

M25 junction 28 improvement scheme

TR010029

9.25 Ground Investigation Report: Appendices H-L

Rule 5(2)(q)

Planning Act 2008

Infrastructure Planning (Examination Procedure) Rules 2010

Volume 9

January 2021

Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Examination Procedure) Rules 2010

M25 junction 28 scheme Development Consent Order 202[x]

9.25 Ground Investigation Report: Appendices H-L

Rule Number:	Rule 8(2)(q)
Planning Inspectorate Scheme Reference	TR010029
Application Document Reference	TR010029/EXAM/9.25
Author:	M25 junction 28 improvement scheme project team, Highways England

Version	Date	Status of Version
0	21 January 2021	Deadline 1

Appendix H. Human Health Screening

Analyte	Unit	LOD	GAC (mg/kg) Public Open Space (Residential) 1% SOM	Location ID	ATK-086	ATK-086	ATK-087	ATK-087	ATK-087	ATK-091	ATK-091	ATK-092
				Sample Depth	0.2	1.8	0.5	3	4.8	0.5	3	1
				Sample Ref	1	4	2	5	7	2	5	1
				Sample Type	ES	ES	ES	ES	ES	ES	ES	ES
Stone Content	%	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	7.7	16	10	20	15	13	24	9.7		
Total Organic Carbon (TOC)	%	0.1	2.1	0.1	0.7	0.9	0.2	0.8	2.2	0.9		
Fraction Organic Carbon (FOC)	-	0.001	0.021	0.001	0.0074	0.0085	0.0021	0.0084	0.022	0.0087		
Asbestos in Soil	Type		Not-detected		Not-detected							
Electrical Conductivity	uS/cm	10	210	780	93	670	370	1800	450	710		
pH	pH Units	N/A	8.3	8.1	7.2	8	7.9	7.7	7.8	7.4		
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	620	1100	0.072	1.1	0.78	6600	770	1300		
Free Cyanide	mg/kg	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Total Cyanide	mg/kg	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Ammonia as NH3	mg/kg	0.5	< 0.5	2.7	< 0.5	26	0.5	< 0.5	91	< 0.5	< 0.5	< 0.5
Ammonium as NH4	mg/kg	0.5	< 0.5	2.9	< 0.5	28	0.5	< 0.5	96	< 0.5	< 0.5	< 0.5
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	140	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	55300	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	7300	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	7420	< 1.0	14	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	7470	< 2.0	13	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	3770	< 10	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	3770	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10		< 10	38	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	682000	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	753000	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	18900	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.09	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	18500	< 1.0	16	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	18600	< 2.0	8.1	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	445000	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	445000	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10		< 10	24	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Chromium (hexavalent)	mg/kg	4	26.1	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Lead (aqua regia extractable)	mg/kg	1	625	33	11	22	21	11	16	60	16	16
Mercury (aqua regia extractable)	mg/kg	0.3		< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	347	16	43	28	37	41	32	22	19	19
Arsenic (aqua regia extractable)	mg/kg	1	79.1	10	16	10	13	8.8	11	12	10	10
Barium (aqua regia extractable)	mg/kg	1	2680	45	68	51	46	100	60	82	54	54
Beryllium (aqua regia extractable)	mg/kg	0.05	2.19	0.79	1.2	0.98	1.3	1.2	0.97	0.76	0.96	0.96
Boron (Water Soluble)	mg/kg	0.2		0.4	< 0.2	0.4	0.5	< 0.2	0.7	2.4	0.6	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	219	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.4	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	30600	34	62	47	60	64	51	32	39	39
Copper (aqua regia extractable)	mg/kg	1	16400	16	17	22	35	39	18	23	12	12
Vanadium (aqua regia extractable)	mg/kg	1	818	50	82	78	81	80	78	40	55	55
Zinc (aqua regia extractable)	mg/kg	1	93700	55	67	52	71	61	62	84	51	51
Selenium (aqua regia extractable)	mg/kg	1	1370	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Anthracene	mg/kg	0.05	74100	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	1.1	< 0.05	< 0.05
Naphthalene	mg/kg	0.05	3490	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	7400	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	7.9	< 0.05	< 0.05
Benzo[ghi]perylene	mg/kg	0.05		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	2.9	< 0.05	< 0.05
Indeno[1,2,3-cd]pyrene	mg/kg	0.05		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	2.4	< 0.05	< 0.05
Benzo[b]fluoranthene	mg/kg	0.05		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	4.4	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	9870	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.3	< 0.05	< 0.05
Benzo[k]fluoranthene	mg/kg	0.05		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	2.5	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	14700	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	3.5	< 0.05	< 0.05
Benzo[a]pyrene	mg/kg	0.05	10.3	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	4.3	< 0.05	< 0.05
Di-benzo[a,h]anthracene	mg/kg	0.05		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.63	< 0.05	< 0.05
Benzo[a]anthracene	mg/kg	0.05		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	4.3	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	14700	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.33	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	74100	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	4.2	< 0.05	< 0.05
Fluorene	mg/kg	0.05	9870	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.34	< 0.05	< 0.05
Speciated Total EPA-16 PAHs	mg/kg	0.8		< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	47.9	< 0.80	< 0.80
Total Phenols (monohydric)	mg/kg	1		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	ug/kg	1	140	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	ug/kg	1	55300	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	ug/kg	1	24300	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	ug/kg	1	37800	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	ug/kg	1	37400	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	ug/kg	1	73600	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Nitroaniline	mg/kg	0.2										
Styrene	ug/kg	1										
cis-1,3-Dichloropropene	ug/kg	1										
trans-1,3-Dichloropropene	ug/kg	1										
Bromophenyl phenyl ether	mg/kg	0.2										
Azobenzene	mg/kg	0.3										
n-Propylbenzene	ug/kg	1										
Butylbenzene	ug/kg	1										
2,4-Dimethylphenol	mg/kg	0.3										
4-Chlorotoluene	ug/kg	1										
4-Methylphenol	mg/kg	0.2										
1,4-Dichlorobenzene	ug/kg	1										
4-Chloroaniline	mg/kg	0.1										
1,2-Dibromoethane	ug/kg	1										
1,2-Dichloroethane	ug/kg	1										
1,3,5-Trimethylbenzene	ug/kg	1										
Bromobenzene	ug/kg	1										
Chlorobenzene	ug/kg	1										
Phenol	mg/kg	0.2										
Bis(2-chloroethyl)ether	mg/kg	0.2										
Bis(2-chloroethoxy)methane	mg/kg	0.3										
Hexachlorobenzene	mg/kg	0.3										
1,2,4-Trichlorobenzene	ug/kg	1										
2,4-Dichlorophenol	mg/kg	0.3										
2,4-Dinitrotoluene	mg/kg	0.2										
Dibromochloromethane	ug/kg	1										

J28 Human Health Screening - Public Open Space (Parks) scenario

Determinand	Unit	Maximum LOD	Number of Samples	Number of Samples above LOD	GAC	LOD above GAC	Number of Exceedances	Minimum	Median	Mean	Maximum	Location of Maximum Value	Locations of Exceedances
Asbestos in Soil	Type		12	12		0	3						ATK-081A 0.50 , ATK-205 0.20 , ATK-206 0.20
Fraction Organic Carbon (FOC)	-	0	34	30		0	0	0.001	0.0032	0.006738	0.025	ATK-206 0.20	
Electrical Conductivity	uS/cm	10	34	34		0	0	64	495	858.9118	3700	ATK-203 2.10	
Moisture Content	%	0	38	38		0	0	7.7	16	16.25526	22	ATK-089 6.80	
pH	pH Units	0	36	36		0	0	5.7	7.65	7.861111	10.6	ATK-206 0.20	
Stone Content	%	0.1	38	0		0	0	0.1	0.1	0.1	0.1	ATK-081A 0.50	
Total Organic Carbon (TOC)	%	0.1	34	30		0	0	0.1	0.3	0.664706	2.5	ATK-206 0.20	
Ammonia as NH3	mg/kg	0.5	34	12		0	0	0.5	0.5	2.394118	34	ATK-036 0.50	
Ammonium as NH4	mg/kg	0.5	34	12		0	0	0.5	0.5	2.511765	36	ATK-036 0.50	
Free Cyanide	mg/kg	1	34	0	34	0	0	1	1	1	1	ATK-081A 0.50	
Total Cyanide	mg/kg	1	34	0		0	0	1	1	1	1	ATK-081A 0.50	
Total Sulphate as SO4	mg/kg	50	6	6		0	0	320	2750	8003.333	34000	ATK-034 5.90	
Water Soluble Sulphate (2:1 Leachate Equ)	g/l	0	2	2		0	0	0.55	1.825	1.825	3.1	ATK-034 7.10	
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0	28	28		0	0	0.019	0.225	0.542893	3.4	ATK-037 2.80	
Arsenic (aqueous extractable)	mg/kg	1	34	34	168	0	0	3	11	10.97647	19	ATK-035 0.50	
Barium (aqueous extractable)	mg/kg	1	34	34	5770	0	0	27	65	88.64706	760	ATK-048 0.60	
Beryllium (aqueous extractable)	mg/kg	0.06	34	34	61	0	0	0.65	1	1.145882	2	ATK-204 1.00	
Cadmium (aqueous extractable)	mg/kg	0.2	34	5	882	0	0	0.2	0.2	0.258824	1.9	ATK-036 0.50	
Chromium (aqueous extractable)	mg/kg	1	34	34	83500	0	0	33	47.5	49.32353	75	ATK-088 4.50	
Chromium (hexavalent)	mg/kg	4	34	0	251	0	0	4	4	4	4	ATK-081A 0.50	
Copper (aqueous extractable)	mg/kg	1	34	34	45200	0	0	7.7	22	22.52059	46	ATK-036 0.50	
Lead (aqueous extractable)	mg/kg	1	34	34	1340	0	0	9	13	27.99118	120	ATK-202 1.00	

Determinand	Unit	Maximum LOD	Number of Samples	Number of Samples above LOD	GAC	LOD above GAC	Number of Exceedances	Minimum	Median	Mean	Maximum	Location of Maximum Value	Locations of Exceedances
Nickel (aqueous extractable)	mg/kg	1	34	34	804	0	0	14	27.5	30.73529	74	ATK-048 0.60	
Boron (Water Soluble)	mg/kg	0.2	34	34		0	0	0.2	0.8	1.108824	6.8	ATK-036 0.50	
Mercury (aqueous extractable)	mg/kg	0.3	34	0		0	0	0.3	0.3	0.3	0.3	ATK-081A 0.50	
Selenium (aqueous extractable)	mg/kg	1	34	1	2550	0	0	1	1	1.052941	2.8	ATK-089 1.70	
Vanadium (aqueous extractable)	mg/kg	1	34	34	1550	0	0	37	66.5	67.91176	110	ATK-204 1.00	
Zinc (aqueous extractable)	mg/kg	1	34	34	201000	0	0	41	71	75.38235	170	ATK-079 1.80	
2,4-Dimethylphenol	mg/kg	0.3	2	0	8740	0	0	0.3	0.3	0.3	0.3	ATK-036 0.50	
2-Methylphenol	mg/kg	0.3	2	0	47800	0	0	0.3	0.3	0.3	0.3	ATK-036 0.50	
4-Methylphenol	mg/kg	0.2	2	0	47800	0	0	0.2	0.2	0.2	0.2	ATK-036 0.50	
2,4,5-Trichlorophenol	mg/kg	0.2	2	0		0	0	0.2	0.2	0.2	0.2	ATK-036 0.50	
2,4,6-Trichlorophenol	mg/kg	0.1	2	0		0	0	0.1	0.1	0.1	0.1	ATK-036 0.50	
2,4-Dichlorophenol	mg/kg	0.3	2	0		0	0	0.3	0.3	0.3	0.3	ATK-036 0.50	
2-Chlorophenol	mg/kg	0.1	2	0		0	0	0.1	0.1	0.1	0.1	ATK-036 0.50	
2-Nitrophenol	mg/kg	0.3	2	0		0	0	0.3	0.3	0.3	0.3	ATK-036 0.50	
4-Chloro-3-methylphenol	mg/kg	0.1	2	0		0	0	0.1	0.1	0.1	0.1	ATK-036 0.50	
Total Phenols (monohydric)	mg/kg	1	34	0		0	0	1	1	1	1	ATK-081A 0.50	
Phenol	mg/kg	0.2	2	0	685	0	0	0.2	0.2	0.2	0.2	ATK-036 0.50	
Benzene	mg/kg	0.001	34	0	139	0	0	0.001	0.001	0.001	0.001	ATK-081A 0.50	
Ethylbenzene	mg/kg	0.001	34	0	21400	0	0	0.001	0.001	0.001	0.001	ATK-081A 0.50	
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	34	0	70800	0	0	0.001	0.001	0.001	0.001	ATK-081A 0.50	
Toluene	mg/kg	0.001	34	0	69900	0	0	0.001	0.001	0.001	0.001	ATK-081A 0.50	
o-Xylene	mg/kg	0.001	34	0	9560	0	0	0.001	0.001	0.001	0.001	ATK-081A 0.50	
p & m-Xylene	mg/kg	0.001	34	0	9100	0	0	0.001	0.001	0.001	0.001	ATK-081A 0.50	
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	34	8		0	0	10	10	29.82353	270	ATK-034 0.50	
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	34	6		0	0	10	10	34.02941	200	ATK-207 0.30	0.20

Determinand	Unit	Maximum LOD	Number of Samples	Number of Samples above LOD	GAC	LOD above GAC	Number of Exceedances	Minimum	Median	Mean	Maximum	Location of Maximum Value	Locations of Exceedances
TPH-CWG Aliphatic >EC10 - EC12	mg/kg	1	34	6	17700	0	0	1	1	5.232353	130	ATK-034 0.50	
TPH-CWG Aliphatic >EC12 - EC16	mg/kg	2	34	6	23800	0	0	2	2	7.4	130	ATK-034 0.50	
TPH-CWG Aliphatic >EC16 - EC21	mg/kg	8	34	2	864000	0	0	8	8	8.941176	30	ATK-036 0.50	
TPH-CWG Aliphatic >EC21 - EC35	mg/kg	8	34	6	864000	0	0	8	8	16.11765	130	ATK-036 0.50	
TPH-CWG Aliphatic >EC5 - EC6	mg/kg	0	34	0	109000	0	0	0.001	0.001	0.001	0.001	ATK-081A 0.50	
TPH-CWG Aliphatic >EC6 - EC8	mg/kg	0	34	0	163000	0	0	0.001	0.001	0.001	0.001	ATK-081A 0.50	
TPH-CWG Aliphatic >EC8 - EC10	mg/kg	0	34	0	9720	0	0	0.001	0.001	0.001	0.001	ATK-081A 0.50	
TPH-CWG Aromatic >EC10 - EC12	mg/kg	1	34	3	8260	0	0	1	1	2.714706	56	ATK-034 0.50	
TPH-CWG Aromatic >EC12 - EC16	mg/kg	2	34	5	10600	0	0	2	2	4.732353	67	ATK-034 0.50	
TPH-CWG Aromatic >EC16 - EC21	mg/kg	10	34	4	7870	0	0	10	10	11.85294	36	ATK-207 0.30	0.20
TPH-CWG Aromatic >EC21 - EC35	mg/kg	10	34	5	7870	0	0	10	10	26.38235	150	ATK-207 0.30	0.20
TPH-CWG Aromatic >EC5 - EC7	mg/kg	0	34	0	139	0	0	0.001	0.001	0.001	0.001	ATK-081A 0.50	
TPH-CWG Aromatic >EC7 - EC8	mg/kg	0	34	0	69900	0	0	0.001	0.001	0.001	0.001	ATK-081A 0.50	
TPH-CWG Aromatic >EC8 - EC10	mg/kg	0	34	0	5140	0	0	0.001	0.001	0.001	0.001	ATK-081A 0.50	
Acenaphthene	mg/kg	0.05	34	0	28600	0	0	0.05	0.05	0.05	0.05	ATK-081A 0.50	
Acenaphthylene	mg/kg	0.05	34	1	28600	0	0	0.05	0.05	0.059706	0.38	ATK-202 0.20	
Anthracene	mg/kg	0.05	34	6	150000	0	0	0.05	0.05	0.091471	0.49	ATK-202 0.20	
Phenanthrene	mg/kg	0.05	34	6	150000	0	0	0.05	0.05	0.231765	1.9	ATK-205 0.20	
Benzo(a)anthracene	mg/kg	0.05	34	6		0	0	0.05	0.05	0.295294	2.9	ATK-202 0.20	
Benzo(a)pyrene	mg/kg	0.05	34	6	21.4	0	0	0.05	0.05	0.326176	4.1	ATK-202 0.20	
Benzo(b)fluoranthene	mg/kg	0.05	34	6		0	0	0.05	0.05	0.387353	5.1	ATK-202 0.20	
Benzo(ghi)perylene	mg/kg	0.05	34	6		0	0	0.05	0.05	0.217941	2.9	ATK-202 0.20	
Benzo(k)fluoranthene	mg/kg	0.05	34	6		0	0	0.05	0.05	0.163235	1.3	ATK-202 0.20	
Chrysene	mg/kg	0.05	34	6		0	0	0.05	0.05	0.275	2.7	ATK-202 0.20	

Determinand	Unit	Maximum LOD	Number of Samples	Number of Samples above LOD	GAC	LOD above GAC	Number of Exceedances	Minimum	Median	Mean	Maximum	Location of Maximum Value	Locations of Exceedances
Di-benzo(a,h)anthracene	mg/kg	0.05	34	1		0	0	0.05	0.05	0.069412	0.71	ATK-202 0.20	
Fluoranthene	mg/kg	0.05	34	6	20200	0	0	0.05	0.05	0.473529	4.3	ATK-202 0.20	
Fluorene	mg/kg	0.05	34	0	19600	0	0	0.05	0.05	0.05	0.05	ATK-081A 0.50	
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	34	6		0	0	0.05	0.05	0.194118	2.7	ATK-202 0.20	
Naphthalene	mg/kg	0.05	34	2	623	0	0	0.0001	0.05	0.076476	0.6	ATK-202 1.00	
Speciated Total EPA-16 PAHs	mg/kg	0.8	34	6		0	0	0.8	0.8	3.351471	33.2	ATK-202 0.20	
Pyrene	mg/kg	0.05	34	6	15100	0	0	0.05	0.05	0.441176	4.3	ATK-202 0.20	
1,1,1,2-Tetrachloroethane	mg/kg	0.001	2	0	3490	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
1,1,1-Trichloroethane	mg/kg	0.001	2	0	34900	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
1,1,2,2-Tetrachloroethane	mg/kg	0.001	2	0	4640	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
1,1,2-Trichloroethane	mg/kg	0.001	2	0	766	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
1,1-Dichloroethane	mg/kg	0.001	2	0	11200	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
1,1-Dichloroethene	mg/kg	0.001	2	0	1950	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
1,2,4-Trimethylbenzene	mg/kg	0.001	2	0	225	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
1,2-Dichloroethane	mg/kg	0.001	2	0	37.9	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
1,2-Dichloropropane	mg/kg	0.001	2	0	79.6	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
2-Chloronaphthalene	mg/kg	0.1	2	0	659	0	0	0.1	0.1	0.1	0.1	ATK-036 0.50	
Bromobenzene	mg/kg	0.001	2	0	986	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
Bromodichloromethane	mg/kg	0.001	2	0	33.9	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
Tribromomethane	mg/kg	0.001	2	0	2910	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
Tetrachloromethane	mg/kg	0.001	2	0	915	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
Chlorobenzene	mg/kg	0.001	2	0	13200	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
Chloroethane	mg/kg	0.001	2	0	82400	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
Trichloromethane	mg/kg	0.001	2	0	2090	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
Chloromethane	mg/kg	0.001	2	0	73.8	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
cis-1,2-Dichloroethene	mg/kg	0.001	2	0	389	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
Dibromochloromethane	mg/kg	0.001	2	0	231	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
Hexachloroethane	mg/kg	0.05	2	0	115	0	0	0.05	0.05	0.05	0.05	ATK-036 0.50	
Isopropylbenzene	mg/kg	0.001	2	0	14800	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
1,1-Dichloropropane	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
1,2,3-Trichlorobenzene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
1,2,4-Trichlorobenzene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	

Determinand	Unit	Maximum LOD	Number of Samples	Number of Samples above LOD	GAC	LOD above GAC	Number of Exceedances	Minimum	Median	Mean	Maximum	Location of Maximum Value	Locations of Exceedances
1,2-Dibromo-3-chloropropane	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
1,2-Dibromoethane	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
1,2-Dichlorobenzene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
1,3,5-Trimethylbenzene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
1,3-Dichlorobenzene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
1,3-Dichloropropane	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
1,4-Dichlorobenzene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
2,2-Dichloropropane	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
2-Chlorotoluene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
4-Chlorotoluene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
Bromomethane	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
Butylbenzene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
cis-1,3-Dichloropropene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
Dibromomethane	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
Hexachlorobutadiene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
p-Isopropyltoluene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
sec-Butylbenzene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
tert-Butylbenzene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
trans-1,3-Dichloropropene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
Trichlorofluoromethane	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
n-Propylbenzene	mg/kg	0.001	2	0	27500	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
Styrene	mg/kg	0.001	2	0	5640	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
Tetrachloroethene	mg/kg	0.001	2	0	3060	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
trans-1,2-Dichloroethene	mg/kg	0.001	2	0	918	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
Trichloroethene	mg/kg	0.001	2	0	11	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
Vinyl chloride	mg/kg	0.001	2	0	3.68	0	0	0.001	0.001	0.001	0.001	ATK-036 0.50	
2,4-Dinitrotoluene	mg/kg	0.2	2	0	973	0	0	0.2	0.2	0.2	0.2	ATK-036 0.50	
2,6-Dinitrotoluene	mg/kg	0.1	2	0	489	0	0	0.1	0.1	0.1	0.1	ATK-036 0.50	
Butyl benzyl phthalate	mg/kg	0.3	2	0	257000	0	0	0.3	0.3	0.3	0.3	ATK-036 0.50	
Diethyl phthalate	mg/kg	0.2	2	0	85800	0	0	0.2	0.2	0.2	0.2	ATK-036 0.50	
Dibutyl phthalate	mg/kg	0.2	2	0	2620	0	0	0.2	0.2	0.2	0.2	ATK-036 0.50	
2-Methylnaphthalene	mg/kg	0.1	2	0		0	0	0.1	0.1	0.1	0.1	ATK-036 0.50	
4-Chloroaniline	mg/kg	0.1	2	0		0	0	0.1	0.1	0.1	0.1	ATK-036 0.50	

Determinand	Unit	Maximum LOD	Number of Samples	Number of Samples above LOD	GAC	LOD above GAC	Number of Exceedances	Minimum	Median	Mean	Maximum	Location of Maximum Value	Locations of Exceedances
4-Chlorophenyl phenyl ether	mg/kg	0.3	2	0		0	0	0.3	0.3	0.3	0.3	ATK-036 0.50	
4-Nitroaniline	mg/kg	0.2	2	0		0	0	0.2	0.2	0.2	0.2	ATK-036 0.50	
Aniline	mg/kg	0.1	2	0		0	0	0.1	0.1	0.1	0.1	ATK-036 0.50	
Anthraquinone	mg/kg	0.3	2	0		0	0	0.3	0.3	0.3	0.3	ATK-036 0.50	
Azobenzene	mg/kg	0.3	2	0		0	0	0.3	0.3	0.3	0.3	ATK-036 0.50	
Bis(2-chloroethoxy) methane	mg/kg	0.3	2	0		0	0	0.3	0.3	0.3	0.3	ATK-036 0.50	
Bis(2-chloroethyl) ether	mg/kg	0.2	2	0		0	0	0.2	0.2	0.2	0.2	ATK-036 0.50	
Bis(2-chloroisopropyl) ether	mg/kg	0.1	2	0		0	0	0.1	0.1	0.1	0.1	ATK-036 0.50	
Bromophenyl phenyl ether	mg/kg	0.2	2	0		0	0	0.2	0.2	0.2	0.2	ATK-036 0.50	
Carbazole	mg/kg	0.3	2	0		0	0	0.3	0.3	0.3	0.3	ATK-036 0.50	
Dibenzofuran	mg/kg	0.2	2	0		0	0	0.2	0.2	0.2	0.2	ATK-036 0.50	
Dimethylphthalate	mg/kg	0.1	2	0		0	0	0.1	0.1	0.1	0.1	ATK-036 0.50	
Hexachlorobenzene	mg/kg	0.3	2	0		0	0	0.3	0.3	0.3	0.3	ATK-036 0.50	
Isophorone	mg/kg	0.2	2	0		0	0	0.2	0.2	0.2	0.2	ATK-036 0.50	
Nitrobenzene	mg/kg	0.3	2	0		0	0	0.3	0.3	0.3	0.3	ATK-036 0.50	
Loss on Ignition @ 450oC	%	0.2	1	1		0	0	3.9	3.9	3.9	3.9	ATK-034 2.75	
Magnesium (water soluble)	mg/kg	5	1	1		0	0	720	720	720	720	ATK-034 7.10	
Soil Organic Matter (Automated)	%	0.1	1	1		0	0	0.9	0.9	0.9	0.9	ATK-034 1.30	
Total Sulphur	mg/kg	50	2	2		0	0	2700	3650	3650	4600	ATK-034 23.60	

		Location ID	ATK-034	ATK-034	ATK-035	ATK-036	ATK-036	ATK-037	ATK-037	ATK-044	ATK-044	ATK-048	ATK-052	ATK-052	ATK-079	ATK-081A	ATK-088	ATK-088	ATK-089	ATK-089	ATK-090	
		Sample Depth	0.5	5.9	0.5	0.5	2.9	0.2	2.8	0.5	3.8	0.6	0.2	1	1.8	0.5	4.5	1.7	6.8	1	2	
		Sample Ref	2	8	2	5	1	3	2	5	2	1	3	1	1	2	6	2	4	4	2	
		Sample Type	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	
Analyte	Unit	LOD	GAC (mg/kg)																			
			Public Open Space (Parks) 1% SOM																			
Stone Content	%	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Moisture Content	%	N/A	18	16	7.7	16	19	10	21	13	21	14	13	16	14	16	20	22	19	22	19	
Total Organic Carbon (TOC)	%	0.1	< 0.1	0.2	< 0.1	1.6	0.2	0.8	0.2	0.1	0.4	0.2	1.1	0.3	0.3	0.7	0.2	0.3	0.4	< 0.1	0.6	
Fraction Organic Carbon (FOC)	%	0.001	< 0.0010	0.0021	< 0.0010	0.017	0.0016	0.0078	0.0018	0.0014	0.0042	0.0018	0.011	0.0029	0.0029	0.0073	0.0025	0.0035	0.0039	< 0.0010	0.0063	
Asbestos in Soil	Type		Not-detected																			
Asbestos Identification	Type		Not-detected																			
Asbestos Quantification	%	0.001	Not-detected																			
Electrical Conductivity	uS/cm	10	450	2600	220	2500	580	380	2900	1800	280	570	64	670	700	170	1900	880	480	2700	290	
pH	pH Units	N/A	7.9	7.5	7.5	8.9	8.3	7.6	7.4	7.6	7.2	7.9	7.9	7.3	8.1	7.4	7.7	10.4	7.3	7.8	7.4	
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	1300	34000	0.07	2.1	0.26	0.049	3.4	6900	320	0.16	0.019	0.41	0.27	0.034	4100	1400	0.25	2.8	0.031	
Free Cyanide	mg/kg	1	34	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Total Cyanide	mg/kg	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Ammonia as NH3	mg/kg	0.5	< 0.5	< 0.5	< 0.5	34	< 0.5	< 0.5	< 0.5	< 0.5	20	< 0.5	< 0.5	< 0.5	0.7	< 0.5	< 0.5	1	< 0.5	4.5	1.3	
Ammonium as NH4	mg/kg	0.5	< 0.5	< 0.5	< 0.5	36	< 0.5	< 0.5	< 0.5	< 0.5	21	< 0.5	< 0.5	< 0.5	0.7	< 0.5	< 0.5	1.1	< 0.5	4.7	1.4	
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	139	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	69900	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	5140	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	8260	56	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	10600	67	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	7870	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	7870	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	130	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	109000	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	163000	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	9720	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	17700	130	< 1.0	< 1.0	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	23800	130	< 2.0	< 2.0	16	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	7.8	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	864000	< 8.0	< 8.0	< 8.0	30	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	18	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	864000	< 8.0	< 8.0	< 8.0	130	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	21	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	270	< 10	< 10	190	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	50	< 10	< 10	< 10	< 10	< 10	< 10	
Chromium (hexavalent)	mg/kg	4	251	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	
Lead (aqua regia extractable)	mg/kg	1	1340	14	9	16	110	14	18	12	9.9	12	13	17	13	11	33	9.2	11	13	12	
Mercury (aqua regia extractable)	mg/kg	0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	
Nickel (aqua regia extractable)	mg/kg	1	804	36	33	29	20	53	18	41	32	16	74	14	45	25	24	34	52	28	43	
Arsenic (aqua regia extractable)	mg/kg	1	168	13	12	19	3	11	11	10	15	15	4.4	6	10	11	11	15	9.3	8.8	10	
Barium (aqua regia extractable)	mg/kg	1	5770	65	42	45	120	79	38	37	40	38	760	43	39	66	64	70	81	100	27	
Beryllium (aqua regia extractable)	mg/kg	0.05	61	1.2	0.94	1.3	0.65	1.2	0.94	1.4	1	0.9	1.8	0.76	1.3	0.91	0.95	1.7	1.6	1.4	1.5	
Boron (Water Soluble)	mg/kg	0.2	0.2	0.3	1	6.8	0.5	0.5	2.4	0.5	0.6	2.1	0.9	1.1	0.7	0.3	0.9	0.4	1.2	3.8	1.4	
Cadmium (aqua regia extractable)	mg/kg	0.2	882	< 0.2	< 0.2	< 0.2	1.9	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	
Chromium (aqua regia extractable)	mg/kg	1	83500	47	42	58	36	57	49	57	53	64	65	38	55	35	40	74	75	58	63	
Copper (aqua regia extractable)	mg/kg	1	45200	32	19	22	46	27	12	29	17	14	17	13	32	14	17	29	32	16	31	
Vanadium (aqua regia extractable)	mg/kg	1	1550	76	75	65	37	73	69	78	75	79	93	56	74	53	58	85	76	78	91	
Zinc (aqua regia extractable)	mg/kg	1	201000	65	71	54	130	66	48	75	64	58	77	48	77	170	62	71	71	90	85	
Selenium (aqua regia extractable)	mg/kg	1	2550	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Anthracene	mg/kg	0.05	150000	< 0.05	< 0.05	< 0.05	0.14	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Naphthalene	mg/kg	0.05	623	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Pyrene	mg/kg	0.05	15100	< 0.05	< 0.05	< 0.05	1.3	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Benzofluoranthene	mg/kg	0.05	< 0.05	< 0.05	< 0.05	0.44	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	< 0.05	< 0.05	< 0.05	0.37	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Benzo(b)fluoranthene	mg/kg	0.																				

J28 Human Health Screening - Public Open Space (Residential) scenario

Determinand	Unit	Maximum LOD	Number of Samples	Number of Samples above LOD	GAC	LOD above GAC	Number of Exceedances	Minimum	Median	Mean	Maximum	Location of Maximum Value	Locations of Exceedances
Asbestos in Soil	Type		16	16		0	0						
Fraction Organic Carbon (FOC)	-	0	43	41		0	0	0.001	0.0066	0.007607	0.022	ATK-083 0.50	
Electrical Conductivity	uS/cm	10	43	43		0	0	80	410	502.2791	1800	ATK-091 0.50	
Moisture Content	%	0	43	43		0	0	5.8	16	14.90465	24	ATK-091 3.00	
pH	pH Units	0	43	43		0	0	4.4	7.8	7.572093	9	ATK-022 0.50	
Stone Content	%	0.1	43	0		0	0	0.1	0.1	0.1	0.1	ATK-002 0.25	
Total Organic Carbon (TOC)	%	0.1	43	41		0	0	0.1	0.7	0.75814	2.2	ATK-091 3.00	
Ammonia as NH3	mg/kg	0.5	43	20		0	0	0.5	0.5	8.255814	91	ATK-091 3.00	
Ammonium as NH4	mg/kg	0.5	43	21		0	0	0.5	0.5	8.774419	96	ATK-091 3.00	
Free Cyanide	mg/kg	1	43	0	34	0	0	1	1	1	1	ATK-002 0.25	
Total Cyanide	mg/kg	1	43	1		0	0	1	1	1.139535	7	ATK-061 0.90	
Total Sulphate as SO4	mg/kg	50	18	18		0	0	340	865	1315	6600	ATK-091 0.50	
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0	25	25		0	0	0.011	0.11	0.2486	1.1	ATK-087 3.00	
Arsenic (aqua regia extractable)	mg/kg	1	43	43	79.1	0	0	5.3	12	11.67674	24	ATK-025B 2.70	
Barium (aqua regia extractable)	mg/kg	1	43	43	2680	0	0	22	55	60.90698	130	ATK-025B 2.70	
Beryllium (aqua regia extractable)	mg/kg	0.06	43	43	2.19	0	0	0.39	1.1	1.066512	1.7	ATK-030 1.00	
Cadmium (aqua regia extractable)	mg/kg	0.2	43	3	219	0	0	0.2	0.2	0.209302	0.4	ATK-091 3.00	
Chromium (aqua regia extractable)	mg/kg	1	43	43	30600	0	0	24	50	48.09302	68	ATK-026 1.50	
Chromium (hexavalent)	mg/kg	4	43	0	26.1	0	0	4	4	4	4	ATK-002 0.25	
Copper (aqua regia extractable)	mg/kg	1	43	43	16400	0	0	7.1	19	20.45349	52	ATK-025B 2.70	
Lead (aqua regia extractable)	mg/kg	1	43	43	625	0	0	8.2	16	23.45349	140	ATK-025B 2.70	
Nickel (aqua regia extractable)	mg/kg	1	43	43	347	0	0	10	28	27.39535	58	ATK-058 1.00	
Boron (Water Soluble)	mg/kg	0.2	43	41		0	0	0.2	0.7	0.876744	2.9	ATK-017 2.40	
Mercury (aqua regia extractable)	mg/kg	0.3	43	2		0	0	0.3	0.3	0.325581	1	ATK-032 2.80	

Determinand	Unit	Maximum LOD	Number of Samples	Number of Samples above LOD	GAC	LOD above GAC	Number of Exceedances	Minimum	Median	Mean	Maximum	Location of Maximum Value	Locations of Exceedances
Selenium (aqua regia extractable)	mg/kg	1	43	4	1370	0	0	1	1	1.123256	2.8	ATK-022 0.50	
Vanadium (aqua regia extractable)	mg/kg	1	43	43	818	0	0	34	68	66.88372	98	ATK-030 1.00	
Zinc (aqua regia extractable)	mg/kg	1	43	43	93700	0	0	30	63	66.60465	160	ATK-032 2.80	
2,4-Dimethylphenol	mg/kg	0.3	2	0	5010	0	0	0.3	0.3	0.3	0.3	ATK-017 2.40	
2-Methylphenol	mg/kg	0.3	2	0	25100	0	0	0.3	0.3	0.3	0.3	ATK-017 2.40	
4-Methylphenol	mg/kg	0.2	2	0	25100	0	0	0.2	0.2	0.2	0.2	ATK-017 2.40	
2,4,5-Trichlorophenol	mg/kg	0.2	2	0		0	0	0.2	0.2	0.2	0.2	ATK-017 2.40	
2,4,6-Trichlorophenol	mg/kg	0.1	2	0		0	0	0.1	0.1	0.1	0.1	ATK-017 2.40	
2,4-Dichlorophenol	mg/kg	0.3	2	0		0	0	0.3	0.3	0.3	0.3	ATK-017 2.40	
2-Chlorophenol	mg/kg	0.1	2	0		0	0	0.1	0.1	0.1	0.1	ATK-017 2.40	
2-Nitrophenol	mg/kg	0.3	2	0		0	0	0.3	0.3	0.3	0.3	ATK-017 2.40	
4-Chloro-3-methylphenol	mg/kg	0.1	2	0		0	0	0.1	0.1	0.1	0.1	ATK-017 2.40	
Total Phenols (monohydric)	mg/kg	1	43	1		0	0	1	1	1.004651	1.2	ATK-083 0.50	
Phenol	mg/kg	0.2	2	0	685	0	0	0.2	0.2	0.2	0.2	ATK-017 2.40	
Benzene	mg/kg	0.001	43	0	140	0	0	0.001	0.001	0.001	0.001	ATK-002 0.25	
Ethylbenzene	mg/kg	0.001	43	0	24300	0	0	0.001	0.001	0.001	0.001	ATK-002 0.25	
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	43	0	73600	0	0	0.001	0.001	0.001	0.001	ATK-002 0.25	
Toluene	mg/kg	0.001	43	0	55300	0	0	0.001	0.001	0.001	0.001	ATK-002 0.25	
o-Xylene	mg/kg	0.001	43	0	37800	0	0	0.001	0.001	0.001	0.001	ATK-002 0.25	
p & m-Xylene	mg/kg	0.001	43	0	37400	0	0	0.001	0.001	0.001	0.001	ATK-002 0.25	
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	43	4		0	0	10	10	15.67442	110	ATK-024 2.50	
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	43	6		0	0	10	10	22.5814	210	ATK-091 3.00	
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	43	2	18500	0	0	1	1	1.418605	16	ATK-086 1.80	
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	43	3	18600	0	0	2	2	2.909302	21	ATK-024 2.50	
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	43	2	445000	0	0	8	8	8.374419	24	ATK-024 2.50	
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	43	3	445000	0	0	8	8	11.69767	70	ATK-025B 2.70	

Determinand	Unit	Maximum LOD	Number of Samples	Number of Samples above LOD	GAC	LOD above GAC	Number of Exceedances	Minimum	Median	Mean	Maximum	Location of Maximum Value	Locations of Exceedances
TPH-CWG Aliphatic >EC5 - EC6	mg/kg	0	43	0	682000	0	0	0.001	0.001	0.001	0.001	ATK-002 0.25	
TPH-CWG Aliphatic >EC6 - EC8	mg/kg	0	43	0	753000	0	0	0.001	0.001	0.001	0.001	ATK-002 0.25	
TPH-CWG Aliphatic >EC8 - EC10	mg/kg	0	43	1	18000	0	0	0.001	0.001	0.00307	0.09	ATK-091 3.00	
TPH-CWG Aromatic >EC10 - EC12	mg/kg	1	43	1	7420	0	0	1	1	1.302326	14	ATK-086 1.80	
TPH-CWG Aromatic >EC12 - EC16	mg/kg	2	43	4	7470	0	0	2	2	3.088372	22	ATK-025B 2.70	
TPH-CWG Aromatic >EC16 - EC21	mg/kg	10	43	4	3770	0	0	10	10	12.32558	47	ATK-091 3.00	
TPH-CWG Aromatic >EC21 - EC35	mg/kg	10	43	5	3770	0	0	10	10	17.65116	160	ATK-091 3.00	
TPH-CWG Aromatic >EC5 - EC7	mg/kg	0	43	0	140	0	0	0.001	0.001	0.001	0.001	ATK-002 0.25	
TPH-CWG Aromatic >EC7 - EC8	mg/kg	0	43	0	55300	0	0	0.001	0.001	0.001	0.001	ATK-002 0.25	
TPH-CWG Aromatic >EC8 - EC10	mg/kg	0	43	0	7300	0	0	0.001	0.001	0.001	0.001	ATK-002 0.25	
Acenaphthene	mg/kg	0.05	43	1	14700	0	0	0.05	0.05	0.056512	0.33	ATK-091 3.00	
Acenaphthylene	mg/kg	0.05	43	0	14700	0	0	0.05	0.05	0.05	0.05	ATK-002 0.25	
Anthracene	mg/kg	0.05	43	3	74100	0	0	0.05	0.05	0.081395	1.1	ATK-091 3.00	
Phenanthrene	mg/kg	0.05	43	4	74100	0	0	0.05	0.05	0.193953	4.2	ATK-091 3.00	
Benzo(a)anthracene	mg/kg	0.05	43	6		0	0	0.05	0.05	0.194651	4.3	ATK-091 3.00	
Benzo(a)pyrene	mg/kg	0.05	43	5	10.3	0	0	0.05	0.05	0.185814	4.3	ATK-091 3.00	
Benzo(b)fluoranthene	mg/kg	0.05	43	6		0	0	0.05	0.05	0.196512	4.4	ATK-091 3.00	
Benzo(ghi)perylene	mg/kg	0.05	43	3		0	0	0.05	0.05	0.132558	2.9	ATK-091 3.00	
Benzo(k)fluoranthene	mg/kg	0.05	43	6		0	0	0.05	0.05	0.126047	2.5	ATK-091 3.00	
Chrysene	mg/kg	0.05	43	6		0	0	0.05	0.05	0.166047	3.5	ATK-091 3.00	
Di-benzo(a,h)anthracene	mg/kg	0.05	43	1		0	0	0.05	0.05	0.063488	0.63	ATK-091 3.00	
Fluoranthene	mg/kg	0.05	43	9	9870	0	0	0.05	0.05	0.374419	9.3	ATK-091 3.00	
Fluorene	mg/kg	0.05	43	1	9870	0	0	0.05	0.05	0.056744	0.34	ATK-091 3.00	
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	43	3		0	0	0.05	0.05	0.118372	2.4	ATK-091 3.00	
Naphthalene	mg/kg	0.05	43	1	3490	0	0	0.0001	0.05	0.052563	0.26	ATK-032 2.80	
Speciated Total EPA-16 PAHs	mg/kg	0.8	43	7		0	0	0.8	0.8	2.286512	47.9	ATK-091 3.00	
Pyrene	mg/kg	0.05	43	9	7400	0	0	0.05	0.05	0.329302	7.9	ATK-091 3.00	

Determinand	Unit	Maximum LOD	Number of Samples	Number of Samples above LOD	GAC	LOD above GAC	Number of Exceedances	Minimum	Median	Mean	Maximum	Location of Maximum Value	Locations of Exceedances
1,1,1,2-Tetrachloroethane	mg/kg	0.001	2	0	4800	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
1,1,1-Trichloroethane	mg/kg	0.001	2	0	304000	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
1,1,2,2-Tetrachloroethane	mg/kg	0.001	2	0	4870	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
1,1,2-Trichloroethane	mg/kg	0.001	2	0	967	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
1,1-Dichloroethane	mg/kg	0.001	2	0	42200	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
1,1-Dichloroethene	mg/kg	0.001	2	0	9190	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
1,2,4-Trimethylbenzene	mg/kg	0.001	2	0	244	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
1,2-Dichloroethane	mg/kg	0.001	2	0	85.2	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
1,2-Dichloropropane	mg/kg	0.001	2	0	1190	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
2-Chloronaphthalene	mg/kg	0.1	2	0	6050	0	0	0.1	0.1	0.1	0.1	ATK-017 2.40	
Bromobenzene	mg/kg	0.001	2	0	4700	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
Bromodichloromethane	mg/kg	0.001	2	0	69.7	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
Tribromomethane	mg/kg	0.001	2	0	3870	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
Tetrachloromethane	mg/kg	0.001	2	0	981	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
Chlorobenzene	mg/kg	0.001	2	0	15500	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
Chloroethane	mg/kg	0.001	2	0	518000	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
Trichloromethane	mg/kg	0.001	2	0	1700	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
Chloromethane	mg/kg	0.001	2	0	465	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
cis-1,2-Dichloroethene	mg/kg	0.001	2	0	1240	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
Dibromochloromethane	mg/kg	0.001	2	0	227	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
Hexachloroethane	mg/kg	0.05	2	0	122	0	0	0.05	0.05	0.05	0.05	ATK-017 2.40	
Isopropylbenzene	mg/kg	0.001	2	0	23900	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
1,1-Dichloropropane	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
1,2,3-Trichlorobenzene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
1,2,4-Trichlorobenzene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
1,2-Dibromo-3-chloropropane	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
1,2-Dibromoethane	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
1,2-Dichlorobenzene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
1,3,5-Trimethylbenzene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
1,3-Dichlorobenzene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
1,3-Dichloropropane	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	

Determinand	Unit	Maximum LOD	Number of Samples	Number of Samples above LOD	GAC	LOD above GAC	Number of Exceedances	Minimum	Median	Mean	Maximum	Location of Maximum Value	Locations of Exceedances
1,4-Dichlorobenzene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
2,2-Dichloropropane	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
2-Chlorotoluene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
4-Chlorotoluene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
Bromomethane	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
Butylbenzene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
cis-1,3-Dichloropropane	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
Dibromomethane	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
Hexachlorobutadiene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
p-Isopropyltoluene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
sec-Butylbenzene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
tert-Butylbenzene	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
trans-1,3-Dichloropropane	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
Trichlorofluoromethane	mg/kg	0.001	2	0		0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
n-Propylbenzene	mg/kg	0.001	2	0	24700	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
Styrene	mg/kg	0.001	2	0	3010	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
Tetrachloroethene	mg/kg	0.001	2	0	3360	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
trans-1,2-Dichloroethene	mg/kg	0.001	2	0	3550	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
Trichloroethene	mg/kg	0.001	2	0	33.1	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
Vinyl chloride	mg/kg	0.001	2	0	3.45	0	0	0.001	0.001	0.001	0.001	ATK-017 2.40	
2,4-Dinitrotoluene	mg/kg	0.2	2	0	501	0	0	0.2	0.2	0.2	0.2	ATK-017 2.40	
2,6-Dinitrotoluene	mg/kg	0.1	2	0	251	0	0	0.1	0.1	0.1	0.1	ATK-017 2.40	
Butyl benzyl phthalate	mg/kg	0.3	2	0	125000	0	0	0.3	0.3	0.3	0.3	ATK-017 2.40	
Diethyl phthalate	mg/kg	0.2	2	0	49300	0	0	0.2	0.2	0.2	0.2	ATK-017 2.40	
Dibutyl phthalate	mg/kg	0.2	2	0	1300	0	0	0.2	0.2	0.2	0.2	ATK-017 2.40	
2-Methylnaphthalene	mg/kg	0.1	2	0		0	0	0.1	0.1	0.1	0.1	ATK-017 2.40	
4-Chloroaniline	mg/kg	0.1	2	0		0	0	0.1	0.1	0.1	0.1	ATK-017 2.40	
4-Chlorophenyl phenyl ether	mg/kg	0.3	2	0		0	0	0.3	0.3	0.3	0.3	ATK-017 2.40	
4-Nitroaniline	mg/kg	0.2	2	0		0	0	0.2	0.2	0.2	0.2	ATK-017 2.40	
Aniline	mg/kg	0.1	2	0		0	0	0.1	0.1	0.1	0.1	ATK-017 2.40	
Anthraquinone	mg/kg	0.3	2	0		0	0	0.3	0.3	0.3	0.3	ATK-017 2.40	
Azobenzene	mg/kg	0.3	2	0		0	0	0.3	0.3	0.3	0.3	ATK-017 2.40	
Bis(2-chloroethoxy)methane	mg/kg	0.3	2	0		0	0	0.3	0.3	0.3	0.3	ATK-017 2.40	
Bis(2-chloroethyl)ether	mg/kg	0.2	2	0		0	0	0.2	0.2	0.2	0.2	ATK-017 2.40	

Determinand	Unit	Maximum LOD	Number of Samples	Number of Samples above LOD	GAC	LOD above GAC	Number of Exceedances	Minimum	Median	Mean	Maximum	Location of Maximum Value	Locations of Exceedances
Bis(2-chloroisopropyl)ether	mg/kg	0.1	2	0		0	0	0.1	0.1	0.1	0.1	ATK-017 2.40	
Bromophenyl phenyl ether	mg/kg	0.2	2	0		0	0	0.2	0.2	0.2	0.2	ATK-017 2.40	
Carbazole	mg/kg	0.3	2	0		0	0	0.3	0.3	0.3	0.3	ATK-017 2.40	
Dibenzofuran	mg/kg	0.2	2	0		0	0	0.2	0.2	0.2	0.2	ATK-017 2.40	
Dimethylphthalate	mg/kg	0.1	2	0		0	0	0.1	0.1	0.1	0.1	ATK-017 2.40	
Hexachlorobenzene	mg/kg	0.3	2	0		0	0	0.3	0.3	0.3	0.3	ATK-017 2.40	
Isophorone	mg/kg	0.2	2	0		0	0	0.2	0.2	0.2	0.2	ATK-017 2.40	
Nitrobenzene	mg/kg	0.3	2	0		0	0	0.3	0.3	0.3	0.3	ATK-017 2.40	

Appendix I. Controlled Waters Screening

Leachate Screening Summary

Constituent	Unit	Maximum MDL	Number of Samples	Number of Samples above MDL	GAC (EQS or PNEC)	MDL above GAC	Number of Exceedances	Minimum	Median	Mean	Maximum	Location of Maximum Value	Locations of Exceedances
Dissolved Organic Carbon (DOC)	mg/l	0.1	61	61		0	0	2.4	6.69	7.820983607	24.7	ATK-091 3.00	
Electrical Conductivity	uS/cm	10	61	61		0	0	19	280	745.9180328	2500	ATK-P-010 0.80	
Total Organic Carbon (TOC)	mg/l	0.1	61	61		0	0	2.89	7.09	8.397868852	26.7	ATK-091 3.00	
Ammonium as NH4	mg/l	0.015	61	51	0.26	0	16	0.015	0.047	0.549081967	9.1	ATK-091 3.00	ATK-017 2.40, ATK-024 2.50, ATK-026 1.50, ATK-036 0.50, ATK-086 1.80, ATK-087 0.50, ATK-091 3.00, ATK-P-001 0.70, ATK-P-006 0.50, ATK-P-007 1.20, ATK-P-007 2.50, ATK-P-009 0.80, ATK-P-010 0.80, ATK-P-101 2.00, ATK-P-102 1.50, ATK-P-102 4.20
Chloride	mg/l	0.15	61	61	250	0	0	1.1	5.2	8.168852459	100	ATK-022 0.50	
Free Cyanide	mg/l	0.01	61	0	0.001	61	0	0.01	0.01	0.01	0.01	ATK-203 0.50 0.55	
Total Cyanide	mg/l	0.01	61	0		0	0	0.01	0.01	0.01	0.01	ATK-203 0.50 0.55	
Sulphide	mg/l	0.005	61	0		0	0	0.005	0.005	0.005	0.005	ATK-203 0.50 0.55	
pH	pH Units	0	61	61		0	0	6.4	7.7	7.654098361	8.2	N/A	
Sulphate as SO4	mg/l	0.1	61	61	400	0	21	1.8	84.7	493.0934426	2080	ATK-P-010 0.80	ATK-036 0.50, ATK-044 0.50, ATK-088 0.50, ATK-P-001 0.00, ATK-P-002 0.80, ATK-P-003 0.00, ATK-P-004 0.00, ATK-P-004 0.60, ATK-P-005 0.00, ATK-P-005 0.60, ATK-P-006 0.30, ATK-P-006 0.50, ATK-P-008 0.00, ATK-P-009 0.00, ATK-P-010 0.00, ATK-P-010 0.80, ATK-P-101 0.20, ATK-P-101 0.50, ATK-P-101 1.00, ATK-P-102 0.20, ATK-P-102 1.00
Antimony (dissolved)	mg/l	0.0017	61	1		0	0	0.0017	0.0017	0.001821311	0.0091	ATK-P-101 1.00	
Arsenic (dissolved)	mg/l	0.0011	61	38	0.05	0	0	0.0011	0.0031	0.004291803	0.015	ATK-P-102 0.20	
Barium (dissolved)	mg/l	0.00005	61	61		0	0	0.0019	0.019	0.030001639	0.16	ATK-036 0.50	
Beryllium (dissolved)	mg/l	0.0002	61	1		0	0	0.0002	0.0002	0.000201639	0.0003	ATK-089 1.70	
Boron (dissolved)	mg/l	0.01	61	49	2	0	0	0.01	0.03	0.06252459	0.35	ATK-036 0.50	
Cadmium (dissolved)	mg/l	0.00008	61	0	0.00015	0	0	0.00008	0.00008	8E-05	0.00008	ATK-203 0.50 0.55	
Calcium (dissolved)	mg/l	0.01	61	61		0	0	0.8	26	166.9311475	720	ATK-P-101 1.00	
Chromium (dissolved)	mg/l	0.0004	61	49		0	0	0.0004	0.0015	0.001914754	0.0097	ATK-P-102 1.50	
Chromium (III)	mg/l	0.001	61	37	0.0047	0	2	0.001	0.0013	0.002084746	0.0097	ATK-P-102 1.50	ATK-008 2.00, ATK-P-102 1.50
Chromium (hexavalent)	mg/l	0.005	61	2	0.0034	61	0	0.005	0.005	0.005	0.005	ATK-207 0.20 0.30	
Cobalt (dissolved)	mg/l	0.0003	61	42	0.003	0	0	0.0003	0.0005	0.000744262	0.0028	ATK-091 3.00	
Copper (dissolved)	mg/l	0.0007	61	60	0.035	0	0	0.0007	0.0078	0.007059016	0.019	ATK-202 0.20	
Iron (dissolved)	mg/l	0	61	61	1	0	11	0.005	0.23	0.660704918	4.2	ATK-008 2.00	ATK-008 2.00, ATK-024 2.50, ATK-079 1.80, ATK-087 0.50, ATK-090 1.00, ATK-091 3.00, ATK-205 0.20, ATK-P-002 0.00, ATK-P-007 1.20, ATK-P-101 2.00, ATK-P-102 2.50
Lead (dissolved)	mg/l	0.001	61	37	0.01554	0	0	0.001	0.0012	0.002396721	0.011	ATK-205 0.20	
Magnesium (dissolved)	mg/l	0.01	61	61		0	0	0.4	11	12.78754098	78	ATK-044 0.50	
Manganese (dissolved)	mg/l	0.00006	61	61	0.28902	0	5	0.0034	0.1	0.121965574	0.62	ATK-036 0.50	ATK-026 1.50, ATK-036 0.50, ATK-206 0.20, ATK-P-006 0.50, ATK-P-101 2.00
Mercury (dissolved)	mg/l	0.0005	61	2	0.00007	61	2	0.0005	0.0005	0.000509836	0.001	ATK-P-102 0.20	ATK-P-002 0.80, ATK-P-102 0.20
Molybdenum (dissolved)	mg/l	0.0004	61	36		0	0	0.0004	0.0008	0.003340984	0.02	ATK-036 0.50	
Nickel (dissolved)	mg/l	0.0003	61	56	0.02263	0	0	0.0003	0.0021	0.002072131	0.0066	ATK-091 3.00	
Potassium (dissolved)	mg/l	0.03	61	61		0	0	0.22	4.2	6.118688525	24	ATK-036 0.50	
Selenium (dissolved)	mg/l	0.004	61	0		0	0	0.004	0.004	0.004	0.004	ATK-203 0.50 0.55	
Sodium (dissolved)	mg/l	0.01	61	61		0	0	1.3	7.7	10.61967213	110	ATK-022 0.50	
Tin (dissolved)	mg/l	0.001	61	1	0.025	0	0	0.001	0.001	0.001009836	0.0016	ATK-P-008 0.60	
Vanadium (dissolved)	mg/l	0.0017	61	37	0.02	0	0	0.0017	0.0028	0.003554098	0.013	ATK-P-002 0.00	

Constituent	Unit	Maximum MDL	Number of Samples	Number of Samples above MDL	GAC (EQS or PNEC)	MDL above GAC	Number of Exceedances	Minimum	Median	Mean	Maximum	Location of Maximum Value	Locations of Exceedances
Zinc (dissolved)	mg/l	0.0004	61	59	0.05601	0	0	0.0004	0.0057	0.00642459	0.027	ATK-P-010 0.80	
Total Phenols (monohydric)	mg/l	0.01	61	1		0	0	0.01	0.01	0.010032787	0.012	ATK-091 3.00	

J28: Leachate Results Screening

			Location ID	ATK-008	ATK-017	ATK-022	ATK-024	ATK-026	ATK-027	ATK-034	ATK-036	ATK-044	ATK-061	ATK-079	ATK-086	ATK-087	ATK-088	ATK-089	ATK-090	ATK-091	ATK-092	ATK-093	ATK-202	ATK-203	ATK-205	ATK-206	ATK-207	ATK-P-001	ATK-P-001	ATK-P-002	
			Sample Depth (m bgl)	2	2.4	0.5	2.5	1.5	1	0.5	0.5	0.5	0.9	1.8	1.8	0.5	1.7	1	3	1	2	0.2	0.5	0.2	0.2	0.2	0	0.7	0		
			Sample ID	4	1	2	5	4	3	2	2	2	2	1	4	2	2	2	2	5	1	5	1	2	1	1	1	1	2	1	
			Sample Type	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	
Analyte	Unit	LOD	EQS (Freshwater) or PNEC (mg/l)	EQS (Freshwater) or PNEC (ug/l)																											
Sulphate as SO4	mg/l	0.1	400	400000	3.4	14.7	32.1	26.7	119	148	28.2	1640	1280	7.3	27.2	102	11.3	640	22.7	2.1	44.8	53.1	2.9	1.8	2.8	12.9	84.7	31.5	1490	35.9	39.2
Chromium (III)	ug/l	1	0.0047	4.7	6.6	2	<1.0	U/S	<1.0	<1.0	<1.0	<1.0	<1.0	2.1	2.3	<1.0	3	<1.0	<1.0	3.3	3	1.3	<1.0	1.1	U/S	4	2.3	1.3	<1.0	<1.0	4.6
Chloride	mg/l	0.15	250	250000	1.2	5.2	100	11	20	3.4	4.1	16	2.3	5.1	25	6.1	2.3	4.4	4.5	2.3	5.8	3.3	1.2	1.4	1.1	1.2	3	1.7	6	3.2	2.5
Sulphide	ug/l	5	-	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chromium (hexavalent)	ug/l	5	0.0034	3.4	<5.0	<5.0	<5.0	U/S	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	U/S	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
Total Cyanide	ug/l	10	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Iron (dissolved)	mg/l	0	1	1000	4.2	0.78	0.078	3.4	0.18	0.009	0.025	0.058	0.098	0.77	1.2	0.03	2.6	0.012	0.012	1.6	2.5	0.51	0.11	0.82	0.99	1.8	0.58	0.81	0.063	0.32	4
Lead (dissolved)	ug/l	1	0.01554	15.54	3.5	7.2	<1.0	2	<1.0	<1.0	1.2	2.4	1.6	2.2	1.7	<1.0	2.9	<1.0	1.2	1.2	9.7	<1.0	<1.0	3.5	<1.0	11	1.4	4.7	2.5	1.3	5.2
Magnesium (dissolved)	mg/l	0.01	-	-	1.8	5.2	0.86	4.3	16	18	7.2	17	78	1.1	1.8	14	2.4	59	3.3	1.1	6	8.8	4.2	0.98	0.4	1.9	4	4.3	15	4.9	4.2
Mercury (dissolved)	ug/l	0.5	0.00007	0.07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Molybdenum (dissolved)	ug/l	0.4	-	-	<0.4	8.8	5.8	<0.4	6	1.2	1.9	20	<0.4	<0.4	0.4	1.4	<0.4	<0.4	<0.4	<0.4	14	<0.4	0.6	<0.4	<0.4	2.8	6.7	5.4	6	<0.4	<0.4
Nickel (dissolved)	ug/l	0.3	0.02263	22.63	2.9	4.9	2.4	2.2	3	0.9	0.5	5.3	1.5	<0.3	2.7	1.3	2.4	1	0.4	2.6	6.6	2.2	0.4	2.9	3.7	2	1.9	2.1	1.1	0.5	3
Potassium (dissolved)	mg/l	0.03	-	-	0.87	2.2	4	1.4	4.7	3.6	1.7	24	7.4	0.22	0.9	4.2	0.4	4.8	0.25	0.58	8.6	2.5	0.22	0.37	0.27	7	6.9	8.3	11	2.7	3.9
Sodium (dissolved)	mg/l	0.01	-	-	1.8	3.8	110	11	12	8.5	5.8	24	7	7.2	33	11	3.9	11	8.7	1.3	6.2	7.2	2.1	1.9	3	1.7	2.7	4.7	10	3.1	3.3
Tin (dissolved)	ug/l	1	0.025	25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Antimony (dissolved)	ug/l	1.7	-	-	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
Arsenic (dissolved)	ug/l	1.1	0.05	50	<1.1	10	<1.1	5	<1.1	<1.1	<1.1	3.1	5	<1.1	<1.1	1.2	3.2	<1.1	<1.1	<1.1	7.4	<1.1	<1.1	<1.1	<1.1	<1.1	9.8	<1.1	7.9	2.9	4.2
Barium (dissolved)	ug/l	0.05	-	-	14	37	2.8	6.7	20	19	12	160	23	4.3	12	20	6.9	23	1.9	9.1	36	16	9.9	9.1	5.9	17	19	37	64	5.7	13
Beryllium (dissolved)	ug/l	0.2	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Boron (dissolved)	ug/l	10	2	2000	<10	52	45	37	24	30	26	350	44	<10	<10	18	37	29	11	31	270	36	<10	<10	<10	11	35	32	92	<10	38
Cadmium (dissolved)	ug/l	0.08	0.00008	0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Chromium (dissolved)	ug/l	0.4	-	-	6.6	2	0.4	3.1	0.8	<0.4	<0.4	0.5	<0.4	2.1	2.3	<0.4	3	<0.4	<0.4	3.3	3	1.3	0.6	1.1	1.5	4	2.3	1.3	0.5	0.9	4.6
Cobalt (dissolved)	ug/l	0.3	0.003	3	1.3	1.7	1.7	1.5	1.4	<0.3	<0.3	2	<0.3	0.4	2	0.6	0.5	<0.3	<0.3	0.9	2.8	<0.3	<0.3	<0.3	0.5	0.4	<0.3	<0.3	0.3	0.9	1.7
Copper (dissolved)	ug/l	0.7	0.035	35	8.6	11	5.3	8.8	5.8	2.5	7.2	8.7	2.2	3.2	1.8	2.4	7.8	3.2	2.8	5.4	8.1	5.2	1.4	19	8.7	16	8	13	8.8	1.8	6.1
Vanadium (dissolved)	ug/l	1.7	0.02	20	7	6.8	3.5	10	2.9	4.1	<1.7	3.4	<1.7	4.9	2.8	<1.7	6.9	<1.7	<1.7	7.7	9.4	<1.7	<1.7	2.4	3.7	12	4.6	6.1	<1.7	1.8	13
Zinc (dissolved)	ug/l	0.4	0.05601	56.01	6.5	7.6	<0.4	8	9.3	4.2	2.7	9.6	3.3	3.6	2.3	0.9	5.4	5.3	6.1	11	8.3	6.8	1.8	7.2	4.6	12	8.7	3.2	13	<0.4	9.1
Calcium (dissolved)	mg/l	0.01	-	-	1.7	26	4.7	11	24	45	16	600	440	3.8	4	25	6.3	160	3.7	2.5	19	27	16	2.9	0.8	28	47	33	450	13	17
Selenium (dissolved)	ug/l	4	-	-	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Free Cyanide	ug/l	10	0.001	1	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ammonium as NH4	ug/l	15	0.26	260	25	7400	<15	1600	1100	36	47	3300	<15	<15	<15	310	290	38	<15	<15	9100	27	<15	16	20	15	42	<15	41	340	<15
Total Phenols (monohydric)	ug/l	10	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Manganese (dissolved)	ug/l	0.06	0.28902	289.02	56	220	9.5	93	300	200	160	620	280	52	200	190	51	190	58	49	130	140	100	9.3	14	14	290	140	10	5.3	14
Electrical Conductivity	uS/cm	10	-	-	25	350	540	170	310	390	160	2300	1800	53	190	280	61	1000	100	35	240	220	120	27	19	150	280	220	1600	140	150
Dissolved Organic Carbon (DOC)	mg/l	0.1	-	-	8.52	22.3	7.32	12.8	16.8	4.83	5.3	15.2	2.72	14	5.22	5.57	4.94	3.41	9.44	11.7	24.7	7.94	3	6.16	6.78	9.83	9.98	13.9	6.13	5.59	7.26
Total Organic Carbon (TOC)	mg/l	0.1	-	-	9.5	23.7	9.11	13.1	18.3	5.11	6	15.4	2.89	14.7	5.22	6.31	5.38	3.41	9.84	12.3	26.7	8.07	3.07	6.71	7.04	10.2	11	13.9	6.39	6.03	7.54
pH	pH Units	0	6.0-9.0	-	7.5	7.1	8.2	7.6	7.8	7.9	7.8	7.8	7.5	7.4	7.5	8.1	7.2	7.6	7.1	7.1	7.7	7.5	8	7.1	6.4	7.9	7.9	8.1	7.7	7.6	7.7

J28: Leachate Results Screening

			Location ID		ATK-P-002	ATK-P-003	ATK-P-003	ATK-P-004	ATK-P-004	ATK-P-005	ATK-P-005	ATK-P-006	ATK-P-006	ATK-P-006	ATK-P-007	ATK-P-007	ATK-P-007	ATK-P-007	ATK-P-008	ATK-P-008	ATK-P-009	ATK-P-009	ATK-P-010	ATK-P-010	ATK-P-011	ATK-P-011
			Sample Depth (m bgl)		0.8	0	0.8	0	0.6	0	0.6	0.3	0.5	1	0.2	0.4	1.2	2.5	0	0.6	0	0.8	0	0.8	0.2	0.5
			Sample ID		2	1	2	1	2	1	2	1	2	3	1	2	3	4	1	2	1	2	1	2	1	2
			Sample Type		ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES
Analyte	Unit	LOD	EQS (Freshwater) or PNEC (mg/l)	EQS (Freshwater) or PNEC (ug/l)																						
Sulphate as SO4	mg/l	0.1	400	400000	633	1150	42.1	1000	1430	903	765	1540	997	9.1	38.6	149	27.3	51.4	1300	162	1690	27.9	1700	2080	1860	1760
Chromium (III)	ug/l	1	0.0047	4.7	< 1.0	2.7	< 1.0	1.3	1.9	< 1.0	< 1.0	1.2	< 1.0	2.2	3.5	1.9	3.1	2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.4	3.2
Chloride	mg/l	0.15	250	250000	2.5	3.8	3	8.3	12	6.4	9.4	9.2	7.3	1.9	4	4.5	9.4	5.8	14	2.3	3.7	2.5	15	16	9.3	9.8
Sulphide	ug/l	5	-	-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (hexavalent)	ug/l	5	0.0034	3.4	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Cyanide	ug/l	10	-	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Iron (dissolved)	mg/l	0	1	1000	0.083	0.14	0.11	0.2	0.16	0.067	0.17	0.037	0.01	0.38	0.85	0.94	1.6	0.21	0.041	0.14	0.095	0.86	0.15	0.28	0.15	0.3
Lead (dissolved)	ug/l	1	0.01554	15.54	< 1.0	4.1	2.8	4.1	4.7	3.6	1.1	< 1.0	< 1.0	< 1.0	< 1.0	4.2	2.3	< 1.0	1.4	< 1.0	2.8	1.2	3.6	6	< 1.0	< 1.0
Magnesium (dissolved)	mg/l	0.01	-	-	49	16	7.1	12	15	18	16	13	24	3.2	6.3	17	4.5	9.3	22	19	15	6.3	19	12	12	11
Mercury (dissolved)	ug/l	0.5	0.00007	0.07	0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Molybdenum (dissolved)	ug/l	0.4	-	-	< 0.4	3.6	< 0.4	6.1	8.6	3.1	3.3	6.7	3.8	2.7	< 0.4	0.6	1	< 0.4	9	< 0.4	7.6	< 0.4	5.5	11	6.8	9.7
Nickel (dissolved)	ug/l	0.3	0.02263	22.63	1.7	1.7	< 0.3	2.8	3.5	1.7	0.9	2.2	2.6	0.4	0.5	2.4	2.1	4.7	2.3	0.7	1.9	1.3	2.3	5.8	2.2	3.5
Potassium (dissolved)	mg/l	0.03	-	-	10	11	2.7	12	17	8.8	9	11	7	0.67	3.3	3.9	2	0.99	14	4.3	9.1	2.6	14	20	13	15
Sodium (dissolved)	mg/l	0.01	-	-	6.6	7.8	3.7	11	14	8	10	10	4.8	2	4.8	7.9	8.4	7.7	16	5.5	5.3	3.2	17	20	12	14
Tin (dissolved)	ug/l	1	0.025	25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Antimony (dissolved)	ug/l	1.7	-	-	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7
Arsenic (dissolved)	ug/l	1.1	0.05	50	8	2.6	3.2	10	3	3.8	9.3	7	5.8	< 1.1	< 1.1	2.2	5.1	6.8	11	3.1	8.1	7.2	12	6.9	7.7	9.9
Barium (dissolved)	ug/l	0.05	-	-	20	51	8.1	64	110	44	51	57	32	8.1	8.1	21	10	8.6	52	14	86	8.9	77	120	59	73
Beryllium (dissolved)	ug/l	0.2	-	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Boron (dissolved)	ug/l	10	2	2000	30	95	13	110	210	62	54	100	27	< 10	27	26	20	13	130	15	58	< 10	140	250	170	250
Cadmium (dissolved)	ug/l	0.08	0.00008	0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
Chromium (dissolved)	ug/l	0.4	-	-	< 0.4	2.7	< 0.4	1.3	1.9	< 0.4	1	1.2	< 0.4	2.2	3.5	1.9	3.1	2	0.6	< 0.4	0.9	1	0.4	0.8	4.4	3.2
Cobalt (dissolved)	ug/l	0.3	0.003	3	0.4	< 0.3	0.4	0.5	1.6	0.3	0.6	< 0.3	0.3	0.3	0.8	0.6	0.6	< 0.3	0.4	< 0.3	< 0.3	1.3	0.4	1.2	0.8	0.7
Copper (dissolved)	ug/l	0.7	0.035	35	2.9	7.2	2.2	6.6	8.1	7.9	5.4	5	2.6	8	8.3	6.8	13	6.9	7.9	12	9.2	4.3	8.5	9.4	9.1	9.6
Vanadium (dissolved)	ug/l	1.7	0.02	20	< 1.7	1.9	< 1.7	2.3	< 1.7	< 1.7	< 1.7	3.9	< 1.7	3.3	3.9	< 1.7	3.2	< 1.7	< 1.7	< 1.7	3.3	5.3	3.2	3	3.6	3.8
Zinc (dissolved)	ug/l	0.4	0.05601	56.01	4.1	4.9	3.1	6.5	15	12	7	5.7	4.4	5.6	3.3	8.1	6.6	4.4	5.9	17	7.8	11	5.9	27	6	9.7
Calcium (dissolved)	mg/l	0.01	-	-	150	350	17	390	550	290	240	540	280	8	15	35	9.9	16	380	35	540	14	650	670	660	650
Selenium (dissolved)	ug/l	4	-	-	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Free Cyanide	ug/l	10	0.001	1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Ammonium as NH4	ug/l	15	0.26	260	64	44	67	42	52	36	52	< 15	520	66	45	52	710	360	46	67	43	580	59	2200	38	46
Total Phenols (monohydric)	ug/l	10	-	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Manganese (dissolved)	ug/l	0.06	0.28902	289.02	13	10	7.4	11	130	11	12	240	290	120	180	230	250	230	10	11	15	3.4	10	51	160	190
Electrical Conductivity	uS/cm	10	-	-	1000	1700	180	1500	2100	1400	1200	1700	1200	99	150	370	120	200	1700	330	2200	150	2300	2500	2300	2300
Dissolved Organic Carbon (DOC)	mg/l	0.1	-	-	2.85	5.62	3.35	5.92	9.52	6.74	6.33	5.77	6.69	4.43	3.82	3.05	13.7	5.05	6.36	3.14	6.65	7.81	7.38	15.5	6.98	8.87
Total Organic Carbon (TOC)	mg/l	0.1	-	-	3.37	5.76	3.85	6.31	9.75	7.96	7.04	5.98	7.09	4.91	4.06	3.37	14.1	5.43	7.11	3.43	7.14	8.23	7.7	17.1	7.03	9.11
pH	pH Units	0	6.0-9.0	-	7.6	7.6	7.6	7.6	7.6	7.6	7.7	7.6	7.7	7.5	8.2	7.8	7.6	7.8	7.5	7.5	7.4	8	7.7	7.6	7.9	7.7

J28: Leachate Results Screening

			Location ID		ATK-P-101	ATK-P-101	ATK-P-101	ATK-P-101	ATK-P-102	ATK-P-102	ATK-P-102	ATK-P-102	ATK-P-102	ATK-P-102	ATK-P-102	
			Sample Depth (m bgl)		1	2	3.2	4.2	0.2	0.5	1	1.5	2.5	4.2	5.6	7.1
			Sample ID		3	4	5	6	1	2	3	4	5	6	7	8
			Sample Type		ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES
Analyte	Unit	LOD	EQS (Freshwater) or PNEC (mg/l)	EQS (Freshwater) or PNEC (ug/l)												
Sulphate as SO4	mg/l	0.1	400	400000	1910	78.5	96.4	172	1660	13.6	528	9.5	194	5.9	73.1	118
Chromium (III)	ug/l	1	0.0047	4.7	3.2	2.7	1.3	2.5	3.1	2.5	2.7	9.7	2.1	2.8	2.1	<1.0
Chloride	mg/l	0.15	250	250000	10	13	11	15	11	6	3.7	5.6	5.2	5.8	3.4	5.2
Sulphide	ug/l	5	-	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chromium (hexavalent)	ug/l	5	0.0034	3.4	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Cyanide	ug/l	10	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Iron (dissolved)	mg/l	0	1	1000	0.29	1.2	0.12	0.21	0.19	0.79	0.23	0.41	1.1	0.37	0.86	0.005
Lead (dissolved)	ug/l	1	0.01554	15.54	3.4	<1.0	<1.0	1.2	4.6	<1.0	<1.0	3.6	1.1	<1.0	<1.0	<1.0
Magnesium (dissolved)	mg/l	0.01	-	-	13	7	13	23	14	5	47	3.5	15	1.1	11	15
Mercury (dissolved)	ug/l	0.5	0.00007	0.07	<0.5	<0.5	<0.5	<0.5	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Molybdenum (dissolved)	ug/l	0.4	-	-	14	0.5	<0.4	<0.4	6.3	<0.4	1.5	<0.4	0.6	<0.4	0.8	<0.4
Nickel (dissolved)	ug/l	0.3	0.02263	22.63	3.4	2.4	<0.3	0.6	2.2	1.4	<0.3	2.4	1.7	1.9	1.3	<0.3
Potassium (dissolved)	mg/l	0.03	-	-	16	7.6	1.9	2.5	14	2.2	4.8	1.7	4.2	2.1	5.1	6.8
Sodium (dissolved)	mg/l	0.01	-	-	15	11	21	31	11	4.1	7	5.8	5.5	4.8	10	16
Tin (dissolved)	ug/l	1	0.025	25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Antimony (dissolved)	ug/l	1.7	-	-	9.1	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
Arsenic (dissolved)	ug/l	1.1	0.05	50	8.7	4.6	<1.1	2.6	15	<1.1	<1.1	6.6	2.8	3.8	<1.1	<1.1
Barium (dissolved)	ug/l	0.05	-	-	67	21	7.3	9.3	56	9.3	20	11	20	3.3	13	5.8
Beryllium (dissolved)	ug/l	0.2	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Boron (dissolved)	ug/l	10	2	2000	260	82	17	19	170	34	35	<10	<10	14	<10	15
Cadmium (dissolved)	ug/l	0.08	0.00008	0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Chromium (dissolved)	ug/l	0.4	-	-	3.2	2.7	1.3	2.5	3.1	2.5	2.7	9.7	2.1	2.8	2.1	<0.4
Cobalt (dissolved)	ug/l	0.3	0.003	3	0.7	0.9	0.3	1.2	<0.3	0.9	<0.3	2.1	0.5	1.3	<0.3	<0.3
Copper (dissolved)	ug/l	0.7	0.035	35	11	8.7	8.9	7.6	9.2	9.9	4	9.5	2.7	14	0.7	<0.7
Vanadium (dissolved)	ug/l	1.7	0.02	20	<1.7	2.1	<1.7	<1.7	<1.7	4.5	<1.7	4.7	5.1	1.9	4	<1.7
Zinc (dissolved)	ug/l	0.4	0.05601	56.01	16	12	0.4	0.8	3.5	3.5	2.5	3	3.3	1.4	2.6	0.6
Calcium (dissolved)	mg/l	0.01	-	-	720	24	19	29	600	14	160	6.6	63	2.9	13	14
Selenium (dissolved)	ug/l	4	-	-	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Free Cyanide	ug/l	10	0.001	1	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ammonium as NH4	ug/l	15	0.26	260	34	960	240	54	55	54	35	560	110	2200	39	67
Total Phenols (monohydric)	ug/l	10	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Manganese (dissolved)	ug/l	0.06	0.28902	289.02	160	350	210	240	160	230	220	24	8.7	41	8.5	7.8
Electrical Conductivity	uS/cm	10	-	-	2300	270	280	460	2300	120	970	82	400	200	210	280
Dissolved Organic Carbon (DOC)	mg/l	0.1	-	-	7.38	8.55	3.72	4.02	4.2	6.99	2.4	9.61	8.26	16.9	4.53	3.65
Total Organic Carbon (TOC)	mg/l	0.1	-	-	7.36	9.15	4.08	4.35	4.26	7.33	4.48	11	9.21	19.2	5.07	4.03
pH	pH Units	0	6.0-9.0		7.7	6.7	8	8.1	7.8	8	7.7	7.5	8	8.1	7.8	7.9

Constituent	Unit	Maximum MDL	Number of Samples	Number of Samples above MDL	GAC (EOS or PNEC)	LOD above GAC	Number of Exceedances	Minimum	Median	Mean	Maximum	Location of Maximum Value	Locations of Exceedances
Hexachloroethane	mg/l	0.00005	60	0			0	0.00005	0.00005	0.00005	0.00005	ATK-008 1.83	
Isopropylbenzene	mg/l	0.001	60	0			0	0.001	0.001	0.001	0.001	ATK-008 1.83	
n-Propylbenzene	mg/l	0.001	60	0			0	0.001	0.001	0.001	0.001	ATK-008 1.83	
p-Isopropyltoluene	mg/l	0.001	60	0			0	0.001	0.001	0.001	0.001	ATK-008 1.83	
sec-Butylbenzene	mg/l	0.001	60	0			0	0.001	0.001	0.001	0.001	ATK-008 1.83	
tert-Butylbenzene	mg/l	0.001	60	0			0	0.001	0.001	0.001	0.001	ATK-008 1.83	
Tetrachlorobenzene, 1,2,4,5-	mg/l	0.001	11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
trans-1,2-Dichloroethene	mg/l	0.001	60	0			0	0.001	0.001	0.001	0.001	ATK-008 1.83	
Trichlorofluoromethane	mg/l	0.001	60	0			0	0.001	0.001	0.001	0.001	ATK-008 1.83	
Pentachlorobenzene	mg/l		11	0	0.000007		0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Styrene	mg/l	0.001	60	0	0.05		0	0.001	0.001	0.001	0.001	ATK-008 1.83	
Tetrachloroethane	mg/l	0.001	60	0	0.012		0	0.001	0.001	0.001	0.001	ATK-008 1.83	
Tetrachloromethane	mg/l	0.001	60	0	0.01		0	0.001	0.001	0.001	0.001	ATK-008 1.83	
Trichloroethene	mg/l	0.001	60	0			0	0.001	0.001	0.001	0.001	ATK-008 1.83	
Vinyl chloride	mg/l	0.001	60	0			0	0.001	0.001	0.001	0.001	ATK-008 1.83	
Butyl benzyl phthalate	mg/l	0.00005	60	0	0.0075		0	0.00005	0.00005	0.00005	0.00005	ATK-008 1.83	
Dibutyl phthalate	mg/l	0.00005	60	2	0.008		0	0.00005	0.00005	0.00015333	0.0032	ATK-006 0.65	
Diethyl phthalate	mg/l	0.00005	60	7	0.2		0	0.00005	0.00005	0.00043083	0.01	ATK-003 4.12	
Dimethylphthalate	mg/l	0.00005	60	0	0.8		0	0.00005	0.00005	0.00005	0.00005	ATK-008 1.83	
Hexachlorobenzene	mg/l	0.00005	71	0	0.00005		0	0.00003	0.00003	4.6901E-05	0.00005	ATK-008 1.83	
2,4-Dinitrotoluene	mg/l	0.00005	60	0			0	0.00005	0.00005	0.00005	0.00005	ATK-008 1.83	
2,6-Dinitrotoluene	mg/l	0.00005	60	0			0	0.00005	0.00005	0.00005	0.00005	ATK-008 1.83	
2-Methylnaphthalene	mg/l	0.00005	60	0			0	0.00005	0.00005	0.00005	0.00005	ATK-008 1.83	
4-Chloroaniline	mg/l	0.00005	60	0			0	0.00005	0.00005	0.00005	0.00005	ATK-008 1.83	
4-Chlorophenyl phenyl ether	mg/l	0.00005	60	0			0	0.00005	0.00005	0.00005	0.00005	ATK-008 1.83	
4-Nitroaniline	mg/l	0.00005	60	0			0	0.00005	0.00005	0.00005	0.00005	ATK-008 1.83	
Aniline	mg/l	0.00005	60	0			0	0.00005	0.00005	0.00005	0.00005	ATK-008 1.83	
Antraquinone	mg/l	0.00005	60	0			0	0.00005	0.00005	0.00005	0.00005	ATK-008 1.83	
Azobenzene	mg/l	0.00005	60	0			0	0.00005	0.00005	0.00005	0.00005	ATK-008 1.83	
Bis(2-chloroethoxy)methane	mg/l	0.00005	60	0			0	0.00005	0.00005	0.00005	0.00005	ATK-008 1.83	
Bis(2-chloroethyl)ether	mg/l	0.00005	60	0			0	0.00005	0.00005	0.00005	0.00005	ATK-008 1.83	
Bis(2-chloroisopropyl)ether	mg/l	0.00005	60	0			0	0.00005	0.00005	0.00005	0.00005	ATK-008 1.83	
Carbazole	mg/l	0.00005	60	0			0	0.00005	0.00005	0.00005	0.00005	ATK-008 1.83	
Dibenzofuran	mg/l	0.00005	60	0			0	0.00005	0.00005	0.00005	0.00005	ATK-008 1.83	
Isophorone	mg/l	0.00005	60	1			0	0.00005	0.00005	5.0667E-05	9E-06	ATK-P-102 1.75	
Nitrobenzene	mg/l	0.00005	60	1			0	0.00005	0.00005	0.000053	0.00023	ATK-P-102 1.75	
1,2,3-Trichlorobenzene	mg/l	0.001	60	0			0	0.001	0.001	0.001	0.001	ATK-008 1.83	
1,2,4-Trichlorobenzene	mg/l	0.001	120	0			0	0.00005	0.000525	0.000525	0.01	ATK-008 1.83	
Trichlorobenzene, 1,2,3-	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Trichlorobenzene, 1,3,5-	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Aldrin	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Atrazine	mg/l	0.00005	11	0	0.0006		0	0.00005	0.00005	0.00013162	0.0005	ATK-092 1.72	
Chlordane-cis	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Chlordane-trans	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Chlorfenvinphos (mixture of z and e isomers)	mg/l		11	0	0.0001		0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Diazinon	mg/l		11	0	0.00001		0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Dieldrin	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Dimethoate	mg/l		11	0	0.00048		0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Disoseb	mg/l	0.00002	10	1			0	0.00002	0.00002	0.000031	0.00007	ATK-092 1.72	
Endrin	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Fenitrothion	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Heptachlor	mg/l		11	0	2E-10		0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Isodrin	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
BHC-gamma (Lindane, gamma HCH)	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
MCPP (Meccoprop)	mg/l	0.00002	10	7	0.018		0	0.00002	0.00005	0.000541	0.0027	ATK-092 1.72	
Methoxychlor, p,p'	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Mevinphos, E-	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Mevinphos, Z-	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Parathion	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Parathion-methyl	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
2,4,5-T	mg/l	0.00002	10	0			0	0.00002	0.00002	0.000026	0.00005	ATK-092 1.93	
2,4,5-TP	mg/l	0.00002	10	0			0	0.00002	0.00002	0.000026	0.00005	ATK-092 1.93	
2,4-D	mg/l	0.00002	10	3			0	0.00002	0.00002	0.00021	0.001	ATK-092 1.93	
2,4-DB	mg/l	0.00002	10	1			0	0.00002	0.00002	0.000044	0.0002	ATK-092 1.72	
Azinphos-ethyl	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Azinphos-methyl	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
BHC-alpha (benzene hexachloride)	mg/l		11	2			0	0.00003	0.00003	4.3636E-05	0.00012	ATK-092 1.93	
BHC-beta	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
BHC-delta	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Carbophenothion	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Chlorobanil	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Chlorpyrifos	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Chlorfenturon	mg/l	1E-05	11	2			0	1E-05	1E-05	2.82E-05	1E-04	ATK-092 1.72	
Cyanazine	mg/l	0.00005	11	0			0	0.00005	0.00005	0.00013182	0.0005	ATK-092 1.72	
DDD-o,p'	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
DDD-p,p'	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
DDE-alpha, p'	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
DDE-p,p'	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
DDT-alpha, p'	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
DDT-p,p'	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Demeton-O	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Demeton-S	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Dichloroprop	mg/l	0.00002	10	2			0	0.00002	0.00002	0.000139	0.00061	ATK-092 1.72	
Dichlorvos	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Dimethylvinphos	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Endosulfan I (alpha isomer)	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Endosulfan II (beta isomer)	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Endosulfan sulfate	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Endrin aldehyde	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Endrin ketone	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Ethion	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Etrinfos	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Fenitrothion	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Flumeturon	mg/l	1E-05	11	3			0	1E-05	1E-05	0.0000299	1E-04	ATK-092 1.72	
Heptachlor exo-epoxide	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
Isoproturon	mg/l	1E-05	11	1			0	1E-05	1E-05	2.8E-05	1E-04	ATK-092 1.72	
Malathion	mg/l		11	0			0	0.00003	0.00003	0.00003	0.00003	ATK-003 4.12	
MCPA	mg/l	0.00002	10	3			0						

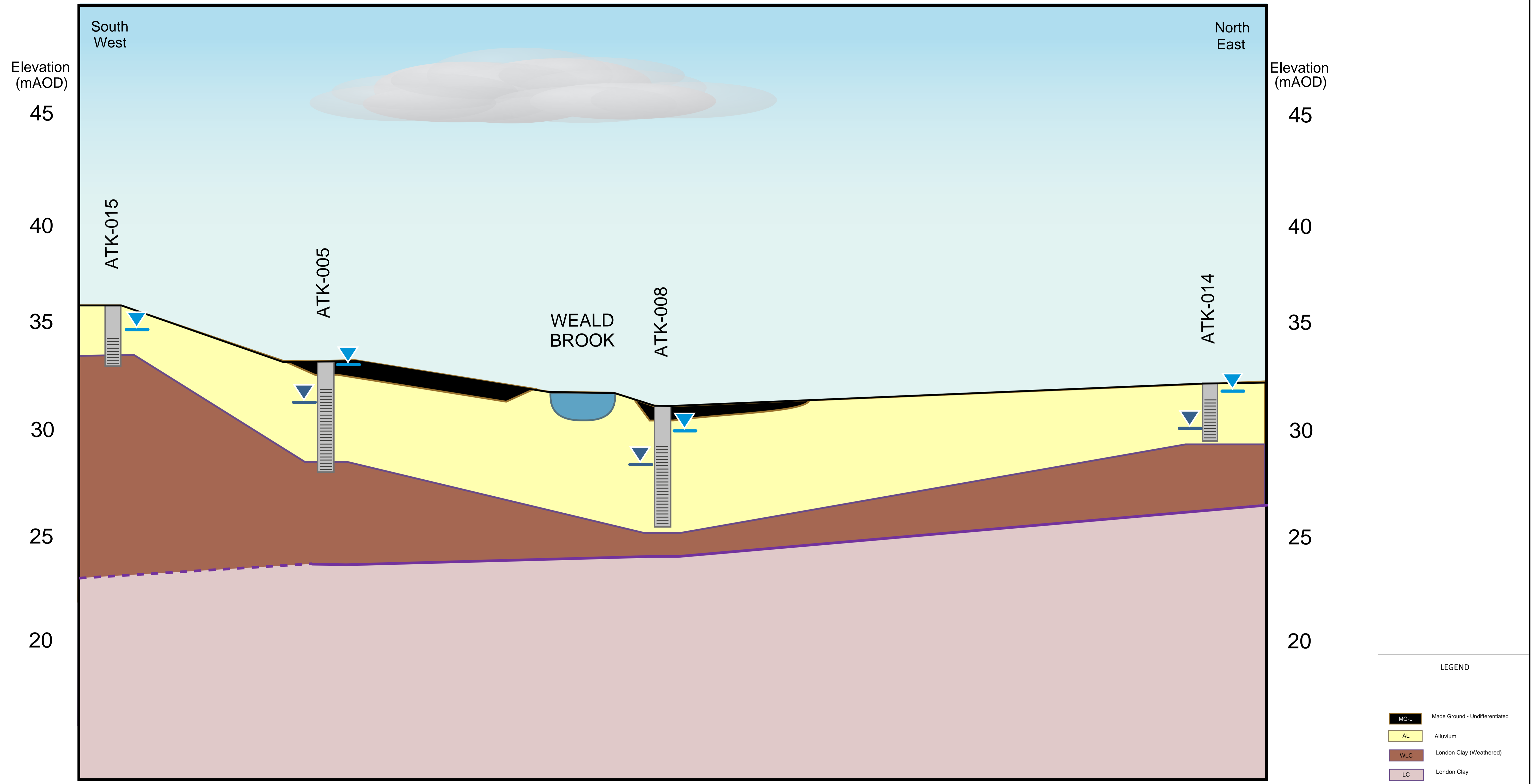
Analyte	Unit	LOD	EQS (Freshwater) or PNEC (mg/l)	EQS (Freshwater) or PNEC (ug/l)	Location ID	ATK-003	ATK-003	ATK-003	ATK-003	ATK-005	ATK-005	ATK-005	ATK-006	ATK-006	ATK-006	ATK-008	ATK-008	ATK-008	ATK-008	ATK-014	ATK-014	ATK-014	ATK-014
					Sample Date	2019-11-21	2019-11-14	2019-11-06	2020-02-05	2020-01-08	2020-01-23	2020-02-05	2020-01-08	2020-01-23	2020-02-05	2020-01-08	2020-01-23	2020-02-05	2019-11-07	2019-11-13	2019-11-21	2020-02-07	2019-11-07
Electrical Conductivity	us/cm	10	-	-		6100	5500	5700	7000	740	530	570	2000	1600	1200	740	740	1800	690	2000	2300	870	1200
BOD (Biochemical Oxygen Demand)	mg/l	1	-	-		1.8	3.2	2.1	1.8	3.2	1.3	<1.0	69	140	130	<1.0	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	<1.0
Total Organic Carbon (TOC)	mg/l	0.1	-	-		14.4	15.4	17.9	9.44	5.45	6.35	3.79	698	284	184	3.66	3.5	4.93	9.1	11.1	18	19.6	23.5
Dissolved Organic Carbon (DOC)	mg/l	0.1	-	-		13.8	13.8	15.2	8.78	5.16	6.23	3.64	674	256	180	3.53	3.31	4.85	8.98	11.1	17.8	16.8	22.8
Sulphate as SO4	mg/l	45	400	400000		3910000	2550000	3340000	4560000	95600	47100	60500	142000	197000	85000	180000	176000	839000	181000	108000	105000	264000	400000
Chloride	mg/l	0.15	250	250000		390	370	320	490	37	30	81	80	71	18	17	29	16	97	99	48	57	
Sulphide	mg/l	5	-	-		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Cyanide	mg/l	10	-	-		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ammonia as NH3	mg/l	15	0.25	250		670	540	440	810	<15	41	35	<15	25	17	19	<15	260	<15	110	89	61	51
Free Cyanide	mg/l	10	0.001	1		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phosphorus (dissolved)	mg/l	20	-	-		24	27.7	52.4	<20.0	25.2	<20.0	24.4	20.1	<20.0	<20.0	20.1	<20.0	<20.0	31.2	26.2	<20.0	<20.0	
Ammonium as NH4	mg/l	15	0.26	260		710	570	460	860	<15	43	37	<15	26	18	20	<15	280	<15	120	94	65	54
pH	N/A	6.0-9.0	-	-		7	7	7.1	7.1	7.4	7.2	7.4	6	6.4	6.6	7.3	7.3	7.1	7.1	7.2	7.2	7	7.2
Chromium (hexavalent)	mg/l	5	0.0034	3.4		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Iron (dissolved)	mg/l	0	1	1000		0.22	0.24	0.21	2.4	0.13	0.017	0.014	31	15	15	0.012	0.057	0.19	0.18	0.24	0.3	0.088	0.019
Lead (dissolved)	mg/l	0.2	0.01554	15.54		0.4	0.7	0.3	0.2	<0.2	0.2	0.2	1.2	0.2	0.2	<0.2	0.3	<0.2	7.1	0.3	0.3	0.3	1.2
Magnesium (dissolved)	mg/l	0.01	-	-		490	430	390	770	18	17	18	110	70	51	41	38	100	99	120	130	25	50
Mercury (dissolved)	mg/l	0.05	0.00007	0.07		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Molybdenum (dissolved)	mg/l	0.05	-	-		0.41	0.9	1	0.48	2	1	0.9	0.13	0.56	1.5	1.4	0.84	0.52	0.64	1.4	1.2	0.29	0.73
Nickel (dissolved)	mg/l	0.5	0.02263	22.63		5.1	3.9	5.5	6.9	2.4	2.1	3	29	29	26	4.3	3.3	4.7	5.7	3.5	3.6	3.9	5.9
Potassium (dissolved)	mg/l	0.03	-	-		52	35	35	56	3.3	1.8	2.2	7.9	5.4	3.3	6.2	7.3	13	2.6	17	17	5.8	5.7
Sodium (dissolved)	mg/l	0.01	-	-		580	480	550	620	77	34	26	89	73	57	42	38	98	46	170	150	110	130
Tin (dissolved)	mg/l	0.2	0.025	25		<0.20	<0.20	<0.20	<0.20	0.24	0.2	<0.20	<0.20	0.3	<0.20	<0.20	1.8	<0.20	2.2	<0.20	1.3	0.3	1.5
Antimony (dissolved)	mg/l	0.4	-	-		<0.4	0.4	0.5	<0.4	0.5	<0.4	<0.4	0.4	0.5	0.8	<0.4	<0.4	<0.4	<0.4	0.8	0.6	0.8	0.5
Arsenic (dissolved)	mg/l	0.15	0.05	50		0.82	0.6	0.88	1.5	1	0.5	0.35	1.06	2.28	5.62	0.42	0.31	0.34	0.6	0.61	0.58	0.86	1.3
Barium (dissolved)	mg/l	0.06	-	-		59	53	43	37	39	27	27	90	52	39	28	25	38	29	40	25	24	27
Beryllium (dissolved)	mg/l	0.1	-	-		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Boron (dissolved)	mg/l	10	2	2000		310	270	280	440	73	73	79	4600	1500	970	120	110	200	120	140	130	41	96
Cadmium (dissolved)	mg/l	0.02	0.00008	0.08		<0.02	<0.02	0.04	<0.02	0.03	0.04	0.05	0.02	0.03	<0.02	0.04	0.03	0.04	0.05	0.06	0.07	0.03	<0.02
Chromium (dissolved)	mg/l	0.2	-	-		0.6	0.4	<0.2	0.2	0.4	<0.2	<0.2	0.6	0.5	0.3	0.5	1.1	0.9	0.7	0.4	1.3	1.1	0.5
Cobalt (dissolved)	mg/l	0.2	0.003	3		4.9	3.6	4.6	5.4	1.2	1.3	0.9	40	31	30	0.7	0.3	1	0.6	2.4	1.2	0.9	2
Copper (dissolved)	mg/l	0.5	0.035	35		1	0.7	2	<0.5	1.4	1.2	1.4	<0.5	0.6	1.8	2.8	2.2	2.5	5.4	4.5	5.7	7.7	6.4
Vanadium (dissolved) - by ICP MS	mg/l	0.2	0.02	20		0.2	0.4	0.3	0.3	1.1	0.2	0.3	<0.2	0.4	0.3	0.3	0.5	<0.2	1	0.2	0.7	0.6	0.7
Zinc (dissolved)	mg/l	0.5	0.05601	56.01		11	4.2	6.2	2.4	1.5	1.2	2.6	14	9.2	2.6	8	4.5	7.5	7	13	3.2	3.2	3.4
Calcium (dissolved)	mg/l	0.01	-	-		490	430	440	500	59	54	47	270	160	150	73	74	160	49	220	230	50	74
Selenium (dissolved)	mg/l	0.6	-	-		9.1	8.4	21	7.6	1.4	1.2	1.5	1.6	1.1	1.2	2.4	2.8	1.6	1.2	25	30	47	3.8
Manganese (dissolved)	mg/l	0.5	0.28902	289.02		1700	1900	1100	1300	760	440	440	11000	7100	8100	160	68	420	110	390	120	120	170
2,4-Dimethylphenol	ug/l	0.05	-	-		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4-Methylphenol	ug/l	0.05	-	-		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenol	ug/l	0.05	0.0077	7.7		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4-Dichlorophenol	ug/l	0.05	0.0042	4.2		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4-Chloro-3-methylphenol	ug/l	0.05	0.04	40		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,6-Trichlorophenol	ug/l	0.05	-	-		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-Nitrophenol	ug/l	0.05	-	-		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-Methylphenol	ug/l	0.05	-	-		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-Chlorophenol	ug/l	0.05	0.05	50		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,5-Trichlorophenol	ug/l	0.05	-	-		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Total Phenols (monohydric)	ug/l	10	-	-		<10	<10	<10	<10	<10	<10	<10	37	43	110	<10	<10	<10	<10	<10	<10	<10	<10
3&4-Methylphenol	ug/l	0.1	-	-		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	1.9	4.3	<0.10	<0.10	<0.10	<0.10	&				

Analyte	Unit	LOD	EQS (Freshwater) or PNEC (mg/l)	EQS (Freshwater) or PNEC (ug/l)	Location ID	ATK-P-101	ATK-P-101	ATK-P-101	ATK-P-102	ATK-P-102	ATK-P-102
					Sample Date	2019-11-06	2019-11-14	2019-11-21	2019-11-06	2019-11-13	2019-11-21
Electrical Conductivity	uS/cm	10	-	-		3500	3400	3800	2100	2300	2400
BOD (Biochemical Oxygen Demand)	mg/l	1	-	-		4.1	9.5	5.4	<1.0	6.2	15
Total Organic Carbon (TOC)	mg/l	0.1	-	-		65.1	69.5	79	324	353	344
Dissolved Organic Carbon (DOC)	mg/l	0.1	-	-		64.9	60.9	78.4	294	336	320
Sulphate as SO4	ug/l	45	400	400000		1190000	1470000	1410000	86500	85100	92400
Chloride	mg/l	0.15	250	250000		250	290	270	170	200	180
Sulphide	ug/l	5	-	-		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Cyanide	ug/l	10	-	-		<10	<10	<10	<10	<10	<10
Ammonia as NH3	ug/l	15	0.25	250		3100	2400	1700	9500	11000	10000
Free Cyanide	ug/l	10	0.001	1		<10	<10	<10	<10	<10	<10
Phosphorus (dissolved)	ug/l	20	-	-		34.3	44.2	33.8	42.6	45.1	28.3
Ammonium as NH4	ug/l	15	0.26	260		3300	2500	1800	10000	11000	11000
pH	N/A		6.0-9.0			7	7.1	7	6.5	6.5	6.5
Chromium (hexavalent)	ug/l	5	0.0034	3.4		<5.0	<5.0	<5.0	U/5	U/5	U/5
Iron (dissolved)	mg/l	0	1	1000		0.16	0.33	0.28	89	140	84
Lead (dissolved)	ug/l	0.2	0.01554	15.54		0.4	0.2	0.4	<0.2	<0.2	<0.2
Magnesium (dissolved)	mg/l	0.01	-	-		170	250	230	120	130	130
Mercury (dissolved)	ug/l	0.05	0.00007	0.07		<0.05	<0.05	<0.05	<0.05	<0.05	0.11
Molybdenum (dissolved)	ug/l	0.05	-	-		0.89	1.3	0.55	1.7	0.94	0.39
Nickel (dissolved)	ug/l	0.5	0.02263	22.63		18	14	17	20	14	15
Potassium (dissolved)	mg/l	0.03	-	-		8.9	8.9	6.2	13	11	13
Sodium (dissolved)	mg/l	0.01	-	-		230	290	270	100	100	120
Tin (dissolved)	ug/l	0.2	0.025	25		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Antimony (dissolved)	ug/l	0.4	-	-		0.8	0.8	0.8	0.5	1.4	0.7
Arsenic (dissolved)	ug/l	0.15	0.05	50		2.93	1.42	2.92	9.68	8.69	13.1
Barium (dissolved)	ug/l	0.06	-	-		79	60	62	51	29	75
Beryllium (dissolved)	ug/l	0.1	-	-		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Boron (dissolved)	ug/l	10	2	2000		410	490	380	87	64	70
Cadmium (dissolved)	ug/l	0.02	0.00008	0.08		0.05	0.04	<0.02	<0.02	<0.02	<0.02
Chromium (dissolved)	ug/l	0.2	-	-		0.6	0.8	1.1	2.7	2.9	4.6
Cobalt (dissolved)	ug/l	0.2	0.003	3		16	7.9	11	27	17	20
Copper (dissolved)	ug/l	0.5	0.035	35		2.4	1.5	2	2	1.1	1.2
Vanadium (dissolved) - by ICP MS	ug/l	0.2	0.02	20		1.1	0.8	0.8	2.9	3.1	5.5
Zinc (dissolved)	ug/l	0.5	0.05601	56.01		3.6	5.5	5.8	11	3.6	8.7
Calcium (dissolved)	mg/l	0.01	-	-		480	540	450	220	240	230
Selenium (dissolved)	ug/l	0.6	-	-		15	15	20	50	<4.0	<4.0
Manganese (dissolved)	ug/l	0.05	0.28902	289.02		8000	5900	5000	3100	2600	3000
2,4-Dimethylphenol	ug/l	0.05	-	-		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4-Methylphenol	ug/l	0.05	-	-		<0.05	<0.05	<0.05	<0.05	0.69	<0.05
Phenol	ug/l	0.05	0.0077	7.7		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4-Dichlorophenol	ug/l	0.05	0.0042	4.2		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4-Chloro-3-methylphenol	ug/l	0.05	0.04	40		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,6-Trichlorophenol	ug/l	0.05	-	-		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-Nitrophenol	ug/l	0.05	-	-		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-Methylphenol	ug/l	0.05	-	-		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-Chlorophenol	ug/l	0.05	0.05	50		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,5-Trichlorophenol	ug/l	0.05	-	-		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Total Phenols (monohydric)	ug/l	10	-	-		<10	<10	<10	<10	<10	<10
3&4-Methylphenol	ug/l	0.1	-	-		<0.10	<0.10	<0.10	<0.10	0.69	<0.10
Sum Cresols (total) - calculated						0.05	0.05	0.05	0.05	0.69	0.05
Ethylbenzene	ug/l	1	0.02	20		<1.0	<1.0	<1.0	<1.0	1.6	<1.0
Toluene	ug/l	1	0.074	74		<1.0	<1.0	<1.0	<1.0	6	<1.0
p & m-Xylene	ug/l	1	-	-		<1.0	<1.0	<1.0	<1.0	3.6	<1.0
MTBE (Methyl Tertiary Butyl Ether)	ug/l	1	-	-		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzene	ug/l	1	0.01	10		<1.0	<1.0	<1.0	<1.0	1.7	<1.0
o-Xylene	ug/l	1	-	-		<1.0	<1.0	<1.0	<1.0	2.5	<1.0
p & m-Xylene	ug/l	1	-	-		<1.0	<1.0	<1.0	<1.0	3.6	<1.0
Sum Xylenes - calculated			0.03	30		1	1	1	1	3.6	1
TPH-CWG - Aromatic >C7 - C8	ug/l	1	0.01	10		<1.0	<1.0	<1.0	<1.0	6	<1.0
TPH-CWG - Aromatic >C8 - C10	ug/l	1	0.01	10		<1.0	<1.0	<1.0	<1.0	7.7	<1.0
TPH-CWG - Aromatic >C10 - C12	ug/l	10	0.01	10		<10	<10	<10	<10	<10	<10
TPH-CWG - Aromatic >C12 - C16	ug/l	10	0.01	10		<10	<10	<10	<10	<10	<10
TPH-CWG - Aromatic >C16 - C21	ug/l	10	0.01	10		<10	<10	<10	<10	<10	<10
TPH-CWG - Aromatic >C21 - C35	ug/l	10	0.01	10		<10	<10	<10	<10	<10	<10
TPH-CWG - Aromatic (C5 - C35)	ug/l	10	-	-		<10	<10	<10	<10	23	<10
TPH-CWG - Aliphatic >C5 - C6	ug/l	1	0.01	10		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
TPH-CWG - Aliphatic >C6 - C8	ug/l	1	0.01	10		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
TPH-CWG - Aliphatic >C8 - C10	ug/l	1	0.01	10		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
TPH-CWG - Aliphatic >C10 - C12	ug/l	10	0.01	10		<10	<10	<10	<10	<10	<10
TPH-CWG - Aliphatic >C12 - C16	ug/l	10	0.01	10		<10	<10	<10	<10	<10	<10
TPH-CWG - Aliphatic >C16 - C21	ug/l	10	0.01	10		<10	<10	<10	<10	<10	<10
TPH-CWG - Aliphatic >C21 - C35	ug/l	10	0.01	10		<10	<10	<10	<10	<10	<10
TPH-CWG - Aliphatic (C5 - C35)	ug/l	10	-	-		<10	<10	<10	<10	<10	<10
TPH-CWG - Aromatic >C5 - C7	ug/l	1	0.01	10		<1.0	<1.0	<1.0	<1.0	1.7	<1.0
Anthracene	ug/l	0.01	0.0001	0.1		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pyrene	ug/l	0.01	-	-		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(ghi)perylene	ug/l	0.01	-	-		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	ug/l	0.01	-	-		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b)fluoranthene	ug/l	0.01	-	-		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoranthene	ug/l	0.01	0.000063	0.063		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(k)fluoranthene	ug/l	0.01	-	-		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthylene	ug/l	0.01	-	-		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chrysene	ug/l	0.01	-	-		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(a)pyrene	ug/l	0.01	0.0000017	0.00017		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Di-benzo(a,h)anthracene	ug/l	0.01	-	-		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(a)anthracene	ug/l	0.01	-	-		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthene	ug/l	0.01	-	-		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene	ug/l	0.01	-	-		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluorene	ug/l	0.01	-	-		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Naphthalene	ug/l	0.01	0.002	2		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Total EPA-16 PAHs	ug/l	0.16	-	-		<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
PAH Sum of 4 - calculated						0.01	0.01	0.01	0.01	0.01	0.01
Styrene	ug/l	1	0.05	50		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	ug/l	1	0.002	2		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene	ug/l	1	-	-		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene	ug/l	1	-	-		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene	ug/l	1	-	-		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Butylbenzene	ug/l	1	-	-		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Chlorotoluene	ug/l	1	-	-		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	ug/l	1	0.02								

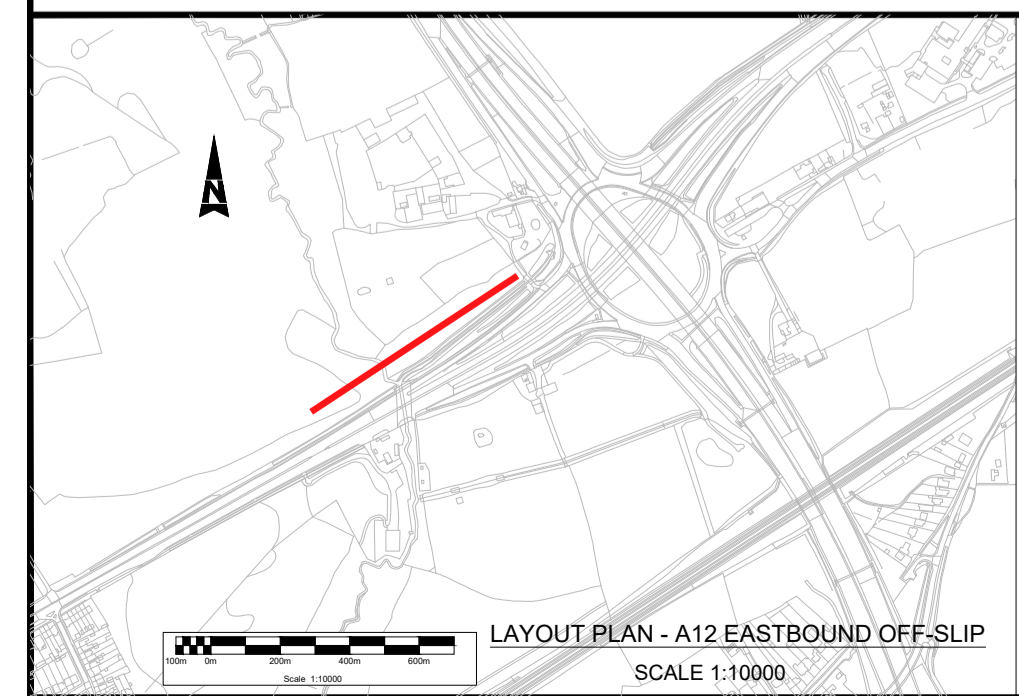
Analyte	Unit	LOD	EQS (Freshwater) or PNEC (mg/l)		Location ID	ATK-P-101	ATK-P-101	ATK-P-101	ATK-P-102	ATK-P-102	ATK-P-102
					Sample Date	2019-11-06	2019-11-14	2019-11-21	2019-11-06	2019-11-13	2019-11-21
Dimethylphthalate	ug/l	0.05	0.8	800		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	ug/l	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	ug/l	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	ug/l	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aniline	ug/l	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	ug/l	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	ug/l	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	0.09	< 0.05
Anthraquinone	ug/l	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	ug/l	0.05	0.2	200		0.67	0.73	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	ug/l	0.05	0.008	8		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Butyl benzyl phthalate	ug/l	0.05	0.0075	7.5		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Carbazole	ug/l	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Trichlorobenzene, 1,2,3-	ug/l	-	-	-		-	-	-	-	< 0.03	-
1,2,3-Trichlorobenzene	ug/l	1	-	-		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Methylnaphthalene	ug/l	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	ug/l	0.05	-	-		< 0.05	< 0.05	< 0.05	< 0.05	0.23	< 0.05
Sum Trichlorobenzenes - calculated			0.0004	0.4		1	1	1	1	1	1
Sum Trichlorobenzenes - calculated			0.0004	0.4		0.05	0.05	0.05	0.05	0.05	1
Sum Trichlorobenzenes - calculated			0.0004	0.4						0.03	0.05
Heptachlor exo-epoxide	ug/l	-	-	-		-	-	-	-	< 0.03	-
Endosulfan sulfate	ug/l	-	-	-		-	-	-	-	< 0.03	-
Tecnazene	ug/l	-	-	-		-	-	-	-	< 0.03	-
Dichlorprop	ug/l	0.02	-	-		-	-	-	-	< 0.05	-
Malathion	ug/l	-	-	-		-	-	-	-	< 0.03	-
Fenitrothion	ug/l	-	-	-		-	-	-	-	< 0.03	-
Simazine	ug/l	0.05	-	-		-	-	-	-	< 0.05	-
Demeton-S	ug/l	-	-	-		-	-	-	-	< 0.03	-
Phosphamidon I	ug/l	-	-	-		-	-	-	-	< 0.03	-
Propazine	ug/l	0.05	-	-		-	-	-	-	< 0.05	-
Chloroluron	ng/l	10	-	-		-	-	-	-	U/5	-
Trifluralin	ug/l	-	-	-		-	-	-	-	< 0.03	-
Chlorothalonil	ug/l	-	-	-		-	-	-	-	< 0.03	-
Atrazine	ug/l	0.05	0.0006	0.6		-	-	-	-	< 0.05	-
Trietazine	ug/l	0.05	-	-		-	-	-	-	< 0.05	-
Flumeturon	ng/l	10	-	-		-	-	-	-	U/5	-
Cyanazine	ug/l	0.05	-	-		-	-	-	-	< 0.05	-
Dimethylvinphos	ug/l	-	-	-		-	-	-	-	< 0.03	-
Phosalone	ug/l	-	-	-		-	-	-	-	< 0.03	-
Pirimiphos-ethyl	ug/l	-	-	-		-	-	-	-	< 0.03	-
Triazophos	ug/l	-	-	-		-	-	-	-	< 0.03	-
Azinphos-ethyl	ug/l	-	-	-		-	-	-	-	< 0.03	-
Mevinphos, E-	ug/l	-	-	-		-	-	-	-	< 0.03	-
Chlorpyrifos	ug/l	-	-	-		-	-	-	-	< 0.03	-
Pirimiphos-methyl	ug/l	-	-	-		-	-	-	-	< 0.03	-
Parathion-methyl	ug/l	-	-	-		-	-	-	-	< 0.03	-
Phorate	ug/l	-	-	-		-	-	-	-	< 0.03	-
Demeton-O	ug/l	-	-	-		-	-	-	-	< 0.03	-
Aldrin	ug/l	-	-	-		-	-	-	-	< 0.03	-
Propetamphos	ug/l	-	-	-		-	-	-	-	< 0.03	-
BHC-alpha (benzene hexachloride)	ug/l	-	-	-		-	-	-	-	< 0.03	-
BHC-beta	ug/l	-	-	-		-	-	-	-	< 0.03	-
BHC-delta	ug/l	-	-	-		-	-	-	-	< 0.03	-
Endosulfan II (beta isomer)	ug/l	-	-	-		-	-	-	-	< 0.03	-
Diazinon	ug/l	-	0.00001	0.01		-	-	-	-	< 0.03	-
Mevinphos, Z-	ug/l	-	-	-		-	-	-	-	< 0.03	-
Isoproturon	ng/l	10	-	-		-	-	-	-	U/5	-
DDE-o, p'	ug/l	-	-	-		-	-	-	-	< 0.03	-
Etrifos	ug/l	-	-	-		-	-	-	-	< 0.03	-
Isodrin	ug/l	-	-	-		-	-	-	-	< 0.03	-
Chlorfenvinphos (mixture of z and e isomers)	ug/l	-	0.0001	0.1		-	-	-	-	< 0.03	-
DDT-p,p'	ug/l	-	-	-		-	-	-	-	< 0.03	-
Chlordane-cis	ug/l	-	-	-		-	-	-	-	< 0.03	-
Chlordane-trans	ug/l	-	-	-		-	-	-	-	< 0.03	-
Thidiazuron	ng/l	10	-	-		-	-	-	-	U/5	-
DDD-o,p'	ug/l	-	-	-		-	-	-	-	< 0.03	-
Endrin ketone	ug/l	-	-	-		-	-	-	-	< 0.03	-
Fenthion	ug/l	-	-	-		-	-	-	-	< 0.03	-
Ethion	ug/l	-	-	-		-	-	-	-	< 0.03	-
Parathion	ug/l	-	-	-		-	-	-	-	< 0.03	-
BHC-gamma (Lindane, gamma HCH)	ug/l	-	-	-		-	-	-	-	< 0.03	-
Terbutylazine	ug/l	0.05	-	-		-	-	-	-	< 0.05	-
Dimethoate	ug/l	-	0.00048	0.48		-	-	-	-	< 0.03	-
Dieldrin	ug/l	-	-	-		-	-	-	-	< 0.03	-
Methacrifos	ug/l	0.03	-	-		-	-	-	-	< 0.03	-
Dichlorvos	ug/l	-	-	-		-	-	-	-	< 0.03	-
Endrin	ug/l	-	-	-		-	-	-	-	< 0.03	-
Methoxychlor, p,p'	ug/l	-	-	-		-	-	-	-	< 0.03	-
DDD-p,p'	ug/l	-	-	-		-	-	-	-	< 0.03	-
DDE-p,p'	ug/l	-	-	-		-	-	-	-	< 0.03	-
Prometryn	ug/l	0.05	-	-		-	-	-	-	< 0.05	-
Endrin aldehyde	ug/l	-	-	-		-	-	-	-	< 0.03	-
Heptachlor	ug/l	-	2E-10	0.0000002		-	-	-	-	< 0.03	-
Carbophenothion	ug/l	-	-	-		-	-	-	-	< 0.03	-
DDT-o,p'	ug/l	-	-	-		-	-	-	-	< 0.03	-
Azinphos-methyl	ug/l	-	-	-		-	-	-	-	< 0.03	-
Terbutryn	ug/l	0.05	-	-		-	-	-	-	0.09	-
Dinoseb	ug/l	0.02	-	-		-	-	-	-	< 0.05	-
MCCP (Mecoprop)	ug/l	0.02	0.018	18		-	-	-	-	0.05	-
2,4,5-TP	ug/l	0.02	-	-		-	-	-	-	< 0.05	-
2,4,5-T	ug/l	0.02	-	-		-	-	-	-	< 0.05	-
MCPA	ug/l	0.02	-	-		-	-	-	-	< 0.05	-
2,4-D	ug/l	0.02	-	-		-	-	-	-	< 0.05	-
MCPB	ug/l	0.02	-	-		-	-	-	-	< 0.05	-
2,4-DB	ug/l	0.02	-	-		-	-	-	-	< 0.05	-
Endosulfan I (alpha isomer)	ug/l	-	-	-		-	-	-	-	< 0.03	-
Sum Pesticides (other) - calculated			-	-		-	-	-	-	0.03	-
Sum Pesticides (other) - calculated			-	-		-	-	-	-	0.05	-
Sum Pesticides (other) - calculated			-	-		-	-	-	-	0.05	-
Sum Pesticides (other) - calculated			-	-		-	-	-	-	-	-
Pesticides - Sum of four - calculated			0.00001	0.01		-	-	-	-	0.03	-
Sum Pesticides (total) - calculated			-	-		-	-	-	-	0.03	-
Sum Pesticides (total) - calculated			-	-		-	-	-	-	0.05	-
Sum Pesticides (total) - calculated			-	-		-	-	-	-	0.05	-
Sum Pesticides (total) - calculated			-	-		-	-	-	-	-	-
Bromophenyl phenyl ether	ug/l	0.05	0.00014	0.14		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PCBs	ug/l	0.3	-	-		-	-	-	-	< 0.300	-
PCB Congener 118	ug/l	0.02	-	-		-	-	-	-	< 0.020	-
PCB Congener 77	ug/l	0.02	-	-		-	-	-	-	< 0.020	-
PCB Congener 105	ug/l	0.02	-	-		-	-	-	-	< 0.020	-
PCB Congener 169	ug/l	0.02	-	-		-	-	-	-	< 0.020	-
PCB Congener 156	ug/l	0.02	-	-		-	-	-	-	< 0.020	-
PCB Congener 189	ug/l	0.02	-	-		-	-	-	-	< 0.020	-
PCB Congener 167	ug/l	0.02	-	-		-	-	-	-	< 0.020	-
PCB Congener 126	ug/l	0.02	-	-		-	-	-	-	< 0.020	-
PCB Congener 123	ug/l	0.02	-	-		-	-	-	-	< 0.020	-
PCB Congener 157	ug/l	0.02	-	-		-	-	-	-	< 0.020	-
PCB Congener 81	ug/l	0.02	-	-		-	-	-	-	< 0.020	-
PCB Congener 114	ug/l	0.02	-	-		-	-	-	-	< 0.020	-
Dichlorobenzonitrile, 2,6-	ug/l	-	-	-		-	-	-	-	< 0.03	-

Appendix J. Monitoring Results Schematics

DO NOT SCALE



LEGEND	
 MG-L	Made Ground - Undifferentiated
 AL	Alluvium
 WLC	London Clay (Weathered)
 LC	London Clay
 	Water Level (max)
 	Water Level (min)



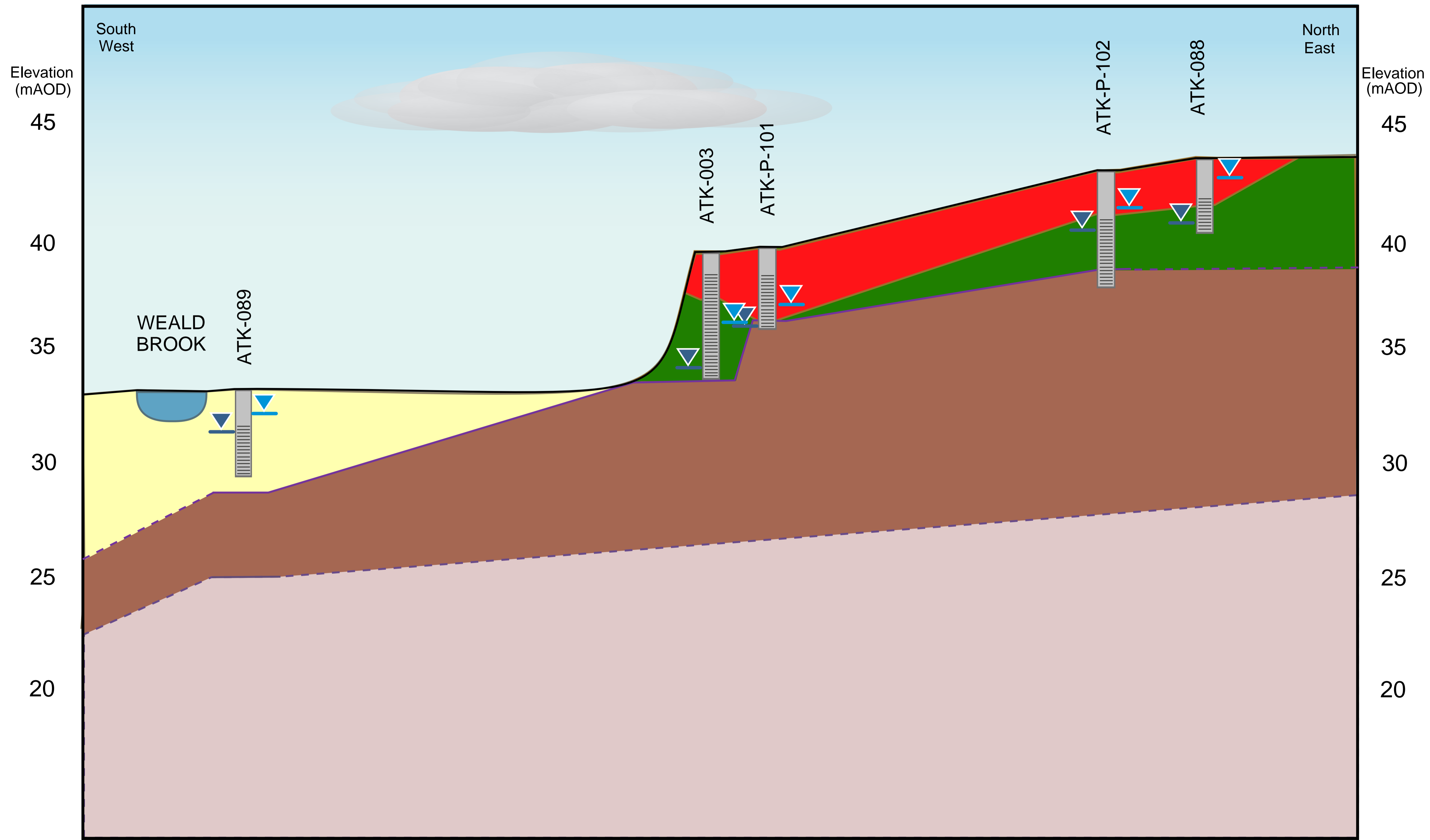
NOTES:

- NOT TO SCALE.
- THIS DRAWING IS A SCHEMATIC ONLY AND SHOULD NOT BE USED FOR DETAILED DESIGN.
- TO BE USED IN CONJUNCTION WITH THE GROUND INVESTIGATION REPORT (GIR), REPORT NUMBER: HE551519-ATK-GEN-XX-RP-CE-000001.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION							
Description							
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date	
Description							
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date	
Description							
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date	
Description							
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date	
Description							
FOR ISSUE WITH GIR							
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date	
S0	P01.1	MC	KF	KB	GM	16/06/20	

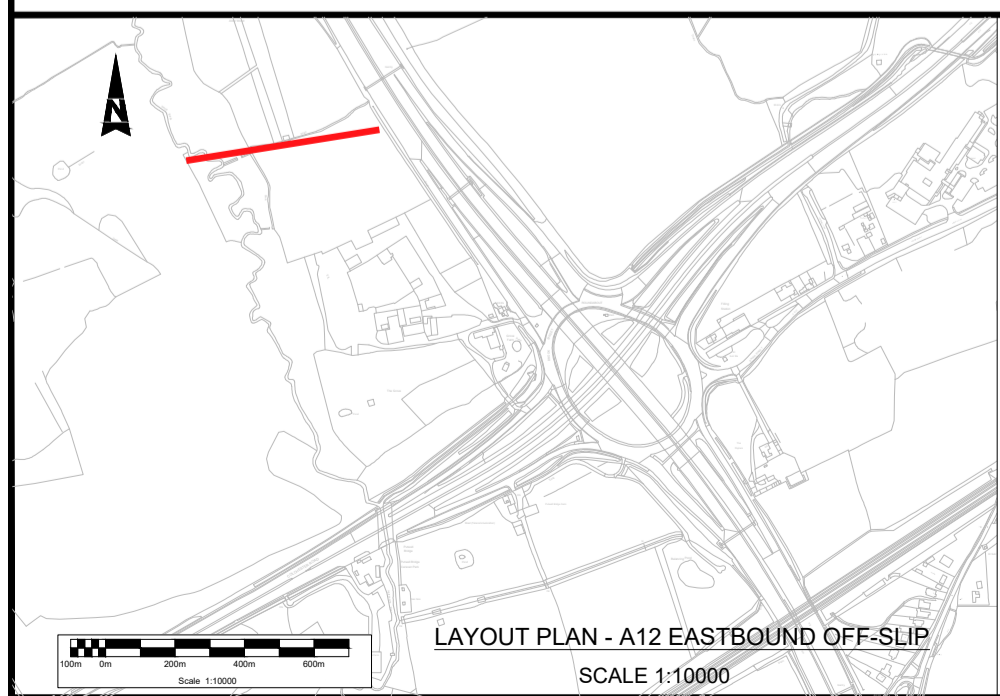
Drawing Suitability	WORK IN PROGRESS	Status	S0	Project Title	M25 junction 28 improvement scheme
		Amlin House Atkins 4th Floor 90-96 Victoria Road Chelmsford Essex CM1 1QU Tel: +44 (0)1245 245245 Fax: +44 (0)1245 345010 www.atkinsglobal.com		Drawing Title M25 J28 04th February Groundwater Monitoring Results Schematic Drawings 2 of 3	
		Client	Working on behalf of	Drawing Number	HE551519 - ATK - EWE -
				Project	DR - LW - 000001
				Location	
Original Size	A1	Scale	AS SHOWN	Project Ref. No.	5158157
		Sheet	2 of 3	Rev.	P01.1

DO NOT SCALE



LEGEND

■ MG-R	Made Ground - Recently Deposited Material
■ MG-L	Made Ground - Historical Brook Street Landfill
■ AL	Alluvium
■ WLC	London Clay (Weathered)
■ LC	London Clay
▼	Water Level (max)
▾	Water Level (min)



NOTES:

- NOT TO SCALE.
- THIS DRAWING IS A SCHEMATIC ONLY AND SHOULD NOT BE USED FOR DETAILED DESIGN.
- TO BE USED IN CONJUNCTION WITH THE GROUND INVESTIGATION REPORT (GIR), REPORT NUMBER: HE551519-ATK-GEN-XX-RP-CE-000001.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION	
Description	In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).
Construction	Not applicable.
Maintenance / Cleaning	Not applicable.
Use	Not applicable.
Decommissioning / Demolition	Not applicable.

Description						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
S0	P01.1	MC	KF	KB	GM	16/06/20

WORK IN PROGRESS Status: S0

SNC-LAVALIN
ATKINS
Member of the SNC-Lavalin Group
Copyright © SNC Lavalin (2019)

Working on behalf of
highways
england

Project Title		M25 junction 28 improvement scheme	
Drawing Title		M25 J28 04th February Groundwater Monitoring Results Schematic Drawings 3 of 3	
Drawing Number	Project	Originator	Volume
HE551519	- ATK	- EWE	-
Location		Type	Role / Number
A1		AS SHOWN	3 of 3
Original Ref. No.	Project Ref. No.	Sheet	Rev.
5158157	5158157	3 of 3	P01.1

Appendix K. CatWaste Soils Results

Appendix L. Geotechnical Verge Schedule

DO NOT SCALE







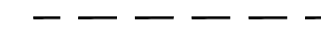


Millimetres

NOTES :







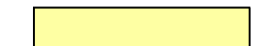



1. UNLESS OTHERWISE SPECIFIED, MERGE AND DIVERGE TYPES ARE AS PER TD 22/06.
2. DESIGN IS BASED ON 1:1000 TOPOGRAPHICAL SURVEY.
3. ORDNANCE SURVEY HAS BEEN EXPANDED TO 1:1000 FOR ILLUSTRATIVE PURPOSE ONLY.
4. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH GEOTECHNICAL VERGE SCHEDULE KEYPLAN
 HE551519-ATK-HGT-XX-DR-CE-000101
 HE551521-ATK-HGT-XX-DR-CE-000102
 HE551521-ATK-HGT-XX-DR-CE-000103
 HE551521-ATK-HGT-XX-DR-CE-000104
 HE551521-ATK-HGT-XX-DR-CE-000105
 HE551521-ATK-HGT-XX-DR-CE-000106
 HE551521-ATK-HGT-XX-DR-CE-000107
 HE551521-ATK-HGT-XX-DR-CE-000108
 HE551521-ATK-HGT-XX-DR-CE-000109
 HE551521-ATK-HGT-XX-DR-CE-000110 &
 HE551521-ATK-HGT-XX-DR-CE-000111

KEY :







GENERAL

-  EXISTING BUILDINGS
-  EXISTING HIGHWAY BOUNDARY (INDICATIVE ONLY)
-  PROPOSED HIGHWAY BOUNDARY (INDICATIVE ONLY)
-  EXISTING FOOTPATH
-  PROPOSED FOOTPATH
-  EXISTING FOOTPATH TO BE ABANDONED
-  PROPOSED LANE MARKINGS
-  PROPOSED EARTHWORK SLOPE
-  PROPOSED GATE


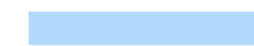


KEY (VERGE AND EARTHWORKS):

-  M25 ON SLIP ROAD WEST
-  M25 ON SLIP ROAD EAST
-  LOOP ROAD INSIDE
-  LOOP ROAD OUTSIDE
-  ACCESS TRACK WEST
-  ACCESS TRACK EAST
-  A12 OFF SLIP NORTH
-  A12 OFF SLIP SOUTH
-  A12 ON SLIP NORTH
-  A12 ON SLIP SOUTH








STRUCTURES

-  EXISTING BRIDGE
-  PROPOSED BRIDGE
-  PROPOSED RETAINING WALL
-  PROPOSED SHEET PILES / GABIONS
-  PROPOSED REINFORCED EARTH WALL
-  PROPOSED CONCRETE AND PILED RETAINING WALL




DRAINAGE

-  PROPOSED PRE- EARTHWORK DITCH
-  EXISTING WATERWAYS TO BE RETAINED
-  EXISTING WATERWAYS TO BE REMOVED / FILLED
-  REALIGNED WATER COURSE

UTILITIES

-  BPA FUEL PIPE LINE
-  OVER HEAD CABLE
-  CADENT GAS TO BE RETAINED
-  CADENT GAS PROPOSED
-  CADENT GAS TO BE REMOVED
-  HV PYLONS
-  FLOOD COMPENSATION AREA

TECHNOLOGY

-  EXISTING GANTRY (TO BE REMOVED)
-  EXISTING GANTRY (TO BE RETAINED)
-  PROPOSED GANTRY / CANTILEVER

HAZARD WARNING TRIANGLE

-  SITE SPECIFIC HAZARD (REFER TO SHE BOX)

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).	
Construction	NONE IDENTIFIED AT THIS STAGE
Maintenance / Cleaning	NONE IDENTIFIED AT THIS STAGE
Use	NONE IDENTIFIED AT THIS STAGE
Decommissioning / Demolition	NONE IDENTIFIED AT THIS STAGE

Description							
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date	
Description							
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date	
Description							
STAGE 3 DESIGN FIX 3 - FOR HE REVIEW							
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date	
B1	CO1	MG	GR	PM	CT	21/08/19	
Description							
STAGE 3 DESIGN FIX 3							
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date	
A1	CO2	GR	AC	AC	PG	10/02/20	

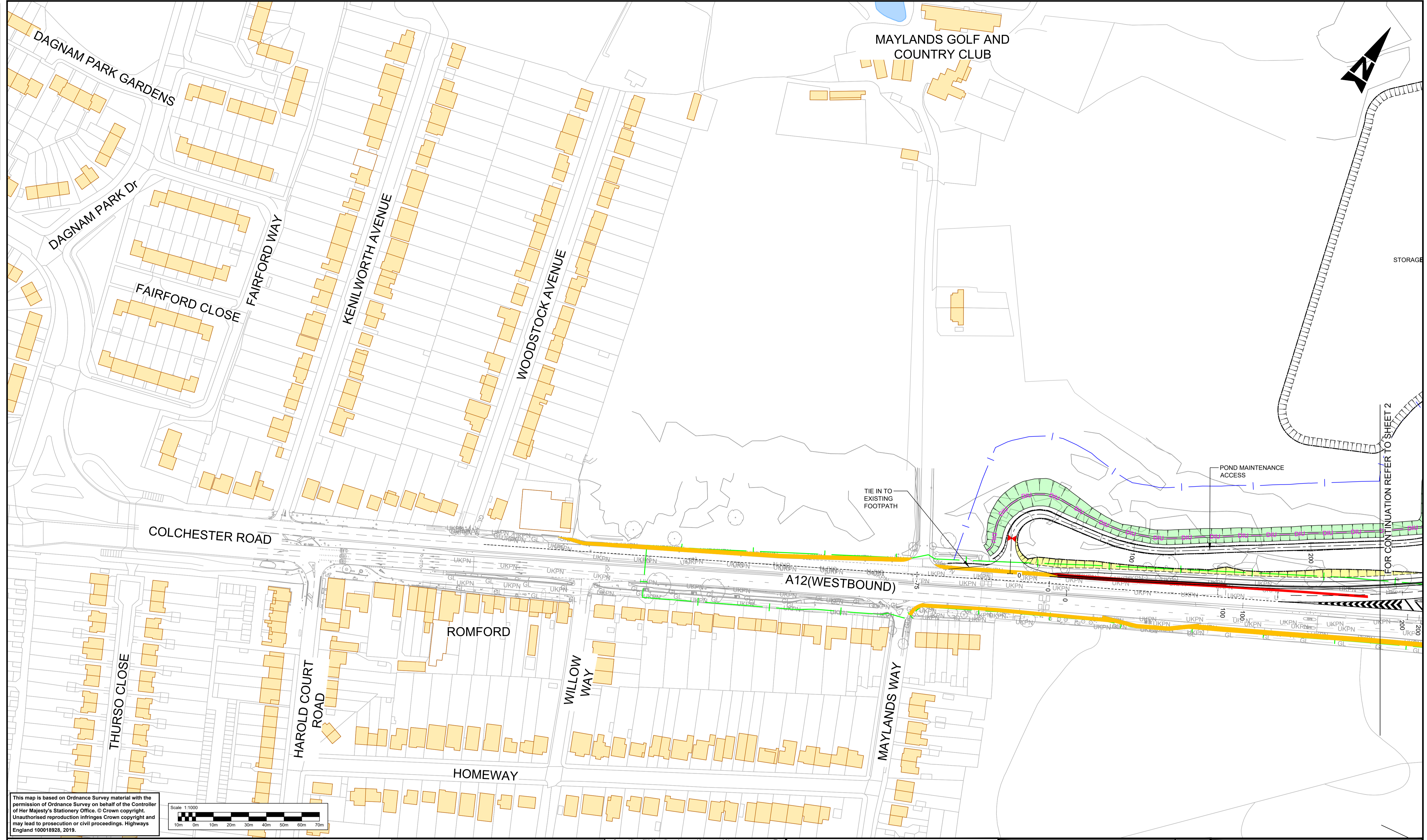
Drawing Suitability	APPROVED - PUBLISHED	Status	A1
		Amlin House Atkins 4th Floor 90-96 Victoria Road Chelmsford Essex CM1 1QU Tel: +44 (0)1245 245245 Fax: +44 (0)1245 345010 www.atkinsglobal.com	
		Client: Working on behalf of	

Project Title	M25 junction 28 improvement scheme		
Drawing Title	GEOTECHNICAL VERGE SCHEDULE NOTES & KEY		
Drawing Number	Project	Originator	Volume
HE551519	- ATK	- HGT	-
XX	- DR	- CE	- 000100
Location	Type	Role	Number
Original Size: A1	Scale: NTS	Project Ref. No.: 5158157	Sheet: 1 of 1 Rev: C02

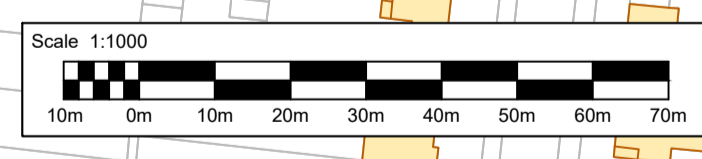
DO NOT SCALE

Millimetres

0 10 100



This map is based on Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office. © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Highways England 100018928, 2019.



NOTES

- FOR NOTES AND KEY REFER TO DRG. NO. HE551519-ATK-HGT-XX-DR-CE-000100.
- FOR TYPICAL CROSS-SECTIONS REFER TO DRG. NO. HE551519-ATK-HGN-XX_XS-DR-CX-000001
- FOR DRAINAGE DETAILS AND RISKS REFER TO OUTLINE DRAINAGE DESIGN DRAWINGS. DRG. NO. HE551519-ATK-HDG-XX-DR-CD-000101 TO HE551519-ATK-HDG-XX-DR-CD-000111.
- POND LOCATIONS AND SITES ARE INDICATIVE ONLY.
- EARTHWORK SLOPE TO BE 1(H) : 3.5 (V) UNLESS OTHERWISE NOTED.
- FOR SAFETY BARRIER DETAILS REFER TO DRAWING NO : HE551519-ATK-HRR-XX-DR-CH-000101 TO HE551519-ATK-HRR-XX-DR-CH-000111

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction

- CI: WORKS IN CLOSE PROXIMITY OF BPA LINE
- CII: WORKS IN CLOSE PROXIMITY OF O/H CABLES
- CIII: WORKS IN CLOSE PROXIMITY OF NHP MAIN
- CIV: WORKS IN CLOSE PROXIMITY OF LHP MAIN

Maintenance / Cleaning

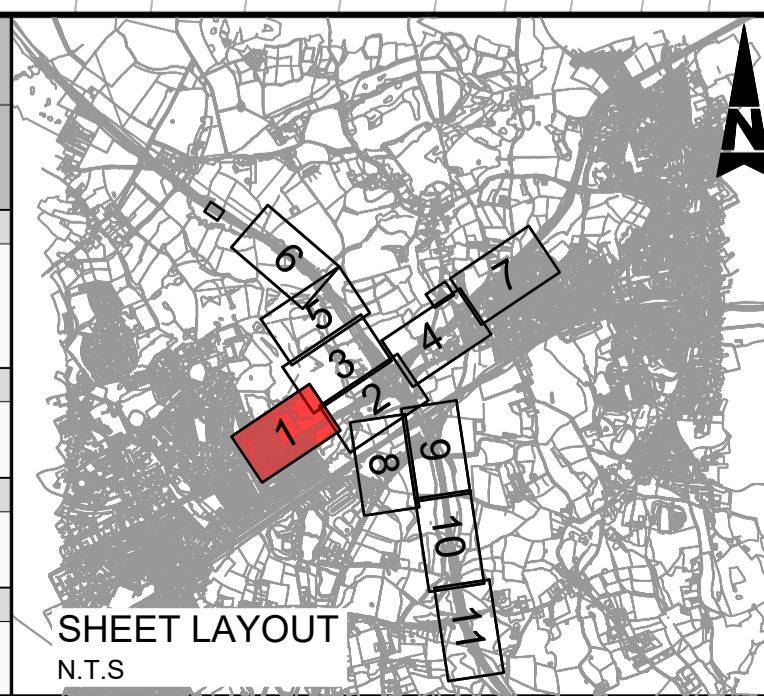
- CONVOLUTED WINTER MAINTENANCE ROUTE

Use

NONE IDENTIFIED AT THIS STAGE

Decommissioning / Demolition

NONE IDENTIFIED AT THIS STAGE



Description	Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
STAGE 3 DESIGN FIX 3 - FOR HE REVIEW	B1	CO1	MG	GR	SRM	CT	21/08/19
STAGE 3 DESIGN FIX 3	A1	CO2	GR	PM	AC	PG	10/02/20

Drawing Suitability: APPROVED - PUBLISHED

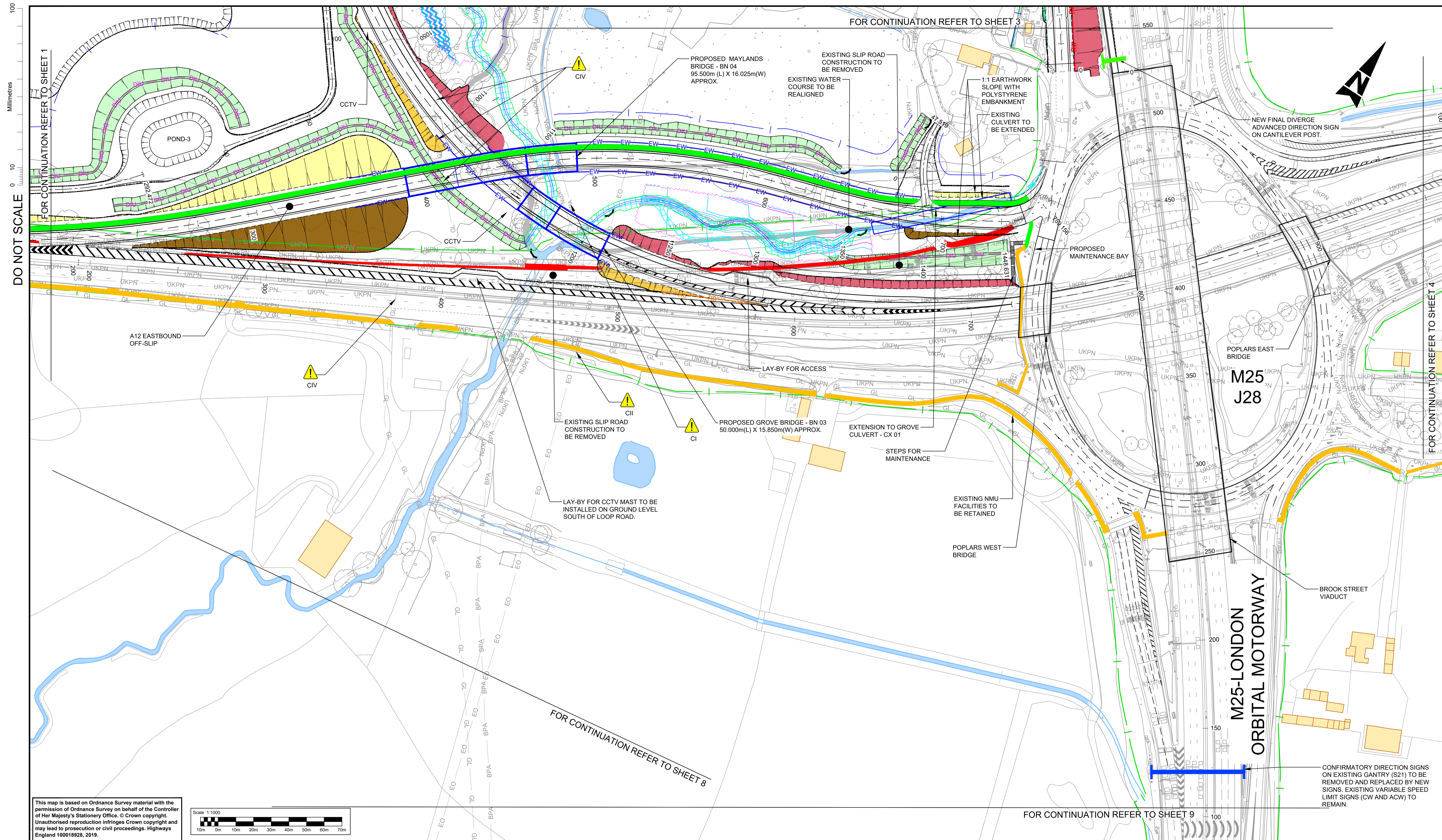
Status: A1

SNC-LAVALIN
ATKINS

Member of the SNC-Lavalin Group
Copyright © SNC Lavalin (2019)

Working on behalf of
highways
england

Project Title	M25 junction 28 improvement scheme
Drawing Title	GEOTECHNICAL VERGE SCHEDULE KEYPLAN
Drawing Number	HE551519 - ATK - HGT - XX
Project	- DR - CE - 000101
Location	
Original Size	A1
Scale	1:1000
Project Ref. No.	5158157
Sheet	1 of 6
Rev.	C02

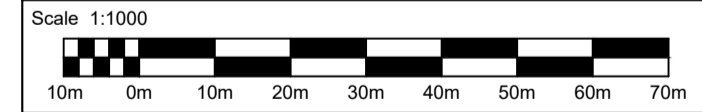


DO NOT SCALE

Millimetres

0 10 100

This map is based on Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office. © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Highways England 100018928, 2019.

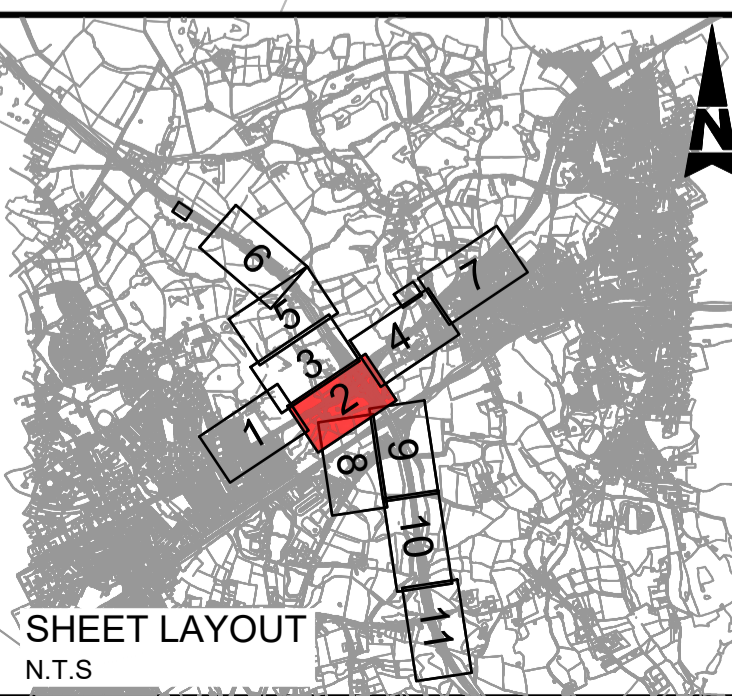


- NOTES**
- FOR NOTES AND KEY REFER TO DRG. NO. HE551519-ATK-HGT-XX-DR-CE-000100.
 - FOR TYPICAL CROSS-SECTIONS REFER TO DRG. NO. HE551519-ATK-HGN-XX-DR-CX-000001.
 - FOR DRAINAGE DETAILS AND RISKS REFER TO OUTLINE DRAINAGE DESIGN DRAWINGS, DRG. NO. HE551519-ATK-HDG-XX-DR-CD-000101 TO HE551519-ATK-HDG-XX-DR-CD-000111.
 - POND LOCATIONS AND SITES ARE INDICATIVE ONLY.
 - EARTHWORK SLOPE TO BE 1(H) : 3.5 (V) UNLESS OTHERWISE NOTED.
 - FOR SAFETY BARRIER DETAILS REFER TO DRAWING NO : HE551519-ATK-HRR-XX-DR-CH-000101 TO HE551519-ATK-HRR-XX-DR-CH-000111

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction
C I: WORKS IN CLOSE PROXIMITY OF BPA LINE
C II: WORKS IN CLOSE PROXIMITY OF O/H CABLES
C III: WORKS IN CLOSE PROXIMITY OF NHP MAIN
C IV: WORKS IN CLOSE PROXIMITY OF LHP MAIN
Maintenance / Cleaning
CONVOLUTED WINTER MAINTENANCE ROUTE
Use
NONE IDENTIFIED AT THIS STAGE
Decommissioning / Demolition
NONE IDENTIFIED AT THIS STAGE



Description						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
Description						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
Description						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
Description						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
B1	CO1	MG	GR	SRM	CT	21/08/19
Description						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
A1	CO2	GR	PM	AC	PG	10/02/20

Drawing Suitability: **APPROVED - PUBLISHED** Status: **A1** Project Title: **M25 junction 28 improvement scheme**

SNC-LAVALIN
ATKINS
Member of the SNC-Lavalin Group
Copyright © SNC Lavalin (2019)

Working on behalf of **highways england**

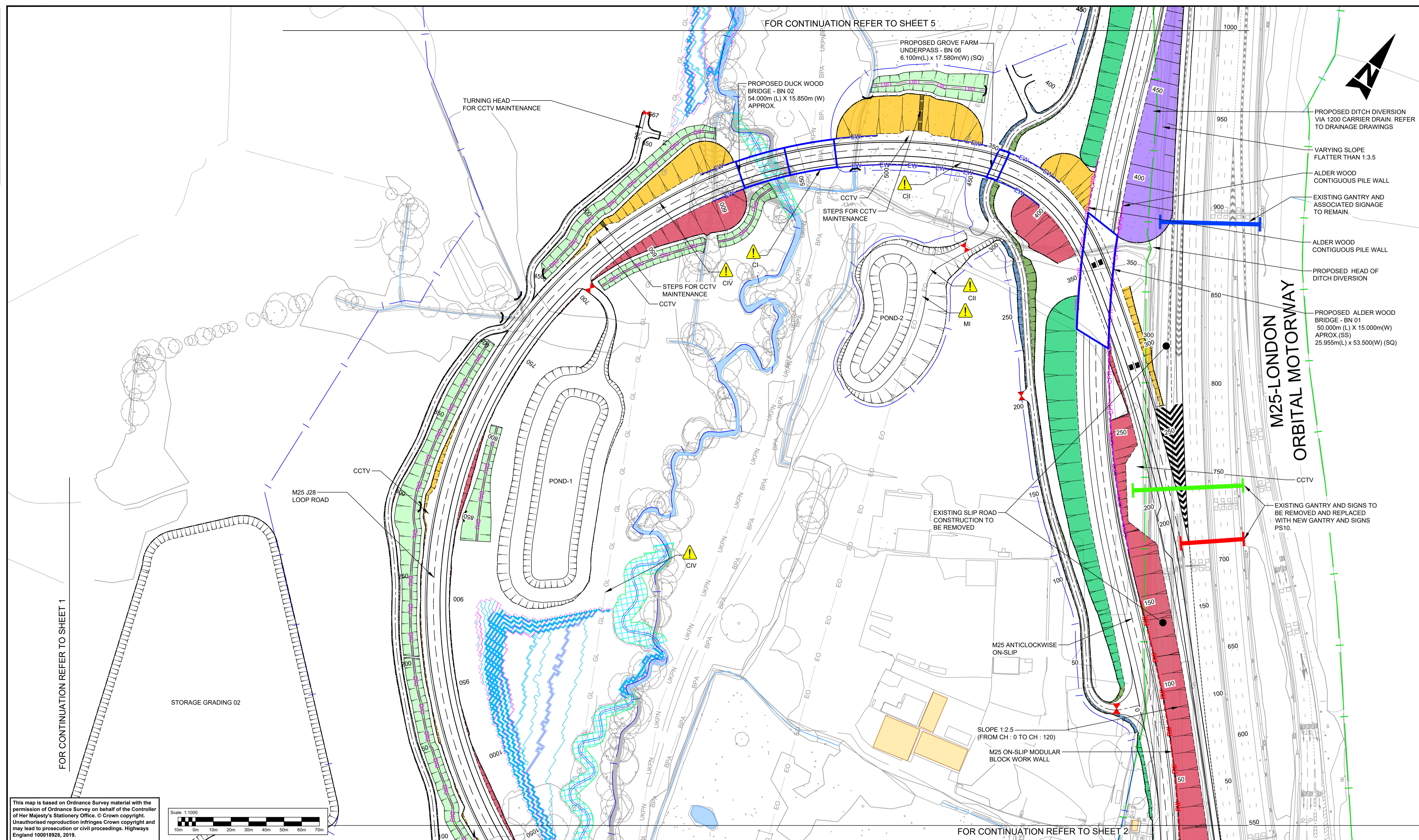
Drawing Title: GEOTECHNICAL VERGE SCHEDULE KEYPLAN
Drawing Number: HE551519 - ATK - HGT - XX - DR - CE - 000102
Location: XX
Original Size: A1 Scale: 1:1000 Project Ref. No.: 5158157 Sheet: 2 of 6 Rev: C02

DO NOT SCALE

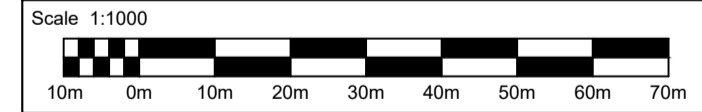
Millimetres

0 10

100



This map is based on Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office. © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Highways England 100018928, 2019.

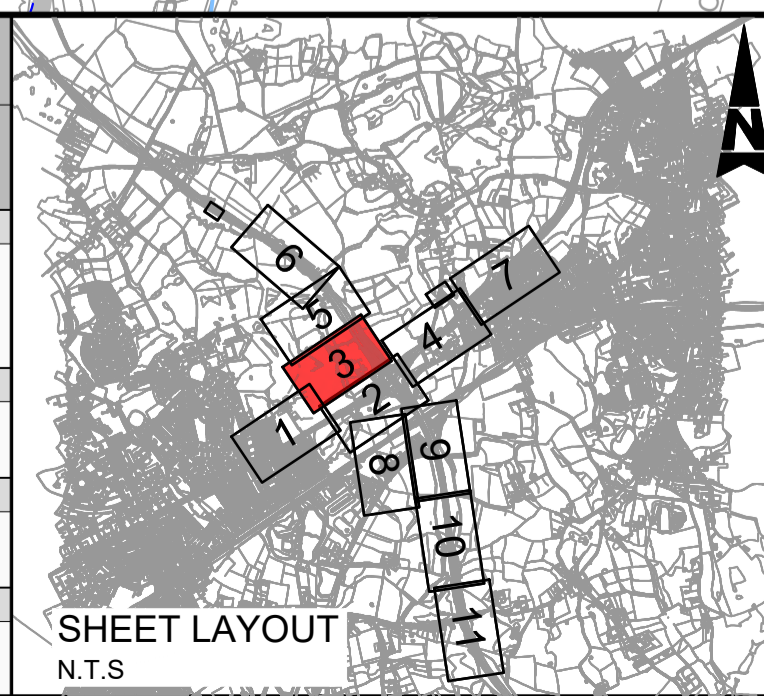


- NOTES**
- FOR NOTES AND KEY REFER TO DRG. NO. HE551519-ATK-HGT-XX-DR-CE-000100.
 - FOR TYPICAL CROSS-SECTIONS REFER TO DRG. NO. HE551519-ATK-HGN-XX_XS-DR-CX-000001
 - FOR DRAINAGE DETAILS AND RISKS REFER TO OUTLINE DRAINAGE DESIGN DRAWINGS. DRG. NO. HE551519-ATK-HDG-XX-DR-CD-000101 TO HE551519-ATK-HDG-XX-DR-CD-000111.
 - POND LOCATIONS AND SITES ARE INDICATIVE ONLY.
 - EARTHWORK SLOPE TO BE 1(H) : 3.5 (V) UNLESS OTHERWISE NOTED.
 - FOR SAFETY BARRIER DETAILS REFER TO DRAWING NO : HE551519-ATK-HRR-XX-DR-CH-000101 TO HE551519-ATK-HRR-XX-DR-CH-000111

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction
CI: WORKS IN CLOSE PROXIMITY OF BPA LINE
CII: WORKS IN CLOSE PROXIMITY OF O/H CABLES
CIII: WORKS IN CLOSE PROXIMITY OF NHP MAIN
CIV: WORKS IN CLOSE PROXIMITY OF LHP MAIN
Maintenance / Cleaning
CONVOLUTED WINTER MAINTENANCE ROUTE
Use
NONE IDENTIFIED AT THIS STAGE
Decommissioning / Demolition
NONE IDENTIFIED AT THIS STAGE



Description	Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
STAGE 3 DESIGN FIX 3 - FOR HE REVIEW	B1	CO1	MG	GR	SRM	CT	21/08/19
STAGE 3 DESIGN FIX 3 - FINAL SIGN OFF	A1	CO2	GR	PM	AC	PG	10/02/20

Drawing Suitability: **APPROVED - PUBLISHED** Status: **A1** Project Title: **M25 junction 28 improvement scheme**

SNC-LAVALIN
ATKINS
Member of the SNC-Lavalin Group
Copyright © SNC Lavalin (2019)

Client: **Working on behalf of highways england**

Amlin House
Atkins 4th Floor
90-96 Victoria Road
Chelmsford
Essex CM1 1QU
Tel: +44 (0)1245 245245
Fax: +44 (0)1245 345010
www.atkinsglobal.com

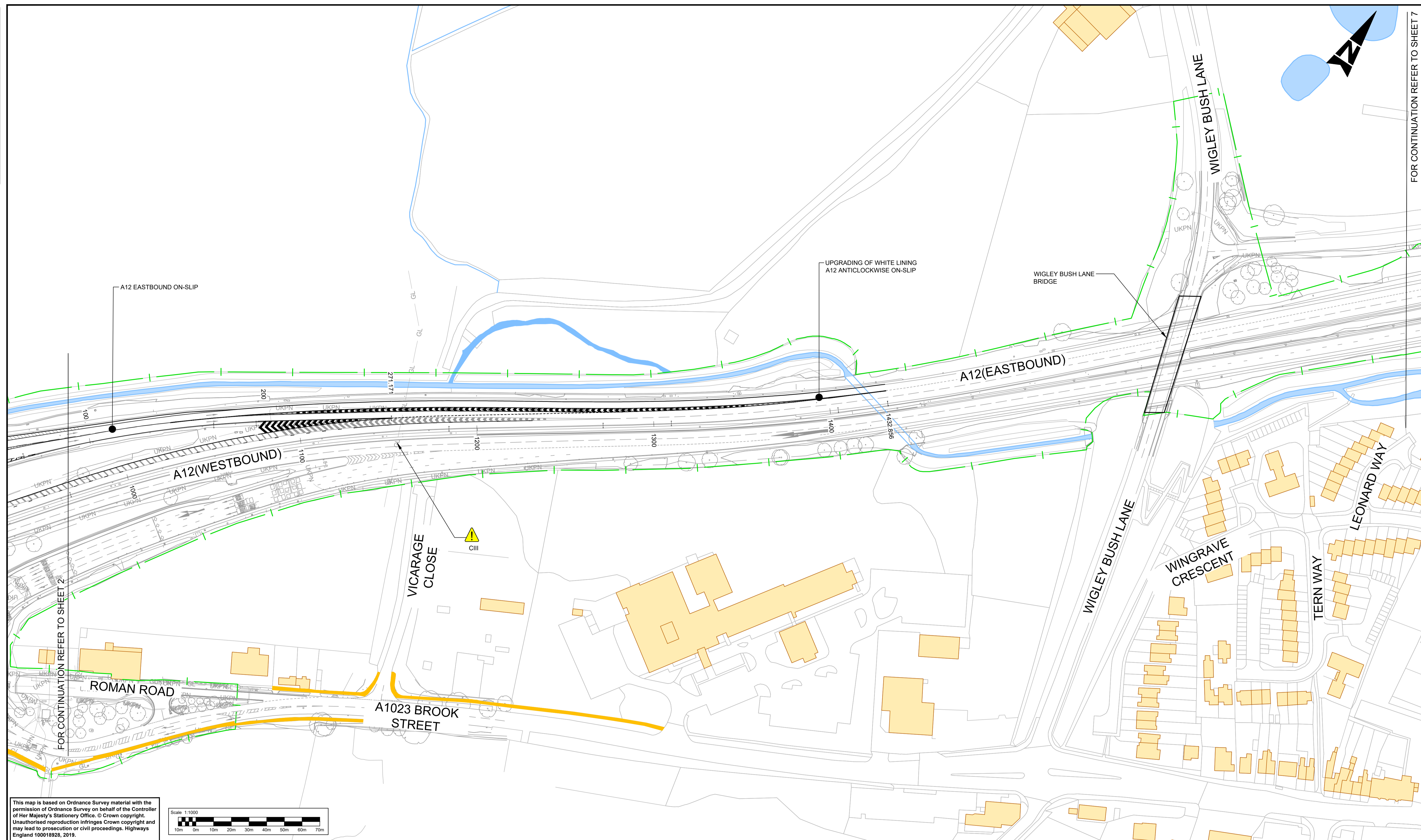
Drawing Title	Drawing Number	Project	Originator	Volume
GEOTECHNICAL VERGE SCHEDULE KEYPLAN	HE551519 - ATK - HGT - XX	- DR - CE - 000103		
	Location	Original Size	Scale	Project Ref. No.
		A1	1:1000	5158157
				Sheet: 3 of 6
				Rev: C02

DO NOT SCALE

Millimetres

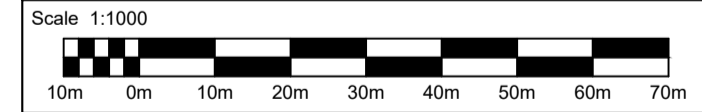
0 10

100



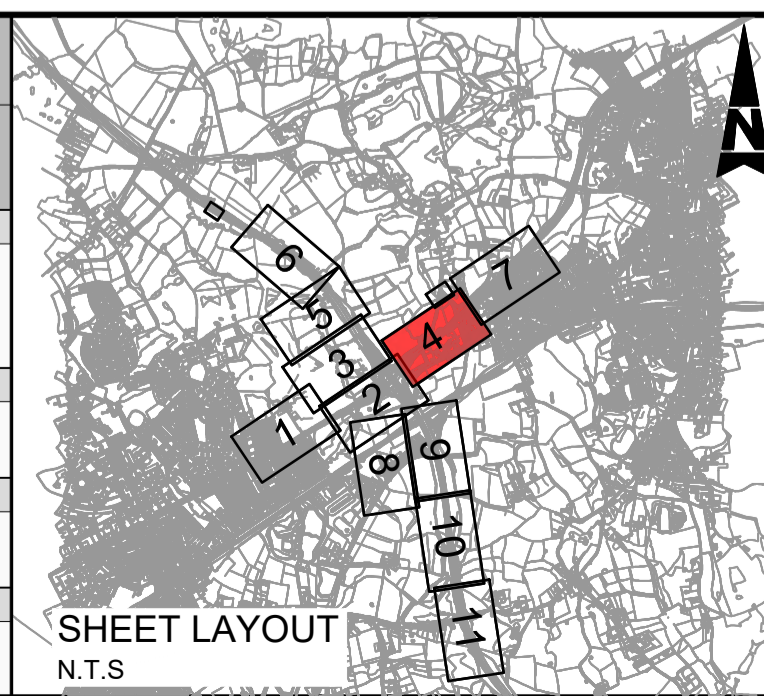
FOR CONTINUATION REFER TO SHEET 7

This map is based on Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office. © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Highways England 100018928, 2019.



NOTES	
1.	FOR NOTES AND KEY REFER TO DRG. NO. HE551519-ATK-HGT-XX-DR-CE-000100.
2.	FOR TYPICAL CROSS-SECTIONS REFER TO DRG. NO. HE551519-ATK-HGN-XX_XS-DR-CX-000001
3.	FOR DRAINAGE DETAILS AND RISKS REFER TO OUTLINE DRAINAGE DESIGN DRAWINGS, DRG. NO. HE551519-ATK-HDG-XX-DR-CD-000101 TO HE551519-ATK-HDG-XX-DR-CD-000111.
4.	POND LOCATIONS AND SITES ARE INDICATIVE ONLY.
5.	EARTHWORK SLOPE TO BE 1(H) : 3.5 (V) UNLESS OTHERWISE NOTED.
6.	FOR SAFETY BARRIER DETAILS REFER TO DRAWING NO : HE551519-ATK-HRR-XX-DR-CH-000101 TO HE551519-ATK-HRR-XX-DR-CH-000111

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).	
Construction	CI: WORKS IN CLOSE PROXIMITY OF BPA LINE CII: WORKS IN CLOSE PROXIMITY OF O/H CABLES CIII: WORKS IN CLOSE PROXIMITY OF NHP MAIN CIV: WORKS IN CLOSE PROXIMITY OF LHP MAIN
Maintenance / Cleaning	CONVOLUTED WINTER MAINTENANCE ROUTE
Use	NONE IDENTIFIED AT THIS STAGE
Decommissioning / Demolition	NONE IDENTIFIED AT THIS STAGE



Description						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
Description						
Description						
Description						
Description						
Description						
Description						

Drawing Suitability: APPROVED - PUBLISHED

Status: A1

Project Title: M25 junction 28 improvement scheme

SNC-LAVALIN
ATKINS

Member of the SNC-Lavalin Group
Copyright © SNC Lavalin (2019)

Amlyn House
Atkins 4th Floor
90-96 Victoria Road
Chelmsford
Essex CM1 1QU
Tel: +44 (0)1245 245245
Fax: +44 (0)1245 345010
www.atkinsglobal.com

Client: Working on behalf of **highways england**

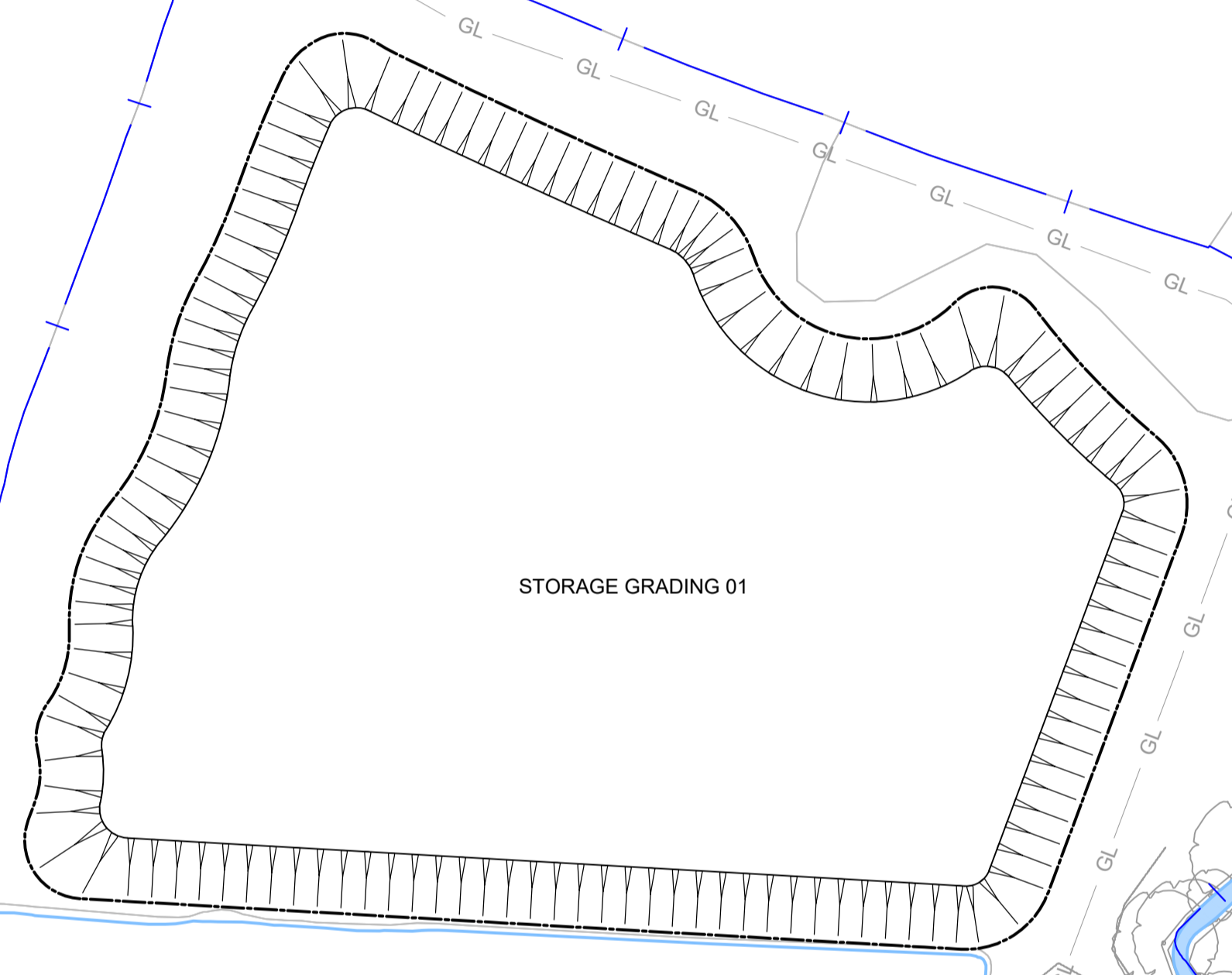
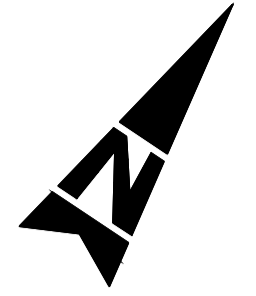
Drawing Title	
GEOTECHNICAL VERGE SCHEDULE KEYPLAN	
Drawing Number	Project
HE551519 - ATK - HGT - XX	- DR - CE - 000104
Location	Originator
Original Size: A1	Scale: 1:1000
Project Ref. No.: 5158157	Sheet: 4 of 6
Date: 10/02/20	Rev: C02

DO NOT SCALE

Millimetres

MAYLANDS GOLF COURSE

FOR CONTINUATION REFER TO SHEET 6



STORAGE GRADING 01

EXISTING PIPE CULVERT TO BE EXTENDED

M25-LONDON ORBITAL MOTORWAY

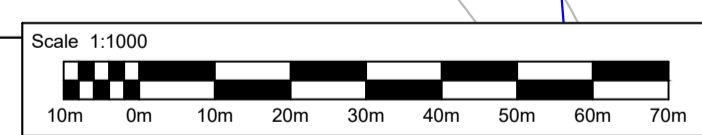
M25 ANTICLOCKWISE ON-SLIP

EXISTING SLIP ROAD CONSTRUCTION TO BE REMOVED

VARYING SLOPE FLATTER THAN 1:3.5

FOR CONTINUATION REFER TO SHEET 3

This map is based on Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationary Office. © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Highways England 100018928, 2019.



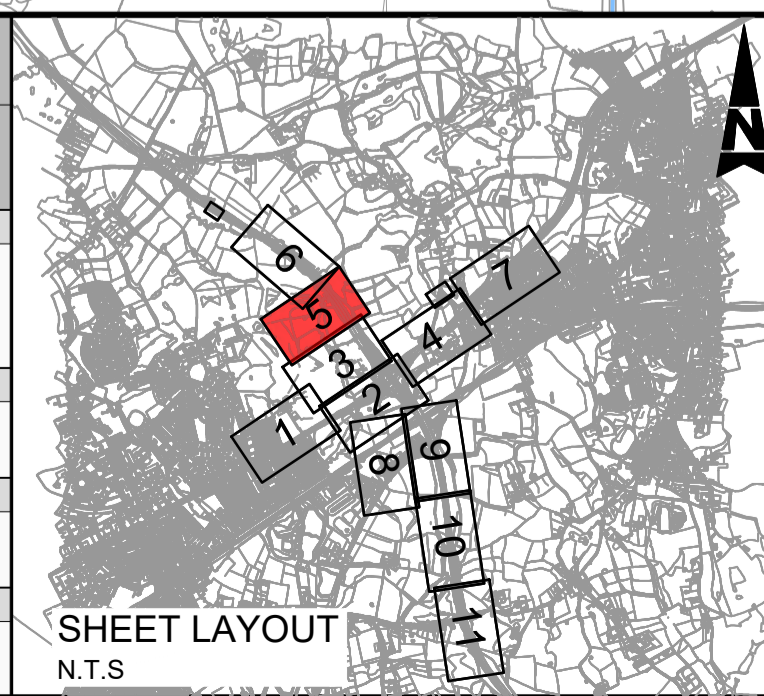
NOTES

- FOR NOTES AND KEY REFER TO DRG. NO. HE551519-ATK-HGT-XX-DR-CE-000100.
- FOR TYPICAL CROSS-SECTIONS REFER TO DRG. NO. HE551519-ATK-HGN-XX_XS-DR-CX-000001
- FOR DRAINAGE DETAILS AND RISKS REFER TO OUTLINE DRAINAGE DESIGN DRAWINGS. DRG. NO. HE551519-ATK-HDG-XX-DR-CD-000101 TO HE551519-ATK-HDG-XX-DR-CD-000111.
- POND LOCATIONS AND SITES ARE INDICATIVE ONLY.
- EARTHWORK SLOPE TO BE 1(H) : 3.5 (V) UNLESS OTHERWISE NOTED.
- FOR SAFETY BARRIER DETAILS REFER TO DRAWING NO : HE551519-ATK-HRR-XX-DR-CH-000101 TO HE551519-ATK-HRR-XX-DR-CH-000111

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	CI: WORKS IN CLOSE PROXIMITY OF BPA LINE CII: WORKS IN CLOSE PROXIMITY OF O/H CABLES CIII: WORKS IN CLOSE PROXIMITY OF NHP MAIN CIV: WORKS IN CLOSE PROXIMITY OF LHP MAIN
Maintenance / Cleaning	CONVOLUTED WINTER MAINTENANCE ROUTE
Use	NONE IDENTIFIED AT THIS STAGE
Decommissioning / Demolition	NONE IDENTIFIED AT THIS STAGE



Description	Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
STAGE 3 DESIGN FIX 3 - FOR HE REVIEW	B1	CO1	MG	GR	SRM	CT	21/08/19
STAGE 3 DESIGN FIX 3 - FINAL SIGN OFF	A1	CO2	GR	PM	AC	PG	10/02/20

Drawing Suitability: **APPROVED - PUBLISHED** Status: **A1**

SNC-LAVALIN
ATKINS
Member of the SNC-Lavalin Group
Copyright © SNC Lavalin (2019)

Client: **Working on behalf of**
highways england

Project Title	M25 junction 28 improvement scheme
Drawing Title	GEOTECHNICAL VERGE SCHEDULE KEYPLAN
Drawing Number	HE551519 - ATK - HGT - XX
Project	- DR - CE - 000105
Location	
Original Size	A1
Scale	1:1000
Project Ref. No.	5158157
Sheet	5 of 6
Rev.	C02

DO NOT SCALE

Millimetres

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

0 10

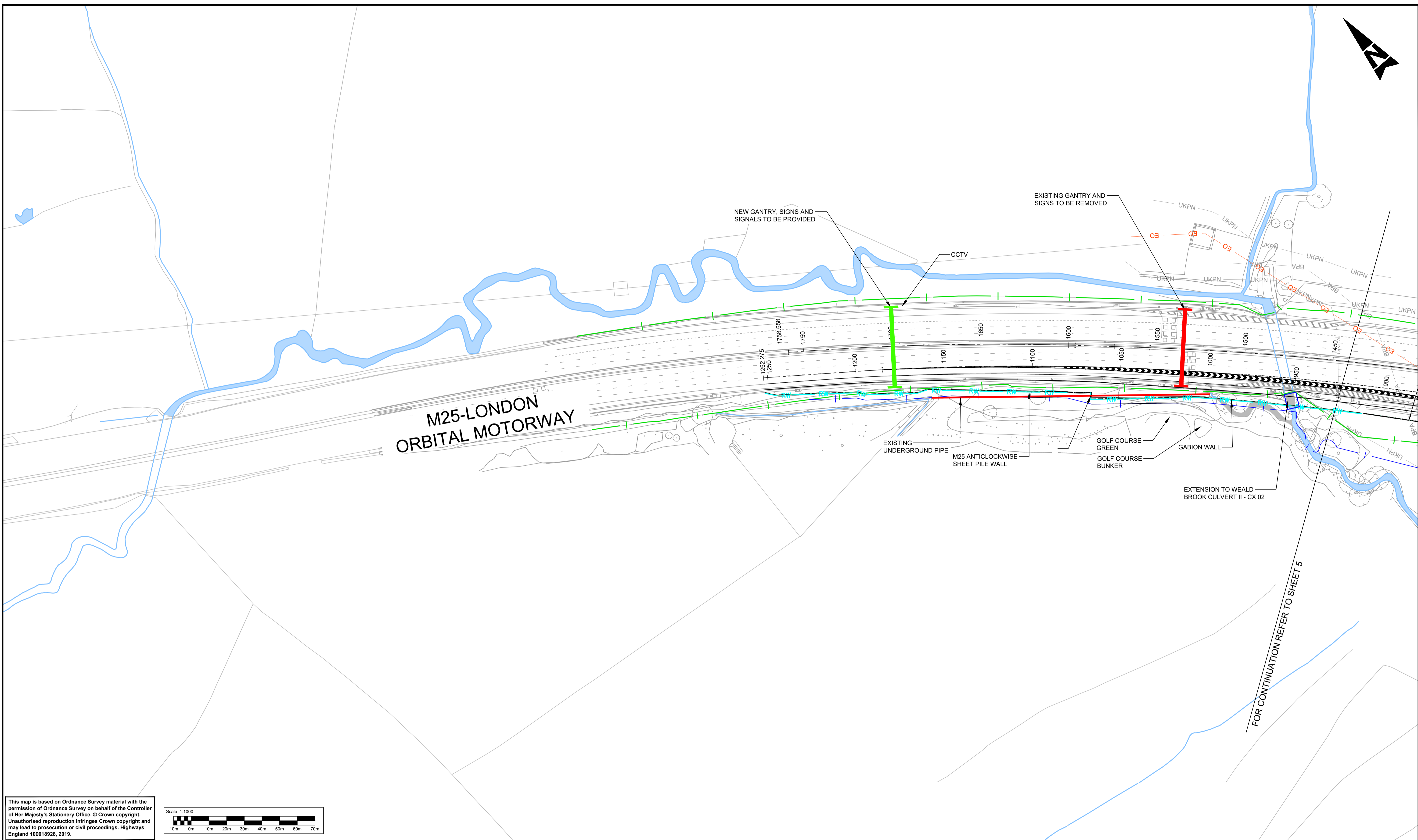
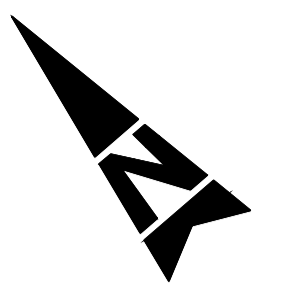
0 10

0 10

0 10

0 10

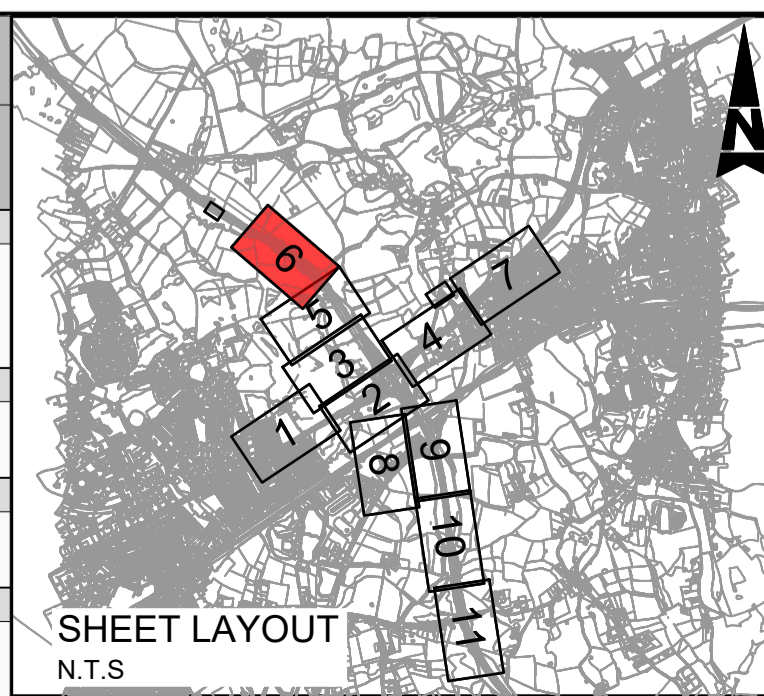
0 10



This map is based on Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office. © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Highways England 100018928, 2019.

NOTES	
1.	FOR NOTES AND KEY REFER TO DRG. NO. HE551519-ATK-HGT-XX-DR-CE-000100.
2.	FOR TYPICAL CROSS-SECTIONS REFER TO DRG. NO. HE551519-ATK-HGN-XX_XS-DR-CX-000001
3.	FOR DRAINAGE DETAILS AND RISKS REFER TO OUTLINE DRAINAGE DESIGN DRAWINGS, DRG. NO. HE551519-ATK-HDG-XX-DR-CD-000101 TO HE551519-ATK-HDG-XX-DR-CD-000111.
4.	POND LOCATIONS AND SITES ARE INDICATIVE ONLY.
5.	EARTHWORK SLOPE TO BE 1(H) : 3.5 (V) UNLESS OTHERWISE NOTED.
6.	FOR SAFETY BARRIER DETAILS REFER TO DRAWING NO : HE551519-ATK-HRR-XX-DR-CH-000101 TO HE551519-ATK-HRR-XX-DR-CH-000111

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).	
Construction	CI: WORKS IN CLOSE PROXIMITY OF BPA LINE CII: WORKS IN CLOSE PROXIMITY OF O/H CABLES CIII: WORKS IN CLOSE PROXIMITY OF NHP MAIN CIV: WORKS IN CLOSE PROXIMITY OF LHP MAIN
Maintenance / Cleaning	CONVOLUTED WINTER MAINTENANCE ROUTE
Use	NONE IDENTIFIED AT THIS STAGE
Decommissioning / Demolition	NONE IDENTIFIED AT THIS STAGE



Description						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
Description						
Description						
Description						
Description						
Description						
Description						
Description						

Drawing Suitability: APPROVED - PUBLISHED

Status: A1

Project Title: M25 junction 28 improvement scheme

SNC-LAVALIN
ATKINS

Member of the SNC-Lavalin Group
Copyright © SNC Lavalin (2019)

Working on behalf of
highways england

Amlin House
Atkins 4th Floor
90-96 Victoria Road
Chelmsford
Essex CM1 1QU
Tel: +44 (0)1245 245245
Fax: +44 (0)1245 345010
www.atkinsglobal.com

Drawing Title	
GEOTECHNICAL VERGE SCHEDULE KEY PLAN	
Drawing Number	
HE551519	- ATK - HGT -
Project	
XX	- DR - CE - 000106
Location	
Original Size	
A1	Scale: 1:1000
Project Ref. No.	
5158157	Sheet: 6 of 6
Rev.	
C02	

DO NOT SCALE

100
0 10
Millimetres

M25 J28 - M25 ONSLIP

M25 J28 - M25 ONSLIP																
GENERAL								EARTHWORKS				RETAINING SOLUTION				CONSTRAINTS
VERGE COLOUR CODE	ROAD	CARRIAGEWAY TYPE	CARRIAGEWAY SIDE [X-SCTN]	STRUCTURE IDENTIFICATION NUMBER	CHAINAGE START OF EARTHWORK / RETAINING WALL	CHAINAGE END OF EARTHWORK / RETAINING WALL	TOTAL LENGTH (M)	EARTHWORK / STRUCTURE TYPE	HD14 CLASSIFICATION	MAXIMUM EARTHWORK HEIGHT	MAXIMUM SLOPE ANGLE	CHAINAGE AT MAX RETAINED HEIGHT	MAX RETAINED HEIGHT (M)	AVERAGE RETAINED HEIGHT (M)	PROPOSED SOLUTION	ENVIRONMENTAL CONSTRAINTS
	M25 ON SLIP	SLIP ROAD	WEST [L]	-	0	110	110	CUT & FILL	AT GRADE	-	-	-	-	-	-	-
	M25 ON SLIP	SLIP ROAD	WEST [L]	-	110	305	195	CUT	CUTTING	6.4	1:3.5	-	-	-	-	HISTORICAL LANDFILL
	M25 ON SLIP	SLIP ROAD	WEST [L]	BN01 - 39005	305	373	68	-	ALDER WOOD BRIDGE	-	-	-	-	-	-	-
	M25 ON SLIP	SLIP ROAD	WEST [L]	RN07 - 39109	373	405	32	CUT	RETAINING WALL	4.2	-	410	3.3	3.1	CONTIGUOUS PILED WALL	LOOP ROAD BRIDGE, HISTORICAL LANDFILL
	M25 ON SLIP	SLIP ROAD	WEST [L]	-	405	760	355	CUT	CUTTING	7.2	1:3.5	-	-	-	-	-
	M25 ON SLIP	SLIP ROAD	WEST [L]	-	760	780	20	CUT	AT GRADE	1.5	1:3.5	-	-	-	-	-
	M25 ON SLIP	SLIP ROAD	WEST [L]	-	780	800	20	CUT & FILL	AT GRADE	-	-	-	-	-	-	-
	M25 ON SLIP	SLIP ROAD	WEST [L]	-	800	810	10	FILL	AT GRADE	1.5	1:3.5	-	-	-	-	OVERHEAD CABLES
	M25 ON SLIP	SLIP ROAD	WEST [L]	-	810	860	50	FILL	FILLING	3.3	1:3.5	-	-	-	-	-
	M25 ON SLIP	SLIP ROAD	WEST [L]	-	860	915	55	CUT & FILL	AT GRADE	-	-	-	-	-	-	-
	M25 ON SLIP	SLIP ROAD	WEST [L]	-	915	940	25	FILL	FILLING	2.7	1:3.5	-	-	-	-	-
	M25 ON SLIP	SLIP ROAD	WEST [L]	RN08 - 39111	940	1000	60	FILL	RETAINING WALL	4.0	-	950	4.0	2.5	GABION BASKET WALL	WATERWAY, WEALD BROOK CULVERT 2 EXTENTION
	M25 ON SLIP	SLIP ROAD	WEST [L]	RN09 - 39112	1000	1060	60	CUT & FILL	RETAINING WALL	1.9	-	1020	1.9	1.8	DRIVEN SHEET PILE WALL	EXISTING DRAINAGE BUND
	M25 ON SLIP	SLIP ROAD	WEST [L]	-	1060	1080	20	CUT & FILL	AT GRADE	-	-	-	-	-	-	-
	M25 ON SLIP	SLIP ROAD	WEST [L]	RN10 - 39112	1080	1150	70	CUT & FILL	RETAINING WALL	2.4	-	1110	2.4	1.8	DRIVEN SHEET PILE WALL	EXISTING DRAINAGE BUND, EXISTING DRAINAGE PIPE
	M25 ON SLIP	SLIP ROAD	WEST [L]	RN10 - 39112	1150	1210	60	CUT	RETAINING WALL	1.8	-	1190	1.4	1.0	DRIVEN SHEET PILE WALL	PROPOSED 45M LONG SPAN PORTAL GANTRY
	M25 ON SLIP	SLIP ROAD	WEST [L]	-	1210	1234	24	FILL	AT GRADE	-	-	-	-	-	-	-
	M25 ON SLIP	SLIP ROAD	EAST [R]	-	0	300	SEE M25 LOOP ROAD, INSIDE (L)									
	M25 ON SLIP	SLIP ROAD	EAST [R]	BN01 - 39005	300	365	65	-	ALDER WOOD BRIDGE	6.9	-	330	6.7	-	-	-
	M25 ON SLIP	SLIP ROAD	EAST [R]	RN06 - 39108	365	375	10	CUT	RETAINING WALL	6.7	-	345	6.5	4.6	CONTIGUOUS PILED WALL	POSSIBLE STREAM/HIGH GROUNDWATER AT CH350
	M25 ON SLIP	SLIP ROAD	EAST [R]	-	375	550	175	CUT	CUTTING	7.1	1:4	-	-	-	-	-
	M25 ON SLIP	SLIP ROAD	EAST [R]	-	550	580	30	CUT	AT GRADE	-	-	-	-	-	-	-

NOTES:
1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH VERGE SCHEDULE KEY PLAN
DRAWING: HE551519-ATK-HGT-XX-DR-CE-000100 TO 000111.

Description						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
Description						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
Description						
FOR REVIEW						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
S3	PO1	PN	PM	SRM	---	11/07/19
Description						
STAGE 3 DESIGN FIX 3 - FOR HE REVIEW						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
B1	CO1	BBM	PM	SRM	CT	21/08/19
Description						
STAGE 3 DESIGN FIX 3						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
A1	CO2	GR	PM	AC	PG	10/02/20

Drawing Suitability: **APPROVED - PUBLISHED** Status: **A1**

SNC-LAVALIN
ATKINS
Member of the SNC-Lavalin Group
Copyright © SNC Lavalin (2019)

Amlin House
Atkins 4th Floor
90-96 Victoria Road
Chelmsford
Essex CM1 1QU
Tel: +44 (0)1245 245245
Fax: +44 (0)1245 345010
www.atkinsglobal.com

Working on behalf of
highways
england

Project Title		M25 junction 28 improvement scheme	
Drawing Title		GEOTECHNICAL VERGE SCHEDULE	
Project Number	Originator	Volume	
HE551519	- ATK	- HGT	
XX	- DR	- CE	- 000201
Location	Type	Role	Number
Original Size: A1	Scale: NTS	Project Ref. No.: 5158157	Sheet: 1 of 5 Rev: C02

DO NOT SCALE

100
0 10
Millimetres

M25 J28 LOOP ROAD																
GENERAL								EARTHWORKS				RETAINING SOLUTION				CONSTRAINTS
VERGE COLOUR CODE	ROAD	CARRIAGEWAY TYPE	CARRIAGEWAY SIDE [X-SCTN]	STRUCTURE IDENTIFICATION NUMBER	CHAINAGE START OF EARTHWORK / RETAINING WALL	CHAINAGE END OF EARTHWORK / RETAINING WALL	TOTAL LENGTH (M)	EARTHWORK / STRUCTURE TYPE	HD14 CLASSIFICATION	MAXIMUM EARTHWORK HEIGHT	MAXIMUM SLOPE ANGLE	CHAINAGE AT MAX RETAINED HEIGHT	MAX RETAINED HEIGHT (M)	AVERAGE RETAINED HEIGHT (M)	PROPOSED SOLUTION	ENVIRONMENTAL CONSTRAINTS
	M25 LOOP ROAD	LOOP ROAD	INSIDE [L]	RN04 - 39107	0	80	80	FILL	RETAINING WALL	8.3	1:2.5	0	2.3	1.2	MODULAR BLOCKWORK	PROPOSED MS3 CANTILEVER GANTRY
	M25 LOOP ROAD	LOOP ROAD	INSIDE [L]	RN04 - 39107	80	150	70	CUT & FILL	RETAINING WALL	5.8	1:2.5	120	1.0	0.5	MODULAR BLOCKWORK	-
	M25 LOOP ROAD	LOOP ROAD	INSIDE [L]	-	150	180	30	CUT	CUTTING	4.7	1:3.5	-	-	-	-	-
	M25 LOOP ROAD	LOOP ROAD	INSIDE [L]	RN05 - 39108	180	300	120	CUT	RETAINING WALL	6.7	1:3.5	300	6.5	4.5	CONTIGUOUS PILED WALL	POSSIBLE STREAM/HIGH GROUNDWATER AT CH350
	M25 LOOP ROAD	LOOP ROAD	INSIDE [L]	BN01 - 39005	300	360	60	ALDER WOOD BRIDGE	-	-	-	-	-	-	-	-
	M25 LOOP ROAD	LOOP ROAD	INSIDE [L]	-	360	401	41	FILL	FILLING	5.4	1:3.5	-	-	-	-	-
	M25 LOOP ROAD	LOOP ROAD	INSIDE [L]	RN11 - 39114	401	432	31	FILL	RETAINING WALL	6.8	-	430	6.8	5.7	REINFORCED EARTH WALL	-
	M25 LOOP ROAD	LOOP ROAD	INSIDE [L]	BN06 - 39008	432	438	6	GROVE FARM UNDERPASS	-	-	-	-	-	-	-	-
	M25 LOOP ROAD	LOOP ROAD	INSIDE [L]	RN14 - 39117	438	530	92	FILL	RETAINING WALL	6.4	-	400	7.2	6.0	REINFORCED EARTH WALL	HV OVERHEAD CABLES AND VETERAN TREES
	M25 LOOP ROAD	LOOP ROAD	INSIDE [L]	BN02 - 39006	530	590	60	DUCK WOOD BRIDGE	-	-	-	-	-	-	-	-
	M25 LOOP ROAD	LOOP ROAD	INSIDE [L]	-	590	660	70	FILL	FILLING	5.8	1:3.5	-	-	-	-	-
	M25 LOOP ROAD	LOOP ROAD	INSIDE [L]	-	660	1080	420	CUT & FILL	AT GRADE	-	-	-	-	-	-	-
	M25 LOOP ROAD	LOOP ROAD	INSIDE [L]	-	1080	1125	45	FILL	FILLING	5.1	1:3.5	-	-	-	-	REALIGNED WATERCOURSE
	M25 LOOP ROAD	LOOP ROAD	INSIDE [L]	RN16 - 39119	1125	1160	35	FILL	RETAINING WALL	5.4	-	1140	5.0	4.4	REINFORCED EARTH WALL	BRIDGE 4 PIERS
	M25 LOOP ROAD	LOOP ROAD	INSIDE [L]	BN03 - 39007	1160	1210	60	GROVE BRIDGE	-	-	-	-	-	-	-	-
	M25 LOOP ROAD	LOOP ROAD	INSIDE [L]	-	1210	1260	50	FILL	FILLING	4.1	1:3.5	-	-	-	-	REALIGNED WATERCOURSE
	M25 LOOP ROAD	LOOP ROAD	INSIDE [L]	-	1260	1300	40	CUT & FILL	AT GRADE	-	-	-	-	-	-	-
	M25 LOOP ROAD	LOOP ROAD	INSIDE [L]	-	1300	1450	150	CUT	CUTTING	6.9	1:3.5	-	-	-	-	-
	M25 LOOP ROAD	LOOP ROAD	OUTSIDE [R]	-	0	200	200	CUT & FILL	AT GRADE	-	-	-	-	-	-	-
	M25 LOOP ROAD	LOOP ROAD	OUTSIDE [R]	-	200	340	140	FILL	AT GRADE	-	1:3.5	-	-	-	-	-
	M25 LOOP ROAD	LOOP ROAD	OUTSIDE [R]	BN01 - 39005	340	380	40	ALDER WOOD BRIDGE	-	-	-	-	-	-	-	-
	M25 LOOP ROAD	LOOP ROAD	OUTSIDE [R]	-	380	401	21	FILL	FILLING	5.1	1:3.5	-	-	-	-	-
	M25 LOOP ROAD	LOOP ROAD	OUTSIDE [R]	RN12 - 39115	401	432	31	CUT & FILL	RETAINING WALL	-	-	432	8.1	6.4	REINFORCED EARTH WALL	-
	M25 LOOP ROAD	LOOP ROAD	OUTSIDE [R]	BN06 - 39008	432	438	6	GROVE FARM UNDERPASS	-	-	-	-	-	-	-	-
	M25 LOOP ROAD	LOOP ROAD	OUTSIDE [R]	RN13 - 39116	438	463	25	CUT & FILL	RETAINING WALL	-	-	438	7.0	6.4	REINFORCED EARTH WALL	-
	M25 LOOP ROAD	LOOP ROAD	OUTSIDE [R]	-	463	525	62	FILL	FILLING	6.9	1:3.5	-	-	-	-	HV OVERHEAD CABLE
	M25 LOOP ROAD	LOOP ROAD	OUTSIDE [R]	BN02 - 39006	525	585	60	DUCK WOOD BRIDGE	-	-	-	-	-	-	-	BPA FUEL PIPE LINE AND UKPN
	M25 LOOP ROAD	LOOP ROAD	OUTSIDE [R]	-	585	650	65	FILL	FILLING	5.2	1:3.5	-	-	-	-	-
	M25 LOOP ROAD	LOOP ROAD	OUTSIDE [R]	-	650	690	40	FILL	AT GRADE	-	-	-	-	-	-	-
	M25 LOOP ROAD	LOOP ROAD	OUTSIDE [R]	-	690	1030	340	CUT & FILL	AT GRADE	-	-	-	-	-	-	DITCH AT CH730
	M25 LOOP ROAD	LOOP ROAD	OUTSIDE [R]	-	1030	1100	70	FILL	FILLING	3.7	1:3.5	-	-	-	-	CADENT GAS PIPELINE
	M25 LOOP ROAD	LOOP ROAD	OUTSIDE [R]	RN17 - 39120	1100	1160	60	FILL	RETAINING WALL	4.2	-	1160	4.2	3.5	REINFORCED EARTH WALL	-
	M25 LOOP ROAD	LOOP ROAD	OUTSIDE [R]	BN03 - 39007	1160	1210	50	GROVE BRIDGE	-	-	-	-	-	-	-	-
	M25 LOOP ROAD	LOOP ROAD	OUTSIDE [R]	-	1210	1260	50	FILL	FILLING	7.0	1:3	-	-	-	-	-
	M25 LOOP ROAD	LOOP ROAD	OUTSIDE [R]	-	1260	1310	50	FILL	RETAINING WALL	1.5	1:3.5	1280	0.9	0.6	CONCRETE BARRIER	EXISTING A12 CARRIAGEWAY

NOTES:
1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH VERGE SCHEDULE KEY PLAN
DRAWING: HE551519-ATK-HGT-XX-DR-CE-000100 TO 000111.

Description		Status		Revision		Drawn		Checked		Reviewed		Authorised		Issue Date	
Description		APPROVED - PUBLISHED		A1		M25 junction 28 improvement scheme		Project Title		M25 junction 28 improvement scheme		Drawing Title		GEOTECHNICAL VERGE SCHEDULE	
Description		SNC-LAVALIN		ATKINS		Amlin House Atkins 4th Floor 90-96 Victoria Road Chelmsford Essex CM1 1QU		Member of the SNC-Lavalin Group Copyright © SNC Lavalin (2019)		Tel: +44 (0)1245 245245 Fax: +44 (0)1245 345010 www.atkinsglobal.com		Client		Working on behalf of highways england	
Description		S3		Revision		Drawn		Checked		Reviewed		Authorised		Issue Date	
Description		STAGE 3 DESIGN FIX 3 - FOR HE REVIEW		B1		Revision		Drawn		Checked		Reviewed		Issue Date	
Description		STAGE 3 DESIGN FIX 3		CO1		Revision		Drawn		Checked		Reviewed		Issue Date	
Description		A1		Revision		Drawn		Checked		Reviewed		Authorised		Issue Date	
Description		CO2		Revision		Drawn		Checked		Reviewed		Authorised		Issue Date	
Original Size:		A1		Scale:		NTS		Project Ref. No.:		5158157		Sheet:		2 of 5	
Rev:		C02		Type:		Role:		Number:		Type:		Role:		Number:	

DO NOT SCALE

100
Millimetres

M25 J28 ACCESS TRACK

M25 J28 ACCESS TRACK																
GENERAL								EARTHWORKS				RETAINING SOLUTION				CONSTRAINTS
VERGE COLOUR CODE	ROAD	CARRIAGEWAY TYPE	CARRIAGEWAY SIDE [X-SCTN]	STRUCTURE IDENTIFICATION NUMBER	CHAINAGE START OF EARTHWORK / RETAINING WALL	CHAINAGE END OF EARTHWORK / RETAINING WALL	TOTAL LENGTH (M)	EARTHWORK / STRUCTURE TYPE	HD14 CLASSIFICATION	MAXIMUM EARTHWORK HEIGHT	MAXIMUM SLOPE ANGLE	CHAINAGE AT MAX RETAINED HEIGHT	MAX RETAINED HEIGHT (M)	AVERAGE RETAINED HEIGHT (M)	PROPOSED SOLUTION	ENVIRONMENTAL CONSTRAINTS
	ACCESS TRACK	ACCESS TRACK	WEST [L]	-	0	230	230	CUT & FILL	AT GRADE	-	-	-	-	-	-	-
	ACCESS TRACK	ACCESS TRACK	WEST [L]	-	230	330	100	CUT	CUTTING	2.2	1:3	-	-	-	-	-
	ACCESS TRACK	ACCESS TRACK	WEST [L]	BN06 - 39008	330	350	20	GROVE FARM UNDERPASS	-	-	-	-	-	-	-	-
	ACCESS TRACK	ACCESS TRACK	WEST [L]	-	350	420	70	CUT	CUTTING	2.6	1:3	-	-	-	-	-
	ACCESS TRACK	ACCESS TRACK	WEST [L]	-	420	473	53	CUT	AT GRADE	-	-	-	-	-	-	-
	ACCESS TRACK	ACCESS TRACK	EAST [R]	-	0	230	230	CUT & FILL	AT GRADE	SEE M25 ONSLIP CH100 - 315						
	ACCESS TRACK	ACCESS TRACK	EAST [R]	-	230	330	100	CUT	CUTTING	2.5	1:3	-	-	-	-	-
	ACCESS TRACK	ACCESS TRACK	EAST [R]	BN06 - 39008	330	350	20	GROVE FARM UNDERPASS	-	-	-	-	-	-	-	-
	ACCESS TRACK	ACCESS TRACK	EAST [R]	-	350	430	80	CUT	CUTTING	2.8	1:3	-	-	-	-	-
	ACCESS TRACK	ACCESS TRACK	EAST [R]	-	430	473	43	CUT	AT GRADE	SEE M25 ONSLIP CH430 - 510						

NOTES:
1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH VERGE SCHEDULE KEY PLAN
DRAWING: HE551519-ATK-HGT-XX-DR-CE-000100 TO 000111.

Description						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
Description						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
Description						
FOR REVIEW						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
S3	PO1	PN	PM	SRM	--	11/07/19
Description						
STAGE 3 DESIGN FIX 3 - FOR HE REVIEW						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
B1	CO1	BBM	PM	SRM	CT	21/08/19
Description						
STAGE 3 DESIGN FIX 3						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
A1	CO2	GR	PM	AC	PG	10/02/20

Drawing Suitability: **APPROVED - PUBLISHED** Status: **A1**



Amlyn House
Atkins 4th Floor
90-96 Victoria Road
Chelmsford
Essex CM1 1QU
Tel: +44 (0)1245 245245
Fax: +44 (0)1245 345010
www.atkinsglobal.com

Member of the SNC-Lavalin Group
Copyright © SNC Lavalin (2019)

Client: **Working on behalf of highways england**

Project Title	M25 junction 28 improvement scheme		
Drawing Title	GEOTECHNICAL VERGE SCHEDULE		
Drawing Number	Project	Originator	Volume
HE551519	- ATK	- HGT	-
XX	- DR - CE - 000203		
Location	Type	Role	Number
Original Size	Scale	Project Ref. No.	Sheet
A1	NTS	5158157	3 of 5
			Rev: C02

DO NOT SCALE

Millimetres

0 10 100

M25 J28 A12 OFF SLIP

M25 J28 A12 OFF SLIP																
GENERAL								EARTHWORKS				RETAINING SOLUTION				CONSTRAINTS
VERGE COLOUR CODE	ROAD	CARRIAGEWAY TYPE	CARRIAGEWAY SIDE [X-SCTN]	STRUCTURE IDENTIFICATION NUMBER	CHAINAGE START OF EARTHWORK / RETAINING WALL	CHAINAGE END OF EARTHWORK / RETAINING WALL	TOTAL LENGTH (M)	EARTHWORK / STRUCTURE TYPE	HD14 CLASSIFICATION	MAXIMUM EARTHWORK HEIGHT	MAXIMUM SLOPE ANGLE	CHAINAGE AT MAX RETAINED HEIGHT	MAX RETAINED HEIGHT (M)	AVERAGE RETAINED HEIGHT (M)	PROPOSED SOLUTION	ENVIRONMENTAL CONSTRAINTS
	A12 OFF SLIP	OFF SLIP	NORTH [L]	-	0	130	130	CUT	AT GRADE	-	-	-	-	-	-	-
	A12 OFF SLIP	OFF SLIP	NORTH [L]	-	130	200	70	CUT	CUTTING	1.8	1:3.5	-	-	-	-	-
	A12 OFF SLIP	OFF SLIP	NORTH [L]	-	200	230	30	CUT	AT GRADE	-	-	-	-	-	-	-
	A12 OFF SLIP	OFF SLIP	NORTH [L]	-	230	250	20	FILL	AT GRADE	-	-	-	-	-	-	-
	A12 OFF SLIP	OFF SLIP	NORTH [L]	-	250	390	140	FILL	FILLING	8.3	1:3.75	-	-	-	-	-
	A12 OFF SLIP	OFF SLIP	NORTH [L]	BN04 - 39009	390	490	100	MAYLANDS BRIDGE	-	-	-	-	-	-	-	-
	A12 OFF SLIP	OFF SLIP	NORTH [L]	RN02 - 39105	490	685	195	FILL	RETAINING WALL	-	-	490	10.4	7.3	REINFORCED EARTH WALL	-
	A12 OFF SLIP	OFF SLIP	NORTH [L]	-	685	695	10	EXIT ROAD	FILLING	-	-	-	-	-	-	-
	A12 OFF SLIP	OFF SLIP	NORTH [L]	-	695	740	45	FILL	FILLING	7.4	1:1	-	-	-	EXPANDED POLYSTYRENE (EPS) FILL	GROVE FARM
	A12 OFF SLIP	OFF SLIP	NORTH [L]	RN03 - 39106	740	760	20	FILL	RETAINING WALL	2.8	-	750	2.6	2.3	MODULAR BLOCKWORK	CULVERT
	A12 OFF SLIP	OFF SLIP	SOUTH [R]	-	0	250	250	CUT & FILL	AT GRADE	-	-	-	-	-	-	-
	A12 OFF SLIP	OFF SLIP	SOUTH [R]	-	250	390	140	FILL	FILLING	9.7	1:3.5	-	-	-	-	-
	A12 OFF SLIP	OFF SLIP	SOUTH [R]	-	390	490	100	MAYLANDS BRIDGE	-	-	-	-	-	-	-	-
	A12 OFF SLIP	OFF SLIP	SOUTH [R]	RN02 - 39105	490	660	170	FILL	RETAINING WALL	-	-	490	11.2	8.8	REINFORCED EARTH WALL	EXISTING WATERCOURSE TO BE REALIGNED
	A12 OFF SLIP	OFF SLIP	SOUTH [R]	-	660	740	80	FILL	FILLING	7.5	1:3.5	-	-	-	-	CULVERT
	A12 OFF SLIP	OFF SLIP	SOUTH [R]	-	740	760	20	FILL	AT GRADE	-	-	-	-	-	-	-

NOTES:
 1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH VERGE SCHEDULE KEY PLAN
 DRAWING: HE551519-ATK-HGT-XX-DR-CE-000100 TO 000111.

Description		Drawing Suitability		Status		Project Title	
Status		APPROVED - PUBLISHED		A1		M25 junction 28 improvement scheme	
Revision						Drawing Title	
Drawn						GEOTECHNICAL VERGE SCHEDULE	
Checked						Project	
Reviewed						HE551519 - ATK - HGT -	
Authorised						XX - DR - CE - 000204	
Issue Date						Location	
11/07/19						Original Size: A1 Scale: NTS Project Ref. No.: 5158157 Sheet: 4 of 5 Rev: C02	
Description For Issue		Description		Description		Description	
S3		PN		PM		SRM	
Authorised		---					
Issue Date		11/07/19					
Description		STAGE 3 DESIGN FIX 3 - FOR HE REVIEW		Client		Working on behalf of	
Status		B1		Drawn		BBM	
Revision		CO1		Checked		PM	
Drawn		BBM		Reviewed		SRM	
Checked		PM		Authorised		CT	
Issue Date		21/08/19		Description		STAGE 3 DESIGN FIX 3	
Status		A1		Revision		CO2	
Drawn		GR		Checked		PM	
Checked		PM		Reviewed		AC	
Issue Date		10/02/20		Authorised		PG	



Member of the SNC-Lavalin Group
Copyright © SNC Lavalin (2019)



Amlin House
Atkins 4th Floor
90-96 Victoria Road
Chelmsford
Essex CM1 1QU
Tel: +44 (0)1245 245245
Fax: +44 (0)1245 345010
www.atkinsglobal.com

DO NOT SCALE

100
0 10
Millimetres

M25 J28 A12 ON SLIP

GENERAL								EARTHWORKS				RETAINING SOLUTION				CONSTRAINTS
VERGE COLOUR CODE	ROAD	CARRIAGEWAY TYPE	CARRIAGEWAY SIDE [X-SCTN]	STRUCTURE IDENTIFICATION NUMBER	CHAINAGE START OF EARTHWORK / RETAINING WALL	CHAINAGE END OF EARTHWORK / RETAINING WALL	TOTAL LENGTH (M)	EARTHWORK / STRUCTURE TYPE	HD14 CLASSIFICATION	MAXIMUM EARTHWORK HEIGHT	MAXIMUM SLOPE ANGLE	CHAINAGE AT MAX RETAINED HEIGHT	MAX RETAINED HEIGHT (M)	AVERAGE RETAINED HEIGHT (M)	PROPOSED SOLUTION	ENVIRONMENTAL CONSTRAINTS
	A12 ON SLIP	ON SLIP	NORTH [L]	-	0	271	271	CUT & FILL	AT GRADE	-	-	-	-	-	-	-
	A12 ON SLIP	ON SLIP	SOUTH [R]	-	0	271	271	CUT & FILL	AT GRADE	-	-	-	-	-	-	-

NOTES:
1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH VERGE SCHEDULE KEY PLAN
DRAWING: HE551519-ATK-HGT-XX-DR-CE-000100 TO 000111.

Description						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
Description						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
Description For Issue						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
S3	PO1	PN	PM	SRM	--	11/07/19
Description						
STAGE 3 DESIGN FIX 3 - FOR HE REVIEW						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
B1	CO1	BBM	PM	SRM	CT	21/08/19
Description						
STAGE 3 DESIGN FIX 3						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
A1	CO2	GR	PM	AC	PG	10/02/20

Drawing Suitability: **APPROVED - PUBLISHED** Status: **A1**



Member of the SNC-Lavalin Group
Copyright © SNC Lavalin (2019)

Amlyn House
Atkins 4th Floor
90-96 Victoria Road
Chelmsford
Essex CM1 1QU
Tel: +44 (0)1245 245245
Fax: +44 (0)1245 345010
www.atkinsglobal.com

Client: **Working on behalf of highways england**

Project Title		M25 junction 28 improvement scheme	
Drawing Title		GEOTECHNICAL VERGE SCHEDULE	
Drawing Number	Project	Originator	Volume
HE551519	- ATK	- HGT	-
Location		XX - DR - CE - 000205	
Original Size	Scale	Project Ref. No.	Sheet
A1	NTS	5158157	5 of 5
Rev.		C02	

© Crown copyright (2017).

You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. To view this licence:

visit www.nationalarchives.gov.uk/doc/open-government-licence/
write to the Information Policy Team, **The National Archives, Kew, London TW9 4DU**,
or email psi@nationalarchives.gsi.gov.uk.

Printed on paper from well-managed forests and other controlled sources.

Registered office Bridge House, 1 Walnut Tree Close, Guilford GU1 4LZ
Highways England Company Limited registered in England and Wales number 09346363

© Crown copyright (2020).

You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. To view this licence:

visit www.nationalarchives.gov.uk/doc/open-government-licence/

write to the Information Policy Team, **The National Archives, Kew, London TW9 4DU**,
or email psi@nationalarchives.gsi.gov.uk.

Printed on paper from well-managed forests and other controlled sources.

Registered office Bridge House, 1 Walnut Tree Close, Guildford GU1 4LZ
Highways England Company Limited registered in England and Wales number 09346363