## **BoQ for ISSUNI-KWA KISELA PUMPING & DISTRIBUTION WATER PROJECT (FLOCCA PROJECT)** KITHUNGO-KITUNDU WARD, MBOONI SUB-COUNTY, MAKUENI COUNTY

#### FY2024-2025

NB: Rates and prices inserted by Contractor in the BoQ shall include value of the work described under the item and shall cover all over heads charges, profits, and applicable taxes. Contract to be paid as per actual works done.

	BILL No. 1 Preliminaries					
TEM	ITEM DESCRIPTION	UNIT	QTY	RATE (Kshs.)	AMOUNT (Kshs.)	
1.1	Allow for mobilization and demobilization of staff and equipment from site. Cost to include cost of insurance and securing the site.	Item	1			1
1.2	Provide 1 no. publicity signboard on 1.5m x 1.2m metal sheet appropriately secured on a 40mm x 3mm thick steel frame at least 2m above the ground level and leveled as directed. Sign posts should have messages on HIV and/or Covid 19 prevention and/or /EIA NEMA/management.	Item	1			
1.3	Provide for setting out of the project by the client representative in the presence of the contractor	Item	1	100,000.00		
	Bill 1 Total carried to Summary				100,000.00	
	Bill 2: Sump Pumping Installations					
	Supply, Deliver, install and test the below borehole installations;					
2.1	Supply, Deliver, install and test a Solar Powered Submersible Multistage Centrifugal Pump Set (Wetend c/w motor) of Duty Point: - 16m3/hour at a Total Head of 230 meters. The pump Efficiency at duty point should be 60%. The pump Impellers should be of Stainless Steel. Grundfos SP17-27, 15kW 3PH motor or similar approved by the Engineer. Provide Copies of Pump Characteristic/Performance Curves (Brochures). Install as directed by the Supervising Engineer	set	1		GOVERNMEN 0 2	IT OF MAKUENI COU

2.2	Supply and Deliver an AC Solar Pump Control Module (Inverter) with above 35A current (Sunverter SV3/18T, or similar approved by the engineer), Incorporating: -  • Detachable Control Interface  • Settable Min/Max Frequency & open Circuit  Voltage  • Display of operating Parameters, including frequency, voltage, amperage, input power & pump speed  • Display of Historical Data, including Energy generation, maximum power & operating times • Protection against over/under voltage, over current, system overload and module over temperature  • Fault detection with error code display  Supply, Deliver, Install and Test PV Mono-Crystalline Solar panels, well arrayed for maximum insolation on steel tower and total	No.	1	•
2.3	wattatge of 26,400W preferred 48no. 550W panells connected with MC4 connectors in three strings. Any other panel size and strings arrangemnet to be approved by the supervising engineer before installation.	w	26400	
2.4	Supply and install an adaptor Set, 2.5"Ø, stainless steel c/w a 2.5". 3" reducer, 3" GI riser pipe and 2no. 3" Elbows. Cost to include installation materials.	No.	1	
2.5	Supply & install a submersible cable, Double Insulated, round/flat, 6.00mm2 X 4core	m	100	
2.6	Armored Cable, 6.0mm <sup>2</sup> X 4 core	m	70	
2.7	Supply, deliver and install a 6mm <sup>2</sup> 1 Core DC cable (black & red) as approved by the supervising engineer	m	60	
2.8	UPVC Conduit, HG, 1"Ø for overhead cabling	No.	- 5	
2.9	Cable Glands, 25mmL	No.	4	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2



2.10	Cable Glands, 20mmL	No.	2		
2.11	Splicing Kit, Medium Packet	No.	2		
2.12	Cable Ties, Large Packet, Manila	No.	2		
2.13	Insulating Tapes, Large	No.	20		
2.14	Copper Earth Rod, 5ft c/w Clamp	No.	1		
2.15	Earth Lead Cable, 6mm2 , single	М	50		
2.16	DC PV Disconnect switch 1000 VDC/200A	No.	. 1		
2.17	Master Water Meter, 3" c/w Fittings - KMEI, Kent, Baylern, Lorenz or similar approved by the engineer	No.	1		
2.18	Supply & install Fabricated Steel Tower, use square tubes, 4" x 4" x 4mm for solar Array System, minimum 5meters high. Inclusive of control box on solar panel frame c/w with locking devise as approved by the Supervising Engineer.	L/S	1		
2.19	Provide a horizontal stand for installing the pump in the sump.  The stand to be fully painted with three coats water-proof paint for rust prevention.	No.	1		
2.20	Provide for desilting of the sump prior to pump installation	m <sup>3</sup>	100		
	Bill 2 total carried to summary				
	Bill 3: Pipelines				
3.1	Clear, trench, and backfill 400 mm wide by 600mm deep pipeline trench for both the rising and return pipelines as directed by site engineer. Keep trenches and other excavations free of water.	m	2,400.00		
3.2	E.O for rock class I sections	m	100.00		
3.3	Provide for concreting of HDPE pipes in class 1 rock sections using mass concrete mix 1:4:8	m3	15.00	ă.	
	Rising main pipeline:				ly .
3,4	Supply, deliver, lay, joint, test and backfill 3" GI pipes 6m long class B with costs inclusive of adaptors and connectors	No.	15.00		



3.5	Supply, deliver lay, joint, test and backfill HDPE 90mm (3") PN25 pipes all to PE100 with costs inclusive of adaptors and connectors. APPEX brand or similar approved by the supervising engineer.	m	600.00	
3.6	Supply, deliver lay, joint, test and backfill HDPE 90mm (3") PN20 pipes all to PE100 with costs inclusive of adaptors and connectors. APPEX brand or similar approved by the supervising engineer.	m	700.00	
3.7	Supply, deliver lay, joint, test and backfill HDPE 90mm (3") PN16 pipes all to PE100 with costs inclusive of adaptors and connectors. APPEX brand or similar approved by the supervising engineer.	m	500.00	
3.8	Supply, deliver lay, joint, test and backfill HDPE 90mm (3") PN12.5 pipes all to PE100 with costs inclusive of adaptors and connectors. APPEX brand or similar approved by the supervising engineer.	m	500.00	
	Supply, deliver, install, and test Epoxy coated STEEL SINGLE ORIFE Air Release Valve (2"). Cost to include allied HDPE/GI/GS adaptors (saddle clamps, nipples, and reducers)	No.	2.00	
3.9	Supply, deliver, install, and test metallic non-return valves (3").  Cost to include allied HDPE/GI/GS adaptors.	No.	2.00	
3.10	Supply, deliver, install, and test HDPE 3" Tee c/w allied	No	2.00	
3.11	Supply, deliver, install, and test DN75, 3" Pegler gate valves c/w allied HDPE/GI/GS adaptors for washouts	No	2.00	
3.12	Peturn nineline:			
3.12	Supply, deliver, lay, joint, test and backfill 2" GI pipes 6m long class B with costs inclusive of adaptors and connectors	No.	1.00	



## **GOVERNMENT OFMAKUENI COUNTY**

3.13	Supply, deliver lay, joint, test and backfill HDPE 63mm (2") PN10 pipes all to PE100 with costs inclusive of adaptors and connectors. APPEX brand or similar approved by the supervising engineer.	m	1,200.00		
3.14	Supply, deliver lay, joint, test and backfill HDPE 63mm (2") PN12.5 pipes all to PE100 with costs inclusive of adaptors and connectors. APPEX brand or similar approved by the supervising engineer.	m	. 1,200.00		
3.15	Supply, deliver, install, and test Epoxy coated STEEL SINGLE ORIFE Air Release Valve (2"). Cost to include allied HDPE/GI/GS adaptors (saddle clamps, nipples, and reducers)	No.	2.00		
3.16	Supply, deliver, install, and test DN50, PN16, 2" Pegler gate valves c/w allied HDPE/GI/GS adaptors for tank outlets/washouts	No	5.00		
3.17	Supply, deliver, install, and test HDPE 2" Tee c/w allied HDPE/GI/GS adaptors for tank outlets/washouts	No	5.00		
3.18	Master Water Meter, 2" c/w Fittings - KMEI, Kent, Baylern, Lorenz or similar approved by the engineer	No.	1		
	Bill 3 Total Carried to Summary			× 21/200	
	Bill 4: Rising Main & Return Line Valve Chambers				
4.1	Clear 1.4m*1.4m chamber site of bush and vegetable soils not exceeding 100mm deep and dispose off	m²	2		
4.2	Excavate the chamber pit 1.2m*1.2mx1m and dispose spoil	m <sup>3</sup>	1.5		\$
4.3	Prepare a foundation strip 1.2m*1.2m*150mm using reinforced concrete mix (1:2:4), max 20mm aggregate	m <sup>3</sup>	0.22		
4.4	Supply, cut, bend, and tie 8mm rebars in foundation and walling as guided by the engineer	kg	10		
4.5	Construct 150mm thick chamber walls using approved local stone with bedding and jointing in 1:3 cement:sand motar	m²	4.5		



Chief officer:

05.A	Water Kiosk	A Secretary			
5.2A	Quote as a provisional item for the Supply, delivery of all necessary materials and Construction of 1.5m wide×1.5m high tap stand complete with a water fetching bay & allied plumbing for two taps per stand & connection to the main lines as directed by the supervising engineer	No	1		
5.2	Provisonal Tap stand at the end of return line				
5.1B	For storage, Supply, Deliver & Install 90,000L (9no. 10,000L)  Double Laminated Plastic Water Tanks, c/w GI Inlet, Outlet &  Overflow Fixtures, 2" dia. c/w constructing one unit, 0.5m high, masonry platform with reinforced concrete slab. Include for water interconnection, branding of the tank, and connection to the inlet and outlet nines.	No	9		
5.1A	For the distribution line, Supply, Deliver & Install 10,000L Double Laminated Plastic Water Tank at AIC Mavumbi, c/w GI Inlet, Outlet & Overflow Fixtures, 2" dia. c/w constructing a 1m high masonry platform with reinforced concrete slab. Include for water connection to the water points and branding of the tank.	No	1		
5.1	Tanks on platforms				
	Bill 5: Tanks on Platforms, Water Kiosk				
Zh .	Total for 14 valve chambers.  Bill 4 Total carried to summary page	No	14		
	Total for 1 valve chamber				
4.7	Fabricate and install 700mm*700mm lockable manhole cover made of 16g sheets with frame anchored in the chamber walls and complete with quality padlocks (Yale/solex or equivalent). Include for applying 2 coats of metal primer and 2 coats of weather guard gloss paint, black in colour.	No	1	•	
4.6	Apply 15mm smooth finish plaster in 1:3 cement:sand motar	m <sup>2</sup>	6.5		



	Supply, deliver all necessary materials as below and Construct 2M×2.5M kiosks each with a tank. The rates must include all connection costs from the main line or the tanks and Branding the kiosks at sites as advised by the engineer			
D5.1	FOUNDATION			
D5.1.1	Cut to spoil top soil i.e. 150mm below g.l. over Kiosks and fetching bay areas into a permanent heap	m <sup>2</sup>	7	
D5.1.2	Cut to spoil a strip foundation trench i.e. 600mm below g.l.	m³	1.2	
D5.1.3	300mm thick hardcore filling well-watered and compacted in layers of 150mm maximum thickness to make up levels	m³	2.1	
D5.1.4	50mm thick quarry dust/Marram blinding to surfaces of hardcore	m²	7	
D5.1.5	Chemical anti-termite treatment (as gladiator or equally approved) executed complete by an approved specialist under ten (10) year guarantee to surfaces of blinded hardcore	m²	7	
D5.1.6	1000gauge polythene or any other equally approved Damp proof membrane laid under surface bed with 300mm side and end laps( measured net - allow for laps)	m²	9	
D5.1.7	Natural stone walling, roughly chisel dressed on both sides and jointed in cement and sand (1:3) mortar 200mm foundation walling	LM	9	
D5.1.8	Mass concrete class 15 (1:4:8) in 50mm thick surface blinding under strip footings	m³	0.35	
D5.1.9	Mesh fabric reinforcement A98 to B.S 4483 (measured net- allow for laps)	m <sup>2</sup>	7	
D5.1.10	100mm thick 1:2:4 (C20/20) vibrated RC floor slab over Kiosks and fetching bay areas	m <sup>2</sup>	7	
D5.1.11	25mm thick Cement sand screed (1:3) finished with steel float.	LM	5	



### GOVERNMENT OFMAKUENI COUNTY

D5.2	WALLING			
D5.2.1	Hessian based bituminous felt DPC 225mm wide horizontally placed below masonry walling	LM	10	
D5.2.2	Dressed Natural stone / Block walling: 200mm thick, bedded and jointed with cement and sand mortar (1:3), reinforced with 20SWG hoop iron in alternate courses to external wall including gable ends	m²	30	
D5.2.3	Vibrated reinforced concrete 1:2:4 (class 20 (20/20mm) in Ring beams	m³	0.4	
D5.2.4	High yield square twisted steel reinforcement bars to BS 4461 including for cutting, bending to shape, tying, hooking and spacer blocks as described in:			
D5.2.5	8mm diameter ditto	KG	10	
D5.2.6	12mm diameter ditto	KG	50	1



D5.2.7	Sawn formwork to Sides of ring beam	m <sup>2</sup>	2.7		
D5.2.8	Horizontal key pointing in masonry joints in external wall surfaces	m <sup>2</sup>	27		
D5.2.9	15mm thick Cement sand plaster to walls surfaces (1:3) finished to walls to receive paint internally	m²	30		
D5.3	ROOFING:				
D5.3.1	Wrought Cypress Timber 4x2	LM	17		<del></del>
D5.3.2	Wrought Cypress Timber 3" x 2"	LM	39		
D5.3.3	Wrought Cypress Timber 2" x 2"	LM	39		
D5.3.4	G30 2m Corrugated Iron Sheets.	m <sup>2</sup>	4		
D5.3.5	Roofing Nails	Kg	1.5		
D5.3.6	Assorted Ordinary Wire Nails	Kg	5		
D5.3.7	2.1M x 1M Standard steel door complete with frame, hinges latch bolts and padlock.	No	1		
D5.3.8	1M X 1M Standard steel window complete with frame hinges and latch bolts.	No	1		
D5.4	FINISHES:				
D5.4.1	ROOF: 8" x 1" planed timber fascia board	LM	36	3	
D5.4.2	METAL SURFACES: Prepare and apply three coats plastic enamel paint to General metal surfaces (both sides) (Red oxide primer glossy)	m <sup>2</sup>	3.5		
D5.4.3	INTERNAL PLASTERED WALLS: Prepare and apply three coats plastic silk emulsion paint to Plastered wall surfaces internally	m²	29		
D5.4.4	EXTERNAL WALLS: Prepare and apply three coats permaplast external wall paint to Rendered sides of beam and walls externally and allow for branding of the kiosk as directed by the supervising engineer	m²	7		
D5.5	PLUMBING:	1/4			
D5.5.1	2" diameter GI pipe class B, 3m long c/w elbow and couplers	No.	1		1
D5.5.2	2" by 3/4" reducing socket	No.	1		
D5.5.2	Water meter 3/4" dia. Kent	No.	1		



# **GOVERNMENT OFMAKUENI COUNTY**

	Bill 5 Total Carried over to Summary				
	Total for 1no. Kiosk				
D5.5.13	Sealing thread	Pcs	2		
D5.5.12	Coolant	Lts	1		
D5.5.11	Solvent Cement	Kg	0.5		
D5.5.10	Boss white for G.I Pipes	Kg	0.5		
	Pipe joining material:			*	
D5.5.9	3/4" diameter GI Elbow	No	4	Variation (	
D5.5.8	3/4" diameter GI union.	No.	4		
D5.5.7	3/4" diameter valve sockets	No	2		
D5.5.6	3/4" diameter Gate valve-Peglar type	No.	3		
05.5.5	3/4" diameter GI Pipe class B	No.	1		
05.5.4	3/4" diameter assorted length G.I nipples	No	5		4



	Bill 6: Fencing of the solar structure site				4
6.1	Procure deliver and install at a sur				
6.1.1	100x100 x 3000mm long precast concrete fencing posts with 600mm long crank and reinforced with 4 number 8mm diameter deformed steel bars, 6mm diameter mild steel stirrups at 200mm centres. The concrete shall be class 20 (1:2:4 mix), finished fair faced and have 9 number holes for attaching binding wire. (Posts erected in 3000mm centers)	pcs	50		
6.1.2	Ditto struts for corner end and straining posts including hole for one number bolt to neatly support the main posts.	pcs	12		
6.1.3	12mm diameter by 400mm long mild steel bolt complete with nut and 2 washers.	No	12		
6.1.4	25kg*12 <sup>1/2</sup> *gauge galvanized steel barbed wire (600m roll) or other equal and approved tied to existing precast concrete posts (M/S) as with and including galvanized steel binding wire to attain 4 strands.	Rolls	1		
5.1.5	2400mm high gauge 12 <sup>1/2</sup> galvanized steel chain-link steel mesh stretched and tightly tied to existing barbed wire (m/s) with and including galvanized steel binding wire. The bottom side to have 200mm depth of benching into the mass concrete (MS) and top side end to be properly tied up (18 meters long rolls)	Rolls	9		
5.1.6	Binding wire	KG	12	200	
	Mass concrete class 15 (1:3:6 mix) benching to concrete posts well vibrated.	СМ	5		
3.1.0	Ditto mass concrete to chain-link bottom side hunching as shall be directed on site	СМ	5		



.1	Mild Steel				
•	Comprising 50 x 50 x 4mm thick hollow section top, bottom and intermediate rails and stiles; ends capped; 25 x 25 x 4mm thick hollow section vertical bars with capped ends welded top, bottom and intermediate rails at 150mm center; one and a half pairs per leaf of purpose- made hinges welded to gate leaf and gate post (m/s) 2No. purpose made slide bolts complete with padlock hasp welded to gate; all welding ground to smooth finish:			•	
	Gate overall size 4000mm wide x 2400mm high; all constructed as per Project Manager's instructions complete with all locking and hanging accessories	NO	1		
5.2.2	Excavation				
	Excavate in hard soil/ marram 300mmx300mmx500mm deep	СМ	6		
6.2.3	Comercto	1014	0.864		
6.2.3.1	Concrete class 20/20 (1:2:4) to Column bases (1.2x1.2x0.3)	CM	0.804		
6.2.3.2	Concrete class 20/20 (1:2:4) to Columns (0.4*0.4*311 tight)	CM	0.50		
6.2.5.2	6.4 High Tensile Steel Reinforcement to B.S. 8110	1	35		
- 1	D12mm Bars to Column bases	KG	21		
6.4.1	D12mm Bars to columns	KG	13		
6.4.2	D8mm Bars to columns rings	KG			
6.4.3	6.5 Paintings	-			
1	Prepare, prime and paint two undercoats and two gloss finishing coat of oil paint on general surfaces of metalwork to steel gates	SM	24		
No.	to collection				()
-	Quote as a provisional item for the below, with works subject to the approval of the supervising engineer	)	7		

GOVERNMENT OF MAKUENI COUNTY

0 2 SEP 2024

7.1	Supply, Deliver, Install and Test PV Mono-Crystalline Solar panels, well arrayed for maximum insolation on steel tower and total wattage of 2800W, using similar brand and type as on site, i.e 200W panels with similar Peak voltage and output currents connected with MC4 connectors in three strings. Any other panel size and strings arrangemnet to be approved by the supervising engineer before installation.	w	2800	
7.2	Supply & install Fabricated Steel Tower, use square tubes, 3" x 3" x 4mm for solar Array System, minimum 5meters high as approved by the Supervising Engineer.	L/S	1	
7.3	Provide for the re-wiring of the existing 40no. 200W and the additional 14no, 200W solar panels and wiring to the inverter and submersible pump	LS	1	
7.4	Supply and Deliver an AC Solar Pump Control Module (Inverter) with above 15A output current (Sunverter SV3/7.5T, or similar approved by the engineer), Incorporating: -  • Detachable Control Interface  • Settable Min/Max Frequency & open Circuit Voltage  • Display of operating Parameters, including frequency, voltage, amperage, input power & pump speed  • Display of Historical Data, including Energy generation, maximum power & operating times • Protection against over/under voltage, over current, system overload and module over temperature  • Fault detection with error code display	No	1	
7.	Provide for the removal of the existing pump from the sump	LS	1	



	7.6	Supply, installation, and testing of a submersible multistage pump set (wetend and motor) with a duty point of 9m³/hr at a head of 125m. The pump Efficiency at duty point should be minimum 50%. The pump Impellers should be of Stainless Steel. Provide Copies of Pump Characteristic/Performance Curves (Brochures). Grundfos SP9-25 5kW, Dayliff DS8-37 5.5kW, or similar approved by the supervsing engineer.	No	1		
	7.7	Supply & install a submersible cable, Double Insulated, round/flat, 4.00mm2 X 4core	m	50		
	7.8	Armored Cable, 4.0mm <sup>2</sup> X 4 core	m	20		
	7.9	Supply, deliver and install a 4mm <sup>2</sup> 1 Core DC cable (black & red) as approved by the supervising engineer	m	20		
.10		UPVC Conduit, HG, 1"Ø for overhead cabling	No.	5		
		Cable Glands, 25mmL	No.	4		
		Cable Glands, 20mmL	No.	2		
		Splicing Kit, Medium Packet	No.	2		
	7.14	Cable Ties, Large Packet, Manila	No.	2		
		Insulating Tapes, Large	No.	20		
		Copper Earth Rod, 5ft c/w Clamp	No.	1		
	7.17	Earth Lead Cable, 4mm2 , single	М	30		
		Bill 7 total carried to summary			N. S.	
		Bill 8: Hydrants for irrigated Agriculture			48	
	8.1	Construct a standard valve chamber as described in bill 4	No	1	10703	
	8.2	For each hydrant; supply, install, and test the below plumbing fittings with costs inclusive of installation materials				
F FS2 Jin I	8.2.1	2" HDPE Equal tee	No	2	25.00	
		2" HDPE Male adaptor	No	6	2000	
		2" GI Gate Valve	No.	3	AND SECTION OF THE PROPERTY OF	
RALL ST	8.2.4	2" universal GI Water meters	No.	3		
1.8		2" HDPE End caps	No	3		



	Sub-total for one hydrant				
	Sub-Total for for two hydrants to serve four farming blocks carried over to summary page				
	Bill 9: Establishment of a demo-farm for climate smart agriculture				
9.1	Supply and deliver the following	Units	Qty	Unit Price	Total Cost
9.1.1	Vertical bags- Large Kitchen Garden Sacks	No.	20.00		
9.1.2	Conical garden dam-liner polythene sheet	No.	20.00		
9.1.3	Purchase and supply of Kales seeds (Hybrid)	grams	50.00		
9.1.4	Purchase and supply spinach seeds (Local)	grams	50.00		
9.1.5	Purchase and supply amarathas (Managu) seeds (Local)	grams	50.00		
9.1.6	Purchase and supply black night shade (Mchicha) (Local)	grams	25		3
9.1.7	Purchase and supply Coriander (Daniah) seeds (Local)	grams	50		
9.1.8	Purchase and supply Onion seeds (Hybrid)	grams	250		
9.2	Supply all necessary materials, and install a 0.25 ACRE Drip Kit as shall be instructed	No.	1		
9.3	Supply and install 5,000 litres double layer PVC water tank on a 1m high masonry platfoarm, and plumbing works as shall be instructed	No.	1		
9.4	Construct tank platform 1 m high for item above	No.	1		
9.5	Clear, trench, and backfill 400 mm wide by 600mm deep pipeline trench for both the rising and return pipelines as directed by site engineer. Keep trenches and other excavations free of water.	m	200		
9.6	Supply, deliver lay, joint, test and backfill HDPE 63mm (2") PN10 pipes all to PE100 with costs inclusive of adaptors and connectors. APPEX brand or similar approved by the supervising engineer. Install from the hydrant and connect to the demo farm tank.	m	200		
	Sub-total Sub-total				The second
	Bill 9 subtotal carried over to summary page	L. Walter			



	GRAND SUMMARY		AMOUNT (KSH)
	BILL No. 1 Preliminaries		100,000.00
	Bill 2: Sump Pumping Installations		100,000.00
	Bill 3: Pipelines		
4.	Bill 4: Rising Main & Return Line Valve Chambers		
1.	Bill 5: Tanks on Platforms, Water Kiosk	•	
	Bill 6: Fencing of the solar structure site		
	Bill 7: Rehabilitation of Isuuni-Muumani pumping system		
	Bill 8: Hydrants for irrigated Agriculture		
	Bill 9: Establishment of a demo-farm for climate smart agriculture		
F,(3")	SUB-TOTAL		100,000.00
	Allow Ksh.550,000 for contingencies to be expended as directed by the project manager		550,000.00
	TOTAL IN FORM OF TENDER		

GOVERNMENT OF MAKUENI COUNTY

0 2 SEP 2024

Chief Officer: