

Item	Description	Unit	Quantity	Rate (£)	Amount (£)
General Items & Provisional Sums					
SI/01	Contractors office	Wk.	1		
SI/01B	Mobilisation of contractors office	Sum.	Item		
SI/02	Contractors sample and/or equipment store	Wk.	1		
SI/02B	Mobilisation of contractors sample store and/or equipment store	Sum.	Item		
SI/03	Establish on site and remove on completion all necessary plant materials and equipment for cable percussion boring, in-situ testing, sampling and grouting.	Per Rig	1		
SI/04	Establish on site all plant and necessary equipment for rotary drilling, sampling in-situ testing and grouting.	Per Rig	1		
SI/05	Mobilisation of safety equipment for a YELLOW category site.	Sum Per Rig	1		
SI/07	Maintenance of safety equipment for a YELLOW category site	Rig Wk.	1		
SI/09	Extra Over drilling or cable percussion boring items for the use of safety equipment for category YELLOW site.	Per Rig Day	1		
Miscellaneous Site Costs & Subcontractor Costs					
SI/11	A fixed percentage to be added to the cost of materials, equipment or specialist subcontracting services, not covered in the Schedule of Rates, added to the cost of that Item	% Cost Plus	Item		
Cable Percussion Boreholes					
SII/01	Bring cable percussion boring rig to the site of each hole, erect, dismantle and move to next location	No.	4		
SII/03	Hand dug inspection pit (Dimensions 1.0 x 1.0 x1.2mBGL) to clear borehole position of underground services	No.	5		
SII/04	Bore from existing ground level to a depth of 10m inclusive of casing and backfilling borehole after completion with arisings	m.	20		
SII/05	As Item SII/04 but from 10m - 20m below existing ground level	m.			
SII/09	Extra over Items SII/04 to SII/08 but using 250mm casing and tools	m.			
SII/11	Advance borehole through hard stratum or obstructions using chiselling techniques	Hr.	Rate		
SII/12	Standing time for borehole plant, equipment and crew	Hr.	Rate		
SII/13	Leaving cable percussion borehole casing temporarily in place for subsequent work by rotary rig	m/day	Rate		
Grouting - Borehole					
SII/14	Bring grout pump to the site of each hole, erect, dismantle and move to next location	No.	4		
SII/15	Backfill 200mm diameter borehole with cement/bentonite grout (1:2 ratio)	m.	40		
Rotary Drilling					
SII/18	Bring rotary drilling rig to the site of each vertical or inclined drillhole, erect, dismantle and move to next location	No.	2		
Openhole Drilling - Vertical					
SII/20	Openhole drilling from existing ground level to a depth of 10m	m.			
SII/21	As Item SII/20 but from 10m to 20m below existing ground level	m.			
SII/22	As Item SII/20 but from 20m to 30m below existing ground level	m.			

SII/23	As Item SII/20 but from 30m to 40m below existing ground level	m.			
SII/24	As Item SII/20 but from 40m to 50m below existing ground level	m.			
	<u>Openhole Drilling - Inclined</u>				
SII/25	Openhole drilling from existing ground level to a depth of 10m	m.			
SII/26	As Item SII/25 but from 10m to 20m below existing ground level	m.			
SII/27	As Item SII/25 but from 20m to 30m below existing ground level	m.			
SII/28	As Item SII/25 but from 30m to 40m below existing ground level	m.			
SII/29	As Item SII/25 but from 40m to 50m below existing ground level	m.			
	<u>Rotary Drilling - Vertical</u>				
SII/30	Vertical rotary drilling to produce unlined continuous cores not less than 76mm in diameter from existing ground level to a depth of 10m	m.			
SII/31	As Item SII/30 but from 10m to 20m below existing ground level	m.			
SII/32	As Item SII/30 but from 20m to 30m below existing ground level	m.			
SII/33	As Item SII/30 but from 30m to 40m below existing ground level	m.			
SII/34	As Item SII/30 but from 40m to 50m below existing ground level	m.			
SII/35	Vertical rotary drilling to produce unlined continuous cores not less than 92mm in diameter from existing ground level to a depth of 10m	m.			
SII/36	As Item SII/35 but from 10m to 20m below existing ground level	m.			
SII/37	As Item SII/35 but from 20m to 30m below existing ground level	m.			
SII/38	As Item SII/35 but from 30m to 40m below existing ground level	m.			
SII/39	As Item SII/35 but from 40m to 50m below existing ground level	m.			
SII/40	Extra over Items SII/30 to SII/34 for use of semi-rigid core liner during drilling	m.			
SII/41	Extra over Items SII/35 to SII/39 for use of semi-rigid core liner during drilling	m.			
	<u>Casing Rotary Drillholes - Vertical</u>				
SII/54	Casing rotary drillholes inclusive of reaming out from existing ground level to a depth of 10m	m.			
SII/55	As Item SII/54 but from 10m to 20m below existing ground level	m.			
SII/56	As Item SII/54 but from 20m to 30m below existing ground level	m.			
SII/57	As Item SII/54 but from 30m to 40m below existing ground level	m.			

SII/58	As Item SII/54 but from 40m to 50m below existing ground level	m.			
	General				
SII/64	Standing time for rotary drilling plant, equipment and crew	Hr.	Rate		
	Grouting - Rotary Drillhole				
SII/66	Bring grout pump to the site of each rotary drillhole, erect, dismantle and move to next location	No.			
SII/67	Backfill 100mm diameter borehole with cement/bentonite grout (1:2 ratio)	m.			
SII/72	Inserting plug in 100mm or 120mm rotary drillhole	No.			
Installations & Monitoring					
SII/73	Sealing 200mm diameter borehole with bentonite pellets	m.			
SII/74	Sealing 250mm diameter borehole with bentonite pellets	m.			
SII/75	Sealing 300mm diameter borehole with bentonite pellets	m.			
SII/76	Sealing 100mm or 120mm diameter rotary drillhole with bentonite pellets	m.			
	uPVC Installation Pipe				
SII/77	Install 19mm diameter uPVC piezometer/standpipe in either boreholes or rotary drillholes	m.			
SII/78	Install 25mm diameter uPVC piezometer/standpipe in either boreholes or rotary drillholes	m.			
SII/79	Install not less than 50mm diameter uPVC or HDPE unperforated wellscreen in either boreholes or rotary drillholes	m.			
SII/80	Install not less than 50mm diameter uPVC or HDPE perforated wellscreen in either boreholes or rotary drillholes	m.			
	Installation Covers & Caps				
SII/81	Provide and install cassegrande type porous element for 19mm or 25mm diameter uPVC pipe in either boreholes or rotary drillholes	No.			
SII/82	Provide and install gas taps for either 19mm or 25mm diameter uPVC pipe in either boreholes or rotary drillholes	No.			
SII/83	Provide and install removable caps with small gas tap to 50mm diameter wellscreen in either borehole or rotary drillholes	No.			
SII/84	Provide and install lockable uPVC raised protective cover to standpipe/piezometer installation including setting in concrete	No.			
SII/85	Provide and install lockable flush cast iron stopcock cover to standpipe, piezometer or 50mm gas installation including setting in concrete	No.			
	Piezometer, Gaspipe & Standpipe Filter Materials				
SII/86	Backfilling 200mm diameter borehole with washed pea gravel or sand	m.			
SII/87	Backfilling 250mm diameter borehole with washed pea gravel or sand	m.			
SII/88	Backfilling 300mm diameter borehole with washed pea gravel or sand	m.			
SII/89	Backfilling 100mm or 120mm diameter rotary drillhole with pea gravel or sand	m.			
	Instrumentation Readings				

SII/90	Take readings of water levels in standpipes, piezometers and gaspipes	No.			
SII/91	Take set of gas readings (CH4, CO2,O2,Pressure) from gas installation or exploratory hole	No.			
SII/92	Take methanometer reading from gas installation or exploratory hole	No.			
Sampling					
SII/93	Take small disturbed sample (not less than 0.5 kg in weight)	No.			
SII/94	Take bulk disturbed sample	No.			
SII/95A	Take undisturbed open drive 100mm diameter sample	No.			
SII/95B	Take undisturbed Steel U100/CBR mould push- in sample in trial pits	No.			
SII/96	Take 100mm undisturbed piston sample	No.			
SII/97	Small disturbed sample for contamination screening (amber Glass container)	No.			
SII/98A	Take 1 litre sample of ground-water	No.			
SII/98B	Water Sample for contamination screening (amber glass Container)	No.			
In-Situ Testing					
SII/99	Standard penetration test in borehole	No.			
SII/100	Standard penetration test in rotary drillhole	No.			
SII/101	Hand shear vane in trial pits	No.			
SII/102	Mexi-probe equivalent CBR testing in trial pits	No.			
SII/101	Vane shear test in boreholes	No.			
SII/102	In-situ California Bearing Ratio Tests	No.			
SII/103	Carry out falling head permeability test in either borehole, rotary drillhole or installation	No.			
SII/104	Carry out rising head permeability test in either borehole, rotary drillhole or installation	No.			
SII/105	Carry out in-situ permeability test using double packer method in rotary drillhole	No.			
	Dynamic Probing (Penine Probe or similar approved)				
SII/106	Establish on site and remove on completion all necessary plant materials and equipment for dynamic probing.	Sum.			
SII/107	Bring dynamic probing rig to the site of each hole, erect, dismantle and move to next location	No.			
SII/108	Carry out dynamic probing between existing ground level and 10m depth	m.			
SII/109	As Item SII/108 but from 10m - 20m below existing ground level	m.			
SII/110	Carry out window sampling using the dynamic probe rig between ground level and 10m depth	m.			
SII/111	As Item SII/110 but from 10m -20m below existing ground level	m.			
SII/112	Standing time for dynamic probing rig and crew	Hr.			
Geotechnical Laboratory Testing					
	Classification Testing				
SIII/01	Moisture content determination test	No.			
SIII/02	Liquid limit, plastic limit and plasticity index	No.			

SIII/03	Determination of bulk & dry density of undisturbed sample	No.			
SIII/04	Density by linear measurement	No.			
SIII/05	Density by immersion in water or water displacement	No.			
SIII/06	Particle density by gas jar or pycnometer	No.			
SIII/07	Particle size distribution by wet sieving	No.			
SIII/08	Particle size distribution by dry sieving	No.			
SIII/09	Sedimentation by pipette	No.			
	Chemical and electrochemical				
SIII/10	Organic matter content	No.			
SIII/11	Mass loss on ignition	No.			
SIII/12	Total Sulphur (%)	No.			
SIII/13	Total Sulphate (%)	No.			
SIII/14	Total Chloride (%)	No.			
SIII/15	Water Soluble Sulphate (2:1 Water /Soil Extract g/L (SO ₄))	No.			
SIII/16	Water Soluble Nitrate (2:1 Water /Soil Extract g/L)	No.			
SIII/17	Water Soluble Chloride (2:1 Water /Soil Extract g/L)	No.			
SIII/18	Water Soluble Magnesium (2:1 Water /Soil Extract g/L)	No.			
SIII/19	Ammonium Ion concentration (2:1 Water/Soil Extract g/L NH ₄ ⁺)	No.			
SIII/20	Soluble Sulphate in groundwater sample (g/L SO ₄)	No.			
S111/21	Soluble Nitrate in groundwater sample (g/L)	No.			
S111/22	Soluble Chloride in groundwater sample (g/L)	No.			
S111/23	Soluble Magnesium in groundwater sample (g/L)	No.			
S111/24	Ammonium Ion concentration (2:1 Water/Soil Extract g/L NH ₄ ⁺)	No.			
S111/25	Aggressive Carbon dioxide (mg/LCO ₂)	No.			
S111/26	pH value for soil or ground-water sample	No.			
	Compaction Related				
SIII/27	Dry density/moisture content relationship using 2.5 kg rammer	No.			
SIII/28	Dry density/moisture content relationship using 4.5 kg rammer	No.			
SIII/29	Dry density/moisture content relationship using vibrating rammer	No.			
SIII/30	Extra over Items G17 to G19 for use of CBR mould	No.			
SIII/31	Moisture condition value at natural moisture content	No.			
SIII/32	Moisture condition value/moisture content relationship	No.			
SIII/33	California bearing ratio on recompacted disturbed sample	No.			
SIII/34	California bearing ratio on undisturbed mould sample	No.			
	Consolidation Testing and Permeability In hydraulic Cell				
SIII/35	One Dimensional consolidation test in oedometer cell (test period not exceeding 5 days)	No.			
SIII/36	Extra over SIII/35 for test periods exceeding 5 days	p/Day			
SIII/37	Consolidation properties of a 76mm diameter sample using a hydraulic cell (test period not exceeding 4 days)	No.			
SIII/38	As Item SIII/37 but using a 100mm diameter specimen	No.			
SIII/39	As Item SIII/37 but using a 150mm diameter specimen	No.			

SIII/40	Extra over Items SIII/37 to SIII/39 for test period in excess of 4 days	p/Day			
SIII/41	Permeability of a 76mm diameter specimen in a hydraulic consolidation cell (test period not exceeding 4 days)	No.			
SIII/42	As Item SIII/41 but using a 100mm diameter specimen	No.			
SIII/43	As Item SIII/41 but using a 150mm diameter specimen	No.			
SIII/44	Extra over Items SIII/41 to SIII/43 for test period in excess of 4 days	p/Day			
SIII/45	Constant head permeability in a permeameter (test period not exceeding 4 days)	No.			
SIII/46	Falling head permeability in a permeameter (test period not exceeding 4 days)	No.			
SIII/47	Extra over Item SIII/45 and SIII/46 for a test period in excess of 4 days	p/Day			
	<u>Shear Strength (Total Stress)</u>				
SIII/48	Shear strength by laboratory vane method	No.			
SIII/49	Shear strength of a set of three 60mm x 60mm square specimens by direct shear (test duration not exceeding 3 days per set)	No.			
SIII/50	Extra over SIII/49 for a test duration in excess of 3 days for the set	p/Day			
SIII/51	Peak and residual shear strength of a set of three 60mm x 60mm specimens by direct shear (test duration not exceeding 12 days per set)	No.			
SIII/52	Extra over SIII/51 for test duration in excess of 12 days for the set	p/Day			
SIII/53	Residual shear strength using small ring shear apparatus at three normal pressures (test duration not exceeding 4 days)	No.			
SIII/54	Extra over SIII/53 for test duration in excess of 4 days	p/Day			
SIII/55	Undrained shear strength of a set of three 38mm diameter specimens in triaxial compression without the measurement of pore pressure (per set)	No.			
SIII/56	Undrained shear strength of a single 100mm diameter specimen in triaxial compression without the measurement of pore pressure	No.			
SIII/57	Undrained shear strength of a single 100mm diameter specimen in triaxial compression with multistage loading and without the measurement of pore pressure	No.			
	<u>Shear Strength (Effective Stress)</u>				
SIII/58	Consolidated undrained triaxial compression test with measurement of pore pressure (set of three 38mm specimens) - test duration not exceeding 4 days per specimen	No.			
SIII/59	As Item SIII/58 but single-stage or multi-stage test using 100mm diameter specimen (test duration not exceeding 4 days)	No.			
SIII/60	Consolidated drained triaxial compression test with measurement of volume change (set of three 38mm specimens) - test duration not exceeding 4 days per specimen	No.			

SIII/61	As Item SIII/60 but single-stage or multi-stage test using 100mm diameter specimen (test duration not exceeding 4 days)	No.			
SIII/62	Extra over Items SIII/58 and SIII/59 for test duration in excess of 4 days per specimen	sp.Day			
SIII/63	Extra over Items SIII/60 and SIII/61 for test duration in excess of 4 days	p/Day			
Rock Testing					
SIII/64	Natural water content of a rock sample	No.			
SIII/65	Determination of point load strength of rock specimen	No.			
SIII/66	Determination of uniaxial compressive strength of 76mm diameter cylindrical rock specimen including preparation	No.			
SIII/67	Determination of Youngs Modulus and Poissons Ratio during uniaxial compression test on 76mm diameter cylindrical rock specimen including preparation	No.			
SIII/68	Extra over SIII/66 and SIII/67 for specimens of other diameters	No.			
SIII/69	Undrained triaxial compression without measurement of porewater pressure on 76mm diameter cylindrical rock specimen	No.			
SIII/70	Slake durability index	No.			
SIII/71	Porosity /density of a rock specimen using saturation and buoyancy	No.			
Contamination Testing					
	Chemical Laboratory Testing Soils				
SIII/72	Suite of soil tests consisting of; Total Arsenic, Total Chromium, Total Copper, Total Lead, Total Nickel, Total Selenium, Total Zinc, Water Soluble Boron, Total Mercury, Total Cadmium	No.			
SIII/73	Total Cyanide	No.			
SIII/74	Free Cyanide	No.			
SIII/75	Complex Cyanide	No.			
SIII/76	Total Carbonate	No.			
SIII/77	Total Fluoride	No.			
SIII/78	Total Magnesium	No.			
SIII/79	Total Phenol	No.			
SIII/80	Monohydric Phenol	No.			
SIII/81	Chromium Hexavalent	No.			
SIII/82	Toluene Extractable Matter	No.			
SIII/83	Cyclohexane Extractable Matter	No.			
SIII/84	Total Polynuclear Aromatic Hydrocarbons (PAH Screen)	No.			
SIII/85	Polynuclear Aromatic Hydrocarbons (EPA 16 Speciated)	No.			
SIII/86	Total Sulphide	No.			
SIII/87	Free Sulphur	No.			
SIII/88	Total Chloride	No.			
SIII/89	Total Sulphate	No.			
SIII/90	pH value	No.			
SIII/91	Calorific value	No.			
SIII/92	Total Chlorinated Benzene	No.			
SIII/93	Total Chlorinated Phenol	No.			

SIII/94	Total Polychlorinated Biphenyl (PCB)	No.			
SIII/95	Asbestos Content	No.			
SIII/96	Mineral Oils	No.			
SIII/97	Total Petroleum Hydrocarbons	No.			
SIII/98	Redox Potential	No.			
SIII/99	BTEX (Benzene, Toluene, Ethylbenzene, Xylene)	No.			
	Chemical Laboratory Testing Ground-Water/Leachate				
SIII/100	Suite of ground-water/leachate tests consisting of; Soluble Arsenic, Soluble Chromium, Soluble Copper, Soluble Lead, Soluble Nickel, Soluble Selenium, Soluble Zinc, Soluble Boron, Soluble Mercury, Soluble Cadmium	No.			
SIII/101	Anion ground-water suite consisting of; Bromide, Chloride, Fluoride, Nitrate, Nitrite, Ortho Phosphate Sulphate	No.			
SIII/102	Preparation of Leachate Tests	No.			
SIII/103	Total Cyanide	No.			
SIII/104	Total Phenol	No.			
SIII/105	Monohydric Phenol	No.			
SIII/106	Total Sulphide	No.			
SIII/107	Ammoniacal Nitrogen	No.			
SIII/108	Total Organic Carbon	No.			
SIII/109	Total Sulphur	No.			
SIII/110	Soluble Chloride	No.			
SIII/111	Soluble Magnesium	No.			
SIII/112	Soluble Carbonate	No.			
SIII/113	Total Polynuclear Aromatic Hydrocarbons (PAH)	No.			
SIII/114	BTEX (Benzene, Toluene, Ethylbenzene, Xylene)	No.			
SIII/115	Total Chlorinated Phenol	No.			
SIII/116	Total Chlorinated Aliphatic	No.			
SIII/117	Total Polychlorinated Biphenyl (PCB)	No.			
SIII/118	Polynuclear Aromatic Hydrocarbons (EPA 16 Speciated)	No.			
SIII/119	Fluoride	No.			
SIII/120	Free Cyanide	No.			
SIII/121	Total Petroleum Hydrocarbons	No.			
SIII/122	Waste Acceptance Criteria Analysis Suite (See Schedule (4) for details of individual analysis items)	No.			
	Factual Report & Photographs				
SIII/122	Supply 6 No. copies of factual report to be charged at a fixed percentage of the total cost of the investigation	%			
SIII/123	Supply 6 No. Copies of factual and interpretative report to be charged at a fixed percentage of the total cost of the investigation	%			
SIII/124	Additional copies of factual or factual and interpretative report	No			
SIII/125	Photographs	No.			
SIII/126	Bound photographic volumes	No.			
SIII/127	Supply 1 No. copy of the factual or factual and interpretative report in Adobe PDF format (digital format).	No.			

SIII/128	Supply 1No. Copy of AGS data obtained during the investigation. This submission shall include other non-AGS format files such as Microsoft Word and Excel files, JPEGS (picture files) and other formats used in the production of the paper hard-copy.	No.			
Professional Services					
SIV/01	Technician Services	Hr.			
SIV/02	Geotechnical Engineer, Engineering Geologist or Geologist (Graduate with at least 3 years relevant experience)	Hr.			
SIV/03	Geotechnical Engineer, Engineering Geologist or Geologist (Graduate with at least 5 years relevant experience)	Hr.			
SIV/04	Principal Chartered Geotechnical Engineer, Engineering Geologist or Geologist (Graduate with at least 8 years relevant experience)	Hr.			
SIV/05	Environmental Specialist (Graduate with a least 5 years relevant experience)	Hr.			