REPUBLIC OF UGANDA





VOLUME 4-1: BOOK OF DRAWINGS

(GROWTH CENTRE RESERVOIRS)

INTEGRATED WATER MANAGEMENT AND DEVELOPMENT PROJECT (IWMDP)

CONSTRUCTION OF TIRINYI, KIBUKU, KADAMA AND BUDAKA, WATER SUPPLY AND SANITATION SYSTEM

CONTRACT NO: MWE/WRKS/21-22/00005/1

SUBMITTED BY:





JULY 2022

KADAMA





/						
	DATE	25/11/2021		DRAWN	Andrew Turvakira	
	SHEET NUMBER	1 OF 1		DRAWN.	ur yakır u	
	DRAWING SCALE	ALE 1:400 A3 DETAIL		DESIGNED	Ceaser Kisa	
	CATEGORY			DEGIGITED.	wakiibi	
	DF	CHECKED:	Ronald Musenze			
	IWMDP	/MBA/6-L-004		APPROVED:	OH Dongwoom	



VORLD BANK

Ministry of Water and



DATE	25/11/2021	DRAWN	Andrew Turvakira		
SHEET NUMBER	1 OF 1		DRAWN.	, anaron ranjama	
DRAWING SCALE	1:400	A3	DESIGNED:	Ceaser Kisa	
CATEGORY	DETAIL		520.0.125.	wakiibi	
DF	CHECKED:	Ronald Musenze			
IWMDP	APPROVED:	OH Dongwoom			

SUPERVISION

PIPE FITTING SCHEDULE

1.	1No.DN 280
2.	1No.DN 280
3.	1No.DN 280
4.	1 NO. DN28
7.	2No.DN 280
	0.6m.
8.	1No.DN 280
9.	1No.DN 280
10.	1No.DN 225
11.	2No.DN 225
	0.6m. 12.1N
13.	2No.DN 225
	6.0m.
14.	1No.DN 225
	2.0m.
15.	1No.DN 225
16.	1No.DN 225
17.	1No.DN 225
18.	1No.DN225
	2.0m.
19.	1No.DN200
20.	1No.DN200
21.	1No.DN200
	2.8m.
22.	1No.DN225
	2.0m.
23.	1No.DN200/
24.	2No.DN200
	6.0m.
25.	1No.DN 200
26.	1No.DN100
	2.0m.
27.	1No.DN 100
28.	1No.DN100
	0.4m.
29.	1No.DN100
30.	1No.DN100
DRAW	





ALL MEMBERS TO BE HOT-DIP GALVANIZED IN ACCORDANCE WITH BS

TANK TO BE MADE FROM HOT PRESSED GALVANIZED STEEL PANELS,

FLANGES TO BE INCORPORATED INTO THE PANELS WHERE SHOWN IN

THE CONTRACTOR SHALL PRODUCE AND SUBMIT SHOP DRAWINGS

ISO 1461 STRUCTURE TO BE WATERTIGHT, NO VISIBLE LEAKS PERMITTED

MANUFACTURED IN ACCORDANCE WITH BS1564:1975 AND WRAS

Tank

1.

2

3.

5

APPROVED

THE DRAWING

FOR APPROVAL BY ENGINEER

Notes

Pipework, Valves and Equipment

- ANY INCOMPATIBILITIES WITH REGARDS TO THE SPECIFICATION MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE
- ORDERING THE MATERIALS ALL PIPEWORK TO BE HOT-DIP GALVANIZED IN ACCORDANCE TO BS
- EN ISO 1461, MINIMUM THICKNESS 70 MICRONS ALL RSV GATE VALVES MUST BE CLOCKWISE CLOSING
- GASKETS FOR FLANGED JOINTS SHALL BE OF COMPRESSED NON-ASBESTOS SYNTETIC FIBER TO BS 7531 GRADE Y AND FULL FACED WITH A MINIMUM THICKNESS OF 2 mm
- FOR ALL BOLTS, ONE WASHER ON THE BOLT AND WASHER ON THE NUT SIDE TO BE FITTED. A MINIMUM OF 2-4 THREADS IS TO BE PROTRUDING THE NUT SIDE AFTER THIGHTENING
- ALL FITTINGS AT IMCOMING PIPE PN16, ALL OTHER FITTINGS PN 10 ALL BOLTS, NUTS AND WASHERS TO BE HOT DIP GALVANIZED IN ACCORDANCE WITH BS EN ISO 1461, MINIMUM 70 MICRONS THICK
- ALL THREADED JOINTS TO BE TREATED WITH 'HICHEM' SOLVENTLESS TRAVELLING FILLER OR 'EPIDERMIX 372' ACCORDING TO SUPPLIERS
- MAKING GOOD OF GALVANIZED JOINTS ONLY WHERE APPROVED BY 9 THE ENGINEER
- ALL BURIED BOLTS AND FLANGES SHALL BE WRAPPED IN PETROLEUM 10 MASTIC AND TAPE, IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATION
- VALVE BOXES AS PER DRAWING 1-D-004 11
- ALL BURIED STEEL PIPEWORK BITUMEN TAPE WRAPPED, DENSOCLAD 12 70 (OR EQUAL APPROVED)
- 13 TECHNICAL DATASHEETS FOR ALL FITTINGS AND EQUIPMENT SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL

CLIENT	CLIENT FUNDED BY CONSULTANT		PROJECT REFERENCE NUMBER :	DRAW					
No. of the second se		\land saman 👝 🚽	INTERGRATED WATER MANAGEMENT AND DEVELOPMENT PROJECT	GROWTH CEN	TERS - RESERVOIRS	DATE SHEET NUMBER	14/12/2021 1 OF 3	DRAWN:	Andrew Turyakira
			(IWMDP)	300m [°] RES	ERVOIR KADAMA	DRAWING SCALE H=1:1000 V=1:100 A3		DESIGNED:	Ceaser Kisa Wakiibi
Covernment of Liganda		AWE	CONSTRUCTION WORKS FOR WATER SUPPLY AND SANITATION SYSTEM IN SMALL TOWNS OF BUDAKA, KADAMA, KIBUKU AND TIRINYI	CONSTRUCTION	KADAMA RESERVOIR	DI	RAWING NUMBER	CHECKED:	Ronald Musenze
Ministry of Water and Environment	WORLD BANK	Engineers		SUPERVISION SHEET 1 OF 3 IWMDP/M		/MBA/6-S-004	APPROVED	OH Dongwoom	

Vicking Johnson or Similar Coupling. Pipe not exceeding 2.0m. All Flanged Gate Valve.

- 30 All Flanged 900 bend.
- 0 Double Flanged Pipe not exceeding

Flanged Ball Float Valve. Flanged Adaptor, Maxi type or similar. Flanged Outlet Pipe Strainer.

Double Flanged Pipe not exceeding No.DN 225 All Flanged 900 bend.

Double Flanged Pipe not exceeding

Double Flanged Pipe not exceeding

All Flanged Duck foot 900 bend. Flanged Gate Valve. Flanged Adaptor, Maxi type or similar. Double Flanged Pipe not exceeding

Vicking Johnson or Similar Coupling. Flanged Bell Mouth. Double Flanged Pipe not exceeding

Double Flanged Pipe not exceeding

100 All Flanged Tee. Double Flanged Pipe not exceeding

All Flanged Duck foot 900 bend. All Flanged Pipe with puddle flange n.e

All Flanged 900 bend. Double Flanged Pipe not exceeding

Flanged Gate Valve. Flanged Adaptor, Maxi type or similar.



CLIENT	FUNDED BY	CONSULTANT	PROJECT REFERENCE NUMBER :	DRAWING DESCRIPTION					
		A saman	INTERGRATED WATER MANAGEMENT AND DEVELOPMENT PROJECT	GROWTH CENTERS - RESERVOIRS		DATE SHEET NUMBER	14/12/2021 2 OF 3	DRAWN:	Andrew Turyakira
		Seman Corp.	(IWMDP)	300m [°] RES	ERVOIR KADAMA	DRAWING SCALE	H=1:1000 V=1:100 A3	DESIGNED	Ceaser Kisa Wakiibi
Government of Uganda		AWE	CONSTRUCTION WORKS FOR WATER SUPPLY AND SANITATION SYSTEM IN SMALL TOWNS OF BUDAKA, KADAMA, KIBUKU, AND TIRINYI,	CONSTRUCTION		C	PRAWING NUMBER	CHECKED:	Ronald Musenze
Ministry of Water and	WORLD BANK	Engineers		SUPERVISION	SHEET 2 OF 3	IWMD	P/MBA/6-S-004	APPROVED): OH Dongwoom

Concrete

- 1.
- ALL STRUCTURAL CONCRETE TO BE C25/20 ALL EXPOSED CONCRETE CORNERS TO BE CHAMFERED 50mm BLINDING TO BE POURED BENEATH EVERY FOOTING, BLINDING OF GRADE ST3/20 2.
- 3.
- NO CONCRETE TO BE POURED WITH PRIOR APPROVAL OF 4.
- THE ENGINEER SIDES OF FOOTING BASE TO BE POURED AGAINST 5.
- NATURAL GROUND
- 6. CONCRETE COVER TO BE 30mm

CLIENT	FUNDED BY	CONSULTANT	PROJECT REFERENCE NUMBER :	DRAW	NG DESCRIPTION				
N W		A saman	INTERGRATED WATER MANAGEMENT AND DEVELOPMENT PROJEC	r GROWTH CEN	TERS - RESERVOIRS	DATE SHEET NUMBER	14/12/2021 3 OF 3	- DRAWN:	Andrew Turyakira
		SemenCorp.		300m ³ RESERVOIR KADAMA DRAWING SCALE H=1:1000			H=1:1000 V=1:100 A3	DESIGNED:	Ceaser Kisa Wakiibi
Government of Uganda		AWE	CONSTRUCTION WORKS FOR WATER SUPPLY AND SANITATION SYSTEM IN SMALL TOWNS OF BUDAKA, KADAMA, KIBUKU, AND TIRINYI,	CONSTRUCTION		DI		CHECKED:	Ronald Musenze
Ministry of Water and Environment	WORLD BANK	Engineers		SUPERVISION	SHEET 3 OF 3	IWMDP/MBA/6-S-004		APPROVED	: OH Dongwoom

50mm Grade C15/20 Concrete

9Y8-03-150 LINKS

BUDAKA

LEGEND					
<u> </u>	Index contour				
<u> </u>	Existing Road				
<u> </u>	Transmission Main				
<u> </u>	Distribution Main				
<u> </u>	Overflow Pipe				
	Fence Line				
(Ê)	Tree				
	Buildings				

DATE	DATE 25/11/2021				
SHEET NUMBER	DRAWN.	, anaron ranjamira			
DRAWING SCALE	1:400	A3		Ceaser Kisa	
CATEGORY	DETAIL		520.0.125.	wakiidi	
DF	CHECKED:	Ronald Musenze			
IWMDP	APPROVED:	OH Dongwoom			

Pipework, Valves and Equipment

- ANY INCOMPATIBILITIES WITH REGARDS TO THE SPECIFICATION MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE 1. ORDERING THE MATERIALS
- ALL PIPEWORK TO BE HOT-DIP GALVANIZED IN ACCORDANCE TO BS 2. EN ISO 1461, MINIMUM THICKNESS 70 MICRONS
- З
- ALL RSV GATE VALVES MUST BE CLOCKWISE CLOSING GASKETS FOR FLANGED JOINTS SHALL BE OF COMPRESSED NON-ASBESTOS SYNTETIC FIBER TO BS 7531 GRADE Y AND FULL 4. FACED WITH A MINIMUM THICKNESS OF 2 mm
- FOR ALL BOLTS, ONE WASHER ON THE BOLT AND WASHER ON THE 5. NUT SIDE TO BE FITTED. A MINIMUM OF 2-4 THREADS IS TO BE PROTRUDING THE NUT SIDE AFTER THIGHTENING ALL FITTINGS AT IMCOMING PIPE PN16, ALL OTHER FITTINGS PN 10
- 6 ALL BOLTS, NUTS AND WASHERS TO BE HOT DIP GALVANIZED IN 7 ACCORDANCE WITH BS EN ISO 1461, MINIMUM 70 MICRONS THICK
- ALL THREADED JOINTS TO BE TREATED WITH 'HICHEM' SOLVENTLESS 8.
- TRAVELLING FILLER OR 'EPIDERMIX 372' ACCORDING TO SUPPLIERS MAKING GOOD OF GALVANIZED JOINTS ONLY WHERE APPROVED BY 9. THE ENGINEER
- 10. ALL BURIED BOLTS AND FLANGES SHALL BE WRAPPED IN PETROLEUM MASTIC AND TAPE, IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATION VALVE BOXES AS PER DRAWING 1-D-004 ALL BURIED STEEL PIPEWORK BITUMEN TAPE WRAPPED, DENSOCLAD
- 11
- 12. 70 (OR EQUAL APPROVED)
- 13. TECHNICAL DATASHEETS FOR ALL FITTINGS AND EQUIPMENT SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL

- 1. ALL MEMBERS TO BE HOT-DIP GALVANIZED IN ACCORDANCE WITH BS ISO 1461
- 2.
- STRUCTURE TO BE WATERTIGHT, NO VISIBLE LEAKS PERMITTED TANK TO BE MADE FROM HOT PRESSED GALVANIZED STEEL PANELS, MANUFACTURED IN ACCORDANCE WITH BS1564:1975 AND WRAS 3. APPROVED
- FLANGES TO BE INCORPORATED INTO THE PANELS WHERE SHOWN IN 4.
- THE DRAWING THE CONTRACTOR SHALL PRODUCE AND SUBMIT SHOP DRAWINGS 5. FOR APPROVAL BY ENGINEER

CLIENT	FUNDED BY	CONSULTANT	PROJECT REFERENCE NUMBER :	DRAWING DESCRIPTION
X			INTERGRATED WATER MANAGEMENT AND DEVELOPMENT PROJECT (IWMDP)	GROWTH CENTERS - RESER 200m ³ RESERVOIR BUDA
Government of Uganda Ministry of Water and Environment		AWE Engineers	CONSTRUCTION WORKS FOR WATER SUPPLY AND SANITATION SYSTEM IN SMALL TOWNS OF BUDAKA, KADAMA, KIBUKU, AND TIRINYI,	CONSTRUCTION BUDAKA RES SUPERVISION SHEET 1

			-		
ITEM	Qty.	Dia.	BoQ Item	DETAILS	DESCRIPTION
1	3	150 mm	n/a		DN 150 Ductile Iron, Ranger Type Flange Adaptor, Connection to OD 160 mm uPVC pipe. Epoxy coated with anchor bolts.
2	2	150 mm	n/a		DN 150 Gate Valve to EN 558-1, basic series 14, resilient seated, flanged on both sides, epoxy coated to bs 6920, Body Bonnet and Wedge Ductile Iron, Wedge EPDM vulcanized, Stem in Stainless Steel, suitable for underground installation,incl. extension spindle (2 m) and valve box
3	5	150 mm	n/a		DN 150 mild steel bend, 90°, Seamless, Hot-dip galvanized, Flanged on both sides
4	1	150 mm	n/a		DN 150 mild steel spool piece, length 5m, Hot-dip galvanized, Flanged on both sides, incl. 2 clamps to be mounted against columns of tank
5	8	150 mm	n/a		DN 150 mild steel spool piece, length 6m, Hot-dip galvanized, Flanged on both sides, incl 2 clamps to be mounted against columns of tank
6	2	150 mm	n/a	FL FL	DN 150 mild steel spool piece, length 650mm, Hot-dip galvanized, Flanged on both sides
7	1	150 mm	n/a	FL FL	DN 150 Float Valve, Internal Pilot Type, tight closing with neoprene disc, cast iron body with stainless steel float, flanged, globe type
8	1	150 mm	n/a		DN 150 mild steel spool piece, length 1.6m, Hot-dip galvanized, Flanged on both sides
9	1	150 mm	n/a	FL	DN 150 Strainer, Stainless Steel basket
10	1	150 mm	n/a		DN 150 mild steel spool piece, length 3.66m, Hot-dip galvanized, Flanged on one sides
1	1	150 mm	n/a		DN 150 mild steel equal T-Piece, Hot-dip galvanized, Flanged on one sides
12	1	150 mm	n/a		DN 150 mild steel bend, 90°, Seamless, Hot-dip galvanized, Flanged on both sides, with duckfoot
13	2	150 mm	n/a		DN 150 Gate Valve to EN 558-1, basic series 14, resilient seated, flanged on both sides, epoxy coated to bs 6920, Body Bonnet and Wedge Ductile Iron, Wedge EPDM vulcanized, Stem in Stainless Steel, with hand wheel
14	2	150 mm	n/a		DN 150 mild steel spool piece, length 1000mm, Hot-dip galvanized, Flanged on both sides

FL = Flange, PL = Plain End

	DATE 14/12/2021			Andrew Turyakira			
	SHEET NUMBER 1 OF 3					DRAWN.	
KA	DRAWING SCALE H=1:1000 V=1:100 A3				Ceaser Kisa		
	CATEGORY	DETAIL			2201011221	vvakiidi	
SERVOIR	DIR DRAWING NUMBER					Ronald Musenze	
05.2							
OF 3	IWMDP	/MBA/6-	S-002		APPROVED:	OH Dongwoom	

CLIENT	FUNDED BY	CONSULTANT	PROJECT REFERENCE NUMBER :	DRAW	NG DESCRIPTION				
			INTERCRATED WATER MANAGEMENT AND DEVELOPMENT PROJECT			DATE	14/12/2021		Andrew Turyakira
		saman rucii	(WARDD)			SHEET NUMBER	2 OF 3	Diventi.	
		Saman Corp. In I I thread the		200m° RES	ERVOIR BUDAKA	DRAWING SCALE	H=1:1000 V=1:100 A3		Ceaser Kisa
			-			CATEGORY	DETAIL	210.0.122	VVAKIIDI
		AME	CONSTRUCTION WORKS FOR WATER SUPPLY AND SANITATION SYSTEM IN SMALL	CONSTRUCTION	BUDAKA RESERVOIR	DF	RAWING NUMBER	CHECKED	Ronald Musenze
Government of Uganda	\sim	AML	TOWNS OF BUDAKA, KADAMA, KIBUKU, AND TIRINYI,		SHEET 2 OF 3				
Ministry of Water and	We RED BANK	Engineers		SUPERVISION		IWMDP	P/MBA/6-S-002		OH Dongwoom
Environment	in a set of the second second second second							AFFROVED.	Chi 2 chigwoodin

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	7	

Scale 1:25

Notes

Concrete

- 1.
- 2.
- 3.
- ALL STRUCTURAL CONCRETE TO BE C25/20 ALL EXPOSED CONCRETE CORNERS TO BE CHAMFERED 50mm BLINDING TO BE POURED BENEATH EVERY FOOTING, BLINDING OF GRADE ST3/20 NO CONCRETE TO BE POURED WITH PRIOR APPROVAL OF THE ENGINEER SIDES OF FOOTING BASE TO BE POURED AGAINST NATURAL GROUND CONCRETE COVER TO BE 30mm 4.
- 5.
- 6.

CLIENT	FUNDED BY	CONSULTANT	PROJECT REFERENCE NUMBER :	DRAWING	DESCRIPTION					
		A	INTERCRATED WATER MANAGEMENT AND DEVELOPMENT PROJECT			DATE	14/12/2021	DRAW	Andrew Turvakira	
		saman ruci	(WARDE)			GRATED WATER WANAGEWENT AND DEVELOFWENT PROJECT GROWIN CENTERS - RESERVOIRS SHEET NUMBER		3 OF 3	DRAW	
		Saman Corp.		200m° RESER	RVOIR BUDAKA	DRAWING SCALE	H=1:1000 V=1:100		Ceaser Kisa	
STOR .						CATEGORY	DETAIL	DEGIGI	vvakiidi	
		AWE	CONSTRUCTION WORKS FOR WATER SUPPLY AND SANITATION SYSTEM IN SMALL	CONSTRUCTION BUDAKA RESERVOIR		N WORKS FOR WATER SUPPLY AND SANITATION SYSTEM IN SMALL CONSTRUCTION BUDAKA RESERVOIR DRAWIN		RAWING NUMBER	CHECK	ED: Ronald Musenze
Government of Uganda		AWL	TOWNS OF BUDAKA, KADAMA, KIBUKU, AND TIRINYI,		SHEET 3 OF 3					
Ministry of Water and	WO RED DANK	Engineers		SUPERVISION	0.1221 0 01 0	IWMDF	P/MBA/6-S-002	APPRO		
Environment	and a set of the set o					1		AFFIC	LD	

DATE	02/12/2021			Kalema	
SHEET NUMBER	1 OF 6		DRAWN.		
DRAWING SCALE	As Indicated	A3	DESIGNED:	WJ	
CATEGORY	DETAIL			-	
	CHECKED:	WJ			
IVVIVIDP	(IVIDA/ 11-F-003		APPROVED	ОН	

	DATE 02/12/2021			Kalema	
	SHEET NUMBER 2 OF 6		DIVATIN.		
	DRAWING SCALE	As Indicated	A3	DESIGNED	W.I
	CATEGORY	DETAIL		DEGIGINED.	
	DRAWING NUMBER			CHECKED:	WJ
	IWMDP/MBA/ 11-F-003				ОН

DATE	02/12/2021			Kalema
SHEET NUMBER	3 OF 6	DIVATIN.	Talona	
DRAWING SCALE	As Indicated	A3	DESIGNED	W.J
CATEGORY	DETAIL		BEOIONED.	
[CHECKED:	WJ		
IWMDP	/MBA/ 11-F-003		APPROVED	ОН

SITE LAY-OUT

DATE	02/12/2021			Kaloma	
SHEET NUMBER	4 OF 6	4 OF 6		raiona	
DRAWING SCALE	As Indicated	A3	DESIGNED	WJ	
CATEGORY	DETAIL				
DRAWING NUMBER			CHECKED:	WJ	
	MIDA/ 11-F-003		APPROVED	ОН	

SCHEMATIC SINGLE LINE DIAGRAM

DATE	02/12/2021		DDAMA	Kalema	
SHEET NUMBER	1 OF 7	1 OF 7			
DRAWING SCALE	As Indicated	A3	DESIGNED	w.i	
CATEGORY	DETAIL		DEGIGINED.		
DRAWING NUMBER			CHECKED:	WJ	
			-		
IWMDP	/MBA/ 11-F-003		APPROVED	он	

75 x 100mm pre-cast conc posts

All dimensions in

DATE	02/12/2021			Kaloma	
SHEET NUMBER	1 OF 7		DIVINI.	Raiema	
DRAWING SCALE	As Indicated	A3	DESIGNED:	WJ	
CATEGORY	DETAIL			-	
DRAWING NUMBER			CHECKED:	WJ	
IWMDP	/MBA/ 11-F-003		APPROVED	ОН	

SCHEDU	LE OF FITTINGS	
ITEM No	DESCRIPTION	
1. 2. 3. 4. 5.	Flanged Elbow Gate valve Pump Flanged TEE Non Return Valve	
NOTES	6	
1. Pipe	and fittings Diameter is 70mm	١
2. GMS and 3. GMS to I	pipe fittings to be malleable BS 1256 with female threade pipe ends to be screwed wit SO R7 and to be supplied wit	cast iron to BS 143 d ends h tapered threads h sealing PTFE tape

PUMP HOUSE FLOOR PLAN

C	LIENT	FUNDED BY	CONSULTANT	PROJECT REFERENCE NUMBER : NWSC/HQ/SRVCS/2017-2018/164552	DRA	WING DESCRIPTION				
* 🚖 🕈	>		A	INTERGRATED WATER MANAGEMENT AND DEVELOPMENT PROJECT (JWMDP)	BOOSTER PLIMPING STATION		DATE	02/12/2021		Kalema
	E C		saman ruci				SHEET NUMBER		DIVANN.	Raicina
TALL			Saman Corp.		BOODTERT OWN ING OTATION		DRAWING SCALE	As Indicated A3	DESIGNED	- wu
						MCC ELOCCULATION EPONT VIEW	CATEGORY	DETAIL		
			AWE	CONSULTANCY SERVICES FOR DESIGN REVIEW OF MBALE WATER SUPPLY AND SANITATION	CONSTRUCTION		[DRAWING NUMBER	CHECKED	: wj
TOTAL SHERING	Government of Uganda		AWE	PROJECT	CONSTRUCTION	& POSITION OF EQUIP				
National Water and	Ministry of Water and	THE WORLD BANK	Engineers		SUPERVISION	SHEET 2 OF 6		/MBA/11-F-001	APPROVED	ОН
Sewerage Corporation	Environment	THE HOULD BAIK				SHEET 2 OF 0				

CLIENT	FUNDED BY	CONSULTANT	PROJECT REFERENCE NUMBER :	DRAV	/ING DESCRIPTION
) AL			INTERGRATED WATER MANAGEMENT AND DEVELOPMENT PROJECT (IWMDP)	FALSE ROOF AN	D COLUMN DETAILS
			CONSTRUCTION WORKS FOR WATER SUPPLY AND SANITATION SYSTEM IN SMALL TOWNS OF BUDAKA, KADAMA, KIBUKU, AND TIRINYI,	CONSTRUCTION	
Government of Uganda Ministry of Water and	WORLD BANK	AWE Engineers		SUPERVISION	SHEET 1 OF 1

KIBUKU

GROWTH CENTERS - RESERVOIRS	Andrew Turyakira
Construction C	D: Ronald Musenze

LEGEND						
~						
	Index contour					
_	Existing Road					
Transmission Main						
Distribution Main						
<u> </u>	Overflow Pipe					
_	Fence Line					
(C) Tree						
	Buildings					

LEGEND Index contour Existing Road Transmission Main Distribution Main Overflow Pipe Fence Line CONTree Buildings

	DATE	25/11/2021			Andrew Turvakira
	SHEET NUMBER	1 OF 1	DIAWN.		
	DRAWING SCALE	1:400	A3		Ceaser Kisa
	CATEGORY	DETAIL		DEGIGITED.	Wakiibi
YOUT	DRAWING NUMBER			CHECKED:	Ronald Musenze
	IWMDP/MBA/6-L-006			APPROVED:	OH Dongwoom

PIPE	& FIT	TINGS	SCHEDULE		
ITEM	Qty.	Dia.	BoQ Item	DETAILS	DESCRIPTION
1	3	150 mm	n/a	FL FL	DN 150 Ductile Iron, Ranger Type Flange Adaptor, Connection to OD 160 mm uPVC pipe. Epoxy coated with anchor bolts.
2	2	150 mm	n/a	FL FL FL	DN 150 Gate Valve to EN 558-1, basic series 14, resilient seated, flanged on both sides, epoxy coated to bs 6920, Body Bonnet and Wedge Ductile Iron, Wedge EPDM vulcanized, Stem in Stainless Steel, suitable for underground installation,incl. extension spindle (2 m) and valve box
3	5	150 mm	n/a		DN 150 mild steel bend, 90°, Seamless, Hot-dip galvanized, Flanged on both sides
4	1	150 mm	n/a		DN 150 mild steel spool piece, length 2.35m, Hot-dip galvanized, Flanged on both sides, incl. 2 clamps to be mounted against columns of tank
5	9	150 mm	n/a		DN 150 mild steel spool piece, length 6m, Hot-dip galvanized, Flanged on both sides, incl 2 clamps to be mounted against columns of tank
6	2	150 mm	n/a	FL FL	DN 150 mild steel spool piece, length 650mm, Hot-dip galvanized, Flanged on both sides
7	1	150 mm	n/a	E REAL	DN 150 Float Valve, Internal Pilot Type, tight closing with neoprene disc, cast iron body with stainless steel float, flanged, globe type
8	1	150 mm	n/a	FL 3950	DN 150 mild steel spool piece, length 3.95m, Hot-dip galvanized, Flanged on both sides
9	1	150 mm	n/a	FL	DN 150 Strainer, Stainless Steel basket
10	1	150 mm	n/a		DN 150 mild steel spool piece, length 3.66m, Hot-dip galvanized, Flanged on one sides
1	1	150 mm	n/a		DN 150 mild steel equal T-Piece, Hot-dip galvanized, Flanged on one sides
12	1	150 mm	n/a		DN 150 mild steel bend, 90°, Seamless, Hot-dip galvanized, Flanged on both sides, with duckfoot
13	2	150 mm	n/a	FL FL FL	DN 150 Gate Valve to EN 558-1, basic series 14, resilient seated, flanged on both sides, epoxy coated to bs 6920, Body Bonnet and Wedge Ductile Iron, Wedge EPDM vulcanized, Stem in Stainless Steel, with hand wheel
14	2	150 mm	n/a		DN 150 mild steel spool piece, length 1000mm, Hot-dip galvanized, Flanged on both sides
	lange P	L = Plain Eng	d	-	•

Pipework, Valves and Equipment

- ANY INCOMPATIBILITIES WITH REGARDS TO THE SPECIFICATION MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE ORDERING THE MATERIALS 1.
- ALL PIPEWORK TO BE HOT-DIP GALVANIZED IN ACCORDANCE TO BS 2. EN ISO 1461, MINIMUM THICKNESS 70 MICRONS ALL RSV GATE VALVES MUST BE CLOCKWISE CLOSING GASKETS FOR FLANGED JOINTS SHALL BE OF COMPRESSED
- 3 4
- NON-ASBESTOS SYNTETIC FIBER TO BS 7531 GRADE Y AND FULL FACED WITH A MINIMUM THICKNESS OF 2 mm FOR ALL BOLTS, ONE WASHER ON THE BOLT AND WASHER ON THE 5.
- NUT SIDE TO BE FITTED. A MINIMUM OF 2-4 THREADS IS TO BE PROTRUDING THE NUT SIDE AFTER THIGHTENING ALL FITTINGS PN 10
- ALL BOLTS, NUTS AND WASHERS TO BE HOT DIP GALVANIZED IN ACCORDANCE WITH BS EN ISO 1461, MINIMUM 70 MICRONS THICK ALL THREADED JOINTS TO BE TREATED WITH 'HICHEM' SOLVENTLESS
- 8. TRAVELLING FILLER OR 'EPIDERMIX 372' ACCORDING TO SUPPLIERS
- MAKING GOOD OF GALVANIZED JOINTS ONLY WHERE APPROVED BY THE ENGINEER 9
- ALL BURIED BOLTS AND FLANGES SHALL BE WRAPPED IN PETROLEUM MASTIC AND TAPE, IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATION 10.
- VALVE BOXES AS PER DRAWING 1-D-004 11. ALL BURIED STEEL PIPEWORK BITUMEN TAPE WRAPPED, DENSOCLAD 70 (OR EQUAL APPROVED) 12.
- 13. TECHNICAL DATASHEETS FOR ALL FITTINGS AND EQUIPMENT SHALL
- BE SUBMITTED TO THE ENGINEER FOR APPROVAL

Tank

- ALL MEMBERS TO BE HOT-DIP GALVANIZED IN ACCORDANCE WITH BS 1. ISO 1461
- STRUCTURE TO BE WATERTIGHT, NO VISIBLE LEAKS PERMITTED TANK TO BE MADE FROM HOT PRESSED GALVANIZED STEEL PANELS, 2. 3.
- MANUFACTURED IN ACCORDANCE WITH BS1564:1975 AND WRAS APPROVED FLANGES TO BE INCORPORATED INTO THE PANELS WHERE SHOWN IN 4.
- THE DRAWING THE CONTRACTOR SHALL PRODUCE AND SUBMIT SHOP DRAWINGS FOR APPROVAL BY ENGINEER 5.

CLIENT	FUNDED BY	CONSULTANT	PROJECT REFERENCE NUMBER :	DRAW	ING DESCRIPTION
X	A		INTERGRATED WATER MANAGEMENT AND DEVELOPMENT PROJECT (IWMDP)	GROWTH CEN ⁻ 160m ³ RES	TERS - RESER ERVOIR KIBUP
Government of Uganda Ministry of Water and Environment	WERED BANK	AWE Engineers	CONSTRUCTION WORKS FOR WATER SUPPLY AND SANITATION SYSTEM IN SMALL TOWNS OF BUDAKA, KADAMA, KIBUKU, AND TIRINYI,	CONSTRUCTION SUPERVISION	KIBUKU RES SHEET 1

	DATE	14/12/2021			DRAWN	Andrew Turyakira	
	SHEET NUMBER	1 OF 3			DRAWN.		
KU	DRAWING SCALE	H=1:1000	V=1:100	A3		Ceaser Kisa	
	CATEGORY	DETAIL			5101011251	vvakiidi	
ERVOIR	DRAWING NUMBER			CHECKED:	Ronald Musenze		
05 2							
OF 3	IWMDP	IWMDP/MBA/6-S-006			APPROVED:	OH Dongwoom	

CLIENT	FUNDED BY	CONSULTANT	PROJECT REFERENCE NUMBER :	DRAWING DESCRIPTION					
		A	INTERGRATED WATER MANAGEMENT AND DEVELOPMENT PROJEC		ITERS - RESERVOIRS	DATE	14/12/2021	DRAWN:	Andrew Turyakira
				160m ³ DEG		SHEET NUMBER	1 OF 3		
AL PLAN		WILLEMBER CHATE.				DRAWING SCALE	H=1:1000 V=1:100 A3	DESIGNED	Ceaser Kisa Wakiibi
			CONSTRUCTION WORKS FOR WATER SUDDLY AND CANITATION SYSTEM IN SMALL	CONCEPTION	KIBUKU RESERVOIR	CATEGORY	DETAIL		
		AWE	TOWNS OF BUDAKA KADAMA KIBUKU AND TIRINYI	CONSTRUCTION		D	RAWING NUMBER	CHECKED:	Ronald Musenze
Ministry of Water and	SOUTHAL DO THIS MILE.	Engineers		SUPERVISION	SHEET 1 OF 3	IWMDP	MBA/6-S-006		
Environment	internet and a second s	Engineers						APPROVED	: OH Dongwoom

Concrete

- 1
- 2
- ALL STRUCTURAL CONCRETE TO BE C25/20 ALL EXPOSED CONCRETE CORNERS TO BE CHAMFERED 50mm BLINDING TO BE POURED BENEATH EVERY FOOTING, BLINDING OF GRADE ST3/20 3.
- NO CONCRETE TO BE POURED WITH PRIOR APPROVAL OF 4. THE ENGINEER
- SIDES OF FOOTING BASE TO BE POURED AGAINST 5.
- NATURAL GROUND 6.
- CONCRETE COVER TO BE 30mm

	DATE	14/12/2021		Andrew Turyakira	
	SHEET NUMBER	1 OF 3	DRAWN.		
JIR	DRAWING SCALE	H=1:1000 V=1:100	A3	DESIGNED	Ceaser Kisa
	CATEGORY	DETAIL	DEGIGINED.	vvakiidi	
ERVOIR	DF	CHECKED:	Ronald Musenze		
05 2					
UF 3	IWMDP	/MBA/6-S-006		APPROVED:	OH Dongwoom

TIRNYI

Engineers

Ministry of Water and

Environment

WORLD BANK

SHEET 1 O

	DATE	25/11/2021	DRAWN	Andrew Turyakira		
	SHEET NUMBER	1 OF 1				DRAWN.
	DRAWING SCALE	1:400	A3		Ceaser Kisa	
	CATEGORY	DETAIL		DEGIGINED.	Wakiibi	
AYOUT	DRAWING NUMBER			CHECKED:	Ronald Musenze	
DF 1	IWMDP	/MBA/6-L-007		APPROVED:	OH Dongwoom	

CLIENT	FUNDED BY	CONSULTANT	PROJECT REFERENCE NUMBER :	DRAWING DESCRIPTION					
* 1/2			INTERCRATED WATER MANAGEMENT AND DEVELOPMENT DRO LECT			DATE	25/11/2021	DRAWN	Andrew Turvakira
1		saman -	INTERGRATED WATER MANAGEMENT AND DEVELOPMENT PROJECT	GROWTH CENTER	RS - RESERVOIRS	SHEET NUMBER	1 OF 1	DRAWN.	
		Saman Corp.	(IWMDP)	GENERAL LA	OUT - TIRINYI	DRAWING SCALE	1:400 A3		Ceaser Kisa
and Aller						CATEGORY	DETAIL		wakiidi
			CONSTRUCTION WORKS FOR WATER SUPPLY AND SANITATION SYSTEM IN SMALL	CONSTRUCTION	GENERAL LAYOUT	DF	RAWING NUMBER	CHECKED:	Ronald Musenze
Government of Uga	nda		TOWNS OF BUDAKA, KADAMA, KIBUKU, AND TIRINYI,		SHEET 1 OF 1				
Ministry of Water a	MORLD BANK	Engineers		SUPERVISION		IWMDF	//MBA/6-L-007	APPROVED	OH Dongwoom
Environment	Transmission of the test of te							/	

Pipework, Valves and Equipment

- ANY INCOMPATIBILITIES WITH REGARDS TO THE SPECIFICATION MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE ORDERING THE MATERIALS
- ALL PIPEWORK TO BE HOT-DIP GALVANIZED IN ACCORDANCE TO BS EN ISO 1461, MINIMUM THICKNESS 70 MICRONS ALL RSV GATE VALVES MUST BE CLOCKWISE CLOSING
- GASKETS FOR FLANGED JOINTS SHALL BE OF COMPRESSED
- NON-ASBESTOS SYNTETIC FIBER TO BS 7531 GRADE Y AND FULL FACED WITH A MINIMUM THICKNESS OF 2 mm FOR ALL BOLTS, ONE WASHER ON THE BOLT AND WASHER ON THE
- NUT SIDE TO BE FITTED. A MINIMUM OF 2-4 THREADS IS TO BE PROTRUDING THE NUT SIDE AFTER THIGHTENING
- ALL FITTINGS PN 10
- ALL BOLTS, NUTS AND WASHERS TO BE HOT DIP GALVANIZED IN ACCORDANCE WITH BS EN ISO 1461, MINIMUM 70 MICRONS THICK
- ALL THREADED JOINTS TO BE TREATED WITH 'HICHEM' SOLVENTLESS TRAVELLING FILLER OR 'EPIDERMIX 372' ACCORDING TO SUPPLIERS MAKING GOOD OF GALVANIZED JOINTS ONLY WHERE APPROVED BY
- THE ENGINEER
- ALL BURIED BOLTS AND FLANGES SHALL BE WRAPPED IN PETROLEUM 10 MASTIC AND TAPE, IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATION
- VALVE BOXES AS PER DRAWING 1-D-004
- ALL BURIED STEEL PIPEWORK BITUMEN TAPE WRAPPED, DENSOCLAD 12 70 (OR EQUAL APPROVED)
- 13. TECHNICAL DATASHEETS FOR ALL FITTINGS AND EQUIPMENT SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL

- Tank
- ALL MEMBERS TO BE HOT-DIP GALVANIZED IN ACCORDANCE WITH BS 1. ISO 1461
- 2 STRUCTURE TO BE WATERTIGHT. NO VISIBLE LEAKS PERMITTED TANK TO BE MADE FROM HOT PRESSED GALVANIZED STEEL PANELS 3. MANUFACTURED IN ACCORDANCE WITH BS1564:1975 AND WRAS
- APPROVED FLANGES TO BE INCORPORATED INTO THE PANELS WHERE SHOWN IN THE DRAWING
- THE CONTRACTOR SHALL PRODUCE AND SUBMIT SHOP DRAWINGS FOR APPROVAL BY ENGINEER

PIPE FITTING SCHEDULE 1.

- 2.
- 3.
- 4. 7.
- 0.6m.
- 8.
- 9.
- 10.
- 11.
- 13. 6.0m.
- 14. 2.0m.
- 15.
- 1No.DN 200 Flanged Gate Valve. 16.
- 17.
- 18. 2.0m.
- 19.
- 1No.DN200 Flanged Bell Mouth. 20.
- 21. 2.8m.
- 22. 2.0m.
- 23. 1No.DN200/100 All Flanged Tee.
- 24. 6.0m.
- 25.
- 26. 2.0m.
- 1No.DN 100 All Flanged 900 bend. 27.
- 28. 0.4m.
- 29. 30.
- FUNDED BY CONSULTANT DRAWING DESCRIPTION CLIEN PROJECT REFERENCE NUMBER INTERGRATED WATER MANAGEMENT AND DEVELOPMENT PROJECT **GROWTH CENTERS - RESER** saman CHEIL (IWMDP) 250m³ RESERVOIR TIRIN CONSTRUCTION WORKS FOR WATER SUPPLY AND SANITATION SYSTEM IN SMALL TIRINYI RES CONSTRUCTION AWE TOWNS OF BUDAKA, KADAMA, KIBUKU, AND TIRINYI, ernment of Ugand SHEET 1 SUPERVISION Engineers linistry of Water and PEDT

1No.DN 225 Vicking Johnson or Similar Coupling. 1No.DN 225 Pipe not exceeding 2.0m. 1No.DN 225 All Flanged Gate Valve. 1 NO. DN225 All Flanged 900 bend. 2No.DN 225 Double Flanged Pipe not exceeding

1No.DN 225 Flanged Ball Float Valve. 1No.DN 225 Flanged Adaptor, Maxi type or similar. 1No.DN 200 Flanged Outlet Pipe Strainer. 2No.DN 200 Double Flanged Pipe not exceeding 0.6m. 12.1No.DN 200 All Flanged 900 bend. 2No.DN 200 Double Flanged Pipe not exceeding

1No.DN 200 Double Flanged Pipe not exceeding

1No.DN 200 All Flanged Duck foot 900 bend. 1No.DN 200 Flanged Adaptor, Maxi type or similar. 1No.DN200 Double Flanged Pipe not exceeding

1No.DN200 Vicking Johnson or Similar Coupling. 1No.DN200 Double Flanged Pipe not exceeding

1No.DN200 Double Flanged Pipe not exceeding

2No.DN200 Double Flanged Pipe not exceeding

1No.DN 200 All Flanged Duck foot 900 bend. 1No.DN100 All Flanged Pipe with puddle flange n.e

1No.DN100 Double Flanged Pipe not exceeding

1No.DN100 Flanged Gate Valve. 1No.DN100 Flanged Adaptor, Maxi type or similar.

	DATE	14/12/2021				Andrew Turvakira	
	SHEET NUMBER	1 OF 3			DRAWN.		
ΥI	DRAWING SCALE	H=1:1000	V=1:100	A3		Ceaser Kisa	
	CATEGORY	DET	AIL		5201011251	Wakiidi	
ERVOIR	DRAWING NUMBER			CHECKED:	Ronald Musenze		
OF 3	IWMDP	/MBA/6-	S-007		APPROVED:	OH Dongwoom	

	DATE	14/12/2021				Andrew Turvakira	
VUINO	SHEET NUMBER	1 OF 3			DRAWN.	, and the fully and a	
IYI	DRAWING SCALE	H=1:1000	V=1:100	A3	DESIGNED	Ceaser Kisa	
	CATEGORY	DET	AIL		5201011251	Wakiidi	
ERVOIR	DRAWING NUMBER				CHECKED:	Ronald Musenze	
OF 3							
	IWMDP	/MBA/6-	S-007		APPROVED:	OH Dongwoom	

Scale 1:25

Concrete

- 1
- 2.
- ALL STRUCTURAL CONCRETE TO BE C25/20 ALL EXPOSED CONCRETE CORNERS TO BE CHAMFERED 50mm BLINDING TO BE POURED BENEATH EVERY FOOTING, BLINDING OF GRADE ST3/20 3.
- 4. NO CONCRETE TO BE POURED WITH PRIOR APPROVAL OF
- THE ENGINEER SIDES OF FOOTING BASE TO BE POURED AGAINST 5.
- NATURAL GROUND CONCRETE COVER TO BE 30mm 6.

CLIENT	FUNDED BY	CONSULTANT	CONSULTANT PROJECT REFERENCE NUMBER :		DRAWING DESCRIPTION				
			INTERCRATED WATER MANAGEMENT AND DEVELOPMENT DROJECT			DATE	14/12/2021	DRAWN	Andrew Turvakira
		saman ruci	(MADD)	GROWTH CEN	IERS - RESERVOIRS	SHEET NUMBER	1 OF 3	DRAWN.	
		Saman Corp. In I I Cond Corp.		250m° RES	SERVOIR HRINYI	DRAWING SCALE	H=1:1000 V=1:100 A3	DESIGNED	Ceaser Kisa
Call Contract						CATEGORY	DETAIL	DEGIGITED	wakiidi
A		AME	CONSTRUCTION WORKS FOR WATER SUPPLY AND SANITATION SYSTEM IN SMALL	CONSTRUCTION	TIRINYI RESERVOIR	DF	AWING NUMBER	CHECKED	Ronald Musenze
Government of Uganda	\sim	PANE	TOWNS OF BUDAKA, KADAMA, KIBUKU, AND TIRINYI,		SHEET 1 OF 3				
Ministry of Water and	WARLD BANK	Engineers		SUPERVISION	SHEET FOR 5	IWMDP	/MBA/6-S-007		
Environment	the second secon							AFFROVED.	on bongwoon

VALVE CHAMBER

PIPE & FITTING SCHEDULE (Quantity per Chamber)

			-		
ITEM	Qty.	Dia.	BoQ Item	DETAILS	DESCRIPTION
1	1	300 mm	n/a	FL FL	DN 300 Ductile Iron, Ranger Type Flange Adaptor, Connection to OD 315 mm uPVC pipe.
2	1	300 mm 150 mm	n/a		DN 300 to DN 150 mm Ductile Iron Tee Piece, to DIN EN 545, flanged on all sides, cement mortar lining
3	1	300 mm 200 mm	n/a		DN 300 to DN 200 mm Ductile Iron Reducer, to DIN EN 545, flanged on all sides, cement mortar lining
4	1	150 mm	6J811b		DN 150 Gate Valve to EN 558-1, basic series 14, resilient seated, flanged on both sides, epoxy coated to bs 6920, Body Bonnet and Wedge Ductile Iron, Wedge EPDM vulcanized, Stem in Stainless Steel, incl handwheel
5	1	200 mm	6J812		DN 200 Gate Valve to EN 558-1, basic series 14, resilient seated, flanged on both sides, epoxy coated to bs 6920, Body Bonnet and Wedge Ductile Iron, Wedge EPDM vulcanized, Stem in Stainless Steel, incl handwheel
6	1	200 mm	n/a		DN 200 ductile iron spool piece, length 1000mm, cement-mortar lined, Flanged on both sides, with puddle flange
7	1	200 mm	n/a	FL FL	DN 200 Ductile Iron, Ranger Type Flange Adaptor, Connection to OD 250 mm uPVC pipe. Epoxy coated with anchor bolts.
8	1	150 mm	n/a	FL PF FL	DN 150 ductile iron spool piece, length 1000mm, cement-mortar lined, Flanged on both sides, with puddle flange
9	1	150 mm	n/a	FL FL	DN 150 Ductile Iron, Ranger Type Flange Adaptor, Connection to OD 160 mm uPVC pipe. Epoxy coated with anchor bolts.

FL = Flange, PL = Plain End, PF = Puddle Flange

CLIENT FUNDED BY		FUNDED BY	CONSULTANT	PROJECT REFERENCE NUMBER : NWSC/HQ/SRVCS/2017-2018/164552	DRAWING DESCRIPTION		
	X			INTERGRATED WATER MANAGEMENT AND DEVELOPMENT PROJECT (IWMDP)	GROWTH CEN VALVE CH	TERS - RESER AMBER BUDAI	
National Water and	Government of Uganda Ministry of Water and		AWE Engineers	CONSULTANCY SERVICES FOR DESIGN REVIEW OF MBALE WATER SUPPLY AND SANITATION PROJECT	DESIGN REVIEW	VALVE CHAMBE SHEET 1	

Notes

Pipework, Valves and Equipment

- 1.
- 3.
- Any Incompatibilities with Regards to the specification must be brought to the attrention of the engineer before ordering the materials all rav Gate Valves must be clockwise closing gaskets for flamaterials all rav Gate Valves must be clockwise closing gaskets for flamaterials and rave and the materials of the material of the materials of the material of the material of the material of the second of the material of the material of the second o 4.
- 5. 6.
- 7. 8.
- 9.
- 10.

Concrete

- 11.
- 12. 13.
- 14. 15. 16.
- ALL STRUCTURAL CONCRETE TO BE C25/19 AND ALL MASS CONCRETE TO BE ST4/19 ALL EXPOSED CONCRETE CORNERS TO BE CHAMFERED WHERE THE PIPE ENTERS RIGID STRUCTURES A 10mm RUBBER WRAP (50 DUROMETER) SHALL BE INSTALLED 50 mm BLINDING TO BE POURED BENEATH EVERY STRUCTURE ALL CONCRETE STRUCTURES TO BE WATER RETAINING NO CONCRETE SHALL BE POURED BUTHOUT THE PRIOR APPROVAL OF THE ENGINEER

General

- 17. 18.
- WASH-OUT LOCATION TO BE DIRECTED BY THE ENGINEER THE CONTRACTOR SHALL PRODUCE AND SUBMIT SHOP DRAWINGS FOR ALL PIPEWORK AND EQUIPMENT FOR APPROVAL BY ENGINEER TECHNICAL DATASHEETS SHEETS OF ALL FITTINGS AND SPECIALS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL 19.

	DATE	25/11/2021				Andrew Turyakira	
VUINO	SHEET NUMBER	1 OF 1			DRAWN.		
{A	DRAWING SCALE	H=1:1000	V=1:100	A3		Ceaser Kisa	
	CATEGORY DETAIL				5101011251	vvakliDi	
R BUDAKA	DF		CHECKED:	Ronald Musenze			
OF 1							
	IWMDP/MBA/6-D-003				APPROVED:	OH Dongwoom	

WATER METER

PIPE	PIPE & FITTING SCHEDULE									
ITEM	Qty.	Dia.	BoQ Item	DETAILS	DESCRIPTION					
1	2	150 mm	n/a	₽ ₁	DN 150 Ductile Iron, Ranger Type Flange Adaptor, Connection to OD 160 mm uPVC pipe. Epoxy coated with anchor bolts.					
2	2	150 mm	n/a		DN 150 mild steel spool piece, length 600mm, Hot-dip galvanized, Flanged on both sides, with puddle flange					
3	2	150 mm	6J811a		DN 65 Gate Valve to EN 558-1, basic series 14, resilient seated, flanged on both sides, epoxy coated to bs 6920, Body Bonnet and Wedge Ductile Iron, Wedge EPDM vulcanized, Stem in Stainless Steel, incl handwheel					
4	2	150 mm /65 mm	n/a		DN 150 to DN 65 mild steel taper, Hot-dip galvanized, Flanged on both sides					
5	2	65 mm	n/a		DN 65 mild steel spool piece, length 350mm, Hot-dip galvanized, Flanged on both sides					
6	1	65 mm	6J91		DN 65 Woltmann type flow meter, cast iron, epoxy coated, min flow 0.4 m3/h, max flow 120 m3/h, max temp 50°, flow capacity at 0.1 bar pressure loss > 45.5 m3/h					
7	1	65 mm	n/a		DN 65 Dismantling Joint, Cast Iron, Epoxy coated, with continuous threaded anchor bolts on both sides					
8	1	150 mm /100 mm	n/a		DN 150 to DN 100 mild steel taper, Hot-dip galvanized, Flanged on both sides					
9	1	100 mm	n/a	FL	DN 100 Ductile Iron, Ranger Type Flange Adaptor, Connection to DN 110 mm Gl pipe. Epoxy coated with anchor bolts.					
10	1	150 mm	n/a		DN 150 mild steel equal tee piece, Hot-dip galvanized, Flanged on all sides					

CLIENT FUNDED BY		FUNDED BY	CONSULTANT	PROJECT REFERENCE NUMBER : NWSC/HQ/SRVCS/2017-2018/164552	DRAWING DESCRIPTION		
	X	A		INTERGRATED WATER MANAGEMENT AND DEVELOPMENT PROJECT (IWMDP)	GROWTH CEN [®] WATER METER	TERS - RESERV CHAMBER BUI	
National Water and	Government of Uganda Ministry of Water and	THE WORLD BANK	AWE Engineers	CONSULTANCY SERVICES FOR DESIGN REVIEW OF MBALE WATER SUPPLY AND SANITATION PROJECT	DESIGN REVIEW	WATER METER C SHEET 1 O	

Pipework, Valves and Equipment

- 5
- 6.
- 8.
- Any Incompatibilities with REGARDS to the Specification Must Be BROUGHT to the AttENTION of The ENGINEER BEFORE ORDERING THE MATERIALS ALL RAV GATE VALVES MUST BE CLOCKWISE CLOSING ALL VALVES TO BE PLACED ON MASS CONCRETE PEDESTALS GALVANIZING TO BS EN ISO 1481, MINIMUM 70 MICRONS THICK GASKETS FOR FLANCED JOINTS SHALL BE OF COMPRESSED NON-ASBESTOS SYNTETIC FIBER TO BS 7531 GRADE Y AND FULL FACED WITH A MINIMUM THICKNESS OF 2 mm FOR ALL BOLTS, ONE WASHER TO THE BOLT AND WASHER ON THE NUT SIDE TO BE FITED. A MINIMUM 70 MICRONS THICK GASKETS AND WASHERS TO BE HOT AND WASHER ON THE NUT SIDE TO BE FITED. A MINIMUM 70 MICRONS THICK ALL FITINGS PN 6 OR ABOVE ALL BOLTS, NUTS AND WASHERS TO BE HOT DIP GALVANIZED IN ACCORDANCE WITH BS EN ISO 1481, MINIMUM 70 MICRONS THICK ALL HARADED JOINTS TO BE TREATED WITH HICKENS SOLVENTLESS TRAVELLING FILLER OR "EPIDEMIX 372 ACCORDING TO SUPPLIERS WAKING GOOD OF GALVANIZED JOINTS ONLY WHERE APPROVED BY THE ML BURDED BOLTS AND FLANGES SHALL BE WRAPPED IN PETROLEUM MASIC AND TAPE, IN ACCORDANCE WITH THE MANUFACTURERS SPECIALING. 9. 10.
- 11.
- 12.

Concrete

- ALL STRUCTURAL CONCRETE TO BE C25/19 AND ALL MASS CONCRETE TO BE ST4/19
 ALL EXPOSED CONCRETE CORNERS TO BE CHAMFERED
 WHERE THE PIPE ENTERS RIGID STRUCTURES A 10mm RUBBER WRAP (50 DUROMETER) SHALL BE INSTALLED
 50 mm BLINDING TO BE POURED BENEATH EVERY STRUCTURE
 ALL CONCRETE STRUCTURES TO BE WATER RETAINING
 NO CONCRETE SHALL BE POURED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER

General

THE CONTRACTOR SHALL PRODUCE AND SUBMIT SHOP DRAWINGS FOR ALL PIPEWORK AND EQUIPMENT FOR APPROVAL BY ENGINEER
 TECHNICAL DATASHEETS SHEETS OF ALL FITTINGS AND SPECIALS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL

	DATE	25/11/2021				Andrew Turyakira	
VUIKS	SHEET NUMBER	1 OF 1			DIVANIN.		
DAKA	DRAWING SCALE	H=1:1000	V=1:100	A3		Ceaser Kisa	
	CATEGORY DETAIL				DEGIGITED.	wakiidi	
CHAMBER	DF	CHECKED:	Ronald Musenze				
DF 1							
	IWMDP/MBA/6-D-002				APPROVED:	OH Dongwoom	

PIPE	PIPE & FITTING SCHEDULE									
ITEM	Qty.	Dia.	BoQ Item	DETAILS	DESCRIPTION					
1	2	150 mm	n/a	F R	DN 150 Ductile Iron, Ranger Type Flange Adaptor, Connection to OD 160 mm uPVC pipe. Epoxy coated with anchor bolts.					
2	2	150 mm	n/a		DN 150 mild steel spool piece, length 600mm, Hot-dip galvanized, Flanged on both sides, with puddle flange					
3	2	150 mm	6J811		DN 150 Gate Valve to EN 558-1, basic series 14, resilient seated, flanged on both sides, epoxy coated to bs 6920, Body Bonnet and Wedge Ductile Iron, Wedge EPDM vulcanized, Stem in Stainless Steel, incl handwheel					
4	2	150 mm /65 mm	n/a		DN 150 to DN 65 mild steel taper, Hot-dip galvanized, Flanged on both sides					
5	2	65 mm	n/a		DN 65 mild steel spool piece, length 350mm, Hot-dip galvanized, Flanged on both sides					
6	1	65 mm	6J91		DN 65 Woltmann type flow meter, cast iron, epoxy coated, min flow 0.4 m3/h, max flow 120 m3/h, max temp 50°, flow capacity at 0.1 bar pressure loss > 45.5 m3/h					
0	1	65 mm	n/a		DN 65 Dismantling Joint, Cast Iron, Epoxy coated, with continuous threaded anchor bolts on both sides					

FL = Flange, PL = Plain End, PF = Puddle Flange

CLIENT FU		FUNDED BY	CONSULTANT	PROJECT REFERENCE NUMBER : NWSC/HQ/SRVCS/2017-2018/164552	DRAWING DESCRIPTION			
sine .	X		Saman Creit INTERGRATED WATER MANAGEMENT AND DEVELOPMENT PROJECT (IWMDP)		GROWTH CENTERS - RESER WATER METER CHAMBE			
National Water and	Government of Uganda Ministry of Water and		AWE Engineers	CONSULTANCY SERVICES FOR DESIGN REVIEW OF MBALE WATER SUPPLY AND SANITATION PROJECT	DESIGN REVIEW	WATER METER SHEET 1		
Sewerage Corporation	Environment	THE WORLD BRANK				1		

Notes

Pipework, Valves and Equipment

- Pipework, Valves and Equipment
 ANY INCOMPATIBILITIES WITH REGARDS TO THE SPECIFICATION MUST BE BROUGHT TO THE ATTENTION OF THE ENSINEER BEFORE ORDERING THE WATERIALS
 ALL RSV GATE VALVES MUST BE CLOCKWISE CLOSING
 ALL RSV GATE VALVES MUST BE CLOCKWISE CLOSING
 ALL RSV GATE VALVES MUST BE CLOCKWISE CLOSING
 GALVANIZING TO BS EN ISO 1461, MINIMUM 70 MICRONS THICK
 GASKETS FOR FLANGED JOINTS SHALL BE OF COMPRESSED NON-ASBESTOS SYNTETIC FIBER TO BS 7531 GRADE Y AND FULL FACED WITH A MINIMUM THICKNESS OF 2 mm
 FOR ALL BOLTS, NOTE WASHER ON THE BOLT AND WASHER ON THE NUT SIDE TO BE FITTED. A MINIMUM OF 2-4 THREADS IS TO BE PROTRUDING THE NUT SIDE AFTER THIGHTENING
 ALL FITTINGS PN 6 OR ABOVE
 ALL FITTINGS PN 6 OR ABOVE
 ALL BOLTS, NUTS AND WASHERS TO BE HOT DIP GALVANIZED IN ACCORDANCE WITH BS EN ISO 1461, MINIMUM 70 MICRONS THICK
 ALL THREADED JOINTS TO BE TREATED WITH 'HICHEM' SOLVENTLESS TRAVELLING FILLER OR 'PENEMIX 372' ACCORDING TO SUPPLIERS'
 MAKING GOOD OF GALVANIZED JOINTS ONLY WHERE APPROVED BY THE ENGINEER
 ALL BURED BOLTS AND FLANGES SHALL BE WRAPPED IN PETROLEUM MISTIC AND TAPE. IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATION
 ALL BURED STELL PIPEWORK OUTSIDE THE CHAMBER TO BE BITUMEN TAPE WRAPPED, DENSOCLAD 70 (OR EQUAL APPROVED)

Concrete

- ALL STRUCTURAL CONCRETE TO BE C25/19 AND ALL MASS CONCRETE TO BE ST4/19
 ALL EXPOSED CONCRETE CORNERS TO BE CHAMFERED
 WHERE THE PIPE ENTERS RIGID STRUCTURES A 10mm RUBBER WRAP (50 DUROMETER) SHALL BE INSTALLED
 50 mm BLINDING TO BE POURED BENEATH EVERY STRUCTURE
 ALL CONCRETE STRUCTURES TO BE WATER RETAINING
 NOC CONCRETE SHALL BE POURED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER

General

- THE CONTRACTOR SHALL PRODUCE AND SUBMIT SHOP DRAWINGS FOR ALL PIPEWORK AND EQUIPMENT FOR APPROVAL BY ENGINEER
 TECHNICAL DATASHEETS SHEETS OF ALL FITTINGS AND SPECIALS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL

	DATE	25/11/2021			DRAWN	Andrew Turvakira	
	SHEET NUMBER 1 OF 1				DRAWN.	, and on Fullyalara	
ĸ	DRAWING SCALE	H=1:1000	V=1:100	A3		Ceaser Kisa	
	CATEGORY	DET	DETAIL			VVAKIIDI	
CHAMBER	DF	CHECKED:	Ronald Musenze				
DF 1							
	IWMDP/MBA/6-D-001				APPROVED:	OH Dongwoom	

CHLORINATION UNIT FOR ALL SMALL TOWNS

CLIENT FUNDED BY		FUNDED BY	CONSULTANT	PROJECT REFERENCE NUMBER : NWSC/HQ/SRVCS/2017-2018/164552	DRAWING DESCRIPTION			
STATE OF	X			INTERGRATED WATER MANAGEMENT AND DEVELOPMENT PROJECT (IWMDP)	GROWTH CEN CHLOR	TERS - RESER		
National Water and	Government of Uganda Ministry of Water and	THE WORLD BANK	AWE Engineers	CONSULTANCY SERVICES FOR DESIGN REVIEW OF MBALE WATER SUPPLY AND SANITATION PROJECT	CONSTRUCTION SUPERVI	CHLORINAT ISION SHEET 1		

General

- CONCRETE IN SURFACE BEDS AND STRIP FOOTING OF 1. GRADE ST4/20
- CONCRETE IN RING BEAM AND REINFORCED CONCRETE SLAB OF GRADE C25/20
- PE FOIL TO BE PLACED BENEATH SURFACE BEDS 3.
- 4. STRIP FOOTING TO BE POURED AGAINST NATURAL GROUND
- GRAUND GRAVEL UNDER SURFACE BED TO BE COMPACTED TO 95% MOD ASTHOO ONLY PRE-TREATED WOOD TO BE USED FOR ROOF MEMBERS AND DOOR CORRUGATED IRON ROOF SHEETS TO BE GALVANIZED AND OE GALIGE 24 5.
- 6.
- 7.
- 8.
- AND OF GAUGE 24 DPC TO PLACED IN FIRST BRICK COURSE OVER GROUND LEVEL 50MM BLINDING TO BE POURED BENEATH SURFACE BEDS, PE FOIL TO BE PLACED BETWEEN BLINDING AND SURFACE BED LAYER 9.
- 10. GROUND FOR FOUNDATION TO BE INSPECTED BY ENGINEER
- 11. PRECAST CONCRETE LINTELS ON DOORS (1.2M) 12. ALL MEMBERS OF CHLORINE DOSING UNIT SHALL BE
- OF MADE OF UPVC OR HDPE MATERIALS
- 13. STAIR WITH 175MM RISE AND 280MM RUN, MASS CONCRETE
- 14. WALLS PLASTERED INSIDE AND OUTSIDE, CEMENT SAND RATIO 1:3 15. SOLUTION TANK AND MIXING TANK SHALL HAVE
- CAPACITY OF 0.3 M3 AND SHALL BE EQUIPPED WITH A DRAIN AT THE BOTTOM OF THE TANK
- 16. DOSING PUMP SHALL BE WATER PRESSURE POWERED WITH INTERNAL INJECTION SUCKED OUT OF THE SOLUTION TANK, WITH INTERNAL SPRING LOADED INJECTION CHECK VALVE, BUILT-IN AIR BLEEDER, SUITABLE FOR CHEMICAL ATTACK

	DATE 25/11/2021				Andrew Turvakira		
VUINO	SHEET NUMBER	1 OF 3			DRAWN.	,,	
	DRAWING SCALE	H=1:1000	V=1:100	A3		Ceaser Kisa	
	CATEGORY	DETAIL			2201011221	wakiidi	
	DF	CHECKED:	Ronald Musenze				
			-				
	IWMDP/MBA/6-S-005			APPROVED:	OH Dongwoom		