

THEMBISILE HANI LOCAL MUNICIPALITY		
CONTRACT No.:		
APPOINTMENT OF A PANEL OF CONTRACTORS FOR REHABILITATION, REFURBISHMENT AND MAINTENANCE OF WATER AND SANITATION INFRASTRUCTURE AS AND WHEN REQUIRED FOR A PERIOD OF 36 MONTHS-CIVIL WORKS		
SECTION	DESCRIPTION	AMOUNT
Section 1	PRELIMINARY AND GENERAL	
Section 2	CONTROL TESTING SERVICES AND DAY WORKS	
Section 3	SITE CLEARANCE	
Section 4	EARTHWORKS AND BEDDING	
Section 5	MEDIUM AND HIGH PRESSURE PIPES	
Section 6	PIPE SPECIALS AND FITTINGS	
Section 7	VALVES AND FLOW METERS	
Section 8	GASKETS, SEALS AND BOLTS	
Section 9	CONCRETE	
Section 10	FORMWORK	
Section 11	BRICKWORK, PLASTER & PAINT	
Section 12	REINFORCEMENT	
Section 13	BOREHOLES AND STORAGE TANKS	
Section 14	SEALING OF THE RESERVOIRS	
Section 15	MISCELLANEOUS	
SUB-TOTAL 1		
10% Contingency		
SUB-TOTAL 2		
10% Escalation		
SUB-TOTAL 3		
15% VAT		
GRAND TOTAL		

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1	SECTION 1 : PRELIMINARY & GENERAL				
1.1	FIXED-CHARGES AND VALUE RELATED ITEMS				
Note: All Fixed Charge Items below is Per Site : (The cost is based on commitment for a full week - Less than 5 days the amount must be allocated proportionally)					
1.1.1	Contractual Requirements:	Sum	1		
1.1.2	Establishment of Facilities on Site	Sum	1		
1.1.2.1	Facilities for the Contractor				
1.1.2.1.1	Offices, storage sheds and fencing (PSA-4.2)	Sum	1		
1.1.2.1.2	Tools and equipment	Sum	1		
1.1.2.1.3	Ablution facilities	Sum	1		
1.1.2.1.4	Water Supply, Electric Power and Communications	Sum	1		
1.1.2.1.5	Dealing with water	Sum	1		
1.1.2.1.6	Removal of Site Establishment	Sum	1		
1.1.3	Occupational Health and Safety				
1.1.4	Compliance with the Occupational Health and Safety Act (Act 85 of 1993) and applicable regulations (Construction Regulations, 2003), and the Employers Health & Safety Specification bound into this document	Sum	1		
1.1.4.1	Risk assessment	Sum	1		
1.1.4.2	Supply of PPE for duration of contract	Sum	1		
1.1.4.3	Maintenance of fences, signs and barricades	Sum	1		
1.1.4.4	Implementation of safety administration	Sum	1		
1.2	TIME-RELATED ITEMS				
Note: Time Related Items below is Per Site : (The cost is based on the duration of the project for a full month - Less than a month must the amount be allocated proportionally)					
1.2.1	Operation and Maintain of Facilities on site for the Duration of the Construction				
1.2.1.1	Facilities for Contractor				
1.2.1.2	Offices, storage sheds and fencing (PSA-4.2)	Mnth	1		
1.2.1.3	Tools and equipment	Mnth	1		
1.2.1.4	Ablution facilities	Mnth	1		
1.2.1.5	Water Supply, Electric Power and Communications	Mnth	1		
1.2.1.6	Dealing with water	Mnth	1		
1.2.1.7	Supervision	Mnth	1		
1.2.1.5	Other Time-related Obligations (Specify)	Sum	1		
1.2.2	Occupational Health and Safety				
1.2.2.1	Maintain and comply with the Occupational Health and Safety Act (Act 85 of 1993) and applicable regulations (Construction Regulations, 2003), and the Employers Health & Safety Specification bound into this document	Mnths	1		
1.2.2.2	Part time competent employee of the contract and construction supervisor / assistants as required by law for the duration of the contract	Mnths	1		
1.2.2.3	Maintain of PPE for duration of contract	Mnths	1		
1.2.2.4	Maintenance of fences, signs and barricades	Mnths	1		
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
SCHEDULE 2: CONTROL TESTING SERVICES AND DAY WORKS					
2.1	Execution and Authorization No work covered by a Sum shall be executed without the prior written instruction of the Engineer/Employer. The scope and extent of such work will be defined by the Engineer/Employer during the course of the Contract.				
	Valuation and Payment The actual value of the work executed under each Sum will be measured and valued as directed and certified by the Engineer/Employer. Payment will be made based on the actual work performed and evidenced by supporting documentation.				
2.1.1	<u>Control test Services</u>				
2.1.1.1	Acceptance control testing on earthworks	Sum	1		
2.1.1.2	Overheads, charges and profits on the above	10%	0		
2.1.1.3	Acceptance control testing on pipework	Sum	1		
2.1.1.4	Overheads, charges and profits on the above	10%	0		
2.1.1.5	Acceptance control testing on concrete work	Sum	1		
2.1.1.6	Overheads, charges and profits on the above	10%	1		
2.2	DAYWORKS (PROVISIONAL)				
2.2.1	Labour				
2.2.1.1	Skilled	hr	1		
2.2.1.2	Semi-skilled	hr	1		
2.2.1.3	Un-skilled	hr	1		
2.2.1.4	Civil Technician	hr	1		
2.2.1.5	Mechanical Technician	hr	1		
2.2.1.6	Electrical Technician	hr	1		
2.2.1.7	Artisan Plumber	hr	1		
2.2.1.8	Boiler Maker	hr	1		
2.2.1.9	Artisan Fitter and Turner	hr	1		
2.2.1.10	Artisan: Electricity	hr	1		
2.2.2	Plant (Wet rate)				
2.2.2.1	Trucks (specify capacity)				
2.2.2.1.1	Small - Tipper truck 10 m3	hr	1		
2.2.2.1.2	Small - Flatbed truck 8 ton	hr	1		
2.2.2.1.3	LDV	km	1		
2.2.2.2	Water Tankers (specify capacity)				
2.2.2.2.1	Watercart towable 1500 lt	hr	1		
2.2.2.2.2	Watercart tanker 12 000 litres	hr	1		
2.2.2.3	Excavators (specify models,/mass/Kw)				
2.2.2.3.1	Small model (20 ton)	hr	1		
2.2.2.3.2	Medium model (25 ton)	hr	1		
2.2.2.3.3	High model (30 ton)	hr			
2.2.2.4	Pecker Excavator				
2.2.2.4.1	Small model (20 ton)	hr	1		
2.2.2.4.2	Medium model (25 ton)	hr	1		
2.2.2.4.3	High model (30 ton)	hr	1		
2.2.2.4.4	Delivery to site and removal on completion (Round trip)	km	1		
2.2.2.5	TLB's (specify model)				

2.2.2.5.1	TLB's	hr	1		
2.2.2.5.2	Delivery to site and removal on completion (Round trip)	km	1		
2.2.2.6	Rollers - walk behind vibrating roller				
2.2.2.6.1	600 mm drum width, 0.65-ton class (e.g., BOMAG BW61 or approved equivalent)	hr	1		
2.2.2.6.2	650 mm drum width, 0.75-ton class (e.g., BOMAG BW61 or approved equivalent)	hr	1		
2.2.2.7	Compactors (specify model)				
2.2.2.7.1	Plate compactor, minimum 400 mm base width, 13 kN compaction force, 80 kg operating weight	hr	1		
2.2.2.7.2	Vibratory rammer, minimum 280 mm shoe width, 15 kN impact force, 70 kg operating weight	hr	1		
2.2.2.7.3	Reversible plate compactor, minimum 500 mm base width, 65 kN centrifugal force, 500 kg operating weight	hr	1		
2.2.2.8	Concrete mixer, (Drum Capacity)				
2.2.2.8.1	Small: 150–200 liters	hr	1		
2.2.2.8.2	Medium: 250–400 liters	hr	1		
2.2.2.8.3	Large: 500–800 liters	hr	1		
2.2.2.9	Compressors Mixers (specify capacity)				
2.2.2.9.1	200–300 CFM	hr	1		
2.2.2.9.2	Delivery to site and removal on completion (Delivery by LDV)	Km	1		
2.2.2.10	Water pump				
2.2.2.10.1	Portable water pump, minimum 3-inch (75 mm) outlet, 30 m³/hr flow rate, 25 m head, petrol/diesel powered, including hoses, operator and fuel	hr	1		
2.2.2.10.2	Submersible dewatering pump, minimum 2-inch (50 mm) outlet, 20 m³/hr flow rate, 15 m head, electric powered, including cables, operator and fuel	hr	1		
2.2.2.10.3	High-capacity water pump, minimum 6-inch (150 mm) outlet, 100 m³/hr flow rate, 30 m head, trailer-mounted, diesel powered, including hoses, operator and fuel	hr	1		
2.2.2.11	Generators				
2.2.2.11.1	Generator, minimum 5 kVA, petrol/diesel powered, single-phase, including cables, operator and fuel	hr	1		
2.2.2.11.2	Generator, minimum 15 kVA, diesel powered, three-phase, trailer-mounted, including cables, operator and fuel	hr	1		
2.2.2.11.3	Generator, minimum 50 kVA, diesel powered, three-phase, sound-attenuated, trailer-mounted, including cables, operator and fuel	hr	1		
2.2.2.12	Cherry Picker				
2.2.2.12.1	Articulating boom lift, minimum 18 m working height, 230 kg platform capacity, diesel powered, including operator and fuel	hr	1		
2.2.2.12.2	Trailer-mounted cherry picker, minimum 12 m working height, 200 kg platform capacity, including operator and fuel	hr	1		
2.2.2.12.3	Vehicle-mounted cherry picker, minimum 14 m working height, 200 kg platform capacity, diesel powered, including operator and fuel	hr	1		
2.2.2.12.4	Delivery to site and removal on completion (Round trip)	km	1		
2.2.2.13	TRANSPORT				
2.2.2.13.1	10 m3 Tipper trucks	km	1		
2.2.2.13.2	10 Ton Crane Mounted Truck	km	1		
2.2.2.14	TEMPORARY WORKS				
2.2.2.14.1	Accommodation of traffic along pipe route/road for the duration of the project	Sum	1		
SUB-TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
SCHEDULE 3: SITE CLEARANCE					
Note: The rates provided in this schedule shall include all costs related to the supply, delivery, storage, protection, handling, and installation of all materials, as well as all associated labor and equipment.					
3.1	Site Clearance: Clear and grub areas to required minimum width for construction access and operations				
3.1.1	Clear and grub a 5-meter wide working strip along the pipeline route, removing all vegetation and debris	m	1		
3.1.2	Fence lines 4 m wide (2m either side of centreline)	m	1		
3.1.3	Clear and grub the defined building footprint area, including removal of all vegetation and obstacles	m ²	1		
3.2	LARGE TREES				
3.2.1	Tree and Stump Removal: Remove and grub large trees and tree stumps as specified by girth range				
3.2.1.1	Remove and grub tree stumps with girth exceeding 0.0 m but not exceeding 1.0 m	No	1		
3.2.1.2	Remove and grub tree stumps with girth exceeding 1.0 m but not exceeding 2.0 m	No	1		
3.3	FENCES				
3.3.1	Removal of Fences				
3.3.1.1	Carefully dismantle all existing fences (regardless of type), store materials on-site, and protect from damage	m	1		
3.3.1.2	Dismantle and store 1.2-meter high stock fencing	m	1		
3.3.1.3	Dismantle and store 2.4-meter high security fencing	m	1		
3.3.1.4	Remove and store gates of all types and sizes	No	1		
3.3.2	Reinstatement of Fences				
3.3.2.1	Retrieve stored fencing and reinstall in original or specified positions, replacing any damaged components				
3.3.2.2	1.2m High stock fencing	m	1		
3.3.2.3	2.4m High security fencing - Type mesh	m	1		
3.3.2.4	Standard 5m wide x 2.4m high double swing gate	No	1		
3.3.3	Supply and Installation of New Fences and Gates				
3.3.3.1	2.2 m High Palisade Concrete Fence	m	1		
3.3.3.2	Supply and install 2.4-meter high Clear Vu fence (3mm x 4mm wire), including lockable gate	m	1		
3.3.3.2.1	Powder coated wire(Heavy)	m	1		
3.3.3.2.2	Pre galvanised(Heavy)	m	1		
3.3.3.3	2.0 m High Razor wire Fence	m	1		
3.3.3.4	Razor wire coil	m	1		
3.3.4	Gates – Removal and Installation				
3.3.4.1	Removal of all gate types and sizes to municipal store	No	1		
3.3.4.2	Supply, deliver and install standard 3m wide x 2.4m high double swing gate	No	1		
3.3.4.3	Supply, deliver and install standard 5m wide x 2.4m high double swing gate	No	1		
3.3.4.4	Supply, deliver and install 5m wide x 2.4m high steel sliding gate complete with rail	No	1		
3.4	GRASS CUTTING				
3.4.1	Cut, bind, and deliver grass from cleared areas to designated disposal or composting area	m ²	1		
3.4.2	Mow and maintain lawn areas as specified	m ²	1		
SUB-TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
SCHEDULE 4: EARTHWORKS (PIPE TRENCHES)					
Note: The rates provided in this schedule shall include all costs related to the supply, delivery, storage, protection, handling, and installation of all materials, as well as all associated labor and equipment.					
4,1	EXCAVATION AND BACKFILLING				
4.1.1	Excavation by LABOUR INTENSIVE METHOD in all materials for 1 000mm wide trenches, backfill, compact and dispose of surplus material for trenches with depth between:				
4.1.1.1	0m and 1.5m	m	1		
4.1.1.2	Excavate for restricted foundations, footings, and trenches in all materials and dispose	m ³	1		
4.1.2	Excavation by MACHINE in all materials for 1000mm wide trenches, backfill, compact and dispose of surplus material for trenches with depth between				
4.1.2.1	0m and 1.5m	m	1		
4.1.2.2	1.5m and 2.5m	m	1		
4.1.2.3	2,5 m and 3,5 m	m	1		
4.1.2.4	Extra over for shoring in increments of 1m for depths above 1.5m	m	1		
4.1.3	Extra-over for items 4.1.1 and 4.1.2 in				
4.1.3.1	Intermediate material including excavation	m ³	1		
4.1.3.2	Hard rock by blasting including drill, cover, blast and excavation	m ³	1		
4.1.3.3	Hard rock by Chemical breaking including drill and excavation	m ³	1		
4.1.3.4	Removal of rock boulders	m ³	1		
4.1.4	Excavate unsuitable material from trench bottom, dispose within free haul distance, compacted to 90% mod AASHTO density and re- fill with suitable material from				
4.1.4.1	Trench excavated materials	m ³	1		
4.1.4.2	Imported material from borrow pit within 3km radius	m ³	1		
4,2	COMPACTION IN ROAD RESERVES				
4.2.1	Additional compaction to 93% mod AASHTO density in road reserves	m ²	1		
4.3	DEALING WITH EXISTING SERVICES				
4.3.1	Protection and dealing with any services that intersects or adjoin a trench				
4.3.1.1	Underground cables	m	1		
4.3.1.2	Sewer lines up to 300mm diameter	m	1		
4.3.1.3	Stormwater pipe up to 600mm diameter	m	1		
4.3.1.4	Cold bitumen Road patching	m ²	1		
4.3.1.5	Reinstate paving bricks	m ²	1		
4.4	IMPORTATION OF MATERIAL FROM COMMERCIAL SOURCE				
4.4.1	Importation of suitable BACKFILL material				
4.4.1.1	G4 Material Compacted to 95% MOD AASHTO	m ³	1		
4.4.1.2	G5 Material Compacted to 95% MOD AASHTO	m ³	1		
4.4.1.3	G6 Material Compacted to 95% MOD AASHTO	m ³	1		
4.4.1.4	G7 Material Compacted to 95% MOD AASHTO	m ³	1		
4.4.1.5	Soil Crete	m ³	1		
4.5	REMOVAL OF SURPLUS MATERIAL TO DESIGNATED AREA				
4.5.1	Carting Away of Stockpiled materials for disposal	m ³	1		
4.5.2	Extra Over hauling of material for Disposal	m ³ .Km	1		
4.5.3	Handling and dispose asbestos Pipes at the permitted Landfill site	m.Km	1		

4.5.4	De-sludge ponds, including removal, loading, transport, and disposal of sludge to the designated approved area, measured by the volume of sludge removed.	m ³	1		
4.6	BEDDING FROM TRENCH EXCAVATION				
4.6.1	Provision for bedding material from trench excavation				
4.6.1.1	Selected granular material	m ³	1		
4.6.1.2	Selected fill material	m ³	1		
4.7	BEDDING FROM BORROW PITS				
	Provision for bedding by importation from other necessary excavations within the free haul distance				
4.7.1	Selected granular material	m ³	1		
4.7.2	Selected fill material	m ³	1		
SUB-TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
SCHEDULE 5: MEDIUM PRESSURE PIPELINES					
Note:					
The rates provided in this schedule shall include all costs related to the supply, delivery, storage, protection, handling, and installation of all materials, as well as all associated labor and equipment.					
5.1	PRESSURE PIPES				
Supply, install, clean, disinfect and test pipes, complete with Couplings .					
5.1.1	Type uPVC pipe Class 6				
5.1.1.1	DN 25 mm	m	1		
5.1.1.2	DN 40 mm	m	1		
5.1.1.3	DN 50 mm	m	1		
5.1.1.4	DN 63 mm	m	1		
5.1.1.5	DN 75 mm	m	1		
5.1.1.6	DN 110 mm	m	1		
5.1.1.7	DN 125 mm	m	1		
5.1.1.8	DN 160 mm	m	1		
5.1.1.9	DN 200mm	m	1		
5.1.1.10	DN 250 mm	m	1		
5.1.1.11	DN 315 mm	m	1		
5.1.1.12	DN 400 mm	m	1		
5.1.1.13	DN 450 mm	m	1		
5.1.1.14	DN 500 mm	m	1		
5.1.1.15	DN 600 mm	m	1		
5.1.2	Type uPVC pipe Class 9				
5.1.2.1	DN 25 mm	m	1		
5.1.2.2	DN 40 mm	m	1		
5.1.2.3	DN 50 mm	m	1		
5.1.2.4	DN 63 mm	m	1		
5.1.2.5	DN 75 mm	m	1		
5.1.2.6	DN 110 mm	m	1		
5.1.2.7	DN 125 mm	m	1		
5.1.2.8	DN 160 mm	m	1		
5.1.2.9	DN 200mm	m	1		
5.1.2.10	DN 250 mm	m	1		
5.1.2.11	DN 315 mm	m	1		
5.1.2.12	DN 400 mm	m	1		
5.1.2.13	DN 450 mm	m	1		
5.1.2.14	DN 500 mm	m	1		
5.1.2.15	DN 600 mm	m	1		
5.1.3	Type uPVC pipe Class 12				
5.1.3.1	DN 25 mm	m	1		
5.1.3.2	DN 32 mm	m	1		
5.1.3.3	DN 40 mm	m	1		
5.1.3.4	DN 50 mm	m	1		
5.1.3.5	DN 63 mm	m	1		
5.1.3.6	DN 75 mm	m	1		
5.1.3.7	DN 110 mm	m	1		
5.1.3.8	DN 125 mm	m	1		
5.1.3.9	DN 160 mm	m	1		
5.1.3.10	DN 200mm	m	1		
5.1.3.11	DN 250 mm	m	1		
5.1.3.12	DN 315 mm	m	1		

5.1.3.13	DN 400 mm	m	1		
5.1.3.14	DN 450 mm	m	1		
5.1.3.15	DN 500 mm	m	1		
5.1.3.16	DN 600 mm	m	1		
5.1.4	Type uPVC pipe Class 16				
5.1.4.1	DN 25 mm	m	1		
5.1.4.2	DN 32 mm	m	1		
5.1.4.3	DN 40 mm	m	1		
5.1.4.4	DN 50 mm	m	1		
5.1.4.5	DN 63 mm	m	1		
5.1.4.6	DN 75 mm	m	1		
5.1.4.7	DN 110 mm	m	1		
5.1.4.8	DN 125 mm	m	1		
5.1.4.9	DN 160 mm	m	1		
5.1.4.10	DN 200mm	m	1		
5.1.4.11	DN 250 mm	m	1		
5.1.4.12	DN 315 mm	m	1		
5.1.4.13	DN 400 mm	m	1		
5.1.4.14	DN 450 mm	m	1		
5.1.4.15	DN 500 mm	m	1		
5.1.4.16	DN 600 mm	m	1		
5.1.5	Type uPVC pipe Class 20				
5.1.5.1	DN 25 mm	m	1		
5.1.5.2	DN 32 mm	m	1		
5.1.5.3	DN 40 mm	m	1		
5.1.5.4	DN 25 mm	m	1		
5.1.5.5	DN 32 mm	m	1		
5.1.5.6	DN 40 mm	m	1		
5.1.5.7	DN 50 mm	m	1		
5.1.5.8	DN 63 mm	m	1		
5.1.5.9	DN 75 mm	m	1		
5.1.5.10	DN 110 mm	m	1		
5.1.5.11	DN 125 mm	m	1		
5.1.5.12	DN 160 mm	m	1		
5.1.5.13	DN 200mm	m	1		
5.1.5.14	DN 250 mm	m	1		
5.1.5.15	DN 315 mm	m	1		
5.1.5.16	DN 400 mm	m	1		
5.1.5.17	DN 450 mm	m	1		
5.1.5.18	DN 500 mm	m	1		
5.1.5.19	DN 600 mm	m	1		
	c-PVC PIPE				
5.1.6	Type cPVC pipe Class 6				
5.1.6.1	DN 25 mm	m	1		
5.1.6.2	DN 32 mm	m	1		
5.1.6.3	DN 40 mm	m	1		
5.1.6.4	DN 50 mm	m	1		
5.1.6.5	DN 63 mm	m	1		
5.1.6.6	DN 75 mm	m	1		
5.1.6.7	DN 110 mm	m	1		
5.1.6.8	DN 125 mm	m	1		
5.1.6.9	DN 160 mm	m	1		
5.1.6.10	DN 200mm	m	1		

5.1.6.11	DN 250 mm	m	1		
5.1.6.12	DN 315 mm	m	1		
5.1.6.13	DN 400 mm	m	1		
5.1.6.14	DN 450 mm	m	1		
5.1.6.15	DN 500 mm	m	1		
5.1.6.16	DN 600 mm	m	1		
5.1.7	Type cPVC pipe Class 9				
5.1.7.1	DN 25 mm	m	1		
5.1.7.2	DN 32 mm	m	1		
5.1.7.3	DN 40 mm	m	1		
5.1.7.4	DN 50 mm	m	1		
5.1.7.5	DN 63 mm	m	1		
5.1.7.6	DN 75 mm	m	1		
5.1.7.7	DN 110 mm	m	1		
5.1.7.8	DN 125 mm	m	1		
5.1.7.9	DN 160 mm	m	1		
5.1.7.10	DN 200mm	m	1		
5.1.7.11	DN 250 mm	m	1		
5.1.7.12	DN 315 mm	m	1		
5.1.7.13	DN 400 mm	m	1		
5.1.7.14	DN 450 mm	m	1		
5.1.7.15	DN 500 mm	m	1		
5.1.7.16	DN 600 mm	m	1		
5.1.8	Type cPVC pipe Class 12				
5.1.8.1	DN 25 mm	m	1		
5.1.8.2	DN 32 mm	m	1		
5.1.8.3	DN 40 mm	m	1		
5.1.8.4	DN 50 mm	m	1		
5.1.8.5	DN 63 mm	m	1		
5.1.8.6	DN 75 mm	m	1		
5.1.8.7	DN 110 mm	m	1		
5.1.8.8	DN 125 mm	m	1		
5.1.8.9	DN 160 mm	m	1		
5.1.8.10	DN 200mm	m	1		
5.1.8.11	DN 250 mm	m	1		
5.1.8.12	DN 315 mm	m	1		
5.1.8.13	DN 400 mm	m	1		
5.1.8.14	DN 450 mm	m	1		
5.1.8.15	DN 500 mm	m	1		
5.1.8.16	DN 600 mm	m	1		
5.1.9	Type cPVC pipe Class 16				
5.1.9.1	DN 25 mm	m	1		
5.1.9.2	DN 32 mm	m	1		
5.1.9.3	DN 40 mm	m	1		
5.1.9.4	DN 50 mm	m	1		
5.1.9.5	DN 63 mm	m	1		
5.1.9.6	DN 75 mm	m	1		
5.1.9.7	DN 110 mm	m	1		
5.1.9.8	DN 125 mm	m	1		
5.1.9.9	DN 160 mm	m	1		
5.1.9.10	DN 200mm	m	1		
5.1.9.11	DN 250 mm	m	1		
5.1.9.12	DN 315 mm	m	1		

5.1.9.13	DN 400 mm	m	1		
5.1.9.14	DN 450 mm	m	1		
5.1.9.15	DN 500 mm	m	1		
5.1.9.16	DN 600 mm	m	1		
5.1.10	Type cPVC pipe Class 20				
5.1.10.1	DN 25 mm	m	1		
5.1.10.2	DN 32 mm	m	1		
5.1.10.3	DN 40 mm	m	1		
5.1.10.4	DN 50 mm	m	1		
5.1.10.5	DN 63 mm	m	1		
5.1.10.6	DN 75 mm	m	1		
5.1.10.7	DN 110 mm	m	1		
5.1.10.8	DN 125 mm	m	1		
5.1.10.9	DN 160 mm	m	1		
5.1.10.10	DN 200mm	m	1		
5.1.10.11	DN 250 mm	m	1		
5.1.10.12	DN 315 mm	m	1		
5.1.10.13	DN 400 mm	m	1		
5.1.10.14	DN 450 mm	m	1		
5.1.10.15	DN 500 mm	m	1		
5.1.10.16	DN 600 mm	m	1		
5.1.11	Type cPVC pipe Class 25				
5.1.11.1	DN 50 mm	m	1		
5.1.11.2	DN 63 mm	m	1		
5.1.11.3	DN 75 mm	m	1		
5.1.11.4	DN 110 mm	m	1		
5.1.11.5	DN 125 mm	m	1		
5.1.11.6	DN 160 mm	m	1		
5.1.11.7	DN 200mm	m	1		
5.1.11.8	DN 250 mm	m	1		
5.1.11.9	DN 315 mm	m	1		
5.1.11.10	DN 400 mm	m	1		
5.1.11.11	DN 450 mm	m	1		
5.1.11.12	DN 500 mm	m	1		
5.1.11.13	DN 600 mm	m	1		
	o-PVC PIPE				
5.1.12	O-PVC pipe Class 10				
5.1.12.1	Diameter 160 mm (OD)	m	1		
5.1.12.2	Diameter 225 mm (OD)	m	1		
5.1.12.3	Diameter 250 mm (OD)	m	1		
5.1.12.4	Diameter 280 mm (OD)	m	1		
5.1.12.5	Diameter 315 mm (OD)	m	1		
5.1.13	O-PVC pipe Class 12.5				
5.1.13.1	Diameter 100 mm (OD)	m	1		
5.1.13.2	Diameter 160 mm (OD)	m	1		
5.1.13.3	Diameter 200 mm (OD)	m	1		
5.1.13.4	Diameter 225 mm (OD)	m	1		
5.1.13.5	Diameter 250 mm (OD)	m	1		
5.1.13.6	Diameter 300 mm (OD)	m	1		
5.1.13.7	Diameter 315 mm (OD)	m	1		
5.1.14	O-PVC pipe Class 16				
5.1.14.1	Diameter 100 mm (OD)	m	1		
5.1.14.2	Diameter 150 mm (OD)	m	1		

5.1.14.3	Diameter 160 mm (OD)	m	1		
5.1.14.4	Diameter 200 mm (OD)	m	1		
5.1.14.5	Diameter 225 mm (OD)	m	1		
5.1.14.6	Diameter 250 mm (OD)	m	1		
5.1.14.7	Diameter 280 mm (OD)	m	1		
5.1.14.8	Diameter 300 mm (OD)	m	1		
5.1.15	O-PVC pipe Class 20				
5.1.15.1	Diameter 100 mm (OD)	m	1		
5.1.15.2	Diameter 150 mm (OD)	m	1		
5.1.15.3	Diameter 160 mm (OD)	m	1		
5.1.15.4	Diameter 200 mm (OD)	m	1		
5.1.15.5	Diameter 225 mm (OD)	m	1		
5.1.15.6	Diameter 250 mm (OD)	m	1		
5.1.15.7	Diameter 280 mm (OD)	m	1		
5.1.15.8	Diameter 300 mm (OD)	m	1		
HDPE PIPE					
5.1.16	HDPE Pipe Class 6				
5.1.16.1	Diameter 20 mm (OD)	m	1		
5.1.16.2	Diameter 25 mm (OD)	m	1		
5.1.16.3	Diameter 32 mm (OD)	m	1		
5.1.16.4	Diameter 40 mm (OD)	m	1		
5.1.16.5	Diameter 50 mm (OD)	m	1		
5.1.16.6	Diameter 63 mm (OD)	m	1		
5.1.16.7	Diameter 75 mm (OD)	m	1		
5.1.16.8	Diameter 90 mm (OD)	m	1		
5.1.16.9	Diameter 110 mm (OD)	m	1		
5.1.16.10	Diameter 125 mm (OD)	m	1		
5.1.16.11	Diameter 140 mm (OD)	m	1		
5.1.16.12	Diameter 160 mm (OD)	m	1		
5.1.16.13	Diameter 180 mm (OD)	m	1		
5.1.16.14	Diameter 200 mm (OD)	m	1		
5.1.16.15	Diameter 225 mm (OD)	m	1		
5.1.16.16	Diameter 250 mm (OD)	m	1		
5.1.16.17	Diameter 280 mm (OD)	m	1		
5.1.16.18	Diameter 315 mm (OD)	m	1		
5.1.16.19	Diameter 355 mm (OD)	m	1		
5.1.16.20	Diameter 400 mm (OD)	m	1		
5.1.17	HDPE Pipe Class 10				
5.1.17.1	Diameter 20 mm (OD)	m	1		
5.1.17.2	Diameter 25 mm(OD)	m	1		
5.1.17.3	Diameter 32 mm (OD)	m	1		
5.1.17.4	Diameter 40 mm (OD)	m	1		
5.1.17.5	Diameter 50 mm (OD)	m	1		
5.1.17.6	Diameter 63 mm (OD)	m	1		
5.1.17.7	Diameter 75 mm (OD)	m	1		
5.1.17.8	Diameter 90 mm (OD)	m	1		
5.1.17.9	Diameter 110 mm (OD)	m	1		
5.1.17.10	Diameter 125 mm (OD)	m	1		
5.1.17.11	Diameter 140 mm (OD)	m	1		
5.1.17.12	Diameter 160 mm (OD)	m	1		
5.1.17.13	Diameter 180 mm (OD)	m	1		
5.1.17.14	Diameter 200 mm (OD)	m	1		
5.1.17.15	Diameter 225 mm (OD)	m	1		

5.1.17.16	Diameter 250 mm (OD)	m	1		
5.1.17.17	Diameter 280 mm (OD)	m	1		
5.1.17.18	Diameter 315 mm (OD)	m	1		
5.1.17.19	Diameter 355 mm (OD)	m	1		
5.1.17.20	Diameter 400 mm (OD)	m	1		
5.1.18	HDPE Pipe Class 12.5				
5.1.18.1	Diameter 20 mm (OD)	m	1		
5.1.18.2	Diameter 25 mm(OD)	m	1		
5.1.18.3	Diameter 32 mm (OD)	m	1		
5.1.18.4	Diameter 40 mm (OD)	m	1		
5.1.18.5	Diameter 50 mm (OD)	m	1		
5.1.18.6	Diameter 63 mm (OD)	m	1		
5.1.18.7	Diameter 75 mm (OD)	m	1		
5.1.18.8	Diameter 90 mm (OD)	m	1		
5.1.18.9	Diameter 110 mm (OD)	m	1		
5.1.18.10	Diameter 125 mm (OD)	m	1		
5.1.18.11	Diameter 140 mm (OD)	m	1		
5.1.18.12	Diameter 160 mm (OD)	m	1		
5.1.18.13	Diameter 180 mm (OD)	m	1		
5.1.18.14	Diameter 200 mm (OD)	m	1		
5.1.18.15	Diameter 225 mm (OD)	m	1		
5.1.18.16	Diameter 250 mm (OD)	m	1		
5.1.18.17	Diameter 280 mm (OD)	m	1		
5.1.18.18	Diameter 315 mm (OD)	m	1		
5.1.18.19	Diameter 355 mm (OD)	m	1		
5.1.18.20	Diameter 400 mm (OD)	m	1		
5.1.19	HDPE Pipe Class 16				
5.1.19.1	Diameter 20 mm (OD)	m	1		
5.1.19.2	Diameter 25 mm(OD)	m	1		
5.1.19.3	Diameter 32 mm (OD)	m	1		
5.1.19.4	Diameter 40 mm (OD)	m	1		
5.1.19.5	Diameter 50 mm (OD)	m	1		
5.1.19.6	Diameter 63 mm (OD)	m	1		
5.1.19.7	Diameter 75 mm (OD)	m	1		
5.1.19.8	Diameter 90 mm (OD)	m	1		
5.1.19.9	Diameter 110 mm (OD)	m	1		
5.1.19.10	Diameter 125 mm (OD)	m	1		
5.1.19.11	Diameter 140 mm (OD)	m	1		
5.1.19.12	Diameter 160 mm (OD)	m	1		
5.1.19.13	Diameter 180 mm (OD)	m	1		
5.1.19.14	Diameter 200 mm (OD)	m	1		
5.1.19.15	Diameter 225 mm (OD)	m	1		
5.1.19.16	Diameter 250 mm (OD)	m	1		
5.1.19.17	Diameter 280 mm (OD)	m	1		
5.1.19.18	Diameter 315 mm (OD)	m	1		
5.1.19.19	Diameter 355 mm (OD)	m	1		
5.1.19.20	Diameter 400 mm (OD)	m	1		
	DUCTILE IRON PIPES				
5.1.20.1	Ductile Iron Socket Pipe Class 40 (K9)				
5.1.20.1.1	Diameter 300 mm(OD)	m	1		
5.1.20.1.2	Diameter 350 mm(OD)	m	1		
5.1.20.1.3	Diameter 500 mm(OD)	m	1		
5.1.20.1.4	Diameter 600 mm(OD)	m	1		

5.1.20.1.5	Diameter 800 mm(OD)	m	1		
	Diameter 1000 mm(OD)	m	1		
STEEL PIPES					
5.1.21	Galvanised Steel Pipe (up to 25 bar)				
5.1.21.1	Diameter 20 mm (ND)	m	1		
5.1.21.2	Diameter 25 mm(ND)	m	1		
5.1.21.3	Diameter 32 mm (ND)	m	1		
5.1.21.4	Diameter 40 mm (ND)	m	1		
5.1.21.5	Diameter 50 mm (ND)	m	1		
5.1.21.6	Diameter 65 mm (ND)	m	1		
5.1.21.7	Diameter 80 mm (ND)	m	1		
5.1.21.8	Diameter 90 mm (ND)	m	1		
5.1.21.9	Diameter 100 mm (ND)	m	1		
5.1.21.10	Diameter 125 mm (ND)	m	1		
5.1.21.11	Diameter 150 mm (ND)	m	1		
5.1.21.12	Diameter 200 mm (ND)	m	1		
5.1.21.13	Diameter 250 mm (ND)	m	1		
5.1.21.14	Diameter 300 mm (ND)	m	1		
5.1.21.15	Diameter 350 mm (ND)	m	1		
5.1.21.16	Diameter 400 mm (ND)	m	1		
5.1.21.17	Diameter 450 mm (ND)	m	1		
5.1.21.18	Diameter 500 mm (ND)	m	1		
5.1.21.19	Diameter 550 mm (ND)	m	1		
5.1.21.20	Diameter 600 mm (ND)	m	1		
5.1.21.21	Diameter 700 mm (ND)	m	1		
5.1.21.22	Diameter 800 mm (ND)	m	1		
5.1.21.23	Diameter 900 mm (ND)	m	1		
5.1.21.24	Diameter 1000 mm (ND)	m	1		
5.1.22	Steel Pipe powder coated (up to 40bar)				
5.1.22.1	Diameter 20 mm (ND)	m	1		
5.1.22.2	Diameter 25 mm(ND)	m	1		
5.1.22.3	Diameter 32 mm (ND)	m	1		
5.1.22.4	Diameter 40 mm (ND)	m	1		
5.1.22.5	Diameter 50 mm (ND)	m	1		
5.1.22.6	Diameter 65 mm (ND)	m	1		
5.1.22.7	Diameter 80 mm (ND)	m	1		
5.1.22.8	Diameter 90 mm (ND)	m	1		
5.1.22.9	Diameter 100 mm (ND)	m	1		
5.1.22.10	Diameter 125 mm (ND)	m	1		
5.1.22.11	Diameter 150 mm (ND)	m	1		
5.1.22.12	Diameter 200 mm (ND)	m	1		
5.1.22.13	Diameter 250 mm (ND)	m	1		
5.1.22.14	Diameter 300 mm (ND)	m	1		
5.1.22.15	Diameter 350 mm (ND)	m	1		
5.1.22.16	Diameter 400 mm (ND)	m	1		
5.1.22.17	Diameter 450 mm (ND)	m	1		
5.1.22.18	Diameter 500 mm (ND)	m	1		
5.1.22.19	Diameter 550 mm (ND)	m	1		
5.1.22.20	Diameter 600 mm (ND)	m	1		
5.1.22.21	Diameter 700 mm (ND)	m	1		
5.1.22.22	Diameter 800 mm (ND)	m	1		
5.1.22.23	Diameter 900 mm (ND)	m	1		
5.1.22.24	Diameter 1000 mm (ND)	m	1		

SUB-TOTAL CARRIED FORWARD TO SUMMARY	
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ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
SCHEDULE 6: PIPE SPECIALS AND FITTINGS					
Note:					
The rates provided in this schedule shall include all costs related to the supply, delivery, storage, protection, handling, and installation of all materials, as well as all associated labor and equipment.					
6.1	BENDS				
6.1.1	BENDS 11.25° (Type u/m/oPVC Class 9)				
6.1.1.1	Diameter 32 mm (OD)	No	1		
6.1.1.2	Diameter 40 mm (OD)	No	1		
6.1.1.3	Diameter 50 mm (OD)	No	1		
6.1.1.4	Diameter 63 mm (OD)	No	1		
6.1.1.5	Diameter 75 mm (OD)	No	1		
6.1.1.6	Diameter 90 mm (OD)	No	1		
6.1.1.7	Diameter 110 mm (OD)	No	1		
6.1.1.8	Diameter 125 mm (OD)	No	1		
6.1.1.9	Diameter 140 mm (OD)	No	1		
6.1.1.10	Diameter 160 mm (OD)	No	1		
6.1.1.11	Diameter 200 mm (OD)	No	1		
6.1.1.12	Diameter 250 mm (OD)	No	1		
6.1.2	BENDS 22.5° (Type u/m/oPVC Class 9)				
6.2.2.1	Diameter 32 mm (OD)	No	1		
6.2.2.2	Diameter 40 mm (OD)	No	1		
6.2.2.3	Diameter 50 mm (OD)	No	1		
6.2.2.4	Diameter 63 mm (OD)	No	1		
6.2.2.5	Diameter 75 mm (OD)	No	1		
6.2.2.6	Diameter 90 mm (OD)	No	1		
6.2.2.7	Diameter 110 mm (OD)	No	1		
6.2.2.8	Diameter 125 mm (OD)	No	1		
6.2.2.9	Diameter 140 mm (OD)	No	1		
6.2.2.10	Diameter 160 mm (OD)	No	1		
6.2.2.11	Diameter 200 mm (OD)	No	1		
6.2.2.12	Diameter 250 mm (OD)	No	1		
6.1.3	BENDS 45° (Type u/m/oPVC Class 9)				
6.1.3.1	Diameter 32 mm (OD)	No	1		
6.1.3.2	Diameter 40 mm (OD)	No	1		
6.1.3.3	Diameter 50 mm (OD)	No	1		
6.1.3.4	Diameter 63 mm (OD)	No	1		
6.1.3.5	Diameter 75 mm (OD)	No	1		
6.1.3.6	Diameter 90 mm (OD)	No	1		
6.1.3.7	Diameter 110 mm (OD)	No	1		
6.1.3.8	Diameter 125 mm (OD)	No	1		
6.1.3.9	Diameter 140 mm (OD)	No	1		
6.1.3.10	Diameter 160 mm (OD)	No	1		
6.1.3.11	Diameter 200 mm (OD)	No	1		
6.1.3.12	Diameter 250 mm (OD)	No	1		
6.1.4	BENDS 90° (Type u/m/oPVC Class 9)				
6.1.4.1	Diameter 40 mm (OD)	No	1		
6.1.4.2	Diameter 50 mm (OD)	No	1		
6.1.4.3	Diameter 63 mm (OD)	No	1		
6.1.4.4	Diameter 75 mm (OD)	No	1		
6.1.4.5	Diameter 90 mm (OD)	No	1		
6.1.4.6	Diameter 110 mm (OD)	No	1		
6.1.4.7	Diameter 125 mm (OD)	No	1		
6.1.4.8	Diameter 140 mm (OD)	No	1		

6.1.4.9	Diameter 160 mm (OD)	No	1		
6.1.4.10	Diameter 200 mm (OD)	No	1		
6.1.4.11	Diameter 250 mm (OD)	No	1		
6.1.5	BENDS 11.25° (Type u/m/oPVC Class 16)				
6.1.5.1	Diameter 40 mm (OD)	No	1		
6.1.5.2	Diameter 50 mm (OD)	No	1		
6.1.5.3	Diameter 63 mm (OD)	No	1		
6.1.5.4	Diameter 75 mm (OD)	No	1		
6.1.5.5	Diameter 90 mm (OD)	No	1		
6.1.5.6	Diameter 110 mm (OD)	No	1		
6.1.5.7	Diameter 125 mm (OD)	No	1		
6.1.5.8	Diameter 140 mm (OD)	No	1		
6.1.5.9	Diameter 160 mm (OD)	No	1		
6.1.5.10	Diameter 200 mm (OD)	No	1		
6.1.5.11	Diameter 250 mm (OD)	No	1		
6.1.6	BENDS 22.5° (Type u/m/oPVC Class 16)				
6.1.6.1	Diameter 40 mm (OD)	No	1		
6.1.6.2	Diameter 50 mm (OD)	No	1		
6.1.6.3	Diameter 63 mm (OD)	No	1		
6.1.6.4	Diameter 75 mm (OD)	No	1		
6.1.6.5	Diameter 90 mm (OD)	No	1		
6.1.6.6	Diameter 110 mm (OD)	No	1		
6.1.6.7	Diameter 125 mm (OD)	No	1		
6.1.6.8	Diameter 140 mm (OD)	No	1		
6.1.6.9	Diameter 160 mm (OD)	No	1		
6.1.6.10	Diameter 200 mm (OD)	No	1		
6.1.6.11	Diameter 250 mm (OD)	No	1		
6.1.7	BENDS 45° (Type u/m/oPVC Class 16)				
6.1.7.1	Diameter 40 mm (OD)	No	1		
6.1.7.2	Diameter 50 mm (OD)	No	1		
6.1.7.3	Diameter 63 mm (OD)	No	1		
6.1.7.4	Diameter 75 mm (OD)	No	1		
6.1.7.5	Diameter 90 mm (OD)	No	1		
6.1.7.6	Diameter 110 mm (OD)	No	1		
6.1.7.7	Diameter 125 mm (OD)	No	1		
6.1.7.8	Diameter 140 mm (OD)	No	1		
6.1.7.9	Diameter 160 mm (OD)	No	1		
6.1.7.10	Diameter 200 mm (OD)	No	1		
6.1.7.11	Diameter 250 mm (OD)	No	1		
6.1.8	BENDS 90° (Type u/m/oPVC Class 16)				
6.1.8.1	Diameter 40 mm (OD)	No	1		
6.1.8.2	Diameter 50 mm (OD)	No	1		
6.1.8.3	Diameter 63 mm (OD)	No	1		
6.1.8.4	Diameter 75 mm (OD)	No	1		
6.1.8.5	Diameter 90 mm (OD)	No	1		
6.1.8.6	Diameter 110 mm (OD)	No	1		
6.1.8.7	Diameter 125 mm (OD)	No	1		
6.1.8.8	Diameter 140 mm (OD)	No	1		
6.1.8.9	Diameter 160 mm (OD)	No	1		
6.1.8.10	Diameter 200 mm (OD)	No	1		
6.1.8.11	Diameter 250 mm (OD)	No	1		
6.1.9	BENDS 45° (Type Steel 25 Bar)				
6.1.9.1	Diameter 315 mm (OD)	No	1		

6.1.9.2	Diameter 355 mm (OD)	No	1		
6.1.9.3	Diameter 400 mm (OD)	No	1		
6.1.9.4	Diameter 500 mm (OD)	No	1		
6.1.9.5	Diameter 560 mm (OD)	No	1		
6.1.9.6	Diameter 630 mm (OD)	No	1		
6.1.10	BENDS 90° (Type Steel 25 Bar)				
6.1.10.1	Diameter 315 mm (OD)	No	1		
6.1.10.2	Diameter 355 mm (OD)	No	1		
6.1.10.3	Diameter 400 mm (OD)	No	1		
6.1.10.4	Diameter 500 mm (OD)	No	1		
6.1.10.5	Diameter 560 mm (OD)	No	1		
6.1.10.6	Diameter 630 mm (OD)	No	1		
6.1.11	BENDS 45° (Type Steel 40 Bar)				
6.1.11.1	Diameter 315 mm (OD)	No	1		
6.1.11.2	Diameter 355 mm (OD)	No	1		
6.1.11.3	Diameter 400 mm (OD)	No	1		
6.1.11.4	Diameter 500 mm (OD)	No	1		
6.1.11.5	Diameter 560 mm (OD)	No	1		
6.1.11.6	Diameter 630 mm (OD)	No	1		
6.1.12	BENDS 90° (Type Steel 40 Bar)				
6.1.12.1	Diameter 315 mm (OD)	No	1		
6.1.12.2	Diameter 355 mm (OD)	No	1		
6.1.12.3	Diameter 400 mm (OD)	No	1		
6.1.12.4	Diameter 500 mm (OD)	No	1		
6.1.12.5	Diameter 560 mm (OD)	No	1		
6.1.12.6	Diameter 630 mm (OD)	No	1		
6.1.13	BENDS 11.25° (Type u/m/oPVC Class 9)				
6.1.13.1	Diameter 40 mm (OD)	No	1		
6.1.13.2	Diameter 50 mm (OD)	No	1		
6.1.13.3	Diameter 63 mm (OD)	No	1		
6.1.13.4	Diameter 75 mm (OD)	No	1		
6.1.13.5	Diameter 90 mm (OD)	No	1		
6.1.13.6	Diameter 110 mm (OD)	No	1		
6.1.13.7	Diameter 125 mm (OD)	No	1		
6.1.13.8	Diameter 140 mm (OD)	No	1		
6.1.13.9	Diameter 160 mm (OD)	No	1		
6.1.13.10	Diameter 200 mm (OD)	No	1		
6.1.13.11	Diameter 250 mm (OD)	No	1		
6.2	TEES				
6.2.1	Equal Tees (Type u/m/oPVC Class 9)				
6.2.1.1	Diameter 40 mm (OD)	No	1		
6.2.1.2	Diameter 50 mm (OD)	No	1		
6.2.1.3	Diameter 63 mm (OD)	No	1		
6.2.1.4	Diameter 75 mm (OD)	No	1		
6.2.1.5	Diameter 90 mm (OD)	No	1		
6.2.1.6	Diameter 110 mm (OD)	No	1		
6.2.1.7	Diameter 125 mm (OD)	No	1		
6.2.1.8	Diameter 140 mm (OD)	No	1		
6.2.1.9	Diameter 160 mm (OD)	No	1		
6.2.1.10	Diameter 200 mm (OD)	No	1		
6.2.1.11	Diameter 250 mm (OD)	No	1		
6.2.2	Reducing Tees (Type u/m/oPVC Class 9)				
6.2.2.1	Diameter 50 x 40	No	1		

6.2.2.2	Diameter 63 x 50	No	1		
6.2.2.3	Diameter 75 x 50	No	1		
6.2.2.4	Diameter 90 x 50	No	1		
6.2.2.5	Diameter 110 x 50	No	1		
6.2.2.6	Diameter 110 x 75	No	1		
6.2.2.7	Diameter 160 x 110	No	1		
6.2.2.8	Diameter 200 x 150	No	1		
6.3	HDPE COMPRESSION FITTINGS				
6.3.1	Straight Coupling (PN 16)				
6.3.1.1	20 x 20	No	1		
6.3.1.2	25 x 25	No	1		
6.3.1.3	32 x 32	No	1		
6.3.1.4	40 x 40	No	1		
6.3.1.5	50 x 50	No	1		
6.3.1.6	63 x 63	No	1		
6.3.1.7	75 x 75	No	1		
6.3.1.8	90 x 90	No	1		
6.3.1.9	110 x 110	No	1		
6.3.2	Reducing Coupling (PN 16)				
6.3.2.1	25 x 20	No	1		
6.3.2.2	32 x 25	No	1		
6.3.2.3	40 x 32	No	1		
6.3.2.4	50 x 40	No	1		
6.3.2.5	63 x 32	No	1		
6.3.2.6	63 x 50	No	1		
6.3.2.7	75 x 50	No	1		
6.3.2.8	75 x 63	No	1		
6.3.2.9	110 x 90	No	1		
6.3.3	Equal Tees (PN 16)				
6.3.3.1	20 x 20 x 20	No	1		
6.3.3.2	25 x 25 x 25	No	1		
6.3.3.3	32 x 32 x 32	No	1		
6.3.3.4	40 x 40 x 40	No	1		
6.3.3.5	50 x 50 x 50	No	1		
6.3.3.6	63 x 63 x 63	No	1		
6.3.3.7	75 x 75 x 75	No	1		
6.3.3.8	90 x 90 x 90	No	1		
6.3.3.9	110 x 110 x 110	No	1		
6.3.4	Male Adapter (PN 16)				
6.3.4.1	20 x 12	No	1		
6.3.4.2	20 x 15	No	1		
6.3.4.3	20 x 25	No	1		
6.3.4.4	25 x 12	No	1		
6.3.4.5	25 x 15	No	1		
6.3.4.6	25 x 25	No	1		
6.3.4.7	32 x 15	No	1		
6.3.4.8	32 x 25	No	1		
6.3.4.9	32 x 32	No	1		
6.3.4.10	40 x 25	No	1		
6.3.4.11	40 x 32	No	1		
6.3.4.12	40 x 40	No	1		
6.3.4.13	50 x 32	No	1		
6.3.4.14	50 x 40	No	1		

6.3.4.15	50 x 50	No	1		
6.3.4.16	63 x 50	No	1		
6.3.4.17	63 x 63	No	1		
6.3.4.18	75 x 50	No	1		
6.3.4.19	75 x 63	No	1		
6.3.4.20	75 x 75	No	1		
6.3.4.21	90 50	No	1		
6.3.4.22	90 x 63	No	1		
6.3.4.23	90 x 75	No	1		
6.3.4.24	90 x 90	No	1		
6.3.4.25	110 x 75	No	1		
6.3.4.26	110 x 110	No	1		
6.3.5	Female Adapter (PN 16)				
6.3.5.1	20 x 12	No	1		
6.3.5.2	20 x 15	No	1		
6.3.5.3	25 x 12	No	1		
6.3.5.4	25 x 15	No	1		
6.3.5.5	25 x 25	No	1		
6.3.5.6	32 x 25	No	1		
6.3.5.7	32 x 32	No	1		
6.3.5.8	40 x 25	No	1		
6.3.5.9	40 x 32	No	1		
6.3.5.10	40 x 40	No	1		
6.3.5.11	50 x 32	No	1		
6.3.5.12	50 x 40	No	1		
6.3.5.13	50 x 50	No	1		
6.3.5.14	63 x 50	No	1		
6.3.5.15	75 x 63	No	1		
6.3.5.16	75 x 75	No	1		
6.3.5.17	90 x 50	No	1		
6.3.5.18	90 x 75	No	1		
6.3.5.19	110 x 75	No	1		
6.3.5.20	110 x 110	No	1		
6.3.6	90 Elbows (PN 16)				
6.3.6.1	20 x 20	No	1		
6.3.6.2	25 x 25	No	1		
6.3.6.3	32 x 32	No	1		
6.3.6.4	40 x 40	No	1		
6.3.6.5	50 x 50	No	1		
6.3.6.6	63 x 63	No	1		
6.3.6.7	75 x 75	No	1		
6.3.6.8	90 x 90	No	1		
6.3.6.9	110 x 110	No	1		
6.3.7	90 Male Elbows (PN 16)				
6.3.7.1	20 x 12	No	1		
6.3.7.2	20 x 15	No	1		
6.3.7.3	25 x 15	No	1		
6.3.7.4	25 x 25	No	1		
6.3.7.5	32 x 25	No	1		
6.3.7.6	40 x 25	No	1		
6.3.7.7	50 x 12	No	1		
6.3.7.8	63 x 50	No	1		
6.3.7.9	90 x 75	No	1		

6.3.7.10	110 x 100	No	1		
6.3.8	90 Female Elbows (PN 16)				
6.3.8.1	20 x 12	No	1		
6.3.8.2	20 x 15	No	1		
6.3.8.3	25 x 15	No	1		
6.3.8.4	25 x 25	No	1		
6.3.8.5	32 x 25	No	1		
6.3.8.6	40 x 25	No	1		
6.3.8.7	50 x 12	No	1		
6.3.8.8	63 x 50	No	1		
6.3.8.9	90 x 75	No	1		
6.3.8.10	110 x 100	No	1		
6.3.9	Male Tee (PN 16)				
6.3.9.1	20 x 12 x 20	No	1		
6.3.9.2	20 x 15 x 20	No	1		
6.3.9.3	25 x 15 x 25	No	1		
6.3.9.4	25 x 25 x 25	No	1		
6.3.9.5	32 x 25 x 32	No	1		
6.3.9.6	40 x 32 x 40	No	1		
6.3.9.7	50 x 32 x 50	No	1		
6.3.9.8	63 x 50 x 63	No	1		
6.3.10	Female Tee (PN 16)				
6.3.10.1	20 x 12 x 20	No	1		
6.3.10.2	20 x 15 x 20	No	1		
6.3.10.3	25 x 15 x 25	No	1		
6.3.10.4	25 x 25 x 25	No	1		
6.3.10.5	32 x 25 x 32	No	1		
6.3.10.6	40 x 25 x 40	No	1		
6.3.10.7	50 x 12 x 50	No	1		
6.3.10.8	63 x 50 x 63	No	1		
6.3.10.9	90 x 75 x 90	No	1		
6.3.10.10	110 x 100 x 110	No	1		
6.4	Ductile Iron bend/fitting				
6.4.1	Ductile Iron Socket Pipe Class 40 (11.25° K9)				
6.4.1.1	Diameter 350 mm(OD)	No	1		
6.4.2	Ductile Iron Socket Pipe Class 40 (22.5° K9)				
6.4.2.1	Diameter 350 mm(OD)	No	1		
6.4.3	Ductile Iron Socket Pipe Class 40 (45° K9)				
6.4.3.1	Diameter 350 mm(OD)	No	1		
6.4.4	Ductile Iron Socket Pipe Class 40 (90° K9)				
6.4.4.1	Diameter 350 mm(OD)	No	1		
6.5	Steel				
6.5.1	Steel Bend 90 - Flanged Both Ends (up to 25 Bar)				
6.5.1.1	Diameter 80 mm (ND)	No	1		
6.5.1.2	Diameter 100 mm (ND)	No	1		
6.5.1.3	Diameter 160 mm (ND)	No	1		
6.5.1.4	Diameter 250 mm (ND)	No	1		
6.5.1.5	Diameter 300 mm (ND)	No	1		
6.5.1.6	Diameter 350 mm (ND)	No	1		
6.5.1.7	Diameter 400 mm (ND)	No	1		
6.5.1.8	Diameter 450 mm (ND)	No	1		
6.5.1.9	Diameter 500 mm (ND)	No	1		
6.5.1.10	Diameter 550 mm (ND)	No	1		

6.5.1.11	Diameter 600 mm (ND)	No	1		
6.5.1.12	Diameter 700 mm (ND)	No	1		
6.5.1.13	Diameter 800 mm (ND)	No	1		
6.5.1.14	Diameter 900 mm (ND)	No	1		
6.5.1.15	Diameter 1000 mm (ND)	No	1		
6.5.2	Steel Bend 45 - Flanged Both Ends (Up to 25 Bar)				
6.5.2.1	Diameter 300 mm (ND)	No	1		
6.5.2.2	Diameter 80 mm (ND)	No	1		
6.5.2.3	Diameter 100 mm (ND)	No	1		
6.5.2.4	Diameter 160 mm (ND)	No	1		
6.5.2.5	Diameter 250 mm (ND)	No	1		
6.5.2.6	Diameter 350 mm (ND)	No	1		
6.5.2.7	Diameter 400 mm (ND)	No	1		
6.5.2.8	Diameter 450 mm (ND)	No	1		
6.5.2.9	Diameter 500 mm (ND)	No	1		
6.5.2.10	Diameter 550 mm (ND)	No	1		
6.5.2.11	Diameter 600 mm (ND)	No	1		
6.5.2.12	Diameter 700 mm (ND)	No	1		
6.5.2.13	Diameter 800 mm (ND)	No	1		
6.5.2.14	Diameter 900 mm (ND)	No	1		
6.5.2.15	Diameter 1000 mm (ND)	No	1		
6.5.3	Galv. Steel Bend 90 - Flanged Both Ends (up to 40 Bar)				
6.5.3.1	Diameter 80 mm (ND)	No	1		
6.5.3.2	Diameter 100 mm (ND)	No	1		
6.5.3.3	Diameter 160 mm (ND)	No	1		
6.5.3.4	Diameter 250 mm (ND)	No	1		
6.5.3.5	Diameter 300 mm (ND)	No	1		
6.5.3.6	Diameter 350 mm (ND)	No	1		
6.5.3.7	Diameter 400 mm (ND)	No	1		
6.5.3.8	Diameter 450 mm (ND)	No	1		
6.5.3.9	Diameter 500 mm (ND)	No	1		
6.5.3.10	Diameter 550 mm (ND)	No	1		
6.5.3.11	Diameter 600 mm (ND)	No	1		
6.5.3.12	Diameter 700 mm (ND)	No	1		
6.5.3.13	Diameter 800 mm (ND)	No	1		
6.5.3.14	Diameter 900 mm (ND)	No	1		
6.5.3.15	Diameter 1000 mm (ND)	No	1		
6.5.4	Galv. Steel Bend 45 - Flanged Both Ends (Up to 40 Bar)				
6.5.4.1	Diameter 80 mm (ND)	No	1		
6.5.4.2	Diameter 100 mm (ND)	No	1		
6.5.4.3	Diameter 160 mm (ND)	No	1		
6.5.4.4	Diameter 250 mm (ND)	No	1		
6.5.4.5	Diameter 300 mm (ND)	No	1		
6.5.4.6	Diameter 350 mm (ND)	No	1		
6.5.4.7	Diameter 400 mm (ND)	No	1		
6.5.4.8	Diameter 450 mm (ND)	No	1		
6.5.4.9	Diameter 500 mm (ND)	No	1		
6.5.4.10	Diameter 550 mm (ND)	No	1		
6.5.4.11	Diameter 600 mm (ND)	No	1		
6.5.4.12	Diameter 700 mm (ND)	No	1		
6.5.4.13	Diameter 800 mm (ND)	No	1		
6.5.4.14	Diameter 900 mm (ND)	No	1		
6.5.4.15	Diameter 1000 mm (ND)	No	1		

6.5.5	Galv. Steel Bend 90 - Flanged Both Ends (up to 60 Bar)				
6.5.5.1	Diameter 80 mm (ND)	No	1		
6.5.5.2	Diameter 100 mm (ND)	No	1		
6.5.5.3	Diameter 160 mm (ND)	No	1		
6.5.5.4	Diameter 250 mm (ND)	No	1		
6.5.5.5	Diameter 300 mm (ND)	No	1		
6.5.5.6	Diameter 350 mm (ND)	No	1		
6.5.5.7	Diameter 400 mm (ND)	No	1		
6.5.5.8	Diameter 450 mm (ND)	No	1		
6.5.5.9	Diameter 500 mm (ND)	No	1		
6.5.5.10	Diameter 550 mm (ND)	No	1		
6.5.5.11	Diameter 600 mm (ND)	No	1		
6.5.5.12	Diameter 700 mm (ND)	No	1		
6.5.5.13	Diameter 800 mm (ND)	No	1		
6.5.5.14	Diameter 900 mm (ND)	No	1		
6.5.5.15	Diameter 1000 mm (ND)	No	1		
6.5.6	Galv. Steel Bend 45 - Flanged Both Ends (Up to 60 Bar)				
6.5.6.1	Diameter 80 mm (ND)	No	1		
6.5.6.2	Diameter 100 mm (ND)	No	1		
6.5.6.3	Diameter 160 mm (ND)	No	1		
6.5.6.4	Diameter 250 mm (ND)	No	1		
6.5.6.5	Diameter 300 mm (ND)	No	1		
6.5.6.6	Diameter 350 mm (ND)	No	1		
6.5.6.7	Diameter 400 mm (ND)	No	1		
6.5.6.8	Diameter 450 mm (ND)	No	1		
6.5.6.9	Diameter 500 mm (ND)	No	1		
6.5.6.10	Diameter 550 mm (ND)	No	1		
6.5.6.11	Diameter 600 mm (ND)	No	1		
6.5.6.12	Diameter 700 mm (ND)	No	1		
6.5.6.13	Diameter 800 mm (ND)	No	1		
6.5.6.14	Diameter 900 mm (ND)	No	1		
6.5.6.15	Diameter 1000 mm (ND)	No	1		
6.5.7	Galv. Steel Tees FBE (25 Bar)				
6.5.7.1	Diameter 80 x 80 x 80	No	1		
6.5.7.2	Diameter 100 x 100 x 100	No	1		
6.5.7.3	Diameter 160 x 160 x 160	No	1		
6.5.7.4	Diameter 250 x 250 x 250	No	1		
6.5.7.5	Diameter 300 x 300 x 300	No	1		
6.5.7.6	Diameter 350 x 350 x 350	No	1		
6.5.7.7	Diameter 400 x 400 x 400	No	1		
6.5.7.8	Diameter 450 x 450 x 450	No	1		
6.5.7.9	Diameter 500 x 500 x 500	No	1		
6.5.7.10	Diameter 600 x 600 x 600	No	1		
6.5.7.11	Diameter 700 x 700 x 700	No	1		
6.5.7.12	Diameter 800 x 800 x 800	No	1		
6.5.7.13	Diameter 900 x 900 x 900	No	1		
6.5.7.14	Diameter 1000 x 1000 x 1000	No	1		
6.5.8	Galv. Steel Tees FBE (40 Bar)				
6.5.8.1	Diameter 80 x 80 x 80	No	1		
6.5.8.2	Diameter 100 x 100 x 100	No	1		
6.5.8.3	Diameter 160 x 160 x 160	No	1		
6.5.8.4	Diameter 250 x 250 x 250	No	1		
6.5.8.5	Diameter 300 x 300 x 300	No	1		

6.5.8.6	Diameter 350 x 350 x 350	No	1		
6.5.8.7	Diameter 400 x 400 x 400	No	1		
6.5.8.8	Diameter 450 x 450 x 450	No	1		
6.5.8.9	Diameter 500 x 500 x 500	No	1		
6.5.8.10	Diameter 600 x 600 x 600	No	1		
6.5.8.11	Diameter 700 x 700 x 700	No	1		
6.5.8.12	Diameter 800 x 800 x 800	No	1		
6.5.8.13	Diameter 900 x 900 x 900	No	1		
6.5.8.14	Diameter 1000 x 1000 x 1000	No	1		
6.6	COUPLINGS				
6.6.1	Ranger Coupling Class 16				
6.6.1.1	Diameter 25 - 50mm (OD)	No	1		
6.6.1.2	Diameter 50 - 72 mm (OD)	No	1		
6.6.1.3	Diameter 72 - 85 mm(OD)	No	1		
6.6.1.4	Diameter 88 - 103 mm (OD)	No	1		
6.6.1.5	Diameter 109 - 128 mm (OD)	No	1		
6.6.1.6	Diameter 138 - 153 mm (OD)	No	1		
6.6.1.7	Diameter 150 - 170 mm (OD)	No	1		
6.6.1.8	Diameter 159 - 182 mm (OD)	No	1		
6.6.1.9	Diameter 192 - 210 mm (OD)	No	1		
6.6.1.10	Diameter 218 - 235 mm (OD)	No	1		
6.6.1.11	Diameter 230 - 247 mm (OD)	No	1		
6.6.1.12	Diameter 242 - 262 mm (OD)	No	1		
6.6.1.13	Diameter 250 - 267 mm (OD)	No	1		
6.6.1.14	Diameter 272 -289 mm (OD)	No	1		
6.6.1.15	Diameter 315 - 332 mm (OD)	No	1		
6.6.1.16	Diameter 322 - 340 mm (OD)	No	1		
6.6.1.17	Diameter 340 - 360 mm (OD)	No	1		
6.6.1.18	Diameter 351 - 378 mm (OD)	No	1		
6.6.1.19	Diameter 374 - 391 mm (OD)	No	1		
6.6.1.20	Diameter 390 - 410 mm (OD)	No	1		
6.6.1.21	Diameter 417 - 437 mm (OD)	No	1		
6.6.1.22	Diameter 454 - 460 mm (OD)	No	1		
6.6.1.23	Diameter 476 - 493 mm (OD)	No	1		
6.6.1.24	Diameter 480 - 500 mm (OD)	No	1		
6.6.1.25	Diameter 500 - 508 mm (OD)	No	1		
6.6.1.26	Diameter 526 - 546 mm (OD)	No	1		
6.6.1.27	Diameter 608 - 636mm (OD)	No	1		
6.6.2	Step Coupling Class 16				
6.6.2.1	Diameter 69/75 mm (OD)	No	1		
6.6.2.2	Diameter 82/95 mm (OD)	No	1		
6.6.2.3	Diameter 105/115 mm (OD)	No	1		
6.6.2.4	Diameter 155/165 mm (OD)	No	1		
6.6.2.5	Diameter 195/209 mm (OD)	No	1		
6.6.2.6	Diameter 245/255 mm (OD)	No	1		
6.6.2.7	Diameter 289/305 mm (OD)	No	1		
6.6.2.8	Diameter 310/320 mm (OD)	No	1		
6.6.2.9	Diameter 345/360 mm (OD)	No	1		
6.6.2.10	Diameter 489/510mm (OD)	No	1		
6.6.3	Dedicated Coupling Class 10				
6.6.3.1	Diameter 50 mm (ND)	No	1		
6.6.3.2	Diameter 63 mm (ND)	No	1		
6.6.3.3	Diameter 65 mm (ND)	No	1		

6.6.3.4	Diameter 75 mm (ND)	No	1		
6.6.3.5	Diameter 80 mm (ND)	No	1		
6.6.3.6	Diameter 90 mm (ND)	No	1		
6.6.3.7	Diameter 100 mm (ND)	No	1		
6.6.3.8	Diameter 110 mm (ND)	No	1		
6.6.3.9	Diameter 125 mm (ND)	No	1		
6.6.3.10	Diameter 125 mm (ND)	No	1		
6.6.3.11	Diameter 150 mm (ND)	No	1		
6.6.3.12	Diameter 200 mm (ND)	No	1		
6.6.3.13	Diameter 250 mm (ND)	No	1		
6.6.3.14	Diameter 300 mm (ND)	No	1		
6.6.3.15	Diameter 350 mm (ND)	No	1		
6.6.3.16	Diameter 400 mm (ND)	No	1		
6.6.3.17	Diameter 450 mm (ND)	No	1		
6.6.3.18	Diameter 500 mm (ND)	No	1		
6.6.3.19	Diameter 550 mm (ND)	No	1		
6.6.3.20	Diameter 600 mm (ND)	No	1		
6.6.3.21	Diameter 650 mm (ND)	No	1		
6.6.3.22	Diameter 800 mm (ND)	No	1		
6.6.3.23	Diameter 900 mm (ND)	No	1		
6.6.3.24	Diameter 1000 mm (ND)	No	1		
6.6.3.25	Diameter 1050 mm (ND)	No	1		
6.6.4	Dedicated Coupling Class 16				
6.6.4.1	Diameter 50 mm (ND)	No	1		
6.6.4.2	Diameter 65 mm (ND)	No	1		
6.6.4.3	Diameter 80 mm (ND)	No	1		
6.6.4.4	Diameter 90 mm (ND)	No	1		
6.6.4.5	Diameter 100 mm (ND)	No	1		
6.6.4.6	Diameter 125 mm (ND)	No	1		
6.6.4.7	Diameter 150 mm (ND)	No	1		
6.6.4.8	Diameter 200 mm (ND)	No	1		
6.6.4.9	Diameter 250 mm (ND)	No	1		
6.6.4.10	Diameter 300 mm (ND)	No	1		
6.6.4.11	Diameter 350 mm (ND)	No	1		
6.6.4.12	Diameter 400 mm (ND)	No	1		
6.6.4.13	Diameter 450 mm (ND)	No	1		
6.6.4.14	Diameter 500 mm (ND)	No	1		
6.6.4.15	Diameter 550 mm (ND)	No	1		
6.6.4.16	Diameter 600 mm (ND)	No	1		
6.6.4.17	Diameter 650 mm (ND)	No	1		
6.6.4.18	Diameter 800 mm (ND)	No	1		
6.6.4.19	Diameter 900 mm (ND)	No	1		
6.6.4.20	Diameter 1000 mm (ND)	No	1		
6.6.4.21	Diameter 1050 mm (ND)	No	1		
6.6.5	Dedicated Coupling Class 25				
6.6.5.1	Diameter 50 mm (ND)	No	1		
6.6.5.2	Diameter 65 mm (ND)	No	1		
6.6.5.3	Diameter 80 mm (ND)	No	1		
6.6.5.4	Diameter 90 mm (ND)	No	1		
6.6.5.5	Diameter 100 mm (ND)	No	1		
6.6.5.6	Diameter 125 mm (ND)	No	1		
6.6.5.7	Diameter 150 mm (ND)	No	1		
6.6.5.8	Diameter 200 mm (ND)	No	1		

6.6.5.9	Diameter 250 mm (ND)	No	1		
6.6.5.10	Diameter 300 mm (ND)	No	1		
6.6.5.11	Diameter 350 mm (ND)	No	1		
6.6.5.12	Diameter 400 mm (ND)	No	1		
6.6.5.13	Diameter 450 mm (ND)	No	1		
6.6.5.14	Diameter 500 mm (ND)	No	1		
6.6.5.15	Diameter 550 mm (ND)	No	1		
6.6.5.16	Diameter 600 mm (ND)	No	1		
6.6.5.17	Diameter 650 mm (ND)	No	1		
6.6.5.18	Diameter 800 mm (ND)	No	1		
6.6.5.19	Diameter 900 mm (ND)	No	1		
6.6.5.20	Diameter 1000 mm (ND)	No	1		
6.6.5.21	Diameter 1050 mm (ND)	No	1		
6.6.6	Dedicated Coupling Class 40				
6.6.6.1	Diameter 50 mm (ND)	No	1		
6.6.6.2	Diameter 65 mm (ND)	No	1		
6.6.6.3	Diameter 80 mm (ND)	No	1		
6.6.6.4	Diameter 90 mm (ND)	No	1		
6.6.6.5	Diameter 100 mm (ND)	No	1		
6.6.6.6	Diameter 125 mm (ND)	No	1		
6.6.6.7	Diameter 150 mm (ND)	No	1		
6.6.6.8	Diameter 200 mm (ND)	No	1		
6.6.6.9	Diameter 250 mm (ND)	No	1		
6.6.6.10	Diameter 300 mm (ND)	No	1		
6.6.6.11	Diameter 350 mm (ND)	No	1		
6.6.6.12	Diameter 400 mm (ND)	No	1		
6.6.6.13	Diameter 450 mm (ND)	No	1		
6.6.6.14	Diameter 500 mm (ND)	No	1		
6.6.6.15	Diameter 550 mm (ND)	No	1		
6.6.6.16	Diameter 600 mm (ND)	No	1		
6.6.6.17	Diameter 650 mm (ND)	No	1		
6.6.6.18	Diameter 800 mm (ND)	No	1		
6.6.6.19	Diameter 900 mm (ND)	No	1		
6.6.6.20	Diameter 1000 mm (ND)	No	1		
6.6.6.21	Diameter 1050 mm (ND)	No	1		
6.6.7	Dedicated Step Coupling Class 40 (Long Barrel)				
6.6.7.1	Diameter 50 mm (ND)	No	1		
6.6.7.2	Diameter 65 mm (ND)	No	1		
6.6.7.3	Diameter 80 mm (ND)	No	1		
6.6.7.4	Diameter 90 mm (ND)	No	1		
6.6.7.5	Diameter 100 mm (ND)	No	1		
6.6.7.6	Diameter 125 mm (ND)	No	1		
6.6.7.7	Diameter 150 mm (ND)	No	1		
6.6.7.8	Diameter 200 mm (ND)	No	1		
6.6.7.9	Diameter 250 mm (ND)	No	1		
6.6.7.10	Diameter 300 mm (ND)	No	1		
6.6.7.11	Diameter 350 mm (ND)	No	1		
6.6.7.12	Diameter 400 mm (ND)	No	1		
6.6.7.13	Diameter 450 mm (ND)	No	1		
6.6.7.14	Diameter 500 mm (ND)	No	1		
6.6.7.15	Diameter 550 mm (ND)	No	1		
6.6.7.16	Diameter 600 mm (ND)	No	1		
6.6.7.17	Diameter 650 mm (ND)	No	1		

6.6.7.18	Diameter 800 mm (ND)	No	1		
6.6.7.19	Diameter 900 mm (ND)	No	1		
6.6.7.20	Diameter 1000 mm (ND)	No	1		
6.6.7.21	Diameter 1050 mm (ND)	No	1		
6.7	FLANGED ADAPTORS				
6.7.1	Ranger Flange Adaptor Class 16				
6.7.1.1	Diameter 50-72 mm (OD)	No	1		
6.7.1.2	Diameter 72 - 85 mm(OD)	No	1		
6.7.1.3	Diameter 88 - 103 mm (OD)	No	1		
6.7.1.4	Diameter 109 - 128 mm (OD)	No	1		
6.7.1.5	Diameter 138 - 153 mm (OD)	No	1		
6.7.1.6	Diameter 150 - 170 mm (OD)	No	1		
6.7.1.7	Diameter 159 - 182 mm (OD)	No	1		
6.7.1.8	Diameter 192 - 210 mm (OD)	No	1		
6.7.1.9	Diameter 218 - 235 mm (OD)	No	1		
6.7.1.10	Diameter 242 - 262 mm (OD)	No	1		
6.7.1.11	Diameter 250 - 267 mm (OD)	No	1		
6.7.1.12	Diameter 272 -289 mm (OD)	No	1		
6.7.1.13	Diameter 315 - 332 mm (OD)	No	1		
6.7.1.14	Diameter 322 - 340 mm (OD)	No	1		
6.7.1.15	Diameter 340 - 360 mm (OD)	No	1		
6.7.1.16	Diameter 351 - 378 mm (OD)	No	1		
6.7.1.17	Diameter 374 - 391 mm (OD)	No	1		
6.7.1.18	Diameter 417 - 437 mm (OD)	No	1		
6.7.1.19	Diameter 425 - 442 mm (OD)	No	1		
6.7.1.20	Diameter 480 - 500 mm (OD)	No	1		
6.7.1.21	Diameter 526 - 546 mm (OD)	No	1		
6.7.1.22	Diameter 608 - 636mm (OD)	No	1		
6.7.2	Gripper Flange Adapter Class 10				
6.7.2.1	Diameter 50 mm (ND)	No	1		
6.7.2.2	Diameter 65 mm (ND)	No	1		
6.7.2.3	Diameter 80 mm (ND)	No	1		
6.7.2.4	Diameter 90 mm (ND)	No	1		
6.7.2.5	Diameter 100 mm (ND)	No	1		
6.7.2.6	Diameter 125 mm (ND)	No	1		
6.7.2.7	Diameter 150 mm (ND)	No	1		
6.7.3	Gripper Flange Adapter Class 16				
6.7.3.1	Diameter 50 mm (ND)	No	1		
6.7.3.2	Diameter 65 mm (ND)	No	1		
6.7.3.3	Diameter 80 mm (ND)	No	1		
6.7.3.4	Diameter 90 mm (ND)	No	1		
6.7.3.5	Diameter 100 mm (ND)	No	1		
6.7.3.6	Diameter 125 mm (ND)	No	1		
6.7.3.7	Diameter 150 mm (ND)	No	1		
6.7.3.8	Diameter 200 mm (ND)	No	1		
6.7.3.9	Diameter 250 mm (ND)	No	1		
6.7.3.10	Diameter 300 mm (ND)	No	1		
6.7.4	Dedicated Flange Adaptor Class 10				
6.7.4.1	Diameter 50 mm (ND)	No	1		
6.7.4.2	Diameter 65 mm (ND)	No	1		
6.7.4.3	Diameter 80 mm (ND)	No	1		
6.7.4.4	Diameter 90 mm (ND)	No	1		
6.7.4.5	Diameter 100 mm (ND)	No	1		

6.7.4.6	Diameter 125 mm (ND)	No	1		
6.7.4.7	Diameter 150 mm (ND)	No	1		
6.7.4.8	Diameter 200 mm (ND)	No	1		
6.7.4.9	Diameter 250 mm (ND)	No	1		
6.7.4.10	Diameter 300 mm (ND)	No	1		
6.7.4.11	Diameter 350 mm (ND)	No	1		
6.7.4.12	Diameter 400 mm (ND)	No	1		
6.7.4.13	Diameter 450 mm (ND)	No	1		
6.7.4.14	Diameter 500 mm (ND)	No	1		
6.7.4.15	Diameter 550 mm (ND)	No	1		
6.7.4.16	Diameter 600 mm (ND)	No	1		
6.7.4.17	Diameter 650 mm (ND)	No	1		
6.7.4.18	Diameter 800 mm (ND)	No	1		
6.7.4.19	Diameter 900 mm (ND)	No	1		
6.7.4.20	Diameter 1000 mm (ND)	No	1		
6.7.4.21	Diameter 1050 mm (ND)	No	1		
6.7.5	Dedicated Flange Adaptor Class 16				
6.7.5.1	Diameter 50 mm (ND)	No	1		
6.7.5.2	Diameter 65 mm (ND)	No	1		
6.7.5.3	Diameter 80 mm (ND)	No	1		
6.7.5.4	Diameter 90 mm (ND)	No	1		
6.7.5.5	Diameter 100 mm (ND)	No	1		
6.7.5.6	Diameter 125 mm (ND)	No	1		
6.7.5.7	Diameter 150 mm (ND)	No	1		
6.7.5.8	Diameter 200 mm (ND)	No	1		
6.7.5.9	Diameter 250 mm (ND)	No	1		
6.7.5.10	Diameter 300 mm (ND)	No	1		
6.7.5.11	Diameter 350 mm (ND)	No	1		
6.7.5.12	Diameter 400 mm (ND)	No	1		
6.7.5.13	Diameter 450 mm (ND)	No	1		
6.7.5.14	Diameter 500 mm (ND)	No	1		
6.7.5.15	Diameter 550 mm (ND)	No	1		
6.7.5.16	Diameter 600 mm (ND)	No	1		
6.7.5.17	Diameter 650 mm (ND)	No	1		
6.7.5.18	Diameter 800 mm (ND)	No	1		
6.7.5.19	Diameter 900 mm (ND)	No	1		
6.7.5.20	Diameter 1000 mm (ND)	No	1		
6.7.5.21	Diameter 1050 mm (ND)	No	1		
6.7.6	Dedicated Flange Adaptor Class 25				
6.7.6.1	Diameter 50 mm (ND)	No	1		
6.7.6.2	Diameter 65 mm (ND)	No	1		
6.7.6.3	Diameter 80 mm (ND)	No	1		
6.7.6.4	Diameter 90 mm (ND)	No	1		
6.7.6.5	Diameter 100 mm (ND)	No	1		
6.7.6.6	Diameter 125 mm (ND)	No	1		
6.7.6.7	Diameter 150 mm (ND)	No	1		
6.7.6.8	Diameter 200 mm (ND)	No	1		
6.7.6.9	Diameter 250 mm (ND)	No	1		
6.7.6.10	Diameter 300 mm (ND)	No	1		
6.7.6.11	Diameter 350 mm (ND)	No	1		
6.7.6.12	Diameter 400 mm (ND)	No	1		
6.7.6.13	Diameter 450 mm (ND)	No	1		
6.7.6.14	Diameter 500 mm (ND)	No	1		

6.7.6.15	Diameter 550 mm (ND)	No	1		
6.7.6.16	Diameter 600 mm (ND)	No	1		
6.7.6.17	Diameter 650 mm (ND)	No	1		
6.7.6.18	Diameter 800 mm (ND)	No	1		
6.7.6.19	Diameter 900 mm (ND)	No	1		
6.7.6.20	Diameter 1000 mm (ND)	No	1		
6.7.6.21	Diameter 1050 mm (ND)	No	1		
6.7.7	Dedicated Flange Adaptor Class 40				
6.7.7.1	Diameter 50 mm (ND)	No	1		
6.7.7.2	Diameter 65 mm (ND)	No	1		
6.7.7.3	Diameter 80 mm (ND)	No	1		
6.7.7.4	Diameter 90 mm (ND)	No	1		
6.7.7.5	Diameter 100 mm (ND)	No	1		
6.7.7.6	Diameter 125 mm (ND)	No	1		
6.7.7.7	Diameter 150 mm (ND)	No	1		
6.7.7.8	Diameter 200 mm (ND)	No	1		
6.7.7.9	Diameter 250 mm (ND)	No	1		
6.7.7.10	Diameter 300 mm (ND)	No	1		
6.7.7.11	Diameter 350 mm (ND)	No	1		
6.7.7.12	Diameter 400 mm (ND)	No	1		
6.7.7.13	Diameter 450 mm (ND)	No	1		
6.7.7.14	Diameter 500 mm (ND)	No	1		
6.7.7.15	Diameter 550 mm (ND)	No	1		
6.7.7.16	Diameter 600 mm (ND)	No	1		
6.7.7.17	Diameter 650 mm (ND)	No	1		
6.7.7.18	Diameter 800 mm (ND)	No	1		
6.7.7.19	Diameter 900 mm (ND)	No	1		
6.7.7.20	Diameter 1000 mm (ND)	No	1		
6.7.7.21	Diameter 1050 mm (ND)	No	1		
6.8	REPAIR COUPLING				
6.8.1	Repair Clamp				
6.8.1.1	Diameter 40 mm (OD)	No	1		
6.8.1.2	Diameter 50 mm (OD)	No	1		
6.8.1.3	Diameter 63 mm (OD)	No	1		
6.8.1.4	Diameter 75 mm (OD)	No	1		
6.8.1.5	Diameter 90 mm (OD)	No	1		
6.8.1.6	Diameter 110 mm (OD)	No	1		
6.8.1.7	Diameter 125 mm (OD)	No	1		
6.8.1.8	Diameter 140 mm (OD)	No	1		
6.8.1.9	Diameter 160 mm (OD)	No	1		
6.8.1.10	Diameter 200 mm (OD)	No	1		
6.8.1.11	Diameter 250 mm (OD)	No	1		
6.8.1.12	Diameter 315 mm (OD)	No	1		
6.8.1.13	Diameter 355 mm (OD)	No	1		
6.8.1.14	Diameter 400 mm (OD)	No	1		
6.8.1.15	Diameter 500 mm (OD)	No	1		
6.8.1.16	Diameter 560 mm (OD)	No	1		
6.8.1.17	Diameter 630 mm (OD)	No	1		
6.8.1.18	Diameter 800 mm (ND)	No	1		
6.8.1.19	Diameter 900 mm (ND)	No	1		
6.8.1.20	Diameter 1000 mm (ND)	No	1		
6.8.1.21	Diameter 1050 mm (ND)	No	1		
6.9	SADDLES				

6.9.1	Diameter 50 mm (OD)	No	1		
6.9.2	Diameter 63 mm (OD)	No	1		
6.9.3	Diameter 75 mm (OD)	No	1		
6.9.4	Diameter 90 mm (OD)	No	1		
6.9.5	Diameter 110 mm (OD)	No	1		
6.9.6	Diameter 125 mm (OD)	No	1		
6.9.7	Diameter 140 mm (OD)	No	1		
6.9.8	Diameter 160 mm (OD)	No	1		
6.9.9	Diameter 200 mm (OD)	No	1		
6.9.10	Diameter 250 mm (OD)	No	1		
6.9.11	Diameter 315 mm (OD)	No	1		
6.9.12	Diameter 355 mm (OD)	No	1		
6.9.13	Diameter 400 mm (OD)	No	1		
6.9.14	Diameter 500 mm (OD)	No	1		
6.9.15	Diameter 560 mm (OD)	No	1		
6.9.16	Diameter 630 mm (OD)	No	1		
6.9.17	Diameter 800 mm (ND)	No	1		
6.9.18	Diameter 900 mm (ND)	No	1		
6.9.19	Diameter 1000 mm (ND)	No	1		
6.9.20	Diameter 1050 mm (ND)	No	1		
SUB-TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	UNIT	QTY	RATE	Amount
SCHEDULE 7: VALVES AND FLOW METERS					
Note: The rates provided in this schedule shall include all costs related to the supply, delivery, storage, protection, handling, and installation of all materials, as well as all associated labor and equipment.					
7.1	Wedge Gate Valves (Flanged both sides) Class 16				
7.1.1	Diameter 50 mm	no	1		
7.1.2	Diameter 65 mm	no	1		
7.1.3	Diameter 80 mm	no	1		
7.1.4	Diameter 100 mm	no	1		
7.1.5	Diameter 125 mm	no	1		
7.1.6	Diameter 150 mm	no	1		
7.1.7	Diameter 200 mm	no	1		
7.1.8	Diameter 250 mm	no	1		
7.1.9	Diameter 300 mm	no	1		
7.1.10	Diameter 350 mm	no	1		
7.1.11	Diameter 400 mm	no	1		
7.1.12	Diameter 450 mm	no	1		
7.1.13	Diameter 500 mm	no	1		
7.1.14	Diameter 550 mm	no	1		
7.2	Wedge Gate Valves (Flanged both sides) Class 25				
7.2.1	Diameter 50 mm	no	1		
7.2.2	Diameter 65 mm	no	1		
7.2.3	Diameter 80 mm	no	1		
7.2.4	Diameter 100 mm	no	1		
7.2.5	Diameter 125 mm	no	1		
7.2.6	Diameter 150 mm	no	1		
7.2.7	Diameter 200 mm	no	1		
7.2.8	Diameter 250 mm	no	1		
7.2.9	Diameter 300 mm	no	1		
7.2.10	Diameter 350 mm	no	1		
7.2.11	Diameter 400 mm	no	1		
7.2.12	Diameter 450 mm	no	1		
7.2.13	Diameter 500 mm	no	1		
7.2.14	Diameter 550 mm	no	1		
7.3	Wedge Gate Valves (Flanged both sides) Class 40				
7.3.1	Diameter 50 mm	no	1		
7.3.2	Diameter 65 mm	no	1		
7.3.3	Diameter 80 mm	no	1		
7.3.4	Diameter 100 mm	no	1		
7.3.5	Diameter 125 mm	no	1		
7.3.6	Diameter 150 mm	no	1		
7.3.7	Diameter 200 mm	no	1		
7.3.8	Diameter 250 mm	no	1		
7.3.9	Diameter 300 mm	no	1		
7.3.10	Diameter 350 mm	no	1		
7.3.11	Diameter 400 mm	no	1		
7.3.12	Diameter 450 mm	no	1		
7.3.13	Diameter 500 mm	no	1		
7.3.14	Diameter 550 mm	no	1		
7.4	Wedge Gate Valves (Flanged both sides) Class 64				
7.4.1	Diameter 50 mm	no	1		
7.4.2	Diameter 65 mm	no	1		

7.4.3	Diameter 80 mm	no	1		
7.4.4	Diameter 100 mm	no	1		
7.4.5	Diameter 125 mm	no	1		
7.4.6	Diameter 150 mm	no	1		
7.4.7	Diameter 200 mm	no	1		
7.4.8	Diameter 250 mm	no	1		
7.4.9	Diameter 300 mm	no	1		
7.4.10	Diameter 350 mm	no	1		
7.4.11	Diameter 400 mm	no	1		
7.4.12	Diameter 450 mm	no	1		
7.4.13	Diameter 500 mm	no	1		
7.4.14	Diameter 550 mm	no	1		
7.5	RSV Gate Valves (Flanged both sides) Class 16				
7.5.1	Diameter 50 mm	no	1		
7.5.2	Diameter 65 mm	no	1		
7.5.3	Diameter 80 mm	no	1		
7.5.4	Diameter 100 mm	no	1		
7.5.5	Diameter 125 mm	no	1		
7.5.6	Diameter 150 mm	no	1		
7.5.7	Diameter 200 mm	no	1		
7.5.8	Diameter 250 mm	no	1		
7.5.9	Diameter 300 mm	no	1		
7.5.10	Diameter 350 mm	no	1		
7.5.11	Diameter 400 mm	no	1		
7.5.12	Diameter 450 mm	no	1		
7.5.13	Diameter 500 mm	no	1		
7.5.14	Diameter 550 mm	no	1		
7.6	Metal Seat Gate Valves (Flanged both sides) Class 26				
7.6.1	Diameter 50 mm	no	1		
7.6.2	Diameter 65 mm	no	1		
7.6.3	Diameter 80 mm	no	1		
7.6.4	Diameter 100 mm	no	1		
7.6.5	Diameter 125 mm	no	1		
7.6.6	Diameter 150 mm	no	1		
7.6.7	Diameter 200 mm	no	1		
7.6.8	Diameter 250 mm	no	1		
7.6.9	Diameter 300 mm	no	1		
7.6.10	Diameter 350 mm	no	1		
7.6.11	Diameter 400 mm	no	1		
7.6.12	Diameter 450 mm	no	1		
7.6.13	Diameter 500 mm	no	1		
7.6.14	Diameter 550 mm	no	1		
7.7	Metal Seat Gate Valves (Flanged both sides) Class 40				
7.7.1	Diameter 50 mm	no	1		
7.7.2	Diameter 65 mm	no	1		
7.7.3	Diameter 80 mm	no	1		
7.7.4	Diameter 100 mm	no	1		
7.7.5	Diameter 125 mm	no	1		
7.7.6	Diameter 150 mm	no	1		
7.7.7	Diameter 200 mm	no	1		
7.7.8	Diameter 250 mm	no	1		
7.7.9	Diameter 300 mm	no	1		
7.7.10	Diameter 350 mm	no	1		

7.7.11	Diameter 400 mm	no	1		
7.7.12	Diameter 450 mm	no	1		
7.7.13	Diameter 500 mm	no	1		
7.7.14	Diameter 550 mm	no	1		
7.8	Metal Seat Gate Valves (Flanged both sides) Class 64				
7.8.1	Diameter 50 mm	no	1		
7.8.2	Diameter 65 mm	no	1		
7.8.3	Diameter 80 mm	no	1		
7.8.4	Diameter 100 mm	no	1		
7.8.5	Diameter 125 mm	no	1		
7.8.6	Diameter 150 mm	no	1		
7.8.7	Diameter 200 mm	no	1		
7.8.8	Diameter 250 mm	no	1		
7.8.9	Diameter 300 mm	no	1		
7.8.10	Diameter 350 mm	no	1		
7.8.11	Diameter 400 mm	no	1		
7.8.12	Diameter 450 mm	no	1		
7.8.13	Diameter 500 mm	no	1		
7.8.14	Diameter 550 mm	no	1		
7.9	DI Knife Gate Valves (Flanged both sides) Class 16				
7.9.1	Diameter 50 mm	no	1		
7.9.2	Diameter 65 mm	no	1		
7.9.3	Diameter 80 mm	no	1		
7.9.4	Diameter 100 mm	no	1		
7.9.5	Diameter 125 mm	no	1		
7.9.6	Diameter 150 mm	no	1		
7.9.7	Diameter 200 mm	no	1		
7.9.8	Diameter 250 mm	no	1		
7.9.9	Diameter 300 mm	no	1		
7.9.10	Diameter 350 mm	no	1		
7.9.11	Diameter 400 mm	no	1		
7.9.12	Diameter 450 mm	no	1		
7.9.13	Diameter 500 mm	no	1		
7.9.14	Diameter 550 mm	no	1		
7.10	Wafer Butterfly Valves Class 17				
7.10.1	Diameter 50 mm	no	1		
7.10.2	Diameter 65 mm	no	1		
7.10.3	Diameter 80 mm	no	1		
7.10.4	Diameter 100 mm	no	1		
7.10.5	Diameter 125 mm	no	1		
7.10.6	Diameter 150 mm	no	1		
7.10.7	Diameter 200 mm	no	1		
7.10.8	Diameter 250 mm	no	1		
7.10.9	Diameter 300 mm	no	1		
7.10.10	Diameter 350 mm	no	1		
7.10.11	Diameter 400 mm	no	1		
7.10.12	Diameter 450 mm	no	1		
7.10.13	Diameter 500 mm	no	1		
7.10.14	Diameter 550 mm	no	1		
7.10.15	Diameter 700mm	no	1		
7.10.16	Diameter 900 mm	no	1		
7.10.17	Diameter 1000 mm	no	1		

7.11	Flange Butterfly Valves Class 17				
7.11.1	Diameter 50 mm	no	1		
7.11.2	Diameter 65 mm	no	1		
7.11.3	Diameter 80 mm	no	1		
7.11.4	Diameter 100 mm	no	1		
7.11.5	Diameter 125 mm	no	1		
7.11.6	Diameter 150 mm	no	1		
7.11.7	Diameter 200 mm	no	1		
7.11.8	Diameter 250 mm	no	1		
7.11.9	Diameter 300 mm	no	1		
7.11.10	Diameter 350 mm	no	1		
7.11.11	Diameter 400 mm	no	1		
7.11.12	Diameter 450 mm	no	1		
7.11.13	Diameter 500 mm	no	1		
7.11.14	Diameter 550 mm	no	1		
7.11.15	Diameter 700mm	no	1		
7.11.16	Diameter 900 mm	no	1		
7.11.17	Diameter 1000 mm	no	1		
7.12	Eccentric Butterfly Valves Class 16				
7.12.1	Diameter 50 mm	no	1		
7.12.2	Diameter 65 mm	no	1		
7.12.3	Diameter 80 mm	no	1		
7.12.4	Diameter 100 mm	no	1		
7.12.5	Diameter 125 mm	no	1		
7.12.6	Diameter 150 mm	no	1		
7.12.7	Diameter 200 mm	no	1		
7.12.8	Diameter 250 mm	no	1		
7.12.9	Diameter 300 mm	no	1		
7.12.10	Diameter 350 mm	no	1		
7.12.11	Diameter 400 mm	no	1		
7.12.12	Diameter 450 mm	no	1		
7.12.13	Diameter 500 mm	no	1		
7.12.14	Diameter 550 mm	no	1		
7.12.15	Diameter 700mm	no	1		
7.12.16	Diameter 900 mm	no	1		
7.12.17	Diameter 1000 mm	no	1		
7.13	Globe Valves Class 17				
7.13.1	Diameter 15 mm	no	1		
7.13.2	Diameter 50 mm	no	1		
7.13.3	Diameter 65 mm	no	1		
7.13.4	Diameter 80 mm	no	1		
7.13.5	Diameter 100 mm	no	1		
7.13.6	Diameter 125 mm	no	1		
7.13.7	Diameter 150 mm	no	1		
7.13.8	Diameter 250 mm	no	1		
7.14	3pc Type Butt Ball Valve				
7.14.1	Diameter 15 mm	no	1		
7.14.2	Diameter 20 mm	no	1		
	Diameter 20 m5	no	1		
7.14.3	Diameter 32 mm	no	1		
7.14.4	Diameter 50 mm	no	1		
7.14.5	Diameter 65 mm	no	1		
7.14.6	Diameter 80 mm	no	1		

7.14.7	Diameter 100 mm	no	1		
7.14.8	Diameter 125 mm	no	1		
7.14.9	Diameter 150 mm	no	1		
7.14.10	Diameter 200 mm	no	1		
7.14.11	Diameter 250 mm	no	1		
7.14.12	Diameter 300 mm	no	1		
7.14.13	Diameter 350 mm	no	1		
7.14.14	Diameter 400 mm	no	1		
7.14.15	Diameter 450 mm	no	1		
7.14.16	Diameter 500 mm	no	1		
7.14.17	Diameter 550 mm	no	1		
7.14.18	Diameter 600 mm	no	1		
7.15	U-PVC Ball Valve				
7.15.1	Diameter 15 mm	no	1		
7.15.2	Diameter 20 mm	no	1		
7.15.3	Diameter 32 mm	no	1		
7.15.4	Diameter 50 mm	no	1		
7.15.5	Diameter 65 mm	no	1		
7.15.6	Diameter 80 mm	no	1		
7.15.7	Diameter 110 mm	no	1		
7.16	2pc Threaded Ball Valve				
7.16.1	Diameter 15 mm	no	1		
7.16.2	Diameter 20 mm	no	1		
7.16.3	Diameter 32 mm	no	1		
7.16.4	Diameter 50 mm	no	1		
7.16.5	Diameter 65 mm	no	1		
7.16.6	Diameter 80 mm	no	1		
7.16.7	Diameter 100 mm	no	1		
7.17	Brass Threaded Ball Valve Class 16				
7.17.1	Diameter 15 mm	no	1		
7.17.2	Diameter 20 mm	no	1		
7.17.3	Diameter 32 mm	no	1		
7.17.4	Diameter 50 mm	no	1		
7.18	Brass Threaded Ball Valve Class 25				
7.18.1	Diameter 15 mm	no	1		
7.18.2	Diameter 20 mm	no	1		
7.18.3	Diameter 32 mm	no	1		
7.18.4	Diameter 50 mm	no	1		
7.19	Flange Motorized V Type Ball Valve Class 16				
7.19.1	Diameter 15 mm	no	1		
7.19.2	Diameter 20 mm	no	1		
7.19.3	Diameter 32 mm	no	1		
7.19.4	Diameter 50 mm	no	1		
7.19.5	Diameter 65 mm	no	1		
7.19.6	Diameter 80 mm	no	1		
7.19.7	Diameter 100 mm	no	1		
7.19.8	Diameter 125 mm	no	1		
7.19.9	Diameter 150 mm	no	1		
7.19.10	Diameter 200 mm	no	1		
7.19.11	Diameter 250 mm	no	1		
7.19.12	Diameter 300 mm	no	1		
7.19.13	Diameter 350 mm	no	1		
7.19.14	Diameter 400 mm	no	1		

7.19.15	Diameter 450 mm	no	1		
7.19.16	Diameter 500 mm	no	1		
7.20	Rotary Halve Ball Valve Class 16				
7.20.1	Diameter 15 mm	no	1		
7.20.2	Diameter 20 mm	no	1		
7.20.3	Diameter 32 mm	no	1		
7.20.4	Diameter 50 mm	no	1		
7.20.5	Diameter 65 mm	no	1		
7.20.6	Diameter 80 mm	no	1		
7.20.7	Diameter 100 mm	no	1		
7.20.8	Diameter 125 mm	no	1		
7.20.9	Diameter 150 mm	no	1		
7.20.10	Diameter 200 mm	no	1		
7.20.11	Diameter 250 mm	no	1		
7.20.12	Diameter 300 mm	no	1		
7.20.13	Diameter 350 mm	no	1		
7.20.14	Diameter 400 mm	no	1		
7.20.15	Diameter 450 mm	no	1		
7.20.16	Diameter 500 mm	no	1		
7.20.17	Diameter 600 mm	no	1		
7.21	Rotary Halve Ball Valve Class 25				
7.21.1	Diameter 15 mm	no	1		
7.21.2	Diameter 20 mm	no	1		
7.21.3	Diameter 32 mm	no	1		
7.21.4	Diameter 50 mm	no	1		
7.21.5	Diameter 65 mm	no	1		
7.21.6	Diameter 80 mm	no	1		
7.21.7	Diameter 100 mm	no	1		
7.21.8	Diameter 125 mm	no	1		
7.21.9	Diameter 150 mm	no	1		
7.21.10	Diameter 200 mm	no	1		
7.21.11	Diameter 250 mm	no	1		
7.21.12	Diameter 300 mm	no	1		
7.21.13	Diameter 350 mm	no	1		
7.21.14	Diameter 400 mm	no	1		
7.21.15	Diameter 450 mm	no	1		
7.21.16	Diameter 500 mm	no	1		
7.21.17	Diameter 600 mm	no	1		
7.22	Rotary Halve Ball Valve Class 40				
7.22.1	Diameter 15 mm	no	1		
7.22.2	Diameter 20 mm	no	1		
7.22.3	Diameter 32 mm	no	1		
7.22.4	Diameter 50 mm	no	1		
7.22.5	Diameter 65 mm	no	1		
7.22.6	Diameter 80 mm	no	1		
7.22.7	Diameter 100 mm	no	1		
7.22.8	Diameter 125 mm	no	1		
7.22.9	Diameter 150 mm	no	1		
7.22.10	Diameter 200 mm	no	1		
7.22.11	Diameter 250 mm	no	1		
7.22.12	Diameter 300 mm	no	1		
7.22.13	Diameter 350 mm	no	1		
7.22.14	Diameter 400 mm	no	1		

7.22.15	Diameter 450 mm	no	1		
7.22.16	Diameter 500 mm	no	1		
7.22.17	Diameter 600 mm	no	1		
7.23	Anti Water Hammer Check Valve Class 26				
7.23.1	Diameter 15 mm	no	1		
7.23.2	Diameter 20 mm	no	1		
7.23.3	Diameter 32 mm	no	1		
7.23.4	Diameter 50 mm	no	1		
7.23.5	Diameter 65 mm	no	1		
7.23.6	Diameter 80 mm	no	1		
7.23.7	Diameter 100 mm	no	1		
7.23.8	Diameter 125 mm	no	1		
7.23.9	Diameter 150 mm	no	1		
7.23.10	Diameter 200 mm	no	1		
7.23.11	Diameter 250 mm	no	1		
7.23.12	Diameter 300 mm	no	1		
7.23.13	Diameter 350 mm	no	1		
7.23.14	Diameter 400 mm	no	1		
7.23.15	Diameter 450 mm	no	1		
7.23.16	Diameter 500 mm	no	1		
7.24	Anti Water Hammer Check Valve Class 40				
7.24.1	Diameter 15 mm	no	1		
7.24.2	Diameter 20 mm	no	1		
7.24.3	Diameter 32 mm	no	1		
7.24.4	Diameter 50 mm	no	1		
7.24.5	Diameter 65 mm	no	1		
7.24.6	Diameter 80 mm	no	1		
7.24.7	Diameter 100 mm	no	1		
7.24.8	Diameter 125 mm	no	1		
7.24.9	Diameter 150 mm	no	1		
7.24.10	Diameter 200 mm	no	1		
7.24.11	Diameter 250 mm	no	1		
7.24.12	Diameter 300 mm	no	1		
7.24.13	Diameter 350 mm	no	1		
7.24.14	Diameter 400 mm	no	1		
7.24.15	Diameter 450 mm	no	1		
7.24.16	Diameter 500 mm	no	1		
7.25	Swing Check Valve Class 16				
7.25.1	Diameter 50 mm	no	1		
7.25.2	Diameter 65 mm	no	1		
7.25.3	Diameter 80 mm	no	1		
7.25.4	Diameter 100 mm	no	1		
7.25.5	Diameter 125 mm	no	1		
7.25.6	Diameter 150 mm	no	1		
7.25.7	Diameter 200 mm	no	1		
7.25.8	Diameter 250 mm	no	1		
7.25.9	Diameter 300 mm	no	1		
7.25.10	Diameter 350 mm	no	1		
7.25.11	Diameter 400 mm	no	1		
7.25.12	Diameter 450 mm	no	1		
7.25.13	Diameter 500 mm	no	1		
7.26	Tilting Disc Check Valve Class 16				
7.26.1	Diameter 50 mm	no	1		

7.26.2	Diameter 65 mm	no	1		
7.26.3	Diameter 80 mm	no	1		
7.26.4	Diameter 100 mm	no	1		
7.26.5	Diameter 125 mm	no	1		
7.26.6	Diameter 150 mm	no	1		
7.26.7	Diameter 200 mm	no	1		
7.26.8	Diameter 250 mm	no	1		
7.26.9	Diameter 300 mm	no	1		
7.26.10	Diameter 350 mm	no	1		
7.26.11	Diameter 400 mm	no	1		
7.26.12	Diameter 450 mm	no	1		
7.26.13	Diameter 500 mm	no	1		
7.27	Premier Multi Door Check Valve Class 16				
7.27.1	Diameter 50 mm	no	1		
7.27.2	Diameter 65 mm	no	1		
7.27.3	Diameter 80 mm	no	1		
7.27.4	Diameter 100 mm	no	1		
7.27.5	Diameter 125 mm	no	1		
7.27.6	Diameter 150 mm	no	1		
7.27.7	Diameter 200 mm	no	1		
7.27.8	Diameter 250 mm	no	1		
7.27.9	Diameter 300 mm	no	1		
7.27.10	Diameter 350 mm	no	1		
7.27.11	Diameter 400 mm	no	1		
7.27.12	Diameter 450 mm	no	1		
7.27.13	Diameter 500 mm	no	1		
7.28	Ring Needle Control Valves Class 16				
7.28.1	Diameter 50 mm	no	1		
7.28.2	Diameter 65 mm	no	1		
7.28.3	Diameter 80 mm	no	1		
7.28.4	Diameter 100 mm	no	1		
7.28.5	Diameter 125 mm	no	1		
7.28.6	Diameter 150 mm	no	1		
7.28.7	Diameter 200 mm	no	1		
7.28.8	Diameter 250 mm	no	1		
7.28.9	Diameter 300 mm	no	1		
7.28.10	Diameter 350 mm	no	1		
7.28.11	Diameter 400 mm	no	1		
7.28.12	Diameter 450 mm	no	1		
7.28.13	Diameter 500 mm	no	1		
7.29	Ring Needle Control Valves Class 25				
7.29.1	Diameter 50 mm	no	1		
7.29.2	Diameter 65 mm	no	1		
7.29.3	Diameter 80 mm	no	1		
7.29.4	Diameter 100 mm	no	1		
7.29.5	Diameter 125 mm	no	1		
7.29.6	Diameter 150 mm	no	1		
7.29.7	Diameter 200 mm	no	1		
7.29.8	Diameter 250 mm	no	1		
7.29.9	Diameter 300 mm	no	1		
7.29.10	Diameter 350 mm	no	1		
7.29.11	Diameter 400 mm	no	1		
7.29.12	Diameter 450 mm	no	1		

7.29.13	Diameter 500 mm	no	1		
7.30	Ring Needle Control Valves Class 40				
7.30.1	Diameter 50 mm	no	1		
7.30.2	Diameter 65 mm	no	1		
7.30.3	Diameter 80 mm	no	1		
7.30.4	Diameter 100 mm	no	1		
7.30.5	Diameter 125 mm	no	1		
7.30.6	Diameter 150 mm	no	1		
7.30.7	Diameter 200 mm	no	1		
7.30.8	Diameter 250 mm	no	1		
7.30.9	Diameter 300 mm	no	1		
7.30.10	Diameter 350 mm	no	1		
7.30.11	Diameter 400 mm	no	1		
7.30.12	Diameter 450 mm	no	1		
7.30.13	Diameter 500 mm	no	1		
7.31	Ring Needle Control Valves Class 60				
7.31.1	Diameter 50 mm	no	1		
7.31.2	Diameter 65 mm	no	1		
7.31.3	Diameter 80 mm	no	1		
7.31.4	Diameter 100 mm	no	1		
7.31.5	Diameter 125 mm	no	1		
7.31.6	Diameter 150 mm	no	1		
7.31.7	Diameter 200 mm	no	1		
7.31.8	Diameter 250 mm	no	1		
7.31.9	Diameter 300 mm	no	1		
7.31.10	Diameter 350 mm	no	1		
7.31.11	Diameter 400 mm	no	1		
7.31.12	Diameter 450 mm	no	1		
7.31.13	Diameter 500 mm	no	1		
7.32	Baker Control Valves Class 16				
7.32.1	Diameter 50 mm	no	1		
7.32.2	Diameter 65 mm	no	1		
7.32.3	Diameter 80 mm	no	1		
7.32.4	Diameter 100 mm	no	1		
7.32.5	Diameter 125 mm	no	1		
7.32.6	Diameter 150 mm	no	1		
7.32.7	Diameter 200 mm	no	1		
7.32.8	Diameter 250 mm	no	1		
7.32.9	Diameter 300 mm	no	1		
7.32.10	Diameter 350 mm	no	1		
7.32.11	Diameter 400 mm	no	1		
7.32.12	Diameter 450 mm	no	1		
7.32.13	Diameter 500 mm	no	1		
7.33	Baker Control Valves Class 25				
7.33.1	Diameter 50 mm	no	1		
7.33.2	Diameter 65 mm	no	1		
7.33.3	Diameter 80 mm	no	1		
7.33.4	Diameter 100 mm	no	1		
7.33.5	Diameter 125 mm	no	1		
7.33.6	Diameter 150 mm	no	1		
7.33.7	Diameter 200 mm	no	1		
7.33.8	Diameter 250 mm	no	1		
7.33.9	Diameter 300 mm	no	1		

7.33.10	Diameter 350 mm	no	1		
7.33.11	Diameter 400 mm	no	1		
7.33.12	Diameter 450 mm	no	1		
7.33.13	Diameter 500 mm	no	1		
7.34	Baker Control Valves Class 40				
7.34.1	Diameter 50 mm	no	1		
7.34.2	Diameter 65 mm	no	1		
7.34.3	Diameter 80 mm	no	1		
7.34.4	Diameter 100 mm	no	1		
7.34.5	Diameter 125 mm	no	1		
7.34.6	Diameter 150 mm	no	1		
7.34.7	Diameter 200 mm	no	1		
7.34.8	Diameter 250 mm	no	1		
7.34.9	Diameter 300 mm	no	1		
7.34.10	Diameter 350 mm	no	1		
7.34.11	Diameter 400 mm	no	1		
7.34.12	Diameter 450 mm	no	1		
7.34.13	Diameter 500 mm	no	1		
7.35	Baker Control Valves Class 60				
7.35.1	Diameter 50 mm	no	1		
7.35.2	Diameter 65 mm	no	1		
7.35.3	Diameter 80 mm	no	1		
7.35.4	Diameter 100 mm	no	1		
7.35.5	Diameter 125 mm	no	1		
7.35.6	Diameter 150 mm	no	1		
7.35.7	Diameter 200 mm	no	1		
7.35.8	Diameter 250 mm	no	1		
7.35.9	Diameter 300 mm	no	1		
7.35.10	Diameter 350 mm	no	1		
7.35.11	Diameter 400 mm	no	1		
7.35.12	Diameter 450 mm	no	1		
7.35.13	Diameter 500 mm	no	1		
7.36	Y Type Flange Strainer Class 16				
7.36.1	Diameter 50 mm	no	1		
7.36.2	Diameter 65 mm	no	1		
7.36.3	Diameter 80 mm	no	1		
7.36.4	Diameter 100 mm	no	1		
7.36.5	Diameter 125 mm	no	1		
7.36.6	Diameter 150 mm	no	1		
7.36.7	Diameter 200 mm	no	1		
7.36.8	Diameter 250 mm	no	1		
7.36.9	Diameter 300 mm	no	1		
7.36.10	Diameter 350 mm	no	1		
7.36.11	Diameter 400 mm	no	1		
7.36.12	Diameter 450 mm	no	1		
7.36.13	Diameter 500 mm	no	1		
7.37	Y Type Flange Strainer Class 25				
7.37.1	Diameter 50 mm	no	1		
7.37.2	Diameter 65 mm	no	1		
7.37.3	Diameter 80 mm	no	1		
7.37.4	Diameter 100 mm	no	1		
7.37.5	Diameter 125 mm	no	1		
7.37.6	Diameter 150 mm	no	1		

7.37.7	Diameter 200 mm	no	1		
7.37.8	Diameter 250 mm	no	1		
7.37.9	Diameter 300 mm	no	1		
7.37.10	Diameter 350 mm	no	1		
7.37.11	Diameter 400 mm	no	1		
7.37.12	Diameter 450 mm	no	1		
7.37.13	Diameter 500 mm	no	1		
7.38	Y Type Flange Strainer Class 40				
7.38.1	Diameter 50 mm	no	1		
7.38.2	Diameter 65 mm	no	1		
7.38.3	Diameter 80 mm	no	1		
7.38.4	Diameter 100 mm	no	1		
7.38.5	Diameter 125 mm	no	1		
7.38.6	Diameter 150 mm	no	1		
7.38.7	Diameter 200 mm	no	1		
7.38.8	Diameter 250 mm	no	1		
7.38.9	Diameter 300 mm	no	1		
7.38.10	Diameter 350 mm	no	1		
7.38.11	Diameter 400 mm	no	1		
7.38.12	Diameter 450 mm	no	1		
7.38.13	Diameter 500 mm	no	1		
7.39	Surge Anticipation Valve Class 25				
7.39.1	Diameter 50 mm	no	1		
7.39.2	Diameter 65 mm	no	1		
7.39.3	Diameter 80 mm	no	1		
7.39.4	Diameter 100 mm	no	1		
7.39.5	Diameter 125 mm	no	1		
7.39.6	Diameter 150 mm	no	1		
7.39.7	Diameter 200 mm	no	1		
7.39.8	Diameter 250 mm	no	1		
7.39.9	Diameter 300 mm	no	1		
7.39.10	Diameter 350 mm	no	1		
7.39.11	Diameter 400 mm	no	1		
7.40	Surge Anticipation Valve Class 40				
7.40.1	Diameter 50 mm	no	1		
7.40.2	Diameter 65 mm	no	1		
7.40.3	Diameter 80 mm	no	1		
7.40.4	Diameter 100 mm	no	1		
7.40.5	Diameter 125 mm	no	1		
7.40.6	Diameter 150 mm	no	1		
7.40.7	Diameter 200 mm	no	1		
7.40.8	Diameter 250 mm	no	1		
7.40.9	Diameter 300 mm	no	1		
7.40.10	Diameter 350 mm	no	1		
7.40.11	Diameter 400 mm	no	1		
Air Release Valve					
7.41	Single Orifice Air Valve Class 16				
7.41.1	Diameter 50 mm	no	1		
7.41.2	Diameter 80 mm	no	1		
7.41.3	Diameter 100 mm	no	1		
7.41.4	Diameter 150 mm	no	1		
7.42	Single Orifice Air Valve Class 25				
7.42.1	Diameter 50 mm	no	1		

7.42.2	Diameter 80 mm	no	1		
7.42.3	Diameter 100 mm	no	1		
7.42.4	Diameter 150 mm	no	1		
7.42.5	Diameter 200 mm	no	1		
7.43	Double Orifice Air Valve Class 16				
7.43.1	Diameter 50 mm	no	1		
7.43.2	Diameter 80 mm	no	1		
7.43.3	Diameter 100 mm	no	1		
7.43.4	Diameter 150 mm	no	1		
7.43.5	Diameter 200 mm	no	1		
7.44	Double Orifice Air Valve Class 25				
7.44.1	Diameter 50 mm	no	1		
7.44.2	Diameter 80 mm	no	1		
7.44.3	Diameter 100 mm	no	1		
7.44.4	Diameter 150 mm	no	1		
7.44.5	Diameter 200 mm	no	1		
7.45	Domestic Flow Meters				
7.45.1	Polymer Piston				
7.45.1.1	Diameter 15 mm	no	1		
7.45.1.2	Diameter 20 mm	no	1		
7.45.2	Brass Piston				
7.45.2.1	Diameter 15 mm	no	1		
7.45.2.2	Diameter 20 mm	no	1		
7.45.2.3	Diameter 25 mm	no	1		
7.45.3	Brass Cold Water Multi-jet				
7.45.3.1	Diameter 15 mm	no	1		
7.45.3.2	Diameter 20 mm	no	1		
7.45.3.3	Diameter 25 mm	no	1		
7.45.3.4	Diameter 50 mm	no	1		
7.45.4	Polymer Multijet Class C				
7.45.4.1	Diameter 40 mm	no	1		
7.45.5	An Concave above ground POLymer meterbox (710 mm high)				
7.45.5.1	Diameter 15 mm	no	1		
7.45.5.2	Diameter 20 mm	no	1		
7.45.5.3	Diameter 25 mm	no	1		
7.46	Bulk Water Meter				
7.46.1	Precision Water Meters				
7.46.1.1	Diameter 50 mm	no	1		
7.46.1.2	Diameter 65 mm	no	1		
7.46.1.3	Diameter 80 mm	no	1		
7.46.1.4	Diameter 100 mm	no	1		
7.46.1.5	Diameter 125 mm	no	1		
7.46.1.6	Diameter 150 mm	no	1		
7.46.1.7	Diameter 200 mm	no	1		
7.46.1.8	Diameter 250 mm	no	1		
7.46.1.9	Diameter 300 mm	no	1		
7.46.1.10	Diameter 350 mm	no	1		
7.46.1.11	Diameter 400 mm	no	1		
7.46.1.12	Diameter 450 mm	no	1		
7.46.1.13	Diameter 500 mm	no	1		
7.46.1.14	Diameter 550 mm	no	1		
7.46.1.15	Diameter 1000 mm	no	1		

7.46.2	Wotlman Water Meters				
7.46.2.1	Diameter 50 mm	no	1		
7.46.2.2	Diameter 65 mm	no	1		
7.46.2.3	Diameter 80 mm	no	1		
7.46.2.4	Diameter 100 mm	no	1		
7.46.2.5	Diameter 125 mm	no	1		
7.46.2.6	Diameter 150 mm	no	1		
7.46.2.7	Diameter 200 mm	no	1		
7.46.2.8	Diameter 250 mm	no	1		
7.46.2.9	Diameter 300 mm	no	1		
7.46.2.10	Diameter 350 mm	no	1		
7.46.2.11	Diameter 400 mm	no	1		
7.46.2.12	Diameter 450 mm	no	1		
7.46.2.13	Diameter 500 mm	no	1		
7.46.2.14	Diameter 550 mm	no	1		
7.46.2.15	Diameter 1000 mm	no	1		
7.46.3	Elster Kent Water Meters				
7.46.3.1	Diameter 32 mm	no	1		
7.46.3.2	Diameter 40 mm	no	1		
7.46.3.3	Diameter 50 mm	no	1		
7.46.3.4	Diameter 65 mm	no	1		
7.46.3.5	Diameter 80 mm	no	1		
7.46.3.6	Diameter 100 mm	no	1		
7.46.3.7	Diameter 110 mm	no			
7.46.3.8	Diameter 125 mm	no	1		
7.46.3.9	Diameter 150 mm	no	1		
7.46.3.10	Diameter 200 mm	no	1		
7.46.3.11	Diameter 250 mm	no	1		
7.46.3.12	Diameter 300 mm	no	1		
7.46.3.13	Diameter 350 mm	no	1		
7.46.3.14	Diameter 400 mm	no	1		
7.46.3.15	Diameter 450 mm	no	1		
7.46.3.16	Diameter 500 mm	no	1		
7.46.3.17	Diameter 550 mm	no	1		
7.46.3.18	Diameter 1000 mm	no	1		
7.46.4	Insertion Electromagnetic Water Meters				
7.46.4.1	Diameter 100 mm	no	1		
7.46.4.2	Diameter 125 mm	no	1		
7.46.4.3	Diameter 150 mm	no	1		
7.46.4.4	Diameter 200 mm	no	1		
7.46.4.5	Diameter 250 mm	no	1		
7.46.4.6	Diameter 300 mm	no	1		
7.46.4.7	Diameter 350 mm	no	1		
7.46.4.8	Diameter 400 mm	no	1		
7.46.4.9	Diameter 450 mm	no	1		
7.46.4.10	Diameter 500 mm	no	1		
7.46.4.11	Diameter 550 mm	no	1		
7.46.4.12	Diameter 1000 mm	no	1		
SUB-TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
SCHEDULE 8 - GASKETS, SEALS AND BOLTS					
Note:					
The rates provided in this schedule shall include all costs related to the supply, delivery, storage, protection, handling, and installation of all materials, as well as all associated labor and equipment.					
8.1	GASKETS				
8.1.1	T16 Rubber Gaskets				
8.1.1.1	Diameter 50 mm	no	1		
8.1.1.2	Diameter 65 mm	no	1		
8.1.1.3	Diameter 80 mm	no	1		
8.1.1.4	Diameter 100 mm	no	1		
8.1.1.5	Diameter 125 mm	no	1		
8.1.1.6	Diameter 150 mm	no	1		
8.1.1.7	Diameter 200 mm	no	1		
8.1.1.8	Diameter 250 mm	no	1		
8.1.1.9	Diameter 300 mm	no	1		
8.1.1.10	Diameter 350 mm	no	1		
8.1.1.11	Diameter 400 mm	no	1		
8.1.1.12	Diameter 450 mm	no	1		
8.1.1.13	Diameter 500 mm	no	1		
8.1.1.14	Diameter 550 mm	no	1		
8.1.1.15	Diameter 700mm	no	1		
8.1.1.16	Diameter 900 mm	no	1		
8.1.1.17	Diameter 1000 mm	no	1		
8.1.2	T40 Rubber Gaskets				
8.1.2.1	Diameter 50 mm	no	1		
8.1.2.2	Diameter 65 mm	no	1		
8.1.2.3	Diameter 80 mm	no	1		
8.1.2.4	Diameter 100 mm	no	1		
8.1.2.5	Diameter 125 mm	no	1		
8.1.2.6	Diameter 150 mm	no	1		
8.1.2.7	Diameter 200 mm	no	1		
8.1.2.8	Diameter 250 mm	no	1		
8.1.2.9	Diameter 300 mm	no	1		
8.1.2.10	Diameter 350 mm	no	1		
8.1.2.11	Diameter 400 mm	no	1		
8.1.2.12	Diameter 450 mm	no	1		
8.1.2.13	Diameter 500 mm	no	1		
8.1.2.14	Diameter 550 mm	no	1		
8.1.2.15	Diameter 700mm	no	1		
8.1.2.16	Diameter 900 mm	no	1		
8.1.2.17	Diameter 1000 mm	no	1		
8.1.3	T16 Klinger Gaskets				
8.1.3.1	Diameter 50 mm	no	1		
8.1.3.2	Diameter 65 mm	no	1		
8.1.3.3	Diameter 80 mm	no	1		
8.1.3.4	Diameter 100 mm	no	1		
8.1.3.5	Diameter 125 mm	no	1		
8.1.3.6	Diameter 150 mm	no	1		
8.1.3.7	Diameter 200 mm	no	1		
8.1.3.8	Diameter 250 mm	no	1		
8.1.3.9	Diameter 300 mm	no	1		
8.1.3.10	Diameter 350 mm	no	1		

8.1.3.11	Diameter 400 mm	no	1		
8.1.3.12	Diameter 450 mm	no	1		
8.1.3.13	Diameter 500 mm	no	1		
8.1.3.14	Diameter 550 mm	no	1		
8.1.3.15	Diameter 700mm	no	1		
8.1.3.16	Diameter 900 mm	no	1		
8.1.3.17	Diameter 1000 mm	no	1		
8.1.4	T40 Klinger Gaskets				
8.1.4.1	Diameter 50 mm	no	1		
8.1.4.2	Diameter 65 mm	no	1		
8.1.4.3	Diameter 80 mm	no	1		
8.1.4.4	Diameter 100 mm	no	1		
8.1.4.5	Diameter 125 mm	no	1		
8.1.4.6	Diameter 150 mm	no	1		
8.1.4.7	Diameter 200 mm	no	1		
8.1.4.8	Diameter 250 mm	no	1		
8.1.4.9	Diameter 300 mm	no	1		
8.1.4.10	Diameter 350 mm	no	1		
8.1.4.11	Diameter 400 mm	no	1		
8.1.4.12	Diameter 450 mm	no	1		
8.1.4.13	Diameter 500 mm	no	1		
8.1.4.14	Diameter 550 mm	no	1		
8.1.4.15	Diameter 700mm	no	1		
8.1.4.16	Diameter 900 mm	no	1		
8.1.4.17	Diameter 1000 mm	no	1		
8.2	SEALS				
8.2.1	Rubber Seals Class 16				
8.2.1.1	Diameter 50 mm	no	1		
8.2.1.2	Diameter 65 mm	no	1		
8.2.1.3	Diameter 80 mm	no	1		
8.2.1.4	Diameter 100 mm	no	1		
8.2.1.5	Diameter 125 mm	no	1		
8.2.1.6	Diameter 150 mm	no	1		
8.2.1.7	Diameter 200 mm	no	1		
8.2.1.8	Diameter 250 mm	no	1		
8.2.1.9	Diameter 300 mm	no	1		
8.2.1.10	Diameter 350 mm	no	1		
8.2.1.11	Diameter 400 mm	no	1		
8.2.1.12	Diameter 450 mm	no	1		
8.2.1.13	Diameter 500 mm	no	1		
8.2.1.14	Diameter 550 mm	no	1		
8.2.1.15	Diameter 700mm	no	1		
8.2.1.16	Diameter 900 mm	no	1		
8.2.1.17	Diameter 1000 mm	no	1		
8.2.2	Rubber Seals Class 25				
8.2.2.1	Diameter 50 mm	no	1		
8.2.2.2	Diameter 65 mm	no	1		
8.2.2.3	Diameter 80 mm	no	1		
8.2.2.4	Diameter 100 mm	no	1		
8.2.2.5	Diameter 125 mm	no	1		
8.2.2.6	Diameter 150 mm	no	1		
8.2.2.7	Diameter 200 mm	no	1		
8.2.2.8	Diameter 250 mm	no	1		

8.2.2.9	Diameter 300 mm	no	1		
8.2.2.10	Diameter 350 mm	no	1		
8.2.2.11	Diameter 400 mm	no	1		
8.2.2.12	Diameter 450 mm	no	1		
8.2.2.13	Diameter 500 mm	no	1		
8.2.2.14	Diameter 550 mm	no	1		
8.2.2.15	Diameter 700mm	no	1		
8.2.2.16	Diameter 900 mm	no	1		
8.2.2.17	Diameter 1000 mm	no	1		
8.2.3	Rubber Seals Class 40				
8.2.3.1	Diameter 50 mm	no	1		
8.2.3.2	Diameter 65 mm	no	1		
8.2.3.3	Diameter 80 mm	no	1		
8.2.3.4	Diameter 100 mm	no	1		
8.2.3.5	Diameter 125 mm	no	1		
8.2.3.6	Diameter 150 mm	no	1		
8.2.3.7	Diameter 200 mm	no	1		
8.2.3.8	Diameter 250 mm	no	1		
8.2.3.9	Diameter 300 mm	no	1		
8.2.3.10	Diameter 350 mm	no	1		
8.2.3.11	Diameter 400 mm	no	1		
8.2.3.12	Diameter 450 mm	no	1		
8.2.3.13	Diameter 500 mm	no	1		
8.2.3.14	Diameter 550 mm	no	1		
8.2.3.15	Diameter 700mm	no	1		
8.2.3.16	Diameter 900 mm	no	1		
8.2.3.17	Diameter 1000 mm	no	1		
8.3	Bolts and Nuts				
8.3.1	M16 x 75 mm Bolts and nuts	no	1		
8.3.2	M18 x 75 mm Bolts and nuts	no	1		
8.3.3	M18 x 90 mm Bolts and nuts	no	1		
8.3.4	M20 x 75 mm Bolts and nuts	no	1		
8.3.5	M20 x 90 mm Bolts and nuts	no	1		
8.3.6	M24 x 75 mm Bolts and nuts	no	1		
8.3.7	M24 x 90 mm Bolts and nuts	no	1		
8.3.8	M24 x 120 mm Bolts and nuts	no	1		
8.3.9	M30 x 150mm Bolts and nuts	no	1		
8.3.10	M36 x 170mm Bolts and nuts	no	1		
8.3.11	M39 x 170mm Bolts and nuts	no	1		
SUB-TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
SCHEDULE 9 - CONCRETE					
Note: The rates provided in this schedule shall include all costs related to the supply, delivery, storage, protection, handling, and installation of all materials, as well as all associated labor and equipment.					
Note: The in-situ concrete items includes cube test by the registered laboratory					
9.1	IN-SITU CONCRETE (STRUCTURAL)				
9.1.1	15 Mpa Concrete	m ³	1		
9.1.2	25 Mpa Concrete	m ³	1		
9.1.3	30 Mpa Concrete	m ³	1		
9.1.4	35 Mpa Concrete		1		
9.2	PRECAST CONCRETE				
9.2.1	1.5 m x 0.5 m Precast Concrete Ring	no	1		
9.2.2	1.5 m x 1.5 m Precast Concrete Slab with Lockable Lit	no	1		
9.2.3	1 m x 1.5 m Precast Concrete Slab with Lockable Lit	no	1		
9.2.4	1 m x 2 m Precast Concrete Slab with Lockable Lit	no	1		
9.2.5	2.5 m x 2 m Precast Concrete Slab with Lockable Lit	no	1		
9.2.6	2.5 m x 2.5 m Precast Concrete Slab with Lockable Lit	no	1		
9.2.7	2 m x 2.5 m Precast Concrete Slab with Lockable Lit	no	1		
9.2.8	2 m x 3 m Precast Concrete Slab with Lockable Lit	no	1		
9.3	UNFORMED SURFACE FINISHES				
9.3.1	Wood float finished to concrete surface	m ²	1		
SUB-TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
SCHEDULE 10- FORMWORK					
Note:					
The rates provided in this schedule shall include all costs related to the supply, delivery, storage, protection, handling, and installation of all materials, as well as all associated labor and equipment.					
10.1	FORMWORK ITEMS				
10.1.1.	Smooth vertical plane to:				
10.1.1.1	Timber Formwork	m ²	1		
10.1.1.2	Steel Formwork	m ²	1		
10.1.1.3	Aluminium Formwork	m ²	1		
10.1.1.4	Plastic Formwork	m ²	1		
10.1.1.5	Plywood Formwork	m ²	1		
10.1.2	Horizontal smooth plane to:				
10.1.2.1	Timber Formwork	m ²	1		
10.1.2.2	Steel Formwork	m ²	1		
10.1.2.3	Aluminium Formwork	m ²	1		
10.1.2.4	Plastic Formwork	m ²	1		
10.1.2.5	Plywood Formwork	m ²	1		
10.1.2.6	Chamfer	m	1		
SUB-TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
SCHEDULE 11 - BRICKWORK					
Note: The rates provided in this schedule shall include all costs related to the supply, delivery, storage, protection, handling, and installation of all materials, as well as all associated labor and equipment.					
11.1	BRICKWORK				
11.1.1	mortar				
11.1.1.1	220mm wall (FB outside and Mampara Inside)	m ²	1		
11.1.1.2	220mm wall (FB both sides)	m ²	1		
11.1.1.3	Damp Proof Course (DPC)	m	1		
11.1.1.4	Damp Proof Membrane (DPM)	m ²	1		
11.1.1.5	Brick force (every 4 layers)	m	1		
11.2	Supply, cut, fit and build brickwork in 14 MPa clay stock				
11.2.1	bricks in 9,5 MPa cement mortar in foundations				
11.2.1.1	110mm wall	m ²	1		
11.2.1.2	Brick force (every 4 layers)	m	1		
11.3	PLASTER WORK				
11.3.1	Internal Smooth Cement Mortar Plaster	m ²	1		
11.3.2	External Rought Cement mortar Plaster	m ²	1		
11.4	PAINT WORK				
11.4.1	Apply contractors PVA mixed with 5 % bonding liquid and apply two coats to walls and roof soffits	m ²	1		
SUB-TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
SCHEDULE 12 - REINFORCEMENT					
Note: The rates provided in this schedule shall include all costs related to the supply, delivery, storage, protection, handling, and installation of all materials, as well as all associated labor and equipment.					
12.1	REINFORCEMENT				
12.1.1	Mild steel bars				
12.1.1.1	Diameter 8mm to 16mm	t	1		
12.1.2	High tensile steel bars				
12.1.2.1	Diameter 8mm to 16mm	t	1		
12.1.3	Mesh				
12.1.3.1	Ref 889	m²	1		
12.1.3.2	Ref 193	m²	1		
12.1.3.3	Ref 888	m²	1		
12.2	Welded beams in single lengths with flat section bearer and connection plates, bolted to steel columns				
12.2.1	254 x 146mm x 43kg/m I-section beam	t	1		
12.2.2	203 x 133mm x 25kg/m I-section rafter beams	t	1		
12.2.3	254 x 254mm x 73kg/m H-section beams	t	1		
12.2.4	356 x 171 x 67kg/m x total 2 No x 17.1m long fabricated crawl-beams complete with trolley stop-ends each side	t	1		
12.2.5	70x70x6mm L diagonal and vertical crossbracing	t	1		
SUB-TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
SCHEDULE 13: BOREHOLES & STORAGE TANKS					
Note: The rates provided in this schedule shall include all costs related to the supply, delivery, storage, protection, handling, and installation of all materials, as well as all associated labor and equipment.					
13.1	BOREHOLES				
13.1.1	Borehole drilling	m	1		
13.1.2	Borehole yield (pump) test, complete	no	1		
13.1.3	Water quality sampling and laboratory test	no	1		
13.1.4	Borehole Casing				
13.1.4.1	Supply and install uPVC borehole casing, 150 mm diameter	m	1		
13.1.4.2	Supply and install uPVC screen casing, 150 mm diameter	m	1		
13.1.4.3	Supply and install uPVC borehole casing, 200 mm diameter	m	1		
13.1.4.4	Supply and install uPVC screen casing, 200 mm diameter	m	1		
13.1.5.	Equipping the Borehole				
13.1.5.1	Submersible pump, 4"-8", 10-20 m³/hr @ 100 m head	no	1		
13.1.5.2	HDPE rising main, 75 mm dia, PN16	m	1		
13.1.5.3	Electrical cable, 10 mm², 4-core	m	1		
13.1.5.4	Pump control panel, For 10 kW submersible pump	no	1		
13.1.5.5	Wellhead protection (cap and apron for 200 mm casing)	Item	1		
13.1.5.6	Non-return valve, 75 mm dia	no	1		
13.1.5.7	Pump housing/kiosk, 1 m × 1 m × 1.2 m	Item	1		
13.1.5.8	Delivery pipework, 75 mm HDPE	m	1		
13.1.5.9	Flow meter, 75 mm dia	no	1		
13.1.5.10	Pressure gauge 0-16 bar, 63 mm dial	no	1		
13.1.5.11	Testing and commissioning Complete system	Item	1		
13.2	STORAGE TANKS				
13.2.1	Plastic (HDPE) water storage Tanks				
13.2.1.1	2200 L	no	1		
13.2.1.2	2500 L	no			
13.2.1.3	5000 L	no	1		
13.2.1.4	10000 L	no	1		
13.2.2.	Existing Steel Tanks: Dismantle, transport, reconstruct, and commission steel tank, measured per cubic meter (or kilolitre) of tank capacity.				
13.2.2.1	Dismantle existing elevated steel tank (per cubic meter of capacity)	m³	1		
13.2.2.2	Transport the panels to the location approved by the employer	km	1		
13.2.2.3	Reconstruct and reassemble steel tank at new/existing site (per cubic meter of capacity)	m³	1		
13.2.3	New Steel Tank				
13.2.3.1	0.5 MI steel tank	no	1		
13.2.3.2	1.0 MI steel tank	no	1		
13.2.3.3	1.5 MI steel tank	no	1		
13.2.3.4	2.0 MI steel tank	no	1		
13.2.3.5	5.0 MI steel tank	no	1		
13.3	Stands for Plastic Storage Tanks				
13.3.1	Supply and construct steel tank stand (bolted, with platform and ladder) for 5000 litres plastic tank	m	1		
13.3.2	Supply and construct steel tank stand (bolted, with platform and ladder) for 10 000 litres plastic tank	m	1		
SUB-TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
SCHEDULE 14 - SEALING OF THE RESERVOIR					
Note:					
The rates provided in this schedule shall include all costs related to the supply, delivery, storage, protection, handling, and installation of all materials, as well as all associated labor and equipment.					
14	SEALING OF THE RESERVOIR				
14.1	Walls				
14.1.1	Grind walls to remove loose material and old coating to expose sound concrete	m ²	1		
14.1.2	Seal walls with Mapelastic Smart as per Manufacturer's Specification	m ²	1		
14.2	Wall/Floor Joint				
14.2.1	Diamond grind to remove old coating and expose aggregate	m	1		
14.2.2	Install 70mm x 70mm Corner Fillet	m	1		
14.2.3	Supply and install Sika Combiflex Bandage 300mm x 2mm as per Manufacturer's specification	m	1		
14.3	Floor Joints				
14.3.1	Diamond grind to remove old coating and expose aggregate	m	1		
14.3.2	Supply and install new Sika Combiflex Bandage 200mm x 2mm with a 70mm x 3mm PVC Strip	m	1		
14.4	Cleaning and disinfection of the reservoir				
14.4.1	Supply pumps, high pressure washers, vacuums and labour to disinfect walls, floor, columns using HTH and water 0.9g/lit	m ³	1		
SUB-TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
SCHEDULE 15: MISCELLANEOUS					
Note:					
The rates provided in this schedule shall include all costs related to the supply, delivery, storage, protection, handling, and installation of all materials, as well as all associated labor and equipment.					
15.1	Pipe Brackets				
15.1.1	Diameter 20 mm (ND)	no	1		
15.1.2	Diameter 25 mm(ND)	no	1		
15.1.3	Diameter 32 mm (ND)	no	1		
15.1.4	Diameter 40 mm (ND)	no	1		
15.1.5	Diameter 50 mm (ND)	no	1		
15.1.6	Diameter 65 mm (ND)	no	1		
15.1.7	Diameter 80 mm (ND)	no	1		
15.1.8	Diameter 90 mm (ND)	no	1		
15.1.9	Diameter 100 mm (ND)	no	1		
15.1.10	Diameter 125 mm (ND)	no	1		
15.1.11	Diameter 150 mm (ND)	no	1		
15.1.12	Diameter 200 mm (ND)	no	1		
15.1.13	Diameter 250 mm (ND)	no	1		
15.1.14	Diameter 300 mm (ND)	no	1		
15.1.15	Diameter 350 mm (ND)	no	1		
15.1.16	Diameter 400 mm (ND)	no	1		
15.1.17	Diameter 450 mm (ND)	no	1		
15.1.18	Diameter 500 mm (ND)	no	1		
15.2	Vent Pipe				
15.2.1	99 mm Elbow Vent Pipe	no	1		
15.3	Threaded rods				
15.3.1	M10 x 1m	no	1		
15.3.2	M12 x 1m	no	1		
15.3.3	M14 x 1m	no	1		
15.3.4	M16 x 1m	no	1		
15.3.5	M18 x 1m	no	1		
15.3.6	M20 x 1m	no	1		
15.3.7	M22 x 1m	no	1		
15.3.8	M24 x 1m	no	1		
15.3.9	M27 x 1m	no	1		
15.3.10	M30 x 1m	no	1		
15.3.11	M33 x 1m	no	1		
15.3.12	M36 x 1m	no	1		
15.3.13	M39 x 1m	no	1		
15.4	Wall Penstocks				
15.4.1	1199 x 1200 mm Penstock	no	1		
15.5	Manhole Cover and Frame				
15.5.1	1m x 0.5 m	no	1		
15.5.2	0 m x 1 m	no	1		
15.5.3	1 m x 0.5 m (Heavy duty)	no	1		
15.5.4	1 m x 0.6 m (Heavy duty)	no	1		
15.5.5	Secondary locking system	no	1		
15.5.6	Steel chamber box including vastrap lid	no	1		
15.6	Step ladders				
15.6.1	Stainless steel step ladder	m	1		
15.6.2	Galvanised step ladder	m	1		

Should any work, materials, or services not included in the original Bill of Quantities or Scope of Work be required during the execution of the contract, the rates for such additional items shall be based on mutually agreed-upon prices. Where such rates cannot be determined, the cost of such items shall be calculated based on actual cost plus a markup of 15% for profit and overhead.

Should any work, materials, or services not specified in the original Bill of Quantities or Scope of Work be required during the contract period, the Contractor shall obtain three (3) written quotations from reputable suppliers or subcontractors for the required items. The Employer will evaluate the quotations and approve the most reasonable and cost-effective option.

Upon approval, a 15% markup for profit and overhead shall be applied to the accepted quotation price. No additional work shall commence until the Employer has provided written authorization for both the selected quotation and the application of the markup.

This markup shall apply only to non-included items specifically authorized in writing by the Employer or their representative.

SUB-TOTAL CARRIED FORWARD TO SUMMARY