

SUMMARY OF BILL OF QUANTITIES

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ADD VAT (15%) - (only if a registered VAT Vendor)				R
TOTAL CARRIED TO FORM OF TENDER				R

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BILL OF QUANTITIES**SECTION 1 PRELIMINARY AND GENERAL ITEMS****PART 0102 C1.2 GENERAL REQUIREMENTS AND PROVISIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Environmental Management</u>				
1	C1.2.1.1 PS.C1.2.1.1	Monitoring of compliance with and reporting on the EMP	months	12		
2	C1.2.1.2 PS.C1.2.1.2	Dedicated environmental officer	months	12		
		<u>Programming and Reporting</u>				
3	C1.2.2.3 PS.1.1 PS.C1.2.2.3	Submission of a Scheme 2 Initial Programme	Lump sum	1		
4	C1.2.2.4 PS.C1.2.2.3	Submission of a Scheme 2 Full Programme	Lump sum	1		
5	C1.2.2.5 PS.C1.2.2.5	Reviewing and updating a Scheme 2 programme every month	months	12		
		<u>Other Documentation</u>				
6	C1.2.2.6	Preparation and submission of all information and reports specified in the Contract Documentation, including reporting on local labour	months	12		
		<u>Routine road maintenance of existing public roads within the Site of the Works or other public roads outside the Site of the Works which are used as detours</u>				
7	C1.2.3.1	Grass cutting	ha	0.12		
8	C1.2.3.4	Collection of rubbish / litter	km	0.3		
		<u>Stakeholder Management & Liaison</u>				
9	C1.2.4 PS.24	Stakeholder Management and Liaison	months	12		
		<u>Health and Safety</u>				
10	C1.2.5.1 PS.10	Health and safety plan	Lump sum	1		
11	C1.2.5.2 PS.10	Implementation of health and safety plan	months	12		
12	C1.2.6.1	Work adjacent to properties: Survey of adjacent properties	no	10		
13	C1.2.6.2	Preventive and/or mitigation measures	PC Sum	25000	1.00	25,000.00
14	C1.2.6.3	Handling cost, profit and all other charges in respect of item C1.2.6.2	%	25000		
		<u>Community Liaison Officer</u>				
15	PS.25	Allow for CLO to be appointed	PC Sum	270000	1.00	270,000.00

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST

Part Continued **PART** 0102 C1.2 GENERAL REQUIREMENTS AND PROVISIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
16	PS.25	Handling costs and profit in respect of PS.25	%	270000		
		<u>Additional Security</u>				
17	PS.11	Provision of security on site to guard against any disruption of the works throughout the duration of the contract	months	12		

TOTAL CARRIED TO SECTION 1 SUMMARY: PRELIMINARY AND GENERAL ITEMS

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PART 0103 C1.3 CONTRACTOR'S SITE ESTABLISHMENT AND

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>The Contractor's General Obligations</u>				
1	C1.3.1.1 PS.C1.3.1	Fixed obligations	Lump sum	1		
2	C1.3.1.2 PS.C1.3.1	Value-related obligations	Lump sum	1		
3	C1.3.1.3 PS.C1.3.1	Time-related obligations	months	12		
4	C1.3.2 PS.C1.3.2	Contract sign boards (as per drawing)	no.	1		
5	PS.17	Submission of As-Built Data	sum	1		

TOTAL CARRIED TO SECTION 1 SUMMARY: PRELIMINARY AND GENERAL ITEMS

R

PART 0104 C1.4 FACILITIES FOR THE ENGINEER

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Services at Site Offices, Laboratories and Site Accommodation</u>				
1	PS.19	Allowance for Progress Photographs every month, digital and aerial	PC Sum	90000	1.00	90,000.00
2	PS.19	Handling costs and profit in respect of item above	%	90000		
3	PS.21	Allowance for the additional survey required by the Engineer	PC Sum	50000	1.00	50,000.00
4	PS.21	Handling costs in respect of item above	%	50000		
5	PS.23	Allowance for Laboratory Acceptance testing as required by the Engineer	PC Sum	50000	1.00	50,000.00
6	PS.23	Handling costs in respect of item above	%	50000		

TOTAL CARRIED TO SECTION 1 SUMMARY: PRELIMINARY AND GENERAL ITEMS

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PART 0105 C1.5 ACCOMMODATION OF TRAFFIC

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C1.5.1.1 PS.1.3	Accommodation of pedestrian and non-motorised traffic	months	12		

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST

Part Continued **PART** 0105 C1.5 ACCOMMODATION OF TRAFFIC

Item	Clause	Description	Unit	Quantity	Rate	Amount
2	C1.5.2 PS.1.3	Accommodation of vehicular traffic	months	12		
		<u>Temporary Traffic Control Facilities</u>				
3	C1.5.7.1(a)	Delineators including mounting bases and ballast: Single sided, reversible left or right (1200mm x 250mm)	no	20		
4	C1.5.7.1(b)	Delineators including mounting bases and ballast: Double sided, reversible left or right (1200mm x 250mm)	no	20		
5	C1.5.7.3	Flagmen	man-day	528		
6	C1.5.7.4	Traffic controllers	man-day	264		
7	C1.5.7.5 (c)	(c) Illuminated road sign – R & TR series (900mm)	no	8		
8	C1.5.7.9	Cleaning of traffic control facilities	months	12		
9	C1.5.8 PS.1.3.4	Traffic safety officer	months	12		
		<u>Traffic Safety Officer: Penalties</u>				
10	A1.5.3.7 PS.1.4	(a) Fixed Penalty per occurrence, R2000 per day	RateOnly	0		RATE ONLY
11	A1.5.3.7 PS.1.4	(b) Time-Related Penalty, R1000 per hour	RateOnly	0		RATE ONLY
12	C1.5.7.2	Traffic cones, minimum height 750 mm	no	10		
		<u>Provision of Safety Equipment for Visitors</u>				
13	C1.5.11.1	Provision of reflective safety vests for visitors	no	5		
14	C1.5.11.2	Provision of hard hats for visitors	no	5		

TOTAL CARRIED TO SECTION 1 SUMMARY: PRELIMINARY AND GENERAL ITEMS

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SECTION 2 DAY WORKS**PART 0102 C1.2 GENERAL REQUIREMENTS AND PROVISIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C1.2.8.1(a)	Personnel: (a) Unskilled labourer	hour	20		
2	C1.2.8.1(b)	Personnel: (b) Semi-skilled labourer	hour	20		
3	C1.2.8.1 (c)	Personnel: (c) Skilled labourer	hour	10		
4	C1.2.8.2€	Construction equipment : (e) Tractor loader backhoe	hour	10		

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST

Part Continued **PART** 0102 C1.2 GENERAL REQUIREMENTS AND PROVISIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
5	C1.2.8.4(a)	Materials - Procurement of materials	PC Sum	40000	1.00	40,000.00
6	C1.2.8.4(b)	(b) Contractor's handling costs, profit and all other charges in respect of item C1.2.8.4(a)	%	40000		

TOTAL CARRIED TO SECTION 2 SUMMARY: DAY WORKS

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SECTION 3 SITE CLEARANCE**PART 0106 C1.6 CLEARING AND GRUBBING**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Clearing</u>				
1	C1.6.1.1	Clearing with machines and some hand labour where necessary	ha	0.12		
2	C1.6.1.2	Clearing with hand labour only when labour enhanced work is specified	ha	0.06		
		<u>Grubbing</u>				
3	C1.6.2.1	Grubbing with machines and some hand labour where necessary	ha	0.3		
4	C1.6.2.2	Grubbing with hand labour when labour enhancement work is specified or it is not practical to use a machine	ha	0.3		
		<u>Removal and Grubbing of Large Trees and Tree Stumps</u>				
5	C1.6.3.1	Girth equal to or exceeding 1,0 m up to and including 2,0 m	no	12		
6	C1.6.4.1 PS.C1.6.4.1	Removal of structures: Demolition of brickwork of Manholes and inlets. Depth 0.0m to 1.0m	m3	2		
7	C1.6.4.1 PS.C1.6.4.1	Removal of Stormwater manholes and inlet; covers and frames. Store on site.	no	1		
8	C1.6.4.1 PS.C1.6.4.1	Removal of Stormwater manholes and inlet; covers and frames. Spoil at tip, including haulage.	no	1		
9	C1.6.4.1 PS.C1.6.4.1	Removal of Stormwater Pipes, Diameter 300mm-600mm. Spoil at tip, including haulage.	m	15		
10	C13.3.1.1(a) PS.C1.6.4.1	Cast in situ concrete: Strength concrete (class C): Seal Pipe ends (a) Concrete 15/26	m3	10		
11	C1.6.9.1	Conservation of topsoil: Stockpiling topsoil	m3	0		

TOTAL CARRIED TO SECTION 3 SUMMARY: SITE CLEARANCE

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WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST

PART 0107 C1.7 LOADING AND HAULING

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Hauling material for use in the Works</u>				
1	C1.7.2.1(a)	Hauling material for use in the Works and off-loading it on the site of the Works: (a) Soil, gravel, crushed stone and pavement layer material	m3 * km	180		
		<u>Hauling material to spoil</u>				
2	C1.7.2.2(a) PS.C1.7.2.2	Hauling material to spoil in sites designated by the Contractor: (a) Cleared and grubbed material (organic matter and all other unsuitable or waste material)	m3	27		
3	C1.7.2.2(b) PS.C1.7.2.2	Hauling material to spoil in sites designated by the Contractor: (b) Soil and gravel material	m3	36		
4	C1.7.2.2(c) PS.C1.7.2.2	Hauling material to spoil in sites designated by the Contractor: (c) Boulders and hard material	m3	18		

TOTAL CARRIED TO SECTION 3 SUMMARY: SITE CLEARANCE

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SECTION 4 SERVICES**PART 0201 C2.1 GEN REQMENTS AND TRENCHING SERVICE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Location, Identification, Protection and Relocation of Existing Services</u>				
1	C2.1.1.1	Contractor's obligation	Lump sum	1		
		<u>Relocation of Services by Others:</u>				
		<u>Water</u>				
2	C2.1.1.2 PS.3	Permanent services relocation or protection work by others: Water	PC Sum	180000	1.00	180,000.00
3	C2.1.1.3 PS.3	Handling costs and profit in respect of item C2.1.1.2 above	%	180000		
		<u>Electricity</u>				
4	C2.1.1.2 PS.6	Permanent services relocation or protection work by others: Electricity	PC Sum	50000	1.00	50,000.00
5	C2.1.1.3 PS.6	Handling costs and profit in respect of item C2.1.1.2 above	%	50000		

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST

Part Continued **PART** 0201 C2.1 GEN REQMENTS AND TRENCHING SERVICE

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Proving By Hand</u>				
6	C2.1.2.5 PS.2.2	Using hand excavation to locate, expose and verify services, Depth of 0.0m to 1.5m. (Prov)	m3	45		
7	C2.1.2.5 PS.2.2	Using hand excavation to locate, expose and verify services, Depth of 1.5m to 2.0m (Prov)	m3	32		
		<u>Cable Ducts</u>				
8	C2.1.6.1(a) PS.C2.1.6	Trench excavation (in soft material): Trenches up to 1,0 m wide (a) Up to 1,0 m deep	m3	48		
9	C2.1.6.1(b) PS.C2.1.6	Trench excavation (in soft material): Trenches up to 1,0 m wide (b) Over 1,0 m and up to 2,0 m deep	m3	48		
10	C2.1.6.2(a) PS.C2.1.6	Trenches over 1,0 m and up to 2,0 m wide: (a) Up to 1,0 m deep	m3	20		
11	C2.1.6.2(b) PS.C2.1.6	Trenches over 1,0 m and up to 2,0 m wide: (b) Over 1,0 m and up to 2,0 m deep	m3	10		
12	C2.1.7.1	Extra over item for excavating in hard material irrespective of depth	m3	10		
13	C2.1.11.1(a) PS.C2.1.6	Backfilling of trenches: Backfill compacted to 93 % (100 % for sand) of MDD (areas subject to traffic loads) using material: (a) From the excavated trench material	m3	60		
14	C2.1.11.1(b) PS.C2.1.6	Backfilling of trenches: Backfill compacted to 93 % (100 % for sand) of MDD (areas subject to traffic loads) using material: (b) From other excavations on Site	m3	20		
15	C2.1.11.1(d) PS.C2.1.6	Backfilling of trenches: Backfill compacted to 93 % (100 % for sand) of MDD (areas subject to traffic loads) using material: (d) From sources provided by the Contractor	m3	10		
16	C2.1.14.2	Extra over items C2.1.11, C2.1.12 and C2.1.13 for additional compaction of backfill:Compaction increased from 93 % of MDD to 95 % of MDD	m3	10		
17	C2.1.17.2	Removal and disposal of spoil material from trench excavations:To spoil sites or dumping areas provided by the Contractor	m3	10		
18	C2.1.19.1	Dealing with surface water	Lump sum	1		

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST**Part Continued PART 0201 C2.1 GEN REQMENTS AND TRENCHING SERVICE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
19	C2.1.19.2	Dealing with subsurface water	Lump sum	1		

TOTAL CARRIED TO SECTION 4 SUMMARY: SERVICES**R****PART 0202 C2.2 DRY SERVICES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C2.2.1.1(a) PS.C2.2.1.1	U-PVC, type N450, with push fit couplings. (a) 110 mm diameter	m	10		
2	C2.2.1.1(b) PS.C2.2.1.1	U-PVC, type N450, with push fit couplings. (b) 160 mm diameter	m	20		
3	C2.2.4.1	Bedding for ducts compacted to 93 % of MDD (100 % for sand) using material: Selected from the excavated trench material	m3	5		
4	C2.2.4.5(a)	Bedding for ducts compacted to 93 % of MDD (100 % for sand) using material: From commercial sources : (a) Clean Coarse Sand	m3	5		
5	C2.2.5.1	Concrete for bedding of ducts: Concrete bedding (Class 20/26)	m3	10		
6	C2.2.6.1	Duct accessories: Duct markers (230 x 250 x 50)	no	6		
7	C2.2.6.3	Duct accessories: Draw wires	m	50		
8	C2.2.6.4	Duct accessories: End caps or plugs (U-PVC for 110mm dia)	no	2		
9	C2.2.6.4	Duct accessories: End caps or plugs (U-PVC for 160mm dia)	no	4		
10	C2.2.7.2(a)	Manholes (Standard Manhole): (a)1,0 m and up to 1,5 m deep	no	3		
11	C2.2.7.4 PS.C2.2.7.4	Cable duct headwalls (230mm brickwork). Drawing: 38581	m2	10		

TOTAL CARRIED TO SECTION 4 SUMMARY: SERVICES**R**

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST

SECTION 5 DRAINAGE**PART 0302 C3.2 CULVERTS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Excavation:</u> <u>Pipes</u>				
1	C3.2.1.1(a) PS.C2.1.6 PS.C3.2.1.1	Excavation for culvert structures for pipes: in all material situated within the following depth ranges below the surface level: (a) 0 m to 1,5 m	m3	68		
2	C3.2.1.1(b) PS.C2.1.6 PS.C3.2.1.1	Excavation for culvert structures for pipes: in all material situated within the following depth ranges below the surface level: (b) Exceeding 1,5 m and up to 3,0 m	m3	56		
3	C3.2.1.4 PS.C2.1.6	Extra over sub-item C3.2.1.1 for excavation in hard or boulder material,irrespective of depth	m3	5		
		<u>Backfilling:</u> <u>Pipes</u>				
4	C3.2.2.1	Backfilling: Using the excavated material	m3	100		
5	C3.2.2.2(a)	Backfilling: Using imported selected material: (a) From commercial sources (Using granular material)	m3	25		
6	C3.2.3.3 PS.C3.2.3.2	Concrete pipe culverts, Spigot and Socket: On Class C bedding (900mm diameter concrete Class 100D)	m	30		
7	C3.2.8	Concrete backfill or encasement for culverts (Grade 20/26)	m3	5		
		<u>Excavation:</u> <u>Manholes, Inlets and Headwalls</u>				
8	C3.2.1.1(a) PS.C2.1.6	Excavation for culvert structures for Manholes Inlets and Headwalls: in all material situated within the following depth ranges below the surface level: (a) 0 m to 1,5 m	m3	5		
9	C3.2.1.1(b) PS.C2.1.6	Excavation for culvert structures for Manholes Inlets and Headwalls: in all material situated within the following depth ranges below the surface level: (b) Exceeding 1,5 m and up to 3,0 m	m3	2		
10	C3.2.1.4 PS.C2.1.6	Extra over sub-item C3.2.1.1(b) for excavation in hard or boulder material,irrespective of depth	m3	5		

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST

Part Continued **PART** 0302 C3.2 CULVERTS

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Backfilling:</u> <u>Manholes, Inlets and Headwalls</u>				
11	C3.2.2.1	Backfilling: Using the excavated material	m3	5		
12	C3.2.2.2(a)	Backfilling: Using imported selected material: (a) From commercial sources	m3	3		
		<u>Headwalls</u>				
13	PS.C3.2.9	Inlets and outlets to culverts: Headwalls, Type A, for 900mm pipes	no	3		
14	PS.C3.2.15.2	Inlet: Type S2, heavy duty concrete cover; Depth: Exceeding 0,0m and up to 1,5m	no	1		
15	PS.C3.2.15.2	Inlet: Type S2, heavy duty concrete cover; Depth: Exceeding 1,5m and up to 2,0m	no	1		
16	PS.C3.2.15.2	Inlet: Type D3, heavy duty concrete cover; Depth: Exceeding 0,0m and up to 1,5m	no	1		
		<u>Compaction</u>				
17	C3.2.24.1	Compaction of bedding for inlets, outlets, manholes and catchpits: Preparation and compaction of in situ bedding material to 90 % of MDD (depth 150mm)	m3	42		
18	C1.7.2.2(c) PS.C1.7.2.2	Hauling material to spoil and off-loading it at a designated spoil area: (c) Boulders and hard material	m3	15		
		<u>Chutes</u>				
19	C3.3.6.1	Prefabricated concrete chutes (minimum size 0.4m wide x 0.15m depth)	m	20		
		<u>Driveways</u>				
20	PS..26	Construction of affected driveways to original or better conditions. (Rate is to include excavation, preparation of subbase, provision and compaction of granular base material, supply of all materials, shiuttering, formwork, expansion joints, reinforcing Mesh REF 193 and weedkiller) The driveway is to be constructed with a 100mm thick x 3.0m wide concrete pavement with a 150mm - 250mm concrete lip above the final road level ege to cater for stormwate drainage.	no	8		

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST

PART 0302 C3.2 CULVERTS

Item	Clause	Description	Unit	Quantity	Rate	Amount
TOTAL CARRIED TO SECTION 5 SUMMARY: DRAINAGE						R

PART 0303 C3.3 CONCRETE KERBING AND CHANNELING

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Kerb and Channel / Fillet for Roadway</u>				
1	C3.3.2.1, PS.C3.3.2.1	Prefabricated kerbing, cast in-situ channeling: Type D Barrier Kerb, Fig. 6, with 150mm channel, Drawing 38577	m	510		
2	C3.3.2.1, PS.C3.3.2.1	Prefabricated kerbing, cast in-situ channeling: Type F Mountable Kerb, Fig. 6, with 150mm channel, Drawing 38577	m	40		
3	C3.3.3.1, PS.C3.3.2.1	Extra over items 1 and 2 for concrete kerbing and channeling on curves of radii more than or equal to 2,0 m but less than 25 m	m	50		
4	C3.3.3.1	Extra over items 1 and 2 for concrete kerbing or concrete kerbing and channeling on curves of radii more than or equal to 40,0 m but less than 200 m	m	25		
5	C3.3.4	Extra over item C3.3.2 for drop kerbs and channel / Fillet at pedestrian crossings and driveways (Drawing 38579)	m	30		
		<u>Scoops</u>				
6	C13.4.11	Cast in situ concrete for Pedestrian / Vehicular Scoop (Grade 20/13)	m3	5		
TOTAL CARRIED TO SECTION 5 SUMMARY: DRAINAGE						R

PART 1206 C12.6 MECH STABILISED FILL AND GABIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Reno Mattress and Gabions for Headwalls</u>				
1	C12.6.14.1(a)	Foundation trench excavation: Excavating all material for gabions and reno mattress situated within the following depth ranges (a) 0 m to 1,5 m	m3	60		
2	C12.6.14.1(b)	Foundation trench excavation: Excavating all material for gabions and reno mattress situated within the following depth ranges (b) Exceeding 1,5 m and up to 3,0 m	m3	165		
3	C12.6.15	Surface preparation for bedding the reno mattress	m2	40		

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST

Part Continued **PART** 1206 C12.6 MECH STABILISED FILL AND GABIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
4	C12.6.16.2	Reno mattress: PVC coated gabion boxes (2.0mx1.0mx0.3m)	m3	10		
5	C12.6.17, PS.C12.6.17	Geotextile (Filtertation and separation for use with reno mattress, min Grade 7)	m2	40		

TOTAL CARRIED TO SECTION 5 SUMMARY: DRAINAGE

R

SECTION 6 EARTHWORKS**PART 0402 C4.2 CUT MATERIALS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Excavation to Stockpile or Fill</u>				
1	C4.2.3.1 PS.C4.2	Excavating of materials in cuttings for use in the works, material obtained from: Soft excavation	m3	1000		
2	C4.2.3.4 PS.C4.2	Excavating of materials in cuttings for use in the works, material obtained from: Hard excavation (other than by blasting)	m3	200		
3	C4.2.4.1 PS.C4.2	Excavating of materials in box cuts for use in the works, material obtained from: Soft excavation	m3	510		
4	C4.2.4.4 PS.C4.2	Excavating of materials in box cuts for use in the works, material obtained from: Hard excavation (other than by blasting)	m3	90		
5	C1.7.2.2(b) PS.C1.7.2.2	Hauling material to spoil in sites designated by the Contractor: (b) Soil and gravel material	m3	460		
6	C1.7.2.2(c) PS.C1.7.2.2	Hauling material to spoil in sites designated by the Contractor: (c) Boulders and hard material	m3	80		
7	C1.7.2.1(a)	Hauling material for use in the Works and off-loading it on the site of the Works: (a) Soil, gravel, crushed stone and pavement layer material	m3 * km	180		
8	C1.7.1.1	Loading from stockpile using machines and some hand labour where necessary	m3	180		
		<u>Excavation to Spoil</u>				
9	C4.2.9.1 PS.C4.2	Excavate material to spoil in sites designated by the Contractor, material obtained from: Soft excavation, overburden and unsuitable material	m3	460		

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST**Part Continued PART 0402 C4.2 CUT MATERIALS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Finishing of Banks</u>				
10	C4.2.12.1(a)	Finishing the side slopes of Cuttings: (a) In soft material	m2	450		

TOTAL CARRIED TO SECTION 6 SUMMARY: EARTHWORKS**R****PART 0403 C4.3 EXISTING ROAD MATERIALS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Saw-cut</u>				
1	C4.3.4.1(a)	Saw-cutting existing materials within the following average depth ranges: Asphalt: (a) Up to 50 mm	m	10		
2	C4.3.9.2 PS.C4.2	Excavating material by using conventional road construction equipment to stockpile: Crushed stone and macadam materials	m3	0		

TOTAL CARRIED TO SECTION 6 SUMMARY: EARTHWORKS**R****PART 0404 C4.4 COMMERCIAL MATERIALS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Import Fill Material</u>				
1	C4.4.2.1(g)	Commercial materials identified by the Contractor from commercial, private or other non-commercial suppliers: Pavement layer material:Type G7	m3	500		

TOTAL CARRIED TO SECTION 6 SUMMARY: EARTHWORKS**R****PART 0502 C5.2 FILL**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Processing and Compaction</u>				
1	C5.2.2.1(a)	Fill construction: Normal fill material (G7) in compacted layer thicknesses of 200 mm and less: (a) Compacted to 95 % of MDD	m3	500		
2	C5.2.3	Side-cut to fill compacted to 93 % of MDD in compacted layer thicknesses of 200 mm and less	m3	90		
3	C5.2.11.1	Finishing-off fill slopes	m2	870		

TOTAL CARRIED TO SECTION 6 SUMMARY: EARTHWORKS**R**

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST

SECTION 7 LAYERWORKS**PART 0404 C4.4 COMMERCIAL MATERIALS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C4.4.2.1(g)	Commercial materials identified by the Contractor from commercial, private or other non-commercial suppliers: Pavement layer material:Type G7	m3	500		

TOTAL CARRIED TO SECTION 7 SUMMARY: LAYERWORKS

R

PART 0501 C5.1 ROADBED

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C5.1.1.2	Roadbed construction and compaction to 95 % of MDD	m3	240		

TOTAL CARRIED TO SECTION 7 SUMMARY: LAYERWORKS

R

PART 0503 C5.3 ROAD PAVEMENT LAYERS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C5.3.1	Compiling and implementing M&U plans for the construction of all the pavement layers.	no	1		
2	C5.3.2.1(b)	Construction of layers: Upper selected subgrade layer (G7) compacted to 95 % of MDD	m3	500		
3	PS.EG.6.1	Asphalt Sidewalks / Footpath with 100mm G2 graded crushed stone overlaid by 25mm Sa-S7 (Rate to include Tack Coat and Weedkiller)	m2	20		

TOTAL CARRIED TO SECTION 7 SUMMARY: LAYERWORKS

R

PART 0601 C6.1 PAVER LAID CONCRETE LAYERS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C6.1.2.2(b)	Construction of jointed concrete pavement (JCP) (Excluding texturing and curing) JC with dowels: (b) Labour enhanced construction 150mm thickness	m2	1500		
2	C6.1.2.3	Additional concrete placed to thicken up the slab at joints as specified in the Contract Documentation	m3	50		
3	C6.1.8.2	150 mm cores drilled from pavement for testing of compressive strength	no	5		
4	C6.1.6.1	Expansion joints complete (excluding dowels)	m	600		
5	C6.1.6.2(a)	Longitudinal hinge joints: Sealed hinge joints to be keyed and tied with dowels	m	300		

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST**Part Continued PART 0601 C6.1 PAVER LAID CONCRETE LAYERS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
6	C6.1.7.5(a)	Tie-bars: installed in new concrete should be Y10 (deformed bars), 500mm in length @750mm intervals	no	480		

TOTAL CARRIED TO SECTION 7 SUMMARY: LAYERWORKS**R****SECTION 8 ANCILLARY ROAD WORKS****PART 1104 C11.4 ROAD RESTRAINT SYSTEMS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C11.4.1.1(c)	Erecting of guardrails at 3,81 m spacing: Complete galvanized system compliant to SANS 1350: (c) on CONCRETE post (Drawing 38580)	m	110		
2	C11.4.1.2(b)	Terminal sections for 3,81 guardrails comprising of: (b) Bullnoses to SANS 1350	no	4		
3	C11.4.5.1	"Additional guardrail posts for 3,81 m systems: Concrete"	no	4		
4	C11.4.6.2	Reflective Plastic plates	no	37		
5	C11.4.4.1	Extra over C11.4.1 for horizontally curved guard rails factory bent to a radius of less than 45m	m	20		

TOTAL CARRIED TO SECTION 8 SUMMARY: ANCILLARY ROAD WORKS**R****PART 1105 C11.5 FENCING**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Wire Mesh Fence - Drawing 38583</u>				
1	C11.5.1.3	Diamond mesh	m2	180		
2	C11.5.1.9(a)(i)	Straining posts, stays and anchors:(a) Vertical (Concrete straining post)	no	8		
3	C11.5.2 PS.C11.5.4.1	New gates (Vehicular)	no	2		
4	C11.5.10.1	Disposal of existing fencing materials: Security Fences	m	100		
5	C11.5.3.1(d)	"Moving existing fences:(d) Security fences"	km	0.1		
6	C11.5.4.1(d)	"Dismantling existing fences:(d) Security fences"	km	0.1		
7	C11.5.9	Repairing existing fences : To match existing fencing on site as and when required	km	0.1		

TOTAL CARRIED TO SECTION 8 SUMMARY: ANCILLARY ROAD WORKS**R**

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST

PART 1106 C11.6 ROAD SIGNS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C11.6.1.3(a)	Road signboards with painted or coloured semi-matt background. Symbols, lettering and borders in semi-matt black or in Class I retro-reflective material, where the sign board is constructed from: Prepainted galvanized steel plate: (a) Area 0 to 0,5 m2	m2	2		
2	C11.6.3.1	Road sign supports:Steel tubing (75m diameter), Galvanised	m	15		
3	C11.6.5.1	Excavation and backfilling for road sign supports:Excavating soft material and backfilling	m3	2		
4	C11.6.5.4	Extra over item C11.6.5.1 for hard material excavation	m3	2		
5	C13.4.11	Cast in situ concrete for road sign footings as directed by the Engineer (Grade 20/19)	m3	2		

TOTAL CARRIED TO SECTION 8 SUMMARY: ANCILLARY ROAD WORKS

R

PART 1107 C11.7 ROAD MARKINGS AND ROAD STUDS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C11.7.1.4 PS.C.11.7.1	White lettering and symbols (Thermoplastic)	m2	4.5		
		<u>Broken and Unbroken Lines</u>				
2	C11.7.1.1 PS.C11.7.1	Thermoplastic Road marking, broken or unbroken (White, 100mm wide)	km	0.01		
3	C11.7.1.1 PS.C11.7.1	Thermoplastic Road marking, broken or unbroken (White, 200mm wide)	km	0.01		

TOTAL CARRIED TO SECTION 8 SUMMARY: ANCILLARY ROAD WORKS

R

PART 1108 C11.8 LANDSCAPING AND PLANTING PLANTS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C11.8.3.3(a)	Preparing the areas for grassing: (a) Topsoil obtained from within the road reserve or borrow areas	m3	100		
2	C11.8.3.3(b)	Preparing the areas for grassing: (b) Topsoil obtained from commercial sources by the Contractor	m3	20		
3	C11.8.4.3(a)	Hydroseeding: (a) Providing an approved seed mixture for hydroseeding	kg	40		
4	C11.8.4.3(c)	(c) Hydroseeding	ha	0.2		

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST

Part Continued **PART** 1108 C11.8 LANDSCAPING AND PLANTING PLANTS

Item	Clause	Description	Unit	Quantity	Rate	Amount
5	C11.8.6	Watering the already planted grass, trees and shrubs during the growing season	kl	5		

TOTAL CARRIED TO SECTION 8 SUMMARY: ANCILLARY ROAD WORKS

R

PART 1109 C11.9 FINISHING ROAD AND ROAD RESERVE

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C11.9.1.2	Single carriageway road	km	0.3		

TOTAL CARRIED TO SECTION 8 SUMMARY: ANCILLARY ROAD WORKS

R

SECTION 9 RETAINING WALLS**PART** 1206 C12.6 MECH STABILISED FILL AND GABIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Gabions</u>				
1	C12.6.14.1(a)	Foundation trench excavation: Excavating all material for gabions situated within the following depth ranges (a) 0 m to 1,5 m	m3	125		
2	C12.6.14.1(b)	Foundation trench excavation: Excavating all material for gabions situated within the following depth ranges (b) Exceeding 1,5 m and up to 3,0 m	m3	65		
3	C12.6.15	Surface preparation for bedding the gabions	m2	260		
4	C.12.6.16.2	Gabions and mattresses: PVC coated gabion boxes (1.0m x 1.0m x1.0m)	m3	140		
5	C12.6.16.2	Gabions and mattresses: PVC coated gabion boxes (1.0m x 1.0m x 2.0m)	m3	260		
6	C12.6.17, PS.C12.6.17	Geotextile (Filtration and separation for use with gabions, min Grade 7)	m2	400		
		<u>Segmented Block walls (Geolock or similar approved)</u>				
7	C12.6.2	Excavation for wall base foundation	m3	104		
8	C12.6.3	Concrete for wall base foundation (25/26)	m3	40		
9	C12.6.7	Metallic reinforcing mesh (Mesh Ref. 245)	m2	74		
10	C12.6.12.2	Facings (Geolock wall as per drawing for wall 2m-3m): For concrete block wall facing	m2	240		
11	C12.6.12.2	Facings (Geolock wall as per drawing for wall 3-4m): For concrete block wall facing	m2	80		

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST**Part Continued PART 1206 C12.6 MECH STABILISED FILL AND GABIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
12	C12.6.13	Drainage (50mm weepholes installed inclusive of all elements as per drawing)	no	67		
13	C12.6.11	Backfill (Cement stabilised backfill as per drawing)	m3	100		
14	C12.6.11	Backfill (compacted to 95%MDD)	m3	75		
15	C12.6.17	Geotextile (Drainage A3)	m2	420		
16	C12.6.3	Concrete for wall Top blocks of wall (25/26)	m3	10		
17	C3.1.9.1	Pipes in subsoil drainage systems: U-PVC pipes and fittings, normal duty, complete with couplings (state size and whether or not perforated or slotted)	m	140		
18	C3.3.6.2	Precast concrete chutes (catchwater drain, minimum 300mm wide by 150mm deepm as per drawing) Item to include all materials, formation, backfill and installation.	m	20		

TOTAL CARRIED TO SECTION 9 SUMMARY: RETAINING WALLS**R****SECTION 10 SITE CLEARANCE****PART 0106 C1.6 CLEARING AND GRUBBING**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C1.6.1.1	Clearing with machines and some hand labour where necessary	m2	250		
2	C1.6.1.2	Clearing with hand labour only when labour enhanced work is specified	m2	250		
3	C1.6.2.1	Grubbing with machines and some hand labour where necessary	m2	100		
4	C1.6.2.2	Grubbing with hand labour when labour enhancement work is specified or it is not practical to use a machine	m2	100		
5	C1.6.9.1	Conservation of topsoil: Stockpiling topsoil	m3	250		
6	C1.6.4.1 PS.C1.6.4.1	Removal of structures: Demolition of brickwork of manholes, headwalls and culverts. Depth 0.0m to 2.0m	m3	120		
7	C1.6.4.1 PS.C1.6.4.1	Removal of Stormwater manholes and inlet; covers and frames. Spoil at tip, including haulage.	no	1		
8	C1.6.4.1 PS.C1.6.4.1	Removal of Stormwater Pipes, Diameter 300mm-600mm. Spoil at tip, including haulage.	m	10		

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST**Part Continued PART 0106 C1.6 CLEARING AND GRUBBING**

Item	Clause	Description	Unit	Quantity	Rate	Amount
9	C13.3.1.1(a) PS.C1.6.4.1	Cast in situ concrete: Strength concrete (class C): Seal Pipe ends (a) Concrete 15/26	m3	5		

TOTAL CARRIED TO SECTION 10 SUMMARY: SITE CLEARANCE**R****PART 0107 C1.7 LOADING AND HAULING**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C1.7.2.2(a) PS.C1.7.2.2	Hauling material to spoil and off-loading it at a designated spoil area: (a) Cleared and grubbed material (organic matter and all other unsuitable or waste material)	m3	125		

TOTAL CARRIED TO SECTION 10 SUMMARY: SITE CLEARANCE**R****SECTION 11 EARTHWORKS****PART 0402 C4.2 CUT MATERIALS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C4.2.3.1 PS.C4.2	Excavating of materials in cuttings for use in the works, material obtained from: Soft excavation	m3	15		
2	C4.2.3.3 PS.C4.2	Excavating of materials in cuttings for use in the works, material obtained from: Boulder excavation class B	m3	5		
3	C4.2.3.4 PS.C4.2	Excavating of materials in cuttings for use in the works, material obtained from: Hard excavation (other than by blasting)	m3	5		
4	C4.2.4.1 PS.C4.2	Excavating of materials in box cuts for use in the works, material obtained from: Soft excavation	m3	5		
5	C4.2.4.3 PS.C4.2	Excavating of materials in box cuts for use in the works, material obtained from: Boulder excavation class B	m3	5		
6	C1.7.2.2(b)	Hauling material to spoil and off-loading it at a designated spoil area: (b) Soil and gravel material	m3	20		
7	C4.2.7.1	Removal of unsuitable stable cut material to spoil: In layer thicknesses of 200 mm and less	m3	25		
8	C4.2.7.2	Removal of unsuitable stable cut material to spoil: In layer thicknesses exceeding 200 mm	m3	5		

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST**Part Continued PART 0402 C4.2 CUT MATERIALS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
9	C4.2.9.1 PS.C4.2	Excavate material to spoil in sites designated by the Contractor, material obtained from: Soft excavation, overburden and unsuitable material	m3	5		
10	C4.2.12.1(a)	Finishing the side slopes of Cuttings: (a) In soft material	m2	5		
11	C4.2.12.1(b)	Finishing the side slopes of Cuttings: (b) In boulder material class A and B	m2	5		
12	C1.7.1.1	Loading from stockpile using machines and some hand labour where necessary	m3	5		

TOTAL CARRIED TO SECTION 11 SUMMARY: EARTHWORKS**R****PART 0404 C4.4 COMMERCIAL MATERIALS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C4.4.2.1(g)	Commercial materials identified by the Contractor from commercial, private or other non-commercial suppliers: Pavement layer material:Type G7	m3	50		
2	C4.4.2.1(l)	Commercial materials identified by the Contractor from commercial, private or other non-commercial suppliers: Pavement layer material:Type G9	m3	50		
3	PS.1	Design, installation and removal of cofferdamming and lateral support to the foundation excavations	PC Sum	50000	1.00	50,000.00
4	PS.2	Design, installation and removal of causeway through the river for construction.	PC Sum	50000	1.00	50,000.00

TOTAL CARRIED TO SECTION 11 SUMMARY: EARTHWORKS**R****PART 0502 C5.2 FILL**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C5.2.2.1(a)	Fill construction: Normal backfill material (G7) or similar approved by Engineer in compacted layer thicknesses of 200 mm and less: (a) Compacted to 95 % of MDD	m3	25		
2	C5.2.3	Side-cut to fill compacted to 95 % of MDD in compacted layer thicknesses of 200 mm and less	m3	25		
3	C5.2.11.1	Finishing-off fill slopes	m2	10		

TOTAL CARRIED TO SECTION 11 SUMMARY: EARTHWORKS**R**

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST**SECTION 12 RIVER COURSE WORKS****PART 0402 C4.2 CUT MATERIALS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C4.2.3.1	Excavating of materials in cuttings, material obtained from:Soft excavation Clearing and along the river as instructed by Engineer	m3	50		
2	C4.2.3.2	Boulder excavation class A Clearing and along the river as instructed by Engineer	m3	50		
3	C4.2.12.2	Finishing the side slopes of Designated excavations Along the river as instructed by Engineer	m2	500		

TOTAL CARRIED TO SECTION 12 SUMMARY: RIVER COURSE WORKS**R****PART 1206 C12.6 MECH STABILISED FILL AND GABIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C12.6.14.1(a)	Foundation trench excavation: Excavating all material for Gabions situated within the following depth ranges (a) 0 m to 1,5 m	m3	50		
2	C12.6.14.1(b)	Foundation trench excavation: Excavating all material for Gabions situated within the following depth ranges (b) Exceeding 1,5 m and up to 3,0 m	m3	20		
3	C12.6.14.1(c)	Foundation trench excavation: Excavating all material for Gabions situated within the following depth ranges (b) Exceeding 3,0 m and up to 4,5 m	m3	0		
4	C12.6.15	Surface preparation for bedding the reno mattress	m2	100		
5	C12.6.16.2	Reno mattress: PVC coated gabion boxes (3.0mx2.0mx0.23m)	m3	50		
6	C12.6.15	Surface preparation for bedding the gabions	m2	50		
7	C12.6.16.2	Gabions Box: PVC coated gabion boxes, 1.0m x1.0m x2.0m.	m3	85		
8	C12.6.16.2	Extra over for Gabions Boxes: For radius between 15m and 25m.	m3	5		
9	C12.6.17, PS.C12.6.17	Geotextile (Filtertation and separation for use with reno mattress and Gabion Baskets, min Grade 7)	m2	500		

TOTAL CARRIED TO SECTION 12 SUMMARY: RIVER COURSE WORKS**R**

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST**PART 1211 C12.11 GEOSYNTHETICS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C12.6.17	Geotextile (Maccaferri Macweb/Kaytech MultiCell geosynthetic or similar approved) including installation accessories.	m2	500		
2	C4.4.2.1(g)	Commercial materials identified by the Contractor from commercial, private or other non-commercial suppliers: Top soil, placed in 100mm thickness.	m3	5		
3	C13.3.1.1(a)	Cast in situ concrete: Strength concrete (class C): (a) C20/13. To fill Multicell, with concrete float finish	m3	5		
4	C12.6.17	Kaytech Concrete Canvas or similar approved.	m2	100		
5	C12.6.17	Geotextile (Biogradable soil saver mat)	m2	1000		
6	C12.6.17	Geotextile (Maccaferri Macmat -R or similar approved) including installation accessories.	m2	250		

TOTAL CARRIED TO SECTION 12 SUMMARY: RIVER COURSE WORKS**R****SECTION 13 STRUCTURES - CULVERT****PART 1101 C11.1 PITCHING, STONework, CAST IN SITU**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C11.1.2.3	Grouted stone pitching on a concrete bed	m2	20		
2	C11.1.6	Concrete edge beams (C25/30-20)	m3	5		

TOTAL CARRIED TO SECTION 13 SUMMARY: STRUCTURES - CULVERT**R****PART 1301 C13.1 FOUNDATIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.1.3.1.(a)	Excavation: Excavating soft material situated within the following depth range: (a) 0 m up to 1,5 m	m3	150		
2	C13.1.3.1.(b)	Excavation: Excavating soft material situated within the following depth range: (b) > 1,5 m and < 3,0 m	m3	50		
3	C13.1.3.1.(b)	Excavation: Excavating soft material situated within the following depth range: (c) > 3,0 m and < 4,5 m	m3	50		
4	C13.1.3.1.(b)	Excavation: Excavating soft material situated within the following depth range: (d) > 4,5 m and < 6,0 m	m3	10		
5	C13.1.3.1.(b)	Excavation: Excavating soft material situated within the following depth range: (e) > 6,0 m and < 7,5 m	m3	10		

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST

Part Continued **PART** 1301 C13.1 FOUNDATIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
6	C13.1.3.2	Extra over subitem C13.1.3.1 for excavation in hard material irrespective of depth	m3	10		
7	C13.1.7.1	Backfill to excavations utilising: Material from excavation	m3	100		
8	C13.1.7.2	Backfill to excavations utilising: Imported material	m3	100		
9	C13.1.7.3	Backfill to excavations utilising: Soil cement	m3	50		
10	PS.C13.1.7.4	Backfill to excavations utilising: Select, free-draining, granular material (friction angle between 35 and 45 degrees)	m3	2		
11	C13.1.14.6	Foundation fill consisting of: Plum concrete Class C25/30-20 using large river boulders from site to create natural rock formation effect	m3	50		
12	C13.1.14.6	Foundation fill consisting of: Plum concrete Class C12/15-50	m3	50		
13	C13.1.14.4	Foundation fill consisting of: Mass concrete Class C12/15-50	m3	50		
14	C13.1.14.5	Foundation fill consisting of: Concrete blinding (75mm min. thickness, Class C12/15-20)	m3	50		
15	C13.1.23(a)	Lateral support for excavations: Excavation behind abutments (a) 0 to 2,5 m depth	m2	100		
16	C13.1.23(b)	Lateral support for excavations: Excavation behind abutments (b) 2,5 to 5,0 m depth	m2	100		
17	C13.1.23(c)	Lateral support for excavations: Excavation behind abutments (c) 5,0 to 7,5 m depth	m2	100		
18	C13.1.21	Foundation lining for approach slabs (3 layers of 250 micron Polyethylene per m2)	m2	500		

TOTAL CARRIED TO SECTION 13 SUMMARY: STRUCTURES - CULVERT

R

PART 1302 C13.2 FALSEWORK, FORMWORK AND CONCRETE

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.2.2	Vertical formwork to provide F2 surface finish to exposed and hidden faces of foundation bases and chamfers	m2	50		
2	C13.2.2	Vertical formwork to provide F2 surface finish to exposed and hidden faces of wingwall bases	m2	100		

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST**Part Continued PART 1302 C13.2 FALSEWORK, FORMWORK AND CONCRETE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
3	C13.2.2	Vertical formwork to provide F2 surface finish to exposed faces of foundation bases	m2	250		
4	C13.2.2	Vertical formwork to provide F2 surface finish to exposed faces of culvert walls and chamfers	m2	200		
5	C13.2.2	Vertical formwork to provide F1 surface finish to hidden faces of culvert walls and chamfers	m2	250		
6	C13.2.2	Vertical formwork to provide F1 surface finish to hidden faces of wingwalls	m2	100		
7	C13.2.2	Vertical formwork to provide F2 surface finish to exposed faces of walls and chamfers (inclusive of curved rounding)	m2	100		
8	C13.2.2	Vertical formwork to provide F1 surface finish to hidden faces of approach slab	m2	100		
9	C13.2.3	Horizontal formwork to provide F2 surface finish to soffit of deck	m2	80		
10	C13.2.10	Provision of designs and drawings of deck falsework, temporary supports and formwork by an ECSA registered Professional Engineer or Technologist	sum	1		
11	C13.2.2	Vertical Formwork to provide F1 surface finish to exposed and hidden faces of headwalls	m2	50		

TOTAL CARRIED TO SECTION 13 SUMMARY: STRUCTURES - CULVERT**R****PART 1303 C13.3 STEEL REINFORCEMENT**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.3.1.1(a)	Reinforcement for: Foundation Bases: (a) Mild-steel bars ®	t	0.5		
2	C13.3.1.1(b)	Reinforcement for: Foundation Bases: (b) High-yield-stress-steel bars (Y)	t	10		
3	C13.3.1.1(a)	Reinforcement for: Walls: (a) Mild-steel bars ®	t	0.5		
4	C13.3.1.1(b)	Reinforcement for: Walls: (b) High-yield-stress-steel bars (Y)	t	10		
5	C13.3.1.1(a)	Reinforcement for: Headwall: (a) Mild-steel bars ®	t	0.5		
6	C13.3.1.1(b)	Reinforcement for: Headwall: (b) High-yield-stress-steel bars (Y)	t	1		
7	C13.3.1.1(a)	Reinforcement for: Approach Slabs: (a) Mild-steel bars ®	t	0.5		
8	C13.3.1.1(b)	Reinforcement for: Approach Slabs: (b) High-yield-stress-steel bars (Y)	t	1		

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST

Part Continued **PART** 1303 C13.3 STEEL REINFORCEMENT

Item	Clause	Description	Unit	Quantity	Rate	Amount
9	C13.3.1.1(a)	Reinforcement for: Wingwall Bases: (a) Mild-steel bars (R)	t	0.5		
10	C13.3.1.1(b)	Reinforcement for: Wingwall Bases: (b) High-yield-stress-steel bars (Y)	t	2		
11	C13.3.1.1(a)	Reinforcement for: Wingwalls: (a) Mild-steel bars (R)	t	0.5		
12	C13.3.1.1(b)	Reinforcement for: Wingwalls: (b) High-yield-stress-steel bars (Y)	t	2		
13	C13.3.1.1(a)	Reinforcement for: Deck: (a) Mild-steel bars (R)	t	1		
14	C13.3.1.1(b)	Reinforcement for: Deck: (b) High-yield-stress-steel bars (Y)	t	8		
15	C13.3.4	Extra-over item C13.3.1.1. for galvanising of reinforcement	t	2		

TOTAL CARRIED TO SECTION 13 SUMMARY: STRUCTURES - CULVERT

R

PART 1304 C13.4 CONCRETE

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.3.1.1(a)	Cast in situ concrete: Strength concrete (class C): (a) Bases C32/40-20	m3	55		
2	C13.3.1.1(b)	(b) Wingwall Bases C32/40-20	m3	10		
3	C13.3.1.1(b)	(c) Foundation Bases C32/40-20	m3	25		
4	C13.3.1.1(b)	(d) Culvert Walls and Headwalls C32/40-20	m3	10		
5	C13.3.1.1(b)	(f) Wingwalls C32/40-20	m3	90		
6	C13.3.1.1(b)	(g) Apron Slabs C32/40-20	m3	20		
7	C13.3.1.1(b)	(h) Deck C32/40-20	m3	70		
8	C13.4.5.1	Curing and surface protection of cast in situ concrete, as and where specifically required: Walls and Wingwalls using an approved curing compound applied in accordance with the manufacturer's instructions	m2	250		
9	C13.4.5.1	Curing and surface protection of cast in situ concrete, as and where specifically required: Deck top surface by using an approved curing compound applied in accordance with manufacturer's instructions and covering it with clean, non-marking sand or absorbent mats made from a moisture-retaining material, and keeping the covering constantly wet for 7 days.	m2	200		

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST**Part Continued PART 1304 C13.4 CONCRETE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
10	C13.4.13.1	Complete demolition of existing structural elements or parts of existing structures: All parts of existing composite steel and concrete	m3	50		

TOTAL CARRIED TO SECTION 13 SUMMARY: STRUCTURES - CULVERT**R****PART 1307 C13.7 JOINTS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.7.2.1	Filled joints: Rigid foam of expanded Dowsil 888 (or similar approved) for 20 mm joint between culvert walls and wingwalls	m2	50		
2	C13.7.2.1	Filled joints: Rigid foam of expanded polyethylene (or similar approved) for 10 mm joint in wingwalls	m2	50		
3	C13.7.2.1	Filled joints: Rigid foam of expanded polyethylene (or similar approved) for 10 mm joint in non-standard barriers	m2	50		
4	C13.7.4.1	Sealing joints with: Sealant (structural silicone including backing chord for 20 mm joint in between walls and wingwalls)	m	100		
5	C13.7.4.1	Sealing joints with: Seal (flexible Polyolefin sealant tape with epoxy bonding, Sikadur-Combiflex or similar approved, for 20 mm joint in abutment)	m	50		
6	C13.7.4.1	Sealing joints with: Sealant (structural silicone including backing chord for 10 mm joint in wingwalls) or Dowsil 888	m	50		
7	C13.7.4.1	Sealing joints with: Sealant (structural silicone including backing chord for 10 mm joint in non-standard barriers)	m	50		

TOTAL CARRIED TO SECTION 13 SUMMARY: STRUCTURES - CULVERT**R****PART 1308 C13.8 ANCILLARY STRUCTURAL ELEMENTS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.8.10.1(b)	Drainage pipes and weep holes: Drainage pipes: (b) 110 mm diameter scuppers in deck, including all fittings, gulley inlet and cover details as shown on Drawing 49216 Sheet 11)	no	15		
2	C13.8.10.2(b)	Drainage pipes and weep holes: Weep holes: (b) 65 mm diameter in culvert walls and wingwalls	m	50		
3	C13.8.15	Drainage strips: HDPE 200 mm wide DN3 behind culvert walls	m	50		

WORK PACKAGE 2 for TRK 93328 in SIWENI AREA, OUTER WEST

Part Continued **PART** 1308 C13.8 ANCILLARY STRUCTURAL ELEMENTS

Item	Clause	Description	Unit	Quantity	Rate	Amount
4	C13.8.16.1	Perforated drainage pipes: 65 mm diameter wrapped in Grade B synthetic fibre filter fabric	m	50		
5	C13.8.7.3	Numbers for structures: Numbers formed in concrete	no	1		

TOTAL CARRIED TO SECTION 13 SUMMARY: STRUCTURES - CULVERT

R

PART 1407 C14.7 PROTECTIVE COATINGS AND TREATMENTS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C14.7.1	Cleaning and preparation of concrete surface (high pressure water jetting with a final F3 finish)	m2	250		
2	C14.7.2	Application of protective coatings and treatments (Sealers and Poreblockers: Cementitious Crystalline Waterproofing 0.8kg/m ²)	m2	250		
3	C14.7.3	On site monitoring and supply of written product performance guarantee	sum	1		

TOTAL CARRIED TO SECTION 13 SUMMARY: STRUCTURES - CULVERT

R

PART 2001 C20.1 TESTING MATERIALS AND JUDGEMENT

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C20.1.2.1(a)	Special tests requested by the Engineer: Employer's contribution to concrete durability tests:(a) Tests for water sorptivity	PC Sum	25000	1.00	25,000.00
2		Handling costs and profit in respect of item C20.1.2.1(a)	%	25000		
3	C20.1.2.1(b)	Special tests requested by the Engineer: Employer's contribution to concrete durability tests:(b) Tests for oxygen permeability	PC Sum	50000	1.00	50,000.00
4		Handling costs and profit in respect of item C20.1.2.1(b)	%	50000		
5	C20.1.2.1(c)	Special tests requested by the Engineer: Employer's contribution to concrete durability tests:(c)Tests for chloride conductivity	PC Sum	50000	1.00	50,000.00
6		Handling costs and profit in respect of item C20.1.2.1(c)	%	50000		
7	C20.1.2.1(d)	Special tests requested by the Engineer: Employer's contribution to concrete durability tests:(d) Tests for concrete cover	PC Sum	25000	1.00	25,000.00
8		Handling costs and profit in respect of item C20.1.2.1(d)	%	25000		

Part Continued

PART

2001

C20.1 TESTING MATERIALS AND JUDGEMENT

Item	Clause	Description	Unit	Quantity	Rate	Amount
9	PS.3	Incidental Expense (Prov Sum)	PR Sum	500000	1.00	500,000.00
10	PS.4	Allowance for Intergrity Tests for all foundations	PR Sum	150000	1.00	150,000.00
11	PS.4	Handling costs and profit in respect of item above	%	150000		
12	PS.5	Allowance for geotechnical design / alternative foundation and supervision	PR Sum	250000	1.00	250,000.00
13	PS.5	Handling costs in respect of item above	%	250000		

TOTAL CARRIED TO SECTION 13 SUMMARY: STRUCTURES - CULVERT

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