



TERMS OF REFERENCE

FOR THE INSTALLATION & REHABILITATION OF MINI SURFACE WATER TREATMENT (SWAT) PLANTS IN AKOKA & BALIET COUNTIES

Background

Food for the Hungry (FH) is a Christian International Organization working in a consortium with Nile Hope, and SAADO to deliver the Education Cannot Wait Multi Year Resilience Programme (ECW MYRP) in Nyirol and Duk counties of Jonglei, and Baliet/Akoka County of Upper Nile State. The project aims to increase access to quality education by providing clean drinking water to the learners of 3 schools in Akoka and 1 School in Baliet County. To achieve this objective, one of the main deliverables is the installation and rehabilitation of Surface Water Treatment (SWAT) systems.

The scope of work

FH seeks the services of professional and reputable companies specialized in Surface Water Treatment (SWAT) systems to install three mini SWAT plants and rehabilitate one SWAT plant. The mini SWAT plants will be installed in three schools (one per school) and the schools are; Majak primary (in Akoka County), Riang primary (in Akoka county), and Salam primary (in Baliet County). One SWAT at Akoka primary school will be rehabilitated. The identified service provider(s) will also be required to buy materials, transport them and install the mini SWAT systems on the selected schools. Bill of Quantities (BOQ) and technical designs for the mini SWAT plants are provided in annex I and II. The selected company will also be required to train four Water Point User Committees (WPUC). The WPUC will facilitate the identification of five community volunteers per SWAT system including at least one member of the PTA/SMC who will be trained on the basic operation and maintenance of the SWAT system by the construction company that will establish the SWAT systems. The volunteers will be equipped with the basic knowledge of running the SWAT system and a basic tool kit and will also be responsible for conducting minor maintenance and repair works. The volunteers will be youths/men and women resident in the community being served by the SWAT Systems. They should be willing to volunteer their time (with minimal incentives) on a rotational basis, to support the operation and maintenance of the SWAT systems.

Part (1) – Installation of mini SWAT at Majak primary school in Akoka County

The selected contractor will procure/provide materials for the installation of the SWAT system as per attached BOQ and technical design (annex I and II). The company will be responsible for



transportation of the materials to Majak primary school in Akoka County and for installation of the mini SWAT system. The water source is a perennial swamp 120 metres away from the school.

Part (2) – Installation of mini SWAT at Riang primary school in Akoka County

The selected service provider will procure/provide materials for installation of the SWAT plant as per attached BOQ and technical design (annex I and II). The selected company will be responsible for transportation of the materials to Riang primary school in Akoka County and for installation of the mini SWAT plant. The stream, which is the source of water, is 150 metres away from the school.

Part (3) – Installation of mini SWAT at Salam primary school in Baliet County

The identified company will provide materials for installation of the SWAT system as per attached BOQ and technical design (annex I and II). The selected company will be responsible for transportation of the materials to Salam Primary school and for installation of the mini SWAT system. The school is along the river which is about 20 metres from the school.

Part (4) – Rehabilitation of mini SWAT at Akoka primary school in Akoka County

The selected contractor will be responsible for procuring materials based on the attached BOQ (annex III). The contractor will transport the materials to Akoka Primary school and will rehabilitate the SWAT system based on the materials provided with the works including but not limited to, mounting the solar system and the pump, rewiring the electric system of the SWAT plant and covering all pipes that are exposed.

Submission of bids

Interested companies are invited to submit their bids as specified in the Tender Document. For ease of reference and analysis, bids should cover the following;

- Professional Labor fees for installation/rehabilitation of mini SWAT plant(s).
- Cost for training water point user committees.
- Cost of training operation and maintenance volunteers.
- Cost of materials based on the provided BOQ(s).
- Transportation cost of materials from point of purchase to the targeted schools.
- Other miscellaneous costs at the discretion of the bidder.
- A detailed schedule of works

NB- Submission procedures, please refer to the Tender Advert as specified.

Experience/Qualification

- Relevant professional qualification.
- Knowledge and experience of SWAT plant installation particularly in Upper Nile State.
- Understanding of the geography of Upper Nile State.
- Working experience with humanitarian organizations and in Upper Nile state will be a significant advantage.

- Evidence of previous similar work successfully done
- At least 3 professional and traceable references.

Annex I: BOQ of materials for the installation of one solarized mini SWAT plant

Bill of Quantities for Solarized Mini SWAT System for Salam Primary School in Baliet County.					
S/No	Descriptions	Units	Quantity	Unit Prices \$	Amounts \$
1	PVC tanks of 2500 liters for water purification and for storage purposes and fixed into positions including all the plumbing works.	nos	2		
2	Taps stand with six valves.	stand	2		
3	Steel tank stand with specifications provided in the drawings	nos	2		
4	Supply materials and construct tap stand platform 2.0x2.0x0.5m height including fixing tap stand in the position.	nos	2		
5	Compressure straight couples 50mm PN16.	nos	20		
6	Compressure Elbows 50mm PN16.	nos	14		
7	Compressure Tee connectors 50mm PN16.	nos	5		
8	Compressure male adopters 50mm PN16.	nos	8		
9	Compressure female adopters 50mm PN16.	nos	6		
10	Brass gate valves 2"	nos	4		
11	GI 2" male nipples	nos	12		
12	Brass non return valves or check valves 2"	nos	1		
13	6.0 HP Diesel Dayliff water pump DC80 ,LA178F with cc 296, tank 3.5liters.	nos	1		
14	Provide and fabricate entrance doors 1.2mwx2.1mh with SHS 10mx10mx3m	pcs	2		

15	Supply and construct 60 meters parameters chain link fence with 2.5m metallic angle line 50x50x4mm and 3 meters height post and fixed with cement concrete.	m	60		
16	Construction of Stores and Pump houses 2x2m	nos	2		
17	Jain surface BLDC Pump 2"	nos	1		
18	285W solar panels	nos	4		
19	4mm 2x4 core submersible cable	m	120		
20	Solar mounting frame	pcs	4		
21	6mm ² twin flat cable	m	30		
22	splicing kit	nos	1		
23	HPDE Pipe 1 1/4"	m	200		
24	Installation sundrise	pcs	1		
25	Earthing and lightening system	lot	1		
26	Controller	pcs	1		
27	Supply HDPE pipe 50mm dia. 100 meter long	roll	3		
28	Labor cost	job	1		
29	Sub- Total				

Bill of Quantities for Solarized Mini SWAT System for Riang Primary School in Akoka County.

S/No	Descriptions	Units	Quantity	Unit Prices \$	Amounts \$
1	PVC tank of 2500 liters for water purification and storage purposes and fixed into positions including all the plumbing works.	nos	2		
2	Provides even product taps stand with six valves.	stand	2		
3	Steel tank stand with specific provided in the drawings	nos	2		
4	Materials and construct tap stand platform 2.0x2.0x0.5m height including fixing tap stand in the position.	nos	2		
5	Compressure straight couples 50mm PN16.	nos	20		
6	Compressure Elbows 50mm PN16.	nos	14		
7	Compressure Tee connectors 50mm PN16.	nos	5		

8	Compressure male adopters 50mm PN16.	nos	8		
9	Compressure female adopters 50mm PN16.	nos	6		
10	Brass gate valves 2"	nos	4		
11	GI 2" male nipples	nos	12		
12	Brass non return valves or check valves 2"	nos	1		
13	6.0 HP Diesel Dayliff water pump DC80 ,LA178F with cc 296, tank 3.5liters.	nos	1		
14	Provide and fabricates entrance doors 1.2mw x 2.1mh with SHS 10mx10mx3m	pcs	2		
15	Supply and construct 60 meters parameters chain link fence with 2.5m metallic angle line 50x50x4mm and 3 meters height post and fixed with cement concrete.	m	60		
16	Construction of Stores and Pump houses 2x2m	nos	2		
17	Jain surface BLDC Pump 2"	nos	1		
18	285W solar panels	nos	4		
19	4mm 2x4 core submersible cable	m	120		
20	Solar mounting frame	pcs	4		
21	6mm ² twin flat cable	m	30		
22	splicing kit	nos	1		
23	HPDE Pipe 1 1/4"	m	200		
24	Installation sundrise	pcs	1		
25	Earthing and lightening system	lot	1		
26	Controller	pcs	1		
27	Supply HDPE pipe 50mm dia. 100 meter long	roll	3		
28	Labor cost	job	1		
29	Sub- Total				

Bill of Quantities for Solarized Mini SWAT System for Riang Primary School in Akoka County.

S/No	Descriptions	Units	Quantity	Unit Prices \$	Amounts \$
1	PVC tanks of 2500 liters for water purification and storage purposes and fixed into positions including all the plumbing works.	nos	2		

2	Provides even product taps stand with six valves.	stand	2		
3	steel tank stand with specific provided in the drawings	nos	2		
4	Supply materials and construct tap stand platform 2.0x2.0x0.5m height including fixing tap stand in the position.	nos	2		
5	Compressure straight couples 50mm PN16.	nos	20		
6	Compressure Elbows 50mm PN16.	nos	14		
7	Compressure Tee connectors 50mm PN16.	nos	5		
8	Compressure male adapters 50mm PN16.	nos	8		
9	Compressure female adapters 50mm PN16.	nos	6		
10	Brass gate valves 2"	nos	4		
11	GI 2" male nipples	nos	12		
12	brass non return valves or check valves 2"	nos	1		
13	6.0 HP Diesel Dayliff water pump DC80 ,LA178F with cc 296, tank 3.5liters.	nos	1		
14	Provide and fabricates entrance doors 1.2mwx2.1mh with SHS 10mx10mx3m	pcs	2		
15	Supply and construct 60 meters parameters chain link fence with 2.5m metallic angle line 50x50x4mm and 3 meters height post and fixed with cement concrete.	m	60		
16	Construction of Stores and Pump houses 2x2m	nos	2		
17	Jain surface BLDC Pump 2"	nos	1		
18	285W solar panels	nos	4		
19	4mm 2x4 core submersible cable	m	120		
20	Solar mounting frame	pcs	4		
21	6mm2 twin flat cable	m	30		
22	splicing kit	nos	1		
23	HPDE Pipe 1 1/4"	m	200		
24	Installation sundrise	pcs	1		
25	Earthing and lightening system	lot	1		
26	Controller	pcs	1		

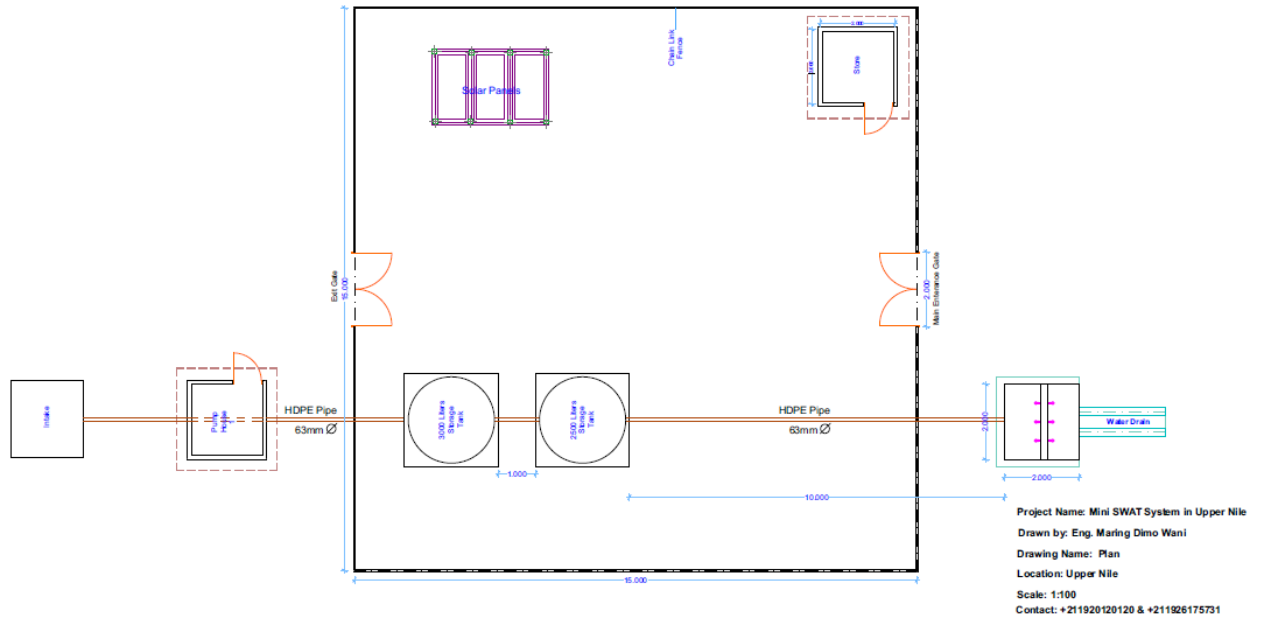
27	Supply HDPE pipe 50mm dia. 100 meter long	roll	3		
28	Labor cost	job	1		
29	Sub- Total				

Bill of Quantity for Rehabilitation work at Akoka Solarized SWAT system

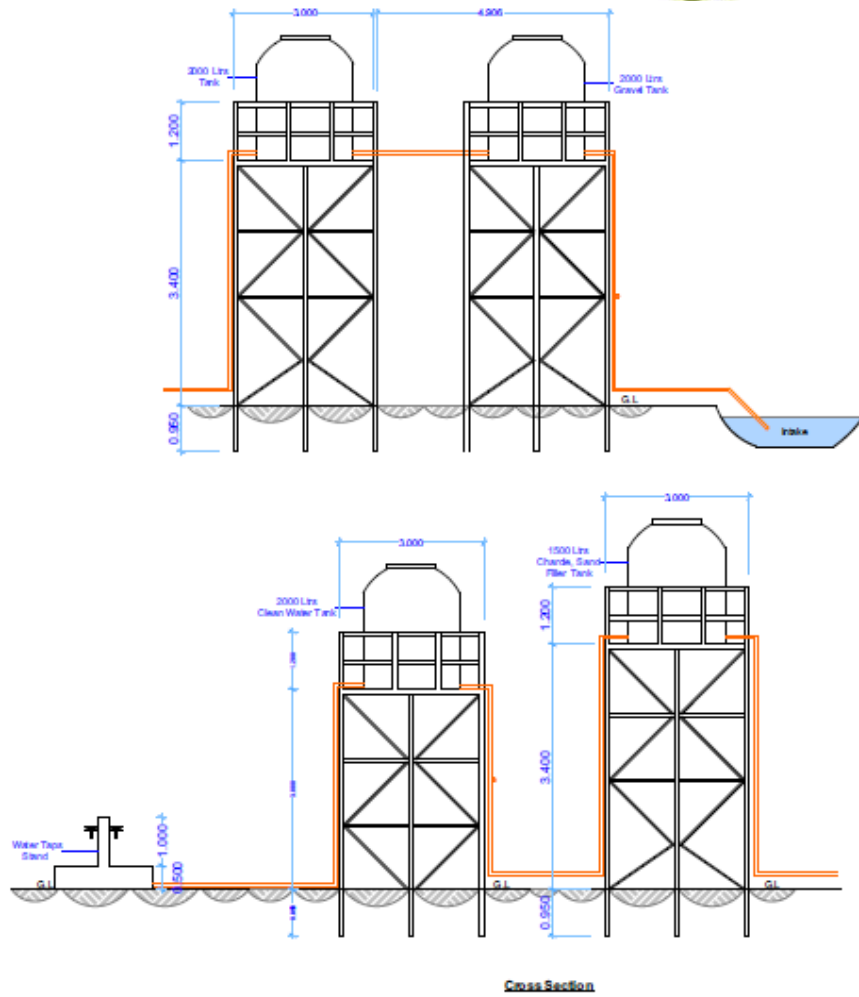
S/no	Descriptions	Units	Quantity	Unit prices \$	Amounts \$
1	Lorentz PU 1800 CS-F4-6-1.8KW Pump. Made in german	nos	1		
2	Supply cable 6mm 4 core cable	nos	20		
3	DC cable 6mmx2C	nos	35		
4	Covering all the exposed water pipes	job	1		
5	Labor cost	Job	1		
6	Sub-Total				
	Grand Total				

Annex II: technical drawing

a) Plan Elevation (Top view)

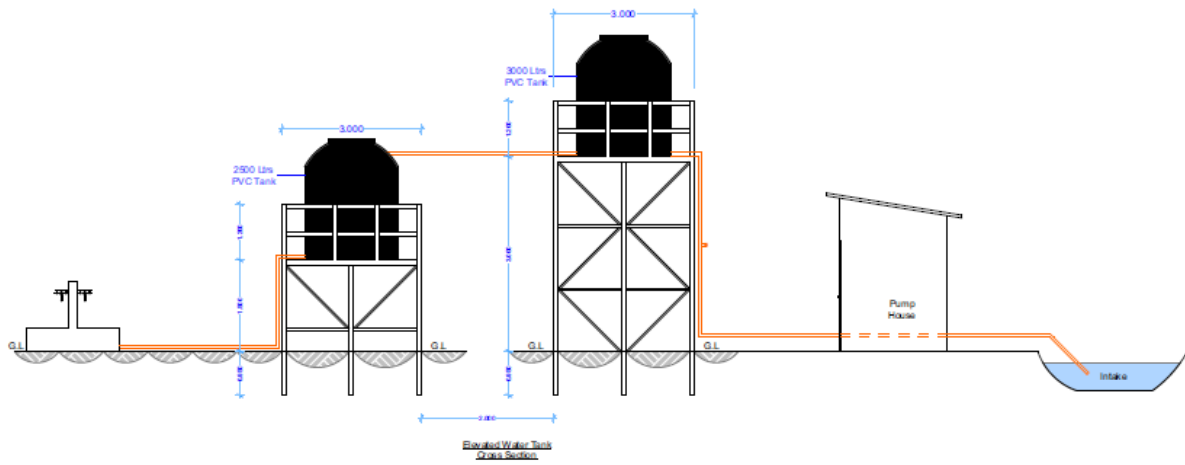


b) Cross Sectional View



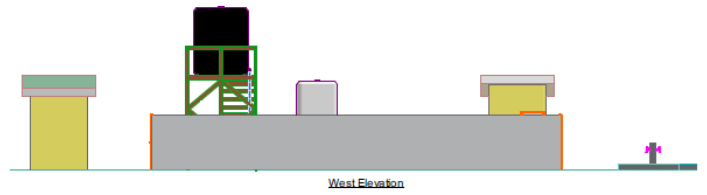
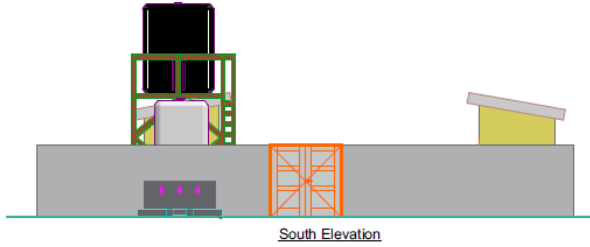
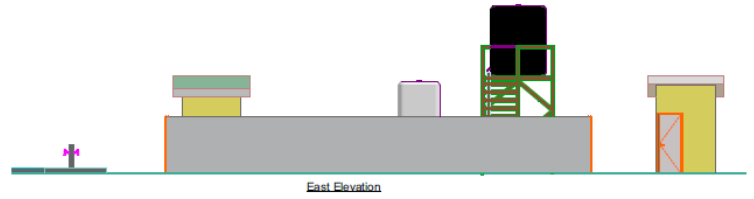
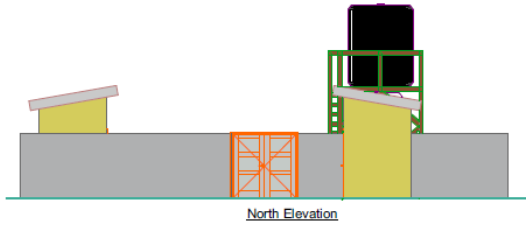
Project Name: Blocher Water Treatment Plant
 Drawn by: Eng. Mading Dima Wani
 Drawing Name: Section Plan
 Location: Upper Nile
 Scale: 1:100
 Contact: +2119 20120120 & +211926 175731

c) Side Elevation or Side View



Project Name: Mini SWAT System in Upper Nile
 Drawn by: Eng. Maring Dimo Wani
 Drawing Name: Section Plan
 Location: Upper Nile
 Scale: 1:100
 Contact: +211920120120 & +211926175731

d) Fencing view from four directions



Project Name: Mini SWAT System in Upper Nile
Drawn by: Eng. Maring Dirmo Wani
Drawing Name: Elevations Plan
Location: Upper Nile
Scale: 1:100
Contact: +211920120120 & +211920175731