## SUMMARY BOQ- HLULEKA NATURE RESERVE - COST FOR ELECTRICAL & MECHANICAL INSTALLATION

DESCRIPTION	AMOUNT
Bill № 1 - CABLES	
BILL № 2 - DISTRIBUTION BOARDS AND SWITCHGEARS	
Bill № 3 - LUMINAIRES	
BILL № 4 - SWITCHES AND SOCKET OUTLETS	
BILL № 5 - CONDUCTORS AND WIREWAYS	
BILL № 6 - EARTHING AND LIGHTNING PROTECTION	
BILL Nº 7 - MECHANICAL ITEMS	
SUB - TOTAL	
PRELIMINARY AND GENERAL	
SUB - TOTAL	
ADD 15% VAT	
TOTAL	

## SILAKA NATURE RESERVE - COST FOR ELECTRICAL & MECHANICAL INSTALLATION

BILL Nº 1-CABLES   NOTE: The Tenderer is advised to refer to the document "SPECIFICATION OF MATERIALS AND METHODS TO BE USED"   Rates submitted below shall include for supply, delivery fixing materials and fixing unless otherwise specified.   This schedule of quantities shall be read in conjunction with the rest of the specification.				1		
BILL Nº 1 - CABLES NOTE: The Tenderer is advised to refer to the document "SPECIFICATION OF MATERIALS AND METHODS TO BE USED" Rates submitted below shall include for supply, delivery fixing materials and fixing unless otherwise specified This schedule of quantities shall be read in conjunction with the rest of the specification.  1,1 CABLES  1000/600 volt PVC/SWA/PVC copper cables. Rates to include for the supply, delivery and installation into cable sleeves, trenches and cable trays excluding excavations and backfilling, cable terminations and joints.  CABLE TERMINATIONS For PVC/SWA/PVC shall include supply and fitting of the cable gland, neoprene shroud, making-off the cable, lugs, and fitting the gland to the board gland plate, switchpear and final connection of cable tails into board or terminals.  Note: Should cables without ECC be utilized the tenderer will supply the additional external earth wire at no additional cost  1.1.11 10mm³ 3c PVC SWA PVC Cable 1.1.12 1.1.13. Installation 1.1.13. Installation 1.1.13. Installation 1.1.22 1.1.24 1.1.25 1.1.25 1.1.26 1.1.27 1.1.27 1.1.28 1.1.29 1.1.29 1.1.29 1.1.20 1.1.20 1.1.20 1.1.21 1.1.21 1.1.21 1.1.21 1.1.22 1.1.22 1.1.23 1.1.23 1.1.24 1.1.24 1.1.25 1.1.25 1.1.25 1.1.26 1.1.26 1.1.26 1.1.27 1.1.27 1.1.27 1.1.28 1.1.29 1.1.29 1.1.29 1.1.29 1.1.29 1.1.20 1.1.20 1.1.20 1.1.21 1.1.21 1.1.21 1.1.21 1.1.21 1.1.21 1.1.21 1.1.21 1.1.22 1.1.21 1.1.22 1.1.23 1.1.24 1.1.24 1.1.25 1.1.25 1.1.26 1.1.26 1.1.27 1.27 1.28 1.28 1.29 1.29 1.29 1.20 1.20 1.20 1.20 1.20 1.20 1.21 1.21	Item	Description	Unit	Otv	Rate	Total
NOTE: The Tenderer is advised to refer to the document "SPECIFICATION OF MATERIALS AND METHODS TO BE USED" Rates submitted below shall include for supply, delivery fixing materials and fixing unless otherwise specified This schedule of quantities shall be read in conjunction with the rest of the specification.  1,1 CABLES  1000/000 volt PVC/SWA/PVC copper cables. Rates to include for the supply, delivery and installation into cable sleeves, trenches and cable trays excluding excavations and backfilling, cable terminations and joints.  CABLE TERMINATIONS For PVC/SWA/PVC shall include supply and fitting of the cable gland, neoprene shroud, making-off the cable, lugs, and fitting the gland to the board gland plate, switchpear and final connection of cable latellis into board or terminals.  Note: Should cables without ECC be utilized the tenderer will supply the additional external earth wire at no additional cost  1.1.11 10mm³ 3c PVC SWA PVC Cable 1.1.1.13 11mm³ 3c PVC SWA PVC Cable 1.1.14 1.15 1.15 1.15 1.16 1.17 1.17 1.17 1.17 1.18 1.18 1.19 1.19 1.19 1.19 1.19 1.19		20001111111	0	۵.,		10161
NOTE: The Tenderer is advised to refer to the document "SPECIFICATION OF MATERIALS AND METHODS TO BE USED" Rates submitted below shall include for supply, delivery fixing materials and fixing unless otherwise specified This schedule of quantities shall be read in conjunction with the rest of the specification.  1,1 CABLES  1000/000 volt PVC/SWA/PVC copper cables. Rates to include for the supply, delivery and installation into cable sleeves, trenches and cable trays excluding excavations and backfilling, cable terminations and joints.  CABLE TERMINATIONS For PVC/SWA/PVC shall include supply and fitting of the cable gland, neoprene shroud, making-off the cable, lugs, and fitting the gland to the board gland plate, switchpear and final connection of cable latellis into board or terminals.  Note: Should cables without ECC be utilized the tenderer will supply the additional external earth wire at no additional cost  1.1.11 10mm³ 3c PVC SWA PVC Cable 1.1.1.13 11mm³ 3c PVC SWA PVC Cable 1.1.14 1.15 1.15 1.15 1.16 1.17 1.17 1.17 1.17 1.18 1.18 1.19 1.19 1.19 1.19 1.19 1.19		BILL Nº 1 - CABLES				
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This schedule of quantities shall be read in conjunction with the rest of the specification.  1,1 CABLES  1000/600 volt PVC/SWA/PVC copper cables. Rates to include for the supply, delivery and installation into cable sleeves, trenches and cable trays excluding excavations and backfilling, cable terminations and joints.  CABLE TERMINATIONS For PVC/SWA/PVC shall include supply and fitting of the cable gland, neoprene shroud, making-off the cable, lugs, and fitting the gland to the board gland plate, swithepare and final connection of cable tails into board or terminals.  Note: Should cables without ECC be utilized the tenderer will supply the additional external earth wire at no additional cost  11.11 10mm² 3c PVC SWA PVC Cable 11.12.1 Installation m 300 11.13.1 Installation m 250 11.12.2 Installation m 250 11.12.3 Termination m 250 11.12.3 Termination m 250 11.13.1 Installation m 550 11.13.1 Installation m 550 11.13.1 Installation m 550 11.14.2 Excavation AND BACKFILLING Excavate, backfill and compact in all materials including disposal of unsuitable/surplus material. 11.14.3 Hard material (Provisional) m 5 11.15.4 Part of a department of the existing power cable Sum 1 11.15.5 Privision for upgarde, tracing of the existing power cable Sum 1						
specification.  1,1 CABLES  1000/800 volt PVC/SWA/PVC copper cables. Rates to include for the supply, delivery and installation into cable sleeves, trenches and cable trays excluding excavations and backfilling, cable terminations and joints.  CABLE TERMINATIONS  For PVC/SWA/PVC shall include supply and fitting of the cable gland, neoprene shroud, making-off the cable, lugs, and fitting the gland to the board gland plate, switchepar and final connection of cable tails into board or terminals.  Note: Should cables without ECC be utilized the tenderer will supply the additional external earth wire at no additional cost  11,11 10mm² 3c PVC SWA PVC Cable 11,12,1 Installation m 300 11,13,1 Installation m 250 11,13,2 Installation m 250 11,13,2 Installation m 250 11,13,3 Installation m 550 11,13,1 Installation m 550 11,13,1 Installation m 550 11,14 EXCAVATION AND BACKFILLING Excavate, backfill and compact in all materials including disposal of unsuitable/surplus material. 11,1,1,1 Installation m 550 11,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1						
1,1 CABLES  1000/600 voit PVC/SWA/PVC copper cables. Rates to include for the supply, delivery and installation into cable sleeves, trenches and cable trays excluding excavations and backfilling, cable terminations and joints.  CABLE TERMINATIONS For PVC/SWA/PVC shall include supply and fitting of the cable gland, neoprene shroud, making-off the cable, lugs, and fitting the gland to the board gland plate, switchgear and final connection of cable tails into board or terminals.  Note: Should cables without ECC be utilized the tenderer will supply the additional external earth wire at no additional cost  1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1 1,1,1,1 1,1 1,1,1 1,1 1,1,1 1,1 1,1,1 1		This schedule of quantities shall be read in conjunction with the rest of the				
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1000/600 voit PVC/SWA/PVC copper cables. Rates to include for the supply, delivery and installation into cable sleeves, trenches and cable trays excluding excavations and backfilling, cable terminations and joints.  CABLE TERMINATIONS  For PVC/SWA/PVC shall include supply and fitting of the cable gland, neoprene shroud, making-off the cable, lugs, and fitting the gland to the board gland plate, switchgear and final connection of cable tails into board or terminals.  Note: Should cables without ECC be utilized the tenderer will supply the additional external earth wire at no additional cost  11,11,1 11,11,1 Installation  11,11,1 Installation  11,12,1 Installation  11,12,1 Installation  11,13 Installation  11,13 Installation  11,14 EXCAVATION AND BACKFILING  Excavate, backfill and compact in all materials including disposal of unsuitable/surplus material.  11,14 Soft and pickable (all materials)  11,14,2 Hard material (Provisional)  11,15 Rock (Provisional)  11,16 Privision for upgarde, tracing of the existing power cable  Sum 1						
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excluding excavations and backfilling, cable terminations and joints.  CABLE TERMINATIONS For PVC/SWA/PVC shall include supply and fitting of the cable gland, neoprene shroud, making-off the cable, jugs, and fitting the gland to the board gland plate, switchgear and final connection of cable tails into board or terminals.  Note: Should cables without ECC be utilized the tenderer will supply the additional external earth wire at no additional cost  1,1,1,1 10mm² 3c PVC SWA PVC Cable 1,1,1,2   Installation   m 300 m 30						
CABLE TERMINATIONS For PVC/SWA/PVC shall include supply and fitting of the cable gland, neoprene shroud, making-off the cable, lugs, and fitting the gland to the board gland plate, switchgear and final connection of cable tails into board or terminals.  Note: Should cables without ECC be utilized the tenderer will supply the additional earth wire at no additional cost 10 mm 3c PVC SWA PVC Cable 1.1.1.1 Supply m 300 m						
For PVC/SWA/PVC shall include supply and fitting of the cable gland, neoprene shroud, making-off the cable, lugs, and fitting the gland to the board gland plate, switchgear and final connection of cable tails into board or terminals.  Note: Should cables without ECC be utilized the tenderer will supply the additional external earth wire at no additional cost  1,1,1 1,1,1 1,1,1 1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1 1,1 1,1,1 1,1,1 1,1,1 1,1,1 1,1,1 1,1,1 1,1,1 1,1,1 1,1,1 1,1,1 1,1 1,1,1 1,1,1 1,1,1 1,1,1 1,1,1 1,1,1 1,1,1 1,1,1 1,1,1 1,1,1 1,1 1,1 1,1,1 1,1,1 1,1 1,1,1 1,1 1,1,1 1,1 1,1 1,1 1,1 1,1 1,1 1,1 1,1		g, sasie terrination and jointe.				
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neoprene shroud, making-off the cable, lugs, and fitting the gland to the board gland plate, switchgear and final connection of cable tails into board or terminals.  Note: Should cables without ECC be utilized the tenderer will supply the additional external earth wire at no additional cost  10mm² 3c PVC SWA PVC Cable 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,1 1,1,1 1,1,1,1 1,1,						
gland plate, switchgear and final connection of cable tails into board or terminals.  Note: Should cables without ECC be utilized the tenderer will supply the additional external earth wire at no additional cost  1.1.1  10mm² 3c PVC SWA PVC Cable Supply Installation Terminate  1.1.2  4mm² 3c PVC SWA PVC Cable 1.1.2.1  Supply Installation Terminate  250  1.1.2.2  1.1.2.1  Termination  CABLE MARKER TAPE (320mm Wide) 1.1.3.1  Supply Installation  1.1,4  EXCAVATION AND BACKFILLING Excavate, backfill and compact in all materials including disposal of unsuitable/surplus material.  1.1,4.1  Soft and pickable (all materials) Rock (Provisional)  Rock (Provisional)  75 mm Ø Sleeve 1,1,5,1  Install  Install  Privision for upgarde, tracing of the existing power cable  Sum 1						
terminals.  Note: Should cables without ECC be utilized the tenderer will supply the additional external earth wire at no additional cost  1,1,1,1 1,1,1,1 1,1,1,1 1,1,1,2 Installation Terminate  4mm² 3c PVC SWA PVC Cable Supply Mm 300 1,1,2,1 1,1,2,1 1,1,2,1 1,1,2,1 1,1,3,1 1,1,3,1 1,1,3,1 1,1,3,1 1,1,3,1 1,1,3,2 1,1,3,2 1,1,3,2 1,1,3,2 1,1,3,2 1,1,3,2 1,1,3,2 1,1,3,2 1,1,3,2 1,1,3,2 1,1,3,2 1,1,3,2 1,1,3,2 1,1,3,2 1,1,4,1 2,1,4,1 2,1,4,1 3,1						
Note: Should cables without ECC be utilized the tenderer will supply the additional external earth wire at no additional cost  1,1,1 10mm² 3c PVC SWA PVC Cable Supply Sup						
additional external earth wire at no additional cost  1,1,1 1		terminals.				
additional external earth wire at no additional cost  1,1,1 1		Note: Chould poble without FCC be utilized the tenderor will comply the				
1,1,1   1,1,1   1,1,1   2   1,1,1,2   1,1,1,2   1,1,1,3   1,1,3,2   1,1,3,1   1,3,2   1,1,3,4   2,1,3,4   1,1,3,2   1,1,4,3   3,1,4,3,1   3,1,4,3,4   3,1,4,3,4   3,4,4   3,						
1,1,1   1,1,1   1,1,1   2   1,1,1,2   1,1,1,2   1,1,1,2   1,1,1,2   1,1,1,2   1,1,1,2   1,1,1,2   1,1,1,2   1,1,2,1   1,1,2,1   1,1,2,2   1,1,2,2   1,1,3,1   1,1,4,1   1,1,4,						
1,1,1,2       Installation       m       300         1,1,1,3       Terminate       ea       8         1.1.2       4mm² 3c PVC SWA PVC Cable       250         1,1,2.1       Supply       m       250         1,1,2.2       Installation       m       250         1,1,3       Termination       ea       10         1,1,3       Supply       m       550         1,1,3,1       Supply       m       550         1,1,3,2       Installation       m       550         1,1,4       EXCAVATION AND BACKFILLING       550         Excavate, backfill and compact in all materials including disposal of unsuitable/surplus material.       m       540         1,1,4,1       Soft and pickable (all materials)       m       5         1,1,4,2       Hard material (Provisional)       m       5         1,1,5,1       Rock (Provisional)       m       5         1,1,5,1       Supply       m       150         1,1,5,2       Install       m       150         1,1,5,2       Install including disposal of unsuitable/surplus materials       m       5         1,1,5,1       Thermination       m       5         1,1,4,2						
1,1,1,3   Terminate	1,1,1,1	Supply	m			
1.1.2   1.1.2   2   2   2   2   2   2   2   2   2	1,1,1,2	Installation	m	300		
1.1.2.1   Supply   m   250   Installation   Installation   m   250   Installation   Installation   Installation   m   250   Installation   Installati	1,1,1,3	Terminate	ea	8		
1.1.2.1   Supply   m   250   Installation   Installation   m   250   Installation   Installation   Installation   m   250   Installation   Installati						
1.1.2.2       Installation       m       250         1.1.2.3       Termination       ea       10         1.1.3.3       CABLE MARKER TAPE (320mm Wide)       m       550         1.1.3.1       Supply Installation       m       550         1.1.4       EXCAVATION AND BACKFILLING Excavate, backfill and compact in all materials including disposal of unsuitable/surplus material.       m       540         1.1.4.1       Soft and pickable (all materials)       m       5         1.1.4.3       Hard material (Provisional)       m       5         1.1.5.1       Rock (Provisional)       m       5         1.1.5.1       Supply       m       150         1.1.5.2       Install       m       150         1.1.6       Privision for upgarde, tracing of the existing power cable       Sum       1	1.1.2	4mm² 3c PVC SWA PVC Cable				
1.1.2.3       Termination       ea       10         1,1,3       CABLE MARKER TAPE (320mm Wide)       m       550         1,1,3,1       Supply Installation       m       550         1,1,4       EXCAVATION AND BACKFILLING Excavate, backfill and compact in all materials including disposal of unsuitable/surplus material.       m       540         1,1,4,1       Soft and pickable (all materials)       m       5         1,1,4,2       Hard material (Provisional)       m       5         Rock (Provisional)       m       5         1,1,5,1       Supply       m       150         1,1,5,2       Install       m       150         1,1,6       Privision for upgarde, tracing of the existing power cable       Sum       1	1.1.2.1	Supply	m	250		
1,1,3 1,1,3,1 1,1,3,2 Installation  EXCAVATION AND BACKFILLING Excavate, backfill and compact in all materials including disposal of unsuitable/surplus material.  1,1,4,1 1,1,4,2 1,1,4,3 Rock (Provisional)  1,1,5,1 1,1,5,1 Supply  To mm Ø Sleeve  1,1,5,1 Supply Install  Privision for upgarde, tracing of the existing power cable  To mm 150	1.1.2.2	Installation	m	250		
1,1,3,1   Supply   m   550   1,1,4   EXCAVATION AND BACKFILLING   Excavate, backfill and compact in all materials including disposal of unsuitable/surplus material.  1,1,4,1   Soft and pickable (all materials)   m   540   1,1,4,2   1,1,4,3   Rock (Provisional)   m   5   1,1,5,1   Supply   m   150   1,1,5,2   Supply   m   150   1,1,5,2   Install   Privision for upgarde, tracing of the existing power cable   Sum   1	1.1.2.3	Termination	ea	10		
1,1,3,1   Supply   m   550   1,1,4   EXCAVATION AND BACKFILLING   Excavate, backfill and compact in all materials including disposal of unsuitable/surplus material.  1,1,4,1   Soft and pickable (all materials)   m   540   1,1,4,2   1,1,4,3   Rock (Provisional)   m   5   1,1,5,1   Supply   m   150   1,1,5,2   Supply   m   150   1,1,5,2   Install   Privision for upgarde, tracing of the existing power cable   Sum   1						
1,1,3,1 1,1,3,2 Installation  EXCAVATION AND BACKFILLING Excavate, backfill and compact in all materials including disposal of unsuitable/surplus material.  1,1,4,1 1,1,4,2 1,1,4,3 Rock (Provisional) Rock (Provisional)  1,1,5,1 1,1,5,1 1,1,5,2 Install  Privision for upgarde, tracing of the existing power cable  m 550 m 540 m 540 m 55 m 550 m 540 m 55 m 550 m 540 m 150 m 150 m 150 m 150 Sum 1	1,1,3	CABLE MARKER TAPE (320mm Wide)				
1,1,3,2 Installation m 550  1,1,4 EXCAVATION AND BACKFILLING Excavate, backfill and compact in all materials including disposal of unsuitable/surplus material.  1,1,4,1 Soft and pickable (all materials) m 540 Hard material (Provisional) m 5 1,1,4,2 Rock (Provisional) m 5 1,1,5,1 Supply m 150 1,1,5,1 Supply m 150 1,1,5,2 Install m 150 Privision for upgarde, tracing of the existing power cable Sum 1	1,1,3,1		m	550		
1,1,4 EXCAVATION AND BACKFILLING Excavate, backfill and compact in all materials including disposal of unsuitable/surplus material.  1,1,4,1 Soft and pickable (all materials) m 540 m 5 m 5 m 5 m 5 m 5 m 5 m 5 m 5 m 5 m						
Excavate, backfill and compact in all materials including disposal of unsuitable/surplus material.  1,1,4,1 1,1,4,2 1,1,4,3 Rock (Provisional)  1,1,5,5 1,1,5,1 1,1,5,1 1,1,5,2 Rock in Ø Sleeve Supply Install  Privision for upgarde, tracing of the existing power cable  Excavate, backfill and compact in all materials including disposal of unsuitable/surplus material.  m 540 m 55 m 5 the privision for upgarde, tracing of the existing power cable  Sum 1						
Excavate, backfill and compact in all materials including disposal of unsuitable/surplus material.  1,1,4,1 1,1,4,2 1,1,4,3 Rock (Provisional)  1,1,5,5 1,1,5,1 1,1,5,1 1,1,5,2 Rock in Ø Sleeve Supply Install  Privision for upgarde, tracing of the existing power cable  Excavate, backfill and compact in all materials including disposal of unsuitable/surplus material.  m 540 m 55 m 5 the privision for upgarde, tracing of the existing power cable  Sum 1	1,1,4	EXCAVATION AND BACKFILLING				
unsuitable/surplus material.  1,1,4,1 1,1,4,2 1,1,4,3 Rock (Provisional)  1,1,5 1,1,5,1 1,1,5,1 1,1,5,2 Ropply Rock (Provision for upgarde, tracing of the existing power cable  1,1,6 Rock (Provision for upgarde, tracing of the existing power cable  1,1,6 Rock (Provision for upgarde, tracing of the existing power cable  1,1,6 Rock (Provision for upgarde, tracing of the existing power cable	, , ,					
1,1,4,1   Soft and pickable (all materials)   m   540   Hard material (Provisional)   m   5     1,1,4,3   Rock (Provisional)   m   5						
1,1,4,2       Hard material (Provisional)       m       5         1,1,4,3       Rock (Provisional)       m       5         1,1,5       75 mm Ø Sleeve       Supply       m       150         1,1,5,1       1,1,5,2       Install       m       150         1.1.6       Privision for upgarde, tracing of the existing power cable       Sum       1	1111	·	m	E40		
1,1,4,3       Rock (Provisional)       m       5         1,1,5       75 mm Ø Sleeve       m       150         1,1,5,1       1,1,5,2       m       150         1,1,5,2       Install       m       150         1.1.6       Privision for upgarde, tracing of the existing power cable       Sum       1						
1,1,5       75 mm Ø Sleeve         1,1,5,1       Supply       m       150         1,1,5,2       Install       m       150         1.1.6       Privision for upgarde, tracing of the existing power cable       Sum       1				-		
1,1,5,1 Supply m 150 m 150 lnstall Supply lnstall Sum 1 1 Supply lnstall Sum 1 Sum 1 Sum 1 Sum 1 Supply lnstall Sum 1 Sum 1 Sum 1 Sum 1 Sum 1 Supply lnstall Sum 1 Sum 1 Sum 1 Supply lnstall Sum 1 Supply lnstall Suppl	1,1,4,3	NOCK (FIGUISIONAL)	m	٥		
1,1,5,1 Supply m 150 m 150 lnstall Supply lnstall Sum 1 1 Supply lnstall Sum 1 Sum 1 Sum 1 Sum 1 Supply lnstall Sum 1 Sum 1 Sum 1 Sum 1 Sum 1 Supply lnstall Sum 1 Sum 1 Sum 1 Supply lnstall Sum 1 Supply lnstall Suppl	1 4 5	75 mm Ø Sloovo				
1,1,5,2 Install m 150  1.1.6 Privision for upgarde, tracing of the existing power cable Sum 1				150		
1.1.6 Privision for upgarde, tracing of the existing power cable  Sum 1		1 '''				
	1,1,5,2	Install	m	150		
	1,1.6	Privision for upgarde, tracing of the existing power cable	Sum	1		
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2,1	BILL Nº 2 - DISTRIBUTION BOARDS AND SWITCHGEARS			
	Supply, Install, repair, trace circuits, label to the existing distribution York box to comply with SANS 10142 and 1765			
2,1,1	DB-C(Chalets)			
2,1,1,1	Supply	Nο	4	
2,1,1,2	Install	Nο	4	
2.1.2	Provision for Alteration to existing kiosk next to chalets and make good	Sum	1	
2,1,3	45A Double Pole Circuit Breaker			
2,1,3,1	Supply	Nο	4	
2,1,3,2	Install	N°	4	
2,1,4	30A Double Pole Circuit Breaker			
2,1,4,1	Supply	Nο	1	
2,1,4,2	Install	Nº	1	
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	BILL Nº 3 - LUMINAIRES			
3,1,1	Type A- LED TRACK LIGHT FIITING WITH TWO SPOT LIGHTS			
3,1,1,1 3,1,1,2		Nº Nº	12 12	
3,1,2	Type A2- LED TRACK LIGHT FIITING WITH THREE SPOT LIGHTS			
3,1,2,1 3,1,2,2		Nº Nº	12 12	
3,1,3	Type U/D-UP AND DOWN FACING OUTDOOR WALL LIGHT STAINLESS STEEL			
3,1,3,1 3,1,3,2		Nº	20 20	
3,1,4	Type D -1 X 13W CFL, ALLUMINIUM REFLECTOR, FLUSH MOUNTED DOWNLIGHT FITTING			
3,1,4,1 3,1,4,2		Nº	16 16	
3,1,5	Type BL -29W LED BOLLARD LUMINAIRE			
3,1,5,1 3,1,5,2	Supply Install	Nº Nº	8 8	
3,1,6	Type P -50W LED POSTOP LIGHT FITTING			
3,1,6,1 3,1,6,2		Nº Nº	4 4	
3.1.7 3.1.7.1 3.1.7.2		N° N°	4 4	
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	BILL Nº 4 - SWITCHES AND SOCKET OUTLETS			
	16 Amp, 1 lever, 1 way, flush mounted switch complete with cover and galvanised box required (Grabtree black/silver in colour) Supply Installation	N° N°	16 16	
4.2.1	16 Amp, 2 lever, 1 way, flush mounted switch complete with cover and galvanised box required (Grabtree black/silver in colour) Supply	Nº	8	
4.2.1.2	Install	Nº	8	
4,3,1,1	10A 250V-grade photocell light-control switch. Supply Install	N° N°	6 6	
4,4,1	5A, 3 Pin Unswitched socket outlet fixed to and connected in round conduit box or on trunking. Box or trunking measured elsewhere			
	Supply Install	no no	50 50	
4,5,1	16A Switched Socket Outlet in wall (Single plug) complete with cover and galvanised box (Grabtree in black/silver in colour)			
	Supply Install	no no	10 10	
4,6,1	16A Switched Socket Outlet in wall (double plug) complete with cover and galvanised box (Grabtree in black/silver in colour)			
	Supply	no	18	
4,6,1,2	Install	no	18	
4,7,1	Shaving Plug complete with galvanized box and covers (Grabtree in black/silver in colour)			
4,7,1,1	Supply	no	1	
4,7,1,2	Install	no	1	
4,10	Veti Sockect Sat Data 2x16Amps, 2 X Euro(TV SOCKETS)			
	Supply	no	4	
4,10,2	Install	no	4	
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	BILL № 5 - CONDUCTORS AND WIREWAYS			
5,1	CONDUCTORS (COPPER)			
5,1,1	Supply			
5,1,1,1	1,5 mm² PVC insulated	m	1600	
5,1,1,2	1.5 mm² copper earth wire	m	800	
5,1,1,3	2,5 mm² PVC insulated	m	1600	
5,1,1,4	2.5 mm² copper earth wire	m	800	
	4 mm² PVC insulated	m	800	
	4 mm <sup>2</sup> copper earth wire	m	400	
, , ,	2,5 mm² Round/flat Twin and earth conductor	m	400	
	1.6mm² galvanized draw wire, drawn into wireway.	m	6400	
5,1,2	Installation			
	1,5 mm² PVC insulated	m	1600	
	1.5 mm² copper earth wire	m	800	
	2,5 mm² PVC insulated	m	1600	
	2.5 mm² copper earth wire	m	800	
	4 mm² PVC insulated	m	800	
	4 mm² copper earth wire	m	400	
	2,5 mm² Round/flat Twin and earth conductor	m	400	
5,1,2,8	1.6mm² galvanized draw wire, drawn into wireway.	m	6400	
5,2	CONDUIT			
	PVC conduit including all accessories such as bends elbows and saddles. Making good of chasing by others			
5,2,1	Supply			
	20 mm Ø PVC conduit	m	6400	
	25 mm Ø PVC conduit	m	3200	
-,,,	32 mm Ø Galvanized conduit/bosal	m	200	
5,2,2	Installation			
			0.400	
	20 mm Ø PVC conduit	m	6400	
	25 mm Ø PVC conduit	m	3200	
5,2,2,3	32 mm Ø Galvanized conduit/bosal	m	200	
5,2,3	16x16mm PVC Wiring duct (Trunking), complete with covers,end caps and slow bends			
5,2,3,1	Supply	m	200	
5,2,3,2	Install	m	200	
5,2,4	300x300 Weatherproof box/IP65 Plastic Enclosure			
5,2,4,1	Supply	Nο	4	
	Install	Nº	4	
5.2.5	Postop Poles( 7m pole, refer to spec)			
5.2.5.1	Supply	Nο	4	
5.2.5.2	Install	Nο	4	
F 2.6	Floodlights Roles / 7m pole, refer to open)			
	Floodlights Poles( 7m pole, refer to spec)	NIO	4	
5.2.6.1		Nº	4	
5.2.6.1	Install	Nº	4	
5.2.7	Electrical Manholes Suppy and Build either pre-cast or full wall manhole with heavy duty cover with the following minimum inside dimensions:-1200mm x 1200mm x 600m deep & 74kg heavy			
5.2.7.1	Supply	Nο	2	
5.2.7.2	Install	Nο	2	
5.2.8	Provision for Pole holes for floodlights & Postops	Sum	1	
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	BILL № 6 - EARTHING AND LIGHTNING PROTECTION				
6,1	CABLE BONDING				
	BONDING OF WATER MAINS				
6,1,1	Bond the proposed water main to the adjacent down conductor. All water pipes, hand basins, sinks, baths, gutters and rain water pipes shall be bonded.	Sum	1		
6,2	CABLE BONDING				
6,2,2	All external earth wires and cable armouring from the incoming and outgoing cables will be properly crimped into cable lugs and bolted to their respective earth bars.	Sum	1		
6,3	TESTING AND COMMISSIONING				
6,3,1	Test and commission the complete electrical installation including the handing in of the test results (COC) to the Engineer.	Sum	1		
6,7	LIGHTNING PROTECTION				
6,7,1 6,7,1,1 6,7,1,2	Earthrods Earthrods should ideally be spaced approximately 15m intervals and 1500mm Copper Earthrods/spikes for Equipotential Bonding Links Supply Install	N° N°	16 16		
	Supply and Install Down Alluminium rod strictly in accordance with the relevant SANS & IEC Specifications				
6,7,2	16mm² Aluminium Rods				
	Supply	m	80		
6,7,2,2		m	80		
6,7,2,3	Terminate	Ν°	40		
6,7,3	Bare Stranded Copper Earth Wire				
	Supply and install Bare Stranded Copper wires in trenches including termination for Equipotential Bonding strictly in accordance with the relevant SANS & IEC Specifications				
	25mm <sup>2</sup> copper cable				
	Supply	m	160		
6,7,3,2		m	160		
6,7,3,3	Terminate	Nº	40		
6,7,4	Ring Earth Trenching				
C 7 4 4	layers (300mm), including bedding and installation of warning tape above		202		
	soft hand pickable soil soil requiring pneumatics tools and aids	m m	300 40		
6,7,4	TESTING		.0		
0,7,4					
	Test the complete installation including the handing in of the test results (Certificate of Lightning Protection) to the Engineer.	Sum	1		
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	BILL Nº 7 - MECHANICAL ITEMS			
7,1	HOT WATER			
	150/200 Litres Vaccum Tube Solar Geyser Supply Install	Nº Nº	4 4	
7,2 7,2,1 7,2,2	FIRE FIGHTING 4,5kg Carbon Dioxide Fire Extinguishers Supply Install	N° N°	8 8	
7, 3	Fire Escape Signage comply with SANS	Sum	4	
7.4	KITCHEN GAS			
	Elba Class or Similar Bult-in 4 Burner Gas Stove Complete with Cookerhood Supply	Nº Nº	4 4	
	19KG Gas Cyliders with a change-over regulator and refill Supply	N° N°	8 8	
7,4.3 7.4.3.1 7.4.3.2		m m	40 40	
7.4.4 7.4.4.1 7.4.4.2		Nº Nº	4 4	
7.4.5 7.4.5.1 7.4.5.2		Nº Nº	4 4	
7, 5 7,5,1	TESTING AND COMMISSIONING Test and commission the complete Mechanical installation including the handing in of manuals.	Sum	1	
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