



Teddington Direct River Abstraction

Preliminary Environmental Information Report
Appendix 13.4 – Air Quality Baseline Data

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Monitored concentrations

- A.1.1 All of the local authorities within the boundary of the Teddington Direct River Abstraction (TDRA) Project (hereafter, 'the Project') use NO₂ diffusion tubes (DT) at a range of locations across their authority and some also use automatic monitoring (AM) stations which measure NO₂, PM₁₀ and PM_{2.5}.
- A.1.2 Details of the closest monitoring sites (within 1km of the draft Order limits for DT and within 4km of the draft Order limits for AM) which monitor annual mean NO₂, hourly mean NO₂, annual mean PM₁₀, daily mean PM₁₀ and annual mean PM_{2.5} are presented in Table A.1 to Table A.5 and in Figure 13.5.

Table A.1 Annual mean NO₂ concentrations (µg/m³) at nearby monitoring locations

Site ID	Site name	X	Y	Site type	2019	2020	2021	2022	2023	Local authority (LA)	Approximate distance to draft Order limit (km)	Diffusion tubes (DT) or automatic monitoring (AM)
HS89	Mogden Sewage Works Gate	515424	174719	Roadside	27.4	22.5	21.9	19.8	17.9	London Borough of Hounslow (LBH)	0.4	DT
HS61	Twickenham Road	516208	175793	Roadside	31.4	21.4	23.4	22.1	19.5	LBH	0.6	DT
Rut 01	Civic Centre	516415	173419	Roadside	36	29	27	24	23	London Borough of Richmond upon Thames (LBR)	0.3	DT
71	A316	516574	174456	Roadside	52	43	39	34	33	LBR	0.2	DT
72	St Margarets Rd, nr St Margaret's station	516839	174238	Roadside	42	33	30	26	23.3	LBR	0.4	DT
76	Manor Rd	516588	171357	Kerbside	Not open	35	35	30	23.1	LBR	0.5	DT
65	York Street, Twickenham	516339	173366	Kerbside	50	40	40	33	30.2	LBR	0.4	DT
56	A316	516788	174519	Roadside	39	31	29	23	20.6	LBR	0.4	DT
57	A316 (nr Lincoln Avenue)	513915	172899	Roadside	37	29	29	23	23.2	LBR	2.2	DT
58	London Road	516039	173766	Kerbside	40	33	31	25	21.9	LBR	0.5	DT
61	London Road	516224	173444	Roadside	38	32	31	Closed	Closed	LBR	0.5	DT
59	Whitton Rd	515980	173758	Kerbside	34	27	Closed	Closed	Closed	LBR	0.5	DT

Site ID	Site name	X	Y	Site type	2019	2020	2021	2022	2023	Local authority (LA)	Approximate distance to draft Order limit (km)	Diffusion tubes (DT) or automatic monitoring (AM)
45	154 High St	516383	171154	Kerbside	32	26	26	20	20	LBR	0.8	DT
32	Kings St	516226	173195	Roadside	47	40	40	31	29.7	LBR	0.6	DT
31	A316	515434	174045	Roadside	45	35	35	31	30.8	LBR	0.9	DT
33	Heath Rd	516098	173153	Roadside	40	34	39	28	26.8	LBR	0.7	DT
15	Richmond Rd, Twickenham	517196	173933	Roadside	32	26	26	21	19.6	LBR	0.6	DT
27	Fire Station	517800	171423	Roadside	32.4	26.2	14.1	13.1	11.2	Royal Borough of Kingston upon Thames (RBK)	0.3	DT
KT5	Cromwell Road	518562	169519	Roadside	57.2	40.6	50.5	43.4	34.8	RBK	2.1	AM

Source: 2023 Annual Status Reports for LBH, RBK and LBR

Notes: Data capture for all sites >75%

Table A.2 Number of hours NO₂ concentrations exceed 200µg/m³ at nearby monitoring locations

Site ID	Site name	X	Y	Site type	2019	2020	2021	2022	2023	LA	Approximate distance to draft Order limit (km)	Diffusion tubes (DT) or automatic monitoring (AM)
HEST	Heston Road	513655	176842	Roadside	0	0	0	0	0	LBH	2.4	AM
KT5	Cromwell Road	518562	169519	Roadside	5	0	0	0	0	RBK	2.1	AM
BREN	Brentford, Great West Road	517425	178071	Roadside	0	0	0	0	0	LBH	3.2	AM

Source: 2023 Annual Status Reports for LBH, RBK and LBR

Notes: Data capture for all sites >75%

Table A.3 Annual mean PM₁₀ concentrations (µg/m³) at nearby monitoring locations

Site ID	Site name	X	Y	Site type	2019	2020	2021	2022	2023	LA	Approximate distance to draft Order limit (km)	Diffusion tubes (DT) or automatic monitoring (AM)
TD0	NPL	515542	170420	Suburban	N/A	13	12	14	16	LBR	1.9	AM
HEST	Heston Road	513655	176842	Roadside	24	23	17	21	20	LBH	2.4	AM
KT5	Cromwell Road	518562	169519	Roadside	26	23.9	27.7	30.1	28.6	RBK	2.1	AM
BREN	Brentford, Great West Road	517425	178071	Roadside	22	25	21	23	25	LBH	3.2	AM

Source: 2023 Annual Status Reports for LBH, RBK and LBR

Notes: Data capture for all sites >75%. N/A – not available

Table A.4 Number of days daily mean PM₁₀ concentrations exceeds 50µg/m³ at nearby monitoring locations

Site ID	Site name	X	Y	Site type	2019	2020	2021	2022	2023	LA	Approximate distance to draft Order limit (km)	Diffusion tubes (DT) or automatic monitoring (AM)
TD0	NPL	515542	170420	Suburban	N/A	2	0	1	2	LBR	1.9	AM
HEST	Heston Road	513655	176842	Roadside	5	4	0	5	2	LBH	2.4	AM
KT5	Cromwell Road	518562	169519	Roadside	15	9	14	21	16	RBK	2.1	AM
BREN	Brentford, Great West Road	517425	178071	Roadside	8	9	3	5	10	LBH	3.2	AM

Source: 2023 Annual Status Reports for LBH, RBK and LBR

Notes: Data capture for all sites >75%. N/A – not available

Table A.5 Annual mean PM_{2.5} concentrations (µg/m³) at nearby monitoring locations

Site ID	Site name	X	Y	Site type	2019	2020	2021	2022	2023	LA	Approximate distance to draft Order limit (km)	Diffusion tubes (DT) or automatic monitoring (AM)
BREN	Brentford, Great West Road	517425	178071	Roadside	13	12	10	10	9	LBH	3.2	AM
TD0	NPL	515542	170420	Suburban	12	8	8	9	12	LBR	1.9	AM
KT5	Cromwell Road	518562	169519	Roadside	N/A	N/A	N/A	9.3	9.2	RBK	2.1	AM

Source: 2023 Annual Status Reports for LBH, RBK and LBR

Defra background concentrations

- A.1.3 The Department for Environment, Food and Rural Affairs (Defra) provides modelled background concentrations for each 1x1 km grid across all local authority areas from a base year of 2021 up to 2040. Table A.6 presents the estimated background concentrations within 1km of the Project area for 2023.

Table A.6 2023 annual mean Defra background mapped concentrations (µg/m3)

Grid square coordinates (X)	Grid square coordinate (Y)	NO _x	NO ₂	PM ₁₀	PM _{2.5}
516500	175500	23.4	16.8	13.9	8.4
515500	175500	25.4	18	14	8.7
515500	174500	22.9	16.5	13.7	8.3
516500	174500	23.4	16.9	14.2	8.4
516500	172500	20.7	15.1	13	8
517500	173500	21.1	15.3	13	8
516500	173500	22.8	16.5	13.9	8.2
517500	171500	21.2	15.5	13.2	8
516500	171500	21.5	15.6	13.2	8
517500	172500	20.7	15.1	13	8
	Maximum	25.4	18	14.2	8.7
	Minimum	20.7	15.1	13	8
	National Air Quality Objective	30	40	40	20 (10)

