BATAC WATER DISTRICT 1983

OPERATIONS MANUAL

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Foreword

Warm greetings from the men and women of the Batac Water District! As things change – and they do – so the Operations Manual must be written as a booklet (and to be updated) where officers and employees use it as an instructing tool and as a solid guide in achieving the objectives of the District.

This Operations Manual provides important information as well as operations policies and procedures of the Batac Water District.

The purpose of this Operations Manual is to provide each officer and employee an idea on how to use things properly and efficiently, utilize the best preventive maintenance for the devices and equipments and operate the facilities effectively.

A smart Operations Manual has the ability to answer all frequently asked questions and prevent people from the situation of uncertainty because it guides them how to use at least the main functions of something.

Indeed, officers and employees can fix things without the possible errors or problems under the assistance of a smart Operations Manual.

I. GENERAL INFORMATION

1.1 Historical Sketch

The City of Batac is situated on the northwestern section of Luzon Island. It is surrounded on the west and northwest section by the coastal Municipality of Paoay while the Municipalities of San Nicolas, Sarrat and Dingras limit the north, northeast and eastern fringes respectively. On the southern of the City of Batac lie the municipalities of Badoc and Pinili. Batac can be reached through air and land and is approximately 472km from Manila and more or less 18km from Laoag City, the capital of the Ilocos Norte Province.

The only water system of the City of Batac is operated and controlled by the Batac Water District – a government owned and controlled corporation by virtue of Supreme Court ruling in 1991. It is a self-reliant, self-liquidating whose operation depends solely on its income revenue. It does not receive any subsidy from the national or local government.

The story of the Batac Water District did not come easy. In the early 80's condition of water service by the defunct National Water Sewerage Authority (NAWASA) continued to worsen, the needs of the concessionaires were not met, water quality was unsatisfactory and water pressure was inadequate.

And cognizant of the need to have sufficient, safe and potable water to the people of Batac, the then Sangguniang Bayan Members of Batac in its special session last November 1, 1982 passed and approved Resolution No. 127 series of 1982 creating Batac Water District (BWD) by virtue of Presidential Decree (PD) 198 otherwise known as the Provincial Utilities Act of 1973. The main objective was to upgrade the quality of service.

Local Water Utilities Administration (LWUA) awarded Batac Water District its Conditional Certificate of Conformance (CCC) No. 250 on September 26, 1983 after the requirements for the certification program were completed. The CCC entitles the Batac Water District to all the rights and privileges under PD 198.

Activities of the Batac Water District consist primarily of operating the pumps, treating the water, repairing leaks, installation, disconnection and reconnection of service lines, preparing financial reports to be submitted to other governing

agencies, marketing of prospective concessionaires, implementing corporate social responsibilities to the community and other business activities.

The mandate of the Batac Water District is to manage efficiently water resources for the effective delivery of water services to the people of the City of Batac. It aims to provide safe, potable, affordable and adequate water to its concessionaires even in the rural areas 24/7.

Since Batac became a City ten years ago the demand of water supply increases tremendously because of the increasing number of concessionaires, immigrants and tourists.

With the help of the City Government of Batac, the Batac Water District has now its own office building located at the Government Center, Brgy. Quiling Sur City of Batac. The new office was granted by the City Government of Batac through a deed of usufruct for the lot of 684sq.m and the construction of the 2-storey building was through a non-bearing interest loan with a floor area of 136sq.m.

1.2 Vision

The Batac Water District envisions itself to be a world-class provider of safe, potable and affordable water to every home in the City of Batac.

1.3 Mission

It is the mission of the men and women of Batac Water District to deliver 24 hours a day safe, potable and affordable water at the most convenient way to the people of the City of Batac.

It is also the mission of the Batac Water District to help protect, preserve and maintain the Mother Earth, the very source of its existence.

1.4 Core Values

We abide by these core values in order for us to move forward:

Customer Focus – We are committed to listed, deliver quality service and take ownership of our consumer's problem until it is solved.

Team Work – We work together and support each other to achieve the goals of the District.

Integrity – We abide by the highest work ethical standards, acting with honesty and honor without sacrificing the truth.

Accountability – We are responsible for our success and failures.

Commitment – We are committed to provide safe, potable and affordable water to every home in the City of Batac and committed to demonstrate corporate social responsibility to the community.

Safety – we ensure the health and safety of our concessionaires with the water we provide and the health and safety of the employees as well.

1.5 Water Supply Description

1.5.1 General Information

The water system of the City of Batac was constructed in 1969 by the defunct National Water Sewerage Authority (NAWASA). Due to mismanagement, NAWASA declared bankruptcy and its management and operation were turned-over to the Municipality of Batac using flat rate in billing consumers' water consumptions. In the early 80's condition of service continued to worsen because the needs of the consumers were not met, water quality was unsatisfactory, water pressure was inadequate and reliability of service was poor

And cognizant of the need to have safe, potable and sufficient water to the people of Batac, the Sangguniang Bayan Members of Batac in its special session on November 15, 1982 passed and approved Resolution No. 127 creating Batac Water District by virtue of Presidential Decree (PD) 198 otherwise known as the Provincial Utilities Act of 1973. The main objective was to upgrade the quality of service ad to develop the adequacy of water supply.

Local Water Utilities Administration (LWUA) awarded Batac Water District its Conditional Certificate of Conformance (CCC) NO. 250 on September 26, 1983

after the requirements for the certification program were completed. The CCC entitles the Batac Water District to all the rights and privileges under PD 198.

The Batac Water District is currently manned by nine (9) plantilla positions and five (5) Job Order workers headed by General Manager, Maria Dohna D. Sagun. Other Management Staff are Imelda G. Tutaan, Cashier B; Maizel Maia V. Castro, Senior Accounting Processor A; Edilberto M. Camangeg, Jr., Water Resources Facilities Operator B; Joel A. Castro, Customer Service Assistant D; Dino S. Sagun, Water Resources Facilities C; Otis Visan P. Corpuz, Utility Worker B; Von Patrick S. Gabriel, Customer Service Assistant E; and Robert Filam C. Manglal-lan, Clerk Processor D. The five Job Order workers are Ruben T. Cid, Filipino Rivera, Emmanuel Flojo, Erlanger Gamet and Mary Grace Arancon.

The Board of Directors is the policy-making body of the District. It is composed of representative from each of the community sectors as mandated by PD 198. It is chaired by Mrs. Aurora V. Lumang who represents the Women's Sector. Other members are:

1) Mr. Warlito A. Rigonan, Vice-Chairman, represents the Educational Institution Organization;
2) Dr. Mary Lu B. Magno, Board Secretary, represents the Professional Sector;
3) Mr. Jesus Ariel R. Garcia, Board Treasurer, represents the Business Sector; and
4) Mrs. Perla C. Marders, Board Member, represents the Civic-Oriented Service Club.

Batac Water District is a Government Owned and Controlled Corporation (GOCC) by virtue of Supreme Court ruling in 1991 (The Supreme Court, in an en banc decision dated September 13, 1991 in the case of Davao City Water District et. al. G.R. No. 95237-38). It is a self reliant, self-liquidating whose operation depends solely on its income revenue. It does not receive any subsidy from the national government.

1.5.2 Area of Coverage

Batac City is composed of forty-three (43) barangays; 14 are urban barangays and 29 are rural barangays. The present service area of Batac Water District covers the fourteen urban barangays namely – Valdez, Ricarte, Ablan, Cangrunaan, Nalupta, Cal-laguip, San Julian, Caunayan, Acosta, Aglipay, Lacub,

Barani, Ben-agan, Palpalicong and ten (10) adjacent rural barangays namely – Baay, Quiling Norte, Quiling Sur, Bil-loca, Parangopong, Payao, Colo, Bungon, Tabug and Baligat. Water service in these 24 barangays is 24/7 excluding Adigi Homes of Brgy. Baligat which is 12-14 hours a day. Batac Water District is serving 55% of the total barangays of the City, however majority of the Sitios of the rural barangays are not yet covered within the area of coverage.

1.5.3 Household Coverage

The total population of the City of Batac is 55,595 as of December 31, 2016 and at present only 14.4% of the total population which is 7,995 has an access to safe, potable, dependable and affordable water from Batac Water District.

1.5.4 Transmission and Distribution Pipelines

There are twelve transmission lines originating from 12 water sources of the Batac Water District. The existing transmission and distribution network covers fourteen (14) poblacion/urban barangays and ten (10) rural barangays. The pipe network consists of varying pipe sizes from 50mm to 200mm of different types shown below:

1) 200mm (Asbestos)	373.50 m
2) 150mm (Asbestos)	1,550.60 m
3) 150mm (PVC)	4,524.00 m
4) 150mm (GI)	204.00 m
5) 100mm (Cast Iron/GI)	6,699.70 m
6) 100mm (PVC)	5,010.00 m
7) 75mm (PVC)	11,044.00 m
8) 75mm (GI)	360.00 m
9) 50mm (GI)	141.70 m
10)50mm (PVC)	1,782.00 m
TOTAL LENGTH	**32,049.50 m or 32.049km**

1.5.5 Existing Water Rates

The existing water rates of the Batac Water District was approved by LWUA on June 23, 2005 presented in a public hearing on November 10, 2005

and was implemented last May 2006 billing. The water rates of the District are as follows:

1) Residential/Government		
Minimum ½"		P 300.00
Commodity Charge	11-20cum	31.30
	21-30cum	32.70
	31-40cum	34.25
	Over 40cum	36.30
2) Direct Commercial		
Minimum ½"		P 600.00
Minimum ¾"		960.00
Commodity Charge	11-20cum	62.60
	21-30cum	65.40
	31-40cum	68.50
	Over 40cum	72.60
3) Semi-Commercial A		
Minimum ½"		P 525.00
Commodity Charge	11-20cum	54.75
	21-30cum	57.20
	31-40cum	59.90
	Over 40cum	63.50
4) Semi-Commercial B		
Minimum ½"		P 450.00
Commodity Charge	11-20cum	46.95
	21-30cum	49.05
	31-40cum	51.35
	Over 40cum	54.45
5) Semi-Commercial C		
Minimum ½		P 375.00
Commodity Charge	11-20cum	39.10
	21-30cum	40.85
	31-40cum	42.80
	Over 40cum	45.35

1.5.6 Source of Water

At present, water sources facilities of the Batac Water District are eight (8) drilled wells and four (4) infiltration galleries. There are several surface water resources present in the City of Batac wherein it provides both potable water supply and irrigation purposes. Quiaoit River is currently being utilized by the Batac Water District for water supply through its infiltration galleries. During dry season all the drilled wells are being utilized and during rainy season all of the infiltration galleries are being utilized.

1.5.6.1 Baay Pump Station – Well No. 1, 2 & 8

It consists of three (3) units drilled well (Well No. 1, 2 & 8) and has a total capacity of 16-18lps during rainy season and 8lps during dry season. It could sustain approximately 1,600 consumers. These can supplement the increasing demand in the future since right now there are only 306 consumers availing water from Baay Pump Station. Inside the Pump Station is a hypo chlorinator machine that treats the water coming from the source. Treated water will be pumped to the 75cum ground reservoir before it will be distributed to concessionaires. Another partition in the Pump Station is where the 25KVA generator set is placed which is being utilized during power interruptions. The drilled wells are equipped with 3HP pumping equipment. The distribution network covers two sitios of Brgy. Baay and a portion of Brgy. Bungon. The pipe network is composed of 5.010km of 100mm PVC, 6.750km of 75mm PVC and 1.782km of 50mm. As per laboratory tests, results showed the Sulfate as the non-complying parameter.

1.5.6.2 Quiling Norte Pump Station – Well No. 3 & 4

It consists of two (2) units drilled well and has a total capacity of 2-3lps during rainy season and 1lps during dry season. It could sustain approximately 300 consumers. Since there is no reservoir/tank within the area water supply is from 6am to 8pm only. Right now it is serving the Adigi Homes and its adjacent houses. The pipe network from the Pump Station to the Adigi Homes is 700m only although the transmission network is interconnected with the existing transmission network in the Poblacion. Inside the Pump Station is the hypo chlorinator machine

that treats the water coming from the source which is directly pumped to the transmission and distribution network. During dry season, the yield is poor or minimal. As per Physical and Chemical Test, results showed to be complying on all the parameters tested.

1.5.6.3 Well No. 5 (Colo)

Drilled Well No. 5 is located in Brgy. Colo, City of Batac. This is the only drilled well that has replaced the series of shallow wells which were the original water sources of the City of Batac. It is drilled along the Quiaoit River with a depth of 32m and equipped with a 3hp pumping equipment. It has a yield of 3-4lps and is being utilized during dry season. The treated water is being pumped to the 267 ground reservoir located at Barani Hill, Brgy. Barani City of Batac. As per laboratory test, water coming from this well showed complying parameters on the Physical and Chemical Analysis.

1.5.6.4 Well No. 6 & 7 (Parangopong)

Drilled Well No. 6 and 7 are located in Brgy. Parangopong, City of Batac. It is drilled in the middle of the rice fields and near the old Deep Well No. 101 of the defunct NAWASA. Well No. 6 has a depth of 32m and is equipped with a 3hp pumping equipment while Well No. 7 is a standby well without pumping equipment. The wells are usually operational during summer season. Beside Well No. 6 is an old pump house and at least 50m away is the chlorinator house. As per laboratory test, water coming from this well showed complying parameters on the Physical and Chemical Analysis.

1.5.6.5 Colo Pump Station - Well No. 8 (Colo) and Infiltration Gallery 4

Drilled Well No. 8 is located in Brgy. Colo, City of Batac. This is the deepest deep well the District has with a depth of 50m with a 200mm casing. It is drilled along Quiaoit River and the most productive of all water sources of the District. It has a yield of 8-10lps during rainy season and 5-6lps during dry season. It is equipped with 7.5hp pumping equipment with variable motor frequency drive. The Colo Pump Station housed the control boxes, chlorinator machines and 25KVA generator set. It has its own

transformer. As per laboratory test, results showed the Total Dissolved Solids as the non-complying parameters.

The Infiltration Gallery 4 located approximately 100m away from Deep Well No. 7 is consists of 60pcs 1m by 1m perforated and non perforated reinforced concrete pipes lie/installed underneath the Quiaoit River bed. The 60pcs RC pipes were installed horizontally 5meters below the Quiaoit River bed as the impounding/catch basin of the water. The RC pipes are packed with gravel with open-jointed that discharge collected water into a watertight chamber or 10pcs RC pipes installed vertically from which the water is pumped to the chlorinator machine and into the distribution system.

1.5.6.6 Payao Pump Station – Infiltration Gallery 1 & Infiltration Gallery 3

Infiltration Gallery 1 was constructed by the defunct NAWASA and was rehabilitated by the Batac Water District. Originally, NAWASA utilized 30hp centrifugal pump and motor but since the water flowing along the Quiaoit River is seasonal and it usually dries up during summer season, the District installed 5hp and 3hp pumping equipment in which 5hp is being utilized during rainy season and 3hp during summer season. The design of the infiltration gallery is made up of horizontal tunnel of brick masonry with open joints.

Infiltration Gallery 3 is located 100m away from Infiltration Gallery 1. It is constructed horizontally at a shallow depth below the Quaioit River. The impounding is made up 48pcs 1mx1m perforated and non-perforated RC pipes. The water chamber is made up of 11pcs non-perforated RC pipes installed vertically from which the water is pumped to the chlorinator machine and to the distribution lines. Infiltration Gallery consists of two pumping equipment of 5hp and 3hp. It has a total capacity of 15lps during rainy season. This water source was constructed on March 2011.

1.5.6.7 Infiltration Gallery 2 - Colo

Infiltration Gallery 2 was patterned from infiltration gallery 1 but with a smaller impounding capacity. It is located 120m away

from Infiltration Gallery 1. It has 3hp pumping equipment and a yield of 6lps during rainy season. It is being shut-off during summer season since it usually dries up when there is no water flowing along the Quaioit River. All the treated water coming from Infiltration Gallery 1, 2, 3 & 4 and drilled wells 5, 6, 7 & 8 will be pumped to the 267 cum ground reservoir located at Barani Hill, Brgy. Barani City of Batac before it will be distributed to the concessionaires.

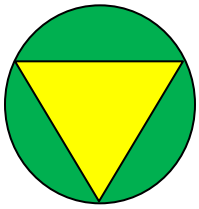
1.5.6.8 Reservoir/Tanks

There are two reservoirs/tanks of the Batac Water District. The first is the 267 ground, concrete reservoir located at Barani Hill, Brgy. Barani City of Batac. All the treated water coming from Infiltration Gallery 1, 2, 3 and 4 and Deep Wells No. 5, 6, 7 and 8 is being pumped to the said reservoir before it will be distributed to the consumers.

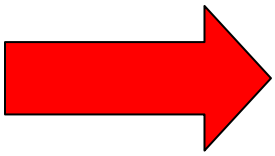
The other reservoir is located in Brgy. Baay City of Batac. It is a 75cum ground, concrete reservoir. Water coming from Deep Well Nos. 1, 2 and 9 is pumped into this reservoir before it will be distributed to the consumers.

1.5.7. Process Flow Diagram

LEGEND:

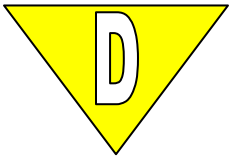


SOURCE WITH PUMP STATION/CHLORINATOR

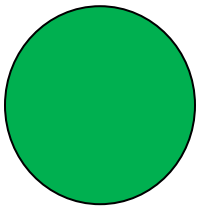


TRANSMISSION

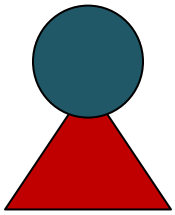
MONITORING



STORAGE

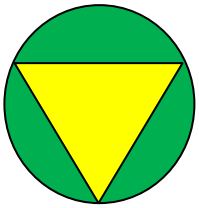
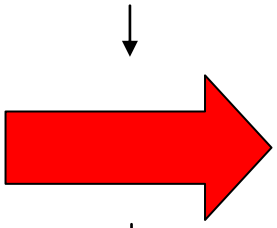
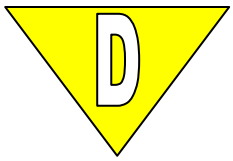
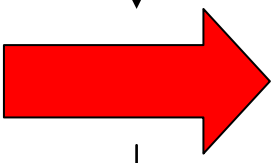
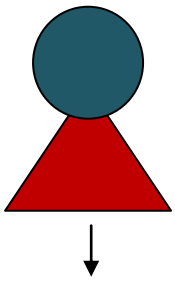


SOURCE

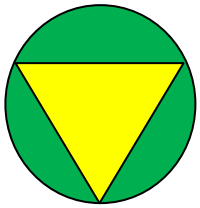
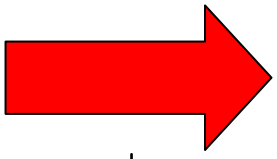
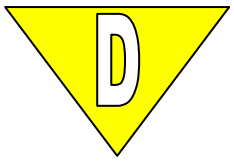
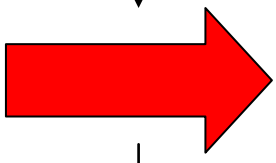
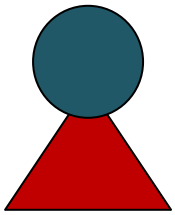
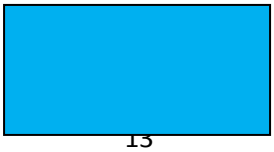


CONCESSIONAIRE

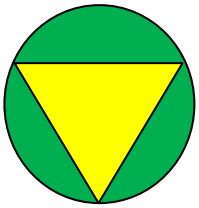
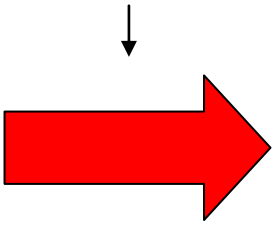
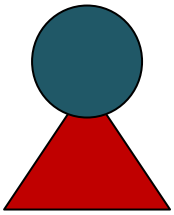
1.5.7.1Process Flow Diagram – Main System

Description	Step	Responsible/In-Charge
1. Source with Pump Station/Chlorinator (Infiltration Gallery 1, 2, 3 & 4 and Well # 7)		Source and Treatment Unit Multiple Stakeholders
2. Transmission		Distribution Unit
3. Storage		Source and Treatment Unit
4. Transmission		Distribution Unit
5. Monitoring		Source and Treatment Unit Distribution Unit Multiple Stakeholders
6. Concessionaire		Support Unit
7. Monitoring		WSP Team

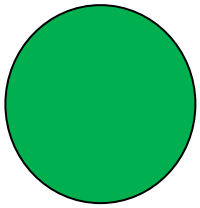
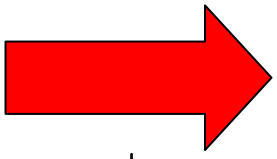
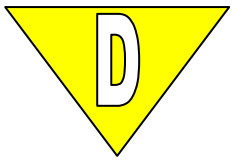
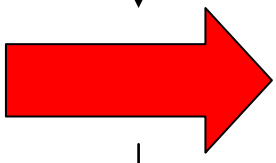
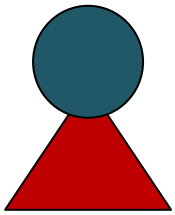
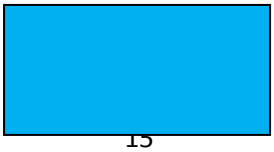
1.5.7.2 Process Flow Diagram – Baay Pump Station

Description	Step	Responsible/In-Charge
1. Source with Pump Station/Chlorinator (Well # 1, 2 and 8)		Source and Treatment Unit Multiple Stakeholders
2. Transmission		Distribution Unit
3. Storage		Source and Treatment Unit
4. Transmission		Distribution Unit
5. Monitoring		Source and Treatment Unit Distribution Unit Multiple Stakeholders
6. Concessionaire		Support Unit
7. Monitoring		WSP Team

1.5.7.3 Process Flow Diagram – Quiling Norte Pump Station

Description	Step	Responsible/In-Charge
1. Source with Pump Station/Chlorinator (Well # 3 and 4)		Source and Treatment Unit Multiple Stakeholders
2. Transmission		Distribution Unit
3. Monitoring		Source and Treatment Unit Distribution Unit Multiple Stakeholders
4. Concessionaire		Support Unit
5. Monitoring		WSP Team

1.5.7.4 Process Flow Diagram – Well # 5, 6,7 and Infiltration Gallery 2

Description	Step	Responsible/In-Charge
1. Source		Source and Treatment Unit
2. Transmission		Distribution Unit
3. Storage		Source and Treatment Unit
4. Transmission		Distribution Unit
5. Monitoring		Source and Treatment Unit Distribution Unit Multiple Stakeholders
6. Concessionaire		Support Unit
7. Monitoring		WSP Team

1.5.8 Treatment Process

Chlorination is the process being used by the Batac Water District since the water quality is compatible with the Philippine National Standard for Drinking Water (PNSDW). This method is used by the District in all its water sources to kill certain bacteria and microbes and to prevent the spread of waterborne diseases.

The District uses powder chlorine granular 70% purity to disinfect the water being supplied to the concessionaires with the following process:

1) The Pump Operator should always wear protective devices before preparing the chlorine solution;
2) The Pump Operator fills the 200 liters mixing drum at least one third of water;
3) Then weigh 6 kilos of chlorine granules during normal days and 9kilos during rainy days;
4) Pour the chlorine;
5) Stir the solution for about 30 minutes or until granules fully mixed;
6) While mixing the chlorine turn on the hose to fully fill the drum;
7) Cover the mixing drum and wait for 24 hours to allow particles to settle at the bottom of the mixing tank;
8) When water is already clear, greenish in color, fill the suction hose with water until air is out and put back to the chlorinating drum to start chlorination;
9) The chlorine mixture is then injected into the transmission lines going to the reservoir;
10) Chlorinated water then flows from the reservoirs into the transmission/distribution lines;
11) The Pump Operator then check residual chlorine, if not within .3ppm to 1.5ppm, adjust flow rate;
12) Before mixing another batch, collect settled particles and put in an empty chlorine container for proper disposal;
13) Clean the other drum, ready for the next mixing;
14) End.

The Technical Staff in a yearly basis chlorinate the water sources or wells of the District. Chlorination is, in most instances, an effective means of removing contamination from a properly situated well of approved construction. Directions for this treatment process are given below as step procedures:

Step 1: Mix six (6) kilos of chlorine thoroughly with 200 liters of water.

Step 2: Remove the well cap or seal from the top of the well casing.

Step 3: Pour the chlorine mixture. Care must be taken to prevent the chlorine solution from splashing and coming in contact with skin or eyes.

Step 4: Attach a hose to the faucet on the discharge side of the pump and wash down the walls of the casing with the chlorinated water from the well for about 30minutes. This flushing not only disinfects the walls of the casing but also circulates the chlorinated water to all the pump and well parts.

Step 5: Allow the chlorine solution to act in the well for a period of 24hours.

Step 6: After 24 hours, the technical staff will flush out the water until the odor of chlorine could no longer be detected. Following chlorination, seven (7) days should elapse before the system is again sampled. If bacteriological analysis of the sample reveals it to be free of contamination, a second sample should be obtained at a later date to insure that the system remains free of contamination.

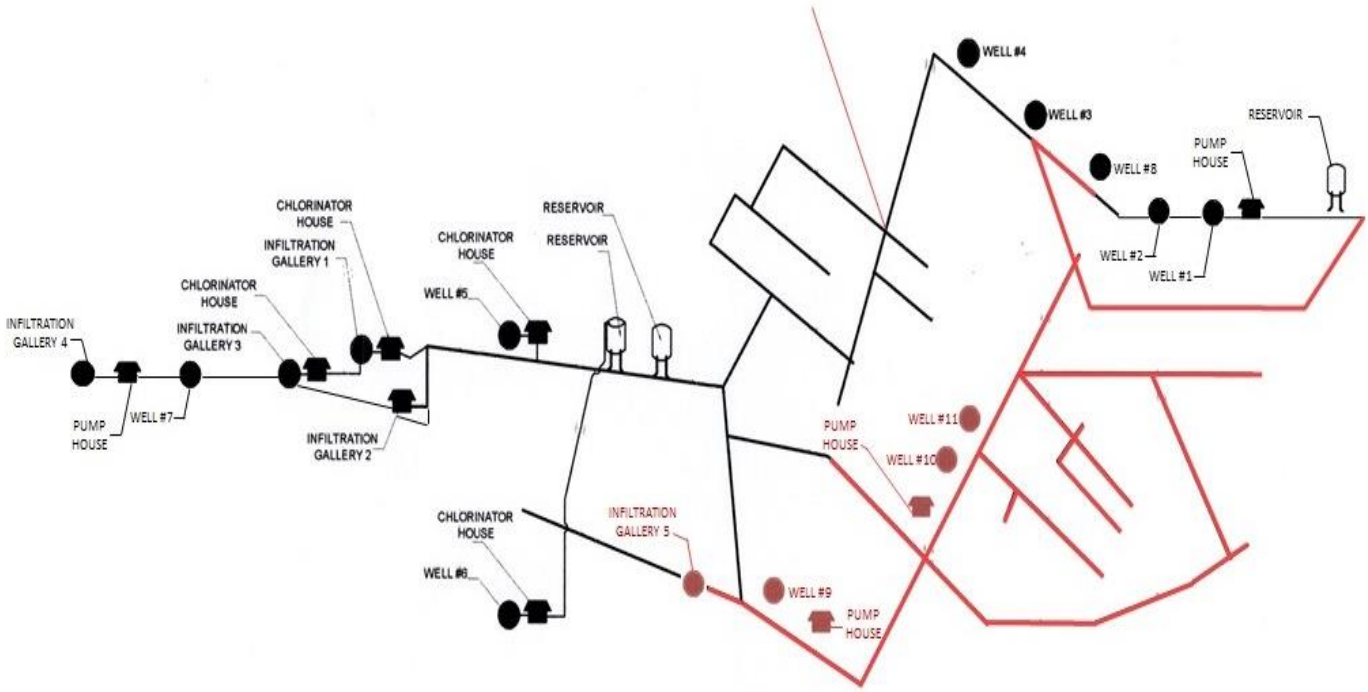
1.5.9 Distribution System

The existing distribution network of the Batac Water District covers the fourteen (14) poblacion/urban barangays of the City of Batac namely: Ricarte, Valdez, Ablan, Cangrunaan, Nalupta, Cal-laguip, San Julian, Caunayan, Acosta, Aglipay, Barani, Lacub, Ben-Agan and Pal-palicong. The netwok also covers ten (10) rural barangays namely: Baay, Bungon, Baligat, Quiling Norte, Quiling Sur, Tabug, Payao, Colo, Parangopong and Bil-loca.

The distribution network of Baay Potable Water System Project is exclusively for Barangays Baay and Bungon. And for Quiling Norte Pump Station the distribution network has been interconnected with the distribution network of the Poblacion or the City proper.

The distribution/pipe network of the District consists of varying pipe sizes from 25mm to 150mm of different types.

1.5.9.1 Distribution System of the Batac Water District



SCHEMATIC DIAGRAM
OF EXISTING AND PROPOSED SYSTEM
FACILITIES

*Legend
Red Color – Proposed Expansion Project

1.5.10. Water Quality Required

The Batac Water District continues to strive for full compliance on the national standard for drinking water by improving the quality of water it provides to the community by treating the water religiously through chlorination.

And to monitor the safety and potability of water to be distributed, physical and chemical tests of water samples are done in a yearly basis, Fecal Coliform Test and Total Coliform Test including Ph of water directly from the faucets are done in a monthly basis and chlorine residual test is conducted daily. Results of these tests should conform to the standards set by the Philippine National Standards for Drinking Water.

1.5.10.1 Physical and Chemical Analysis

Parameters	Method of Analysis	Permissible Limits
Physical Analysis		
Turbidity	Turbidimetry	5
Apparent Color (Color Units)	Visual Comparison	10
Chemical Analysis		
pH	Electrometric	6.5-8.5
Total Dissolved Solids (mg/L)	Gravimetric	500
Sulfate (mg/L)	Turbidimetric	250
Nitrate (mg/L)	Cd Reduction	50 0.03MDL
Chloride	Argentometric	250
Benzene	Qualitative Test	0.01
Metal Analysis (mg/L)		
Iron (Total)	AAS	1.00
Manganese (Total)	AAS	0.40
Arsenic	Silver Diethyldithiocarbamate	0.01 0.0092MDL
Cadmium	AAS	0.003 0.002
Lead	AAS	0.01 0.0094

2. SYSTEM OPERATIONS OVERVIEW

2.1 Organization and Responsibilities

2.1.1 Board

The Board is the Policy-Making Body of the Batac Water District. It is composed of five citizens of the Philippines who are of voting age, residents within the district and not government employees whether appointed or elected. One member shall be a representative of civic oriented clubs, one member a representative of professional associations, one member a representative of business, commercial or financial organizations, one member a representative of educational institutions and one member a representative of women's organizations. (Chapter III Sec. 8, PD 198) They shall be appointed by the Local Executive from the list of nominees submitted by the Board Secretary. If no nominations are submitted by the Board, the appointing authority shall appoint any qualified person of the category to the vacant position. In the event that the Local Executive fails to appoint one from the list submitted within 30 days, the vacancy shall be filled from such list by a majority vote of the remaining members of the Board of Directors. The term of office of the Board of Directors is 6 years per term and renewable. Board of Directors may be removed for cause only, subject to review and approval of the Local Water Utilities Administration.

The Board being the Policy-Making Body has the function to establish policy and they shall not engage in the detailed management of the Batac Water District.

The General Manager is appointed by the Board by a majority vote and will define his/her duties and responsibilities. Said officer (General Manager) shall not be removed from office except for cause and after due process.

The Board has all the powers, privileges and duties of the BWD and shall be exercised and performed such by and through them. And that any executive, administrative or ministerial power shall be delegated and re-delegated by the Board to officers or agents designated for such purpose by the board. (Chapter V, Sec.17, PD 198)

The members of the Board of Directors of the BWD are the following:

1) Mrs. Aurora V. Lumang – Chairman (Women's Sector);

2) Mr. Warlito A. Rigonan – Vice-Chairman (Educational Institutions);

3) Dr. Mary Lu B. Magno – Secretary (Professional Associations);

4) Mr. Jesus Ariel R. Garcia – Treasurer (Business, Commercial and Financial); and

5) Mrs. Perla C. Marders – Member (Civic-Oriented Clubs)

2.1.2 General Manager

The General Manager is appointed by the Board of Director and his/her duties shall be determined and specified from time to time by the board. The General Manager shall not be removed from office, except for cause and after due process. (As amended by Sec. 9, PD 768; RA 9286)

The duties of the General Manager who shall not be a director are the following:

1) To supervise and control the maintenance and operation of the BWD facilities;

2) To direct the basic efforts of all organic personnel towards achieving utility goals and objectives within established policies;

3) To prepare office policies, rules and regulations and budget for Board's actions;

4) To carry out Board policies;

5) To prepare agenda for meetings of the Board of Directors and to keep the Board informed as to utility status; and

6) To appoint all personnel of the BWD.

At present the General Manager is Ms. Maria Dohna D. Sagun.

2.1.3 Legal Counsel

The legal counsel of the Batac Water District since January 2008 is Atty. Howard Randy Arzadon, a native of the City of Batac and connected with the Office of the Government Corporate Counsel (OGCC). His duties are to render legal services, special tasks and other corporate assistance to the BWD.

2.1.4 Board Recording Secretary

The Board Recording Secretary attends board meetings in order to create a more systematic way of narrating the events, facts and decisions transpired during board meeting. His/her other duty is to file all resolutions and minutes of meeting for documentation and future references.

2.2. Operation Control and Supervision

2.2.1 Finance and Administrative Section

The Finance and Administrative Section is composed of the Accounting, Human Resource Management, Planning and Property Management units.

2.2.1.1 The Accounting Unit

It is the center of the business operations of the BWD. It is the unit that responsible for the day to day business transactions of the BWD from disbursements, cash collections, payroll, properties and inventories and financial reporting. It maintains accounting records in strict adherence to the prescribed government accounting principles and standards. It complies with other government agencies such as COA and BIR. This unit is responsible for managing properly the cash flow ensuring that all payables in GSIS, PHIC, Pag-Ibig, LWUA, lending institutions and suppliers are being paid. It provides Board and the General Manager with the necessary financial information in order to help in planning, directing and coordinating programs, projects and other financial activities.

2.2.1.2 Human Resource Management Unit

This Unit administers all personnel matters from posting of vacancies; preparing and maintaining of File 201 and appointments;

performance ratings merits and awards, sanctions and promotes human resource development programs.

This Unit also enforces laws, rules and regulations as contained in the Omnibus Rules on Civil Service and BWD internal rules.

2.2.1.3 Property Management Unit

This Unit is responsible in the procurement, recording, storing, issuing and distributing of supplies, materials and equipment necessary in the operation of the BWD.

This Unit is also responsible in the disposition of unserviceable materials, supplies and equipment subject to the existing rules and regulations of COA.

2.2.1.4 Planning Unit

This Unit assists in the periodic planning and evaluation processes. It coordinates and provides recommendations with the medium and long term plan of the General Manager to be approved by the Board of Directors.

This Unit also prepares budget proposals and allots obligation of funds.

2.2.2 Commercial Section

The Commercial Section is composed of the Billing and Collection Units. It also includes the collection of fees received from frontline services of the BWD such as application fee on water service connection, re-connection fee, transfer meter fee, charges on additional materials, penalties and other charges.

2.2.2.1 The Billing Unit

This Unit is responsible in billing the consumers from the application fee, additional materials in installing the water service connection, monthly water bills, penalties and other charges.

This Unit is also responsible in issuing demand letters to delinquent concessionaires. It also implements rules and regulations on pilferages.

This Unit recommends for study to the General Manager and for the approval of the Board if the application fee is still reasonable or not

based from the cost of the materials needed for a new water service connection.

2.2.2.2 The Cash Unit

This Unit takes charge of the collection and disbursement of funds. It ensures that all cash received and receivables from water sales, materials and all other sources are properly identified, recorded and maintained.

2.2.3 Technical Section

The Technical Section is the backbone of the BWD. This Unit is responsible in the production and monitoring of water sources. It ensures stability of water supply 24/7. It takes charge in recording the production of each water source and pressure of water from the source up to consumers.

The Technical Unit ensures the potability and safety of water from the source to the consumers through treating the water religiously and conducting several tests to conform to the Philippine National Standard for Drinking Water such as physical and chemical tests, microbial test and chlorine residual test.

The Technical Unit implements new service connection, reconnection and disconnection services, repairs and maintenance of pipe network, recommends possible source development and expansion projects, and prepares estimates for proposed projects.

This Unit also implements flushing of hydrants and non-revenue water management.

It also recommends and assists in the implementation of watershed activities such as tree planting, water shed monitoring, and environmental monitoring plan.

2.3 Operating Procedure

2.3.1 Production

2.3.1.1- Water Sources-Pumping Operation Procedures

1) Turn-on control board main breaker and check voltage. Voltage must be 220-240 volts;

2) Turn-on motor. Check amperes;

3) Open the discharge valve for 3-5 minutes or until water is clear;

4) Open valve going to the transmission line slowly likewise close the discharge valve slowly;

5) Fully open valve going to the transmission line and maintain pressure not less than 40psi;

6) Turn-on the chlorinator machine making sure that the tank is full;

7) Check the chlorinator machine if functioning;

8) Monitor the chlorine residual at the nearest source point. Adjust if more or less 1.5ppm;

9) After 24 hours operation, Water Resources Facilities Operator C, record the Flow Meter Reading.

2.3.1.2 Generator Set Operation during Power Interruption

1) Turn-off all electrical breakers;

2) Check the fuel level of the generator set making sure the tank is full;

4) Check the water and oil level making sure it is within the required level of the gen set;

5) Start the engine;

6) Warm up the engine for 3-5minutes;

7) Turn-on generator set main breaker;

8) Turn-on generator set breaker in the double throw breaker;

9) Make sure that gen set is set at 60hertz;

10) Proceed to pumping operation procedure;

11) The WRFO C should check the gen set at least every hour for fuel level;

12) Turn-off pumping equipment when power from the electric cooperative resumes;

13) Turn- off gen set breaker in the double throw;

14) Turn-on breaker in the electric cooperative power source;

15) Check the voltage and once it is within 220-240 volts, proceed to pumping operation procedure;

16) Check the psi and chlorinator machine;

17) Record the time the gen set has been used.

2.3.1.3 Preparation of Monthly Production Report

1) Compute the volume of water produced by the various water sources based from the Production Logbook;

2) Compute the metered sales in cubic meters based from the Monthly Billing Summary;

3) Compute the unaccounted water based from the data arrived from Steps 1 and 2;

4) Submit the Monthly Production Report to the Finance Section and to the General Manager.

2.3.1.2 Treatment Procedure

2.3.1.2.1 Chlorine Treatment Procedure

1) The Pump Operator should always wear protective devices before preparing the chlorine solution;

2) The Pump Operator fills the 200 liters mixing drum at least one third of water;

3) Then weigh 6 kilos of chlorine granules during normal days and 9kilos during rainy days;

4) Pour the chlorine;

5) Stir the solution for about 30 minutes or until granules fully mixed;

6) While mixing the chlorine turn on the hose to fully fill the drum;

7) Cover the mixing drum and wait for 24 hours to allow particles to settle at the bottom of the mixing tank;

8) When water is already clear, greenish in color, fill the suction hose with water until air is out and put back to the chlorinating drum to start chlorination;

9) The chlorine mixture is then injected into the transmission lines going to the reservoir;

10) Chlorinated water then flows from the reservoirs into the transmission/distribution lines;

11) The Pump Operator then check residual chlorine, if not within .3ppm to 1.5ppm, adjust flow rate;

12) Before mixing another batch, collect settled particles and put in an empty chlorine container for proper disposal;

13) Clean the other drum, ready for the next mixing.

2.3.1.2.2 Chlorine Treatment Procedure at Source

The Technical Staff in a yearly basis chlorinate the water sources or wells of the District. Chlorination is, in most instances, an effective means of removing contamination from a properly situated well of approved construction. Directions for this treatment process are given below as step procedures:

Step 1: Mix six (6) kilos of chlorine thoroughly with 200 liters of water;

Step 2: Remove the well cap or seal from the top of the well casing;

Step 3: Pour the chlorine mixture. Care must be taken to prevent the chlorine solution from splashing and coming in contact with skin or eyes;

Step 4: Attach a hose to the faucet on the discharge side of the pump and wash down the walls of the casing with the chlorinated water from the well for about 30minutes. This flushing not only disinfects the walls of the casing but also circulates the chlorinated water to all the pump and well parts;

Step 5: Allow the chlorine solution to act in the well for a period of 24hours;

Step 6: After 24 hours, the technical staff will flush out the water until the odor of chlorine could no longer be detected. Following chlorination, seven (7) days should elapse before the system is again sampled. If bacteriological analysis of the sample reveals it to be free of contamination, a second sample should be obtained at a later date to insure that the system remains free of contamination.

2.3.1.2.3 Bacteriological Test

1) Sampling from a tap or household faucet at random making sure that areas covered shall be coming from the nearest point from every source where full chlorination shall have been attained, nearest point of every distribution dead-end, nearest point at tank or reservoir outlet and sample for each Commercial zone rotated at random from concessionaires;

2) Clean the tap or faucet by wiping the outlet with a clean cloth to remove dirt;

3) Turn-on the faucet at maximum flow rate allowing the water flow for 1-3 minutes;

4) Sterilize the faucet for 1 minute with the flame of an ignited cotton wool swab soaked in alcohol either denatured or 70% Isoprophyl;

5) Carefully turn on the faucet and allow 1-2 minutes at medium flow before sampling;

6) Open a sterilized bottle and immediately hold the bottle under the water faucet and fill the bottle at least 100ml of water sample. Make sure that a small air space should be left to facilitate shaking at the time of inoculation prior to analysis;

7) Capped the bottle and labeled properly i.e. date and time of sampling and source/point of sampling;

8) Deliver water sample to Ilocos Norte Water District – DOH accredited laboratory center. The water sample collector should see to it that the water analysis shall be done 6 hours from the time of collection and the time of lapsing between collection and processing should not exceed 24 hours;

9) When the results is on hand, prepare the Summary Report on Microbiological Test filling-up all the necessary data and information and send to LWUA-Management Advisor;

10) Another copy of the Summary Report on Microbial Test shall be forwarded to the City of Batac Health Office;

11) Maintain a file of the Summary report on Microbial Test.

2.3.1.2.4 Chlorine Residual Test

1) Sampling from a tap or household faucet at random making sure that areas covered shall be coming from the nearest point from every source where full chlorination shall have been attained, nearest point of every distribution dead-end, nearest point at tank or reservoir outlet and sample for each Commercial zone rotated at random from concessionaires;

2) Clean the tap or faucet by wiping the outlet with a clean cloth to remove dirt;

3) Turn-on the faucet at maximum flow rate allowing the water flow for 1-3 minutes;

4) Sterilize the faucet for 1 minute with the flame an ignited cotton wool swab soaked in alcohol either denatured or 70% Isoprophyl;

5) Carefully turn on the faucet and allow 1-2 minutes at medium flow before sampling;

6) Remove the cap of the CL tube of the Chlorine Residual Kit and rinse;

7) Fill the CL tube with water sample until the level with line just under CL marking on tube;

8) Remove the cap of the ortho-tolidine solution and squeeze 5 drops of solution into the CL tube;

9) Cover the CL tube with the cap and invert the tube several times to mix ortho-tolidine solution with water sample for 10 seconds;

10) Compare the color of the solution with the adjacent color markings to determine the numerical reading;

11) Record the result in the Daily Chlorine Residual Monitoring Report;

12) On the third day of the ensuing month, submit the Daily Chlorine Residual Monitoring Report to the WSP Team Leader and to the General Manager;

13) Submit the Daily Chlorine Residual Monitoring Report to LWUA and to the City Health Office.

2.3.1.2.5 Physical and Chemical Test

The Physical and Chemical Test is a twice a year laboratory testing of the raw water or water at source without treatment yet. There are several parameters to be tested and these should conform to the standards set by the PNSDW 2007.

The following are the parameters to be tested, method of analysis and permissible limits.

Parameters	Method of Analysis	Permissible Limits
Physical Analysis		
Turbidity	Turbidimetry	5
Apparent Color (Color Units)	Visual Comparison	10
Chemical Analysis		
pH	Electrometric	6.5-8.5
Total Dissolved Solids (mg/L)	Gravimetric	500
Sulfate (mg/L)	Turbidimetric	250

Nitrate (mg/L)	Cd Reduction	50 0.03MDL
Chloride	Argentometric	250
Benzene	Qualitative Test	0.01
Metal Analysis (mg/L)		
Iron (Total)	AAS	1.00
Manganese (Total)	AAS	0.40
Arsenic	Silver Diethyldithiocarbamate	0.01 0.0092MDL
Cadmium	AAS	0.003 0.002
Lead	AAS	0.01 0.0094

The following are the procedures to be followed:

1) Flush the water from the discharge test line for at least 20-30 minutes to ensure that the sample is safe and clean;

2) Clean the opening of the discharge test line with clean cloth to remove dirt;

3) Then flush again for 15 minutes before sampling;

4) Fill the 1.5 bottles with water sample, then capped the bottle and labeled properly with date and time of sampling, source/point of sampling;

5) Place (In a vertical potion) the bottle in a cooler with cube ice making sure that it reaches the DOH accredited laboratory testing within 24 hours;

6) Submit the results to LWUA and to City Health Office. In case it exceeded the permissible limit of any of the parameter, implement corrective measure immediately or abandon if necessary.

2.3.1.3 Non-Revenue Water Reduction

One of the major challenges the BWD is facing is the Non-Revenue Water. If a large proportion of water that is supplied is lost, meeting consumer demands is much more difficult. Since this water yields no revenue, heavy losses also make it harder to stabilize the BWD's finances.

Non-Revenue water is water which is produced and supplied but not paid for, including technical losses (leakage), not billed water (conflagration), illegal

connections, poor water meter performance and inaccurate reading and accounting of metered flows.

The following are the Non-Revenue Management Program of the BWD:

2.3.1.3.1 Technical Losses (Leakages)

1) The Commercial Section attends to maintenance request such as repair of leakages whether transmission line leak, service line leak and meter leak immediately upon receipt of complaint from consumer whether walk-in or phone call;

2) Properly identify the leak and fill out Maintenance Request Form;

3) Submit the accomplished Maintenance Request Form to the General Manager for approval;

4) The General Manager approves the request and schedules the work implementation;

5) The Technical Section implements repair;

6) The Technical Section returns the Maintenance Request Form as a proof that the work has been accomplished to the Commercial Section;

7) The Commercial Section files the returned Maintenance Request Form for generating report.

2.3.1.3.2 Illegal Connection

The BWD has a policy on providing monetary rewards to informant of illegal connection.

1) Receives information from informant on illegal connection of a disconnected consumer or non-consumer;

2) The Technical Section will survey the alleged illegal connection with witnesses coming from the alleged individual committing pilferages and BWD staff;

3) If the result is positive, document the illegal connection;

4) Then immediately disconnect the illegal connection;

5) Advise the person concerned to appear immediately before the General Manager;

6) The General Manager informs the person concerned on the two sanctions of committing illegal connection;

7) Let the person concerned choose between the two sanctions;

8) Prepare the agreement of settlement to be entered by the two parties.

2.3.1.3.3 Poor water meter performance

Commercial losses such as poor water meter performance is always less in volume than physical losses, but this does not mean is any less important. Because of the laws on lowest responsive bidder quality is being sacrificed which will lead to commercial losses.

The BWD has a policy (BOD Resolution No. 11 series of 2016) to replace five years old meter to a new one in order to get the most accurate reading/performance.

1) The Commercial Section issues mandatory Water Meter Replacement Project letter to the affected consumer;

2) Upon acceptance by the consumer, the Commercial Section will report to the General Manager;

3) The General Manager will issue the Job Order;

4) The Technical Section implements the Job Order and retrieve the old meter;

5) Stock the old meter for auditing purposes;

2.3.1.3.4 Inadequate Reading and Accounting of Metered Flows

1) The Meter Reader compares the reading from the previous months if suspicious reading is noticed;

2) Make a report to the Commercial Section;

3) The Commercial Section prepares Maintenance Request Form and submits to the General Manager for approval;

4) The General Manager approves the request and schedules the work activity;

5) The Technical Section inspects the water meter, calibrate if necessary;

6) If it is defective, immediately change the water meter;

7) In case of high consumption, average the three months consumption including the current;

8) Prepare Adjustment Memo and serve to the consumer concerned;

9) Record the adjusted bill in the Daily Billing Summary Report and Ledger Cards;

2.3.1.4 Transmission and Distribution Line Procedures

2.3.1.4.1 Transmission/Distribution Line Repair

1) Attend to the complainant immediately;

2) Properly identify the leak and fill-out maintenance form;

3) The Technical Section assesses the work to be done and list down the materials needed;

4) Request the Commercial Section for a Requisition and Issue Slip;

5) Submit to the General Manager the duly accomplished Maintenance Form and RIS for approval;

6) The General Manager approves request and schedules the repair immediately;

7) The Admin posts the work/activity and the duration of the activity at the Website of the District if it will cause water service interruption;

8) The Technical Staff proceeds to the affected area bringing with them the materials to be used;

9) Before the actual work will start, close the nearest gate valves to prevent water from flowing in the affected transmission line;

10) Water pump is used to drain the water while cutting the affected pipe to prevent ingress of contaminants;

11) Before installing the new pipe, place chlorine granules about 200grams inside the pipe to disinfect the affected line;

12) After the installation of new pipe, nearest blow-off is then open and the main valve is also slowly open;

13) Close the blow-off when water becomes clear;

14) While pressure is building up, check the fitting for leaks, if there is any; tighten the bolt if none and leave the area but be sure that cautious signage is provided to avoid accident;

15) Backfilling, compaction and restoration are to be done the following day.

2.3.1.4.2 Installation of new connection

1) Provide the client/applicant with the application form and brief him/her on the services and charges;

2) Receive and review the application form. Advise the applicant to return to the office after 4hours for the result of the area survey;

3) Inspect, assess and verify the area where to be installed;

4) Estimates the additional materials if any

5) The Technical Section submits the application form indicating the additional materials to be paid;

6) Once paid by the applicant, the General Manager will approve the application and the Plumber will ready the materials needed;

7) The technical staff proceeds immediately to the site and install service connection;

8) The technical staff will see to it that backfilling, compaction and restoration are to be done immediately;

9) Have the concessionaire conform job order that new connection is well done Plumber will submit the duplicate copy of the application form to the Commercial Section for recording purposes.

2.3.1.4.3 Water Meter Maintenance

1) Recalibration of new water meters;

2) Replacement of water meters 5-year old and above;
3) Removal/replacement of faulty or defective water meters;
4) Clustering of water meters.

2.3.2. Commercial

2.3.2.1 Service Connection

It is the topmost service of the BWD to residents of the City of Batac who want to have safe, potable and affordable water at their most convenient way. If requirements are complete, service connection can normally be installed in one (1) working day.

Attached services are reconnection and disconnection of water service and transfer meter.

2.3.2.1.1 Water Service Connection

1) Provide the client/applicant with the application form and brief him/her on the services and charges;

2) Receive and review the application form;

3) Advise the applicant to pay the application fee first;

4) Receive payment and issue the corresponding official receipt;

5) Advise the applicant to return to the office or call the office after four hours for the result of the area survey, if there are additional materials to be paid;

6) Receive payment and issue corresponding official receipt for the additional materials;

7) Submit the application form for approval and work scheduling to the General Manager;

8) The General Manager approves the application, schedules the work activity and returns the application form to the Commercial Section;

9) The Commercial Section gives the application form to the Technical Section for installation;

10) The Technical Section returns the duplicate of the application form to the Commercial Section;

11) The Commercial Section records the name of the new consumer, address and assigned account number in the logbook, meter reading card and ledger card;

12) The Commercial Section files the duplicate copy of the application form.

2.3.2.1.2. Reconnection of Water Service

1) Verify the name of the client from the list of disconnected consumers or ledger card if she/he has arrears;

2) If the disconnection date is beyond the three-year policy of disconnection the request is taken as new connection; hence she/he has to pay the application fee including arrears, if there's any;

3) If the disconnection date is within three years, she/he has to pay the reconnection fee including arrears, if there's any;

4) Receive payment and issue the corresponding official receipt;

5) Prepare the Service Request Form and submit to the General Manager for approval and scheduling;

6) The General Manager returns the Service Request Form to the Technical Section for implementation;

7) The Technical Section implements the work activity and returns the Service Request Form to the Commercial Section;

8) The Commercial Section records the reconnection data to the log book to be included in the next billing.

2.3.2.1.3 Disconnection of Water Service

1) Verify the client consumer's ledger card if she/he has still unpaid account to the BWD;

2) In case there is unpaid account, inform him/her to settle the account before the request shall be granted;

3) Receive payment and issue corresponding official receipt;

4) Prepare the Service Request Form and submit to the General Manager for approval and scheduling;

5) The General Manager approves, schedules the work activity and returns the Service Request Form to the Commercial Section;

6) The Commercial Section gives the Service Request Form to the Technical Section for implementation;

7) The Technical Section returns the duplicate of the Service Request Form to the Commercial Section for recording;

8) The Commercial Section records the name and date disconnection;

9) The Commercial Section files the Service Request Form for generating report purposes.

2.3.2.1.4 Transfer of Water Service Connection

1) Inform the consumer of the charges;

2) Receive payment and issue corresponding official receipt;

3) Prepare the Service Request Form and submit to the General Manager for approval and scheduling;

4) The General Manager approves the request, schedules the work activity and returns the Service Request Forms to the Commercial Section;

5) The Commercial Section gives the Service Request Forms to the Technical Section for implementation;

6) The Technical Section returns the duplicate of the Service Request Form to the Commercial Section for recording;

7) The Commercial Section records the name and date disconnection;

8) The Commercial Section files the Service Request Form for generating report purposes.

2.3.2.1.5 Application for Senior Citizen Program

1) Verify the date of water service connection of the applicant if it is one year and above;

2) If his/her connection is already one year and above, provide him/her Senior Citizen Application Form;

3) Inform the applicant of the documentary requirements for availing the 5% discount and the Implementation, Rules and Regulation of the Program;

4) Upon submission of the documentary requirements, review the completeness of the same;

5) Submit the Senior Citizen Application Form and the documentary requirements to the General Manager for approval;

6) The General Manager approves the application and returns the papers to the Commercial Section for notification, recording and filing;

7) The Commercial Section notifies the applicant for the approval of his/her Senior Citizen Program availment;

7) The Commercial Section records the name of the concerned Senior Citizen availing the Program and files the Forms and other documents.

2.3.2.2 Billing

The current billing cycle of the BWD is 30 calendar days. This includes meter reading up to the last day of penalty date. A penalty charge of 25% shall be imposed in addition to the water charge if the payment is not made on or before the due date. The water service shall be disconnected after another 20 days without further notice and shall not be reconnected except upon payment of all amounts due. The BWD currently utilizes the read and bill method. A meter reading cards, monthly billing consumption reports and ledger cards are maintained to keep all the records of the consumers which give ease in the billing process and answering consumers' complaints and inquiries.

2.3.2.2.1 Pre-addressing and Posting of Arrearages

1) Before the reading period, the Customer Service Assistant D prepares the Billing Statement for each billed consumer;

2) Fill-out the Billing Statement of the name of the consumer, account number, reading date, covering period, previous reading, present reading, tax, discounts, penalty and total amount;

3) For consumer with arrears it includes in the Billing Statement the previous balance;

4) After posting all the needed data, insert the Billing Statement of each consumer in the Meter Reading Card;

5) Issue the Meter Reading Cards with the Billing Statements to the Meter Readers on or before the reading period;

6) The Meter Readers submits the Meter Reading Cards to the CSA D for recording.

2.3.2.2.2 Meter Reading

1) On the reading date, the Meter Reader checks the Meter Reading Cards and Billing Statement before leaving the office;

2) Meter Reader reads water meters and records the current readings in the Meter Reading Cards;

3) Fill-up the Billing Statement as to other data such as present reading, consumption/usage, franchise tax, early payment discount, Senior Citizen discount if applicable, total amount before due date and total amount after due date;

4) Affix signature of the Meter Reader in the Billing Statement;

5) Serve the Billing Statement to the consumer or leave it the mail box. (The failure to receive the Bill does not relieve the consumer of his/her liability under the contract of services);

6) The Meter Reader submits the Meter Reading Card to the CSA D for posting/recording.

2.3.2.2.3 Billing

1) Immediately after the submission of the Meter Reader of the Meter Reading Cards, post the cubic meters consumed and the corresponding amount, franchise tax and total bill amount in the Monthly Billing Report;

2) Prepare the Monthly Billing Report in duplicate for verification and posting;

3) Adjust any incorrect entry, if any and prepare the Billing Adjustment Memo to be submitted to the General Manager for approval;

4) The General Manager approves the Billing Adjustment Memo and returns to the Commercial Section for its issuance to the consumer concerned;

5) The Meter Reader serves the Billing Adjustment Memo to the concerned consumer.

2.3.2.2.4 Posting of Water Bills in the Ledger Cards

1) Submit the Monthly Billing Report to the Finance Section for verification;

2) After checking the Monthly Billing Report vis-à-vis the Meter Reading Cards the Finance Section submits the verified Monthly Billing Report to the General Manager;

3) The General Manager approves for posting in the Ledger Cards the Monthly Billing Report;

4) The CSA E posts the Monthly Billing Report to the Consumers' Ledger Cards.

2.3.2.3 Collection

Water Bills are due and payable at the Office of the Batac Water District on the date of delivery of Billing Statement to the consumer or his authorized representative agents and shall be declared delinquent fifteen (15) days thereafter. On due date, however field collection is also conducted to enhance the collection efficiency of the BWD.

2.3.2.3.1 Payment of Bills at the Office

1) Give priority to the Senior Citizens, Pregnant Women and Persons with Disability;

2) Receive, review and verify the figures in the Billing Statement from the Monthly Billing Report or Consumers' Ledger Cards;

3) Receive payment and issue the corresponding official receipt;

4) Prepare the Daily Collector's Report and submit to the Finance Section for verification;

5) After verifying the correctness of the report, turn-over the amount collected to the Cashier including payments of application fee, reconnection, transfer meter, and sale of materials.

2.3.2.3.2 Field Collection

1) Water bills not paid during due dates are given half-day allowance to settle the bill;

2) Field Collector follows-up the unpaid bill the following day after due date;

3) Field Collector at 12:00 noon submits his collection to the office;

4) The CSA D posts the field collection in the Daily Collector's Report;

5) The CSA D submits the amount collected to the Cashier.

2.3.2.3.3 Posting of Payments in the Ledger Cards

1) The Cashier turns-over the Daily Collector's Report including the triplicate of official receipts to the CSA E for posting;

2) The CSD E posts water bill payments made by the consumers in the Consumer's Ledger Card.

2.3.2.3.4 Penalty

At the end of due date, bills not paid plus half-day allowance are subject of the 25% penalty.

1) The CSA D submits to the CSA E the Billing Statements not paid on the due date;

2) The CSA E computes the penalty of the bills not paid;

3) The CSA E prepares the Penalty Report and submits to the Finance Section for verification;

4) After verifying the correctness of the Report, the Finance Section submits the same to the General Manager for approval;

5) The General Manager approves the Penalty Report and turns-over to the Commercial Section for posting in the Consumers' Ledger Cards;

6) The Commercial Section posts the penalty in the Consumers' Ledger Cards and files the Penalty Report.

2.3.2.3.5 Issuance of Demand Letters

1) Scrutinize the latest Ageing of Accounts Receivable to identify the disconnected or inactive concessionaires with arrearages;

2) Prepare first demand letters and submit to the General Manager for approval;

3) GM approves the first demand letters and turns-over to the Commercial Section for its issuance to the concerned delinquent consumers;

4) If not settled, prepare the second demand letters and submit to the General Manager for approval;

5) GM approves the second demand letters and turns-over to the Commercial Section for its issuance to the concerned delinquent consumers;

6) Again if not settled, issue the final demand letter duly signed by the OGCC Legal Counsel to concerned delinquent consumers, copy furnished the Barangay Chairmen in their respective areas;

7) If remained unsettled within the prescriptive period, request the Barangay Chairman to summon the concerned delinquent consumer for a possible amicable settlement;

8) If not settled within the three meetings prescribed by law, then file a case against the delinquent consumer.

2.3.2.4 Cashiering

2.3.2.4.1 Receipts and Deposits

1) Receive the collection of water bills, application fee, reconnection fee, transfer meter and sale of materials of the day from the CSA D at the closing hour of 4:00 in the afternoon;

2) Cash and check collections received from the CSA D are kept in the safety vault for safekeeping;

3) Deposit the collections in tact the following day;

4) Record the collection at the Cashier's Collection Summary;

5) Record the collection and deposit at the Cash Receipts and Deposits Record;

6) File the deposit slips;

7) On the fifth day of the ensuing month submit the Cashier's Collection Summary and Cash Receipts and Deposits Record to the Finance Section for verification;

8) The Finance Section submits the verified Cashier's Collection Summary and Cash Receipts and Deposits Record to the General Manager;

9) On the 10^{th} day of the ensuing month, the Finance Section submits the Cashier's Collection Summary and Cash Receipts and Deposits Record to COA.

2.3.2.4.2 Check Preparation

1) Receive Disbursement Voucher from the Finance Section for checking;

2) Verify the amount stated in the Disbursement Voucher and the supporting documents if correct and complete;

3) If complete, prepare the check making sure no alteration and indicating the check number, date, name of payee, amount in words and number and signatures over names of the authorized signatories;

4) Record the check to be issued in the Report of Check Issued;

5) Issue the check to the payee;

6) After the check has been received by the payee, a copy of the check slip is filed.

2.3.2.4.3 Preparation of Daily Cash Position Report

1) After the closing hour of 4:00 in the afternoon, the Cashier prepares the Daily Cash Position Report;

2) Submits one copy of the Daily Cash Position Report to the Finance Section;

3) File the other copy for generating reports.

2.3.2.4.4 Petty Cash Report

1) Record petty cash transactions everyday at the Petty Cash Register;

2) Prepare the daily petty cash voucher;

3) If the petty cash fund is at least 75% exhausted, replenishment could be made;

4) Submits the daily petty cash vouchers to the Finance Section for the preparation of the Disbursement Voucher;

5) Record the check to be issued in the Report of Check Issued;

6) Issue the check for encashment to fund the succeeding petty cash transactions;

2.3.2.4.5 Other Finance and Commercial Activities

2.3.2.4.5.1 Payroll Preparation

1) Compute the salaries including overtime pay of employees on or before the 15th and 31st day of each month;

2) Deduct the employees' shares on GSIS, Pag-Ibig Fund, and PHIC premiums every 15th day of the month and Withholding Taxes every 31st day of the month;

3) Submits the payroll to the Finance Section for the preparation of Disbursement Voucher;

4) If the Disbursement Voucher is complete, prepare the Check;

5) Record the check to be issued in the Report of Check Issued;

6) Issue the check for encashment for the payment of salaries of employees;

7) Pay the salaries of employees immediately.

2.3.2.4.5.2 Renewal of Registration of Service Vehicles

1) Prepare a master list of all the service vehicles indicating the date of registration of each of them;

2) Make a cash advance for the payment of the renewal of registration;

3) Renew the insurance of the service vehicle at least two weeks before the expiration date;

4) After the renewal of insurance, apply for smoke emission test;

5) Once completed, apply for the renewal of registration at LTO;

6) File the newly registered papers of the service vehicle;

7) Liquidate cash advances immediately.

2.3.2.4.5.3. Renewal of Insurable Properties

1) Make sure that fund for the renewal of insurable properties is included in the budget;

2) Request a billing statement from GSIS at least one week before the expiration of the insurable properties;

3) Submit the Billing Statement to the Finance Section for the preparation of Disbursement Voucher;

4) If the Disbursement Voucher is complete, prepare the Check;

5) Record the check to be issued in the Report of Check Issued;

6) Issue the check to the GSIS on or before the expiration date;

7) Keep the papers on file.

2.3.2.4.5.4 Liquidation of Cash Advances

1) Prepare the liquidation report immediately after the travel or completion of the undertaking for which it was granted;

2) Attach the supporting documents to liquidation report;

3) After verification of the documents and report, record in the book of accounts;

4) Once completed, prepare the Journal Entry Voucher;

5) Submit the Liquidation Report including vouchers, payrolls and supporting documents to COA;

2.3.2.4.5.5 Remittances of Premiums

1) On or before the 5th day of the ensuing month, prepare all the documents needed in remitting premiums;

2) Submit all the documents to the Finance Section for the preparation of Disbursement Vouchers;

3) Once completed and verified, prepare the check for the payments;

4) Record the check to be issued in the Report on Checks Issued;

5) On or before the 10th day of the ensuing month premiums and withholding taxes checks should be served to the concerned national agencies;

6) Keep all the papers on file.

2.3.3 Administrative

2.3.3.1 Human Resources

2.3.3.1.1 Preparation of Appointment

1) The HRMO Designate submits to the Civil Service Commission (CSC) Field Office the Notice of Vacant Position to be posted to the CSC Bulletin of Vacant Positions;

2) The HRMO Designate posts the photocopy of the received and approved Notice of Vacant Position at the conspicuous places including in front of the BWD Office within the period prescribed by the CSC;

3) After the prescribed period had lapsed, the HRMO Designate organizes the documents submitted by various applicants including those qualified applicants who applied for previous vacant positions but were not luckily selected;

4) The HRMO Designates presents the documents to the Personnel Selection Board (PSB) to rank the qualified applicants vis-à-vis the qualifications required by the BWD;

5) PSB prepares a resolution recommending the most qualified from the list of qualified applicants and submits the same to the General Manager;

6) The General Manager appoints the qualified applicant based from the recommendation of the PSB;

7) The General Manager notifies the selected applicant for the preparation and submission of the documents needed before the issuance of his/her appointment;

8) The General Manager also notifies the other applicants the result of the selection process;

9) The HMRO Designate verifies the completeness and correctness of the documents submitted by the selected applicant;

10) The HRMO prepare the other documents needed and submits the same to the General Manager for the issuance of the appointment;

11) The General Manager issues the appointment;

12) The HRMO Designate submits the appointment and the attached documents to the CSC for confirmation of the appointment;

13) After the confirmation of the appointment, the HRMO Designate posts the confirmed appointment in front of the office.

2.3.3.1.2 Time and Attendance

1) Upon arrival at the office, in the morning and in the afternoon each employee should record his/her time in at Logbook and at the Daily Time Record;

2) Break time is from 10:00 to 10:15 in the morning and 3:30 to 3:45 in the afternoon;

3) Before leaving the office for lunch break at 12:00 noon and at 5:00 in the afternoon, each employee should record his/her time out at the Logbook;

4) Employees going out of the office are required to ask permission from the HRMO Designate or to the General Manager.

2.3.3.1.3 Leave Applications

1) Request an Application for Leave Form from the HRMO Designate three to five days before the vacation leave and one day after the sick leave;

2) Fill-up the upper portion of the form or the date of leave and reason of leave;

3) Submit the Leave Application Form to the HRMO Designate;

4) The HRMO will verify the leave credits balances and indicate in the Application for Leave Form;

5) The HRMO submits the application form to the General Manager for approval;

6) The General approves or disapproves the leave application.

2.3.3.1.4 Filing of Compensatory Time-Off (CTO)

1) Employee requests a CTO Form from the HRMO Designate;

2) Properly fill-up the CTO Form and submit to the HRMO Designate;

3) HRMO Designate receives the CTO Form for verification of the COC balances;

4) HRMO Designate properly fill-up the COC balances and submits the CTO Form to the General Manager;

5) The General Manager approves or disapproves the request for Compensatory Time-Off.

2.3.3.1.5 201 Filing

All employees of the Batac Water District have their 201 File under the custody of the HRMO Designate. The 201 File is being updated upon order from the CSC or at least every two years as mandated by the BWD. In addition, employees who have changes/updates in their status, additional dependents and beneficiaries and continuous studies shall furnish the HRMO Designate a photocopy of the document/documents for the purpose of updating their 201 File. The 201 File is being kept safe in the locked stock room.

Each File 201 contains the following:

1) Appointment (CSC Form No. 33);

2) Assumption of Duty;

3) Personal Data Sheet (CSC Form No. 212);

4) Position Description Form (CSC Form No. 122-D);

5) Oath of Office;

6) Certificate of Eligibilities;

7) Copies of Medical Certificate;

8) NBI Clearance;

9) Copies of Diplomas, Transcript of Records, Commendations, Awards etc.

10) Copies of Marriage Certificate, if married;

11) Copies of Disciplinary Action, if there is;

12) Designations;

13) Notice of Salary Adjustments/Step Increments;

14) Certificate of Leave Balances, if transferees;

15) Clearance from Property and Money Accountabilities, if transferees; and

16) Certificates from Trainings and Seminars.

2.3.3.1.6 Statement of Assets, Liabilities and Net worth Preparation and Filing

1) On or before March 1 of each year, HRMO Designate provides SALN Forms, two copies each employee;

2) The Finance Section issues the outstanding loan balances of each employee as of December 31 of the previous year;

3) Employees fill-up the SALN Form properly and completely;

4) Employees submit the SALN Form to the HRMO Designate on or before April 1 of each year;

5) HRMO Designate verifies the SALN Form and if found in order let a private lawyer notarized said Forms;

6) The HRMO Designate submits the original copy to the Office of the Ombudsman and the duplicate copy has a separate file at the locked stock room.

2.3.3.1.7 Individual Performance Commitment and Review Preparations and Ratings

1) The General Manager convenes with the employees for their commitment to deliver the targets with the indicated measures in their strategic, core and support functions at least one week before the rating period;

2) The employees submits to the General Manager their actual accomplishment every 5th day of the ensuing month for the whole semester;

3) The General Manager computes the employees ratings based from their actual accomplishments;

4) The General Manager presents to the employees their ratings for the rating period and submits to the HRMO for the OPCR ratings;

5) The HRMO Designate prepares the final copies of the IPCR and the OPCR and submits to the General Manager for approval;

6) The General Manager and the Chairman of the Board approves the OPCR and IPCR;

7) The HRMO Designate prepares the summary of ratings and submits the same to the CSC Field Office on or before last week of the ensuing semester;

8) The HRMO files the original copy of the OPCR and IPCR and the duplicate copy to be issued to the employees.

2.3.3.1.8 Office Performance Commitment and Review Preparations and Ratings

1) The HRMO presents to the General Manager the targets to be met by the BWD with the indicated measures in their strategic, core and support functions, the allotted budget for each function and the accountable individuals for the rating period;

2) The HRMO Designate prepares the accomplishments for each of the Major Final Output indicated in the OPCR in which some of the bases are the accomplishments of individual employees;

3) Rate the performance achieved on each MFO based from the CSC approved Output reference Table;

4) Compute the Final Average Rating and indicate the Adjectival Rating;

5) Submit to the General Manager the OPCR for review;

6) Submit to the Chairman of the Board the OPCR for approval;

7) The HRMO Designate prepares the summary of ratings and submits the same to the CSC Field Office on or before last week of the ensuing semester;

8) The HRMO files the original copy of the OPCR and IPCR and the duplicate copy to be issued to the employees.

2.3.3.1.9 Preparation of Civil Service Matters and Reports

1) On the 3rd day of the ensuing month, prepare the DBAR, Report on Personnel Action and ACEC;

2) Submit said reports to the General Manager for approval and confirmation;

3) Submit said reports to the Civil Service Field Office on or before the 5th day of the ensuing month;

4) File the receiving copy of all the reports.

5) E-mail the Monthly and Quarterly Reports on Accession and Separation to the CSC Field Office.

2.3.3.1.10 Filing of Memorandum Circulars (MCs), Executive Orders (EOs), and other issuances from COA, LWUA, DBM and other government agencies

1) Sort out the received or downloaded issuances as to appropriate category or group making sure each has its own file;

2) File issuances in each own folder for at least two-three years;

3) Keep it safe it the locked stock room.

2.3.3.2 Stock and Supplies Inventory

2.3.3.2.1 Purchasing and Stocking of Supplies and Equipment

1) End-users submit Purchase Request to the General Manager for approval;

2) Approved Purchase Request is forwarded to the BAC for the preparation of the canvass to be floated to at least three suppliers;

3) Upon the submission of quotes/bids from various suppliers, prepare the Abstract of Quotation to identify the Lowest Calculated Bidder;

4) Submit the Abstract of Quotation duly signed by all members of the BAC to the General Manager for approval;

5) Prepare the Purchase Order and serve to the winning bidder either personally or thru e-mail and fax;

6) Upon receipt of the items, the Property Custodian Designate inspects and prepares the Inspection and Acceptance Report;

7) Posts in the stock card those received and inspected items.

2.3.3.2.2 Issuance of Stocks and Supplies

1) The Property Custodian Designate provides Requisition and Issue Slip to the end-user;

2) The end-user listed down the materials needed in the RIS;

3) Submit the RIS to the General Manager for approval;

4) Upon approval check the listed materials if available and post the same to the index card;

5) Issue the materials to the end-user;

6) File the RIS.

7) Conduct inventory count every end of the month. (If materials on hand is 75% consumed the Property Custodian Designate

submits to the BAC the materials to be replenished. Process of purchasing shall follow)

2.3.3.2.3 Preparation and Updating of Property, Plant and Equipment (PPE) Record

1) Obtain from the Finance and Administrative Section the list of PPE recorded in the books as of year-end;

2) Conduct inventory count based from the PPE listed in the books with representative from the Technical and Finance and Administrative Sections;

3) List down discrepancies per books and per inventory count, if any;

4) Submit the result of the inventory count vis-à-vis the books to the General Manager;

5) Request COA for inventory count, if necessary.

2.3.3.2.4 Updating of Records of Meters, Pumping Equipment and other machineries

1) Record the purchased meters, pumping equipment and other materials after inspection;

2) Conduct inventory count of the recorded meters, pumping equipment and other machineries on hand every end of the month.

2.3.4 Finance

2.3.4.1 Preparation of Disbursement Voucher

1) Organize and check the completeness of the various documents needed for a single transaction;

2) Compute the tax to be withheld and prepare the corresponding BIR Forms;

3) Prepare the Budget Utilization Slip (BUS);

4) Certify the availability of budget funds;

5) Prepare the Disbursement Vouchers and Journal Entry Voucher;

6) Turn-over to the Cashier for the issuance of Check;

7) Submit the payment papers to the General Manager for approval.

2.3.4.2 Preparation of Job Order Workers' Weekly Payroll

1) Inquire from the General Manager the number of days including overtime the Job Order Workers have rendered;

2) Request the Job Order Workers to submit their work accomplishment at 1:00 in the afternoon of every Friday;

3) Prepare the payroll;

4) Prepare the Disbursement Voucher following the required procedures;

5) Turn-over the DV to the Cashier for the issuance of check;

6) Submit to the General Manager the complete DV with the payroll for approval;

7) The Cashier C pays the wages of the Job Order Workers immediately.

2.3.4.3 Preparation of Employees Remittance List, Alpha List of Payees and Monthly Tax Return

1) On or before the 5th day of the ensuing month, list down the payees who were subjected to tax withheld;

2) Classify the various taxes withheld based from the BIR Forms 1600 and 1601;

3) Encode these taxes withheld to the BIR format and email to BIR;

4) Prepare the corresponding disbursement voucher and journal entry voucher following the required procedures;

5) Prepare the BIR payment slip form;

6) Turn-over to the Cashier C for the issuance of check;

7) Submit the DV with the complete documents to the General Manager for approval;

8) Once approved by the General Manager, the Cashier C issues the payment on or before the 10th day of the ensuing month.

2.3.4.4 Preparation of Detailed Estimate of Income and Expenditures

1) Each End-User Section submits its detailed expenditures to the Finance Section;

2) Prepare the Detailed Estimate of Income and Expenditures based from submitted expenditure (end-users) the actual data for the first nine months of the current year, with considerations to future events that could be ascertained at the time of preparation;

2) Submit a draft copy to the General Manager for review, corrections and initial approval;

3) Revise the Detailed Estimate of Income and Expenditure based from the General Manager's review;

4) Print the revised copy and submit to the General Manager for Board deliberations and approval;

5) After approval, print the final copy of the Detailed Estimate of Income and Expenditures for Board's signatures;

6) Furnish a copy of the complete Detailed Estimate of Income and Expenditures to LWUA;

7) File several copies for future use.

2.3.4.5 Preparation of Annual Procurement Plan

1) On the first week of October of each year prepare the Annual Procurement Plan for Common –Use Supplies and Equipment for the ensuing year with the 9-month historical basis and using the DBM format;

2) Prepare also an Annual Procurement Plan for Supplies and Equipment and Capital Expenditures not readily available from the DBM Virtual Store;

3) Prepare the Project Procurement Management Plan;

4) Submit to the General Manager for review, corrections and approval;

5) E-mail the approved Procurement Plans to DBM on or before the 15th day of November of every year.

2.3.4.6 Maintenance of Book of Accounts

1) Adjust the data posted in the General and Subsidiary Ledgers to effect the corrections on the Ageing of Accounts Receivable;

2) Close the General and Subsidiary Ledgers on or before the 5th day of the ensuing month for the preparation of financial reports.

2.3.4.7 Preparation of Monthly Financial Reports

1) List down all the cash advances for the month based from the Report of Checks Issued;

2) List down the liquidated and non-liquidated cash advances for the month;

3) Receive the metered sales and accounts receivable data from the Commercial Section;

4) Prepare the journal entries for non-cash transactions;

5) Prepare the summary of non-cash transactions, disbursement and journal entry vouchers;

6) Receive the summary of cash receipts;

7) Post transactions data to the General and Subsidiary Ledgers;

8) Compute the total balances of each account in the General and Subsidiary Ledgers;

9) Prepare the trial balance;

10) Prepare the Income Statement making sure that the totals of the debits and credits in the trial balance are the same;

11) Prepare the Balance Sheet;

12) Prepare the Statement of Cash Flow based from the Summary of Cash Receipts Register (CRR) and Voucher Register;

13) Prepare the Monthly Data Sheet. Obtain data not available from the Financial Statement from the General Manager and from other Sections;

14) Submit a draft copy to the General Manager for review, corrections and approval;

15) Print the final copy to be presented to the Board of Director during BOD meeting.

16) Reproduce additional copies for COA and LWUA;

17) Upload the monthly financial statements to the website of the BWD;

18) File hard copies for office future reference uses.

2.3.4.8 Preparation of Quarterly Variance Report

1) Input data of actual receipts and expenses vis-à-vis the corresponding budget;

2) Compute the variance for each account in peso amount and in percentage;

3) Identify if the variance is favorable or unfavorable;

4) Input remarks/reasons on negative variances;

5) Submit a draft copy to the General Manager for review, corrections and approval;

6) Present the final copy before the Board of Directors every last meeting of the ensuing semester.

2.3.4.9 Preparation of Statement of Accountability for Accountable Forms without Money Value;

1) At the end of the month, total the issued official receipts and checks;

2) Tally the official receipts and checks issued in the Cashier's Collection Summary and in the Daily Collector's Report vis-à-vis the last month SAAF record;

2) If without discrepancy, register the details in the current month SAAF record;

3) Submit the computerize SAAF to the General Manager for approval;

4) Submit the approved SAAF to COA every 10th day of the ensuing month.

5) Maintain a file.

2.3.4.10 Preparation of Schedule of Ageing of Accounts Receivable

1) Post the current water bills, payments and penalties in the Consumer's Ledger Card;

2) At the end of the month, list the arrears of consumers based from the number of days;

3) Total the accounts receivable from consumers;

4) Tally the accounts receivable with that of the Cashier's Collection Summary;

5) If no discrepancy, furnish a copy of the Schedule of Ageing of Accounts Receivable to the Commercial Section for the issuance of the demand letters.

6) Maintain a file.