**KANANA PHASE C: INSTALLATION OF HIGH MAST LIGHTS**
**BILL OF QUANTITIES**

| ITEM | DESCRIPTION | UNIT | QTY | RATE | TOTAL AMOUNT |
|---|---|---|---|---|---|
| **SECTION A:** | | | | | |
| **PRELIMINARY, GENERAL AND PROVISIONS** | | | | | |
| **A.1** | **PRELIMINARY AND GENERAL** | | | | |
| A.1.1 | **SITE ESTABLISHMENT** | | | | |
| | **Facilities for Contractor** | | | | |
| | 1. Site Camp Establishment, Site Office, Office Furniture and Equipment, Store, Ablution, Rental, Transport, Clearing of Site, Site Supervision. | Each | 1 | | |
| | **Facilities for Engineer** | | | | |
| | 2. Engineer's Office and office furniture, Cellular Phone | Each | 1 | | |
| A.1.2 | **PRELIMINARIES** | | | | |
| | 3. Induction and Medical – General workers | Each | 3 | | |
| | 4. Induction and Medical – Sub-Contractors | Each | 3 | | |
| | 5. Management of Local Sub-Contractors | Each | 3 | | |
| | 6. Preparation and submission of a construction program to the Engineer as required in the documents. | Each | 3 | | |
| | 7. Three sets construction drawings to the Engineer for approval. | Each | 3 | | |
| | 8. Three sets of hard copies and an electronic copy of "As-built" drawings and test certificates to the Engineer on hand-over. | Each | 3 | | |
| | 9. Instructions to maintenance staff of operating and maintenance procedures, including three sets of Instruction manuals. | Each | 3 | | |
| | 10. Triplicate log book to record all events on site | Each | 3 | | |
| | 11. Temporary Traffic Control Facilities | Each | 1 | | |
| | 12. Supply and Install name board (1850 x 1850mm), with the projects, contractor, client and consultants details on - prior approval from clienty required. | Each | 1 | | |
| A.1.3 | **COMPLIANCE** | | | | |
| | 1. Compliance with Safety Requirements as set out in the OHS Act. This will include a safety plan, the holding of safety meetings, appointing of safety representatives, the co-ordination of all safety requirements for all sub-contractors. | Sum | 1 | | |
| | 2. Crane for erection of higmasts | Sum | 1 | | |
| | | | | **TOTAL FOR SECTION A1** | |
| **A.2** | **PROVISIONAL SUMS:** | | | | |
| | **For Work to be executed through Local Employment, nominated sub-contractor and Special Services** | | | | |
| | 1. Remuniration for Community Liaison Officer | Months | 6 | R 7 500.00 | R 45 000.00 |
| | 2. Remuniration for 3 x Security | Months | 6 | R 12 000.00 | R 72 000.00 |
| | 3. Remuniration for OHS Representative and Agent | Months | 6 | R 12 000.00 | R 72 000.00 |
| | 4. Provision for Special Services (Civil & Electrical) in according to ECSA rates. | Sum | 1 | R 297 999.90 | R 297 999.90 |
| | 5. Minor Civil works (i.e New Paving and other associated works) | Sum | 1 | R 385 000.00 | R 385 000.00 |
| | 6. Provision for application for Electrical connection fees to Municipal supplied point or Eskom point: (16kVA Trfr, Complete Trfr Connection Box, 3 phase Meter and 16mm² x 4 core Cu supply cable) | Sum | 1 | R 2 300 000.00 | R 2 300 000.00 |
| | 7.Provision of training to Municipal Staff | Sum | 1 | R 60 000.00 | R 60 000.00 |
| | | | | **TOTAL FOR SECTION A2** | **R 3 231 999.90** |

| ITEM | DESCRIPTION | UNIT | QTY | RATE | TOTAL AMOUNT |
|---|---|---|---|---|---|
| **SECTION B:** | | | | | |
| | **TESTS** | | | | |
| B.1 | Soil geotechnical studies for foundation including soil and concrete cube tests. | No | 11 | | |
| B.2 | Perform soil bearing pressure tests for each mast prior to casting the concrete base to ensure that the soil load bearing conditions are suited to the specific concrete base design. Provide soil test Certificate | No | 11 | | |
| B.3 | Test earth system and provide test certificate | No | 11 | | |
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| | | | | **TOTAL FOR SECTION B** | |
| | **SECTION C:** | | | | |
| | **FOUNDATIONS** | | | | |
| C.1 | Concrete foundation for high mast complete with excavation, steel reinforcing, cables inlet pipes, earth spikes, foundation bolts and template set, back fill material, soil and concrete test, etc. in the following soil conditions, | | | | |
| C.2 | Soil ("Normal") | m³ | 11 | | |
| C.3 | Soft rock ("Difficult") | m³ | 44 | | |
| C.4 | Hard rock ("Hard") | m³ | 99 | | |
| C.5 | Disposal of surplus unsuitable material at an approved site | m³ | 138 | | |
| C.6 | Additional G5 Material incorporated + Labour for backfilling and footing | m³ | 44 | | |
| C.7 | Excavating and casting of high mast plinth complete and inclusive of materials with soil tests Engineering certificate and earthing | per pole | 11 | | |
| C.8 | Provide dump rock of minimum size 80mm | m³ | 35 | | |
| C.9 | Provide a minimum of 50mm thickness blinding layer below footing 15MPa concrete | m³ | 24 | | |
| C.10 | Provide a Bidim A4 geotextile lining or equally approved geotextile | m² | 150 | | |
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| | | | | **TOTAL FOR SECTION C** | |

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| **SECTION D:** | | | | | |
| **HIGH MAST LUMINAIRES** | | | | | |
| D.1 | Manufacture 30m high mast pole (payment subject to inspection by Engineer) | per pole | 11 | | |
| D.2 | Supply and deliver to site in City of Mbombela complete high mast pole, with all accessories, distribution board, internal cables, carriage, etc. | per pole | 11 | | |
| D.3 | Assemble and Erect complete mast, with all accessories, distribution board, internal cables, carriage, etc. | per pole | 11 | | |
| D.4 | Supply and deliver 450W LED high mast luminaires, or similar, as a replacement to the traditional 400W HPS floodlights. | per pole | 9 | | |
| D.5 | Install and connect 450W LED highmast luminaires. 9 per highmast, including all brackets, etc. Mounted on high mast carriage. | per pole | 99 | | |
| D.6 | Set luminaire aiming positions at each mast and test | per pole | 99 | | |
| D.7 | Compile illumination levels and submit test results report to the Engineer | per pole | 11 | | |
| D.8 | 5m Test lead for testing floodlight luminaires at ground level | per pole | 11 | | |
| D.9 | 30 m Sectional Poles 3-rope hoisting Highlight mast with light brackets | per pole | 11 | | |
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| | | | | **TOTAL FOR SECTION C** | |
| | **SECTION E:** | | | | |
| | **LV SUPPLY AND EARTHING** | | | | |
| | | | | | |
| E.1 | Installation of high mast power supply cable and accessories (4 core x 16mm² Cu cable) | m | 638 | | |
| E.2 | Provision of complete earthing and lightning protection system by Specialist i.e. 1.5m earthing rods and 70mm² Bare Copper Earth Conductor | per pole | 11 | | |
| E.3 | Provision of 25mm steel galvanised pipe and bends for protection of the power supply cable from vandalism and theft | m | 641 | | |
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| | | | | **TOTAL FOR SECTION D** | |
| **SECTION F:** | | | | | |
| **CABLING** | | | | | |
| F.1 | Hoisting unit (Single Drum winch) | per contract | 1 | | |
| F.1 | Hydraulic power tool with remote | per contract | 1 | | |
| F.2 | Test Lead (5Pin, 16A, 8m long) | per contract | 1 | | |
| | | | | **TOTAL FOR SECTION F** | |
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| **SECTION G: PROVISIONAL SUMS FOR PROFESSIONAL SERVICES** | | | | | |
| G.1 | Provisional Amount for Design, Project Management and reporting to COGTA and to COM PIU according to ECSA rates | Sum | 1 | R200 150.00 | R 200 150.00 |
| | | | | | |
| | | | | **TOTAL FOR SECTION G** | **R 200 150.00** |

| **TABLE 7: Bill of Quantity Summary** | | |
|---|---|---|
| **ITEM No.** | **DESCRIPTION** | **TOTAL AMOUNTS** |
| 1 | TOTAL FOR SECTION A1: PRELIMINARY AND GENERAL | R - |
| 2 | TOTAL FOR SECTION A2: PROVISIONAL SUMS | R 3 231 999.90 |
| 3 | TOTAL FOR SECTION B: TESTS | R - |
| 4 | TOTAL FOR SECTION C: FOUNDATIONS | R - |
| 5 | TOTAL FOR SECTION D: HIGHMAST AND LUMINAIRES | R - |
| 6 | TOTAL FOR SECTION E: LV SUPPLY AND EARTHING | R - |
| 7 | TOTAL FOR SECTION F: CABLING | R - |
| 8 | TOTAL FOR SECTION G: PROFESSIONAL SERVICES | R 200 150.00 |
| | **Sub Total** | |
| | 10% Contingencies | |
| | **Sub Total** | |
| | 15% VAT | |
| | **Total (Carried Forward to Form of Offer)** | |