



**THE DIPOLOG CITY  
WATER DISTRICT  
BUSINESS PLAN**

**2018-2022**

## 1. OVERVIEW

### 1.1 Our Vision

**"The Dipolog City Water District by 2028: Delivering Sufficient, Reliable and Affordable Quality Water from the Tap to your Cup 24/7"**

### 1.2 Our Mission

Driven by our vision, we commit to:

1. Deliver constant, safe and reliable water compliant with national standards at the least possible cost;
2. Provide the highest quality service to our customers;
3. Protect and safeguard our water resources;
4. Sustain our viability through an efficiently managed and resilient network system.

### 1.3 Our Core Values

- **Integrity**  
We obey the law and do not compromise moral or ethical principles.  
Honesty and fairness guide our every action.
- **Teamwork**  
We are a team of professionals with a collaborative nature.  
We allow for differences to exist and we manage conflicts constructively & professionally.
- **Customer Focus**  
Our customer is the key to our success.  
We passionately care for our customers by consistently fulfilling our service commitments.
- **Service Excellence**  
Excellence is embedded in our culture. We strive to do exceptionally well in all aspects of our business

## 2. STRATEGIC DIRECTION, ISSUES AND CONCERNS (Assessment of Current Conditions and Priority Issues)

### 2.1 Strategic Direction

The strategic direction of the Dipolog City Water District is already laid out in the local, national and international directives and aspirations.

The vision of Dipolog City to be recognized as **"THE CENTER OF OUTDOOR SPORTS OF THE SOUTH BY 2020"** calls not only for the improvement of its sports facilities, but also the development of its ability to host sports competitions and sports recreation activities which will entice tourists to come to the city. This vision can never be achieved without basic services, especially water and sanitation.

In the national scene, the second area for strategic action in President Duterte's long-term vision, dubbed as **"AmBisyon Natin 2040"**, is towards **promoting a long and healthy life** through efficiently-managed natural resources and environment, among others. In fact, one of the proposed legislative measures in the Philippine Development Plan 2017-2022 is for the amendment of the Water Code of the Philippines.

More so in the international scene, efforts are directed towards water conservation. The growing scarcity of safe drinking water is a global concern. **"Ensuring access to water and sanitation for all"** is Goal 6 in the Sustainable Development Goals of the United Nations Development Programme (UNDP).

A vital component towards the realization of both our city and country's vision is providing access to safe and affordable drinking water and the creation of wastewater disposal facilities. Domestic water systems and sanitary sewers are two of the most basic and essential pre-requisites to the orderly and well-balanced growth of urban areas, the absence of which is recognized as a deterrent to economic growth, a hazard to public health and an irritant to the spirit and well-being of the citizenry.

## **2.2 Priority Issues & Concerns Facing the Dipolog City Water District**

1. Low pressure during peak hours
2. Presence of water impurities
3. No wastewater disposal facilities
4. Out-dated computerized operations system
5. Need for additional and bigger facilities to accommodate the growing number of employees and clientele
6. Overloading of staff functions & responsibilities

## **3. GENERAL DESCRIPTION OF THE UTILITY**

### **3.1 Brief History**

The Dipolog City Water District (DipCWD) was created on December 11, 1981 by virtue of Presidential Decree No. 198, otherwise known as the "Provincial Water Utilities Act of 1973". Its original waterworks facilities which include the Ambogoc intake and a now abandoned infiltration gallery, used to be part of the Dipolog-Dapitan water system until the system of the two cities separated in 1981 by virtue of Resolution No. 163 of the Sangguniang Panlungsod of Dipolog City. It was then registered and issued a Conditional Certificate of Conformance No. 179 on December 14, 1982 by the Local Water Utilities Administration.

### **3.2 Franchise Area Profile Information**

#### **3.2.1 Description of the Service Area**

Dipolog City, the capital city of the province of Zamboanga del Norte, is located on the northwest coast of Mindanao facing the Sulu Sea and is bounded on the North by Dapitan City, and on the South and East by the municipalities of Katipunan and Polanco, respectively. It has a total land area of 13,628 hectares and is politically subdivided into 21 barangays namely: Estaka, Biasong, Barra, Central, Dicayas, Galas, Gulayon, Minaog, Miputak, Sicayab, Sta. Filomena, Sta. Isabel, Turno, Lugdungan, Olingan, Punta, Sangkol, Sinaman, Cogon, Diwan, and San Jose.

#### **3.2.2 Population**

Based on the latest census of 2015, Dipolog City has a population of 130,759 against the 2010 Census of 79,887 indicating an average annual growth rate of 1.65%. This relatively high growth rate can be attributed to the proliferation of small to medium industries in the City. For 2017, the estimated total population is 136,577 of which 68,149 are males and 68,428 are females.

#### **3.2.3 Source of Income**

Sixty-one percent of the population are engaged in trade and services, 23% in agriculture and fishing and the remaining 11% in quarrying, manufacturing, electricity, gas, water, and construction. Major products are coconut, rice, corn, bottled sardines, processed meat, fresh and processed meat and fish, and nito handicrafts.

## **3.3 KEY STATISTICAL PERFORMANCE INFORMATION**

### **3.3.1 Description of Existing Waterworks Facilities**

Dipolog City Water District depends solely on groundwater sources. It has eight (8) production wells, two 500-m<sup>3</sup> elevated reservoir with iron treatment facility, an 800-m<sup>3</sup> concrete tank, a 50-m<sup>3</sup> storage tank, seven booster pumps and approximately 105 kilometers of transmission and distribution pipe network ranging from 25 to 250 mm in diameter.

The location of the deepwell sources are as follows: Pump #1 in Mibang, Sta. Isabel; Pump #2 in Lawag, Galas; Pump #3 in Lobing-Ogis, Galas; Pumps #5, 6 & 7 in Gulayon; Pump #9 in Sangkol; and Pump #10 in Sinaman. Total rated capacity of the eight (8) wells is 408,062 cubic meters per month.

Intermittently, bulk water is also purchased from Polanco Water District to ease the water shortage during peak hours, usually from 5AM to 8AM.

**3.3.2 Service Connections**

From its humble beginning of 410 service connections back in 1981, it grew to 17,754 as of October 2017. Multiplied by 5 (the average household size per Philippine Statistics Authority & LWUA Board Res. 2-16), the estimated population served is 88,770 or 65% of the total service area population.

Of the 21 barangays in its service area, only two are left unserved, San Jose and Diwan.

**3.3.3 Chlorination and Water Treatment Method**

Though the water drawn comes from the underground, which is supposedly free from bacteriological contaminants, it is a requirement that water supplied shall be treated when distributed to forestall contamination resulting from pipeline leaks within the pipeline system. Likewise, regulatory requirements should also be complied as per provisions of DOH AO No. 2017-0010 dated June 23, 2017, known as the Philippine National Standards of Drinking Water of 2017 (PNSDW 2017) for the physical, chemical and bacteriological qualities of water.

Various chemicals were utilized to treat water. Gas and liquid chlorine (CL<sub>2</sub>) were employed but issues on its usage towards health were questioned, though scientific studies still cannot attest to the veracity of these issues.

Notions confide that when chlorine combines with organic impurities in water, it will produce trihalomethanes (THMs), or chloramines. These THMs are carcinogenic chloroform and carbon tetrachloride. It is the combination of chlorine and organic materials already in the water that produces cancer-causing byproducts. The more organic matter in the water, the greater is the accumulation of THMs.

Currently, chlorine dioxide (CLO<sub>2</sub>) is used, taking cognizant of its advantages, from handling to dosing operation, over chlorine.

There are two wells that yielded high in iron, way beyond the requirement of PNSDW 2017. Two iron removal treatment plants were constructed in 2000 and 2004 to reduce said iron contents from these two wells before being released in the system for distribution.

**3.3.4 Water Use Assessment**

Water Use Assessment	2016	2015	2014	2013	2012
Total Production (x '000 cu.m.)	4,173	4,161	3,805	4,002	3,734
Total Billed (x '000 cu.m.)	3,372	3,339	3,002	3,090	2,750
Total Accounted (x '000 cu.m.)	3,578	3,668	3,357	3,339	2,899
Unaccounted Water (%)	14%	12%	12%	17%	22%
Non-Revenue Water (%)	19%	20%	21%	23%	26%
Total Service Connections	16,968	15,775	14,586	13,713	12,911
Ave. monthly consumption/ connection (cu.m.)	17	18	17	19	18
Ave. daily per capita consumption (cu.m.)	0.11	0.12	0.11	0.13	0.12

**3.3.5 Consumption History**

**Consumption per Connection by Classification (in cu.m.)**

Classification	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17
Residential A	222,483	212,969	190,509	219,715	223,248	232,397	219,726	220,601	222,695	218,171
Residential B	7,080	7,895	6,987	7,834	7,630	7,899	7,570	7,678	7,605	7,495
Residential C	4,597	4,892	4,766	5,102	4,830	5,191	5,756	5,796	5,940	5,449
Residential D	608	726	539	555	598	567	528	706	641	595
Government	10,601	12,531	13,271	12,095	10,476	11,658	10,882	13,930	15,732	15,728
Commercial	23,374	24,582	21,757	23,529	21,792	23,839	22,616	23,308	23,857	23,432
Semi-Com A	8,649	8,663	7,786	8,605	7,829	8,547	8,440	8,822	8,185	8,199
Semi-Com B	2,636	2,808	2,603	2,767	2,841	2,999	2,527	2,495	2,696	2,537
<b>TOTAL</b>	<b>280,028</b>	<b>275,066</b>	<b>248,218</b>	<b>280,202</b>	<b>279,244</b>	<b>293,097</b>	<b>278,045</b>	<b>283,336</b>	<b>287,351</b>	<b>281,606</b>

**Consumption per Capita by Classification (in '000 cu.m.)**

Classification	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17
Residential A	1,112	1,065	953	1,099	1,116	1,162	1,099	1,103	1,113	1,091
Residential B	35	39	35	39	38	39	38	38	38	37
Residential C	23	24	24	26	24	26	29	29	30	27
Residential D	3	4	3	3	3	3	3	4	3	3
Government	53	63	66	60	52	58	54	70	79	79
Commercial	117	123	109	118	109	119	113	117	119	117
Semi-Com A	43	43	39	43	39	43	42	44	41	41
Semi-Com B	13	14	13	14	14	15	13	12	13	13
<b>TOTAL</b>	<b>1,400</b>	<b>1,375</b>	<b>1,241</b>	<b>1,401</b>	<b>1,396</b>	<b>1,465</b>	<b>1,390</b>	<b>1,417</b>	<b>1,437</b>	<b>1,408</b>

**3.3.5 Organizational Structure**

At the helm of the organization is the Board of Directors as policy-making body. It is composed of 5 members: one representing the civic-oriented service clubs; one member representing the professional sector; one member from the business, commercial, or financial organizations; one member from the educational or religious institutions; and one representative from the women's sector. The term of a director is 6 years.

Management and operation of the water district is lodged in the General Manager who is appointed by the Board of Directors.

Dipolog City Water District currently enjoys a Category B status. Its total personnel complement is 90 consisting of 41 regular employees, and 49 contractuels and job-orders. As there are presently 17,754 active service connections as of October, 2017, the staff-to-connection ratio is 1:197, a distant comparison from the industry average of 1:120 service connections. The average monthly salary per employee is P14,035.

The organizational set-up is composed of 2 departments: Administrative, Finance & Commercial Department; and Engineering & Operations Department. Each department is further divided into 2 divisions. Under the Administrative, Finance & Commercial Department are the Administrative & Finance Services Division; and the Commercial Services Division. Under the Engineering & Operations Department are the Planning, Construction & Maintenance Division; and the Water Resources Division.

**3.3.6 Corporate Governance Structure**

The Dipolog City Water District is a government-owned and controlled corporation, thus, it is subject to the rules and regulations of the Civil Service Commission, Commission on Audit, and Department of Budget and Management. Other regulating bodies are the Local Water Utilities Administration, and the National Water Resources Board.

**4. STRATEGIC GOALS**

**Strategic Goal 1.** Maintain a constant water pressure of not less than 10 psi in all areas by the end of 2022.

**Strategic Goal 2.** Reduce the iron content from 0.8 ppm to 0.3 ppm by the end of 2022, and a 10% yearly reduction on the complaints received pertaining to the physical qualities of the water.

**Strategic Goal 3.** Reduce indiscriminate disposal of septage through the completion & operation of a Septage Treatment Plant by July 2019.

## DIPOLOG CITY WATER DISTRICT

PERFORMANCE IMPROVEMENT PLAN		TITLE OF STRATEGIC GOAL # 1				
a) Drilling and operation of eight (8) additional wells b) Rehabilitation and replacement of encrusted, worn-out and undersized pipes c) Construction of a 1000-m3 capacity water storage facility		To maintain a constant water pressure of not less than 10 psi in all areas by the end of 2022.				
Statement of Strategic Goal Addressed:		Insufficient water supply; Low water pressure to no water in certain areas during peak hours from 5AM to 8AM.				
Department (s) and Key Manager (s) Responsible:		Engineering Division c/o Ruel Tabada, Cipriano Padogdog, Jr, Felix Cavan III, Jeffrey Daymiel				
Description of Actions to be Taken:		Drilling & operation of eight (8) additional wells; Rehabilitation and replacement of encrusted, worn-out and undersized pipes; & Construction of a 1000-m3 capacity water storage facility.				
Schedule of Tasks, Key Milestones, Use of Capital & Amount						
Action Item	2018	2019	2020	2021	2022	
<b>a) Additional sources</b>						
Commissioning of Well 11		10,500,000				
Lot purchase for Well 12 (Balabag, Gulayon)	500,000					
Drilling and commissioning of Well 12 w/o genset	6,750,000					
Purchase of Well 12 genset		2,000,000				
Construction of Well 12 pumphouse, transformer pad & fence		4,250,000				
Lot purchase for Well 13 (Limbonga, Gulayon)	500,000					
Drilling and commissioning of Well 13 w/ genset	8,750,000					
Construction of Well 13 pumphouse, transformer pad & fence		4,250,000				
Lot purchase for Well 14 (Linabo, Lugdungan)	300,000					
Drilling and commissioning of Well 14		13,000,000				
Lot purchase for Well 15 (Balintawak)	300,000					
Drilling and commissioning of Well 15		2,500,000	10,500,000			
Lot purchase for Well 16 (Cogon Boundary)			500,000			
Drilling and commissioning of Well 16		2,500,000	10,500,000			
Drilling and commissioning of Well 17				13,000,000		
Drilling and commissioning of Well 18					13,000,000	
Engineering studies	1,000,000					
<b>b) Additional Water storage facility</b>						
Lot purchase reservoir @ Lugdungan		2,000,000				
Construction of 1000-m3 reservoir @ Lugdungan		10,000,000	10,000,000			
<b>c) Transmission pipe layout</b>						
Transmission pipeline from Well 12 to crossing NFA		3,500,000				
Transmission pipeline from Well 13 to crossing NIA		3,300,000				
Transmission pipeline from Well 14 to crossing KIA		18,500,000				
Transmission pipeline from Sinaman to Galas, Bus Terminal & KIA			15,000,000	15,000,000		
Sangkal-Cogon Transmission Pipeline		7,000,000				
Transmission pipeline from crossing City Jail to Cacao, Naga Minaog		9,000,000				
<b>d) Rehabilitation and pipe replacement</b>						
Pipe replacement along Katipunan St to Zamora St		5,000,000				
TOTAL	18,100,000	97,300,000	46,500,000	28,000,000	13,000,000	
GRAND TOTAL						202,900,000

## DIPOLOG CITY WATER DISTRICT

PERFORMANCE IMPROVEMENT PLAN		TITLE OF STRATEGIC GOAL # 2				
a) Replacement and rehabilitation of encrusted, worn-out and undersized pipes b) Installation of motorized valves at sources c) Improvement of iron removal facilities		To reduce the iron content from 0.8 ppm to 0.3 ppm by the end of 2022 with a 10% yearly reduction on the complaints received pertaining to the physical qualities of the water.				
Statement of Strategic Goal Addressed:		Significant presence of water impurities				
Department (s) and Key Manager (s) Responsible:		Engineering Division c/o Ruel Tabada, Marlou Magallanes, Felix Cavan III, Jeffrey Daymiel				
Description of Actions to be Taken:		Replacement and rehabilitation of encrusted, worn-out and undersized pipes; Installation of motorized valves at sources; Improvement of iron removal facilities.				
<b>Schedule of Tasks, Key Milestones, Use of Capital &amp; Amount</b>						
Action Item	2018	2019	2020	2021	2022	
Installation of motorized valves at sources		800,000	2,800,000			
Pipe replacement along Zamora St to Boulevard		3,500,000				
Pipe replacement along Gen. Luna St to Boulevard		5,500,000				
Pipe replacement along Rizal Ave to Boulevard		2,600,000				
Improvement of iron removal plant		200,000				
TOTAL	-	12,600,000	2,800,000	-	-	
GRAND TOTAL					<b>15,400,000</b>	

**DIPOLOG CITY WATER DISTRICT**

PERFORMANCE IMPROVEMENT PLAN		TITLE OF STRATEGIC GOAL # 3				
a) Completion & operation of Septage Treatment Plant b) Purchase of one (1) Mini-Excavator, Crawler Type c) Purchase of one (1) Vibratory Plate Compactor		Reduce indiscriminate disposal of septage through the completion & operation of a Septage Treatment Plant by July 2019.				
Statement of Strategic Goal Addressed:	No proper wastewater disposal facilities; indiscriminate disposal of septage					
Department (s) and Key Manager (s) Responsible:	Engineering Division c/o Ruel Tabada, Marlou Magallanes, Jeffrey Daymiel					
Description of Actions to be Taken:	Completion & operation of Septage Treatment Plant; purchase of one (1) Mini-Excavator, Crawler Type and one (1) Vibratory Plate Compactor					
<b>Schedule of Tasks, Key Milestones, Use of Capital &amp; Amount</b>						
Action Item	2018	2019	2020	2021	2022	
Completion & operation of Septage Treatment Plant	6,221,230					
Purchase of Mini-Excavator, Crawler Type	1,000,000					
Purchase of Vibratory Plate Compactor	80,000					
TOTAL	7,301,230	-	-	-	-	
GRAND TOTAL					7,301,230	



## DIPOLOG CITY WATER DISTRICT

PERFORMANCE IMPROVEMENT PLAN		TITLE OF STRATEGIC GOAL # 4			
a) Upgrade billing and collection system b) Integrate financial reporting and HR management		To improve office operations through an upgraded billing & collection system with integrated financial reporting and HR management by the end of 2019.			
Statement of Strategic Goal Addressed:	Outdated computerized operations system				
Department (s) and Key Manager (s) Responsible:	Administrative Division c/o Jade Gonzales, Elcid Olmiguez, Janet Nadala				
Description of Actions to be Taken:	Upgrade billing and collection system; Integrate financial reporting and HR management				
<b>Schedule of Tasks, Key Milestones, Use of Capital &amp; Amount</b>					
Action Item	2018	2019	2020	2021	2022
Upgrading of billing and collection system with integrated financial reporting and HR management	500,000	1,500,000			
<b>TOTAL</b>	<b>500,000</b>	<b>1,500,000</b>	-	-	-
<b>GRAND TOTAL</b>					<b>2,000,000</b>

## DIPOLOG CITY WATER DISTRICT

PERFORMANCE IMPROVEMENT PLAN		TITLE OF STRATEGIC GOAL # 5				
a) Construction of a new administration building and multi-purpose covered court b) Construction of a motorpool at Pump #7 c) Improvement of existing work facilities		To promote a conducive and safe work environment by the end of 2022.				
<b>Statement of Strategic Goal Addressed:</b>		Overcrowding; no proper work area, equipment & facilities; unsafe structures				
<b>Department (s) and Key Manager (s) Responsible:</b>		Engineering Division c/o Ruel Tabada, Kris Jeffrey Daymiel, Cipriano Padogdog				
<b>Description of Actions to be Taken:</b>		Construction and procurement of additional office facilities& equipment				
<b>Schedule of Tasks, Key Milestones, Use of Capital &amp; Amount</b>						
Action Item	2018	2019	2020	2021	2022	
Construction of multi-purpose covered court (Phase-1)		4,000,000				
Construction of multi-purpose covered court (Phase-2)						6,000,000
Construction of admin building (Phase-1)			4,000,000	4,000,000		
Construction of admin building (Phase-2)						8,000,000
Construction of motorpool at Pump 7						6,000,000
Surplus Japan dumptruck, 6 wheels (6-m3 capacity)		800,000				
Surplus Japan concrete mixer, 10-bagger		1,000,000				
Brand new utility/service vehicles		2,600,000				
TOTAL	-	8,400,000	4,000,000	4,000,000		20,000,000
GRAND TOTAL						<b>36,400,000</b>

## DIPOLOG CITY WATER DISTRICT

PERFORMANCE IMPROVEMENT PLAN		TITLE OF STRATEGIC GOAL # 6				
a) Streamlining of functions b) Proper workload distribution c) Personnel movement		To improve overall work performance & staff productivity by the end of 2018.				
Statement of Strategic Goal Addressed:		Overloading of functions and responsibilities				
Department (s) and Key Manager (s) Responsible:		General Manager, Administrative & Engineering Division Managers, Genelyn Empeynado				
Description of Actions to be Taken:		Streamlining of functions; Proper workload distribution; Personnel movement				
Schedule of Tasks, Key Milestones, Use of Capital & Amount						
Action Item	2018	2019	2020	2021	2022	
Streamlining of functions Proper workload distribution Personnel movement	(Refer to Plantilla of Personnel)					
TOTAL	-	-	-	-	-	-

DIPOLOG CITY WATER DISTRICT

WATER DEMAND ANALYSIS	HISTORICAL						Base Year	PROJECTED				
	2012	2013	2014	2015	2016	2017		2018	2019	2020	2021	2022
<b>GENERAL DATA</b>												
Year-End Connections	12,911	13,713	14,586	15,775	16,968	17,968	18,968	22,468	26,468	27,468	28,468	
Mid-Year Connections	12,581	13,312	14,150	15,181	16,372	17,468	18,468	20,718	24,468	26,968	27,968	
Market Growth/Year	661	802	873	1,189	1,193	1,000	1,000	3,500	4,000	1,000	1,000	
Service Area Population	124,419	126,447	128,508	130,759	132,812	134,897	137,015	139,166	141,351	143,570	145,824	
Population Served	64,555	68,565	72,930	78,875	84,840	89,840	94,840	112,340	132,340	137,340	142,340	
% Served Population	52%	54%	57%	60%	64%	67%	69%	81%	94%	96%	98%	
<b>WATER DEMAND (in cu.m.)</b>												
Demand per capita per day	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	
Demand per capita per annum	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	
Ave # of users per connection	5	5	5	5	5	5	5	5	5	5	5	
Ave demand per connection	219	219	219	219	219	219	219	219	219	219	219	
Total water demand (in cu.m.)	2,755,130	2,915,328	3,098,741	3,324,530	3,585,359	3,825,492	4,044,492	4,537,242	5,358,492	5,905,992	6,124,992	
<b>WATER SUPPLY (in cu.m.)</b>												
Water supplied by district wells	3,734,000	4,002,000	3,805,000	4,161,000	4,173,000	3,829,489	4,889,489	5,949,489	7,009,489	7,539,489	8,069,489	
Purchased from outside sources	185,000	119,000	114,000	161,000	115,000	210,556	120,000	120,000	120,000	120,000	120,000	
Total Production	3,919,000	4,002,000	3,805,000	4,161,000	4,173,000	4,040,045	5,009,489	6,069,489	7,129,489	7,659,489	8,189,489	
Less: Non-Revenue Water	(1,169,000)	(912,000)	(803,000)	(822,000)	(801,000)	(660,151)	(951,803)	(1,153,203)	(1,354,603)	(1,455,303)	(1,556,003)	
Net Water Supply	2,750,000	3,090,000	3,002,000	3,339,000	3,372,000	3,379,894	4,057,686	4,916,286	5,774,886	6,204,186	6,633,486	
Supply vs. Demand (in cu.m.)	(5,130)	174,672	(96,741)	14,471	(213,359)	(445,598)	13,194	379,044	416,394	298,194	508,494	
Total Accounted	2,899,000	3,339,000	3,357,000	3,668,000	3,578,000	3,530,286	4,308,161	5,219,761	6,131,361	6,587,161	7,042,961	
Ave monthly cons/ conn	18.22	19.34	17.68	18.33	17.16	16.12	18.31	19.77	19.67	19.17	19.77	
Unaccounted Water (%)	26%	17%	12%	12%	14%	13%	14%	14%	14%	14%	14%	
Non-Revenue Water (%)	30%	23%	21%	20%	19%	16%	19%	19%	19%	19%	19%	

addtl wells:

2018	2	well 12, 13
2019	2	well 11, 14
2020	2	well 15, 16
2021	1	well 17
2022	1	well 18

DIPOLONG CITY WATER DISTRICT

SEPTAGE TREATMENT DEMAND ANALYSIS

GENERAL DATA	HISTORICAL						Base Year	PROJECTED				
	2012	2013	2014	2015	2016	2017		2018	2019	2020	2021	2022
Year-End Connections	12,911	13,713	14,586	15,775	16,968	17,968	18,968	22,468	26,968	27,968	28,968	
Mid-Year Connections	12,581	13,312	14,150	15,181	16,372	17,468	18,468	20,718	24,718	27,468	28,468	
Market Growth/Year	661	802	873	1,189	1,193	1,000	1,000	3,500	4,500	1,000	1,000	
Service Area Population	124,419	126,447	128,508	130,759	132,812	134,897	137,015	139,166	141,351	143,570	145,824	
Population Served	64,555	68,565	72,930	78,875	84,840	89,840	94,840	112,340	134,840	139,840	144,840	
% Served Population	52%	54%	57%	60%	64%	67%	69%	81%	95%	97%	99%	
<b>SEPTAGE TREATMENT DEMAND</b>												
No. of vacuum trucks								2	2	2	2	
No. of serviced HH / truck / day								8	8	8	8	
Total HH Siphoned/day								16	16	16	16	
No. of operating days								110	221	221	221	
Volume siphoned (cu.m/yr)								1,760	3,536	3,536	3,536	
Capacity of Treatment Plant								3,300	6,630	6,630	6,630	
HH Served/yr								1,760	3,536	3,536	3,536	
No. of HH unserved (1st cycle)							18,968	17,208	13,672	10,136	6,600	

Design capacity of treatment plant = 30 m<sup>3</sup>/day  
 Start of StP operation = July 2019

Ave. Size of Septic Tank = 3 m<sup>3</sup>  
 Ave. Septage Vol. per Septic Tank = 1 m<sup>3</sup>

## DIPOLOG CITY WATER DISTRICT

## COMBINED CASH FLOW PROJECTION 2018-2022 (in '000 Pesos) FOR SEPTAGE TREATMENT AND WATER SUPPLY

	Base Year											
	HISTORICAL					PROJECTED						
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
<b>WATER SUPPLY</b>												
Year-End Connections	12,911	13,713	14,586	15,775	16,968	17,968	18,968	22,468	26,468	27,468	28,468	
Mid-Year Connections	12,581	13,312	14,150	15,181	16,372	17,468	18,468	20,718	24,468	26,968	27,968	
Market Growth/year	661	802	873	1,189	1,193	1,000	1,000	3,500	4,000	1,000	1,000	
Service Area Population	124,419	126,447	128,508	130,759	132,812	134,897	137,015	139,166	141,351	143,570	145,824	
% Served Population	52%	54%	57%	60%	64%	67%	69%	81%	94%	96%	98%	
AveCons/Conn/Mo(cu.m.)	18.22	19.34	17.68	18.33	17.16	16.12	18.31	19.77	19.67	19.17	19.77	
Billed Water('000 cu.m.)	2,750	3,090	3,002	3,339	3,372	3,380	4,058	4,916	5,775	6,204	6,633	
% Non-Revenue Water	26%	23%	21%	20%	19%	16%	19%	19%	19%	19%	19%	
Production ('000 cu.m.)	3,734	4,002	3,805	4,161	4,173	4,040	5,009	6,069	7,129	7,659	8,189	
Purchased Water (cum)	185	119	114	161	115	210	120	120	120	120	120	
Effective Water Rate/cu.m.	23.95	23.59	25.06	25.98	30.57	30.57	30.57	32.65	35.92	35.92	35.92	
% Rate Increase	0%	0%	0%	16%	0%	0%	0%	7%	10%	0%	0%	
Collection Efficiency	92%	93%	94%	94%	96%	93%	93%	93%	93%	93%	93%	
<b>SEPTAGE TREATMENT</b>												
No. of HH Siphoned/day								16	16	16	16	
Houses Served/yr								1,760	3,536	3,536	3,536	
No. of HH unserved (1st cycle)							18,968	17,208	13,672	10,136	6,600	
Volume siphoned (cu.m/yr)								1,760	3,536	3,536	3,536	
<b>CASH RECEIPTS (WS)</b>												
Current Water Sales	65,852	72,886	75,223	86,734	103,068	96,078	115,345	149,282	192,889	207,228	221,567	
Coll. of Prev Years Arrears	2,744	3,022	3,332	3,085	3,697	3,092	3,099	3,721	4,816	6,222	6,685	
Other Receipts	9,366	7,798	11,518	6,493	11,878	12,700	16,875	27,536	42,090	46,847	51,717	
Loan Proceeds from Bank								99,250				
Payment of Advances from Septage												
<b>Total Cash Receipts (WS)</b>	<b>77,962</b>	<b>83,706</b>	<b>90,073</b>	<b>96,312</b>	<b>118,643</b>	<b>111,870</b>	<b>135,319</b>	<b>279,789</b>	<b>245,045</b>	<b>265,547</b>	<b>285,219</b>	
<b>CASH RECEIPTS (STP)</b>												
Current Septage Receipts								7,464	19,289	20,723	22,157	
Coll. of Prev Years Arrears Septage								0	482	622	669	
Other Receipts (from Non-Customers)								576	1,267	1,394	1,533	
Advances from Water Supply								0	0	0	0	
<b>Total Cash Receipts (STP)</b>								<b>8,040</b>	<b>21,038</b>	<b>22,739</b>	<b>24,359</b>	
<b>TOTAL COMBINED RECEIPTS</b>	<b>77,962</b>	<b>83,706</b>	<b>90,073</b>	<b>96,312</b>	<b>118,643</b>	<b>111,870</b>	<b>135,319</b>	<b>287,829</b>	<b>266,083</b>	<b>288,286</b>	<b>309,578</b>	
<b>CASH DISBURSEMENTS (WS)</b>												
Salaries & Wages	8,698	8,478	10,386	11,695	13,644	15,233	20,117	21,340	22,407	23,527	24,704	
Pumping	15,094	18,439	19,740	18,618	19,039	22,310	30,430	40,556	52,403	61,928	72,834	
Chemicals	2,379	2,334	2,011	2,380	3,092	4,730	6,452	8,599	11,111	13,131	15,444	
Purchased Water	1,734	936	1,052	1,624	1,091	1,140	1,408	1,408	1,408	1,408	1,408	
Fixed O & M	12,767	15,290	14,955	14,333	18,301	19,582	20,953	22,420	23,989	25,668	27,465	
Variable O & M	8,419	8,966	10,181	8,818	10,984	12,540	14,186	17,028	21,518	25,377	28,160	
Total O & M Costs (WS)	49,092	54,443	58,325	57,469	66,151	75,535	93,545	111,351	132,836	151,039	170,014	
Debt Service-LWUA	1,194	1,194	1,194	960	947	960	833	454	454	338	327	
Debt Service-Bank				3,270	4,272	3,939	4,333	4,169	4,621	4,608	4,461	
CAPEX-NSC	1,652	2,005	2,183					16,680	20,970	5,767	6,343	

DIPOLOG CITY WATER DISTRICT

COMBINED CASH FLOW PROJECTION 2018-2022 (in '000 Pesos) FOR SEPTAGE TREATMENT AND WATER SUPPLY

	HISTORICAL						PROJECTED					
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
CAPEX-General	22,187	4,175	5,620	7,877	17,786	26,898	18,100	97,300	46,500	20,000	20,000	
Goal 1: Water supply							0	12,600	2,800	0	13,000	
Goal 2: Water quality											0	
Goal 3: Septage treatment												
Goal 4: Computer system												
Goal 5: Work environment												
Goal 6: Work performance												
CAPEX-NRW	7,396	1,392	2,462	2,863	3,015	0	0	1,500	0	0	0	
CAPEX-STP	0	0	1,765	712	1,943	9,580	7,301	0	0	0	0	
Reserves	0	0	0	0	0	0	3,553	4,590	5,931	6,404	6,848	
Franchise Tax	1,354	1,523	1,559	1,755	2,085	1,983	2,369	3,060	3,954	4,269	4,565	
Others	10,679	15,863	7,413	6,792	11,243	15,830	16,622	17,453	18,325	19,241	20,204	
<b>Total Disbursements (WS)</b>	<b>93,553</b>	<b>80,595</b>	<b>80,520</b>	<b>81,697</b>	<b>107,443</b>	<b>134,725</b>	<b>147,155</b>	<b>277,557</b>	<b>240,390</b>	<b>243,666</b>	<b>265,762</b>	
<b>CASH DISBURSEMENTS (STP)</b>												
Salaries								682	1,433	1,504	1,580	
Fixed O & M								479	1,088	1,119	1,152	
Variable O & M								439	965	1,061	1,168	
Total O & M Costs (STP)								1,600	3,486	3,684	3,899	
CAPEX-STP									5,000	10,000	10,000	
Payment of Advances from Water Supply									5,250	5,250	5,250	
Environmental Reserve Fund								241	631	682	731	
Franchise Tax								161	421	455	487	
<b>Total Disbursements (STP)</b>								<b>2,002</b>	<b>14,788</b>	<b>20,071</b>	<b>20,367</b>	
<b>Total Disbursements (STP)</b>	<b>93,553</b>	<b>80,595</b>	<b>80,520</b>	<b>81,697</b>	<b>107,443</b>	<b>134,725</b>	<b>147,155</b>	<b>279,559</b>	<b>255,178</b>	<b>263,738</b>	<b>286,130</b>	
CASH INFLOW/DEFICIT	(15,591)	3,111	9,553	14,615	11,200	(22,855)	(11,836)	8,270	10,905	24,548	23,448	
CASH BALANCE, BEG.	35,746	20,155	23,266	32,819	47,434	58,634	35,780	23,943	32,214	43,118	67,667	
<b>CASH BALANCE, END</b>	<b>20,155</b>	<b>23,266</b>	<b>32,819</b>	<b>47,434</b>	<b>58,634</b>	<b>35,780</b>	<b>23,943</b>	<b>32,214</b>	<b>43,118</b>	<b>67,667</b>	<b>91,115</b>	
For BOT Approval												
Eff. upon approval after 7 days posting												
Water Rates							Jan. 2017	Jan. 2018	Jan. 2019	Jan. 2020	Jan. 2021	Jan. 2022
Minimum Charge	176.00	176.00	176.00	205.00	205.00	205.00	205.00	205.00	225.00	247.50	247.50	247.50
Commodity Charges												
11-20 cu.m.	28.20	28.20	28.20	32.75	32.75	32.75	32.75	32.75	34.00	37.40	37.40	37.40
21-30 cu.m.	30.00	30.00	30.00	34.80	34.80	34.80	34.80	34.80	36.00	39.60	39.60	39.60
31-40 cu.m.	31.80	31.80	31.80	36.85	36.85	36.85	36.85	36.85	38.00	41.80	41.80	41.80
41-50 cu.m.	33.60	33.60	33.60	39.00	39.00	39.00	39.00	39.00	40.00	44.00	44.00	44.00
51-up cu.m.	35.40	35.40	35.40	41.15	41.15	41.15	41.15	41.15	42.00	46.20	46.20	46.20
Ave. Inc. of Low Inco. Farm.		9,253	9,394	9,536	9,681	9,829	9,978	10,130	10,284	10,440	10,599	10,759
5% of Income Ceiling		463	470	477	484	491	499	506	514	522	530	538
Ave. Water Bill						405.43	405.43	433.08	476.39	476.39	476.39	476.39
% Rate Increase						0%	0%	7%	10%	0%	0%	0%
3 Months O & M Ceiling	12,273	13,611	14,581	14,367	16,538	18,884	23,386	27,938	33,209	37,760	42,504	47,250

**Assumptions to the 5-Year Cashflow Projection:**

1. Salaries & Wages = ave salary x 14 mos. + 5% inc. per annum x proj number of employees beyond 2019 (plus proj number of job-order x average monthly salary x 12 months + 5% inc per annum)
2. Pumping costs = historical % of power to production + 10% proj inc per annum
3. Cost of chemicals = historical % of chemicals to production + 10% proj inc per annum
4. Purchased Water = purchased water X P11.73/cum
5. Fixed costs = historical + 7% increase
6. Variable costs = historical + 7% increase (\*this is prop with no of service connections)
7. LWUA Loan amortization = based on given
8. Commercial loan amortization = based on bank proposal
9. CAPEX = based on performance improvement plan
10. Reserves = based on LWUA regulation which is 3% of gross sales (both for water and septage services)
11. Franchise Tax = 2% of current + previous yrs collection (both for water and septage services)
12. Others = WD data for purchase of inventories with 5% increase per annum



DIPLOLOG CITY WATER DISTRICT LOAN AMORTIZATION SCHEDULE

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	
<b>LWUA LOANS</b>																			
LWUA LOAN ACCT #3-273 RL																			
Interest	50,584	12,654																	
Principal	455,624	367,003																	
Sub-Total	506,208	379,657																	
<b>LWUA LOAN ACCT #3-464</b>																			
Interest	32,439	24,418	15,717	6,274	72														
Principal	94,173	102,194	110,895	120,338	10,511														
Sub-Total	126,612	126,612	126,612	126,612	10,583														
<b>LWUA LOAN ACCT #3-719</b>																			
Interest	127,355	110,357	91,911	71,894	50,174	26,602	3,841												
Principal	199,621	216,619	235,065	255,082	276,802	300,374	159,690												
Sub-Total	326,976	326,976	326,976	326,976	326,976	326,976	163,531												
<b>TOTAL (LWUA)</b>	959,796	833,245	453,588	453,588	337,559	326,976	163,531												
<b>COMMERCIAL LOAN</b>																			
Interest			3,418,850	4,620,750	4,608,125	4,461,184	4,079,891	3,706,314	3,311,871	2,927,860	2,543,850	2,166,064	1,839,593	1,446,940	1,047,721	650,599	249,284	2,826	
Principal						7,638,889	8,333,333	8,333,333	8,333,333	8,333,333	8,333,333	8,333,333	8,333,333	8,333,333	8,333,333	8,333,333	8,333,333	8,333,333	694,444
<b>TOTAL (COMMERCIAL)</b>			3,418,850	4,620,750	4,608,125	12,100,073	12,413,225	12,039,648	11,645,204	11,261,194	10,877,183	10,499,398	10,172,926	9,780,273	9,381,055	8,983,932	8,582,617	697,270	
<b>OVER-ALL TOTAL</b>	959,796	833,245	3,872,438	5,074,338	4,945,684	12,427,049	12,576,756	12,039,648	11,645,204	11,261,194	10,877,183	10,499,398	10,172,926	9,780,273	9,381,055	8,983,932	8,582,617	697,270	

PROJECTED SALARIES FOR REGULAR/CASUAL & OFFICE-BASED JOB ORDERS

	Name of Employee	Position/Designation	SG	2018		SG	2019		2020	2021	2022
				STEP	3rd Tranche		STEP	Full			
1	Andrew R. Morallo	General Manager B	27	1	102,910	27	1	121,411	127,482	133,856	140,548
2	Cherry Lyn N. dela Peña	Internal Control Assistant A	10	2	18,883	10	2	19,394	20,364	21,382	22,451
3	Felipe F. Fullon, Jr.	Internal Control Assistant B	8	2	16,433	8	2	16,910	17,756	18,643	19,575
4	Gail Claire Antoinette R. Enero	Admin. Serv. Asst. C	8	2	16,433	8	2	16,910	17,756	18,643	19,575
5	Jade N. Gonzales	Division Manager B	23	2	66,587	23	2	75,015	78,766	82,704	86,839
6	Gracella C. Batilona	Corp. Budget Officer B	15	6	30,799	15	7	32,871	34,515	36,240	38,052
7	Brigida V. Limbaring	Cashier B	14	6	28,093	14	7	29,883	31,377	32,946	34,593
8	Janet R. Nadala	Corporate Accounts Analyst	13	2	24,510	13	2	25,545	26,822	28,163	29,572
9	Ma. Genelyn O. Empeynado	Industrial Relations Mgt. Asst. A	10	2	18,883	10	2	19,394	20,364	21,382	22,451
10	Nursiva S. Tome	Property/Supply Officer C	10	2	18,883	10	2	19,394	20,364	21,382	22,451
11	Colleen Phyllis G. Barabad	Acctng. Processor A	8	1	16,282	8	1	16,758	17,596	18,476	19,399
12	Amabell D. Junio	Acctng. Processor A	8	2	16,433	8	2	16,910	17,756	18,643	19,575
13	Delfin C. Limbaring	Procurement Assistant B	8	2	16,433	8	2	16,910	17,756	18,643	19,575
14	Richard Dean B. Dagpin	Clerk-Processor B	6	1	14,340	6	2	14,961	15,709	16,495	17,319
15	Elcid L. Olmoguez	Util./Cust. Service Off. B	14	2	26,806	14	2	28,099	29,504	30,979	32,528
16	Nabella G. Manriquez	Util./Cust. Service Asst. B	10	6	19,567	10	6	20,051	21,054	22,106	23,212
17	Leodenson M. Martin	Util./Cust. Service Asst. C	8	1	16,282	8	2	16,910	17,756	18,643	19,575
18	Elmer I. Jatico	Util./Cust. Service Asst. C	8	2	16,433	8	2	16,910	17,756	18,643	19,575
19	Mark Angelo O. Madera	Util./Cust. Service Asst. D	6	1	14,340	6	2	14,961	15,709	16,495	17,319
20	Bea Feliz I. Ybanez	Util./Cust. Service Asst. D	6	1	14,340	6	2	14,961	15,709	16,495	17,319
21	Donnabel D. Patangan	Util./Cust. Service Asst. D	6	1	14,340	6	2	14,961	15,709	16,495	17,319
22	Rosan Hope B. Ualat	Util./Cust. Service Asst. D	6	1	14,340	6	2	14,961	15,709	16,495	17,319
23	(new)	Util./Cust. Service Asst. E	4	1	12,674	4	1	13,214	13,875	14,568	15,297
24	(new)	Util./Cust. Service Asst. E	4	1	12,674	4	1	13,214	13,875	14,568	15,297
25	(new)	Instrument Technician B	6	1	14,340	6	1	14,847	15,589	16,369	17,187
26	Ruel D. Tabada	Division Manager B	23	2	66,587	23	2	75,015	78,766	82,704	86,839
27	Felix Z. Cavan III	Water/Sewerage Maint. Foreman	14	2	26,806	14	2	28,099	29,504	30,979	32,528
28	Feliciano A. Langan	Water/Sewerage Maint. Man A	8	2	16,433	8	2	16,910	17,756	18,643	19,575
29	Amado A. Pikit	Water/Sewerage Maint. Man A	8	2	16,433	8	2	16,910	17,756	18,643	19,575
30	Joseph Rey B. Sendil	Water/Sewerage Maint. Man A	8	2	16,433	8	2	16,910	17,756	18,643	19,575
31	Anil J. Jumawan	Water/Sewerage Maint. Man A	8	1	16,282	8	2	16,910	17,756	18,643	19,575
32	Valeriano S. Sumalpong	Plant Equipment Operator E	10	1	18,718	10	1	19,233	20,195	21,204	22,265
33	Tito P. Badiang	Welder B	6	1	14,340	6	1	14,847	15,589	16,369	17,187
34	Charmaine G. Torres	Chemist B	11	1	20,179	11	1	20,754	21,792	22,881	24,025
35	Filipisneri A. Piala	Light Equipment Operator	6	6	14,942	6	7	15,545	16,322	17,138	17,995
36	Themistocles S. Maglangit, Jr.	Light Equipment Operator	6	2	14,459	6	2	14,961	15,709	16,495	17,319
37	Kris Jeffrey J. Daymiel	Engineer A	14	2	26,806	14	2	28,099	29,504	30,979	32,528
38	Cipriano C. Padogdog, Jr.	Engineer A	14	2	26,806	14	2	28,099	29,504	30,979	32,528
39	Marbu B. Magallanes	Water Res. Facilities Foreman	12	2	22,410	12	2	23,222	24,383	25,602	26,882
40	Ian D. Wate	Water Res. Facil. Operator B	6	1	14,340	6	2	14,961	15,709	16,495	17,319
41	Perfecto R. Zamoras	Water Res. Facil. Operator B	6	5	14,820	6	5	15,309	16,074	16,878	17,722
42	Melchor P. Dominguez	Water Res. Facil. Tender B	4	1	12,674	4	2	13,316	13,982	14,681	15,415
43	Romer A. Navarro	Water Res. Facil. Tender B	4	1	12,674	4	2	13,316	13,982	14,681	15,415
44	Victor M. Acopiado	Water Res. Facil. Tender B	4	1	12,674	4	2	13,316	13,982	14,681	15,415
45	Moises A. Galaura	Water Res. Facil. Tender B	4	1	12,674	4	2	13,316	13,982	14,681	15,415
46	(new)	Water/Sewerage Maint. Man C	4	1	12,674	4	1	13,214	13,875	14,568	15,297
47	(new)	Water/Sewerage Maint. Man C	4	1	12,674	4	1	13,214	13,875	14,568	15,297
48	(new)	Water/Sewerage Maint. Man C	4	1	12,674	4	1	13,214	13,875	14,568	15,297
49	(new)	Water/Sewerage Maint. Man C	4	1	12,674	4	1	13,214	13,875	14,568	15,297
TOTAL BASIC MONTHLY SALARY					1,030,224			1,097,259	1,152,122	1,209,728	1,270,214
TOTAL SALARY INCL. 13th & 14th month (A)					14,423,136			15,361,626	16,129,707	16,936,193	17,783,002
Add: No. Of Job-order Personnel					65			65	65	65	65
Average salary per month					7300			7665	8048	8450	8873
Total Monthly Salary					474,474			498,198	523,108	549,263	576,726
Total Salary x 12 months (B)					5,693,688			5,978,372	6,277,291	6,591,156	6,920,713
TOTAL SALARY A + B (Regular/Casual & JO)					20,116,824			21,339,998	22,406,998	23,527,348	24,703,716

## DIPOLOG CITY WATER DISTRICT

## PROJECTED SALARIES FOR REGULAR/CASUAL &amp; OFFICE-BASED JOB ORDERS (SEPTAGE TREATMENT)

	Name of Employee	Position/Designation	SG	2018		SG	2019		2020	2021	2022
				STEP	3rd Tranche		STEP	Full			
1	(new)	Driver-Mechanic B	7	1	15,254	7	1	15,738	16,525	17,351	18,219
2	(new)	Driver-Mechanic B	7	1	15,254	7	1	15,738	16,525	17,351	18,219
3	(new)	Plant/Substation Helper C	4	1	12,674	4	1	13,214	13,875	14,568	15,297
4	(new)	Plant/Substation Helper C	4	1	12,674	4	1	13,214	13,875	14,568	15,297
5	(new)	Plant/Substation Helper C	4	1	12,674	4	1	13,214	13,875	14,568	15,297
6	(new)	Plant/Substation Helper C				4	1	13,214	13,875	14,568	15,297
7	(new)	Engineering Assistant B				8	1		17,596	18,476	19,400
TOTAL BASIC MONTHLY SALARY						68,530		84,332	88,549	92,976	97,625
TOTAL SALARY INCL. 13th & 14th month (A)						959,420		1,180,648	1,239,680	1,301,664	1,366,748
Add: No. Of Job-order Personnel						2		2	2	2	2
Average salary per month						7300		7665	8048	8450	8873
Total Monthly Salary						14,599		15,329	16,096	16,900	17,745
Total Salary x 12 months (B)						175,190		183,950	193,147	202,805	212,945
TOTAL SALARY A + B (Regular/Casual & JO)						1,134,610		1,364,598	1,432,828	1,504,469	1,579,693