Community Drinking Water Safety & Security Plan (DWSSP)

Community Details				
Village Name				
Area/Province				
GPS Coordinates	Lat:		Long:	
No of Households				
Village Population				
Village Contact Person				
Revision No:	Date:			

Drinking Water Safety & Security Plan

Section 1 – Water Committee			
Name	**Current Role in Water Committee / Community**	**Skills Available / Interest in the Water Supply**	**Contact Details (Address/Phone/E-mail)**

Section 2 – Description of Current Supply

System Map/Flow Diagram

Please draw a map/flow diagram of the current water and waste system

If map is attached separately, please tick here ☐

Section 2 – Description of Current Supply

Existing Water Supply

Piped Supply (River/Spring) ☐	Rainwater Capture ☐		Groundwater ☐	Water Storage ☐	Water Distribution ☐
Measured Flow from Source (litres/min) **2A**	No of Buildings Collecting **2C**	Average Roof Area (m^2) **2D**	Measured Flow (litres/min) **2F**	Amount Available (litres) **2H**	Number of Distribution Points
	Supply per year (litres per year) **2E = 2C x 2D x 0.7 x Av_Rainfall_per_year x 1000** 0.7 is efficiency factor x 1000 to convert m^3 to litres				
Supply per day (litres/day) **2B = 2A x 1440 mins**			Supply per day (litres/day) **2G = 2F x Minutes Used/Day**		Measured Flow (litres/min)
Water Quality Result	Water Quality Result		Water Quality Result	Water Quality Result	Water Quality Result

Uses of the system

Drinking ☐ Food Preparation ☐ Hand Washing ☐ Bathing ☐ Toilets ☐

Other (Please explain) ☐ ……..

Treatment Methods

Filtration ☐ Chlorine ☐ UV Light ☐

Other (Please explain) ☐ ……..

Existing Waste System

Number of Rubbish Pits ……..

Type of Toilets	**Number of Each Type**
VIP (pit and bush)	
Septic Tank	
Pour-Flush	
Other (Please list)	

Drinking Water Safety & Security Plan

Section 3A –Assessment (Water Access/Availability)

Water Availability

Number of People in Community **3A**	Estimated Daily Usage (litres per day) [3B = 3A* N litres/day] **3B (Select value for N)**	Storage Required (litres) [3C = 3B] **3C**	Estimated Usage by Population per year (litres per year) [3D = 3A*N l/day *365] **3D**

Water Quantity – Piped Supply System or Groundwater Source
Is the supply in **2B/2G** enough to meet demand **3B**? Yes ☐ No ☐
If NO, look to improve the system design to increase flow (Please tick) ☐
Is this source available at all times during the year? Yes ☐ No ☐
If NO, develop/strengthen Additional Water Source/s (Please tick) ☐

Water Quantity – Rainwater Capture ***(ONLY ANSWER IF RWC IS ONLY WATER SOURCE)***
Is the supply in **2E** enough to meet demand **3D**? Yes ☐ No ☐
If NO, develop Additional Water Source/s (Please tick) ☐

Water Storage – Piped Supply System
Is the current storage **2H** enough to meet the required storage amount **3C**?
Yes ☐ No ☐ **(If NO, add More Storage)**
How much extra Storage is required? litres
Number of tanks required $\left[\frac{Storage\ Required}{5000\ OR\ 10000}\right]$ tanks

Water Quantity – Distribution Points
Are flow rates **more** than 6 litres/min at the tapstand/s? Yes ☐ No ☐
If NO, look to improve the system design to increase distribution flow (Please tick) ☐
REMEMBER: Doing this can change pressures and flows in the system. It is important to get some technical assistance when planning to change flows in the distribution system.

Water Access (Only Upgrade if enough water is supplied by the system)

Water Access
Do more than 5 households share 1 distribution point? Yes ☐ No ☐
Are any distribution points more than 200m away (2-3mins walk)? Yes ☐ No ☐
If YES to either question, then you need extra distribution points (Please Tick) ☐
REMEMBER: Doing this can change pressures and flows in the system. It is important to get some technical assistance when planning to increase the distribution system.

How many extra points are required? …….. **PLEASE MARK ON COMMUNITY MAP**

Drinking Water Safety & Security Plan

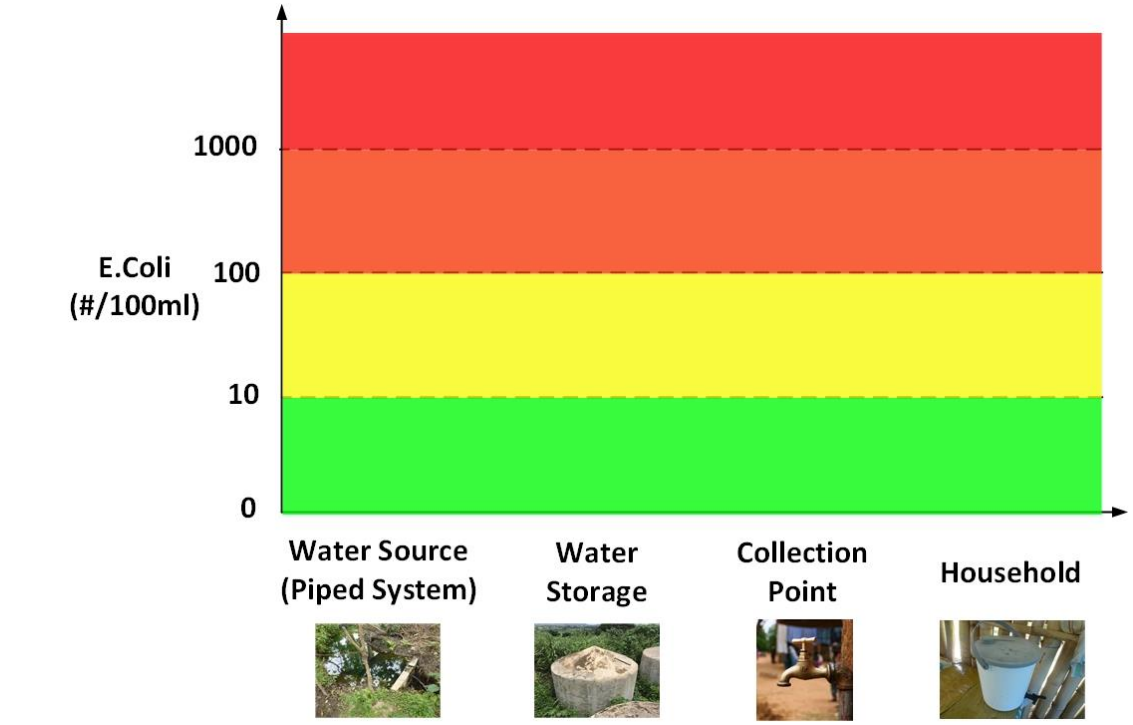
Community Drought Risk and Preparedness			
Risk Factors	*Mitigation Measures*	*Risk*	*Improvements*
Significant dry periods >3months ☐ Variation in source water level/s ☐ Significant leaks in system ☐ *Other (Please list)*	High storage capacity ☐ Multiple water sources ☐ Water resource management (WRM) undertaken ☐ HWTS prepared ☐ *Other (Please list)*	*High* ☐ **(Action Needed Now)** *Medium* ☐ (Upgrades Needed) *Low* ☐ (No Action Required)	Fix/optimise system ☐ Increase storage ☐ Develop additional source ☐ Implement WRM ☐ Prepare HWTS ☐ *Other (Please list)*

Community Flood Risk and Preparedness			
Risk Factors	*Mitigation Measures*	*Risk*	*Improvements*
Significant periods of heavy rain causing unusable dirty river, spring or well water ☐ Damage to intake, pipes, tanks ☐ *Other (Please list)*	High storage capacity ☐ Multiple water sources ☐ Good spring or well-head protection ☐ Water resource management (WRM) undertaken ☐ HWTS prepared ☐ *Other (Please list)*	*High* ☐ **(Action Needed Now)** *Medium* ☐ (Upgrades Needed) *Low* ☐ (No Action Required)	Fix/optimise system ☐ Increase storage ☐ Develop additional source ☐ Implement WRM ☐ Prepare HWTS ☐ *Other (Please list)*

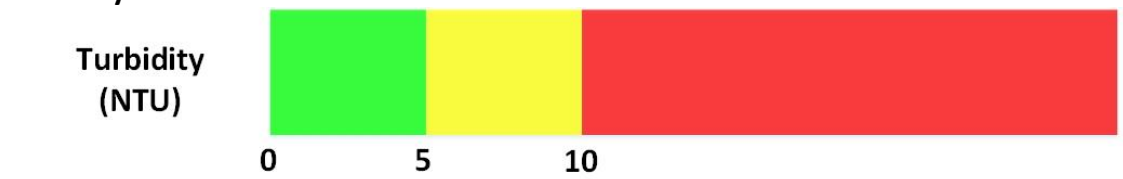
Section 3B – Assessment (Water Safety)

Water Quality Results

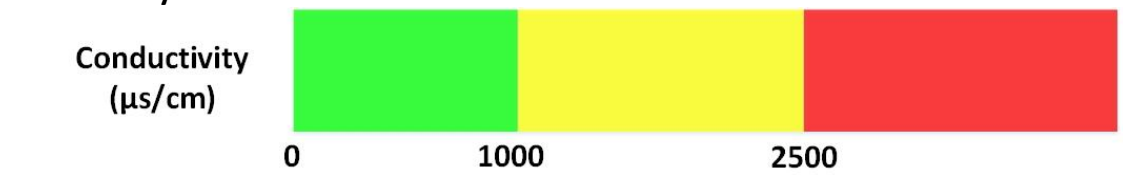
E.Coli Results



Turbidity Results



Conductivity Results



pH Results

Drinking Water Safety & Security Plan

Water Safety Plan – Risk Assessment				
Water Source – Surface Water Source	Do you use a Surface Water Source? (Please Tick) Yes ☐ No ☐			
Hazard	*Contamination Source (Tick if present)*	*Current Control Measures (Tick if present)*	*Risk*	*Improvements Required*
Bacteria in Water	Human houses upstream ☐ Farm animals nearby/upstream ☐ Crop farming nearby/upstream ☐ Toilet within 30m ☐ *Other (Please list)*	Fencing around source ☐ Intake screen present ☐ Gravel or Sand Filter ☐ Established water protection zone ☐ *Other (Please list)*	*High* ☐ **(Action Needed Now)** *Medium* ☐ (Upgrades Needed) *Low* ☐ (No Action Required)	Establish a water protection zone ☐ Build Fence ☐ Install screen ☐ Install Filter ☐ Move Source ☐ Move Toilet ☐ *Other or Temporary Improvements* (Please list)
Chemicals in Water	Use of pesticides in area ☐ Waste water discharge in area ☐ Algae present at source ☐ *Other (Please list)*	Gravel or Sand Filter ☐ Established water protection zone ☐ *Other (Please list)*	*High* ☐ *Medium* ☐ *Low* ☐	Establish a water protection zone ☐ Install Filter ☐ Move Source ☐ *Other or Temporary Improvements* (Please list)

Bad Colour or Taste	Soil Erosion at source ☐ *Other (Please list)*	Gravel or Sand Filter ☐ Storage and settlement tanks ☐ *Other (Please list)*	*High* ☐ *Medium* ☐ *Low* ☐	Install Filter ☐ Install Storage ☐ *Other or Temporary Improvements* (Please list)
Bad Flow or Pressure	High pressure in taps ☐ Significant leaks in pipes ☐ *Other (Please list)*	Minimum Head Device ☐ Pressure Box ☐ *Other (Please list)*	*High* ☐ *Medium* ☐ *Low* ☐	Install Head Device ☐ Install Pressure Box ☐ *Other or Temporary Improvements* (Please list)

Drinking Water Safety & Security Plan

Water Source – Spring Source	Do you use a Spring Source? (Please Tick) Yes ☐ No ☐			
Hazard	*Contamination Source (Tick if present)*	*Current Control Measures (Tick if present)*	*Risk*	*Improvements Required*
Bacteria in Water	Animals can access source ☐ Spring box/cover is dirty ☐ Silt/soil/dirt near source ☐ Surface water can flow Into spring water ☐ Toilet within 30m ☐ *Other (Please list)*	Spring box and cover ☐ Fencing around source ☐ Air vent (Clean) ☐ Diversion ditch ☐ Established water protection zone ☐ *Other (Please list)*	*High* ☐ **(Action Needed Now)** *Medium* ☐ (Upgrades Needed) *Low* ☐ (No Action Required)	Establish a water protection zone ☐ Build Fence ☐ Build spring box ☐ Install/Clean cover, vent ☐ Dig diversion ditch ☐ Move Toilet ☐ *Other or Temporary Improvements* (Please list)
Chemicals in Water	Use of pesticides in area ☐ Waste water discharge in area ☐ Algae present at source ☐ *Other (Please list)*	Gravel or Sand Filter ☐ Established water protection zone ☐ *Other (Please list)*	*High* ☐ *Medium* ☐ *Low* ☐	Establish a water protection zone ☐ Install Filter ☐ Move Source ☐ *Other or Temporary Improvements* (Please list)

Bad Colour or Taste	Silt/soil/dirt near source ☐ *Other (Please list)*	Gravel or Sand Filter ☐ Storage and settlement tanks ☐ *Other (Please list)*	*High* ☐ *Medium* ☐ *Low* ☐	Install Filter ☐ Install Storage ☐ *Other or Temporary Improvements* (Please list)
Bad Flow or Pressure	High pressure in taps ☐ Significant leaks in pipes ☐ Overflow water at source ☐ *Other (Please list)*	Overflow pipe (clean) ☐ Pressure Box ☐ *Other (Please list)*	*High* ☐ *Medium* ☐ *Low* ☐	Install Head Device ☐ Install Pressure Box ☐ *Other or Temporary Improvements* (Please list)

Drinking Water Safety & Security Plan

Water Source – Rainwater Capture	Do you use a Rainwater Capture? (Please Tick) Yes ☐ No ☐			
Hazard	*Contamination Source (Tick if present)*	*Current Control Measures (Tick if present)*	*Risk*	*Improvements Required*
Bacteria in Water	Roof is dirty ☐ Gutters are dirty ☐ Open access to tank ☐ Tank is cracked ☐ Tap is leaking ☐ Water collection area is dirty / standing water ☐ Pollution (e.g. trees, Excreta etc) near system ☐ Collection bucket dirty ☐ *Other (Please list)*	Tank cover in place ☐ Tank inlet has mesh/sieve ☐ First flush filter ☐ *Other (Please list)*	*High* ☐ **(Action Needed Now)** *Medium* ☐ (Upgrades Needed) *Low* ☐ (No Action Required)	Nº Clean roof/gutters ☐ Install covers on tank ☐ Install inlet mesh/sieve ☐ Install first flush filter ☐ Repair cracks ☐ Repair/replace tap ☐ Add drainage/clean collection area ☐ Remove pollution ☐ *Other or Temporary Improvements* (Please list)
Chemicals in Water	Roof is corroded/rust ☐ *Other (Please list)*	First flush Filter ☐ *Other (Please list)*	*High* ☐ *Medium* ☐ *Low* ☐	Install Filter ☐ Repair/replace/paint roof ☐ *Other or Temporary Improvements* (Please list)

Drinking Water Safety & Security Plan

Water Source – Groundwater	Do you use a Groundwater Source? (Please Tick) Yes ☐ No ☐			
Hazard	*Contamination Source (Tick if present)*	*Current Control Measures (Tick if present)*	*Risk*	*Improvements Required*
Bacteria in Water	Toilet within 10m of well ☐ Toilets above well height ☐ Other pollution within 10m of well e.g. rubbish ☐ Standing water within 2m of well ☐ Broken drainage channel ☐ Surface water can enter From broken wall ☐ Cracks in concrete wall ☐ Collection bucket dirty ☐ *Other (Please list)*	Fence around well ☐ Well is sealed to 3m depth ☐ Drainage channel installed ☐ Established water protection zone ☐ *Other (Please list)*	*High* ☐ **(Action Needed Now)** *Medium* ☐ (Upgrades Needed) *Low* ☐ (No Action Required)	Establish a water protection zone ☐ Move toilets ☐ Build fence around well ☐ Repair/Install concrete ☐ Line well to 3m depth ☐ Repair well wall ☐ Clean well area ☐ Remove pollution ☐ *Other or Temporary Improvements* (Please list)
Chemicals in Water	Use of pesticides in area ☐ Waste water discharge in area ☐ *Other (Please list)*	Water treatment system ☐ Established water protection zone ☐ *Other (Please list)*	*High* ☐ *Medium* ☐ *Low* ☐	Establish a water protection zone ☐ Install Treatment ☐ Move Source ☐ *Other or Temporary Improvements* (Please list)

Drinking Water Safety & Security Plan

Water Pump	Does your system have a water pump? (Please Tick) Yes ☐ No ☐			
Hazard	*Contamination Source (Tick if present)*	*Current Control Measures (Tick if present)*	*Risk*	*Improvements Required*
Bacteria in Water	Toilet near pump ☐ Animals can access pump ☐ Pump is dirty ☐ Surface water can access the pump ☐ Standing water in pump area ☐ *Other (Please list)*	Protective structure for pump ☐ Fence around pump ☐ Adequate drainage around pump ☐ Established protection zone ☐ Diversion ditch ☐ *Other (Please list)*	*High* ☐ **(Action Needed Now)** *Medium* ☐ (Upgrades Needed) *Low* ☐ (No Action Required)	Establish protection zone ☐ Clean pump and area ☐ Build protective structure ☐ Build fence ☐ Move toilet ☐ Dig diversion ditch ☐ *Other or Temporary Improvements* (Please list)
Chemicals in Water	Pipes are corroded ☐ *Other (Please list)*	Plastic piping (where appropriate) ☐ *Other (Please list)*	*High* ☐ *Medium* ☐ *Low* ☐	Replace corroded pipe ☐ *Other or Temporary Improvements* (Please list)
Damaged Pump	Exposed location ☐ Debris loose/overhanging ☐ *Other (Please list)*	Protective structure for pump ☐ *Other (Please list)*	*High* ☐ *Medium* ☐ *Low* ☐	Remove debris ☐ Build protective structure ☐ *Other or Temporary Improvements* (Please list)

Drinking Water Safety & Security Plan

Water Storage – Storage Reservoir	Do you use Water Storage? (Please Tick) Yes ☐ No ☐			
Hazard	*Contamination Source (Tick if present)*	*Current Control Measures (Tick if present)*	*Risk*	*Improvements Required*
Bacteria in Water	Open access to tank ☐ Vents/screens are dirty ☐ Tank is cracked ☐ Pipes are leaking ☐ Dirty inside tank ☐ *Other (Please list)*	Tank cover in place ☐ Tank inlet has mesh/sieve ☐ Tank has air vent ☐ *Other (Please list)*	*High* ☐ **(Action Needed Now)** *Medium* ☐ (Upgrades Needed) *Low* ☐ (No Action Required)	Install covers on tank ☐ Install inlet mesh/sieve ☐ Install air vent ☐ Repair cracks ☐ Repair/replace pipes ☐ Clean tank ☐ *Other or Temporary Improvements* (Please list)
Chemicals in Water	Pipes are corroded ☐ *Other (Please list)*	Treatment Filter ☐ *Other (Please list)*	*High* ☐ *Medium* ☐ *Low* ☐	Replace corroded pipe ☐ Install Filter ☐ *Other or Temporary Improvements* (Please list)
Bad Flow or Pressure	High pressure in taps ☐ Low pressure in taps ☐ Significant leaks in pipes ☐ *Other (Please list)*	Overflow pipe (clean) ☐ Float valve ☐ *Other (Please list)*	*High* ☐ *Medium* ☐ *Low* ☐	Install overflow pipe ☐ Install float valve ☐ *Other or Temporary Improvements* (Please list)

Drinking Water Safety & Security Plan

Water Distribution – Stand Pipes	Do you use a Stand Pipes? (Please Tick) Yes ☐ No ☐			
Hazard	*Contamination Source (Tick if present)*	*Current Control Measures (Tick if present)*	*Risk*	*Improvements Required*
Bacteria in Water	Leaks in surrounding pipes ☐ Animals access to area ☐ Standing water in collection area ☐ Rubbish/pollution near tap stand ☐ Tap stand is cracked ☐ Taps are leaking ☐ *Other (Please list)*	Fence around stand pipe ☐ Drainage area/channel ☐ *Other (Please list)*	*High* ☐ **(Action Needed Now)** *Medium* ☐ (Upgrades Needed) *Low* ☐ (No Action Required)	Nº Build fence/s ☐ Install drainage ☐ Repair/replace pipe/s ☐ Repair/replace pipe stand/s ☐ Repair/replace tap/s ☐ Clean collection area/s ☐ *Other or Temporary Improvements* (Please list)
Chemicals in Water	Pipes are corroded ☐ *Other (Please list)*	Plastic piping ☐ *Other (Please list)*	*High* ☐ *Medium* ☐ *Low* ☐	Nº Replace corroded pipe/s ☐ *Other or Temporary Improvements* (Please list)

Drinking Water Safety & Security Plan

Water Consumers – Households	Was this assessed during the visit? (Please Tick) Yes ☐ No ☐			
Hazard	*Contamination Source (Tick if present)*	*Current Control Measures (Tick if present)*	*Risk*	*Improvements Required*
Bacteria in Water	Non-covered storage ☐ Containers are dirty ☐ Household Rainwater ☐ Dirty buckets for collection ☐ *Other (Please list)*	HH Chlorine tablets ☐ UV treatment ☐ Boil water ☐ Sealed storage containers ☐ First Flush on Rainwater ☐ *Other (Please list)*	*High* ☐ **(Action Needed Now)** *Medium* ☐ (Upgrades Needed) *Low* ☐ (No Action Required)	Obtain sealed storage containers ☐ Clean/disinfect storage Containers & buckets ☐ Begin boiling water ☐ Begin UV treatment ☐ Install first flush ☐ Obtain chlorine tablets ☐ *Other or Temporary Improvements* (Please list)
Chemicals in Water	House pipes/storage is corroded ☐ *Other (Please list)*	Treatment to remove chemicals ☐ *Other (Please list)*	*High* ☐ *Medium* ☐ *Low* ☐	Replace corroded pipe ☐ Install Treatment ☐ *Other or Temporary Improvements* (Please list)

Section 3C – Assessment (Sanitation System)

Toilet Sanitary Survey Result

How many toilets need **replacing**? ……

How many toilets need **upgrading**? ……

Replace/Install New Toilets

Are you replacing or installing new toilets? (Please tick) Yes ☐ No ☐

Toilet Options (Please indicate the type and amount of toilets required)

VIP Toilet ☐	Pour Flush Toilet ☐	Septic Tank Toilet ☐
Number Required ……	Number Required ……	Number Required …… Has soil permeability test been performed? Yes ☐ No ☐

Upgrade Existing Toilets

Do existing toilets require upgrading? (Please tick) Yes ☐ No ☐

What toilet type/s do you want to upgrade? (Please tick all relevant ones)

VIP Toilet ☐ Pour Flush Toilet ☐ Septic Tank Toilet ☐

VIP Toilet – Number requiring upgrade……

Number requiring repairs to structure ……..
Number requiring vent in super structure ……..
Number requiring a vent with flywire ……..
Number requiring upgrade of slab/riser ……..
Number that would require lining of pit ……..
Number requiring collection pit at adequate depth ……..

Pour Flush Toilet – Number requiring upgrade……

Number requiring repairs to structure ……..
Number requiring venting in the super structure ……..
Number requiring upgrade of slab/riser ……..
Number of collection pits requiring a cover for access ……..
Number of collection pits requiring a vent ……..
Number that would require lining of pit ……..

Septic Tank Toilet – Number requiring upgrade……

Number requiring repairs to structure ……..
Number requiring vents ……..
Number with drainpipes requiring a vent ……..
Number with drainpipes requiring inspection access ……..
Number requiring a new septic tank ……..
Number requiring a drainage trench ……..

Drinking Water Safety & Security Plan

Section 4 – Improvement Plan					
Problem/Hazard	Improvement Required	Who	Timeframe	Cost	Status (Tick when complete)
					Implemented ☐
					Implemented ☐
					Implemented ☐
					Implemented ☐
					Implemented ☐
					Implemented ☐

Drinking Water Safety & Security Plan

Problem/Hazard	Improvement Required	Who	Timeframe	Cost	Status (Tick when complete)
					Implemented ☐
					Implemented ☐
					Implemented ☐
					Implemented ☐
					Implemented ☐
					Implemented ☐

Section 5 – Community Management

Monitoring Schedule

System Component (Tick if present)	What?	How Often?	Who?
5A Primary Water Source ☐ Type……..			
5B Secondary Water Source ☐ Type……..			
5C Water Storage ☐ Type……..			
5D Water Treatment ☐ Type……..			
5E Water Distribution ☐ Type……..			
5F Primary Toilet Type ☐ Type……..			
5G Secondary Toilet Type ☐ Type……..			

Drinking Water Safety & Security Plan

Maintenance – What actions are needed if something is broken?			
Activity	How Often?	Who?	What is needed?

Drinking Water Safety & Security Plan

Community Training – What do you need to teach the community?			
Activity	How Often?	Who?	What is needed?

Emergency – What will you do in an emergency?			
Activity	How Often?	Who?	What is needed?

Appendix 1

Water Quality Results

System Part	Position and Time	Temp (°C)	pH	TDS (mg/L)	Conductivity (µs/cm)	Turbidity (NTU)	Res Chlorine [if used] (mg/L)	E.Coli (#/100ml)	Total Coli (#/100ml)