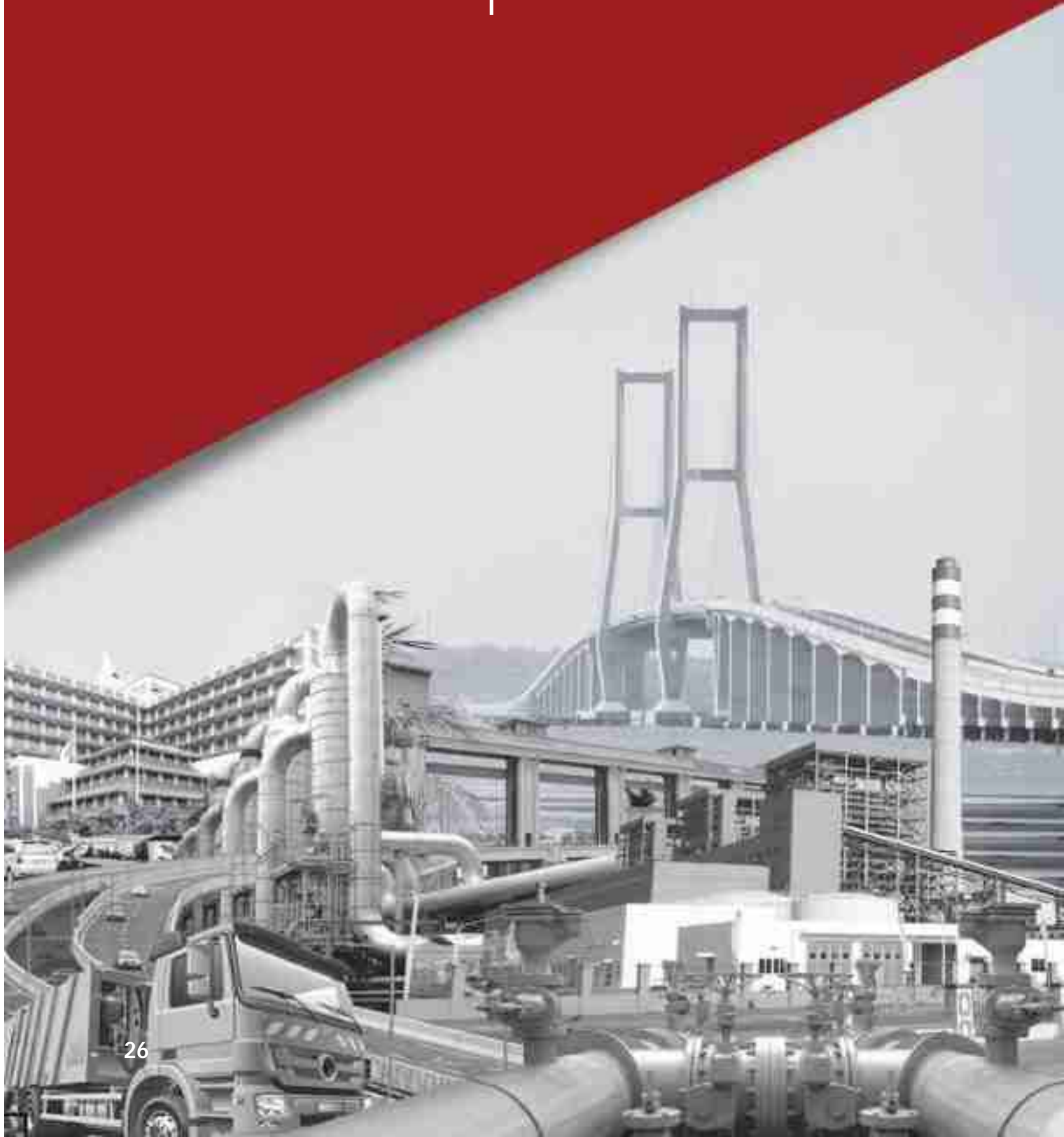



Water Supply Sector

1. West Semarang Water Supply

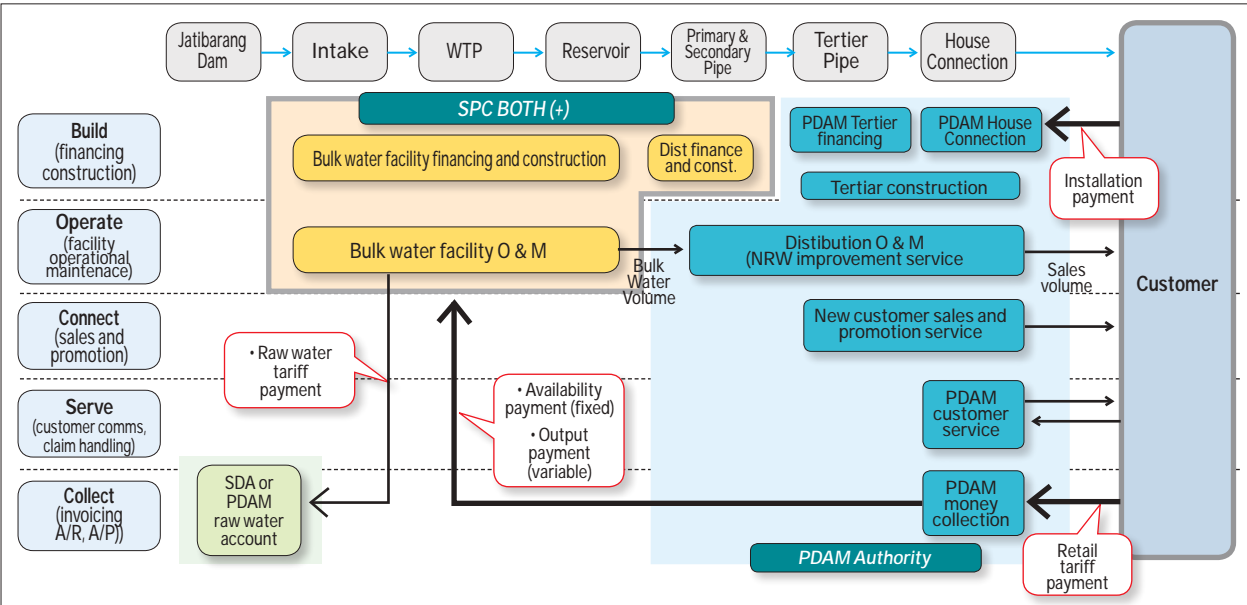


WEST SEMARANG WATER SUPPLY

LOCATION: Central Java

Sector: Water Supply	Sub-Sector: Water Supply
	<p>Description:</p> <p>SPAM West Semarang project is built with a capacity of 1,000 liters per second. The service area is planned to be targeted to serve three (3) sub districts divided into five (5) service zone zones.</p> <p>Estimated Project Cost : USD 34.0 Million</p> <p>Financial Feasibility:</p> <p>FIRR : 16.00 %</p> <p>NPV : USD 1.8 million</p> <p>Estimated Concession Period : 27 Years</p>

Government Contracting Agency : Tirta Moedal Regional Water Supply Company (PDAM)
Contact Person : Muhammad Farchan (Director of PDAM Tirta Moedal Semarang Municipal) +62248315514; email: smgwater@gmail.com



DIGEST PROJECTS

Project Title	: West Semarang Water Supply
Government Contracting Agency	: PDAM Tirta Moedal Kota Semarang
Implementing Unit	: PDAM Tirta Moedal Kota Semarang
Preparation Agency	: PT Sarana Multi Infrastruktur
Estimated Project Cost	: USD 34.0 Million
Estimated Concession Period	: 27 Years
Location	: Semarang, Central Java

1. Project Picture (Map and/or Illustration of Project)



2. The Opportunity

2.1. Project Background

Currently PDAM Tirta Moedal Semarang City only serves 167,979 customers or 1,010,806 residents, about 62.02% of the total population of Semarang City. The necessity of clean water can be seen from surveys showing that the population’s interest in PDAM services is quite high, reaching 85%. However, this is constrained by the PDAM’s water production which cannot be increased due to the limited water production capacity from the current SPAM facility.

Given the limited current production capacity and in order to achieve the service level target of 90%, one of the efforts made by the Semarang City Government together with PDAM Tirta Moedal is to build and develop the Water Supply System of West Semarang (SPAM West Semarang) in the the scheme of Government Cooperation

with Business Entity which called as Public Private Partnership (known as KPBU).

2.2. Project Description

SPAM West Semarang project is built with a capacity of 1000 liters per second. The service area is planned to be targeted to serve three (3) sub districts divided into five (5) service zone zones, namely Tugu Sub district (zone 1), part of Ngaliyan Sub district (zone 2 and 3), and West Semarang Sub district (zone 4 and 5). Zone 1 located in Tugu is a greenfield area whose majority population uses deep wells as water source. Zone 2 and 3 are located in Ngaliyan, can be categorized as semi-greenfield area with the number of customers of PDAM is very low. Zone 4 and 5 are located in West Semarang recorded as the oldest service area which is currently already served by PDAM Tirta Moedal.

2.3. Project Objectives

1. Meet the requirements of drinking water for residents of West Semarang City, whose currently met from shallow wells and deep wells.
2. Reduce the risk of environmental damage, especially the decrease of the soil surface caused by the exploitation of deep wells. Currently, the city of Semarang experienced a decrease in land ranging from 8-10 cm / year.

3. Business Entity's Opportunity

The Partnership options are as follows:

- BOT (Build – Operate – Transfer). IPA development along with a 1000 l/sec as well as a distribution reservoir, and a water transmission pipe to each of the distribution reservoirs to serve the service area development plan.
- Operation and maintenance of intake, grit chamber, and pump house along with its complementary buildings and raw water network constructed by the Ministry of Public Works and People's Housing through the Directorate General of Water Resources

4. Project Technical Specification

No.	Specification	Criteria
I	Water Treatment Plant	
1.	Capacity	1000 l/ sec
2.	Construction	Reinforced concrete
II	Reservoir	
1	Operational/buffer	15%-20% average daily demand
2	Drinking water in reservoir	1 hour supply at peak daily demand
3	Maximum upper-level design on the reservoir	10% volume
III	Drinking Water Transition Pipes	
1	Maximum pressure	60 – 80 m water column
2	Minimum pressure	5 – 10 m water column
III	Water Loss Rate	
1	Intake	2%
2	Production Facilities	5%
3	Transition pipelines	1-2%
V	Operation Hour	24 hours/day
IV	Drinking Water Quality	Health Minister Regulation Number 49 Year 2010 and WHO Guidelines for Drinking Water Quality, 2011
VII	Material Standard	Indonesia: SNI International: ISO, JIS, AWWA, ASTM, ANSI, DIN, BS
VIII	Life Time Asset	50 years

5. Environmental Impact Assessment (AMDAL) Findings

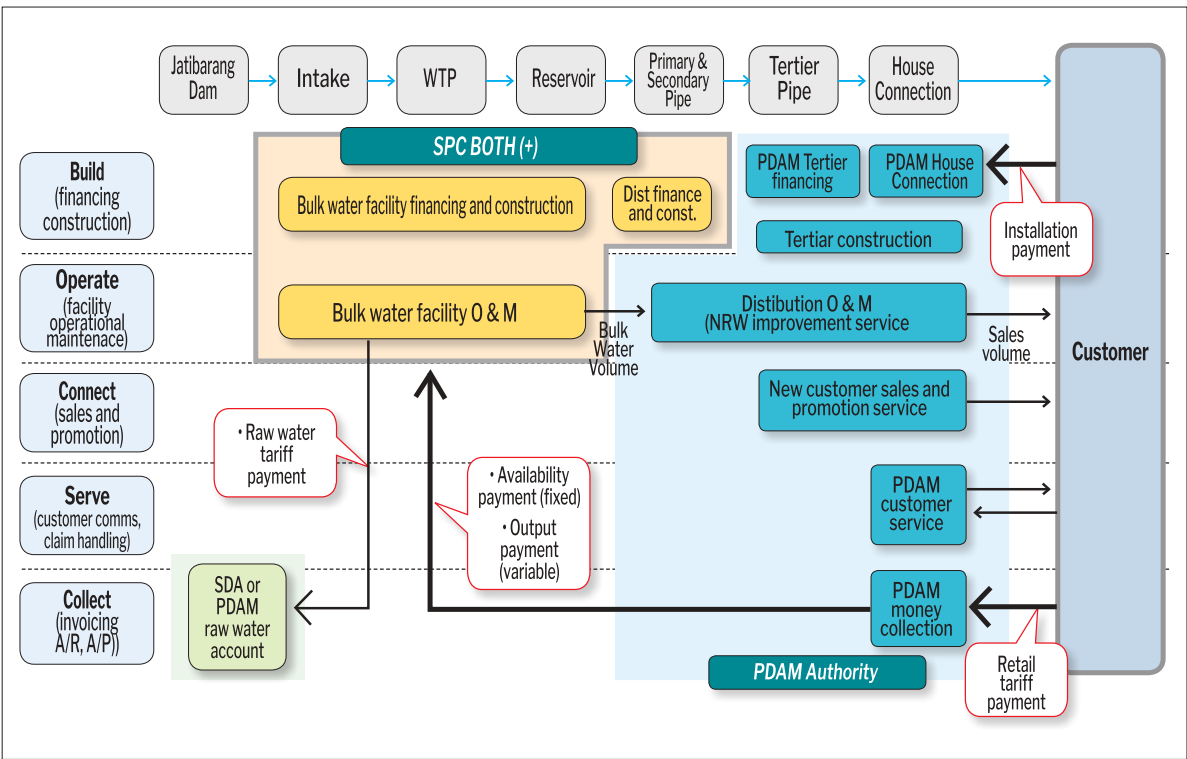
The AMDAL document has been published in 2012, and is currently in the process of amending.

6. Land Acquisition and Resettlement Action Plan

The land acquisition process is on progress. Determination of location has already been issued on October 26, 2017 with payment of a partial land clearing will be done by the end of 2017 and the rest of payment will be done in 2018. The budget for this land acquisition has been budgeted in APBD 2017, APBD-P 2017, and RAPBD 2018.

7. Project Structure

Estimated project cost	USD 34.0 Million
Indicative debt to equity	
- Debt Level	70%
- Equity Level	30%
FIRR	16.00%



8. Government Support and Government Guarantee

Project Development Facility from Ministry of Finance for FBC preparation and Transaction Advisor support.

9. Project Implementation Schedule



10. Contact Information

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