

**C.2.2.1 : INDEX TO BILL OF QUANTITIES****SECTION 1      PRELIMINARY AND GENERAL****PART   AA      PRELIMINARIES****PART   AB      GENERAL SPECIFICATIONS****PART   AH      OCCUPATIONAL HEALTH and SAFETY****SECTION 2      SITE CLEARANCE****PART   B      SITE CLEARANCE****SECTION 3      ROADWORKS****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   EL      DUMPROCK SUBGRADE IMPROVEMENT****SECTION 4      STORMWATER DRAINAGE****PART   DB      EARTHWORKS FOR PIPE TRENCHES****PART   PG      NON PRESSURE PIPELINES and PC CULVERTS****PART   PH      MANHOLES and APPURTENANT DRAINAGE WORKS****SECTION 5      ROAD SIGNS AND ROAD MARKINGS****PART   TA      ROAD SIGNS****PART   TB      ROAD MARKINGS****SECTION 6      ADDITIONAL WORKS****PART   F      PROTECTION WORKS**

**C.2.2.2 : BILL OF QUANTITIES****SECTION 1      PRELIMINARY AND GENERAL****PART      AA      PRELIMINARIES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<b><u>GENERAL CONDITIONS OF CONTRACT (GCC 2015) READ IN CONJUNCTION WITH THE CONTRACT DATA</u></b>				
1	GCC 2015	Fixed Charge obligations	sum	1		
2	GCC 2015	Time Related obligations	sum	1		
		<b><u>SANS 1921-1 : GENERAL ENGINEERING AND CONSTRUCTION WORKS READ IN CONJUNCTION WITH THE ASSOCIATED SPECIFICATION DATA IN THE SCOPE OF WORKS</u></b>				
3	SANS 1921-1	Fixed Charge Items	sum	1		
4	SANS 1921-1	Time Related Items	sum	1		
		<b><u>COMMUNITY LIAISON OFFICER</u></b>				
5	PS.15.1	Allow for a CLO to be appointed.	PC Sum	100000	1.00	100 000.00
6	PS.15.1	Allo for a percentage (%) mark-up on item 05	%	100000		
		<b><u>LOCAL LABOUR</u></b>				
7	PS.15.2	Allow for the weekly submission of proof of employment of local labour	week	24		
		<b><u>STAKEHOLDER MANAGEMENT AND LIAISON</u></b>				
8	PS.22	Stakeholder Management and Liaison	week	0		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

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**PART      AB      GENERAL SPECIFICATIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<b><u>FIXED ITEMS</u></b>				
1	AB.5	Notice Board	no.	2		
2	GCC 6.2.1	Sureties	sum	1		
3	GCC 8.6.1.1	Workmans compensation	sum	1		
4	GCC 8.6.1.1	Insurance of works, damage to persons and property etc.	sum	1		
5	AB.4	Contractor's Camp Site / Store Yard	no.	1		
6	AB.7	Initial supply of all signs, barricades and delineators	sum	1		
7	AB.7	Road Deviations	sum	1		

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## EXTENSION OF GOATHILL ACCESS ROAD (TRK A3607) IN MOPHELA, OUTER WEST - WARD 05

Part Continued **PART** AB GENERAL SPECIFICATIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
8		Survey coordination of existing valves, manholes, catchpits, and cable duct markers	sum	1		
9	PS AB.11	Proving of existing services by hand	m3	30		
10		Survey control and setting out of works	sum	1		
11	AB.6	Allowance for samples, geotechnical and acceptance testing by a SANAS accredited specialist material lab as required by Engineer	PC Sum	50000	1.00	50 000.00
12	AB.6	Contractors mark-up on item 11	%	50000		
13		Procurement of materials	PC Sum	20000	1.00	20 000.00
14		Contractors handling cost, profit and all other charges in respect of item 13	%	20000		
15	PS AB.9	Allowance for using additional local labour	sum	1		
16	AB.10	Cost of Samples and Contractor's Preliminary and Site Control Testing	sum	1		
17		Relocation of existing water taps.(Rate to include all material, plant and labour to relocate taps and make good)	no.	3		
18		Relocation of existing pipe markers	no.	18		
19	PS AB.10	Raise / Lower existing water valves / mains etc. inclusive of all fittings, pipes, plant and labour	no.	5		
20	PS.AB.10	Raise / Lower existing services(pipes, etc) inclusive of all fittings, concrete/cast iron covers, plant and labour	m	120		
21	PS.19	Survey for, and Preparation of, 'As-Built' Drawings	sum	1		
<b><u>TIME RELATED ITEMS</u></b>						
22	PS.AB.8	Allow for Progress Photographs (Contractor to submit BOTH a CD and USB weekly with photographs depicting works on site and as required by the Engineer, be able to print out a minimum of 30 photographs in colour per month)	week	24		
23	AB.7	Maintenance of Pedestrian and Traffic Facilities	week	24		
24	AB.7	Maintenance of all signs, barricades and delineators	week	24		
25		Contractors superintendence	week	24		
26	PS 11	Site Security	week	24		
27	PS.DW	Dayworks (TLB hire)	hr	20		

Part Continued on next page

## EXTENSION OF GOATHILL ACCESS ROAD (TRK A3607) IN MOPHELA, OUTER WEST - WARD 05

Part Continued **PART** AB GENERAL SPECIFICATIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
28	PS.DW	Dayworks (LDV hire)	hr	20		
29	PS.DW	Dayworks (Skilled Labour)	hr	20		
30	PS.DW	Dayworks (Unskilled Labour)	hr	20		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

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**PART** AH OCCUPATIONAL HEALTH and SAFETY

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	AH.14.1	Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations	sum	1		
2	AH.14.2	Contractor's time related obligations in respect of the Occupational Health and Safety Act and Construction Regulations	week	24		
3	AH.14.3	Submission of the Health and Safety File	sum	1		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

R

SECTION 2 SITE CLEARANCE

PART B SITE CLEARANCE

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	B.8.2	General clearance and grubbing in road reserve	m2	4640		
2	B.8.2	General clearance and grubbing in contractor's camp site	m2	400		
3		Specialised clearance and grubbing around pylon structures	m2	785		
4	B.8.14	Removal of asphalt roadways to tip	m3	10		
5	B.8.5	Removal of wire mesh fence and store on site safely for reinstatement	m	150		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

R

**EXTENSION OF GOATHILL ACCESS ROAD (TRK A3607) IN MOPHELA, OUTER WEST - WARD 05****SECTION 3 ROADWORKS****PART C CONCRETE WORK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.C.4	Construct Grade 25/19 1.5m wide X 0.2m deep v-drains as per standard detail. Rate to include supply of all materials as required to fully construct the v-drains, shuttering, formwork, reinforcing Mesh Ref 193, expansion joints and sealant to joints	m	1145		
2	PS.C.4	Supply and install Grade 40MPa (@ 28 Days) 1.5m X 770mm precast access slabs with Y12 steel reinforcement for driveway access slabs. Rate to include supply, delivery, labour and installation	no.	10		
3	PS.C.4	Grade 25/19 mass concrete to be constructed at the back of driveway slabs. 300mm wide X 3.0m length X 50mm thick. Rate to include the supply of all materials, shuttering, formwork, expansion joints and steel reinforcement	m3	5		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

R

**PART DA EARTHWORKS : BULK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DA.8.3	Excavate soft material and place directly into fill and compact to 95% Mod A.A.S.H.T.O. Rate to include haulage and royalties	m3	545		
2	DA.8.3	Excavate soft material and spoil at spoil site approved by Engineer prior to spoiling.	m3	2700		
3	DA.8.3	Extra over above for excavation in intermediate material to spoil at spoil site approved by Engineer prior to spoiling.	m3	50		
4	DA.8.3	Extra over for excavation in hard material to spoil at spoil site approved by Engineer prior to spoiling.	m3	30		
5	DA.8.3	Extra over above for excavation of boulders greater than 0,15 m3 to spoil at spoil site approved by Engineer prior to spoiling	m3	30		
6	DA.8.3	Excavate unsuitable material below embankments or formation and spoil at spoil site approved by Engineer prior to spoiling.	m3	1025		
7	DA.8.3	Rip and recompact 150mm insitu material (subgrade below formation) to 95% Mod A.A.S.H.T.O	m3	965		

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**EXTENSION OF GOATHILL ACCESS ROAD (TRK A3607) IN MOPHELA, OUTER WEST - WARD 05****Part Continued   PART      DA      EARTHWORKS : BULK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
8	DA.4	Import suitable fill material (G7 or better Quality) from contractor's off-site source and compact to 93% MOD A.A.S.H.T.O inclusive of haulage and royalties	m3	465		
9	DA.8.6	Trimming of embankments	m2	1925		
10	DA.8.9	Formation	m2	6430		
11	DA.8.10	Overhaul material in excess of freehaul distance of 1.0 km - spoil site to be approved by Engineer prior to spoiling.	m3km	2500		

**TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES****R****PART      DD      EARTHWORKS FOR STRUCTURES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DD.8.2	Excavate in all material for v-drain to spoil	m3	280		

**TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES****R****PART      EB      GRADED CRUSHED STONE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EB.8(1)	Supply, load, transport and process upper selected G5 graded crushed stone, 150 mm thick from commercial or off-site source, compacted to 95% MOD A.A.S.H.T.O	m3	965		
2	EB.8(1)	Supply, load, transport and process base layer G2 graded crushed stone, 150 mm thick from commercial or off-site source, compacted to 98% MOD A.A.S.H.T.O	m3	965		
3	EB.8(2)	Supply and apply prime coat at 0.6l/m2	m2	6430		

**TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES****R****PART      ED      ROAD ASPHALT**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.ED.7	Saw Cut existing road edge. Saw cut to expose 50mm wide G2 layer of the existing roadway to aid as a key between existing and new asphalt wearing course	m	10		
2	ED.8.1	Continuously graded wearing course of thickness 40mm. Private Plant Asphalt Sa-S14. Bitumen content 5% as per mix design entered at time of use.	t	610		

**TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES****R**

**EXTENSION OF GOATHILL ACCESS ROAD (TRK A3607) IN MOPHELA, OUTER WEST - WARD 05****PART EF KERBS AND HAUNCHES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EF.8.1	Supply and lay Fig.12 edge restraint at road edges. Rate to include for concrete base and haunching as per the Std Drawings.	m	1180		
2	EF.8.1	Supply and lay Fig.6 (Type D)kerbing with 150mm fillet kerbing around bellmouths. Rate to include for concrete base and haunching as per the Std Drawing	m	90		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

R

**PART EH STEEL GUARDRAILS & CONC. MEDIAN BARRIERS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EH 8.1	Supply and erect galvanised straight steel guard rails on precast concrete posts	m	140		
2	EH.8.1	Supply and install Precast concrete posts at 3.81m c/c	no.	41		
3	EH.8.1 PS.EH.2	Supply and install reflective plates at 7.62 c/c	no.	22		
4	EH.8.1	Supply and erect end wings	no.	8		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

R

**PART EL DUMPROCK SUBGRADE IMPROVEMENT**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EL.8	Dumprock subgrade improvement, 300 mm thick (short rock with no fines)	m3	375		
2	PS.DA.10	Provision for drainage grade geofabric as surround to dumprock	m2	2660		
3	DB.8.13	Provision for clean coarse sand above dumprock, 150mm thick	m3	190		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

R



**EXTENSION OF GOATHILL ACCESS ROAD (TRK A3607) IN MOPHELA, OUTER WEST - WARD 05****SECTION 4 STORMWATER DRAINAGE****PART DB EARTHWORKS FOR PIPE TRENCHES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DB.8.5	Excavate,backfill and compact in all material for 450 mm diameter pipe where depth is :- - Over 0,0 m and not exceeding 1,5 m. Rate to include the placing and compacting of Class C bedding for the 450mm diameter pipe. Rate to also include supply, handling and levelling of clean coarse sand from off-site or commercial source.	m	100		
2	DB.8.5	Excavate, backfill and compact in all material for 450 mm diameter pipe where depth is :- - Over 1,5 m and not exceeding 2,0 m. Rate to include the placing and compacting of Class C bedding for the 450mm diameter pipe. Rate to also include supply, handling and levelling of clean coarse sand from off-site or commercial source.	m	20		
3	DB.8.6	Extra over 1 and 2 for hard material	m	15		
4	DB.8.5	Excavate,backfill and compact in all material for 600 mm diameter pipe where depth is :- - Over 0,0 m and not exceeding 1,5 m. Rate to include the placing and compacting of Class C bedding for the 450mm diameter pipe. Rate to also include supply, handling and levelling of clean coarse sand from off-site or commercial source.	m	230		
5	DB.8.5	Excavate, backfill and compact in all material for 600 mm diameter pipe where depth is :- - Over 1,5 m and not exceeding 2,0 m. Rate to include the placing and compacting of Class C bedding for the 450mm diameter pipe. Rate to also include supply, handling and levelling of clean coarse sand from off-site or commercial source.	m	50		
6	DB.8.6	Extra over 4 and 5 for hard material	m	15		
7	DB.8.8	Excavation of unsuitable material from trench bottom and spoil at approved spoil site	m3	15		
8	DB.8.9	Excavate and backfill in all material for 100mm diamter subsoil pipe. Rate to include provision for 19mm stone and clean coarse sand	m3	50		
9	DB.8.2	Excavation for headwall to stockpile	m3	30		

**TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES****R**

**EXTENSION OF GOATHILL ACCESS ROAD (TRK A3607) IN MOPHELA, OUTER WEST - WARD 05****PART PG NON PRESSURE PIPELINES and PC CULVERTS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PG.8.2	Supply and lay 450 mm diameter concrete Class 100D	m	120		
2	PG.8.2	Supply and lay 600 mm diameter concrete Class 100D	m	280		
3	PG.8.12.2	100mm diamter pitch fibre subsoil pipe. Rate to include the (a) supply and laying of drainage grade geofabric blanket and (b) supply and laying of clean coarse sand and stone	m	50		

**TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES****R****PART PH MANHOLES and APPURTENANT DRAINAGE WORKS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PH.8.3	Standard inlet type S2. Depth :- - Over 0,0 m and not exceeding 2.0 m	no.	4		
2	PH.8.3	Standard inlet type D3. Depth :- - Over 0,0 m and not exceeding 2.0 m	no.	2		
3	PH.8.2	Manhole type A with heavy duty concrete cover. Depth :- - Over 0,0 m and not exceeding 2.0 m	no.	10		
4	PH.8.2	Manhole type A with heavy duty concrete cover. Depth :- - Over 1,5 m and not exceeding 2,0 m	no.	5		
5	PS.PH.15	Construct headwall as per Standard Drawing 38576	no.	6		

**TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES****R**

**EXTENSION OF GOATHILL ACCESS ROAD (TRK A3607) IN MOPHELA, OUTER WEST - WARD 05****SECTION 5 ROAD SIGNS AND ROAD MARKINGS****PART TA ROAD SIGNS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	TA.8.1	Supply and erect road sign boards, area not exceeding 2m2	m2	3		
2	TA.8.4	Concrete grade 20/19 for road sign footings	m3	5		
3	TA.8.3	Excavate and backfill for road sign supports	m3	5		
4	TA.8.2	Supply and erect 75mm x 75mm square hot dipped galvanised steel supports. Rate to include all haulage.	m	10		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

R

**PART TB ROAD MARKINGS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	TB.8.1.2	Road Marking for lettering, symbols and traffic islands (white), including setting out lettering, symbols and traffic island markings.	m2	30		
2	TB.8.1.1 AA.TB.1	Painted road lines 150mm wide (white), including setting out and premarking	m	1136		
3	TB.8.1.1 AA.TB.1	Painted road lines 300mm wide (white), including setting out and premarking	m	15		

TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

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**EXTENSION OF GOATHILL ACCESS ROAD (TRK A3607) IN MOPHELA, OUTER WEST - WARD 05****SECTION 6      ADDITIONAL WORKS****PART      F      PROTECTION WORKS**

<b>Item</b>	<b>Clause</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>Rate</b>	<b>Amount</b>
1	F.8.1	Topsoiling from stockpile	m2	2380		
2	F.8.3	Grass planting	m2	2380		
3	PS.F.4	Reinstatement of fence	m	150		
4	F.8.6	Gabion mattresses, 6.0Mm X 2.0m X 300 mm thick. Rate to include spacer blacks, mattress cage and geofabric as surround to mattress	m3	30		
5	PS.F.5	Supply and install eThekwini Barrier - Double Sided around electricity pylons. Rate to include supply, haulage and installation of barriers.	no.	64		

**TOTAL CARRIED TO C.2.2.3 : SUMMARY OF BILL OF QUANTITIES****R**

C.2.2.3 : SUMMARY OF BILL OF QUANTITIES

Section			
1	PRELIMINARY AND GENERAL		R
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	DA EARTHWORKS : BULK	R	
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	ED ROAD ASPHALT	R	
	EF KERBS AND HAUNCHES	R	
	EH STEEL GUARDRAILS & CONC. MEDIAN BARRIERS	R	
	EL DUMPROCK SUBGRADE IMPROVEMENT	R	
4	STORMWATER DRAINAGE		R
	DB EARTHWORKS FOR PIPE TRENCHES	R	
	PG NON PRESSURE PIPELINES and PC CULVERTS	R	
	PH MANHOLES and APPURTENANT DRAINAGE WORKS	R	
5	ROAD SIGNS AND ROAD MARKINGS		R
	TA ROAD SIGNS	R	
	TB ROAD MARKINGS	R	
6	ADDITIONAL WORKS		R
	F PROTECTION WORKS	R	
SUB TOTAL			R
ADD VAT (15%) - (only if a registered VAT Vendor)			R
TOTAL CARRIED TO FORM OF OFFER AND ACCEPTANCE (C.1.1)			R