

INDEX TO BILL OF QUANTITIES

SECTION 1 Preliminaries and General

PART AA	PRELIMINARIES
PART AB	GENERAL SPECIFICATIONS
PART AH	OCCUPATIONAL HEALTH and SAFETY

SECTION 2 Culvert Construction

PART B	SITE CLEARANCE
PART C	CONCRETE WORK
PART DA	EARTHWORKS : BULK
PART DD	EARTHWORKS FOR STRUCTURES
PART EB	GRADED CRUSHED STONE
PART ED	ROAD ASPHALT
PART EF	KERBS AND HAUNCHES
PART EH	STEEL GUARDRAILS & CONC. MEDIAN BARRIERS
PART F	PROTECTION WORKS
PART PG	NON PRESSURE PIPELINES and PC CULVERTS

SECTION 3 Gabion Protection Works

PART B	SITE CLEARANCE
PART DA	EARTHWORKS : BULK
PART DC	EARTHWORKS FOR CONCRETE LINED CANALS
PART EL	DUMPROCK SUBGRADE IMPROVEMENT
PART F	PROTECTION WORKS

SECTION 4 Reinstatement

PART S	REINSTATEMENT
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BILL OF QUANTITIES**SECTION 1 Preliminaries and General****PART AA PRELIMINARIES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	GCC 2015	GENERAL CONDITIONS OF CONTRACT (GCC 2015) READ IN CONJUNCTION WITH THE CONTRACT DATA Fixed Charge obligations	sum	1		
2	GCC 2015	Time Related obligations	sum	1		
3	SANS 1921-1 & SABS 1200 A	SANS 1921-1 & SABS 1200 A: GENERAL ENGINEERING AND CONSTRUCTION WORKS READ IN CONJUNCTION WITH THE ASSOCIATED SPECIFICATION DATA IN THE SCOPE OF WORKS Fixed Charge Items	sum	1		
4	SANS 1921-1	Time Related Items	sum	1		
5	C.1.2.3.1	COMMUNITY LIAISON OFFICER Allow for a CLO to be appointed.	PC Sum	48960	1.00	48,960.00
6	C.1.2.3.1	% Mark-up for item 5 above	%	48960		
7	C.1.2.3.4	LOCAL LABOUR Allow for the weekly submission of proof of employment of local labour	sum	1		

TOTAL CARRIED TO SECTION 1 SUMMARY: Preliminaries and General**R****PART AB GENERAL SPECIFICATIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.AB.14	Setting out	sum	1		
2	PS.AB.14	Additions to setting out (fixing of control points)	sum	1		
3	AB.4	Contractor's Camp Site / Store Yard	sum	1		
4	AB.5	Notice Board	sum	1		
5	AB.6	Cost of Samples and Contractor's Preliminary and Site Control Testing	sum	1		
6	AB.7	Initial supply of all signs, barricades and delineators	sum	1		
7	AB.7	Maintenance of all signs, barricades and delineators	sum	1		
8	PS.AB.8	Road Deviations (Temporary by-pass of Type B category)	sum	1		

Culvert Upgrade & Stream Protection Works along 108590 Street in Inada, Emzomusha: - Ward 54

Part Continued **PART AB GENERAL SPECIFICATIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
9	PS.AB.9	Survey coordination of existing valves, manholes, catchpits, and cable duct markers	sum	1		
10	PS.AB.15	Temporary stream diversion and removal of stream diversion	sum	1		
11	PS.AB.10	Survey for, and Preparation of, 'As-Built' Drawings	sum	1		
12	C1.2.3.7	Excepted Risks: Establishment	sum	1		
13	C1.2.3.7	Excepted Risks: De-establishment	sum	1		
14	PS.11	Site Security	sum	1		
15	PS.AB.8	Deduction for re-test requested when density and cube is not as per specification as determined by acceptance test (- R 1000.00 day/set)	sum	1		

TOTAL CARRIED TO SECTION 1 SUMMARY: Preliminaries and General

R

PART AH OCCUPATIONAL HEALTH and SAFETY

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.AH.10 and AH14.1	Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations	sum	1		
2	PS.AH.10 and AH14.2	Contractor's time related obligations in respect of the Occupational Health and Safety Act and Construction Regulations	sum	1		
3	PS.AH.10 and AH14.3	Submission of the Health and Safety File	sum	1		

TOTAL CARRIED TO SECTION 1 SUMMARY: Preliminaries and General

R

Culvert Upgrade & Stream Protection Works along 108590 Street in Inada, Emzomusha: - Ward 54

SECTION 2 Culvert Construction**PART B SITE CLEARANCE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	B.8.2	General clearance of the site area and remove all debris such as gabbage and the existing concrete structures and brickwork from the site and spoil at tip. Rate to include all haulage	m2	1000		
2	B.8.2	General clearance and grubbing in contractor's camp site	m2	300		
3	B.8.2	General clearance and grubbing in temporary stockpile area	m2	96		
4	B.8.9	Removal of brickwork	m3	17		
5	B.8.10	Removal of unreinforced concrete	m3	33		
6	B.8.11	Removal of reinforced concrete	m3	37		
7	B.8.14	Removal of roadways to tip	m3	47		
8	B.8.16	Removal of kerb and channel/fillet to tip	m	40		
9	B.9.19	Removal of disused pipes, greater than 800 mm diameter and spoil at tip. Rate to include haulage	m	47		

TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction**R****PART C CONCRETE WORK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C.8.1	Grade 15/26 concrete blinding of thickness 75 mm	m2	92		
2	C.8.1	Grade 30/26 concrete in base slab of culvert	m3	16.5		
3	C.8.1	Grade 30/26 concrete in deck slab of culvert	m3	5.5		
4	C.8.1	Grade 30/26 concrete in apron slabs of culvert	m3	13.8		
5	C.8.1	Grade 30/26 concrete in wing walls of culvert	m3	27.5		
6	C.8.2	High tensile steel reinforcement	t	3		
7	C.8.3	Class 3a shuttering to base slabs	m2	21.5		
8	C.8.3	Class 3a shuttering to deck slabs	m2	7		
9	C.8.3	Class 3a shuttering to apron slabs of culvert	m2	16.9		
10	C.8.3	Class 3a shuttering to wing walls of culvert	m2	191.6		

Culvert Upgrade & Stream Protection Works along 108590 Street in Inada, Emzomusha: - Ward 54

Part Continued **PART C CONCRETE WORK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
11	PS.C.2	Sealant in expansion joint POLYSULPHIDE OR SIMILAR APPROVED (Applied strictly to manufacturers instruction)	m	101		

TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction

R

PART DA EARTHWORKS : BULK

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DA.8.2	Excavate topsoil and spoil at tip	m3	67		
2	DA.8.3	Excavate unsuitable material below embankments or formation and spoil at tip	m3	137		
3	PS.DA.5	Import suitable fill material from contractor's off-site source inclusive of all haulage and royalties	m3	131		
4	DA.8.5	Compact imported fill material to 93% Mod. A.A.S.H.T.O.	m3	131		
5	DA.8.6	Trimming of embankments	m2	71		
6	DA.8.9	Formation	m2	120		
7	PS.DA.8.11	Removal of siltation	m3	151		

TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction

R

PART DD EARTHWORKS FOR STRUCTURES

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DD.8.2	Excavate in all unsuitable material for culvert to spoil at an approve tip. Rate to include all haulage)	m3	183		
2	DD.8.2	Extra over item for hard material	m3	10		
3	DD.8.2	Extra over item for excavation in excess of planned depth [provisional]	m3	20		
4	DD.8.3	Backfill and compact (90% Mod A.A.S.H.T.O) using imported material from contractor's own source. Rate to include all haulage and royalties	m3	167		
5	DD.8.5	Culvert bedding ([19] mm stone mat)	m3	7		
6	PS.DD.2	Design, installation and removal of a ground lateral support system to secure the excavated surfaces	sum	1		
7	PS.DD.8.7	Prove existing services by hand excavation (provisional), where depth is: - - Over 0.0 m and not exceeding 0,5 m	m3	73		

TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction

R

Culvert Upgrade & Stream Protection Works along 108590 Street in Inada, Emzomusha: - Ward 54

PART EB GRADED CRUSHED STONE

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EB.8(1)	G2 Graded crushed stone and gravel CBR @ 98% MDD>80%, 150 mm thick	m3	47		
2	EB.8(1)	G5 Natural gravel or soil CBR @ 93% MDD>45%, 200 mm thick	m3	41		

TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction

R

PART ED ROAD ASPHALT

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.ED.2	Saw Cut existing road	m	81		
2	ED	Private Plant Asphalt Sa-V14. Bitumen content & as per mix design entered at time of use	t	10		

TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction

R

PART EF KERBS AND HAUNCHES

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EF.8.1	Type A barrier kerb and channel	m	341		

TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction

R

PART EH STEEL GUARDRAILS & CONC. MEDIAN BARRIERS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EH.8.1	Straight steel guard rails	m	40		
2	EH.8.1	End wings	no.	8		
3	EH.8.1	Precast concrete posts	no.	25		
4	EH.8.2	In-situ concrete foundation for precast concrete posts	m3	5		

TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction

R

PART F PROTECTION WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	F.8.1	Imported topsoil: thickness 100 mm	m2	83		
2	F.8.3	Grass planting	m2	91		
3	F.8.4	Stone pitching	m2	70		
4	F.8.7	230 mm brickwork	m2	41		

TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction

R

PART PG NON PRESSURE PIPELINES and PC CULVERTS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PG.8.7	Supply and install Standard precast concrete portal culvert Class C - 1200 x 1200 mm	m	31		

Culvert Upgrade & Stream Protection Works along 108590 Street in Inada, Emzomusha: - Ward 54

Part Continued **PART** PG **NON PRESSURE PIPELINES and PC CULVERTS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
2	PG.8.9	Form recess for portal legs	m	24		

TOTAL CARRIED TO SECTION 2 SUMMARY: Culvert Construction

R

Culvert Upgrade & Stream Protection Works along 108590 Street in Inada, Emzomusha: - Ward 54

SECTION 3 Gabion Protection Works**PART B SITE CLEARANCE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	B.8.2	General clearance of the site area and remove all debris such as gabbage and all debris	m2	700		
2	B.8.2	General clearance and grubbing within a servitude	m2	90		
3	B.8.2	General clearance and grubbing in private property	m2	300		
4	B.8.5	Removal of 1.5 m high wire mesh fence and store on site for re-use	m	278		

TOTAL CARRIED TO SECTION 3 SUMMARY: Gabion Protection Works

R

PART DA EARTHWORKS : BULK

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DA.8.3	Excavate unsuitable material below embankments or formation and spoil at tip	m3	331		
2	DA.8.3	Extra over above for excavation in hard material to fill	m3	11		
3	PS.DA.5	Import suitable fill material from contractor's off-site source inclusive of haulage and royalties	m3	307		
4	DA.8.5	Compact imported fill material to 93% Mod. A.A.S.H.T.O. Rate to include all haulage and royalties	m3	307		
5	DA.8.6	Trimming of embankments	m2	760		
6	DA.8.9	Formation	m2	800		
7	PS.DA.8.11	Removal of siltation This is a test Of the number of lines	m3	147		

TOTAL CARRIED TO SECTION 3 SUMMARY: Gabion Protection Works

R

PART DC EARTHWORKS FOR CONCRETE LINED CANALS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DC.8.2	Excavate in all unsuitable material for gabions to spoil at an approved tip. Rate to include stockpile handling	m3	784		
2	DC.8.2	Extra over item 1 for excavating in hard material	m3	30		
3	DC.8.3	Backfilling and compaction (90% Mod A.A.S.H.T.O) using material from contractor's own source. Rate to include all haulage and royalties	m3	903		

Culvert Upgrade & Stream Protection Works along 108590 Street in Inada, Emzomusha: - Ward 54**Part Continued PART DC EARTHWORKS FOR CONCRETE LINED CANALS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
4	DC.8.4	Overhaul	m3km	20		

TOTAL CARRIED TO SECTION 3 SUMMARY: Gabion Protection Works**R****PART EL DUMPROCK SUBGRADE IMPROVEMENT**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EL.8	Dumprock subgrade improvement, 300 mm thick	m3	300		

TOTAL CARRIED TO SECTION 3 SUMMARY: Gabion Protection Works**R****PART F PROTECTION WORKS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	F.8.1	Imported topsoil: thickness 100 mm	m2	240		
2	F.8.3	Grass planting	m2	240		
3	F.8.6	Supply and placement of Galvanised PVC Coated Gabion boxes : 1000 mm depth	m3	1000		
4	F.8.6	Supply and placement of Galvanised PVC Coated Gabion mattresses, 300 mm thick	m3	200		
5	F.8.6	Supply and placement of Galvanised PVC Coated Gabion boxes : 500 mm depth	m3	180		
6	PS.F.8.9	Supply and place general grade geofabric	m2	1500		

TOTAL CARRIED TO SECTION 3 SUMMARY: Gabion Protection Works**R**

Culvert Upgrade & Stream Protection Works along 108590 Street in Inada, Emzomusha: - Ward 54
SECTION 4 Reinstatement
PART S REINSTATEMENT

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	S.8.1	Reinstatement of ground surface	m2	1000		
2	S.8.2	Road Category C-Permanent road reinstatement 80 mm Mix D, 150mm Crusher run, Trench backfill with CBr 4 or more	m2	60		
3	S.8.2	Reinstatement of in-situ concrete sidewalk/median	m2	72		
4	S.8.4	Reinstatement of wire or plastic coated mesh fence, 1,5 m high	m	180		

TOTAL CARRIED TO SECTION 4 SUMMARY: Reinstatement
R

BILL OF QUANTITIES SECTION SUMMARY

SECTION 1 Preliminaries and General

PART AA	PRELIMINARIES	
PART AB	GENERAL SPECIFICATIONS	
PART AH	OCCUPATIONAL HEALTH and SAFETY	
TOTAL CARRIED TO FINAL SUMMARY		

BILL OF QUANTITIES SECTION SUMMARY

SECTION 2 Culvert Construction

PART B	SITE CLEARANCE	
PART C	CONCRETE WORK	
PART DA	EARTHWORKS : BULK	
PART DD	EARTHWORKS FOR STRUCTURES	
PART EB	GRADED CRUSHED STONE	
PART ED	ROAD ASPHALT	
PART EF	KERBS AND HAUNCHES	
PART EH	STEEL GUARDRAILS & CONC. MEDIAN BARRIERS	
PART F	PROTECTION WORKS	
PART PG	NON PRESSURE PIPELINES and PC CULVERTS	
TOTAL CARRIED TO FINAL SUMMARY		

BILL OF QUANTITIES SECTION SUMMARY

SECTION 3 Gabion Protection Works

PART B	SITE CLEARANCE	
PART DA	EARTHWORKS : BULK	
PART DC	EARTHWORKS FOR CONCRETE LINED CANALS	
PART EL	DUMPROCK SUBGRADE IMPROVEMENT	
PART F	PROTECTION WORKS	
TOTAL CARRIED TO FINAL SUMMARY		

BILL OF QUANTITIES SECTION SUMMARY

SECTION 4 Reinstatement

PART S	REINSTATEMENT	
TOTAL CARRIED TO FINAL SUMMARY		

SUMMARY OF BILL OF QUANTITIES

Section

1 Preliminaries and General		R	_____
AA PRELIMINARIES	R	_____	
AB GENERAL SPECIFICATIONS	R	_____	
AH OCCUPATIONAL HEALTH and SAFETY	R	_____	
2 Culvert Construction		R	_____
B SITE CLEARANCE	R	_____	
C CONCRETE WORK	R	_____	
DA EARTHWORKS : BULK	R	_____	
DD EARTHWORKS FOR STRUCTURES	R	_____	
EB GRADED CRUSHED STONE	R	_____	
ED ROAD ASPHALT	R	_____	
EF KERBS AND HAUNCHES	R	_____	
EH STEEL GUARDRAILS & CONC. MEDIAN BARRIERS	R	_____	
F PROTECTION WORKS	R	_____	
PG NON PRESSURE PIPELINES and PC CULVERTS	R	_____	
3 Gabion Protection Works		R	_____
B SITE CLEARANCE	R	_____	
DA EARTHWORKS : BULK	R	_____	
DC EARTHWORKS FOR CONCRETE LINED CANALS	R	_____	
EL DUMPROCK SUBGRADE IMPROVEMENT	R	_____	
F PROTECTION WORKS	R	_____	
4 Reinstatement		R	_____
S REINSTATEMENT	R	_____	
SUB TOTAL			R _____
ADD VAT (15%) - (only if a registered VAT Vendor)			R _____
TOTAL CARRIED TO FORM OF TENDER			R _____