (artificial bed/bank profile, not designated main river)	no visible flow	4	8.4	13.7	Dry ditch. On the west side all the ditches are dry. Sampled the small lake on the west side. Lake observed from the Rifle Range.	
150 n/a	SW-23	13/09/2018			Marshes drainage ditches	Culverts	Grass, reeds, brambles	123	1,708		
HE540039-CJV-EWE-ZZZ-DI-1S06ZZZ3			BC	Shorne Marshes, Gravesend	Surface water body, ditch (artificial bed/bank profile, not designated main river)	no visible flow	4	8	14.1	Ditch, shallow and covered in reeds, within the nature reserve. Herd of cattle.	
370 n/a	SW-24	13/09/2018			Marshes drainage ditches	Culverts	Grass, reeds, muddy	79	2,703		
HE540039-CJV-EWE-ZZZ-OW-1N07ZZZ4			BC	Tilbury Marshes	Surface water body, ordinary watercourse (natural bed/bank profile, not designated main river)	no visible flow	no access	7.56	14.5	Ditch, man-made, full of reeds and apparently dry. Water appeared a few metres further along. ditch deeper than average for the local area.	
n/a	SW-25	21/09/2018			Marshes drainage	No	Muddy	80	16368		



Easting	Northing		Surveyor	Location of the feature	Water feature type	Estimated Flow velocity (m/s)	Channel Width (m)	pH (pH units)		Temperature (°C)	General description
	Distance from DR2 (m)	Photo reference						Dissolved Oxygen (% saturation)	Electrical Conductivity (µS/cm)		
Environmental Permit number			Survey date		Use	Hydraulic Structures	Bed and Bank Materials				
HE540039-CJV-EWE-ZZZ-OW-1N07ZZZ6			BC	Tilbury Marshes	Surface water body, ordinary watercourse (natural bed/bank profile, not designated main river)	no visible flow	no access	8.47	17.1		Pastoral land, streams, landfill and arable land.
n/a		SW-26	19/09/2018		Marshes drainage	No	Mud, grass	200	7,040		
HE540039-CJV-EWE-ZZZ-OW-1N07ZZZ5			BC	Tilbury Marshes	Surface water body, ordinary watercourse (natural bed/bank profile, not designated main river)	no visible flow	no access	8.1	13.2		Drainage ditch, typical of this area, with a lot of vegetation, shallow water. Difficult access.
n/a		SW-27	18/09/2018		Marshes drainage	No	Mud, grass	34	14,567		
HE540039-CJV-EWE-ZZZ-OW-1N07ZZZ7			BC	Tilbury Marshes	Surface water body, ordinary watercourse (natural bed/bank profile, not designated main river)	no visible flow	no access	7.67	11.9		Virtually dry drainage ditch along path/small road and neighbouring pastoral land and landfill.
Within n/a		SW-28	20/09/2018		Marshes drainage	No	Mud, grass, reeds	15	2,946		
HE540039-CJV-EWE-ZZZ-OW-1N07ZZZ8			BC	Tilbury Marshes	Surface water body, ordinary watercourse (natural bed/bank profile, not designated main river)	no visible flow	no access	7.6	12.8		Between landfills, one of which may be grazing land.
Within n/a		SW-29	20/09/2018		Marshes drainage	Culverts	Mud, grass, reeds	7	3,773		
HE540039-CJV-EWE-ZZZ-MR-1N07ZZZ1			BC	Tilbury Main	Surface water body, EA designated main river	no visible flow	no access	7.97	12.4		No visible flow, shallow, full of vegetation, between landfills, apparently quicksand in area (danger sign at the Tilbury power station work site).
Within n/a		SW-30	20/09/2018		Marshes drainage	No	Reeds, grass, trees, landfill	59	4000		

Easting	Northing		Surveyor	Location of the feature	Water feature type	Estimated Flow velocity (m/s)	Channel Width (m)	pH (pH units)		Temperature (°C)	General description
	Distance from DR2 (m)	Photo reference						Dissolved Oxygen (% saturation)	Electrical Conductivity (µS/cm)		
Environmental Permit number			Survey date		Use	Hydraulic Structures	Bed and Bank Materials				
HE540039-CJV-EWE-ZZZ-OW-1N07ZZ10			BC	Tilbury Marshes	Surface water body, ordinary watercourse (natural bed/bank profile, not designated main river)	no visible flow	no access	dry	dry		Dry drainage ditch. Ground became damp towards the ponds, 100m to the North.
Within	SW-31		21/09/2018		Marshes drainage	Culverts	Dry, trees	dry	dry		
n/a											
HE540039-CJV-EWE-ZZZ-OW-1N18ZZZ8			BC	Tilbury Marshes	Surface water body, ordinary watercourse (natural bed/bank profile, not designated main river)	no visible flow	no access	8	13.3		Between arable lands, full of reeds grass and drainage culvert underneath path.
Within	SW-32		18/09/2018		Marshes drainage	Culverts	Rocky, grass	66	2,500		
n/a											
HE540039-CJV-EWE-ZZZ-MR-1N07ZZZ1			BC	Tilbury Marshes	Surface water body, EA designated main river	0.08	no access	7.91	11.1		Main river with a steep valley of approximately 4m from the surrounding ground topography.
Within	SW-33		19/09/2018		Marshes drainage	unknown	Reeds and long grass	69	4555		
n/a											
HE540039-CJV-EWE-ZZZ-OW-1N18ZZZ6			BC	Tilbury Marshes	Surface water body, ordinary watercourse (natural bed/bank profile, not designated main river)	no visible flow	no access	dry	dry		Ditch full of reeds. Just a couple of centimetres of water so not enough for sampling. Surrounded by agricultural lands. Very low topography, difference of 4m from the ground level.
Within	SW-34		20/09/2018		Marshes drainage	Culverts	Mud, reeds, grass	dry	dry		
n/a											
HE540039-CJV-EWE-ZZZ-OW-1N18ZZZ7			BC	Tilbury Marshes	Surface water body, ordinary watercourse (natural bed/bank profile, not designated main river)	no visible flow	no access	7.9	13.5		Reeds surrounded by agricultural lands. shallow depth of water.
Within	SW-35		19/09/2018		Marshes drainage	Culverts	Mud, reeds, grass	65	3,910		
n/a											

Easting	Northing		Surveyor	Location of the feature	Water feature type	Estimated Flow velocity (m/s)	Channel Width (m)	pH (pH units)	Temperature (°C)	General description
	Distance from DR2 (m)	Photo reference								
Environmental Permit number			Survey date	Use	Hydraulic Structures	Bed and Bank Materials	Dissolved Oxygen (% saturation)	Electrical Conductivity (µS/cm)		
HE540039-CJV-EWE-ZZZ-DI-1N18ZZZ1			BC	Tilbury Marshes	Surface water body, ditch (artificial bed/bank profile, not designated main river)	no visible flow	no access	dry	dry	Overgrown dry ditch between railway and field. Cannot see bed clearly as overgrown but appears dry.
Within		SW-36	19/09/2018		Marshes drainage ditches	Culverts	Mud, reeds, grass	dry	dry	
n/a										
HE540039-CJV-EWE-ZZZ-PS-1N07ZZZ1			BC	Tilbury Marshes	Surface water body, lake or pond	no visible flow	no access	8.43	15.1	Topography very low compared to the surrounding fields, approximately 6 metres, probably groundwater fed. The access was quite difficult. The water is very muddy. Geology and topography maps suggest pond is possibly spring fed.
Within		SW-37	21/09/2018		Marshes drainage	No	Muddy	100	2020	
n/a										
HE540039-CJV-EWE-ZZZ-PS-1N07ZZZ3			BC	Tilbury Marshes	Surface water body, lake or pond	no visible flow	no access	dry	dry	No water body. Now is landfill.
Within		SW-38	19/09/2018		Marshes drainage	No	Landfill	dry	dry	
n/a										
HE540039-CJV-EWE-ZZZ-PS-1N07ZZZ7			BC	Tilbury Marshes	Surface water body, lake or pond	no visible flow	no access	no access	no access	Black coloured water, suspected of being contaminated. No smell from distance. Access difficult due to steep slope. No sample taken.
Within		SW-39	19/09/2018		Marshes drainage	No	Muddy	no access	no access	
n/a										
HE540039-CJV-EWE-ZZZ-PS-1N07ZZZ7			BC	Tilbury pond on Cole Farm, Tilbury	Surface water body, lake or pond	no visible flow	no access	7.48	14.1	Substantial lake in the middle of Coles pastoral lands. Might be groundwater fed as the topography is 3 metres lower than the ground. Sand all around. Around 1 metre drop from previous water level marks on the sand bank.
Within		SW-40	19/09/2018		Marshes drainage	No	Bed: Sand; Bank: Mud, sand, grass	117	973	
n/a										
566400		179500	BC	Anglian Water Service Services Limited, Linford	Surface water discharge, permit	n/a	20	dry	dry	Shown as discharge sewer on housing estate. Dried up feed bed.
HE540039-CJV-EWE-ZZZ-SY-1N09ZZZ1			BC		Sewage	No	Grass, potatoes, reeds	dry	dry	
140		SW-41	15/09/2017							
AW2NFE02860										
562001		183003	SD	Cole Farm, in the Mardyke valley, North Orsett	Surface water abstraction licensed	n/a	n/a	no access	no access	Drainage ditch present at the location. Not accessible due to dense vegetation. No evidence of abstraction found.
HE540039-CJV-EWE-ZZZ-AS-1N17ZZZ1			SD		Spray Irrigation	No	Grass, brambles	no access	no access	
420		SW-42	14/09/2017							
8/37/56/*S/0088A/R01										

Easting	Northing		Surveyor	Location of the feature	Water feature type	Estimated Flow velocity (m/s)	Channel Width (m)	pH (pH units)		Temperature (°C)	General description
	Water Feature ID	Photo reference						Dissolved Oxygen (% saturation)	Electrical Conductivity (µS/cm)		
Distance from DR2 (m)	Environmental Permit number		Survey date		Use	Hydraulic Structures	Bed and Bank Materials				
562002	183701		SD	Benton land, in the Mardyke valley, North Orsett	Surface water abstraction licensed	n/a	n/a	no access	no access		Dried up drainage ditch present at the location. No evidence of abstraction either in field or at river.
within	SW-43		14/09/2017		Spray Irrigation	no	Grass	no access	no access		
562396	184002		MP	Cole Farm, in the Mardyke valley, North Orsett	Surface water abstraction licensed	not found	not found	not found	not found		EA location in an agriculture field. Not visible.
330	SW-44		14/09/2017		Spray Irrigation	not found	not found	not found	not found		
HE540039-CJV-EWE-ZZZ-OW-1N09ZZZ1			BC	Cole's land, Linford	Surface water body, ordinary watercourse (natural bed/bank profile, not designated main river)	0.08	1	8.3	14.8		Stream between pond and pastoral land. Visible flow rate. Occasional litter.
130	SW-45		15/09/2018		unknown	No	Clay and gravel	97	596		
HE540039-CJV-EWE-ZZZ-PS-1N09ZZZ1			SD	Cole's land, Linford	Surface water body, lake or pond	no visible flow	5x20m	7.77	15.3		Large shallow pond with occasional trees in centre. Water depth <0.5m throughout.
130	SW-46		20/09/2018		unknown	No	Bed: Silty clay. Occasional trees and reeds; Bank: Reeds and marshy grass	117	803		
HE540039-CJV-EWE-ZZZ-DI-1N09ZZZ1			BC	South of Orsett Golf Course, Orsett	Surface water body, ditch (artificial bed/bank profile, not designated main river)	no visible flow	2	dry	dry		Dry ditch along agriculture lands
100	SW-47		15/09/2018		unknown	No	Brambles, grass	dry	dry		
HE540039-CJV-EWE-ZZZ-PS-1N09ZZZ3			AJ	Cole's land, Orsett	Surface water body, lake or pond	no visible flow	no access	7.25	12.7		A lot of reeds in the pond. On agricultural land next to a main road.
Within	SW-48		15/09/2018		unknown	No	Brambles, grass and reeds	18	643		
n/a											

Easting	Northing		Surveyor	Location of the feature	Water feature type	Estimated Flow velocity (m/s)	Channel Width (m)	pH (pH units)	Temperature (°C)	General description
	Water Feature ID	Photo reference								
	Environmental Permit number									
	HE540039-CJV-EWE-ZZZ-PS-1N09ZZZ4		MP	Cole's land, Orsett	Surface water body, lake or pond	no visible flow	no access	6.99	14.3	Two ponds with a low bank between them. Water not hydraulically connected currently but could be if water levels were high. Around ponds there are agricultural fields. Depth of water <0.2m.
	130	SW-49	20/09/2018		unknown	No	Clay, Mud, overgrown, trees	20	380.4	
	n/a									
	HE540039-CJV-EWE-ZZZ-DI-1N11ZZZ2		MP	Cole's land, Green Lane, Orsett	Surface water body, ditch (artificial bed/bank profile, not designated main river)	no visible flow	0.40 to 0.50	7.48	14.20	Overgrown drainage ditch along a track. Bushes and trees on both banks. Water depth <0.15m
	Within	SW-50	19/09/2017		Drainage	No	Overgrown grasses and ivy	48	1006	
	n/a									
	561968	183483	SD	Mardyke River bed, on Cole's land, Orsett	Surface water body, EA designated main river	0.2	1 to 5	7.28	14.4	Main river flowing. Stream and ditch connected to it. Agriculture lands around are approximately 4 to 5m up from the river.
	HE540039-CJV-EWE-ZZZ-MR-1N17ZZZ1		14/09/2017		Main River	unknown	Silty, sandy	42	7.28	
	Within	SW-51								
	n/a									
	562556	182797	SD	Orsett Fen Sewer, Mardyke tributary, on Cole's land, Orsett	Surface water body, EA designated main river	no visible flow	1 to 2	6.83	13.80	Overgrown river between two agricultural fields. Small pools of water at either side of crossing. No flow. Water <0.2m
	HE540039-CJV-EWE-ZZZ-MR-1N17ZZZ1		18/09/2017		Main River	unknown	Overgrown. Cannot see bed.	60	821.00	
	Within	SW-52								
	n/a									
	562465	182925	SD	Mardyke tributary, on Cole's land, Orsett	Surface water body, ordinary watercourse (natural bed/bank profile, not designated main river)	no visible flow	1 to 3	7.58	14.80	Very overgrown drainage ditch. Short (<5m) culvert beneath crossing. Stagnant water either side of culvert. Other areas of east/west running ditch are overgrown. Not possible to see if any water is here. Stagnant water is <0.5m.
	HE540039-CJV-EWE-ZZZ-OW-1N17ZZZ1		18/09/2017		unknown	Culvert	Grass and weeds	74	900.00	
	Within	SW-53								
	n/a									
	562343	183490	SD	Golden Bridge Sewer, Mardyke tributary, on Cole's land, Orsett	Surface water body, EA designated main river	0.005	1 to 3	7.99	15.20	River between fields. Flowing west to Mardyke river. Short culvert section beneath bridge crossing before confluence with Mardyke.
	HE540039-CJV-EWE-ZZZ-MR-1N17ZZZ2		18/09/2017		Main River	Culvert	Grass and weeds	79	1095	
	Within	SW-54								
	n/a									



Easting	Northing		Surveyor	Location of the feature	Water feature type	Estimated Flow velocity (m/s)	Channel Width (m)	pH (pH units)	Temperature (°C)	General description
	Water Feature ID	Photo reference								
Environmental Permit number										
558601	184600		SD	Hall Farm (Mee's land), North Ockendon	Surface water abstraction licensed	no access	no access	no access	no access	EA location was not accessible, no feature was observed from the path. EA data states a storage, no visible storage observed.
within	none	unknown			Spray Irrigation - storage	no access	no access	no access	no access	
08/37/55/0072										
557855	184278		MP	Mee Farm, North Ockendon	Surface water abstraction, deregulated/no licence	no access	no access	no access	no access	No record of this in the EA data set. Abstraction from fishing lake to irrigate agricultural fields. Pipes and pumping building at side of lake with pipes across field for irrigation.
HE540039-CJV-EWE-ZZZ-SD-1N14ZZZ1		unknown			unknown	water pipes from field to pond/lake	no access	no access	no access	
260	SW-61; SW-62									
n/a										
559543	183785		SD	Private land, in South Ockendon	Surface water body, ordinary watercourse	no visible flow	2.40	6.99	10.30	Man-made steep sided drainage ditch between two agricultural fields, hedges on southern side. Mostly overgrown but recently trimmed. Approximately 0.2m depth of stagnant water in ditch. Some areas dry. More overgrown and less defined in second field (to west).
HE540039-CJV-EWE-ZZZ-OW-1N14ZZZ1		15/09/2017			unknown	Unknown	Unknown	Brambles, grasses	30	1,230.00
Within	SW-63									
n/a										
559884	184044		MP	Mee Farm, North Ockendon	Surface water body, lake or pond	no visible flow	Approx. 55	7.12	15.60	Pond surrounded by high grass, reeds and trees. No special uses. Depth unknown, estimated at 2m.
HE540039-CJV-EWE-ZZZ-PS-1N13ZZZ3		14/09/2017			unknown	Unknown	Unknown	Muddy, overgrown	121	1,159.00
Adjacent	SW-64									
n/a										
559948	183871		MP	Mee Farm, North Ockendon	Surface water body, lake or pond	no visible flow	Approx. 45	7.32	14.20	Pond within wooded area with algae across the surface.
HE540039-CJV-EWE-ZZZ-PS-1N13ZZZ5		14/09/2017			unknown	Unknown	Unknown	Muddy, overgrown	24	1,110.00
Within	SW-65									
n/a										
HE540039-CJV-EWE-ZZZ-PS-1N13ZZZ1			MP	Mee Farm, North Ockendon	Surface water body, lake or pond	no visible flow	no access	dry	dry	Mostly dry overgrown and grassy pond. Small area of water, inaccessible. Banks thick with brambles, very difficult to access.
Within	SW-66	14/09/2017			unknown	Unknown	Unknown	Muddy, overgrown	dry	dry
n/a										
HE540039-CJV-EWE-ZZZ-PS-1N14ZZZ2			SD	Mee Farm, North Ockendon	Surface water body, lake or pond	no visible flow	Approx. 100x150	no access	no access	Fishing lake with jetties around edge for fishing, trees periodically around banks. Bank reinforced with wooden beams. Depth unknown. Not sampled, fishing.
380	SW-67	13/09/2017			unknown	No	No	Unknown	no access	no access
n/a										
HE540039-CJV-EWE-ZZZ-PS-1N14ZZZ3			SD	Mee Farm, North Ockendon	Surface water body, lake or pond	no visible flow	Approx. 30	dry	dry	Heavily vegetated likely surface water attenuation pond with shallow sides. Pipe leading in to shale bedded areas. Pond dry, not sampled.
Adjacent	SW-68	13/09/2017			unknown	Pipe approx 0.5m diameter leading from M25 side	Vegetation and grasses		dry	dry
n/a										

Easting	Northing		Surveyor	Location of the feature	Water feature type	Estimated Flow velocity (m/s)	Channel Width (m)	pH (pH units)	Temperature (°C)	General description
	Water Feature ID	Photo reference								
	Distance from DR2 (m)		Survey date		Use	Hydraulic Structures	Bed and Bank Materials	Dissolved Oxygen (% saturation)	Electrical Conductivity (µS/cm)	
	Environmental Permit number									
558703	84633		SD		Surface water body, lake or pond	no visible flow	Approximately 10-15m wide and 80-100m long	7.82	16.30	Fishing lake of unknown depth (likely to be > 1m). Agricultural fields on two sides, wooded area to the north. Areas of bank propped up using wood and corrugated metal.
HE540039-CJV-EWE-ZZZ-PS-1N14ZZZ4				Mee Farm, North Ockendon	unknown	unknown	Grasses and reeds with some areas propped up	105	801.00	
Adjacent	SW-69		13/09/2017							
n/a										
HE540039-CJV-EWE-ZZZ-PS-1N14ZZZ5			SD		Surface water body, lake or pond	no visible flow	Approx. 100m long and 10m wide	no access	no access	Large pond with grassy and overgrown banks backing onto houses on one side. Depth unknown. No access. No sample taken.
Adjacent	SW-70		13/09/2017	Mee Farm, North Ockendon	unknown	unknown	Grassy and overgrown	no access	no access	
n/a										
558482	184653		SD		Surface water body, lake or pond	no visible flow	Approx. 10m long and 3m wide.	6.31	16.40	Mostly dried up pond. Small area of shallow (<0.1m) stagnant boggy water in the east of the pond. Rest of pond is dry and with lots of reeds.
HE540039-CJV-EWE-ZZZ-PS-1N14ZZZ6				Mee Farm, North Ockendon	unknown	unknown	Grassy and overgrown	60	154.00	
Within	SW-71		13/09/2017							
n/a										
557726	184549		SD		Surface water body, lake or pond	no visible flow	Approx. 50x100m	8.16	19.20	Large lake with jetties around the edge. Agricultural land on one side and another big pond.
HE540039-CJV-EWE-ZZZ-PS-1N14ZZZ7				Mee Farm, North Ockendon	unknown	unknown	Unknown	92	927.00	
250	SW-72		21/09/2017							
n/a										
558389	186119		SD		Surface water discharge, permit	n/a	no access	no access	no access	Manhole found in proximity of surface water discharge point. Manhole was not accessible. Located adjacent to the office building for Thames Chase Forest Centre. No clear evidence of surface water discharge. In addition, possible sump noted in vicinity of point.
HE540039-CJV-EWE-ZZZ-SY-1N15ZZZ1				Broadfields Farm, East of Pike Lane in North Ockendon						
110	SW-73		12/09/2017		Sewage	Gated underground tank	no access	no access	no access	
PRENF13975										
558410	186125		SD		Surface water discharge, permit	not found	not found	not found	not found	No feature was observed at the EA location. EA data states a sewage, no visible sewage structure observed.
HE540039-CJV-EWE-ZZZ-SY-1N15ZZZ2				Broadfields Farm, East of Pike Lane in North Ockendon						
90	none		12/09/2017		Sewage	not found	not found	not found	not found	
PRENF10672										
HE540039-CJV-EWE-ZZZ-PS-1N15ZZZ1			SD		Surface water body, lake or pond	no visible flow	Approx. 10x15m	dry	dry	Dry, vegetated pond with reeds in the centre.
Within	none		14/09/2017	Along Ockendon Road, North Ockendon	unknown	unknown	Overgrown with nettles	dry	dry	
n/a										



Easting	Northing		Surveyor	Location of the feature	Water feature type	Estimated Flow velocity (m/s)	Channel Width (m)	pH (pH units)	Temperature (°C)	General description
	Distance from DR2 (m)	Photo reference								
Environmental Permit number			Survey date		Use	Hydraulic Structures	Bed and Bank Materials	Dissolved Oxygen (% saturation)	Electrical Conductivity (µS/cm)	
558293	186541		SD		Surface water body, EA designated main river	0.5	1 to 2	7.51	16.90	Three inflows, two from ordinary watercourses and third from large square concrete culvert beneath golf course. Channel is concrete and wide (2m) for first few metres then quickly becomes narrower, natural and overgrown with overhanging trees and bed with lots of reeds. Some areas of no flow, others with very small flow. Water depth around 0.2-0.3m throughout channel.
HE540039-CJV-EWE-ZZZ-MR-1N17ZZZ4				West Mardyke on Golf course, North Ockendon	unknown	large square concrete culvert	Concrete initially then overgrown	70	496.00	
Within	SW-74		12/09/2017							
n/a										
558094	186228		SD	Golf course, North Ockendon	Surface water body, lake or pond	no visible flow	Approx. 50 x 100m	8.70	17.20	Artificial lake in golf course at least 1m deep.
HE540039-CJV-EWE-ZZZ-PS-1N17ZZZ1					unknown	unknown	Grassy banks	110	582.00	
450	SW-75		12/09/2017							
n/a										
558335	186582		SD	Golf course, North Ockendon	Surface water body, lake or pond	no visible flow	Approx. 20x50m	8.49	16.30	Artificial lake in golf course at least 1m deep.
HE540039-CJV-EWE-ZZZ-PS-1N17ZZZ3					unknown	unknown	Grassy banks	102	583.00	
300	SW-76		12/09/2017							
n/a										
558616	186609		SD	Golf course, North Ockendon	Surface water body, lake or pond	no visible flow	Approx. 20x30m	8.21	16.60	Artificial lake in golf course at least 1-2m deep.
HE540039-CJV-EWE-ZZZ-PS-1N17ZZZ4					unknown	unknown	Grassy banks	131	635.00	
70	SW-77		12/09/2017							
n/a										

## Drawings



- M.1.6 Nine drawings, provided as Figure 15.8 in Volume 3, represent the groundwater and surface water features surveyed during the first phase of the water feature survey in September 2017.
- M.1.7 The surface water features have been surveyed within the 500m buffer from the Development Boundary. The groundwater features have been surveyed within the 1km buffer from the Development Boundary.
- M.1.8 On the drawings, each feature’s ID number has been shortened to simplify the representation. The first 17 digits haven’t been considered, leaving the ID number with the last 10 digits.



## Photographs



- M.1.9 This section contains two tables. Table M.3 has photographs taken south of the River Thames, Table M.4 has photographs taken to the north of the River Thames.



**Table M.3 South of the River Thames**

<b>Location</b>	Shorne Woods Country Park	
<b>Date</b>	14 September 2017	
<b>Surveyors</b>	AJ, BC	
<b>Photograph</b>		
<b>Description</b>	Decomposition of Shorne country park sanitary sewage, adjacent to the reception	



<b>ID</b>	GW1
<b>Photograph</b>	
<b>Description</b>	Petrol interceptor, located in the greenkeeper's shed.
<b>ID</b>	GW-2
<b>Location</b>	Southern Valley Golf Course
<b>Date</b>	13 September 2017
<b>Surveyors</b>	AJ, BC
<b>Photograph</b>	
<b>Description</b>	Abstraction borehole, located along the track to the course, between the greenkeeper's shed and the reception.
<b>ID</b>	GW-3

<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Abstracted water tank, located next to the greenkeeper’s shed.</p>
<p><b>ID</b></p>	<p>GW-4</p>
<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Possible location of a discharge to ground, between the reception and the abstraction borehole, dense vegetation.</p>
<p><b>ID</b></p>	<p>GW-5</p>



<b>Location</b>	Milton Rifle Range
<b>Date</b>	14 September 2017
<b>Surveyors</b>	AJ, BC
<b>Photograph</b>	
<b>Description</b>	BGS well record found in a gated field, east of the rifle range.
<b>ID</b>	GW-6
<b>Location</b>	Shorne Woods Country Park
<b>Date</b>	12 and 18 September 2017
<b>Surveyors</b>	AJ, BC
<b>Photograph</b>	
<b>Description</b>	Pond in Shorne Woods Country Park
<b>ID</b>	SW-1


<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Pond in Shorne Woods Country Park</p>
<p><b>ID</b></p>	<p>SW-2</p>
<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Pond in Shorne Woods Country Park</p>
<p><b>ID</b></p>	<p>SW3</p>

<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Drainage ditch in Shorne Woods Country Park</p>
<p><b>ID</b></p>	<p>SW-4</p>
<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Pond in Shorne Woods Country Park</p>
<p><b>ID</b></p>	<p>SW-5</p>



<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Pond in Shorne Woods Country Park</p>
<p><b>ID</b></p>	<p>SW-6</p>
<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Pond in Shorne Woods Country Park</p>
<p><b>ID</b></p>	<p>SW-7</p>







<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Dam pond in Shorne Woods Country Park</p>
<p><b>ID</b></p>	<p>SW-8</p>
<p><b>Location</b></p>	<p>Cobham Hall Country Park</p>
<p><b>Date</b></p>	<p>12 September 2017</p>
<p><b>Surveyors</b></p>	<p>AJ, BC</p>
<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Pond in Cobham Hall country park</p>
<p><b>ID</b></p>	<p>SW-9</p>

<p><b>Photograph</b></p>		
<p><b>Description</b></p>	<p>Pond in Cobham Hall country park</p>	
<p><b>ID</b></p>	<p>SW-10</p>	
<p><b>Photograph</b></p>		
<p><b>Description</b></p>	<p>Pond in Cobham Hall country park</p>	
<p><b>ID</b></p>	<p>SW-11</p>	

<b>Location</b>	Inn on the Lake, Thong Lane
<b>Date</b>	12 September 2017
<b>Surveyors</b>	AJ, BC
<b>Photograph</b>	
<b>Description</b>	Pond on Thong Lane
<b>ID</b>	SW-12
<b>Location</b>	Highways England, along A2
<b>Date</b>	12 September 2017
<b>Surveyors</b>	AJ, BC
<b>Photograph</b>	
<b>Description</b>	Highways drainage pond
<b>ID</b>	SW-13

<b>Location</b>	Gated lake on Sparks Farm, Thong Lane
<b>Date</b>	13 September 2017
<b>Surveyors</b>	AJ, BC
<b>Photograph</b>	
<b>Description</b>	Pond on Sparkes Farm
<b>ID</b>	SW-14
<b>Location</b>	Gravesham Borough Council, between the firefighting training centre and the Milton rifle range
<b>Date</b>	14 September 2017
<b>Surveyors</b>	AJ, BC
<b>Photograph</b>	
<b>Description</b>	Drainage ditch, unused pipe
<b>ID</b>	SW-15


<b>Location</b>	Shorne Marshes
<b>Date</b>	13 and 14th September 2017
<b>Surveyors</b>	AJ, BC
<b>Photograph</b>	
<b>Description</b>	Pond in the Marshes
<b>ID</b>	SW-16
<b>Photograph</b>	
<b>Description</b>	Shorne Marshes

<b>ID</b>	SW-17
<b>Photograph</b>	
<b>Description</b>	Shorne Marshes
<b>ID</b>	SW-17
<b>Photograph</b>	
<b>Description</b>	Shorne Marshes
<b>ID</b>	SW-19



<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Medway Canal</p>
<p><b>ID</b></p>	<p>SW-20</p>
<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Shorne Marshes</p>
<p><b>ID</b></p>	<p>SW-21</p>

<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Shorne Marshes</p>
<p><b>ID</b></p>	<p>SW-22</p>
<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Shorne Marshes</p>
<p><b>ID</b></p>	<p>SW-23</p>





<b>Photograph</b>	
<b>Description</b>	Shorne Marshes
<b>ID</b>	SW-24

**Table M.4 North of the River Thames**

<b>Location</b>	Orsett Golf Club
<b>Date</b>	21 September 2017
<b>Surveyors</b>	SD, MP
<b>Photograph</b>	
<b>Description</b>	Abstraction borehole, located north east of the golf course.
<b>ID</b>	GW-7
<b>Photograph</b>	
<b>Description</b>	Abstracted water tank, next to the borehole.
<b>ID</b>	GW-8

<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Pumping station shed, next to the borehole.</p>
<p><b>ID</b></p>	<p>GW-9</p>
<p><b>Location</b></p>	<p>Cole Farm</p>
<p><b>Date</b></p>	<p>18 September 2017</p>
<p><b>Surveyors</b></p>	<p>SD, MP</p>
<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>BGS well record, located on Cole's land in Orsett, north of A13.</p>
<p><b>ID</b></p>	<p>GW-10</p>

<b>Location</b>	Tilbury marshes
<b>Date</b>	18 to 21 September 2017
<b>Surveyors</b>	SD, MP
<b>Photograph</b>	
<b>Description</b>	Tilbury Marshes
<b>ID</b>	SW-25
<b>Photograph</b>	
<b>Description</b>	Tilbury Marshes
<b>ID</b>	SW-26

<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Tilbury Marshes.</p>
<p><b>ID</b></p>	<p>SW-27</p>
<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Nearly dried up ditch along a land parcel.</p>
<p><b>ID</b></p>	<p>SW-28 –</p>



<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Drainage ditch between landfills.</p>
<p><b>ID</b></p>	<p>SW-29</p>
<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Main River with the dimensions of a drainage ditch</p>
<p><b>ID</b></p>	<p>SW-30</p>



<p><b>Photograph</b></p>		
<p><b>Description</b></p>	<p>Dry ditch between agricultural fields.</p>	
<p><b>ID</b></p>	<p>SW-31</p>	
<p><b>Photograph</b></p>		
<p><b>Description</b></p>	<p>Drainage ditch with visible culvert.</p>	
<p><b>ID</b></p>	<p>SW-32</p>	


<p><b>Photograph</b></p>		
<p><b>Description</b></p>	<p>Reeds in a Main River bed</p>	
<p><b>ID</b></p>	<p>SW-33</p>	
<p><b>Photograph</b></p>		
<p><b>Description</b></p>	<p>Very shallow water depth in drainage ditch</p>	
<p><b>ID</b></p>	<p>SW-34</p>	







<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Shallow water depth in drainage ditch.</p>
<p><b>ID</b></p>	<p>SW-35</p>
<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Overgrown ditch along the railway tracks.</p>
<p><b>ID</b></p>	<p>SW-36</p>



<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Pond in the middle of agricultural land, could be groundwater fed.</p>
<p><b>ID</b></p>	<p>SW-37</p>
<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Pond does not exist any more, now landfill.</p>
<p><b>ID</b></p>	<p>SW-38</p>



<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Highly carbonated pond.</p>
<p><b>ID</b></p>	<p>SW-39</p>
<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Tilbury groundwater fed pond</p>
<p><b>ID</b></p>	<p>SW-40</p>

<b>Location</b>	Linford, on Cole's land
<b>Date</b>	15 September 2017
<b>Surveyors</b>	AJ, BC
<b>Photograph</b>	
<b>Description</b>	Pond full of reeds.
<b>ID</b>	SW-41
<b>Location</b>	North Orsett, on Cole's land.
<b>Date</b>	14 September 2017
<b>Surveyors</b>	SD, MP
<b>Photograph</b>	
<b>Description</b>	Dried up drainage ditch.
<b>ID</b>	SW-42


<p><b>Photograph</b></p>		
<p><b>Description</b></p>	<p>Dried up drainage ditch.</p>	
<p><b>ID</b></p>	<p>SW-43</p>	
<p><b>Location</b></p>	<p>North Orsett, on Benton's land</p>	
<p><b>Date</b></p>	<p>15 September 2017 (PM)</p>	
<p><b>Surveyors</b></p>	<p>SD, MP</p>	
<p><b>Photograph</b></p>		
<p><b>Description</b></p>	<p>Dried up drainage ditch.</p>	
<p><b>ID</b></p>	<p>SW-44</p>	

<b>Location</b>	Linford, on Cole's land	
<b>Date</b>	15 September 2017	
<b>Surveyors</b>	AJ, BC	
<b>Photograph</b>		
<b>Description</b>	Linford unnamed brook, south of the pumping station, on Cole's land.	
<b>ID</b>	SW-45	
<b>Photograph</b>		
<b>Description</b>	Linford unnamed pond adjacent to the brook.	
<b>ID</b>	SW-46	

<b>Location</b>	Orsett, on Cole's land
<b>Date</b>	15 to 20 September 2017
<b>Surveyors</b>	AJ, BC, SD, MP
<b>Photograph</b>	
<b>Description</b>	SW-47 – Dry ditch south of Orsett Golf Course.
<b>ID</b>	
<b>Photograph</b>	
<b>Description</b>	Reedy pond on Cole's land.
<b>ID</b>	SW-48

<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Pond on Cole's land.</p>
<p><b>ID</b></p>	<p>SW-49</p>
<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Overgrown drainage ditch along Green Lane.</p>
<p><b>ID</b></p>	<p>SW-50</p>




<b>Location</b>	Mardyke Main River and its tributaries
<b>Date</b>	14 to 18 September 2017
<b>Surveyors</b>	SD, MP
<b>Photograph</b>	
<b>Description</b>	Main riverbed.
<b>ID</b>	SW-51

<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Tributary bed.</p>
<p><b>ID</b></p>	<p>SW-52</p>



<p><b>Photograph</b></p>				
	<table border="1"> <tr> <td> <p><b>Description</b></p> </td> <td> <p>Tributary bed.</p> </td> </tr> <tr> <td> <p><b>ID</b></p> </td> <td> <p>SW-53</p> </td> </tr> </table>	<p><b>Description</b></p>	<p>Tributary bed.</p>	<p><b>ID</b></p>
<p><b>Description</b></p>	<p>Tributary bed.</p>			
<p><b>ID</b></p>	<p>SW-53</p>			

<p><b>Photograph</b></p>	
	
	
<p><b>Description</b></p>	<p>Tributary bed.</p>
<p><b>ID</b></p>	<p>SW-54</p>


<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Tributary bed.</p>
<p><b>ID</b></p>	<p>SW-55</p>

<b>Location</b>	Veolia site, Orsett	
<b>Date</b>	18 September 2017	
<b>Surveyors</b>	SD, MP	
<b>Photograph</b>		
<b>Description</b>	Man-made pond, situated on Veolia land.	
<b>ID</b>	SW-56	
<b>Photograph</b>		
<b>Description</b>	Ditch, situated on Veolia land.	
<b>ID</b>	SW-57	


<b>Location</b>	North Ockendon, on Mee's land
<b>Date</b>	14 September
<b>Surveyors</b>	SD, MP
<b>Photograph</b>	
<b>Description</b>	Dried up drainage ditch.
<b>ID</b>	SW-58
<b>Photograph</b>	
<b>Description</b>	Dried up drainage ditch.
<b>ID</b>	SW-59



<b>Location</b>	North Ockendon, on Mee's land
<b>Date</b>	Unknown
<b>Surveyors</b>	SD, MP
<b>Photograph</b>	
<b>Description</b>	Dried up drainage ditch.
<b>ID</b>	SW-60
<b>Photograph</b>	
<b>Description</b>	Fishing lake
<b>ID</b>	SW-61





<b>Photograph</b>	
<b>Description</b>	Possible lake pumping building.
<b>ID</b>	SW-62



<b>Location</b>	Private land, in South Ockendon
<b>Date</b>	13 to 21 September 2017
<b>Surveyors</b>	SD, MP
<b>Photograph</b>	
<b>Description</b>	Drainage ditch on private land.
<b>ID</b>	SW-63



<b>Location</b>	Mee's land in South Ockendon
<b>Date</b>	15 September 2017
<b>Surveyors</b>	SD, MP
<b>Photograph</b>	
<b>Description</b>	Pond on Mee's farm.
<b>ID</b>	SW64

<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Pond on Mee's farm.</p>
<p><b>ID</b></p>	<p>SW65</p>
<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Pond on Mee's farm.</p>
<p><b>ID</b></p>	<p>SW66</p>



<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Pond on Mee's farm.</p>
<p><b>ID</b></p>	<p>SW67</p>
<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Pond on Mee's farm.</p>
<p><b>ID</b></p>	<p>SW68</p>


<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Pond on Mee's farm.</p>
<p><b>ID</b></p>	<p>SW69</p>
<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Pond on Mee's farm.</p>
<p><b>ID</b></p>	<p>SW70</p>

<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Pond on Mee’s farm.</p>
<p><b>ID</b></p>	<p>SW71</p>
<p><b>Photograph</b></p>	
<p><b>Description</b></p>	<p>Pond on Mee’s farm.</p>
<p><b>ID</b></p>	<p>SW72</p>
<p><b>Location</b></p>	<p>North Ockendon, on Broadfields’ land</p>

<b>Date</b>	12 September 2017	
<b>Surveyors</b>	SD, MP	
<b>Photograph</b>		
<b>Description</b>	Manhole	
<b>ID</b>	SW-73	
<b>Location</b>	North Ockendon, on Golf Course	
<b>Date</b>	12 September 2017	
<b>Surveyors</b>	SD, MP	
<b>Photograph</b>		



<b>Description</b>	Mardyke river bed.	
<b>ID</b>	SW-74	
<b>Photograph</b>		
<b>Description</b>	Pond on private land.	
<b>ID</b>	SW-75	
<b>Photograph</b>		

<b>Description</b>	Pond on private land.
<b>ID</b>	SW-76
<b>Photograph</b>	
<b>Description</b>	Pond on private land.
<b>ID</b>	SW-77