

Upgrade of Zakwe Place and surrounding Lanes, in Ward 17

BILL OF QUANTITIES**SECTION 1 PRELIMINARY 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 | sum | 1 | | |
| | | Fixed Charge obligations | | | | |
| 2 | GCC 2015 | Time Related obligations | sum | 1 | | |
| 3 | SANS 1921-1 | SANS 1921-1 : GENERAL ENGINEERING AND CONSTRUCTION WORKS READ IN CONJUNCTION WITH THE ASSOCIATED SPECIFICATION DATA IN THE SCOPE OF WORKS | sum | 1 | | |
| | | Fixed Charge Items | | | | |
| 4 | SANS 1921-1 | Time Related Items | sum | 1 | | |
| 5 | PS.13 | COMMUNITY LIAISON OFFICER | PC Sum | 95040 | 1.00 | 95,040.00 |
| | | Allow for a CLO to be appointed. | | | | |
| 6 | | Contractor's overheads, charges and profits on item 5 above | % | 95040 | | |

TOTAL CARRIED TO SECTION 1 SUMMARY: PRELIMINARY AND GENERAL

R

PART AB GENERAL SPECIFICATIONS

| Item | Clause | Description | Unit | Quantity | Rate | Amount |
|------|----------------|--|--------|----------|------|-----------|
| 1 | AB.4/PS.AB.1.2 | Contractor's Camp Site / Store Yard | sum | 1 | | |
| 2 | AB.5/PS.AB.6 | Notice Board | sum | 1 | | |
| 3 | AB.7 | Initial supply of all signs, barricades and delineators | sum | 1 | | |
| 4 | AB.6 | Cost of Samples and Contractor's Preliminary and Site Control Testing | sum | 1 | | |
| 5 | AB.7 | Maintenance of Pedestrian and Traffic Facilities | PC Sum | 10000 | 1.00 | 10,000.00 |
| 6 | AB.7 | Maintenance of all signs, barricades and delineators | sum | 1 | | |
| 7 | PS.11 | Survey for, and preparation of 'As-Built' Drawings | PC Sum | 5000 | 1.00 | 5,000.00 |
| 8 | | Progress Photographs (Before, during & after completion) | PC Sum | 500 | 1.00 | 500.00 |
| 9 | | Survey coordination of existing valves, manholes, catchpits, and cable duct makers | PC Sum | 10000 | 1.00 | 10,000.00 |

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PART AB GENERAL SPECIFICATIONS

| Item | Clause | Description | Unit | Quantity | Rate | Amount |
|---|--------|-------------|------|----------|------|--------|
| TOTAL CARRIED TO SECTION 1 SUMMARY: PRELIMINARY AND GENERAL | | | | | | R |

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 | sum | 1 | | |
| 3 | AH.14.3 | Submission of the Health and Safety File | sum | 1 | | |
| TOTAL CARRIED TO SECTION 1 SUMMARY: PRELIMINARY AND GENERAL | | | | | | R |

Upgrade of Zakwe Place and surrounding Lanes, in Ward 17

SECTION 2 ZAKWE PLACE AND SURROUNDING LANES - WARD 17**PART B SITE CLEARANCE**

| Item | Clause | Description | Unit | Quantity | Rate | Amount |
|------|--------------|--|--------|----------|------|----------|
| 1 | B.8.2 | General clearance and grubbing in road reserve | m2 | 2835 | | |
| 2 | B.8.4/PS.B.3 | Removal of trees of girth exceeding 1,5m | no. | 3 | | |
| 3 | B.8.5 | Removal of 1.8m high wire mesh fence and store on site for re-use | m | 10 | | |
| 4 | B.8.9 | Removal of brickwork | m3 | 3 | | |
| 5 | B.8.10 | Removal of unreinforced concrete | m3 | 0.5 | | |
| 6 | B.8.19 | Removal of disused pipes, 300 - 500 mm diameter and spoil at tip. Rate to include all haulage | m | 10 | | |
| 7 | | Relocation/lowering water meters/valves - includes plumbers rates & supply and transport of all materials. | PC Sum | 5000 | 1.00 | 5,000.00 |
| 8 | | Lowering of water mains as deemed necessary per instruction of Engineer's Representative. | PC Sum | 5000 | 1.00 | 5,000.00 |
| 9 | B.8.21 | Backfilling with suitable material from site | m3 | 50 | | |
| 10 | B.8.21 | Backfilling with suitable material imported from an off-site source | m3 | 100 | | |

TOTAL CARRIED TO SECTION 2 SUMMARY: ZAKWE PLACE AND SURROUNDING LANES - WARD 17

R

PART C CONCRETE WORK

| Item | Clause | Description | Unit | Quantity | Rate | Amount |
|------|--------|---|------|----------|------|--------|
| 1 | C.8.1 | Reinforced Concrete V-Drain as per standard detail (600mm wide x 100mm thick) - using 25/20Mpa concrete with Mesh Ref 193. Include all necessary excavation, shuttering, formwork, expansion joints & finishing. As per directed on site by Engineer's Representative. | m | 300 | | |
| 2 | C.8.2 | Supply and lay concrete roadway (Ready-mix 125mm thick) 30/26 Mpa including transverse joints, curing and with rough stiff bristled broom finish applied transversely across the width of the road to create striations of about 1,5mm to 3,0mm in depth. The concrete mix, mixing, batching, transporting, placing, compaction, and curing shall comply with the requirements of Part C: Concrete Work. The rate shall cover excavation, formation preparation, all necessary compaction | m3 | 50 | | |
| 3 | C.8.2 | Install Mesh Ref 395 om concrete slab | m2 | 400 | | |

Upgrade of Zakwe Place and surrounding Lanes, in Ward 17

PART C CONCRETE WORK

| Item | Clause | Description | Unit | Quantity | Rate | Amount |
|------|--------|-------------|------|----------|------|--------|
|------|--------|-------------|------|----------|------|--------|

TOTAL CARRIED TO SECTION 2 SUMMARY: ZAKWE PLACE AND SURROUNDING LANES - WARD 17

R

PART DA EARTHWORKS : BULK

| Item | Clause | Description | Unit | Quantity | Rate | Amount |
|------|--------|---|------|----------|------|--------|
| 1 | DA.8.3 | Excavate soft material and place directly into fill | m3 | 350 | | |
| 2 | DA.8.3 | Excavate soft material to spoil | m3 | 60 | | |
| 3 | DA.8.3 | Extra over above for the excavation of intermediate material to spoil | m3 | 30 | | |
| 4 | DA.8.3 | Extra over above for excavation of hard material to spoil | m3 | 20 | | |
| 5 | DA.8.3 | Extra over above for the excavation of boulders greater than 0,15 m3 to spoil. | m3 | 10 | | |
| 6 | DA.8.3 | Excavate unsuitable material below embankments or formation and spoil at tip | m3 | 10 | | |
| 7 | DA.8.4 | Import G7 material from contractor's off-site source inclusive of haulage and royalties | m3 | 170 | | |
| 8 | DA.8.5 | Compact soft material from site to 95% Mod. A.A.S.H.T.O. | m3 | 155 | | |
| 9 | DA.8.9 | Formation | m2 | 250 | | |
| 10 | DA.8.4 | Import G9 material from contractor's off-site source inclusive of haulage and royalties | m3 | 150 | | |

TOTAL CARRIED TO SECTION 2 SUMMARY: ZAKWE PLACE AND SURROUNDING LANES - WARD 17

R

PART DB EARTHWORKS FOR PIPE TRENCHES

| Item | Clause | Description | Unit | Quantity | Rate | Amount |
|------|------------------|--|------|----------|------|--------|
| 1 | | Supply and lay Type A subsoil as per standard detail. Rate to include clean coarse sand, drainage grade geofabric, 100mm subsoil pipe and 13.2mm stone chipings. | m | 25 | | |
| 2 | DB.8.5 | Excavate and backfill in all material for 450 mm diameter pipe where depth is :- - Over 0,0 m and not exceeding 1,5 m | m3 | 10 | | |
| 3 | DB.8.5 | Excavate and backfill in all material for 450 mm diameter pipe where depth is :- - Over 1,5 m and not exceeding 2,0 m | m3 | 5 | | |
| 4 | DA.8.6 | Extra over item [1 & 2] for hard material | m3 | 3 | | |
| 5 | DB.8.9/PS.DB.1/9 | Supply, placing and compacting of Class C bedding for 450 mm diameter pipe as per STD detail 38575 | m | 20 | | |

Upgrade of Zakwe Place and surrounding Lanes, in Ward 17

Part Continued **PART DB EARTHWORKS FOR PIPE TRENCHES**

| Item | Clause | Description | Unit | Quantity | Rate | Amount |
|------|---------|---|------|----------|------|--------|
| 6 | DB.8.19 | Prove existing services by hand excavation, where depth is --Over 0,0m and not exceeding 1,5m | m3 | 3 | | |

TOTAL CARRIED TO SECTION 2 SUMMARY: ZAKWE PLACE AND SURROUNDING LANES - WARD 17

R

PART DD EARTHWORKS FOR STRUCTURES

| Item | Clause | Description | Unit | Quantity | Rate | Amount |
|------|--------|---|------|----------|------|--------|
| 1 | DD.8.2 | Excavate in all material for GEOLOK/GABIONS retaining wall to spoil | m3 | 50 | | |
| 2 | DD.8.2 | Extra over item 1 for hard material | m3 | 5 | | |
| 3 | DD.8.3 | Backfill and compact behind the GABION/GEOLOK retaining wall using imported G9 material from the contractor's own source. Rate to include all haulage and royalties | m3 | 50 | | |

TOTAL CARRIED TO SECTION 2 SUMMARY: ZAKWE PLACE AND SURROUNDING LANES - WARD 17

R

PART EB GRADED CRUSHED STONE

| Item | Clause | Description | Unit | Quantity | Rate | Amount |
|------|--|--|------|----------|------|--------|
| 1 | EB.8(1)/PS.EB.1 EB1234 EB12345 EB123456 | Supply, lay, process and compact G5, Natural Gravel 125 mm thick compacted to 97% Mod AASHTO | m3 | 245 | | |
| 2 | EB.8(1)/PS.EB.1 EB1234 EB12345 EB123456 | Supply, lay, process and compact G2, Crushed Stone 125 mm thick compacted to 100% Mod AASHTO | m3 | 285 | | |
| 3 | EB.8(2) | Prime Coat 0.6litres/m2 | m2 | 1930 | | |

TOTAL CARRIED TO SECTION 2 SUMMARY: ZAKWE PLACE AND SURROUNDING LANES - WARD 17

R

PART ED ROAD ASPHALT

| Item | Clause | Description | Unit | Quantity | Rate | Amount |
|------|--------|---|------|----------|------|--------|
| 1 | ED.8.2 | Private Plant Asphalt Sa-S14. Bitumen content % as per mix design entered at time of use. | t | 150 | | |
| 2 | ED.8.4 | Tack coat ,0.3m/l2. Shall be sprayed onto road surface. | m2 | 100 | | |
| 3 | ED.8.3 | Saw cut existing road edge | m | 50 | | |

TOTAL CARRIED TO SECTION 2 SUMMARY: ZAKWE PLACE AND SURROUNDING LANES - WARD 17

R

Upgrade of Zakwe Place and surrounding Lanes, in Ward 17

PART EF KERBS AND HAUNCHES

| Item | Clause | Description | Unit | Quantity | Rate | Amount |
|------|----------------|--|------|----------|------|--------|
| 1 | EF.8.1 | Modified Type F mountable kerb and fillet inclusive of base and haunching as per detail - along asphalt road section | m | 20 | | |
| 2 | EF.8.1/PS.EF.1 | Modified Type A barrier kerb and fillet/channel inclusive of base and haunching | m | 350 | | |
| 3 | EF.8.1 | Extra over item 1 for curves of radius less than 25m | m | 20 | | |
| 4 | EF.8.1 | Extra over item 1 curves for curves of radius less than 2m | m | 5 | | |
| 5 | EF.8.1/PS.EF.2 | Figure 12 (150x75) kerb as edge restraint inclusive of base and haunching | m | 240 | | |

TOTAL CARRIED TO SECTION 2 SUMMARY: ZAKWE PLACE AND SURROUNDING LANES - WARD 17

R

PART EG SIDEWALKS, FOOTPATHS and MEDIAN AREAS

| Item | Clause | Description | Unit | Quantity | Rate | Amount |
|------|----------------|--|------|----------|------|--------|
| 1 | EG.8.1 PS.EG.1 | Asphalt Sidewalk / Footpath with 100mm G2 graded crushed stone overlaid by 25mm Mix A asphalt (Rate to include weedkiller) | m2 | 150 | | |
| 2 | EG.8.3 | Soft board expansion joint including post construction sealant | m | 75 | | |
| 3 | EG.8.3 | Supply and place ref 193 mesh reinforcing as directed by Engineer | m2 | 300 | | |

TOTAL CARRIED TO SECTION 2 SUMMARY: ZAKWE PLACE AND SURROUNDING LANES - WARD 17

R

PART EH STEEL GUARDRAILS & CONC. MEDIAN BARRIERS

| Item | Clause | Description | Unit | Quantity | Rate | Amount |
|------|--------|----------------------------|------|----------|------|--------|
| 1 | EH 8.1 | Straight steel guard rails | m | 50 | | |
| 2 | EH 8.1 | Curved steel guardrails | m | 15 | | |
| 3 | EH.8.1 | End wings | no. | 4 | | |
| 4 | EH.8.1 | Precast concrete posts | no. | 15 | | |

TOTAL CARRIED TO SECTION 2 SUMMARY: ZAKWE PLACE AND SURROUNDING LANES - WARD 17

R

PART EL DUMPROCK SUBGRADE IMPROVEMENT

| Item | Clause | Description | Unit | Quantity | Rate | Amount |
|------|--------|---|------|----------|------|--------|
| 1 | EL.8 | Dumprock subgrade improvement, 300 mm thick | m3 | 20 | | |

TOTAL CARRIED TO SECTION 2 SUMMARY: ZAKWE PLACE AND SURROUNDING LANES - WARD 17

R

Upgrade of Zakwe Place and surrounding Lanes, in Ward 17

PART F PROTECTION WORKS

| Item | Clause | Description | Unit | Quantity | Rate | Amount |
|------|--------------|--|------|----------|------|--------|
| 1 | F.8.1/PS.F.1 | Imported topsoil from commercial source 100mm thick | m2 | 100 | | |
| 2 | F.8.3 | Grass sodding | m2 | 80 | | |
| 3 | F.8.6 | Gabion boxes, 1000 mm depth | m3 | 100 | | |
| 4 | F.8.6 | Gabion boxes, 500 mm thick | m3 | 60 | | |
| 5 | F.8.6 | Gabion mattresses, 300 mm thick | m3 | 20 | | |
| 6 | F.8.7/C.8.1 | Grade 20/19 concrete to GEOLOK wall footing inclusive of reinforcing (refer to manufacturers specification) | m3 | 10 | | |
| 7 | PS.F.5 | Install GEOLOK 400 blocks retaining wall as per the Engineers specification. Rate shall include transport, labour and installation | m2 | 100 | | |
| 8 | F.8.7 | Supply and lay 50mm diameter PVC weepholes inclusive of no fines plug. | no. | 50 | | |
| 9 | PS.F.4 | Drainage grade geofabrics | m2 | 70 | | |

TOTAL CARRIED TO SECTION 2 SUMMARY: ZAKWE PLACE AND SURROUNDING LANES - WARD 17

R

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 stormwater pipe. The rate shall include procurement, transport and labour | m | 15 | | |
| 2 | PG.8.11 | Grade 15/26 concrete to anchor blocks | m3 | 3 | | |

TOTAL CARRIED TO SECTION 2 SUMMARY: ZAKWE PLACE AND SURROUNDING LANES - WARD 17

R

PART PH MANHOLES and APPURTENANT DRAINAGE WORKS

| Item | Clause | Description | Unit | Quantity | Rate | Amount |
|------|----------------|--|------|----------|------|--------|
| 1 | PH.8.4/PS.PH.3 | Constructed standard headwall (Type A) as per standard drawings No. 38476 & as per directed on site. Rate to include all labour, material & plant. | no. | 1 | | |
| 2 | PH.8.3 | Manhole Type D3. Depth :- - Over 0,0 m and not exceeding 1,5 m | no. | 1 | | |
| 3 | PH.8.3 | Manhole Type D3. Depth :- - Over 1.5 m and not exceeding 2,5 m | no. | 1 | | |
| 4 | PH.8.2 | Manhole type S1. Depth :- - Over 0,0 m and not exceeding 1,5 m | no. | 1 | | |
| 5 | PH.8.2 | Manhole type S1. Depth :- - Over 1,0 m and not exceeding 2,5 m | no. | 1 | | |

Upgrade of Zakwe Place and surrounding Lanes, in Ward 17

Part Continued **PART PH MANHOLES and APPURTENANT DRAINAGE WORKS**

| Item | Clause | Description | Unit | Quantity | Rate | Amount |
|------|-------------------|--|------|----------|------|--------|
| 6 | PH.8.5.3/PS.P H.3 | 230 mm brickwork to new manhole or repairs | m2 | 3 | | |

TOTAL CARRIED TO SECTION 2 SUMMARY: ZAKWE PLACE AND SURROUNDING LANES - WARD 17

R

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 | no. | 3 | | |
| 2 | TA.8.4 | Concrete grade 20/19 for road sign footings | m3 | 1.5 | | |
| 3 | TA.8.2 | Supply and erect 75mm x 75mm square hot dipped galvanised steel supports. Rate to include all haulage. | m | 3 | | |
| 4 | TA.8.3 | Excavate and backfill for road sign supports | m3 | 3 | | |

TOTAL CARRIED TO SECTION 2 SUMMARY: ZAKWE PLACE AND SURROUNDING LANES - WARD 17

R

PART TB ROAD MARKINGS

| Item | Clause | Description | Unit | Quantity | Rate | Amount |
|------|----------|--|------|----------|------|--------|
| 1 | TB.8.1.1 | Painted road lines (THERMO PLASTIC) 150mm wide (white), including setting out and premarking. | m | 340 | | |
| 2 | TB.8.1.1 | Painted road lines (THERMO PLASTIC) 300mm wide (white), including setting out and premarking. | m | 25 | | |
| 3 | TB.8.1.2 | Road Marking (THERMO PLASTIC) for lettering, symbols and traffic islands (white), including setting out lettering, symbols and traffic island markings | m2 | 1 | | |

TOTAL CARRIED TO SECTION 2 SUMMARY: ZAKWE PLACE AND SURROUNDING LANES - WARD 17

R

BILL OF QUANTITIES SECTION SUMMARY**SECTION 1 PRELIMINARY 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 ZAKWE PLACE AND SURROUNDING LANES - WARD 17**

| | | |
|--------------------------------|--|--|
| PART B | SITE CLEARANCE | |
| PART C | CONCRETE WORK | |
| PART DA | EARTHWORKS : BULK | |
| PART DB | EARTHWORKS FOR PIPE TRENCHES | |
| PART DD | EARTHWORKS FOR STRUCTURES | |
| PART EB | GRADED CRUSHED STONE | |
| PART ED | ROAD ASPHALT | |
| PART EF | KERBS AND HAUNCHES | |
| PART EG | SIDEWALKS, FOOTPATHS and MEDIAN AREAS | |
| PART EH | STEEL GUARDRAILS & CONC. MEDIAN BARRIERS | |
| PART EL | DUMPROCK SUBGRADE IMPROVEMENT | |
| PART F | PROTECTION WORKS | |
| PART PG | NON PRESSURE PIPELINES and PC CULVERTS | |
| PART PH | MANHOLES and APPURTENANT DRAINAGE WORKS | |
| PART TA | ROAD SIGNS | |
| PART TB | ROAD MARKINGS | |
| TOTAL CARRIED TO FINAL SUMMARY | | |

Upgrade of Zakwe Place and surrounding Lanes, in Ward 17**SUMMARY OF BILL OF QUANTITIES****Section****1 PRELIMINARY AND GENERAL****R** _____

AA PRELIMINARIES

R _____

AB GENERAL SPECIFICATIONS

R _____

AH OCCUPATIONAL HEALTH and SAFETY

R _____

2 ZAKWE PLACE AND SURROUNDING LANES - WARD 17**R** _____

B SITE CLEARANCE

R _____

C CONCRETE WORK

R _____

DA EARTHWORKS : BULK

R _____

DB EARTHWORKS FOR PIPE TRENCHES

R _____

DD EARTHWORKS FOR STRUCTURES

R _____

EB GRADED CRUSHED STONE

R _____

ED ROAD ASPHALT

R _____

EF KERBS AND HAUNCHES

R _____

EG SIDEWALKS, FOOTPATHS and MEDIAN AREAS

R _____

EH STEEL GUARDRAILS & CONC. MEDIAN BARRIERS

R _____

EL DUMPROCK SUBGRADE IMPROVEMENT

R _____

F PROTECTION WORKS

R _____

PG NON PRESSURE PIPELINES and PC CULVERTS

R _____

PH MANHOLES and APPURTENANT DRAINAGE WORKS

R _____

TA ROAD SIGNS

R _____

TB ROAD MARKINGS

R _____

SUB TOTAL

R _____

ADD VAT (15%) - (only if a registered VAT Vendor)

R _____

TOTAL CARRIED TO FORM OF TENDER

R _____