

PART 2: PRICING DATA
ECC3 Option B

Document reference	Title	No of pages
C2.1	Pricing assumptions: Option B	
C2.2	The <i>bill of quantities</i>	

C2.1 Pricing assumptions: Option B

1. How work is priced and assessed for payment

Clause 11 in NEC3 Engineering and Construction Contract (ECC3) Option B states:

Identified and defined terms	11	
	11.2	(21) The Bill of Quantities is the <i>bill of quantities</i> as changed in accordance with this contract to accommodate implemented compensation events and for accepted quotations for acceleration.
		(28) The Price for Work Done to Date is the total of - the quantity of the work which the <i>Contractor</i> has completed for each item in the Bill of Quantities multiplied by the rate and - a proportion of each lump sum which is the proportion of the work covered by the item which the <i>Contractor</i> has completed. Completed work is work without Defects which would either delay or be covered by immediately following work.
		(31) The Prices are the lump sums and the amounts obtained by multiplying the rates by the quantities for the items in the Bill of Quantities.

This confirms that Option B is a re-measurement contract and the bill comprises only items measured using quantities and rates or stated as lump sums. Value related items are not used. Time related items are items measured using rates where the rate is a unit of time.

2. Function of the Bill of Quantities

Clause 55.1 in Option B states, "Information in the Bill of Quantities is not Works Information or Site Information". This confirms that specifications and descriptions of the work or any constraints on how it is to be done are not included in the Bill, but in the Works Information. This is further confirmed by Clause 20.1 which states, "The *Contractor* Provides the Works in accordance with the Works Information". Hence the *Contractor* does **not** Provide the Works in accordance with the Bill of Quantities. The Bill of Quantities is only a pricing document.

3. Guidance before pricing and measuring

Employers preparing tenders or contract documents, and tendering contractors are advised to consult the sections dealing with the bill of quantities in the NEC3 Engineering and Construction Contract Guidance Notes before preparing the *bill of quantities* or before entering rates and lump sums into the *bill*.

There is no general provision in Option B for payment for materials on Site before incorporation into the *works*. If secondary Option X14 Advanced payment has not been used then the tendering contractor may obtain the same effect by inserting appropriate items in the method related charges where the *method of measurement* allows, or alternatively making allowance in the rates of the *bill of quantities* for the financing of Plant and Materials until they are incorporated in the *works*.

When compensation events arise, the default position is that the Bill of Quantities is not used to calculate the cost effect of the event. Defined Cost and the resulting Fee is used and Defined Cost includes all components of cost which the *Contractor* is likely to incur, including so called P & G items. Rates and lump sums from the Bill of Quantities, or from any other source, may be used instead of Defined Cost and the Fee only if the *Contractor* and *Project Manager* agree. If they are unable to agree, then Defined Cost

plus Fee is used.

4. Measurement and payment

4.1. Symbols

The units of measurement described in the Bill of Quantities are metric units abbreviated as follows:

Abbreviation	Unit
%	percent
h	hour
ha	hectare
kg	kilogram
kl	kilolitre
km	kilometre
km-pass	kilometre-pass
kPa	kilopascal
kW	kilowatt
l	litre
m	metre
mm	millimetre
m ²	square metre
m ² -pass	square metre pass
m ³	cubic metre
m ³ -km	cubic metre-kilometre
MN	meganewton
MN.m	meganewton-metre
MPa	megapascal
No.	number
sum	Lump sum
t	tonne (1000kg)

4.2. General assumptions

- 4.2.1. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance has been made in the quantities for waste.
- 4.2.2. The Prices and rates stated for each item in the Bill of Quantities shall be treated as being fully inclusive of all work, risks, liabilities, obligations, overheads, profit and everything necessary as incurred or required by the *Contractor* in carrying out or providing that item.
- 4.2.3. An item against which no Price is entered will be treated as covered by other Prices or rates in the *bill of quantities*.
- 4.2.4. The quantities contained in the Bill of Quantities may not be final and do not necessarily represent the actual amount of work to be done. The quantities of work assessed and certified for payment by the *Project Manager* at each assessment date will be used for determining payments due.
- 4.2.5. The short descriptions of the items of payment given in the *bill of quantities* are only for the purposes of identifying the items. Detail regarding the extent of the work entailed under each item is provided in the Works Information.

4.3. Departures from the *method of measurement*

4.3.1.

4.4. Amplification of or assumptions about measurement items

The following is provided to assist in the interpretation of descriptions given in the *method of measurement*. In the event of any ambiguity or inconsistency between the statements in the *method of measurement* and this section, the interpretation given in this section shall be used.

4.4.1.

C2.2 the *bill of quantities*

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1	<u>ITEM 1</u> <u>PRELIMINARIES & GENERAL</u>				
1.1.1	Site Establishment for: Delivery of Office Converted Containers (3m x 12m)(1 Off) <i>Insulation, Illumination, Aircon and Office Equipments</i>	Once Off	1		
1.1.2	Site Establishment for: Delivery of Kitchen Converted Container (3m x 6m) (1 Off) <i>Steel Kitchen Sink with Cabinet, Picnic Solid Wood Table and Chairs, Microwave and Fridge</i>	Once Off	1		
1.1.3	Site Establishment for: Delivery of Flushable Ablution Container - Female (3m x 6m) (1 Off) <i>4 Toilets, 4 SHE Bins, 4 Hand Wash and basin with soap dispenser</i>	Once Off	1		
1.1.4	Site Establishment for: Delivery of Flushable Ablution Container - Male (3m x 6m) (1 Off) <i>3 Toilets, 3 Urinal, 3 Hand Wash and basin with soap dispenser</i>	Once Off	1		
1.1.5	Site Establishment for: Delivery of Female change rooms with 15 lockers (3m x 6m) (1 Off)	Once Off	1		
1.1.6	Site Establishment for: Delivery of Male change rooms with 20 lockers (3m x 6m) (1 Off)	Once Off	1		
1.1.7	Site Establishment for: Delivery of Storage Containers (3m x 12m) (2 Off)	Once Off	2		
1.1.8	Delivery and connection of temporary waste water system, including, piping and plastic under-ground septic tank (6000 litres) typical for 20 to 25 people use	Once Off	2		
1.1.9	Delivery and connection of temporary water supply including, piping and storage tank (5000L Jojo) adjacent contractor camp	Once Off	1		
1.1.10	Delivery and Installation of Site Fencing (1.8m High Diamond Mesh Wire, 40 Steel Poles, 2 Way Double Swing Gate)	m	200		
1.1.11	De Establishment - Kitchen Converted Container (3m x 12m) (1 Off)	Once Off	1		
1.1.12	De Establishment - Office Converted Containers (3m x 12m) (1 Off)	Once Off	1		
1.1.13	De Establishment - Flushable Ablution Container - Female (3m x 6m) (1 Off)	Once Off	1		
1.1.14	De Establishment - Flushable Ablution Container - Male (3m x 6m) (1 Off)	Once Off	1		
1.1.15	De Establishment - Storage Containers (3m x 12m) (2 Off)	Once Off	2		
1.1.16	De Establishment - Female change rooms with 15 lockers (3m x 6m) (1 Off)	Once Off	1		
1.1.17	De Establishment - Male change rooms with 22 lockers (3m x 6m) (1 Off)	Once Off	1		
1.1.18	Removal and Collection of Site Fencing (1.8m High Diamond Mesh wire, 40 Steel Poles, 2 way double swing gate)	m	200		
1.1.19	Disconnection and Collection of Temporary water supply including, piping and storage tank (5000L Jojo) adjacent contractor camp	Once Off	1.00		

1.1.20	Disconnection and Collection of Temporary waste water system, including, piping and plastic under-ground septic tank (6000 litres) typical for 20 to 25 people use	Once Off	2.00		
1.1.21	Site Clearance at Contractors Camp				
1.1.21.1	Site Establishment for: Delivery of TLB - 4 X 4 Backhoe Loader (1 Off)	Once Off	1		
1.1.21.2	De-Site Establishment for: Delivery of TLB - 4 X 4 Backhoe Loader (1 Off)	Once Off	1		
1.1.21.3	TLB - 4 X 4 Backhoe Loader	Per Day	1		
1.2	<u>Temporary Site Facilities and Transportation</u>				
1.2.1	Rental of 4x2 Double Cab Bakkie (2 Off)	Monthly	16		
1.2.2	Rental of 22 Seater Bus (1 Off)	Monthly	8		
1.2.2	Rental of 14 Seater Bus (1 Off)	Monthly	8		
1.2.3	Rental of 3 x 12m Office Converted Container (1 Off)	Monthly	8		
1.2.4	Rental of 6 x 3m Kitchen Converted Container (1 Off)	Monthly	8		
1.2.5	Rental of 3 x 12m Storage Container (2 Off)	Monthly	16		
1.2.6	Rental of Portable Flushable Toilet with handwash basin (To be serviced once a week) (1 Off)	Monthly	8		
1.2.7	Rental of Horse and Trailer with Operator (1 Off)	Per Day	2		
1.3	<u>Health and Safety Requirements</u>				
1.3.1	Safety file	Once Off	1		
1.3.2	Fire Extinguishers (9kg - Per container)	Once Off	7		
1.3.3	Medicals - Entry (Per Person)	Per Person	68		
1.3.4	Medicals - Exit (Per Person)	Per Person	34		
1.3.5	Police Clearance Certification (Per Person)	Per Person	68		
1.4	<u>Personal Protective Equipment (PPE) Consumables</u>				
1.4.1	Overall Trouser	Per Person	81		
1.4.2	Overall Jacket	Per Person	81		
1.4.3	Safety Boots	Per Person	27		
1.4.4	Hardhat	Per Person	27		
1.4.5	Reflector Vest	Per Person	81		
1.4.6	Full Body Harness	Per Person	81		
1.4.7	Ear Muffs (Standard)	Per Person	81		
1.4.8	Ear Protection	Per Person	81		
1.4.9	Safety Gloves	Per Person	81		
1.5	<u>Trainings</u>				
1.5.1	First Aid (Valid for 3 years)	Per Person	2		
1.5.2	Basic Fire Fighting (Valid for 2 years)	Per Person	2		
1.5.3	OHS Act (Valid for 2 years)	Per Person	2		

1.5.4	Legal Liability (Once Off) (2 Off)	Per Person	2	
1.5.5	Supervisory Safety (Valid for 2 years) (2 Off)	Per Person	2	
1.5.6	Planned Job Observation (Once Off)	Per Person	2	
1.5.7	HIRA (Valid for 2 years))	Per Person	2	
1.5.8	Incident Investigator (Valid for 2 years)	Per Person	2	
1.5.9	Training (Working at heights) (Per Person)	Per Person	25	
1.60	<u>OCCUPATIONAL HYGIENE SURVEYS / (HEALTH RISK ASSESSMENTS)</u>			
1.6.1	Illumination for Office, Kitchen, Ablution and Storage Containers (valid for 2 years)	No	7	
1.6.2	Indoor Air Quality for Office container (valid for 2 years)	No	7	
1.6.3	Ergonomics (valid for 2 years)	No	7	
Total Item 1 (Preliminary & General) carried to Summary:				
2.0	<u>ITEM NO. 2 RESOURCES</u>	-		
2.1	<u>DESIGN TEAM</u>	-		
2.1.1	Architectural (Professional withSACAP with Years Relevant experience)(1 Off)	Hours	352	
2.1.2	Project /Site Manager (Professional with SACPMP with 5 Years Relevant experience)(1 Off)	Hours	352	
2.1.3	Structural Engineer (Professional with ECSA with 5 Years Relevant experience)(1 Off)	Hours	352	
2.1.4	Civil Engineer (Professional with ECSA with 5 Years Relevant experience)(1 Off)	Hours	352	
2.1.5	Geotechnical Engineer (Professional with ECSA with 5 Years Relevant experience)(1 Off)	Hours	352	
2.1.6	Mechanical Engineer/ Fire Engineer (Professional with ECSA with 5 Years Relevant experience)(1 Off)	Hours	352	
2.1.7	Mechanical Engineer/HVAC (Professional with ECSA with 5 Years Relevant experience)(1 Off)	Hours	352	
2.1.8	Project Planner (Professional with SACPLAN with 5 Years Relevant experience5)(1 Off)	Hours	352	
2.1.9	Electrical Engineer (Professional with ECSA with 5 Years Relevant experience)(1 Off)	Hours	352	
2.1.10	Land Surveyor (Professional with SAGC with 5 Years Relevant experience)(1 Off)	Hours	352	
2.1.11	Safety Officer (Professional with SACPMP with 5 Years Relevant experience)(1 Off)	Hours	352	
2.1.12	Instrumentation Engineer (Professional with ECSA with 5 Years Relevant experience)(1 Off)	Hours	352	
2.1.13	Commissioning Engineer (Professional with ECSA with 5 Years Relevant experience)(1 Off)	Hours	352	
2.1.14	Quantity Surveyor (Professional with SACQSP with 5 Years Relevant experience) (1 Off)	Hours	352	
2.1.15	Environmental Officer (Professional with SACNAP with 3 Years Relevant experience)(1 Off)	Hours	352	
2.1.16	Draughts person - Mechanical HVAC System (Professional with SAID with 5 Years Relevant experience) (1 Off)	Hours	352	
2.1.17	Draughts person - Mechanical Fire System (Professional with SAID with 5 Years Relevant experience) (1 Off)	Hours	352	
2.1.18	Draughts person - Civil & Structural (Professional with SAID with 5 Years Relevant experience) (1 Off)	Hours	352	
2.1.19	Draughts person - EC&I (Professional with SAID with 5 Years Relevant experience) (1 Off)	Hours	352	

		Sub-total Item 2.1 (Design Team) carried to Final Summary:			
2.2	<u>CONSTRUCTION TEAM</u>	-			
2.2	Normal Hours	-			
2.2.1	Site Manager (3 Years Relevant experience)(1 Off)	Hours	704		
2.2.2	Site Agent / Supervisor (5 Years Relevant experience)(1 Off)	Hours	704		
2.2.3	Electrical Technician Trade (3 Years Relevant experience)(1 Off)	Hours	704		
2.2.4	C&I Electrician Trade (3 Years Relevant experience)(1 Off)	Hours	704		
2.2.5	Mechanical - Fire Technician Trade (3 Years Relevant experience) (1 Off)	Hours	704		
2.2.6	Mechanical - HVAC Technician Trade (3 Years Relevant experience) (1 Off)	Hours	704		
2.2.7	Civil Electrician Trade (3 Years Relevant experience)(1 Off)	Hours	704		
2.2.8	Structural Technician Trade (3 Years Relevant experience) (1 Off)	Hours	704		
2.2.9	Safety Officer (3 Years Relevant experience) (1 Off)	Hours	704		
2.2.10	Rigger (3 Years Relevant experience) (1 Off)	Hours	704		
2.2.11	Document Controller (3 Years Relevant experience)(1 Off)	Hours	704		
2.2.12	Storeman (3 Years Relevant experience) (2 Off)	Hours	1408		
2.2.13	Semi-skilled site support for Electrical with Matric (1 Off)	Hours	704		
2.2.14	Semi-skilled site support for C&I with Matric (1 Off)	Hours	704		
2.2.15	Semi-skilled site support for Mechanical with Matric (2 Off)	Hours	704		
2.2.16	Semi-skilled site support for Civil with Matric (1 Off)	Hours	704		
2.2.17	Semi-skilled site support for Structural with Matric (1 Off)	Hours	704		
2.2.18	Scaffolding Supervisor (3 Years Relevant experience) (1 Off)	Hours	704		
2.2.19	Scaffolding Erector (1-3 Years Relevant experience) (2 Off)	Hours	1408		
2.2.20	General Labour (1-3 Years Relevant experience) (12 Off)	Hours	8448		
2.2.21	Driver (For 22 Bus Seater) (2 Off)	Hours	704		
2.2.22	Driver (For 14 Bus Seater) (3 Off)	Hours	704		
		Sub-total for item 2.2 (Normal Hours) carried to Final Summary :			
2.3	Saturday Overtime	-			
2.3.1	Site Manager (3 Years Relevant experience)(1 Off)	Hours	96		
2.3.2	Site Agent / Supervisor (5 Years Relevant experience)(1 Off)	Hours	96		
2.3.3	Electrical Technician Trade (3 Years Relevant experience)(1 Off)	Hours	96		
2.3.4	C&I Electrician Trade (3 Years Relevant experience)(1 Off)	Hours	96		
2.3.5	Mechanical - Fire Technician Trade (3 Years Relevant experience) (1 Off)	Hours	96		
2.3.6	Mechanical - HVAC Technician Trade (3 Years Relevant experience) (1 Off)	Hours	96		
2.3.7	Civil Electrician Trade (3 Years Relevant experience)(1 Off)	Hours	96		
2.3.8	Structural Technician Trade (3 Years Relevant experience) (1 Off)	Hours	96		

2.3.9	Safety Officer (3 Years Relevant experience) (1 Off)	Hours	96	
2.3.10	Rigger (3 Years Relevant experience) (1 Off)	Hours	96	
2.3.11	Document Controller (3 Years Relevant experience)(1 Off)	Hours	96	
2.3.12	Storeman (3 Years Relevant experience) (2 Off)	Hours	192	
2.3.13	Semi-skilled site support for Electrical with Matric (1 Off)	Hours	96	
2.3.14	Semi-skilled site support for C&I with Matric (1 Off)	Hours	96	
2.3.15	Semi-skilled site support for Mechanical with Matric (2 Off)	Hours	96	
2.3.16	Semi-skilled site support for Civil with Matric (1 Off)	Hours	96	
2.3.17	Semi-skilled site support for Structural with Matric (1 Off)	Hours	96	
2.3.18	Scaffolding Supervisor (3 Years Relevant experience) (1 Off)	Hours	96	
2.3.19	Scaffolding Erector (1-3 Years Relevant experience) (2 Off)	Hours	192	
2.3.20	General Labour (1-3 Years Relevant experience) (12 Off)	Hours	1152	
2.3.21	Driver (For 22 Bus Seater) (1 Off)	Hours	96	
2.3.22	Driver (For 14 Bus Seater) (1 Off)	Hours	96	
Sub-total item 2.3 (Saturday Overtime) carried to Final Summary :				
2.4	Overtime - Sundays and Public Holidays	-		
2.4.1	Site Manager (3 Years Relevant experience)(1 Off)	Hours	96	
2.4.2	Site Agent / Supervisor (5 Years Relevant experience)(1 Off)	Hours	96	
2.4.3	Electrical Technician Trade (3 Years Relevant experience)(1 Off)	Hours	96	
2.4.4	C&I Electrician Trade (3 Years Relevant experience)(1 Off)	Hours	96	
2.4.5	Mechanical - Fire Technician Trade (3 Years Relevant experience) (1 Off)	Hours	96	
2.4.6	Mechanical - HVAC Technician Trade (3 Years Relevant experience) (1 Off)	Hours	96	
2.4.7	Civil Electrician Trade (3 Years Relevant experience)(1 Off)	Hours	96	
2.4.8	Structural Technician Trade (3 Years Relevant experience) (1 Off)	Hours	96	
2.4.9	Safety Officer (3 Years Relevant experience) (1 Off)	Hours	96	
2.4.10	Rigger (3 Years Relevant experience) (1 Off)	Hours	96	
2.4.11	Document Controller (3 Years Relevant experience)(1 Off)	Hours	96	
2.4.12	Storeman (3 Years Relevant experience) (2 Off)	Hours	192	
2.4.13	Semi-skilled site support for Electrical with Matric (1 Off)	Hours	96	
2.4.14	Semi-skilled site support for C&I with Matric (1 Off)	Hours	96	
2.4.15	Semi-skilled site support for Mechanical with Matric (2 Off)	Hours	96	
2.4.16	Semi-skilled site support for Civil with Matric (1 Off)	Hours	96	
2.4.17	Semi-skilled site support for Structural with Matric (1 Off)	Hours	96	
2.4.18	Scaffolding Supervisor (3 Years Relevant experience) (1 Off)	Hours	96	
2.4.19	Scaffolding Erector (1-3 Years Relevant experience) (2 Off)	Hours	192	
2.4.20	General Labour (1-3 Years Relevant experience) (12 Off)	Hours	1152	
2.4.21	Driver (For 22 Bus Seater) (1 Off)	Hours	96	

2.4.22	Driver (For 14 Bus Seater) (1 Off)	Hours	96		
Sub-total item 2.4 (Overtime - Sundays and Public Holidays) carried to Final Summary :					
Total for item 2 (Resources) carried to Final Summary :					
<u>FUEL STATION CONSTRUCTION</u>					
<u>ITEM NO.1</u>					
1.0	<u>EATHWORKS, CONCRETE & ASSOCIATED WORKS</u>				
	Bulk Excavations (UG tanks and Slabs)				
1.1	Excavate in existing insitu material and set aside for re-use				
1.2	Tank pit	m ³	400.0		
1.3	Pipe trenches to tanks	m ³	80.0		
	Excavate in existing insitu material and dispose of off site at an approved dump site located by the contractor				
1.4	Oil Separator	m ³	60.0		
1.5	Forecourt Driveway	m ³	72.0		
	Extra over soft excavation for				
1.6	Intermediate excavation	m ³	61.2		
1.7	Hard Rocks	m ³	30.6		
	Restricted Excavations (Trenches)				
	Excavate in existing insitu material and set aside for re-use				
1.8	Pipe trenches	m ³	60.0		
	Backfilling				
1.9	Backfill underground tank using imported well graded clean soil material (material to pass through a 2.5mm test sieve) (river sand) to which lime has been added at a rate of 3.5kg per m3	m ³	80.0		
1.10	Backfill above underground tank using wet soilcrete 8:1 sand:cement mix (200 kg cement per m3) using selected insitu material set aside for re-use. Backfill up to subbase level	m ³	220.0		

1.11	Supply and lay imported G5 material in 150 mm layer compacted to 95% MODAASHTO to top of tank farm	m ³	96.0		
1.12	Backfill with insitu material in 150mm layers and compact to 93% MODAASHTO to top of tank farm	m ³	80.0		
1.13	Backfill to pipe and sleeve trenches using river sand bedding material from commercial sources	m ³	60.0		
1.14	Backfill fill blanket to pipe and sleeve trenches with soilcrete 8:1 sand:cement mix (200kg cement per m3) using selected insitu material	m ³	60.0		
1.15	Scarify insitu material and compact to 95% MODAASHTO	m ³	96.0		
1.16	Backfill subbase to forecourt slab and driveway slab with imported G5 material in 150mm layer treated with 3.5% cement to C3 quality compacted to 97% MODAASHTO	m ³	72.0		
1.17	Backfill subbase to tank farm with imported G5 material in 150mm layer treated with 3.0% cement to C4 quality compacted to 97% MODAASHTO	m ³	80.0		
1.18	Backfill subbase to filler slab area with imported G2 material in 150mm layer treated with 3.0% cement to C2 quality compacted to 97% MODAASHTO	m ³	27.0		
1.19	Backfill subbase to pipe and sleeve trenches with imported G5 material in 150mm layer treated with 3.0% cement to C4 quality compacted to 97% MODAASHTO	m ³	9.0		
1.20	Backfill 450 x 450 x 500 deep monitoring well sump with 19mm stone wrapped in filter fabric	no	4.0		
	Process the material by the following process				
1.21	Stabilisation mixing	m ³	80.0		
1.22	Stabilizing Agent : Portland Cement	kg	2000.0		
	<u>CONCRETE & ASSOCIATED WORKS</u>				
	Concrete				
	Supply and cast concrete Grade 20/19				
1.23	Protection Bollard Bases	m ³	2		
1.24	Vent base	m ³	1		

	Supply and cast concrete Grade 30/19				
1.25	150mm Forecourt Slab	m ³	33		
1.26	150mm Filler Pot Slab	m ³	12		
1.27	200mm Concrete V-channel	m ³	4		
	Formwork				
1.28	150mm high	m	60		
1.29	200mm high	m	22		
1.30	Extra Over for keyway to construction joint including supply, delivery, erection, treating, stripping and removal from site	m	36.0		
	Finish				
1.31	Power float with bubble finish	m ²	162		
1.32	Steel float with smooth finish	m ²	16.2		
	Reinforcement				
	High-tensile welded mesh including supply, cutting, placing and waste due to laps (measured net)				
1.33	Mesh 395 (Forecourt slab, Islands)	m ²	194		
1.34	High-Tensile reinforcing bars including supply, cutting, placing and waste due to laps (measured net) Y10 BARS (Jockey slab Oil Separator) Y12 BARS (Driveway Slab) Y16 BARS (Jockey slab)	kg	960.0		
1.35	Supply and install 1m long Y12 tie bars in construction tied joint	no	36.0		
	Surface Treatment				
1.36	Cure horizontal surfaces by painting with "MasterKure 101"	m ²	162.0		
	Jointing and Sealing				
1.37	Saw cut initial joint, 3mm wide x 40mm deep	m	54.0		
1.38	Saw cut 35 deep x 10mm wide reamed joint	m	18.0		

1.39	Form 10mm wide isolation joint with soft joint former 150mm wide	m	54.0		
1.40	Apply bond breaker (white wash or similar) by brush to existing concrete face 200mm wide	m	18.0		
1.41	Rake out top of soft board to isolation joint, install plastic strip bond breaker, prime joint with Sika Primer-3 N and seal joint (10 x 10mm) with Sikaflex Pro-3. All in accordance with the recommendations of Sika South Africa (Pty) Ltd	m	54.0		
1.42	Install 10mm ethacord backing strip, prime joint with Sika Primer-3 N and seal joint (10 x 10mm) with Sikaflex Pro-3. All in accordance with the recommendations of Sika South Africa (Pty) Ltd	m	54.0		
EATHWORKS, CONCRETE & ASSOCIATED WORKS SUB-TOTAL SECTION 1 :					
2.0	ITEM NO. 2 <u>PUMP INSTALLATION</u>				
2.1	Fuelguard Tank Chamber centre dip underground tank sump complete with segmented sump rings - trafficable	no	2.0		
2.2	Cast iron manhole	no	2.0		
PUMP INSTALLATION SUB-TOTAL SECTION 2 :					
3.0	ITEM NO. 3 <u>PIPEWORK AND FITTINGS</u> Supply the follwing items				
3.1	ALL PIPE FITTINGS AND EQUIPMENT	no	1.0		
3.2	ICON 6000 2P4H DISPENSER	no	2.0		
3.3	SINGLE SKIN UNDERGROUND 30 000 LITER TANK	no	2.0		
3.4	ICON CONTROLLER,SIM CARD AND TAGS	no	1.0		
<u>INSTALLATION AS PER LIST OF EQUIPMENT</u>					
Fittings to top of tank :					

3.6	FE Petro 1,5hp STP	no	2.00		
3.7	FE Petro Smart Controller 240V	no	2.00		
3.8	PED Dispenser Sump # 2	no	2.00		
3.9	NUPI Coil Co-Ax 63/75mm x 75m	no	2.00		
3.10	NUPI Tee EF 63mm	no	4.00		
3.11	NUPI Elbow EF 63mm	no	4.00		
3.12	NUPI Coupler EF 63mm	no	8.00		
3.13	NUPI Transition 63x50mm PED	no	4.00		
3.14	PED Entry Boot 63-75mm	no	4.00		
3.15	Shear Valve - 40mm	no	4.00		
3.16	Ball Valve - 40mm	no	4.00		
3.17	Ball Valve - 50mm	no	4.00		
3.18	Elbows M/F 50mm - TUPY	no	8.00		
3.19	Union Taper Seat 50mm - TUPY	no	4.00		
3.20	Barrel Nipple 50mm	no	8.00		
3.21	Elbows M/F 50mm - TUPY (Vents)	no	8.00		
3.22	Union Taper Seat 50mm - TUPY (Vents)	no	4.00		
3.23	NUPI Transition 63x50mm PED (Vents)	no	4.00		
3.24	NUPI Coupler EF 63mm (Vents)	no	4.00		
3.25	NUPI Elbow EF 63mm (Vents)	no	4.00		
3.26	NUPI Coil 63mm x 75m	no	2.00		
3.27	Med Galv Pipe 50mm x 6m	no	2.00		
3.28	Updraught Air Vent - 50mm	no	2.00		
3.29	PED Entry Boot 50-63mm (Fillers)	no	4.00		
3.30	Manhole - Sasol Round c/w Base Plate	no	2.00		
3.31	PED Tank Sump Complete	no	2.00		
3.32	PED Filler Round - S.E. Complete	no	2.00		
3.33	Equal Tee 100mm - TUPY	no	4.00		
3.34	Plug - 100mm BSP - TUPY	no	2.00		
3.35	Elbows F/F 100mm - TUPY	no	4.00		
3.36	Elbows M/F 100mm - TUPY	no	4.00		
3.37	Barrel Nipple 100mm	no	4.00		
3.38	Flange - 100mm ASA150 Screwed	no	4.00		
3.39	Gasket - 100mm ASA150 Full Face	no	4.00		
3.40	Red Stub - 110/90mm	no	4.00		
3.41	Backing Ring 110mm ASA150	no	4.00		
3.42	M16 x 100mm Bolt, Nut & Washer Set	no	8.00		
3.43	NUPI Coupler EF 90mm	no	4.00		
3.44	PED Entry Boot 90-110mm	no	4.00		

3.45	NUPI Coil 90mm x 50m	no	100.00		
3.46	Barrett Adaptor c/w Cap - 100mm - Petrol	no	2.00		
3.47	Barrett Adaptor c/w Cap - 100mm - Diesel	no	2.00		
3.48	Barrett c/w Cap - 50mm (Electric)	no	2.00		
3.49	PED Gasbreak Sump Complete	no	2.00		
3.50	Kabelflex - 110mm x 50m	no	100.00		
3.51	Kabelflex - 50mm x 50m	no	100.00		
3.52	PED Entry Boot 90-110mm (2)	no	8.00		
3.53	PED Entry Boot 50-63mm (2)	no	8.00		
3.54	Fluorinated Cable 1,5mm 7 Core	no	250.00		
3.55	Fluorinated Cable 2,5mm 3 Core	no	120.00		
3.56	PED Drainbox 450x600mm Complete	no	2.00		
PUMP INSTALLATION SUB-TOTAL SECTION 3 :					
<u>ITEM 4</u>					
<u>ELECTRICAL</u>					
Fittings to dispenser sumps and tank manholes					
4.1	Kabelflex sleeve 110mm x 50m	no	100.0		
4.2	Kabelflex sleeve 50mm x 50m	no	100.0		
Install new cabling:					
4.3	Install new 3 core fluorinated cable	m	120		
4.4	Install new 7 core fluorinated cable	m	250		
4.5	Supply and install new Data cable				
4.6	a) 2 pair 0.5mm mylar cable	m	200		
4.7	b) 4 pair 0.5mm mylar cable	m	200		
4.8	Supply and Install no. 0 flameproof glands at pump junction boxes and connect dispenser to new DB	no.	2		
4.9	Supply and install Gasbreak Draw boxes for data and power cables	no.	2		
Earthing					
4.10	16mm earthing connected to columns, dispensers, fillers, tanks, vents	m	150		
4.11	Earth spikes and clamps (vents, fillers)	no.	2		
4.12	Earth spike box (fillers)	no.	2		
4.13	PSBD Fibrelite entry boot 50mm	no.	4		
4.14	PSBD Fibrelite entry boot 100mm	no.	4		

4.15	Flow cap installation on all cable entries	no.	8		
4.16	Connect pump cables to DB	sum	2		
4.17	Shneider switchgear complete	sum	1		
4.18	Supply and install surface mount 3/18 Way db board with all connections and C.O.C.	no	1		
ELECTRICAL SUB-TOTAL SECTION 3 :					
5.0	<u>ITEM NO. 5</u> <u>MASONRY</u> Masonry All brickwork to manholes to be well burnt wire cut clay stock brick laid in 4:1 sand:cement mortar Supply and lay brickwork in well burnt wire cut stock brick laid 4:1 sand:cement mortar				
5.1	One brick (220) pillars	m ²	16		
5.2	Construct new catchpit complete including excavation, backfilling , 600x450 Saint Gobain Heavy Duty grate and frame SAP code 16059 & 16060	no	2		
5.3	Construct new catchpit (CP3) as shown on Dwg 23032-404 complete including excavation, backfilling , 450x600 Saint Gobain Heavy Duty grate and frame SAP code 16059 & 16060	no	2		
MASONRY & PAVING SUB-TOTAL SECTION 5 :					
6.0	<u>ITEM NO. 6</u> <u>MISCELLANEOUS</u> Supply galvanised steel island frames painted with 3 coats of black epoxy tar , install frames and construct island complete with reinforced concrete infill as per detail on DWG. Concrete infill and reinforcement measured elsewhere				
6.1	Supply and install 150mm U-Shape crash barriers concrete filled	no	4.0		
6.2	Electronic air gauges complete with pedestal and mounting brackets	no	2.0		
6.3	ATG sysytem	no.	1		

6.4	Spareparts for maintenance for 2 years	no	1		
MISCELLANEOUS SUB-TOTAL SECTION 6 :					
7.0	<u>ITEM NO. 7</u> <u>OIL SEPARATOR</u>				
7.1	Excavate for new seperator	m3	96.0		
7.2	Level and compact new pit for seperator	m ³	24.0		
7.3	Supply and install 8:1 soilcrete fill blanket using selected insitu material	m ³	80.0		
7.4	Backfill with selected insitu material in 150mm layers compacted to 93% MODAASHTO	m ³	80.0		
7.5	Supply and install complete 6000 lt Colvic interceptor with sand trap complete as supplied by Colvic all in accordance with suppliers specifications. Excavation, backfilling, manholes etc measured elsewhere.	no	1.0		
7.6	Extra over for filling interceptor and sand trap with water during backfilling	sum	1.0		
7.7	Supply and lay brickwork in well burnt wire cut clay stock brick laid in 4:1 sand:cement mortar to oil separator manholes				
7.8	One brick (220) wall	m ²	8.0		
7.9	Supply and lay 150 wide brick reinforcement	m	16.0		
7.10	Supply and lay 6:1 sand:cement plaster with COPROX additive to oil separator manholes	m ²	16.0		
7.11	Concrete benching to 640x640 x 3 manhole	no	3.0		
7.12	Supply and install 610mm dia composite manhole cover and frame as supplied by Colvic in 1100x1100 concrete jockey slabs (concrete and associated works measured elsewhere)	no	4.0		
7.13	High-Tensile reinforcing bars including supply, cutting, placing and waste due to laps (measured net) Y12 BARS (Holding down slab)	kg	500		
TOTAL FOR ITEM 7 (OIL SEPARATOR) CARRIED TO FINAL SUMMARY :					

8	<u>ITEM NO. 8</u>				
	<u>EXTERNAL WORKS</u>				
8.1	Site Clearance	m ²	3000.0		
8.2	Removal of topsoil to an average of 150mm	m ²	3000.0		
	Backfilling				
8.2	Rip and Compact	m ³	450.0		
8.3	Backfill subbase to forecourt slab and driveway slab with imported G7 material in 150mm compacted to 57% MODAASHTO	m ³	900.0		
8.4	Supply and lay imported G5 material in 150 mm layer compacted to 95% MODAASHTO to top of tank farm	m ³	450.0		
8.5	Backfill subbase to filler slab area with C4	m ³	450.0		
	Kerbing and Paving				
8.6	80mm Block pavers	m ²	3000		
8.6	60mm Block pavers (walkway)	m ²	40		
8.7	300x150x450mm kerbs	m ²	300		
	Road Markings and Signage				
8.8	Road markings/paint	m	300		
8.9	Road signs	No	15		
8.10	Road Special signs	No	10		
8.11	Stormawater reticulation	Sum	1		
10.1	CCTV Cameras	Sum	1		

10.2	Fuel Management System	Sum	1		
10.3	Fire Service Installation	Sum	1		
10.3	Supply and Install Canopy	Sum	1		
TOTAL FOR ITEM 8 (CIVIL WORKS) CARRIED TO FINAL SUMMARY :					
9.0	<u>ITEM 9</u> <u>CONVINIENT STORE</u>				
9.1	- Excavate foundation trenches in normal ground, average 600 mm wide x 600 mm deep	m ³	12		
9.2	Return, backfill and compact selected excavated material	m ³	8		
9.3	Allow for disposal of surplus unsuitable material	m ³	4		
9.4	Concrete strip footings, 20/25 MPa	m ³	3.8		
9.5	Foundation brick/blockwork below DPC	m ²	19		
9.6	Damp-proof course to walls	m	35		
9.7	150 mm compacted G5/hardcore filling beneath floor	m ³	7		
9.8	50 mm sand blinding	m ³	2.3		
9.9	250 micron DPM including laps and joints	m ²	49		
9.10	100 mm 25 MPa concrete floor slab	m ³	5		
9.11	A142 welded mesh reinforcement including laps, chairs and tying wire	m ²	49		
9.12	External 220 mm face-brick walls, including mortar and sundries	m ²	76		
9.13	Internal 110 mm masonry partitions	m ²	28		
9.14	Lintels over door/window openings	m	18		
9.15	Internal cement plaster to masonry walls	m ²	150		
9.16	External plaster/render to limited areas	m ²	40		
9.17	Prefabricated/lightweight roof trusses including bracing	m ²	48		
9.18	Chromadek/IBR roof sheeting including flashings and fixings	m ²	48		
9.19	Roof insulation, 75 mm equivalent	m ²	48		
9.20	Suspended gypsum-board ceiling including brandering, cornice and access panels	m ²	45		
9.21	Seamless gutters and downpipes	m	25		
9.22	Aluminium glazed shopfront/windows, powder-coated, clear glazing	m ²	18		
9.23	Aluminium framed glazed entrance door, commercial grade	No	1		
9.24	Internal solid-core timber doors with frames and ironmongery	No	4		
9.25	WC doors/cubicle doors complete with ironmongery	No	2		
9.26	Security/steel service door allowance	No	1		

9.27	Ceramic/porcelain floor tiling including adhesive and grout	m ²	45		
9.28	Wall tiling to WCs and wet areas	m ²	28		
9.29	Ceramic skirting	m	65		
9.30	Prepare and apply two coats PVA/acrylic paint to internal walls	m ²	150		
9.31	Paint external plaster/rendered areas	m ²	40		
9.32	Paint ceilings	m ²	45		
9.33	Sealant, movement joints, touch-ups and making good	Sum	1		
9.34	WC suite complete with cistern, seat and fittings	No	2		
9.35	Wash-hand basin with mixer, trap, waste and accessories	No	2		
9.36	Wall-mounted mirror, soap dispenser, toilet-roll holder and grab/accessories allowance	Sum	1		
9.37	Hot/cold water distribution and sanitary plumbing complete	Sum	1		
9.38	Waste/soil drainage connection to nearest available point	Sum	1		
9.39	External water meter/stopcock and connection allowance	Sum	1		
9.40	Complete electrical installation including wiring, conduits, switches and sockets	m ²	45		
9.41	Distribution board with breakers, surge protection and labelling	No	1		
9.42	LED internal/external light fittings and emergency lighting	Sum	1		
9.43	Earthing/bonding and testing	Sum	1		
9.44	Fire extinguishers and mounting brackets	No	4		
9.45	Basic fire detection/alarm allowance	Sum	1		
9.46	Back-office built-in cupboards/worktop allowance	Sum	1		
9.47	Data/CCTV containment and points allowance	Sum	1		
9.48	Intruder alarm/security system allowance	Sum	1		
9.49	Retail counter/cashier counter, laminate finish	Sum	1		
9.50	Retail wall/gondola shelving allowance	Sum	1		
9.51	Concrete entrance apron/threshold	m ²	20		
9.52	Stormwater channel/drainage allowance	Sum	1		
9.53	External signage allowance for convenience store	Sum	1		
9.54	Final cleaning, testing and commissioning	Sum	1		
TOTAL FOR ITEM 9 (CONVINIENT STORE) CARRIED TO FINAL SUMMARY :					